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

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION
NOTICE OF PERMIT

Mr. Peter A. Minderman
Director of Engineering Development
John F. Kennedy Space Center
Kennedy Space Center, Florida 32900

October 22, 1985

Enclosed is Permit Number AC 05-105814 to Kennedy Space Center which authorizes the construction of a 21.5 HP hot water generator at the Kennedy Space Center, Brevard County, Florida. This permit is issued pursuant to Section 403, Florida Statutes.

Any Party to this permit has the right to seek judicial review of the permit pursuant to Section 120.68, Florida Statutes, by the filing of a Notice of Appeal pursuant to Rule 9.110, Florida Rules of Appellate Procedure, with the clerk of the Department in the Office of General Counsel, 2600 Blair Stone Road, Tallahassee, Florida 32301; and by filing a copy of the Notice of Appeal accompanied by the applicable filing fees with the appropriate District Court of Appeal. The Notice of Appeal must be filed within 30 days from the date this permit is filed with the clerk of the Department.

Sincerely,

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

Enclosure

cc: Charles Collins

CERTIFICATION

This is to certify that the foregoing Notice of Permit and all copies requested were mailed before the close of business on Oct. 23, 1985.

for Willard Hanks
C. H. Fancy, P.E.
Deputy Chief
Bureau of Air Quality
Management
2600 Blair Stone Road
Tallahassee, Florida 32301

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

Patricia B. Adams — Clerk
Oct. 23, 1985 — Date

Final Determination

Kennedy Space Center, NASA
21.5 HP Hot Water Generator

Permit Number:
AC 05-105814

Florida Department of Environmental Regulation

Bureau of Air Quality Management

Central Air Permitting

October 15, 1985

Final Determination

NASA's application for a permit to construct a 21.5 horsepower hot water generator at the Kennedy Space Center (KSC), Florida, 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 Today Newspaper on August 24, 1985.

Copies of the preliminary determination have been available for public inspection at the Department's St. Johns River District office in Orlando and the Bureau of Air Quality Management office in Tallahassee.

No comments were received as a result of the public notice period.

The final action of the Department will be to issue the permit as noticed during the public notice period.

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

PERMITTEE:
National Aeronautics and Space Administration - NASA
Kennedy Space Center - KSC
Headquarters Building
Kennedy Space Center, Florida 32899

Permit Number: AC 05-105814
Expiration Date: August 31, 1986
County: Brevard
Latitude/Longitude: 28° 30' 35" N/ 80° 30' 51" W
Project: 21.5 HP Hot Water Generator

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

For the construction of a 21.5 Horsepower Hot Water Generator located at the Cargo Hazardous Servicing Facility, Kennedy Space Center (Building No. M7-1354) in Brevard County, Florida.

Construction shall be in accordance with the attached permit application except as otherwise noted on pages 5 and 6, Specific Conditions.

Attachments are as follows:

1. Application to Construct Air Pollution Source, DER Form 17-2.122(16), received on June 20, 1985.

PERMITTEE:
Kennedy Space Center

Permit Number: AC 05-105814
Expiration Date: August 31, 1986

GENERAL CONDITIONS:

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

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

3. As provided in Subsections 403.087(6) and 403.722(5), Florida Statutes, the issuance of this permit does not convey any vested rights or any exclusive privileges. Nor does it authorize any injury to public or private property or any invasion of personal rights, nor any infringement of federal, state or local laws or regulations. This permit does not constitute a waiver of or approval of any other department permit that may be required for other aspects of the total project which are not addressed in the permit.

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

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

GENERAL CONDITIONS:

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

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

a. Having access to and copying any records that must be kept under the conditions of the permit;

b. Inspecting the facility, equipment, practices, or operations regulated or required under this permit; and

c. Sampling or monitoring any substances or parameters at any location reasonably necessary to assure compliance with this permit or department rules.

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

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

a. a description of and cause of non-compliance; and

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

GENERAL CONDITIONS:

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

9. In accepting this permit, the permittee understands and agrees that all records, notes, monitoring data and other information relating to the construction or operation of this permitted source, which are submitted to the department, may be used by the department as evidence in any enforcement case arising under the Florida Statutes or department rules, except where such use is proscribed by Sections 403.73 and 403.111, Florida Statutes.

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

11. This permit is transferable only upon department approval in accordance with Florida Administrative Code Rules 17-4.12 and 17-30.30, as applicable. The permittee shall be liable for any non-compliance of the permitted activity until the transfer is approved by the department.

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

13. This permit also constitutes:

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

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

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

GENERAL CONDITIONS:

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

c. Records of monitoring information shall include:

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

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

SPECIFIC CONDITIONS:

1. Except as required pursuant to these specific conditions, the proposed hot water generator construction shall be carried out in accordance with the statements in the application.

2. The sulfur content of the No. 2 fuel oil to be burned in the proposed generator shall not exceed 0.5 percent by weight, as determined by ASTM Method D-219. The fuel analysis reports of the oil used shall be recorded and these records shall be kept for a minimum of two years for regulatory agency inspection.

PERMITTEE:
Kennedy Space Center

Permit Number: AC 05-105814
Expiration Date: August 31, 1986

SPECIFIC CONDITIONS:

3. The visible emissions from the proposed generator shall not exceed 15 percent opacity. 40% opacity is permitted for not more than two minutes in any one hour. DER Method 9 [17-2.700(6)(a)9, FAC] shall be used for the performance test conducted by the permittee.

4. The test of visible emissions shall be accomplished at 90 to 100 percent of the design capacity. The permittee shall notify DER's St. Johns River District office 14 days prior to the compliance test.

5. A complete operation permit application, with a compliance test and oil analysis report, shall be submitted to the St. Johns River District office 90 days prior to expiration of the construction permit. The permittee may continue to operate in compliance with all terms of the construction permit until the expiration date or issuance of an operating permit.

Issued this 17 day of October, 1985.

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL REGULATION

VICTORIA J. TSCHINKEL, Secretary

____ pages attached.

Best Available Control Technology (BACT) Determination
National Aeronautics & Space Administration
Brevard County

The applicant plans to install a 21.5 horsepower steam generator to be used to control the temperature and humidity within the cargo hazardous service facility located at the John F. Kennedy Space Center, Florida. The steam generator will fire only No.2 distillate oil and will be operated on demand up to 8760 hours per year.

A BACT determination is required for the each source as set forth in the Florida Administrative Code Rule 17-2.600(6) - Emission Limiting and Performance Standards.

BACT Determination Requested by the Applicant:

Particulate and sulfur dioxide emission to be controlled by firing of low sulfur content distillate fuel oil.

Date of Receipt of a BACT Application:

June 20, 1985

Date of Publication in the Florida Administrative Weekly:

July 26, 1985

Review of Group Members:

The determination was based upon comments received from the Stationary Source Control Section.

BACT Determined by DER:

The amount of particulate and sulfur dioxide emissions emitted from the prposed steam generator will be limited by the firing of New [1] No. 2 distillate oil having a sulfur content not to exceed 0.5 percent, by weight.

Visible Emissions	Not to exceed 15% opacity. 40% opacity is permitted for not more than two minutes in any one hour.

DER Method 9 (17-2.700(6)(a)9, FAC) will be used to determine compliance.

[1] The term "new" means an oil which has been refined from crude oil and has not been used, and which may or may not contain additives.

BACT Determination Rationale:

Sulfur in fuel oil is a primary air pollution concern, in that most of the fuel sulfur becomes SO_2. The emission factors for SO_2 and particulate emissions from oil burning are related to the sulfur content. The department agrees with the applicant's proposal that the firing of No. 2 distillate oil, containing 0.5 percent or less sulfur, by weight, is BACT for the proposed steam generator.

The term "new oil" disallows the use of re-refined or waste oil, or any non-fossil fuels, emissions from which were not considered in this BACT analysis.

Details of the Analysis may be Obtained by Contacting:

Edward Palagyi, BACT Coordinator
Department of Environmental Regulation
Bureau of Air Quality Management
2600 Blair Stone Road
Tallahassee, Florida 32301

Recommended by:

C. H. Fancy, Deputy Bureau Chief

Date: 10/15/85

Approved by:

Victoria J. Tschinkel, Secretary

Date: 10/17/85

State of Florida
DEPARTMENT OF ENVIRONMENTAL REGULATION

Interoffice Memorandum

FOR ROUTING TO OTHER THAN THE ADDRESSEE
To: _____ LOCTN: _____
To: _____ LOCTN: _____
To: _____ LOCTN: _____
FROM: _____ DATE: _____

RECEIVED
OCT 16 1985
Office of the Secretary

TO: Victoria J. Tschinkel

FROM: Clair Fancy

DATE: October 15, 1985

SUBJ: Approval of Attached Air Construction Permit and BACT Determination

Attached for your approval and signature is one Air Construction Permit and BACT determination to Kennedy Space Center to construct a 21.5 horsepower hot water generator at NASA's existing facility in Brevard County, Florida.

Day 90, after which the permit would be issued by default, is October 18, 1985.

The Bureau recommends your approval and signature.

CF/pa

Attachment

P 408 533 635

RECEIPT FOR CERTIFIED MAIL

NO INSURANCE COVERAGE PROVIDED—
NOT FOR INTERNATIONAL MAIL

(See Reverse)

Sent to Mr. Peter A. Minderman	
Street and No.	
P.O., State and ZIP Code	
Postage	$
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to whom and Date Delivered	
Return Receipt Showing to whom, Date, and Address of Delivery	
TOTAL Postage and Fees	$
Postmark or Date 10/23/85	

PS Form 3800, Feb. 1982

PS Form 3811, July 1983

SENDER: Complete items 1, 2, 3 and 4.

Put your address in the "RETURN TO" space on the reverse side. Failure to do this will prevent this card from being returned to you. The return receipt fee will provide you the name of the person delivered to and the date of delivery. For additional fees the following services are available. Consult postmaster for fees and check box(es) for service(s) requested.

1. ☐ Show to whom, date and address of delivery.
2. ☐ Restricted Delivery.

3. Article Addressed to:
Mr. Peter A. Minderman
Dir. of Engineering Development
KSC
Kennedy Space Center, Fl 32899

4. Type of Service:	Article Number
☐ Registered ☐ Insured ☒ Certified ☐ COD ☐ Express Mail	P 408 533 635

Always obtain signature of addressee or agent and DATE DELIVERED.

5. Signature – Addressee
X

6. Signature – Agent
X R Gibb

7. Date of Delivery
25 OCT 85

8. Addressee's Address *(ONLY if requested and fee paid)*

DOMESTIC RETURN RECEIPT

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 9, 1985

CERTIFIED MAIL-RETURN RECEIPT REQUESTED

Mr. Peter A. Minderman
Director of Engineering Development
John F. Kennedy Space Center
Kennedy Space Center, Florida 32900

Dear Mr. Minderman:

Attached is one copy of the Technical Evaluation and Preliminary Determination, and proposed permit to construct a hot water generator system located at the Cargo Hazardous Servicing Facility at KSC, Brevard County, Florida.

Before final action can be taken on your draft permit, you are required by Florida Administrative Code Rule 17-103.150 to publish the attached Notice of Proposed Agency Action in the legal advertising section of a newspaper of general circulation in Brevard County no later than fourteen days after receipt of this letter. The department must be provided with proof of publication within seven days of the date the notice is published. Failure to publish the notice may be grounds for denial of the permit.

Please submit, in writing, any comments which you wish to have considered concerning the department's proposed action to Mr. Bill Thomas of the Bureau of Air Quality Management.

Sincerely,

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

CHF/pa

Attachments

cc: Charles Collins

PS Form 3811, July 1983

SENDER: Complete items 1, 2, 3 and 4.

Put your address in the "RETURN TO" space on the reverse side. Failure to do this will prevent this card from being returned to you. The return receipt fee will provide you the name of the person delivered to and the date of delivery. For additional fees the following services are available. Consult postmaster for fees and check box(es) for service(s) requested.

1. ☐ Show to whom, date and address of delivery.
2. ☐ Restricted Delivery.

3. Article Addressed to:
Mr. Peter A. Minderman
Director of Engineering Develop
John F. Kennedy Space Center
Kennedy Space Center, FL 32899

4. Type of Service:
☐ Registered ☐ Insured
☒ Certified ☐ COD
☐ Express Mail

Article Number
P 408 530 293

Always obtain signature of addressee or agent and DATE DELIVERED.

5. Signature – Addressee
X

6. Signature – Agent
X R Gibbs

7. Date of Delivery
AUG 12 1985

8. Addressee's Address *(ONLY if requested and fee paid)*

DOMESTIC RETURN RECEIPT

P 408 530 293

RECEIPT FOR CERTIFIED MAIL

NO INSURANCE COVERAGE PROVIDED—
NOT FOR INTERNATIONAL MAIL

(See Reverse)

Sent to Mr. Peter A. Minderman	
Street and No.	
P.O., State and ZIP Code	
Postage	$
Certified Fee	
Special Delivery Fee	
Restricted Delivery Fee	
Return Receipt Showing to whom and Date Delivered	
Return Receipt Showing to whom, Date, and Address of Delivery	
TOTAL Postage and Fees	$
Postmark or Date 8/9/85	

PS Form 3800, Feb. 1982

State of Florida
Department of Environmental Regulation
Notice of Proposed Agency Action
on Permit Application

The Department of Environmental Regulation gives notice of its intent to issue a permit to John F. Kennedy Space Center to construct a 21.5 horsepower hot water generator located at the Cargo Hazardous Servicing Facility (Building No. M7-1354), at the Kennedy Space Center, Brevard County, Florida. A determination of best available control technology (BACT) was required.

Persons whose substantial interests are affected by the Department's proposed permitting decision may petition for an administrative proceeding (hearing) in accordance with Section 120.57, Florida Statutes. The petition must conform to the requirements of Chapters 17-103 and 28-5, Florida Administrative Code, and must be filed (received) in the Office of General Counsel of the Department at 2600 Blair Stone Road, Twin Towers Office Building, Tallahassee, Florida 32301, within fourteen (14) days of publication of this notice. Failure to file a request for hearing within this time period constitutes a waiver of any right such person may have to request an administrative determination (hearing) under Section 120.57, Florida Statutes.

If a petition is filed, the administrative hearing process is designed to formulate agency action. Accordingly, the Department's final action may be different from the proposed agency action. Therefore, persons who may not wish to file a petition may wish to intervene in the proceeding. A petition for intervention must be filed pursuant to Model Rule 28-5.207, Florida Administrative Code, at least five (5) days before the final hearing and be filed with the hearing officer if one has been assigned at the Division of Administrative Hearings, Department of Administration, 2009, Apalachee Parkway, Tallahassee, Florida 32301. If no hearing officer has been assigned, the petition is to be filed with the department's Office of General Counsel, 2600 Blair Stone Road, Tallahassee, Florida 32301. Failure to petition to intervene within the allowed time frame constitutes a waiver of any right such person has to request a hearing under Section 120.57, Florida Statutes.

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

Dept. of Environmental Regulation
St. Johns River District
3319 Maguire Blvd., Suite 232
Orlando, Florida 32803

Dept. of Environmental Regulation
Bureau of Air Quality Management
2600 Blair Stone Road
Tallahassee, Florida 32301

Any person may send written comments on the proposed action to Mr. Bill Thomas at the department's Tallahassee address. All comments mailed within 30 days of the publication of this notice will be considered in the department's final determination.

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.

BEFORE THE STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

In the Matter of an Application for Permit by:	)	
NASA - Kennedy Space Center Headquarters Building Kennedy Space Center, Florida 32899	)	DER File No. AC 05-105814

INTENT TO ISSUE

The Department of Environmental Regulation hereby gives notice of its Intent to Issue, and proposed order of issuance for, a permit pursuant to Chapter 403, Florida Statutes, for the proposed project as detailed in the application specified above. The Department is issuing this Intent to Issue for the reasons stated in the attached Technical Evaluation and Preliminary Determination.

The applicant, John F. Kennedy Space Center, applied on June 20, 1985, to DER for a permit to construct a 21.5 horsepower hot water generator located at the Cargo Hazardous Servicing Facility, Kennedy Space Center, Brevard County, Florida.

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

This intent to issue shall be placed before the Secretary for final action unless an appropriate petition for a hearing pursuant to the provisions of Section 120.57, Florida Statutes, is filed within fourteen (14) days from receipt of this letter or

publication of the public notice (copy attached) required pursuant to Rule 17-103.150, Florida Administrative Code, whichever occurs first. The petition must comply with the requirements of Section 17-103.155 and Rule 28-5.201, Florida Administrative Code (copy attached) and be filed pursuant to Rule 17-103.155(1) in the Office of General Counsel of the Department of Environmental Regulation at 2600 Blair Stone Road, Tallahassee, Florida 32301.

Petitions which are not filed in accordance with the above provisions are subject to dismissal by the Department. In the event a formal hearing is conducted pursuant to Section 120.57(1), all parties shall have an opportunity to respond, to present evidence and argument on all issues involved, to conduct cross-examination of witnesses and submit rebuttal evidence, to submit proposed findings of facts and orders, to file exceptions to any order or hearing officer's recommended order, and to be represented by counsel. If an informal hearing is requested, the agency, in accordance with its rules of procedure, will provide affected persons or parties or their counsel an opportunity, at a convenient time and place, to present to the agency or hearing officer, written or oral evidence in opposition to the agency's action or refusal to act, or a written statement challenging the grounds upon which the agency has chosen to justify its action or inaction, pursuant to Section 120.57(2), Florida Statutes.

If a petition is filed, the administrative hearing process is designed to formulate agency action. Accordingly, the Department's final action may be different from the proposed agency action. Therefore, persons who may not wish to file a petition, may wish to intervene in the proceeding. A petition for intervention must be filed pursuant to Model Rule 28-5.207 at least five (5) days before the final hearing and be filed with the hearing officer if one has been assigned at the Division of

Administrative Hearings, 2009 Apalachee Parkway, Tallahassee, Florida 32301. If no hearing officer has been assigned, the petition is to be filed with the Department's Office of General Counsel, 2600 Blair Stone Road, Tallahassee, Florida 32301. Failure to petition to intervene within the allowed time frame constitutes a waiver of any right such person has to request a hearing under Section 120.57, Florida Statutes.

Executed the 8 day of August, 1985, in Tallahassee, Florida.

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL REGULATION

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

Copies furnished to:

Peter A. Minderman
Director of Engineering Development
John F. Kennedy Space Center
Kennedy Space Center, Florida 32899

Charles Collins
DER St. Johns River District
3319 Maguire Blvd., Suite 232
Orlando, Florida 32803

CERTIFICATION

This is to certify that the foregoing Intent to Issue and all copies were mailed before the close of business on 9 Aug, 1985.

C. H. Fancy, P.E.
Deputy Chief
Bureau of Air Quality
Management
2600 Blair Stone Road
Tallahassee, Florida 32301

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

Patricia M. Adams
Clerk

August 9, 1985
Date

Technical Evaluation
and
Preliminary Determination

John F. Kennedy Space Center
Brevard County

Permit No. AC 05-105814

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

August 9, 1985

I. SYNOPSIS OF APPLICATION

I.1 National Aeronautics and Space Administration - NASA
JOHN F. KENNEDY SPACE CENTER
DF-EMS
KENNEDY SPACE CENTER, FLORIDA 32899

I.2 REVIEWING AND PROCESS SCHEDULE

Date of receipt of application: June 20, 1985

Completeness Review (30 days): July 19, 1985

Application's completeness date: June 20, 1985

Date of Distribution of Proposed Agency Action and Preliminary Determination: August 9, 1985

Public Notice Period (30 days): "The applicant shall cause the notice to be published as soon as possible after notification by the Department of its intended action and no later than fourteen (14) days prior to final agency action. The applicant shall provide proof of publication to the Department within seven (7) days of publication. The application shall be held in abeyance until fourteen (14) days after publication. (Rule 17-1-62., Fla. Administrative Code)".

Permit Issuance: On or before 90 days after the application has been determined complete, providing the requirement of the public notice period has been met.

II. FACILITY INFORMATION

II.1 FACILITY LOCATION

The proposed facility will be located at the "E" Avenue S.E. Building No. M7-1354, at the Kennedy Space Center, in Brevard County, Florida. The latitude and longitude are 28° 30' 35" North and 80° 39' 36" West, respectively.

II.2 STANDARD INDUSTRIAL CLASSIFICATION CODE (SIC) AND SOURCE CLASSIFICATION CODE (SCC)

This new facility will be classified as follows:

Group No. 966, SPACE RESEARCH AND TECHNOLOGY
Industry No. 9661, Space Research and Technology
SCC 1-02-004-01.

II.3 FACILITY CATEGORY

The Kennedy Space Center (KSC) is classified as a major emitting facility for sulfur dioxide (SO_2) and volatile organic compounds (VOC).

This facility category is not in the list of the 28 Major Facility Categories, Table 500-1 Chapter 17-2, Florida Administrative Code.

III. PROJECT DESCRIPTION

The proposed project consists of constructing a hot water generator system for the Cargo Hazardous Servicing Facility (CHSF) at KSC. This hot water generator will be used to heat the CHSF as well as to provide humidity control.

The hot water generator system consists of a 21.5 horsepower boiler with an internal heat exchanger. Because of the precise temperature and humidity requirements associated with this facility, it is assumed that the hot water generator will be in use continuously all year around.

IV. 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.

The proposed facility, Kennedy Space Center, is located in an area (Brevard County) currently designated attainment for all criteria pollutants in accordance with Florida Administrative Code, Rule 17-2.420.

This facility, a major emitting facility for SO_2 and VOC, is not on the list of the 28 Major Facility Categories, Florida Administrative Code, Table 500-1. Therefore, this project is exempt from provisions of Rule 17-2.500, Prevention of Significant Deterioration.

The proposed source shall be permitted under Rule 17-2.520, Sources not Subject to Prevention of Significant Deterioration or Nonattainment Requirements and shall comply with Rule 17-2.610(2) General Particulate Emission Limiting Standards.

V. SOURCE IMPACT ANALYSIS

V.1. EMISSION LIMITATIONS

The air pollutants emitted from the proposed generator No. 1 will be sulfur dioxide, nitrogen oxides, particulate matter, volatile organic compounds and carbon monoxide. Table No. 1 summarizes potential to emit all pollutants regulated under the

Act which are affected by the proposed project. As the table shows, there is not a significant emission increase of any pollutant.

Best Available Control Technology (BACT) has been determined for sulfur dioxide and particulate matter. The emission limiting standards selected as BACT and made a condition of the permits are listed in the following table.

The permitted emissions, including those determined as BACT, are in compliance with all applicable requirements of Chapter 17-2, Florida Administrative Code.

TABLE 1
SUMMARY OF EMISSIONS

Pollutant	lb/hr	tons/yr	PSD*(tons/yr)
Sulfur dioxide (SO_2)	0.18	0.79	40
Nitrogen Oxide (NOx)	0.13	0.57	40
Particulate Matter (PM)	0.013	0.06	25
Carbon Monoxide (CO)	0.03	0.14	100
Hydrocarbon (VOC)	0.006	0.03	40

*Prevention of Significant Deterioration (PSD) levels.

VI.2 AIR QUALITY ANALYSIS

From a technical review of the application, the department has determined that the construction and operation of this source will not have a significant impact on Florida's ambient air quality standards.

VI. CONCLUSION

Based on an evaluation of the application, the department concludes that the proposed source will comply with related state air regulations, provided certain specific conditions are met.

The general and specific conditions are listed in the attached draft state permit.

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

PERMITTEE:
National Aeronautics and Space Administration - NASA
Kennedy Space Center - KSC
Headquarters Building
Kennedy Space Center, Florida 32899

Permit Number: AC 05-105814
Expiration Date: August 31, 1986
County: Brevard
Latitude/Longitude: 28° 30' 35" N/ 80° 30' 51" W
Project: 21.5 HP Hot Water Generator

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

For the construction of a 21.5 Horsepower Hot Water Generator located at the Cargo Hazardous Servicing Facility, Kennedy Space Center (Building No. M7-1354) in Brevard County, Florida.

Construction shall be in accordance with the attached permit application except as otherwise noted on pages 5 and 6, Specific Conditions.

Attachments are as follows:

1. Application to Construct Air Pollution Source, DER Form 17-2.122(16), received on June 20, 1985.

PERMITTEE:
Kennedy Space Center

Permit Number: AC 05-105814
Expiration Date: August 31, 1986

GENERAL CONDITIONS:

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

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

3. As provided in Subsections 403.087(6) and 403.722(5), Florida Statutes, the issuance of this permit does not convey any vested rights or any exclusive privileges. Nor does it authorize any injury to public or private property or any invasion of personal rights, nor any infringement of federal, state or local laws or regulations. This permit does not constitute a waiver of or approval of any other department permit that may be required for other aspects of the total project which are not addressed in the permit.

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

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

GENERAL CONDITIONS:

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

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

a. Having access to and copying any records that must be kept under the conditions of the permit;

b. Inspecting the facility, equipment, practices, or operations regulated or required under this permit; and

c. Sampling or monitoring any substances or parameters at any location reasonably necessary to assure compliance with this permit or department rules.

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

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

a. a description of and cause of non-compliance; and

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

PERMITTEE:
Kennedy Space Center

Permit Number: AC 05-105814
Expiration Date: August 31, 1986

GENERAL CONDITIONS:

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

9. In accepting this permit, the permittee understands and agrees that all records, notes, monitoring data and other information relating to the construction or operation of this permitted source, which are submitted to the department, may be used by the department as evidence in any enforcement case arising under the Florida Statutes or department rules, except where such use is proscribed by Sections 403.73 and 403.111, Florida Statutes.

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

11. This permit is transferable only upon department approval in accordance with Florida Administrative Code Rules 17-4.12 and 17-30.30, as applicable. The permittee shall be liable for any non-compliance of the permitted activity until the transfer is approved by the department.

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

13. This permit also constitutes:

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

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

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

GENERAL CONDITIONS:

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

c. Records of monitoring information shall include:

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

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

SPECIFIC CONDITIONS:

1. Except as required pursuant to these specific conditions, the proposed hot water generator construction shall be carried out in accordance with the statements in the application.

2. The sulfur content of the No. 2 fuel oil to be burned in the proposed generator shall not exceed 0.5 percent by weight, as determined by ASTM Method D-219. The fuel analysis reports of the oil used shall be recorded and these records shall be kept for a minimum of two years for regulatory agency inspection.

PERMITTEE:
Kennedy Space Center

Permit Number: AC 05-105814
Expiration Date: August 31, 1986

SPECIFIC CONDITIONS:

3. The visible emissions from the proposed generator shall not exceed 15 percent opacity. 40% opacity is permitted for not more than two minutes in any one hour. DER Method 9 [17-2.700(6)(a)9, FAC] shall be used for the performance test conducted by the permittee.

4. The test of visible emissions shall be accomplished at 90 to 100 percent of the design capacity. The permittee shall notify DER's St. Johns River District office 14 days prior to the compliance test.

5. A complete operation permit application, with a compliance test and oil analysis report, shall be submitted to the St. Johns River District office 90 days prior to expiration of the construction permit. The permittee may continue to operate in compliance with all terms of the construction permit until the expiration date or issuance of an operating permit.

Issued this_____day of_____, 19__.

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL REGULATION

_____
VICTORIA J. TSCHINKEL, Secretary

____ pages attached.

Best Available Control Technology (BACT) Determination
National Aeronautics & Space Administration
Brevard County

The applicant plans to install a 21.5 horsepower steam generator to be used to control the temperature and humidity within the cargo hazardous service facility located at the John F. Kennedy Space Center, Florida. The steam generator will fire only No.2 distillate oil and will be operated on demand up to 8760 hours per year.

A BACT determination is required for the each source as set forth in the Florida Administrative Code Rule 17-2.600(6) - Emission Limiting and Performance Standards.

BACT Determination Requested by the Applicant:

Particulate and sulfur dioxide emission to be controlled by firing of low sulfur content distillate fuel oil.

Date of Receipt of a BACT Application:

June 20, 1985

Date of Publication in the Florida Administrative Weekly:

July 26, 1985

Review of Group Members:

The determination was based upon comments received from the Stationary Source Control Section.

BACT Determined by DER:

The amount of particulate and sulfur dioxide emissions emitted from the prposed steam generator will be limited by the firing of New [1] No. 2 distillate oil having a sulfur content not to exceed 0.5 percent, by weight.

Visible Emissions	Not to exceed 15% opacity. 40% opacity is permitted for not more than two minutes in any one hour.

DER Method 9 (17-2.700(6)(a)9, FAC) will be used to determine compliance.

[1] The term "new" means an oil which has been refined from crude oil and has not been used, and which may or may not contain additives.

BACT Determination Rationale:

Sulfur in fuel oil is a primary air pollution concern, in that most of the fuel sulfur becomes SO_2. The emission factors for SO_2 and particulate emissions from oil burning are related to the sulfur content. The department agrees with the applicant's proposal that the firing of No. 2 distillate oil, containing 0.5 percent or less sulfur, by weight, is BACT for the proposed steam generator.

The term "new oil" disallows the use of re-refined or waste oil, or any non-fossil fuels, emissions from which were not considered in this BACT analysis.

Details of the Analysis may be Obtained by Contacting:

Edward Palagyi, BACT Coordinator
Department of Environmental Regulation
Bureau of Air Quality Management
2600 Blair Stone Road
Tallahassee, Florida 32301

Recommended by:

_____
C. H. Fancy, Deputy Bureau Chief

Date: _____

Approved by:

_____
Victoria J. Tschinkel, Secretary

Date: _____

DER

AUG 28 1985

BAQM

CAPE PUBLICATIONS, INC.

The Times
Published Weekly on Wednesday

THE TRIBUNE
Published Weekly on Wednesday

STAR-ADVOCATE
Published Weekly on Wednesday

TODAY
Published Daily

STATE OF FLORIDA
COUNTY OF BREVARD

Before the undersigned authority personally appeared **Linda L. Spicer**

who on oath says that he/she is **Legal Advertising Clerk**

of the **TODAY**, a newspaper published in Brevard County,

Florida; that the attached copy of advertising being a Notice of Application

in the matter of permit to John F. Kennedy Space Center (Order No. cc: 39131B)

in the Court

was published in the **TODAY NEWSPAPER**

in the issues of August 24, 1985

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

Linda L. Spicer

Sworn and subscribed to before me this

24th day of August A.D. 19 85.

Marie E Keehl

NOTARY PUBLIC STATE OF FLORIDA
MY COMMISSION EXPIRES SEPT 14 1987
BONDED THRU GENERAL INSURANCE UND.

NOTARY PUBLIC STATE OF FLORIDA

State of Florida
Department of
Environmental Regulation
Notice of Proposed Agency
Action on Permit Application

The Department of Environmental Regulation gives notice of its intent to issue a permit to John F. Kennedy Space Center to construct a 21.5 horsepower hot water generator located at the Cargo Hazardous Servicing Facility (Building No. M7-1354), at the Kennedy Space Center, Brevard County, Florida. A determination of best available control technology (BACT) was required.

Persons whose substantial interests are affected by the Department's proposed permitting decision may petition for an administrative proceeding (hearing) in accordance with Section 120.57, Florida Statutes. The petition must conform to the requirements of Chapters 17-103 and 28-5, Florida Administrative Code, and must be filed (received) in the Office of General Counsel of the Department at 2600 Blair Stone Road, Twin Towers Office Building, Tallahassee, Florida 32301, within fourteen (14) days of publication of this notice. Failure to file a request for hearing within this time period shall canstitute a waiver of any right such person may have to request an administrative determination (hearing) under Section 120.57, Florida Statutes.

If a petition is filed, the administrative hearing process is designed to formulate agency action. Accordingly, the Department's final action may be different from the proposed agency action. Therefore, persons who may not wish to file a petition may wish to intervene in the proceeding. A petition for intervention must be filed pursuant to Model Rule 28-5.207, Florida Administrative Code, at least five (5) days before the final hearing and be filed with the hearing officer if one has been assigned at the Division of Administrative Hearings, Department of Administration, 2009 Apalachee Parkway, Tallahasssee, Florida 32301. If no hearing officer has been assigned, the petition is to be filed with the department's Office of General Counsel, 2600 Blair Stone Road, Tallahassee, Florida 32301. Failure to petition to intervene within the allowed time frame constitutes a waiver of any right such person has to request a hearing under Section 120.57, Florida Statutes.

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

Dept. of Environmental Regulation
St. Johns River District
3319 Maguire Blvd.,
Suite 232
Orlando, Florida 32803

Dept. of Environmental Regulation
Bureau of Air Quality Management
2600 Blair Stone Road
Tallahassee, Florida 32301

Any person may send written comments on the proposed action to Mr. Bill Thomas at the department's Tallahassee address. All comments mailed within 30 days of the publication of this notice will be considered in the department's final determination.

TO76249—1T—8/24, 1985, Sat.

TREASURY
BUREAU OF GOVERNMENT FINANCIAL OPERATIONS

WASHINGTON, D. C.

Check No. 70,951,306

SYMBOL 3005

DO NOT FOLD, SPINDLE OR MUTILATE
KNOW YOUR ENDORSER . . . REQUIRE IDENTIFICATION

United States Treasury 15-51 000

PAY TO THE ORDER OF STATE OF FLORIDA DEPT OF ENVIRONMENTAL REGULATIONS

MONTH	DAY	YEAR
05	07	85

80004904

PERMIT STP NO 1

DOLLARS	CTS.
$***100	00

NASA JFK
SPACE CENTER
A4285

062

Joe O'Brien

⑈300521⑈

[redacted]

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

Nº 76080

RECEIPT FOR APPLICATION FEES AND MISCELLANEOUS REVENUE

Received from United States Treasury Date June 20, 1985

Address _____ Dollars $ 100.00

Applicant Name & Address NASA Kennedy Space Center Fla. 32899

Source of Revenue _____

Revenue Code 001051 Application Number AC 05-105814

By Patricia J. Adams

National Aeronautics and
Space Administration

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

NASA

JUN 17 1985

Reply to Attn of DF-EMS

DER
JUN 20 1985
BAQM

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: Application for a Construction Permit for the Cargo Hazardous Servicing Facility Hot Water Generator at Kennedy Space Center

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 $100 for the permit fee.

Please refer any questions to Mario Busacca at 305 867-4049.

J. R. Logan for
Peter A. Minderman
Director of Engineering Development

Enclosures

AC 05- 105814

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

DER

JUN 20 1985

BAQM

APPLICATION TO OPERATE/CONSTRUCT AIR POLLUTION SOURCES

SOURCE TYPE: Hot Water Generator [X] New[1] [ ] Existing[1]

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

COMPANY NAME: National Aeronautics and Space Administration COUNTY: Brevard

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

SOURCE LOCATION: Street "E" Ave. S.E., Build. No. M7-1354 City Brevard

UTM: East X= 613,260 North Y = 1,518,100

Latitude 28 ° 30 ' 35 "N Longitude 80 ° 38 ' 51 "W

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

APPLICANT ADDRESS: John F. Kennedy Space Center, Kennedy Space Center, FL 32899

SECTION I: STATEMENTS BY APPLICANT AND ENGINEER

A. APPLICANT

I am the undersigned owner or authorized representative* of John F. Kennedy Space Center

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: J R Lyon

Peter A. Minderman, Director of Engineering Dev.
Name and Title (Please Type)

Date: 6/17/85 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

See Florida Administrative Code Rule 17-2.100(57) and (104)

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

Signed: J. R. Lyon

Peter A. Minderman
Name (Please Type)

National Aeronautics and Space Administration
Company Name (Please Type)

John F. Kennedy Space Center, Kennedy Space Center, FL
Mailing Address (Please Type)

Florida Registration No. Exempt per 471.05 F.S. Date: 6/17/85 Telephone No. (305) 867-2565

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 A

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

Start of Construction Oct. 1985 Completion of Construction Dec. 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.

None

E. Requested permitted equipment operating time: hrs/day 24 ; days/wk 7 ; wks/yr 52 ;

if power plant, hrs/yr_____; if seasonal, describe:_____

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

1. Is this source in a non-attainment area for a particular pollutant? No

   a. If yes, has "offset" been applied? -

   b. If yes, has "Lowest Achievable Emission Rate" been applied? -

   c. If yes, list non-attainment pollutants. -

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

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

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

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

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

   a. If yes, for what pollutants?_____

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

Attach all supportive information related to any answer of "Yes". Attach any 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: 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: (Information in this table must be submitted for each emission point, use additional sheets as necessary)

Name of Contaminant	Emission[1]		Allowed[2] Emission Rate per Rule 17-2	Allowable[3] Emission lbs/hr	Potential[4] Emission		Relate to Flow Diagram
	Maximum lbs/hr	Actual T/yr			lbs/yr	T/yr	
SO_2	0.18		In Accordance with		1578	0.79	
NO_x	0.13		Section 17-2.600(6)		1139	0.57	
Particulate	0.013		F.A.C. - BACT		114	0.06	
CO	0.03		Shall be Applied		263	0.14	

[1] See Section V, Item 2.

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

[3] Calculated from operating rate and applicable standard.

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

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

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

E. Fuels

Type (Be Specific)	Consumption*		Maximum Heat Input (MMBTU/hr)
	avg/hr	max./hr	
No. 2 Fuel Oil	6.5 GPH	9.0 GPH	0.9

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

Fuel Analysis:

Percent Sulfur: 0.2 Percent Ash: Nil

Density: 8.0 lbs/gal Typical Percent Nitrogen: Nil

Heat Capacity: 17,500 BTU/lb 140,000 BTU/gal

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

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

Annual Average 15 Maximum 20

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: _____ ft. Stack Diameter: 1.0 ft.

Gas Flow Rate: _____ ACFM _____ DSCFM Gas Exit Temperature: 400 °F.

Water Vapor Content: _____ % Velocity: _____ FPS

SECTION IV: INCINERATOR INFORMATION

Not Applicable

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

Description of Waste _____

Total Weight Incinerated (lbs/hr) _____ Design Capacity (lbs/hr) _____

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

Manufacturer _____

Date Constructed _____ Model No. _____

	Volume $(ft)^3$	Heat Release (BTU/hr)	Fuel		Temperature (°F)
			Type	BTU/hr	
Primary Chamber					
Secondary Chamber					

Stack Height: _____ ft. Stack Diamter: _____ 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.):

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

SECTION V: SUPPLEMENTAL REQUIREMENTS

Please provide the following supplements where required for this application.

1. Total process input rate and product weight -- show derivation [Rule 17-2.100(127)]
   Not Applicable
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.
   See Attachment B - C (Specifications - Calculations)
3. Attach basis of potential discharge (e.g., emission factor, that is, AP42 test).
   See Attachments B - C (Specifications - Calculations)
4. With construction permit application, include design details for all air pollution control systems (e.g., for baghouse include cloth to air ratio; for scrubber include cross-section sketch, design pressure drop, etc.)
   Not Applicable
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).
   See Attachments B - C (Specifications - Calculations)
6. An 8 1/2" x 11" flow diagram which will, without revealing trade secrets, identify the individual operations and/or processes. Indicate where raw materials enter, where solid and liquid waste exit, where gaseous emissions and/or airborne particles are evolved and where finished products are obtained.
   See Attachment D - Flow Diagram
7. An 8 1/2" x 11" plot plan showing the location of the establishment, and points of airborne emissions, in relation to the surrounding area, residences and other permanent structures and roadways (Example: Copy of relevant portion of USGS topographic map).
   See Attachment E - Plot Plan Location
8. An 8 1/2" x 11" plot plan of facility showing the location of manufacturing processes and outlets for airborne emissions. Relate all flows to the flow diagram.
   See Attachment F - Plot Plan Facility

9. The appropriate application fee in accordance with Rule 17-4.05. The check should be made payable to the Department of Environmental Regulation.

10. With an application for operation permit, attach a Certificate of Completion of Construction indicating that the source was constructed as shown in the construction permit.

SECTION VI: BEST AVAILABLE CONTROL TECHNOLOGY

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:
2. Operating Principles:
3. Efficiency:*
4. Capital Costs:

*Explain method of determining

5. Useful Life:

6. Operating Costs:

7. Energy:

8. Maintenance Cost:

9. Emissions:

Contaminant	Rate or Concentration

10. Stack Parameters

a. Height: ft.

b. Diameter: ft.

c. Flow Rate: ACFM

d. Temperature: °F.

e. Velocity: FPS

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

1.

a. Control Device:

b. Operating Principles:

c. Efficiency:[1]

d. Capital Cost:

e. Useful Life:

f. Operating Cost:

g. Energy [2]

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:[1]

d. Capital Cost:

e. Useful Life:

f. Operating Cost:

g. Energy:[2]

h. Maintenance Cost:

i. Availability of construction materials and process chemicals:

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

j. Applicability to manufacturing processes:

k. Ability to construct with control device, install in available space, and operate within proposed levels:

3.

a. Control Device:

b. Operating Principles:

c. Efficiency:[1]

d. Capital Cost:

e. Useful Life:

f. Operating Cost:

g. Energy:[2]

h. Maintenance Cost:

i. Availability of construction materials and process chemicals:

j. Applicability to manufacturing processes:

k. Ability to construct with control device, install in available space, and operate within proposed levels:

4.

a. Control Device:

b. Operating Principles:

c. Efficiency:[1]

d. Capital Costs:

e. Useful Life:

f. Operating Cost:

g. Energy:[2]

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:[1]

3. Capital Cost:

4. Useful Life:

5. Operating Cost:

6. Energy:[2]

7. Maintenance Cost:

8. Manufacturer:

9. Other locations where employed on similar processes:

a. (1) Company:

(2) Mailing Address:

(3) City:

(4) State:

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

(5) Environmental Manager:

(6) Telephone No.:

(7) Emissions:[1]

Contaminant	Rate or Concentration

(8) Process Rate:[1]

b. (1) Company:

(2) Mailing Address:

(3) City: (4) State:

(5) Environmental Manager:

(6) Telephone No.:

(7) Emissions:[1]

Contaminant	Rate or Concentration

(8) Process Rate:[1]

10. Reason for selection and description of systems:

[1]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 _____ ( ) 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.

*Specify bubbler (B) or continuous (C).

2. Instrumentation, Field and Laboratory

a. Was instrumentation EPA referenced or its equivalent? [ ] Yes [ ] No

b. Was instrumentation calibrated in accordance with Department procedures?

[ ] Yes [ ] No [ ] Unknown

B. Meteorological Data Used for Air Quality Modeling

1. _____ Year(s) of data from ____/____/____ to ____/____/____
month day year month day year

2. Surface data obtained from (location)_____

3. Upper air (mixing height) data obtained from (location)_____

4. Stability wind rose (STAR) data obtained from (location)_____

C. Computer Models Used

1. _____ Modified? If yes, attach description.

2. _____ Modified? If yes, attach description.

3. _____ Modified? If yes, attach description.

4. _____ Modified? If yes, attach description.

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

D. Applicants Maximum Allowable Emission Data

Pollutant	Emission Rate	
TSP	_____	grams/sec
SO^2	_____	grams/sec

E. Emission Data Used in Modeling

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

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

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

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

ATTACHMENT A

Hot Water Generator Cargo Hazardous Servicing Facility

An air pollution source construction permit application is submitted for a Hot Water and Reheat Hot Water System for the Cargo Hazardous Servicing Facility (CHSF) at Kennedy Space Center, Florida. This hot water generator will be used to heat the CHSF as well as to provide humidity control.

The hot water generator system consists of a No. 2 oil fired, 900 MBH boiler with an internal heat exchanger. A 6,000 gallon oil tank will provide the fuel supply. Because of the precise temperature and humidity requirements associated with this facility it is assumed that the hot water generator will be in use 24 hours/day, 365 days/year.

The use of No. 2 low sulpher distillate oil for this boiler will be considered Best Available Control Technology.

ATTACHMENT B

Specifications

INDEX & BASIC DESCRIPTION
OF EQUIPMENT RITE BOILER
& ENGINEERING PROPOSES TO
FURNISH FOR:

JOB: CARGO HAZARDOUS SERVICING FACILITY
CONTRACTOR: KMS OF FLORIDA CORP.

QUANITY 1 WATER BOILER
RITE BOILER & ENGINEERING MOdel No. 90 Lime Light

BOILER RATING:

21.5 H.P. 900 MBH Input
720 MBH Output

PRESSURE RATING:

X Design: 140 psig
X Operating: 30 psig

HEATING SURFACE:

X 88 Sq. Ft. Fireside

FUEL: X Oil X #2, 6.5 GPH

ELECTRIC POWER REQUIREMENTS:

X Controls: 120/1/60
X Motors: 120/1/60

LIMELIGHT HEAT EXCHANGER:

X 720 MBH Gross Output
X 66 Sq. Ft. Heating Surface

X BOILER CHARACTERISTICS

X Water Tube With Straight Steel Tubes
X Designed, Constructed & Tested Per A.S.M.E. Code, Section 1V - Low Pressure Heating Boilers

X Fabricated Steel Base Skids
X Jacket: 22 Ga. Steel With 3" Fiberglass Insulation

X BOILER BASE:

X 3" Refractory With 3" Fiberglass Insulation & 22 Ga. steel Jacket

X Lifting Lugs
X Relief Door
X Access Door

X BOILER TRIM - HOT WATER:

X Water Relief Valve - Watts No. 74 Set @ 30 psig On Boiler
X Combination Pressure & Temperature Gauge On Boiler

X BURNER CHARACTERISTICS:

X Model CRI-O POWER FLAME Flanged
X Mounted Oil Burner
X Firing Rate 6.5 X #2 Oil
X Burner Motor 1/3 H.P.
X 3500 RPM

X OPERATION OF BURNER CONTROLS

X On-Off Fixed Firing Rate

X LIMIT & FIRING CONTROLS

X Operating Limit HONEYWELL L4006A
X High Limit HONEYWELL L4006E Manual Reset

X Low Water Cutoff Control: McDonnell-Miller No.63
X Manual Reset

X Burner Air Switch

X ELECTRICAL CONTROL PANEL WITH

X On-Off Switch
X Control Fuse
X Terminal Strip

X INDICATING LIGHTS

- X Flame Failure/Low Water -- RED
- X Ignition -- AMBER
- X Main Fuel -- GREEN
- X Low Draft -- BLUE

X AUDIBLE ALARM BELL

- X Low Water & Flame Failure
- X Momentary Pushbutton

ASPER E0-1-79K27025 SHEET 6 BOILER SAFETY TRIP INDICATORS SHALL BE WIRED TO TERMINALS FOR TRANSMISSION TO A REMOTE LOCATION ASWELL AS GIVE THE LOCAL ALARM — ADD RELAYS AND A TERMINAL BOARD FOR THIS PURPOSE

  - X Type: Silencing Switch

X IGNITION SYSTEM

- X Ignition Transformer For Spark Ignition of Main Flame

X FLAME CONTROL - Mounted On Burner

- X HONEYWELL L4140M-1053
- X Flame Detector - Ultrviolet

X OIL VALVES -Solenoid Type

X Dual I T & T S311-AC 9-1/8"

X OIL PRESSURE GAUGE - 2½" 0-160 psig

X OIL PUMP - Two Stage

- X Mounted On Burner
- X Model WEBSTER No.22R2210

X NOZZLE & ELECTRODE ASSEMBLY
X Single Nozzle Arrangement

X For Full Firing Rate ✓

X 3/4" Duplex Oil Strainer
X 1/2" Firomatic 200°F Fusible Valve

X INDUCED DRAFT FAN

X Mounted On Top Of Boiler
X Connected To Breeching With Barometric Damper
X MASTER Model 1SP, Catalog NO. 325
X 550°F Fan ✓

X With Heat Slinger And Belt Guard

X CFM 240 At 1" SP ✓
X Blower Motor 1/4 HP, 120/1/60
X Safety Flow Switch

X This Submittal Is For Approval Purposes

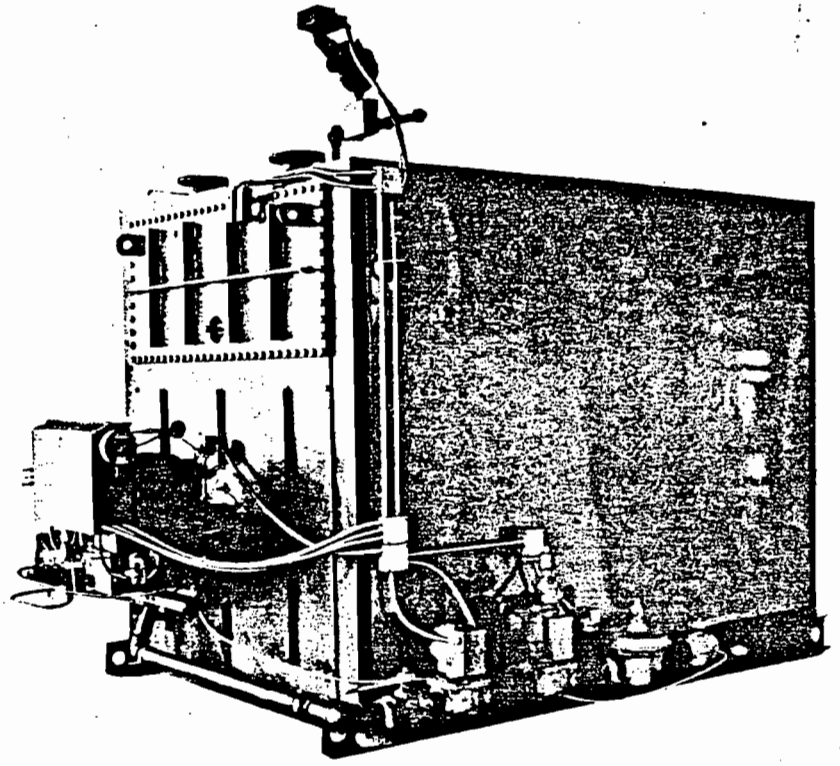
Submitted By:

X MASON ENGINEERING SALES CO.
WINTER HAVEN, FLORIDA 33880

Prepared By: Lynn N. Green
Lynn N. Green

Dated: JAN. 24, 1985

Rite BOILERS



WATER HEATING BOILER
LOW PRESSURE
FIRED WITH POWER BURNER

A.I.A. File No. 30-C-1
A.I.A. File No. 29-D-2

RITE ENGINEERING & MANUFACTURING CORPORATION
9441 WASHBURN ROAD / DOWNEY / CALIFORNIA 90241
P.O. BOX 310 / TELEPHONE (213) 862-2135

RITE BOILERS

STANDARD EQUIPMENT

- RELIEF VALVE (ASME)
- HIGH LIMIT CONTROLLER
- PRESSURE TEMPERATURE GAUGE
- AIR ELIMINATION FITTING (IF SPECIFIED)
- LIFTING LUGS
- OPERATING CONTROL
- FULLY WIRED
- FACTORY FIRE TESTED
- BAROMETRIC DAMPER(S)
- RELIEF AND ACCESS DOOR
- PRESSURE ATOMIZING BURNERS (GAS, OIL, OR COMB. G/O)
- NECESSARY OIL AND GAS ACCESSORIES FOR PROPER OPERATION
- LOW WATER CUT OFF
  30 PSI

OPTIONAL EQUIPMENT (EXTRA COST)

- DAVITS
- INSULATED HEAD PLATES
- SOOT SCRAPER

OPTIONAL EQUIPMENT (EXTRA COST) Cont.

- BURNERS FOR #4, #5, #6 OIL
- AIR ATOMIZING BURNERS
- MANUAL RESET GAS VALVE
- AUXILIARY LOW WATER CUT OFF
- LOW WATER CUT OFF FEEDER COMB.
- ID FAN WITH DRAFT PROVING SWITCH EXPANSION TANK
- EXPANSION TANK
- IRI CONTROLS
- FM CONTROLS
- INDIRECT INTERNAL HEAT EXCHANGER; STRAIGHT THR COPPER TUBES (LIME-LITE)
- EXTERNAL HEAT EXCHANGER MOUNTED ON BOILER W/PUMP AND TEMP. CONTROLLER
- RITE-LITE PANEL
- TATTLE TALE PANEL
- STACK SUPPORT
- LOW HIGH LOW FIRING
- MODULATION
- ANODES
- 125 PSI

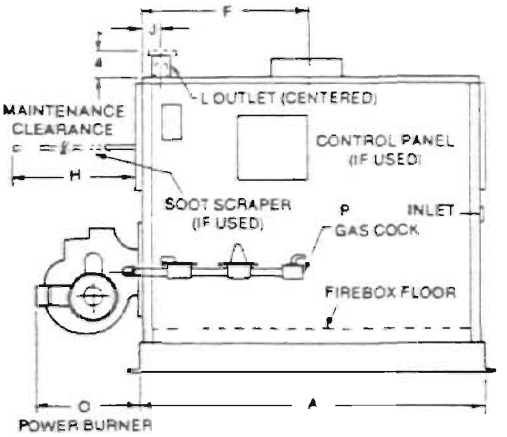
GENERAL DATA

MODEL	Input BTU/HR x1000	Output BTU/HR x1000	H.P.	G.P.M. 20° F Rise	G.P.H. 100° F Rise	Water Content Gallons	Surface Heating Sq. Ft.
48	480	384	11.5	38	465	20.5	49
55	550	440	13.2	44	535	22.3	56
63	630	506	15.1	51	615	24.0	63
76	760	608	18.2	61	740	27.0	75
85	850	680	20.3	69	830	40.0	88
90	900	720	21.5	72	875	40.0	88
105	1050	840	25.1	84	1015	43.0	101
120	1200	960	28.6	97	1165	47.0	115
135	1350	1080	32.2	110	1315	50.0	131
150	1500	1200	35.8	120	1460	54.0	145
A150	1500	1200	35.8	120	1460	71.0	160
165	1650	1320	39.4	135	1600	57.0	159
A165	1650	1320	39.4	135	1600	75.0	168
180	1800	1440	43.0	145	1750	61.0	174
A180	1800	1440	43.0	145	1750	79.0	190
200	2000	1600	47.8	160	1950	66.0	192
A200	2000	1600	47.8	160	1950	83.0	205
225	2250	1800	53.8	180	2190	89.0	230
250	2500	2000	59.7	200	2430	94.0	252
275	2750	2200	65.7	220	2670	100.0	273
300	3000	2400	71.8	240	2920	105.0	295
325	3250	2600	77.7	265	3160	111.0	318
350	3500	2800	83.6	285	3400	116.0	340
375	3750	3000	89.6	305	3650	122.0	362
400	4000	3200	95.6	325	3900	127.0	383
A400	4000	3200	95.6	325	3900	160.0	390
425	4250	3400	101.5	345	4140	133.0	405
450	4500	3600	107.5	365	4380	139.0	428
A450	4500	3600	107.5	365	4380	180.0	440
475	4750	3800	113.5	385	4630	145.0	450
500	5000	4000	119.5	405	4870	151.0	473
A500	5000	4000	119.5	405	4870	195.0	486
550	5500	4400	131.5	445	5370	190.0	526
A550	5500	4400	131.5	445	5370	215.0	535
600	6000	4800	143.5	485	5850	213.0	574
A600	6000	4800	143.5	485	5850	235.0	584
A650	6500	5200	155.0	520	6250	240.0	622
650	6500	5200	155.0	520	6250	250.0	632
A700	7000	5600	167.0	560	6720	255.0	670
700	7000	5600	167.0	560	6720	275.0	680
A750	7500	6000	180.0	600	7200	270.0	722
750	7500	6000	180.0	600	7200	290.0	730
840	8400	6700	200.0	650	7800	320.0	800
940	9400	7500	225.0	770	9270	345.0	900
1050	10500	8400	250.0	810	9740	370.0	1000
1150	11500	9200	275.0	925	11000	395.0	1100
1250	12500	10000	300.0	1005	12100	420.0	1200

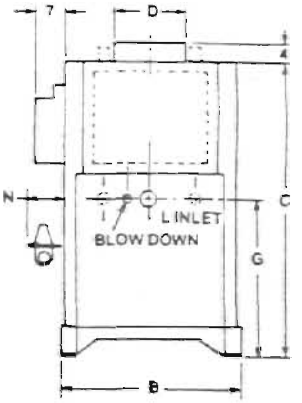
Note: Use following designations when specifying: WG – for Water Gas WO – for Water Oil

ATER — FIRED WITH POWER BURNER

"B" Dimension	Blow Down Size
33	1
39	1-1/4
46	1-1/2
57 & larger	2



Note: Over 4" all connections are flanged.



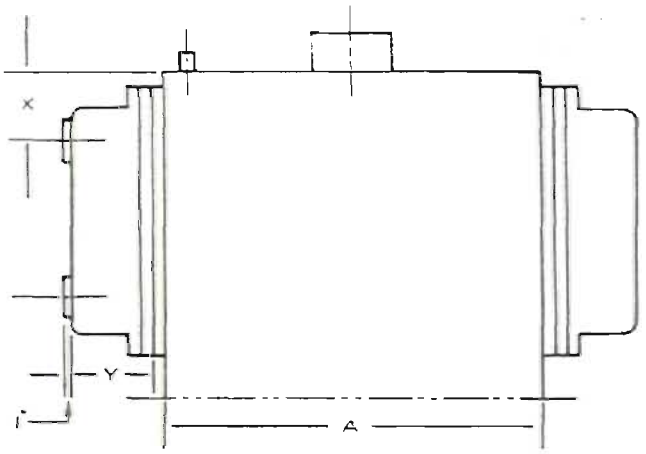
REAR VIEW

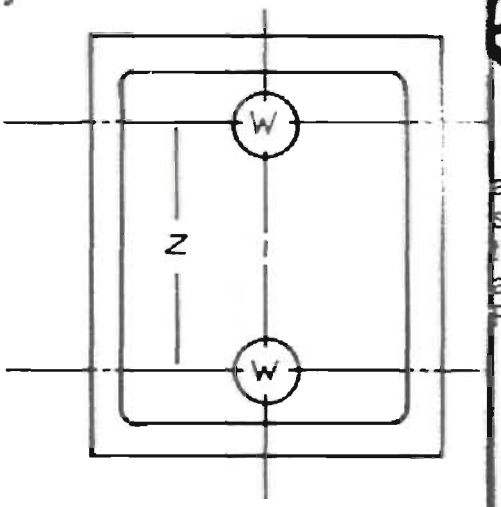
DIMENSIONS

Shipping Wt	MODEL	A	B	C	D	F	G	H	J	L	N	O	P	Furnace Vol.
175(	48	40	33	54	10	15	32	32	2-1/2	2	10	14	1	8.7
205(	55	45	33	54	10	16	32	37	2-1/2	2	10	14	1	10.0
225(	63	50	33	54	10	18	32	42	2-1/2	2	10	20	1-1/4	11.5
250(	76	58	33	54	12	20	32	50	2-1/2	2	10	20	1-1/4	13.9
290(	85	46	39	68	12	18	39	36	2-5/8	3	12	20	1-1/4	15.5
290(	90	46	39	68	12	18	39	36	2-5/8	3	12	20	1-1/4	15.5
325(	105	52	39	68	12	20	39	42	2-5/8	3	12	20	1-1/4	18.2
350(	120	58	39	68	14	22	39	48	2-5/8	3	12	20	1-1/2	21.2
375(	135	64	39	68	14	24	39	54	2-5/8	3	12	20	1-1/2	24.6
400(	150	70	39	68	16	26	39	60	2-5/8	3	12	26	1-1/2	27.0
400(	A150	55	46	72	16	20	40	42	3-1/2	4	14	26	2	27.2
425(	165	76	39	68	16	28	39	66	2-5/8	3	12	26	1-1/2	30.1
425(	A165	59	46	72	16	21	40	46	3-1/2	4	14	26	2	30.3
450(	180	82	39	68	16	30	39	72	2-5/8	3	12	26	1-1/2	33.0
450(	A180	65	46	72	16	22	40	52	3-1/2	4	14	26	2	34.8
500(	200	90	39	68	18	33	39	80	2-5/8	3	12	26	1-1/2	36.4
500(	A200	69	46	72	18	23	40	56	3-1/2	4	14	26	2	39.0
540(	225	73	46	72	18	25	40	60	3-1/2	4	16	31	2	42.0
590(	250	79	46	72	20	27	40	66	3-1/2	4	16	31	2	46.0
630(	275	85	46	72	20	29	40	72	3-1/2	4	16	31	2	50.0
670(	300	91	46	72	20	31	40	78	3-1/2	4	16	31	2	56.0
710(	325	97	46	72	22	33	40	84	3-1/2	4	16	31	2	62.0
750(	350	103	46	72	22	35	40	90	3-1/2	4	16	31	2	68.0
790(	375	109	46	72	22	35	40	96	3-1/2	4	16	31	2	73.0
850(	400	82	57	83	24	28	46	69	3-1/2	4	16	35	2	75.0
900(	A400	79	67	83	22	29	46	55	4	2-4	14	35	2	78.0
890(	425	87	57	83	24	28	46	74	3-1/2	4	16	35	2	78.0
930(	450	91	57	83	26	31	46	78	3-1/2	4	16	35	2	83.0
980(	A450	87	67	83	24	32	46	65	4	2-4	14	35	2	88.0
970(	475	95	57	83	26	31	46	82	3-1/2	4	16	35	2	87.0
1020(	500	100	57	83	26	34	46	87	3-1/2	4	16	35	2	92.0
1060(	A500	95	67	83	26	34	46	72	4-3/4	2-4	14	35	2	96.0
1100(	550	109	57	83	28	37	46	96	3-1/2	4	16	35	2	102.0
1140(	A550	102	67	83	26	37	46	80	4-3/4	2-4	14	35	2	108.0
1180(	600	118	57	83	28	40	46	105	3-1/2	4	16	35	2	112.0
1220(	A600	109	67	83	28	39	46	85	4-3/4	2-4	14	35	2	118.0
1275(	A650	129	57	83	28	45	46	114	4	5	16	35	2	120.0
1300(	650	117	67	83	28	42	46	92	4-3/4	2-4	14	35	2	128.0
1430(	A700	138	57	83	28	48	46	123	4	5	16	35	2	130.0
1380(	700	124	67	83	28	44	46	100	4-3/4	2-4	14	35	2	138.0
1505(	A750	147	57	83	30	51	46	132	4	5	16	35	2	140.0
1460(	750	132	67	83	30	47	46	108	4-3/4	2-4	14	35	2	148.0
1500(	840	116	81-1/2	91	30	43	54	87	5	2-5	14	35	2-1/2	169.0
1570(	940	128	81-1/2	91	32	47	54	100	5	2-5	14	35	2-1/2	195.0
1650(	1050	140	81-1/2	91	34	51	54	111	5	2-5	14	35	2-1/2	241.0
1720(	1150	152	81-1/2	91	36	55	54	123	5	2-5	14	35	2-1/2	267.0
1800(	1250	164	81-1/2	91	36	59	54	135	5	2-5	14	35	2-1/2	292.0

Note: N & P dimensions for WG & WGO boilers.

All dimensions in inches.





DATA AND DIMENSIONS

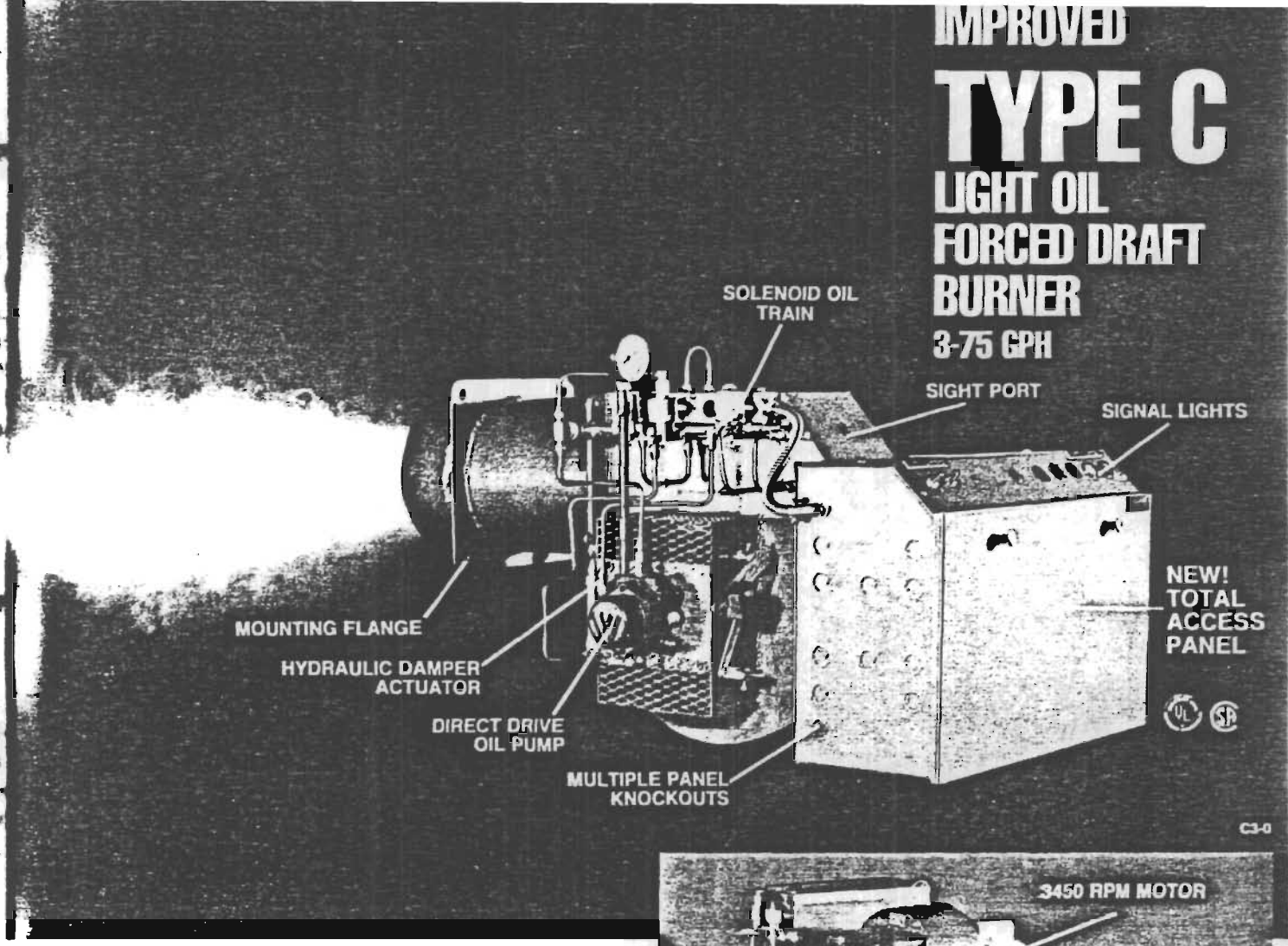
All dimensions in inches and subject to change without notice.

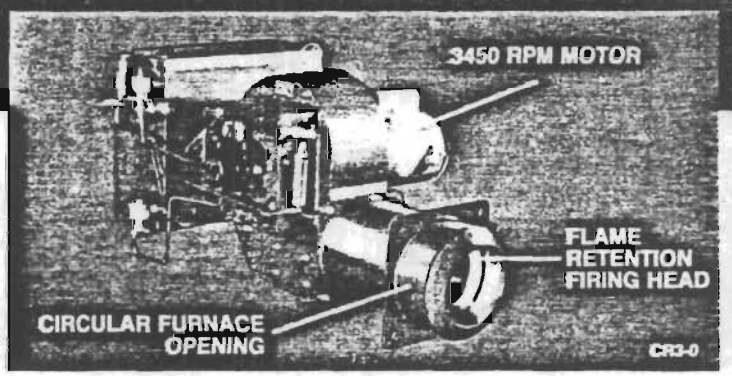
Model	Output BTUH x 1000	G.P.H. 100°F Rise	G.P.H. 20°F Rise	Square Feet Indirect Surface Area	"A"	W	X	Y	Z	Added Weight (Lbs.)
48	384	465	2280	36		1½	5	4	10	
55	440	535	2640	40		1½	5	4	10	
63	506	615	3060	45		1½	5	4	10	
76	608	740	3660	52		1½	5	4	10	
A90	720	875	4320	60		1½	5	4	10	
85	680	830	4140	66		2	6	5	13	420
90	720	875	4320	66		2	6	5	13	424
105	840	1015	5040	75		2	6	5	13	450
120	960	1165	5820	83		2	6	5	13	474
135	1080	1315	6600	92		2	6	5	13	500
150	1200	1480	7200	100		2	6	5	13	575
A150	1200	1460	7200	123		2	6	6	15	615
165	1320	1600	8100	108		2	6	6	13	544
A165	1320	1600	8100	132		2	6	6	15	6
180	1440	1750	8700	116		2	6	5	13	
A180	1440	1750	8700	144		2	6	6	15	
200	1600	1950	9600	125		2	6	5	13	
A200	1600	1950	9600	153		2	6	6	15	
225	1800	2190	10800	166		2½	6	6	15	737
250	2000	2430	12000	180		2½	6	6	15	776
275	2200	2670	13200	194		2½	6	6	15	815
300	2400	2920	14400	208		2½	6	6	15	855
325	2600	3160	15900	222		2½	6	6	15	895
350	2800	3400	17100	236		2½	6	6	15	915
375	3000	3650	18300	250		3	6	6	14	980
400	3200	3900	19500	264		3	6	6		1011
425	3400	4140	20700	278		3	6	6		1050
450	3600	4380	21900	292		3	6	6		1
475	3800	4630	23100	306		3	6	6		1
500	4000	4870	24300	320		3	6	6		
550	4400	5370	26700	358		4	6	7		1
600	4800	5850	29100	391		4	6	7		1470
A650	5200	6250	31200	424		4	6	7		1590
A700	5600	6720	33600	467		4	6	7		1705
A750	6000	7200	36000	546		4	6	7		1942
840	6700	8040	40200	605		4	6	8		2110
940	7500	9000	45000	664		4	6	8		2270
1050	8400	10080	50400	778		4	6	8		2630

For dimensions A through P see appropriate atmospheric or enclosed firebox water heating catalogs.

For dimensions A through P see appropriate atmospheric or enclosed firebox water heating catalogs.

IMPROVED TYPE C LIGHT OIL FORCED DRAFT BURNER 3-75 GPH





POWER FLAME

- 3 to 1 turndown
- Multi-annular fuel containment combustor head
- Full operational performance with fewer required adjustments.
- Exclusive PowerFlame Total Access Panel.
- Available for firing light fuel oils, including diesel
- Circular opening — no special cutting of furnace front plate
- Modular design allows for custom construction — meeting a wide variety of application requirements

- Flame retention firing head designed to permit equally efficient combustion in both positive or negative draft environments
- Complete operational factory fire test of every unit reduces end user start-up time

STANDARD EQUIPMENT

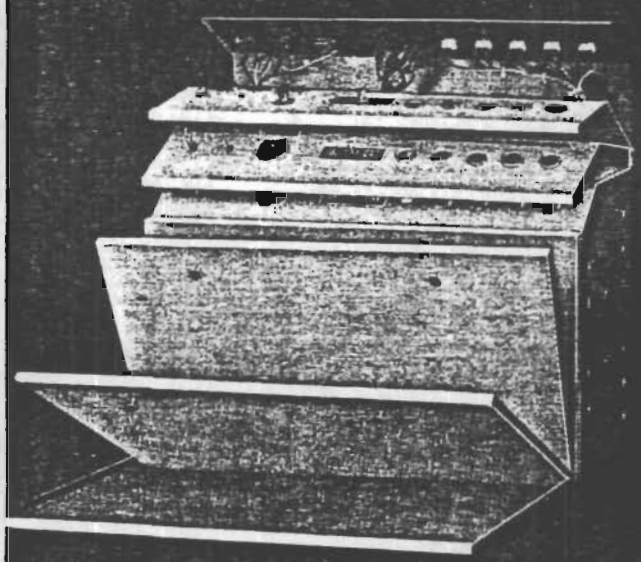
3450 RPM Motor, squirrel cage blower, panel with 2 lights (power, main fuel) and control on-off switch, oil valve and nozzle assembly

OPTIONAL FEATURES

	C1-0 C2-0A	C2-0B	C3-0	C4-0A C4-0B	C5-0
S — Std. O — Optional NA — Not Available					
ignition transformer	X	X	X	O	O
M-ID or RA890F with photocell	X	X	N.A.	N.A.	N.A.
0-5010 or R4140M control with prepurge, postpurge and photocell	O	O	X	N.A.	N.A.
egral 2-stage fuel unit	X	X	X	N.A.	N.A.
note mounted 2-stage fuel unit	O	O	O	X	X
-5062 or R4140M control with prepurge, postpurge, UV scanner	O	O	O	X	Note Ⓐ
Off with fixed air control-manual adjustment	X	N.A.	N.A.	N.A.	N.A.
w-Hi-Off with automatic air control	O	X	X	X	N.A.
dulating firing with automatic air control	O	O	O	O	X
stomized control systems and accessories	O	O	O	O	O

NOTE: Ⓐ D20-5066 or equivalent control furnished on C5-0

NEW! TOTAL ACCESS PANEL



NEW! Swing out front panel and top panel gives total access to all mounted components.

U.S. and Canadian patents pending.

[illegible] (inches) Standard Models.

Model	A	B	C	D	E	F	G. Std.	G. Max.*	H	J	IK	S	W	X	Min. Dim. Firing Tube ℄ To Chamber Floor
C1	34	5¼	14½	4⅛	12¼	18	3¼	4¾	7¼	24	10	12¼	7¼	7¼	7
C2	40	6	14⅞	5¼	14	20	4	5¾	8¾	30	10	13¼	8½	8½	8
C3	44	6⅛	16¾	6	15	21⅜	4½	6	10⅛	34	10	15½	10	10	13
C4	50	7⅛	18¾	7	18½	24	6	9	12⅛	40	10	19	12	12	18
C5	50	7⅛	18¾	7	18½	24	6	9	12⅛	40	10	19	12	12	20

*This dimension may be increased. Consult factory

RATINGS & SPECIFICATIONS

CAPACITY #2 Oil GPH Min.	CAPACITY #2 Oil GPH Max.	Nominal Boiler H.P. (Max)	Burner Model Number	Blower Motor H.P. (3450 RPM)	Pressure Pump Suction Capacity *(GPH)
5.5	15.0	50.0	C2-0A	¾	70
5.5	22.0	73.5	C2-0B	1	70
7.5	33.7	110.0	C3-0	1	105
12.0	45.0	150.0	C4-0A	3	*125
16.0	56.0	190.0	C4-0B	5	*125
18.0	76.0	250.0	C5-0	7½	*250

NOTE: 1. Capacities listed are based on 0.06" W.C. overfire draft, decrease capacities approximately 10% for 0.5" W.C. postive combustion chamber pressure (except for C5-0 which is available to fire 250 BHP at +0.75" W.C.

*Remote pump set with ¾ H.P. 200 (208) or 230/460 3/60 1750 RPM motor.

PowerFlame Incorporated

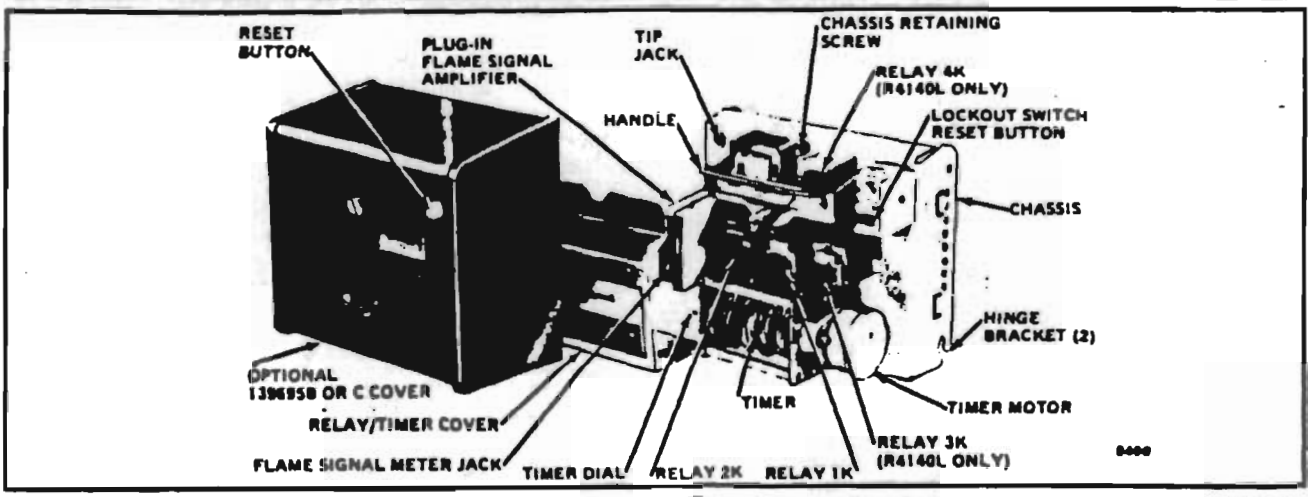
2001 South 21st Street, Parsons, Kansas 67357

316-421-0480, Telex 43-6401

Controlled energy for commerce and industry

Honeywell

R4140
FLAME SAFEGUARD PROGRAMMING CONTROLS



APPLICATIONS

The R4140 Flame Safeguard Programming Controls provide flameout protection plus automatic sequencing of the burner motor (blower), firing rate motor, ignition, pilot valve, and main fuel valve(s) for commercial and industrial burners using gas, oil, coal, or a combination of fuels.

Conveniently, the R4140 family has been developed in models of varying complexity. This allows the user to choose the simplest programmer which will meet his application requirements (Table I).

TABLE I—R4140 APPLICATIONS

APPLICATION REQUIREMENTS[a]	INTERLOCK CIRCUITS	FIRING RATE SWITCHING	APPLICABLE R4140
UL On-Off	Start and Running	None	R4140M,P
UL On-Off (with 2-stage Firing)	Start, Running, and Low Fire	1-wire[b] (open damper contacts)	Several R4140M's
UL Modulating (with Low-High-Low Prepurge)	Start or Preignition, Running, and Low Fire	4-wire	R4140G
FM/IRI Modulating (with Low-High-Low Prepurge and Proven High Fire Purge)	Preignition, Lockout, High Fire, and Low Fire	4-wire	R4140L

[a]UL —Underwriters Laboratories Inc. requirements.
FM —Factory Mutual requirements.
IRI —Industrial Risk Insurers (formerly F.I.A.) requirements.

[b]Firing rate motor must close by itself (spring-return) when power is removed.

FEATURES

- ☐ Plug-in, solid state, flame signal amplifiers are color-coded and interchangeable to allow the use of any type of flame detector—flame rod, photocell, infrared detector, or ultraviolet detector.
- ☐ Amplifier capability includes three standard models, three Dynamic Self Check models, and one Dynamic Ampli-Check model.
- ☐ Safe start check before and/or during prepurge.
- ☐ Safety shutdown occurs on failure to ignite the pilot or main burner, or on loss of flame during the run period. (R4140L offers safety shutdown on other malfunctions also.)
- ☐ Easy, plug-in mounting on the Q520A Wiring Subbase.
- ☐ Each contact is spring-loaded and in 4 sections to reduce any possibility of an intermittent electrical connection.
- ☐ All relays are visible, labeled, and easily accessible.
- ☐ Push-to-reset lockout switch is enclosed in a dust-resistant case.
- ☐ Timer switch lets the serviceman stop the timer to facilitate checkout and troubleshooting.
- ☐ Timer dial can be rotated manually, and is marked in descriptive words. NOTE: The R4140L1030 has a non-rotatable timer.
- ☐ Meter jack on the amplifier allows measurement of the flame signal with the system in operation.
- ☐ Tip jack on the programmer allows the use of a flame simulator during troubleshooting.
- ☐ Alarm terminal is available to operate an external, line voltage alarm on safety shutdown.
- ☐ Metal relay/timer cover helps protect the relays and timer cams, and easily snaps on or off.
- ☐ Spring clip on the relay/timer cover securely holds the plug-in amplifier to ensure good electrical connections.
- ☐ Optional, heavy duty, metal cover is available for outside panel mounting.

MODERNIZATION WITH THE R4140

The R4140 Flame Safeguard Programming Controls are ideal for replacing older programmers which no longer meet the requirements of approval agencies. They incorporate all the timing changes required by the October 1, 1974, revisions to Underwriters Laboratories Inc. Standards for Safety—UL 296 for oil burners and UL 795 for commercial-industrial gas-heating equipment. Thus, they are excellent for converting systems to different fuels. The R4140L is perfect for upgrading a system to meet Factory Mutual and Industrial Risk Insurers (formerly F.I.A.) requirements. (Refer to Table I for other applications in meeting approval body requirements.)

With the flexibility provided by the plug-in amplifiers, the proper programmer and flame detection system can readily be selected to meet the specifications and local codes on almost any job. For reliability and long life, all models feature heavy duty timers, relays, and contacts as well as solid state flame signal amplifiers.

SPECIFICATIONS

ELECTRICAL RATINGS:

Voltage and Frequency—120V ac (102V minimum to 132V maximum), 50/60 Hz.
NOTE: Use of a 50 Hz power supply will lengthen the sequence timings by a factor of 1.2.

Power Consumption (with no loads connected to the output terminals)—
—R4140G and M, 13 watts maximum.
—R4140L, 18 watts maximum.

Maximum Total Connected Load—2000 VA.

(continued on next page)

ERMINAL RATINGS:

TERMINAL	TYPICAL LOAD	MAXIMUM RATING AT 120V AC, 60 HZ
5 or 6	Ignition Transformer/ Pilot Valve/ 1st Stage Oil Valve	4.5 amp ignition & 50 VA pilot duty OR 2.5 amp ignition & 75 VA pilot duty
7	Main Fuel Valve(s) (Solenoid/ Motorized/ Diaphragm) and Vent Valve if required	250 VA pilot duty OR 65 VA pilot duty in parallel with motorized valve or valves using a total of 1150 VA locked rotor (inrush), 460 VA to open, and 250 VA to hold OR Motorized valve(s) using a total of 1500 VA locked rotor (inrush), 600 VA to open, and 250 VA to hold
8	Burner Motor	9.8 amp full load, 58.8 amp locked rotor (inrush)
9	Alarm	75 VA pilot duty
10, 11, 12, and 14	Firing Rate (Damper) Motor Contacts	50 VA pilot duty
18 (if available)	Ignition Transformer	4.5 amp ignition

NOTE: Allowable inrush can be up to 10 times the pilot duty rating.

EXAMPLE—Pilot Duty Rating = 50 VA.
At 120V, running current is
$\frac{50}{120}$ = 0.42 amp.
Maximum allowable inrush is
10 times 0.42 = 4.2 amp.

SEQUENCE PARTICULARS:

NOTE: Sequences vary for different models. Times listed are available on specific models, but *some combinations may not be available.*

TIMER CYCLE—90, 120, or 180 seconds.

PREPURGE—31, 42, 60, 70, or 96 seconds.

Y SPARK TERMINATION—5 second ignition and 5 second ot only" available on terminal 18 on several models.

PILOT FLAME-ESTABLISHING PERIOD—10 seconds.

MAIN BURNER FLAME-ESTABLISHING PERIOD—field selectable for 10 or 15 seconds, 10 or 30 seconds, or 10 seconds or intermittent.

POSTPURGE—15, 16, or 25 seconds.

AMBIENT OPERATING TEMPERATURE RATINGS:

Minimum—minus 40 F [minus 40 C].

Maximum—

PROGRAMMER MOUNTING POSITION		
MODEL	STD. VERTICAL (w/HANDLE UP)	ANY OTHER
R4140L	+130 F [+54 C]	+125 F [+52 C]
R4140G, M	+150 F [+66 C]	+135 F [+57 C]

STORAGE TEMPERATURE RATINGS: Minus 60 F to plus 150 F [minus 51 C to plus 66 C].

MOUNTING: 3-sided Q520A1089 Wiring Subbase, or 4-sided Q520A1121 Wiring Subbase; both have 20 knife-blade contacts (order subbase separately).

FLAME DETECTION SYSTEM (order separately): Plug-in Flame Signal Amplifier and matching Flame Detector; see Table II.

APPROVALS:

UNDERWRITERS LABORATORIES INC. LISTED SECTION OF PRIMARY SAFETY CONTROL (120V models with covers): File No. MP268; Guide No. MCCZ.

UNDERWRITERS LABORATORIES INC. COMPONENT RECOGNIZED (120V models without covers): File No. MP268; Guide No. MCCZ2.

CANADIAN STANDARDS ASSOCIATION CERTIFIED: File No. LR1620.

FACTORY MUTUAL APPROVED:
R4140G—Report No. 24180.
R4140L—Report No. 24181.
R4140M—Report No. 24150.

INDUSTRIAL RISK INSURERS (formerly F.I.A.):
All R4140 models are approvable.

TABLE II—FLAME DETECTION SYSTEMS

PLUG-IN FLAME SIGNAL AMPLIFIERS					APPLICABLE FLAME DETECTORS		
TYPE	COLOR	SELF-CHECKING	MODEL	FLAME FAILURE RESPONSE TIME	FUEL	TYPE	MODELS
RECTIFICATION	GREEN	NO	R7247A	2 TO 4 SEC	GAS	RECTIFYING FLAME RODS	HOLDERS[a]: C7064, C7067, C7011. COMPLETE ASSEMBLIES: C7065, C7068, C7069, Q179.
			R7247A, R7247B	2 TO 4 SEC	OIL	RECTIFYING PHOTOCELL[b]	C7063, C7010, C7013, C7014
					GAS, OIL, COAL	ULTRAVIOLET (PURPLE PEEPER)	C7012A OR C.
		DYNAMIC SELF CHECK[a]	R7247B	2 TO 4 SEC	GAS	RECTIFYING FLAME RODS	HOLDERS[a]: C7064, C7067, C7011. COMPLETE ASSEMBLIES: C7065, C7068, C7069, Q179.
			R7247C	2 TO 4 SEC	GAS, OIL, COAL	ULTRAVIOLET (PURPLE PEEPER)	C7012E OR F.
INFRARED	RED	NO	R7248A	2 TO 4 SEC	GAS, OIL, COAL	INFRARED (LEAD SULFIDE)	C7015.
		DYNAMIC AMPLI-CHECK[b]	R7248B	2 TO 4 SEC			
ULTRAVIOLET	PURPLE	NO	R7249A	2 TO 4 SEC	GAS, OIL	ULTRAVIOLET (MINIPEEPER)	C7027, C7035, C7064.
	BLUE	DYNAMIC SELF CHECK[a]	R7476A	2 TO 4 SEC	GAS, OIL, COAL	ULTRAVIOLET (ADJUSTABLE SENSITIVITY)	C7076

[a]DYNAMIC SELF CHECK CIRCUITRY TESTS ALL ELECTRONIC COMPONENTS IN THE FLAME DETECTION SYSTEM (AMPLIFIER AND DETECTOR) 60 TO 240 TIMES A MINUTE DURING BURNER OPERATION AND SHUTS DOWN THE BURNER IF THE DETECTION SYSTEM FAILS.

[b]CIRCUITRY TESTS ONLY THE FLAME SIGNAL AMPLIFIER DURING BURNER OPERATION AND SHUTS DOWN THE BURNER IF THE AMPLIFIER FAILS.

[c]ORDER FLAME ROD SEPARATELY. SEE INSTRUCTION SHEET FOR THE HOLDER.

[d]USE HONEYWELL PHOTOCELL, PART NO. 30216, ONLY.

e complete instruction sheet is packed with each device—form 60-2337 with an R4140G, form 60-2339 with an R4140L, and m 60-2340 with an R4140M.

ATTACHMENT C - CALCULATIONS
Hot Water Water Generator - Cargo Hazardous Servicing Facility

Potential - Maximum Emissions

Max. Heat Input = 900 MBH(1)

Max. Heat Output = 720 MBH

Operating Hours = assume 8760 hours/year

Fuel Oil Characteristics(2)

S = 0.2% by weight

140,000 Btu/gal

Fuel Usage = 900 MBH ÷ 140,000 Btu/gal = 6.4 gal/hr

Emission Factors(3)

SO_2: (142 S lb/1000 gal) (0.2 percent S) = 28.4 lb/1000 gal

(28.4 lb/1000 gal) (6.4 gal/hr) = 0.18 lb/hr

= 0.79 tons/yr

Nitrogen oxides: (20 lb/1000 gal) (6.4 gal/hr) = 0.13 lb/hr

= 0.57 tons/yr

Particulates: (2 lb/1000 gal) (6.4 gal/hr) = 0.013 lb/hr

= 0.06 tons/yr

Carbon monoxide: (5 lb/1000 gal) (6.4 gal/hr) = 0.03 lbs/hr

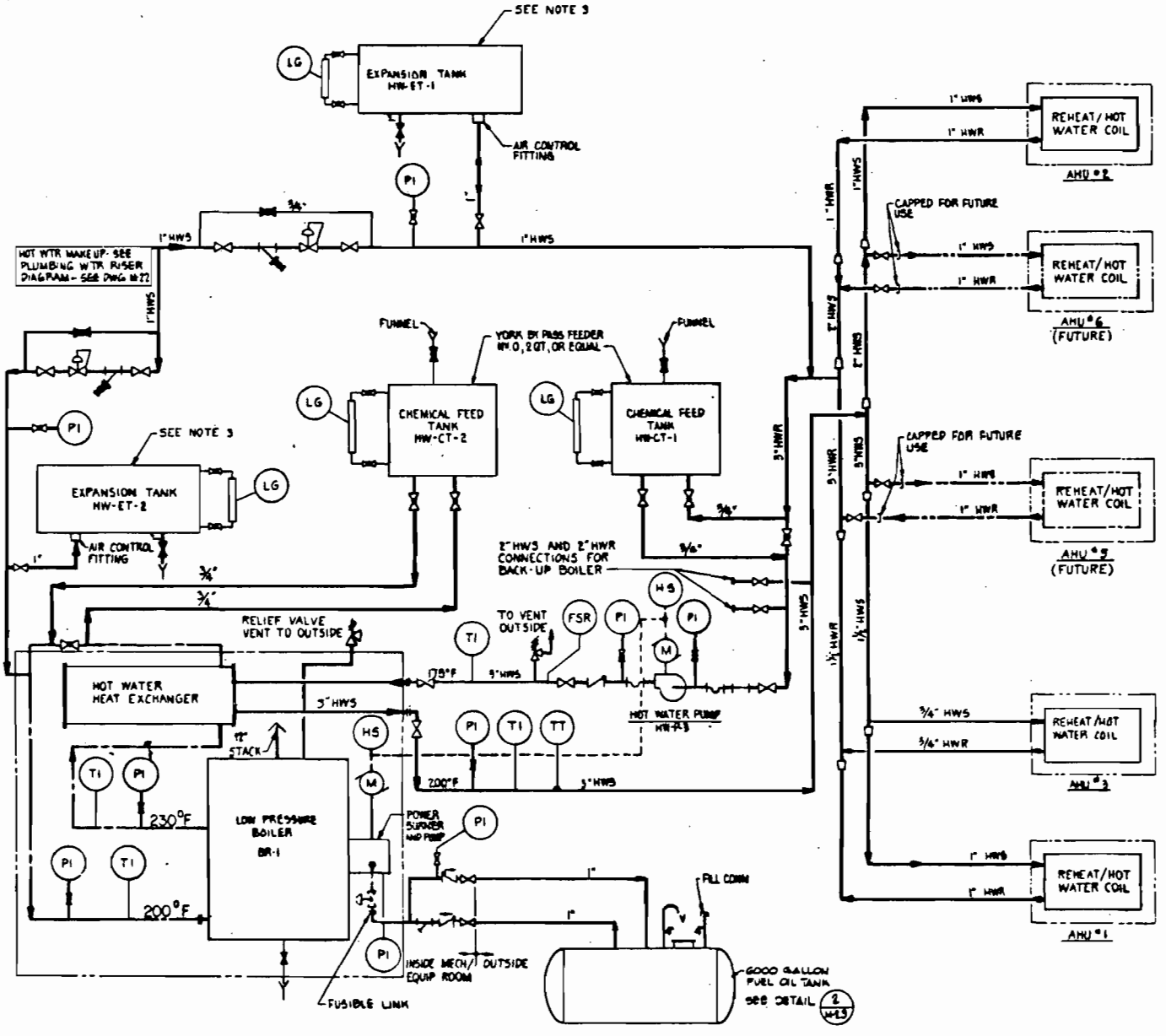
= 0.14 tons/yr

(1) MBH = Btu/hour X 1000
(2) EPA "Compilation of Air Pollutant Emission Factors" AP-42, Appendix A.
(3) EPA "Compilation of Air Pollutant Emission Factors" AP-42, Table 1.3-1 Commercial Boilers/

ATTACHMENT D

Flow Diagram

Hot Water Generator Cargo Hazardous Servicing Facility



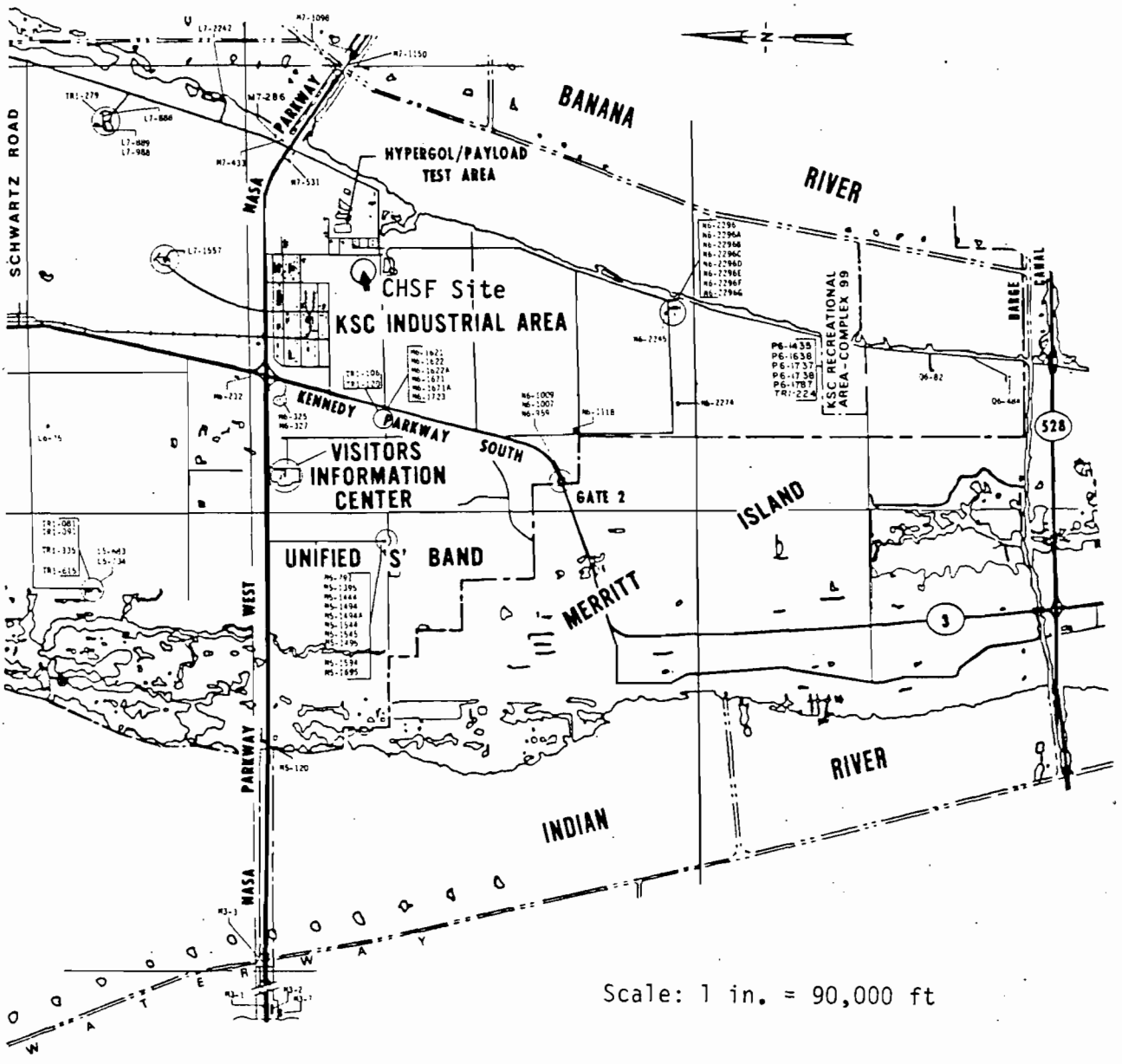
HOT WATER AND REHEAT HOT WATER SYSTEM FLOW DIAGRAM

BOILER SCHEDULE

TAG NO.	INPUT MBH	OUTPUT MBH	H.P.	FUEL RATE (G.P.H.)	FUEL TYPE	OPERATING TEMP		BLOWER MOTOR	VOLTS Ø	DESIGN PRESSURE	RELIEF VALVE	MANUFACTURER EQUAL TO
BR-1	900.0	720.0	21.5	6.5	#2 OIL	230°F	200°F	1/3 H.P.	480V-3Ø	140 PSI	30	RITE L.P. WATER HEATING BOILER MODEL 90 W/POWER BLOWER AND LIME LITE INTERNAL HEAT EXCHANGER.

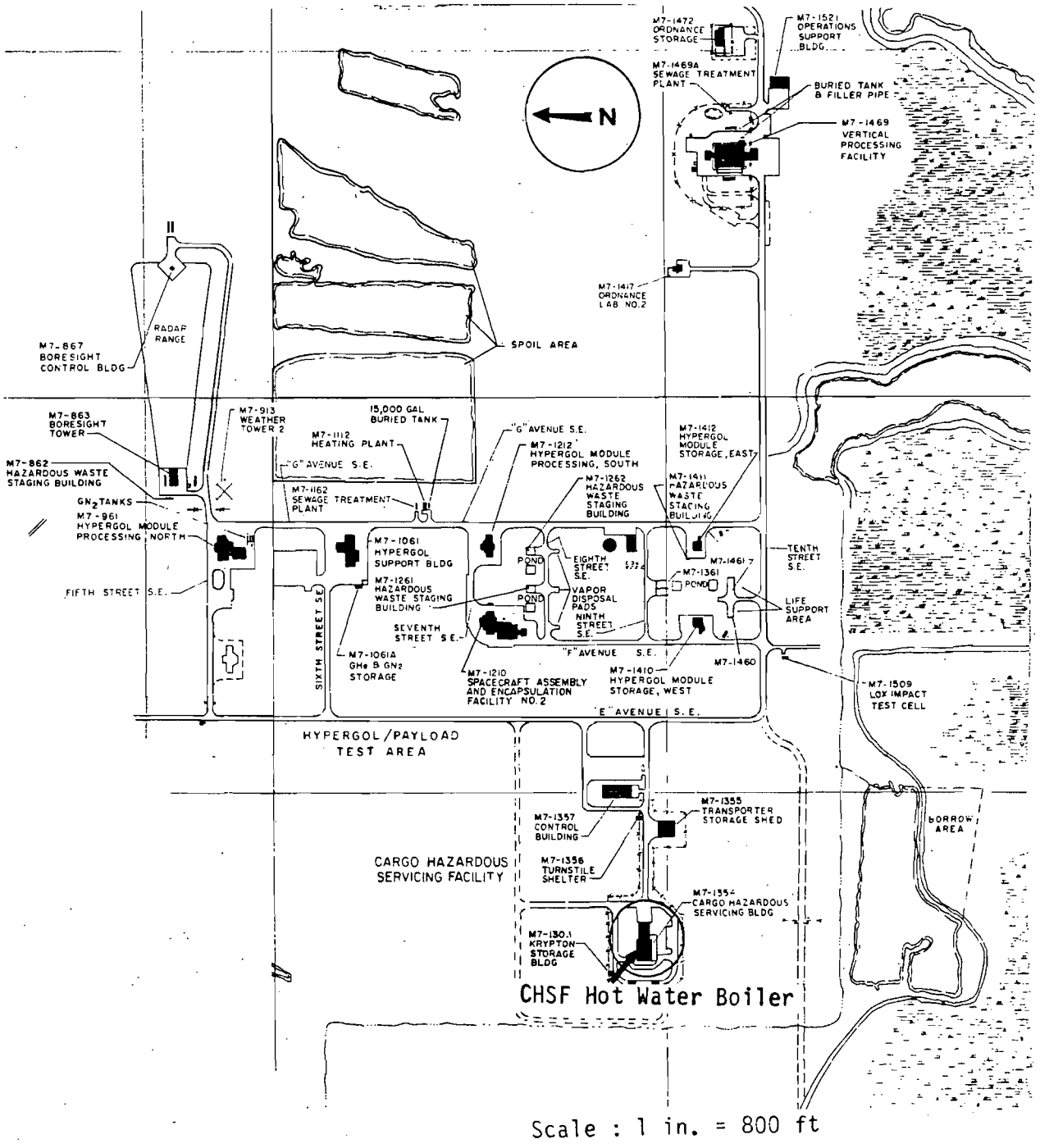
ATTACHMENT E

Location Map



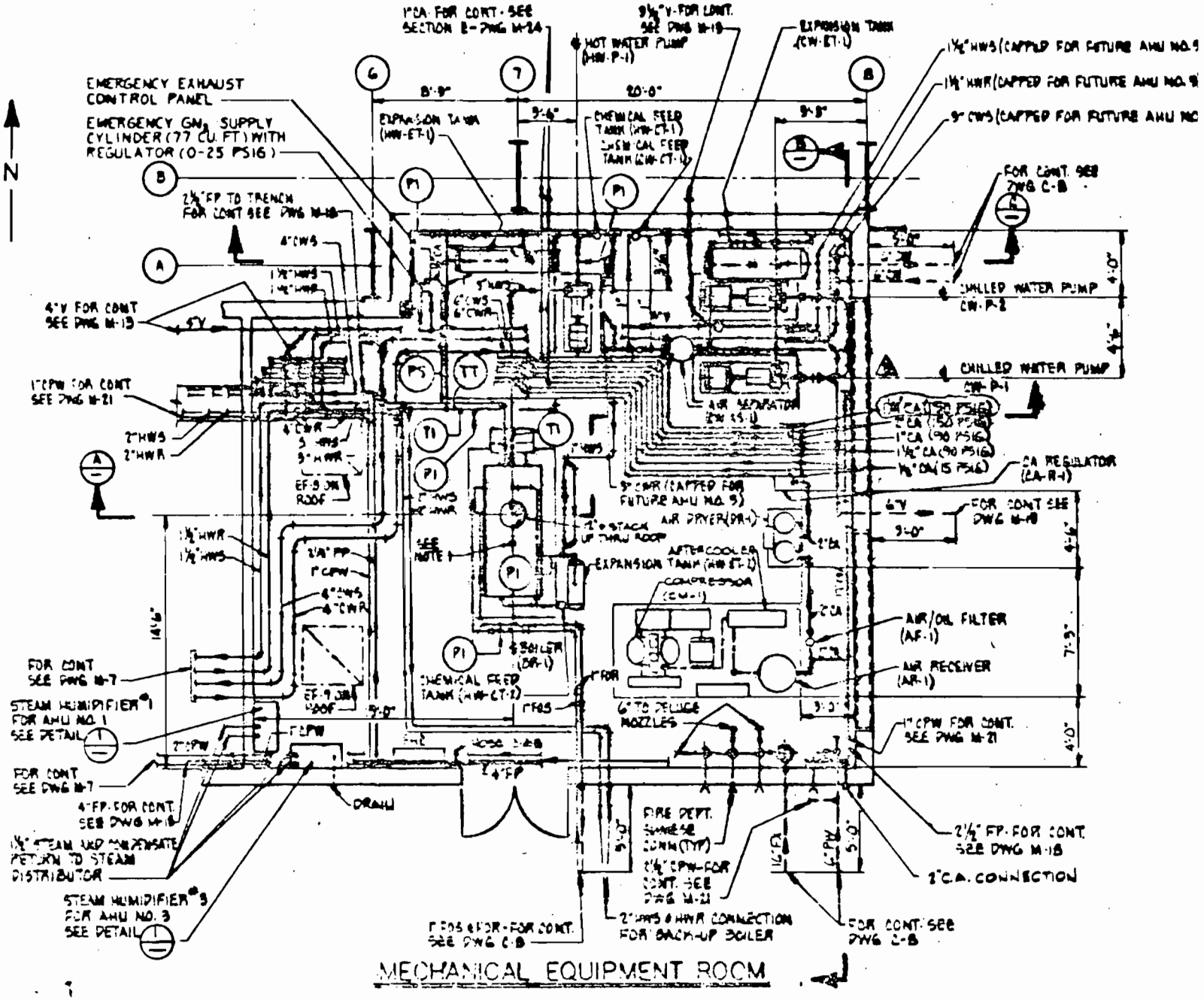
ATTACHMENT E

Site Map

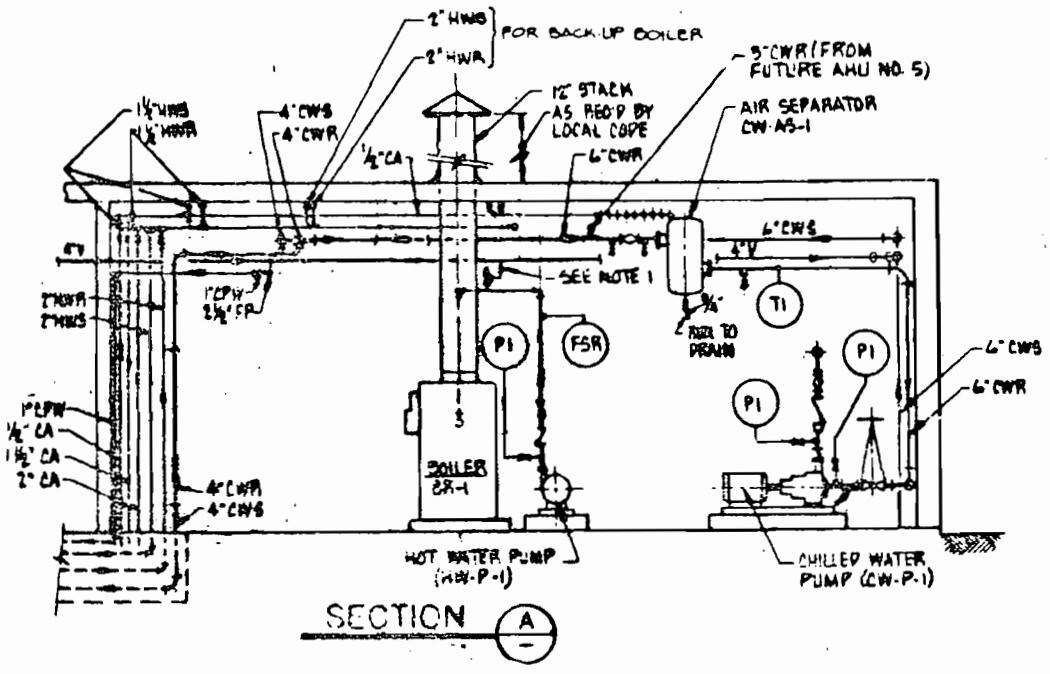


ATTACHMENT F

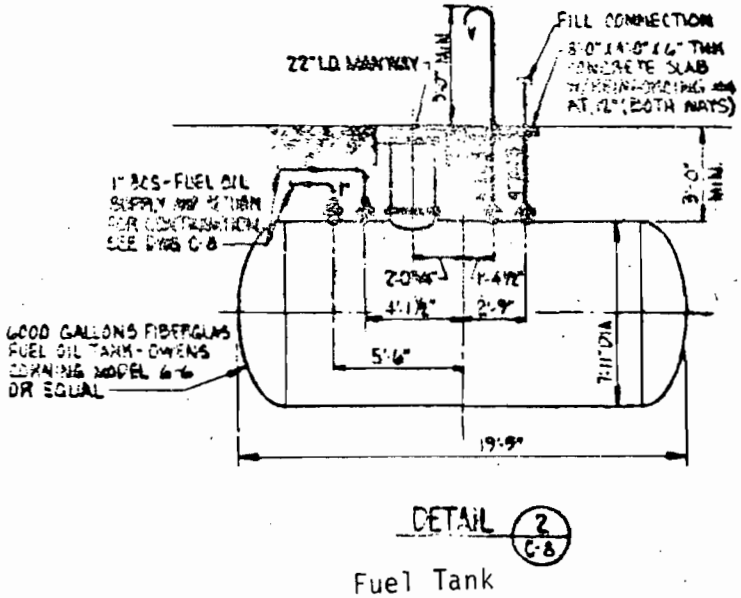
Facility Plot Plan



ATTACHMENT F
Plot Plan (Continued)



Boiler Location



Fuel Tank