

BEST AVAILABLE COPY

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 11, 1986

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. James D. Phillips
Director of Engineering Development
NASA-DF-EMS
John F. Kennedy Space Center
Kennedy Space Center, Florida 32899

Dear Mr. Phillips:

Re: Modification of Condition Permit AC 05-093501
VAB Boiler #2

The department received your letter, dated May 19, 1986, which requested an extension of the expiration date of the referenced permit to construct a boiler at the Vehicle Assembly Building (VAB). This request is acceptable and the expiration date is changed as follows:

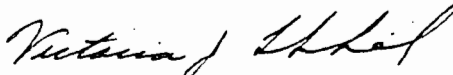
From: June 1, 1986
To: August 15, 1986

A copy of this letter must be attached to the referenced construction permit and shall become a part of this permit.

Attachment

Mr. James D. Phillips' letter of May 19, 1985.

Sincerely,


Victoria J. Tschinkel
Secretary

VJT/ks

State of Florida
DEPARTMENT OF ENVIRONMENTAL REGULATION



Interoffice Memorandum

TO: Victoria J. Tschinkel

FROM: Clair Fancy *Clair Fancy*

DATE: June 11, 1986

SUBJ: Request to Extend Permit No. AC 05-093501
Kennedy Space Center

FOR ROUTING TO OTHER THAN THE ADDRESSEE

To: _____ LOCTN: _____
To: _____ JUN 12 1986 LOCTN: _____
To: _____ LOCTN: _____
From: _____ DATE: _____

Office of the Secretary

Attached for your signature is a letter extending the expiration date of Permit No. AC 05-093501 to Kennedy Space Center. The Bureau of Air Quality Management recommends that the extension be approved.

CHF/ks

attachment

73

John F. Kennedy Space Center
Kennedy Space Center, Florida 32899

DER

MAY 13 1986

MAY 19 1986

Reply to Attn of

DF-EMS

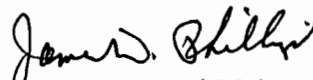
BAQM

Dept. of Environmental Regulation
Attn: Mr. Clair H. Fancy
Deputy Chief, Bureau of Air Quality
Twin Towers Office Bldg.
2600 Blair Stone Road
Tallahassee, FL 32301-8241

Subject: Air Construction Permit for VAB Boiler #2 (Permit
No. AC05-093501), Kennedy Space Center

The subject permit expires June 1, 1986. We are submitting the operation permit application to the district office in Orlando under separate cover. We request an extension of the construction permit to August 15, 1986, to provide sufficient time to process the operation permit application.

Any questions concerning this request should be directed to Mr. Mario Busacca at 305 867-4049.


James D. Phillips
Director of Engineering Development

National Aeronautics and
Space Administration

John F. Kennedy Space Center
Kennedy Space Center Florida 32899



Reply to Attn of DF-EMS

Dept. of Environmental Regulation
Attn: Mr. A. Alexander
District Manager
3319 Maguire Blvd.
Suite 232
Orlando, FL 32803

MAY 13 1986

DER

MAY 19 1986

BAQM

Dear Mr. Alexander:

This letter is to inform you that in my absence, Mr. J. E. Towles,
Director, Project Management, has my signature authority for
permits and other environmental matters concerning your office.

Sincerely,

James D. Phillips
Director of Engineering Development

cc:
DER/C. Collins
DER/C. Fancy

John F. Kennedy Space Center
Kennedy Space Center, Florida 32899

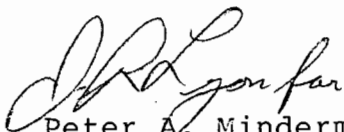
FEB 5 1986

Reply to Attn of DF-EMS

Dept. of Environmental Regulation
Attn: Mr. Clair H. Fancy
Deputy Chief, Bureau of Air Quality
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, FL 32301-8241

Subject: Air Construction Permit #AC05-093501, VAB Boiler #2

We request an extension of the subject construction permit to
June 1, 1986, to allow for completion of construction, testing
and application for an operating permit.



Peter A. Minderman
Director of Engineering Development

cc:
DER/C. Collins

DER

FEB 10 1986

BAQM

Check Sheet

Company Name: KENNEDY SPACE CENTER

Permit Number: AC 09 - 093901

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 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 Determination
- Other

Post Permit Correspondence:

- Extensions/Amendments/Modifications
- Other

Extensions ?

John F. Kennedy Space Center
Kennedy Space Center, Florida 32899

SEP 17 1984

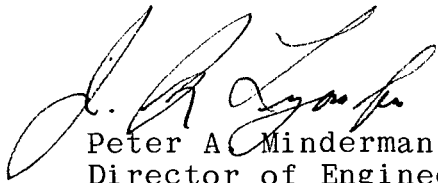
Reply to Attn of DF-EMS

Dept. of Environmental Regulation
Attn: Mr. C. H. Fancy
Deputy Chief, Bureau of Air Quality Mgmt.
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, FL 32301-8241

Subject: Application for a Construction Permit to Replace Boiler
Number 2 (A005-24131) in the VAB Annex

We are applying for a construction permit for the subject project.
Enclosed are four copies of the signed application and drawing
sheets describing the proposed project. Also enclosed is a check
for \$500 for the permit fee.

Please refer any questions to Mr. John Ryan, Kennedy Space
Center, Florida 32899 or telephone 305-867-4049.



Peter A. Minderman
Director of Engineering Development

Enclosures

DER
SEP 20 1984
BAQM

AC 05-093501



STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION
APPLICATION TO OPERATE/CONSTRUCT
AIR POLLUTION SOURCES

SOURCE TYPE: Hot Water Generator New¹ [] Existing¹

APPLICATION TYPE: Construction [] Operation [] Modification

COMPANY NAME: Kennedy Space Center, NASA COUNTY: Brevard

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) No. 6 Oil fired hot water generator

SOURCE LOCATION: Street Utility Annex Rd., VAB(K6-947) City Kennedy Space Center

UTM: East X = 611,650 North Y = 1,554,000

Latitude 28 ° 35 ' 05 " N Longitude 80 ° 39 ' 08 " W

APPLICANT NAME AND TITLE: Peter A. Minderman, Director of Design Engineering, KSC

APPLICANT ADDRESS: Headquarters Building, Kennedy Space Center, Fla. 32899

SECTION I: STATEMENTS BY APPLICANT AND ENGINEER

A. APPLICANT

I am the undersigned owner or authorized representative* of Kennedy Space Center, NASA

I certify that the statements made in this application for a 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: *Peter A. Minderman*
Peter A. Minderman, Director, Design
Name and Title (Please Type) Engineering
Date: SEP 13 1984 Telephone No. (305)867-2565

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.

(Exempt per 471.05 F.S.) Signed: _____

(Affix Seal)

Name (Please Type)

Company Name (Please Type)

Mailing Address (Please Type)

Florida Registration No. _____ Date: _____ Telephone No. _____

¹See 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.
 (See Attachment No. 1)

B. Schedule of project covered in this application (Construction Permit Application Only)
 Start of Construction April, 1985 Completion of Construction 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.)
N/A

D. Indicate any previous DER permits, orders and notices associated with the emission point, including permit issuance and expiration dates.
A005-34275 issued 1/20/81 expires: 1/15/86

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 No

F. Normal equipment operating time: hrs/day 24; days/wk 7; 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? | <u>NO</u> |
| a. If yes, has "offset" been applied? | <u>N/A</u> |
| b. If yes, has "Lowest Achievable Emission Rate" been applied? | <u>N/A</u> |
| c. If yes, list non-attainment pollutants.
<u>N/A</u> | |
| 2. Does best available control technology (BACT) apply to this source? If yes, see Section VI. | <u>N/A</u> |
| 3. Does the State "Prevention of Significant Deterioration" (PSD) requirements apply to this source? If yes, see Sections VI and VII. | <u>N/A</u> |
| 4. Do "Standards of Performance for New Stationary Sources" (NSPS) apply to this source? | <u>N/A</u> |
| 5. Do "National Emission Standards for Hazardous Air Pollutants" (NESHAP) apply to this source? | <u>N/A</u> |

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

ATTACHMENT NO. 1
KENNEDY SPACE CENTER
AIR POLLUTION SOURCE
CONSTRUCTION PERMIT APPLICATION
HOT WATER GENERATOR #2 (Building K6-947)

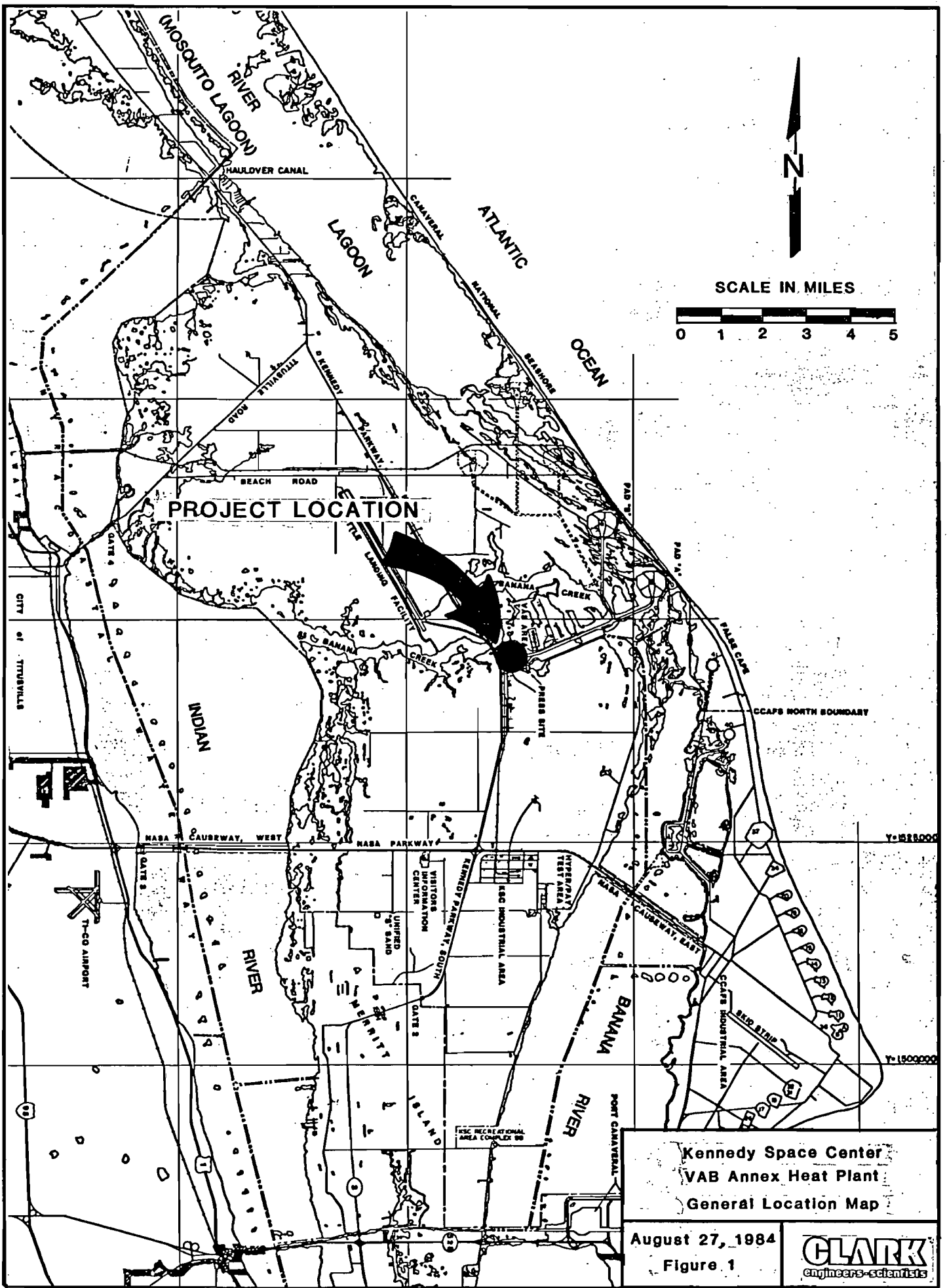
Section II: General Project Information

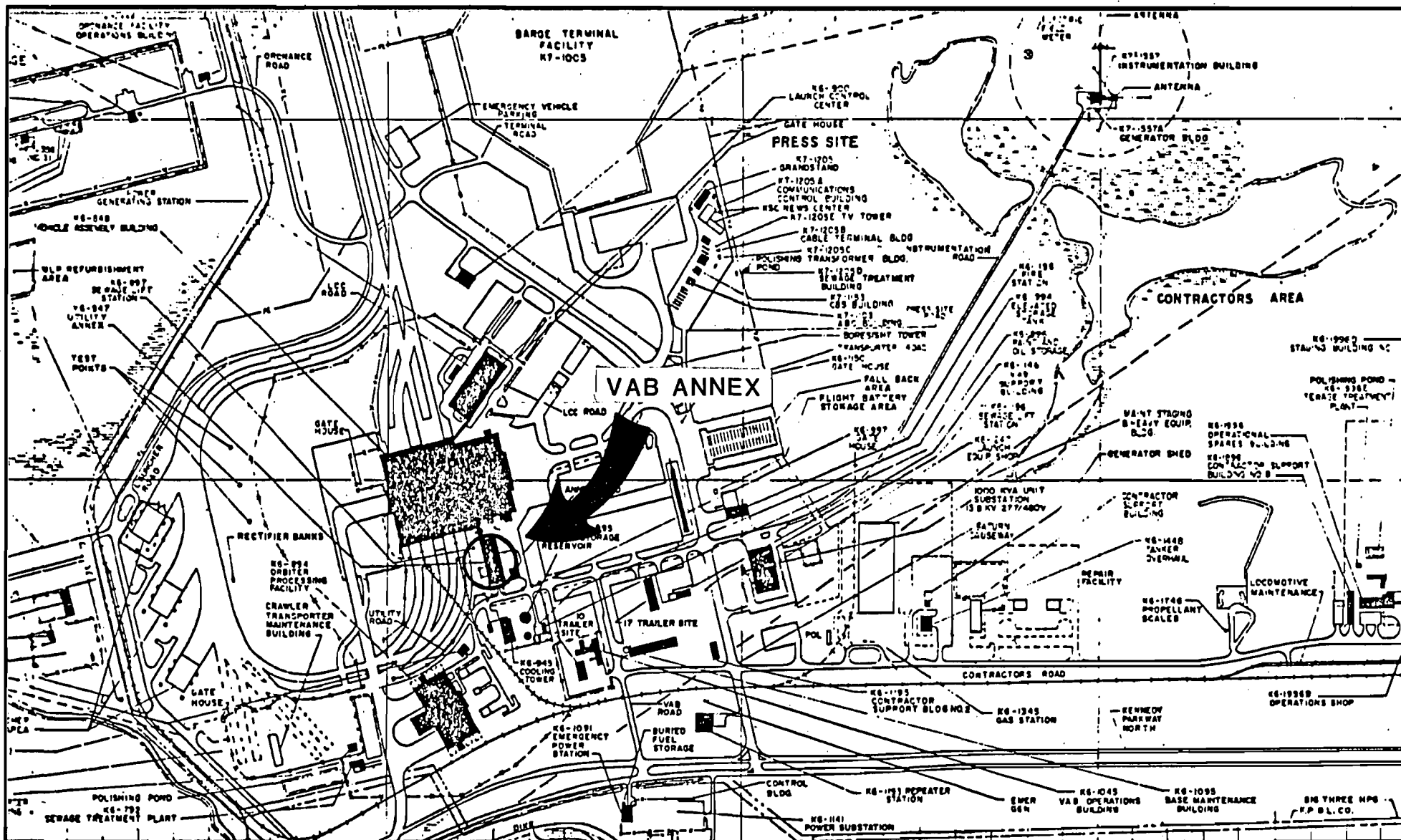
This project involves the replacement of the High Temperature Hot Water Generator No. 2 at the VAB Annex building at KSC. The existing generator is a 13.7 MM BTU/hr (input) capacity No. 6 oil-fired unit and is permitted by DER permit number AO 05-34275 which was issued January 20, 1981.

The 13.7 MM BTU/hr generator No. 2 is one of three existing oil-fired units at this facility. Presently, the normal facility schedule involves the continuous operation of one 13.7 MM BTU/hr and the operation of a second 13.7 MM BTU/hr generator most of the time to meet heating demands. The third generator, a 12.5 MM BTU/hr unit, serves as a standby unit utilized during maintenance of generators No. 1 and 2.

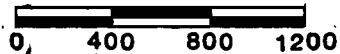
The replacement of the existing generator No. 2 will result in a modification to the operating schedule described above. It is anticipated that the new 25 MM BTU/hr (input) oil-fired unit will provide sufficient heat output so that only one unit will be required most of the time. The smaller No. 3 hot water generator will be utilized to provide additional heat output to supplement the larger 25 MM BTU/hr unit.

The new hot water generator will be state of the art with improved thermal efficiency. This unit will have newer model burners with more efficient atomization and therefore less air requirements. As a result, it is estimated that this project will result in a more efficient facility operation with decreased annual fuel consumption and emissions than the existing facility.





SCALE IN FEET



Kennedy Space Center
VAB Annex Heat Plant
Air Emission Source Location

August 27, 1984
Figure 2

CLARK
engineers-scientists

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

A. Raw Materials and Chemicals Used in your Process, if applicable: **Not Applicable**

Description	Contaminants		Utilization Rate - lbs/hr	Relate to Flow Diagram
	Type	% Wt		

B. Process Rate, if applicable: (See Section V, Item 1) **Not Applicable**

1. Total Process Input Rate (lbs/hr): _____

2. Product Weight (lbs/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	
SO ₂	25.9	52.5	In Accordance With Section 17-2.600 (6) F.A.C. - BACT Shall Be Applied to	600 (6)	25.9	52.5	(See Figure No. 2)
NO _x	9.6	19.4			9.6	19.4	
Particulate	2.2	4.3			2.2	4.3	
Carbon Monoxide	0.8	1.7			0.8	1.7	

D. Control Devices: (See Section V, Item 4) **Not Applicable**

Name and Type (Model & Serial No.)	Contaminant	Efficiency	Range of Particles ⁵ Size Collected (in microns)	Basis for Efficiency (Sec. V, It ⁵)

¹See Section V, Item 2.

²Reference 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)

³Calculated from operating rate and applicable standard

⁴Emission, if source operated without control (See Section V, Item 3)

⁵If Applicable

MIAMI, FLORIDA

JOB NASA - KSC JOB NO. 8361 COMPUTED BY JJM DATE 8/23/84

DESCRIPTION VAB Annex - High Temp. CHECKED BY _____ DATE _____

Hot Water Generator No. 2 SHEET 1 OF _____

Air Pollution Source Permit Application

VAB Annex Building - High Temperature

Hot Water Generator - No. 2

Emission Type	Maximum Potential (lbs/hr)	Actual Annual (Tons/yr)
Sulfur Dioxide	25.91	52.5
Nitrogen Oxide	9.57	19.4
Particulate	2.15	4.3
Carbon Monoxide	0.83	1.7

Note: Values represent emissions according to EPA-AP-42, "Compilation of Air Pollutant Emission Factors" based on maximum fuel rate and actual operational schedule at the heating facility.



engineers - scientists

MIAMI, FLORIDA

JOB KSC - NASA JOB NO. 8361 COMPUTED BY JJM DATE 8-23-84

DESCRIPTION VAB Annex - High Temp CHECKED BY DATE

Hot Water Generator No. 2 SHEET 3 OF

Air Emissions (continued)

Actual Emissions

Fuel usage (1983) = 718,598 gallons (total heat plant)

Note: 50,000 gallons for generator No. 3.
Remainder of fuel used by No. 1 and No. 2 generator - No. 2 generator replaced first and will operate full time. Eventually, No. 1 and No. 2 will be used alternately to provide full time operation.

No. 1 generator fuel usage = 668,598 $\frac{\text{gallons}}{\text{yr}}$

$$\text{SO}_2 = (668,598 \text{ gal/yr}) (157(1.0) \text{ lb}/10^3 \text{ gal}) = 104,970 \frac{\text{lbs}}{\text{yr}} = 52.5 \text{ T/yr}$$

$$\text{NO}_x = (668,598 \text{ gal/yr}) (22 + 400(.3) \frac{\text{lbs}}{10^3} \text{ gal}) = 38,779 \frac{\text{lbs}}{\text{yr}} = 19.4 \frac{\text{T}}{\text{yr}}$$

$$\text{Particulate} = (668,598 \text{ gal/yr}) (10(1.0) + 3) \text{ lb}/10^3 \text{ gal} = 8691.8 \frac{\text{lbs}}{\text{yr}} = 4.3 \text{ T/yr}$$

$$\text{Carbon monoxide} = (668,598 \text{ gal/yr}) (5 \text{ lbs}/10^3 \text{ gal}) = 3343.0 \frac{\text{lb}}{\text{yr}} = 1.7 \text{ T/yr}$$

MIAMI, FLORIDA

JOB KSC - NASA JOB NO. 8361 COMPUTED BY JJM DATE 8/23/84

DESCRIPTION VAB Annex - High Temp CHECKED BY _____ DATE _____
Hot Water Generator No. 2 SHEET 2 OF _____

Air Pollution Source Permit Application:

VAB Annex Building - High Temp.

Hot Water Generator - No. 2

(20 MM BTU/hr - max heat output)

(25 MM BTU/hr - max heat input)

Section III - C - Air Emissions

Fuel Characteristics:

No. 6 fuel oil

S = 1.0%

N = .3%

Maximum Potential

Maximum fuel rate $Q = 165 \text{ gal/hr}$

$$SO_2 = (165 \text{ gals/hr}) (17 (1.0) \text{ lb}/10^3 \text{ gal}) = 25.91 \frac{\text{lb}}{\text{hr}}$$

$$NO_x = (165 \text{ gals/hr}) (22 + 400 (.3)^2) \frac{\text{lb}}{10^3 \text{ gal}} = 9.57 \frac{\text{lb}}{\text{hr}}$$

$$\text{Particulate} = (165 \text{ gals/hr}) (10(1.0) = 3) \frac{\text{lb}}{10^3 \text{ gal}} = 2.15 \text{ lb/hr}$$

$$CO = (165 \text{ gals/hr}) (5 \text{ lbs}/10^3 \text{ gal}) = 0.83 \text{ lb/hr}$$

E. Fuels

Type (Be Specific)	Consumption*		Maximum Heat Input (MMBTU/hr)
	avg/hr	max./hr	
No. 6 Fuel oil	75	166 gal/hr	25

*Units Natural Gas, MMCF/hr; Fuel Oils, barrels/hr; Coal, lbs/hr

Fuel Analysis:

Percent Sulfur: 1.0 Percent Ash: 0.03

Density: 8.105 lbs/gal Typical Percent Nitrogen: 0.3

Heat Capacity: 18,591 BTU/lb 150,680 BTU/gal

Other Fuel Contaminants (which may cause air pollution): _____

F. If applicable, indicate the percent of fuel used for space heating. Annual Average 20 Maximum 25

G. Indicate liquid or solid wastes generated and method of disposal.
None

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

Stack Height: 35 ft. Stack Diameter: 2.25 ft.

Gas Flow Rate: 8947.6 ACFM Gas Exit Temperature: 497 °F.

Water Vapor Contents: -- % Velocity: 37.5 FPS

SECTION IV: INCINERATOR INFORMATION Not Applicable

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. _____

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Not Applicable

	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.

- Total process input rate and product weight — show derivation. Not Applicable
- 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. (see calculations)
- Attach basis of potential discharge (e.g., emission factor, that is, AP42 test). (see calculations)
- 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.). Not Applicable
- 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). (See calculations)
- 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. (See Figure No. 2)
- 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 prominent structures and roadways (Example: Copy of relevant portion of USGS topographic map). (See Figure No. 1)
- 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. (See Figure No. 2)

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- 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 (Not Applicable)

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: | 4. Capital Costs: |
| 2. Operating Principles: | 5. Operating Costs: |
| 3. Efficiency:* | 6. Maintenance Cost: |
| 7. Useful Life: | 8. 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.

SECTION VII - PREVENTION OF SIGNIFICANT DETERIORATION Not Applicable

A. Company Monitored Data

1. _____ no sites _____ TSP _____ () SO² _____ 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.

(5) Environmental Manager:

(6) Telephone No.:

(7) Emissions*:

Contaminant	Rate or Concentration

(8) Process Rate*:

10. Reason for selection and description of systems:

[The following area contains extremely faint and illegible text, likely bleed-through from the reverse side of the page. It appears to be a list of items or a detailed description of systems.]

*Applicant must provide this information when available. Should this information not be available, applicant must state the reason(s) why.

DO NOT FOLD, SPINDLE OR MUTILATE
KNOW YOUR ENDORSEER - REQUIRE IDENTIFICATION



United States Treasury 15-51
000

PAY TO THE

ORDER OF

MONTH	DAY	YEAR
10	15	84

80004904

STATE OF FLORIDA
DEPT OF ENVIRONMENTAL
REGULATIONS

DOLLARS	CTS.
\$\$\$500	00

NASA JFK
SPACE CENTER
A585

038
Joe O'Brien
REGIONAL DISBURSING OFFICER

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

No 76048

RECEIPT FOR APPLICATION FEES AND MISCELLANEOUS REVENUE

Received from United States Treasury Date October 22, 1984

Address Washington D. C. Dollars \$ 500.00

Applicant Name & Address NASA JRC Space Center

Source of Revenue _____

Revenue Code 001031 Application Number AC 05-893501
~~AC 05-194091~~ & ~~AC 05-894092~~

By Patricia G. Adams

National Aeronautics and
Space Administration

John F. Kennedy Space Center
Kennedy Space Center, Florida 32899

NASA

DER
OCT 22 1984
BAQM

OCT 18 1984

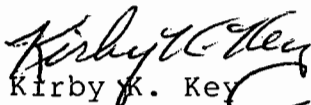
Reply to Attn of DF-EMS

Dept. of Environmental Regulation
Attn: Mr. C. H. Fancy, Deputy Chief
Bureau of Air Quality
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, FL 32301-8241

Subject: Hot Water Generator Permit No. AC 05-093501

In reference to your letter of September 28, 1984, we are resubmitting an application fee of \$500 for the subject permit; a stop payment order has been placed on the missing check.

If further assistance or information is needed to process our application, please contact me at (305) 867-4049.



Kirby K. Key
Chief, Environmental Management Staff

No. 0157028
 RECEIPT FOR CERTIFIED MAIL
 NO INSURANCE COVERAGE PROVIDED—
 NOT FOR INTERNATIONAL MAIL
 (See Reverse)

SENT TO		Mr. Kirby Key
STREET AND NO.		
P.O., STATE AND ZIP CODE		
POSTAGE	\$	
CONSULT POSTMASTER FOR FEES	CERTIFIED FEE	\$
	SPECIAL DELIVERY	\$
	RESTRICTED DELIVERY	\$
	OPTIONAL SERVICES	
	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		10/1/84

PS Form 3800, Apr. 1976

PS Form 3811, Jan. 1978

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:
 Mr. Kirby Key
 Headquarters Bldg.
 Kennedy Space Center, FL 32899

3. ARTICLE DESCRIPTION:
 REGISTERED NO. CERTIFIED NO. INSURED NO.
 0157028

(Always obtain signature of addressee or agent)

I have received the article described above.
 SIGNATURE Addressee Authorized agent
Cindy L. Keyes

4. DATE OF DELIVERY: 10-3-84
 POSTMARK

5. ADDRESS (Complete only if requested)

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

RETURN RECEIPT, REGISTERED, INSURED AND CERTIFIED MAIL

☆ 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

September 28, 1984

Mr. Kirby Key, DF-EMS
Headquarters Building
Kennedy Space Center, Florida 32899

Dear Mr. Key:

RE: Hot Water Generator Permit No. AC 05-093501

The Bureau of Air Quality Management received your application to install a new Hot Water Generator to replace the existing Hot Water Generator No. 2 at the VAB Ammex building at KSC. After reviewing your application, the bureau has determined that the application will be complete when we receive the application fee \$500.

Your cover letter of September 17, 1984, did indicate that a check for \$500 enclosed with the application. But we just could not find any check.

When we receive the application fee, we will resume processing your application. If you have any questions, please call Bob King at (904) 488-1344, or write to me at the above address.

Sincerely,

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

CHF/BK/agh