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APIS to Pam: 7-17-89

Florida Department of Environmental Regulation

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

Bob Martinez, Governor | Dale Twachtmann, Secretary | John Shearer, Assistant Secretary

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION
NOTICE OF PERMIT

Capt. Richard M. Rohrbach
Commanding Officer
CEC, U.S. Navy
Naval Training Center
Gardenia Street
Orlando, Florida 32813

December 28, 1988

Enclosed is a permit No. AC 48-154732 for the Naval Training Center to construct/install a hot water boiler in Building 316 and one in Building 317 at the Naval Training Center in Orlando, Orange 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 this permit pursuant to Section 120.68, Florida Statutes, by the filing of a Notice of Appeal pursuant to Rule 9.110, Florida Rules of Appellate Procedure, with the Clerk of the Department in the Office of General Counsel, 2600 Blair Stone Road, Tallahassee, Florida 32399-2400; and by filing a copy of the Notice of Appeal accompanied by the applicable filing fees with the appropriate District Court of Appeal. The Notice of Appeal must be filed within 30 days from the date this permit is filed with the Clerk of the Department.

Executed in Tallahassee, Florida.

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL REGULATION

for John C Brown Jr
C. H. Fancy, P.E.
Deputy Chief
Bureau of Air Quality
Management

Copy furnished to:

C. Collins, CF District
D. Nester, OCEPD
G. C. Bradley, P.E., SD-NFEC

CERTIFICATE OF SERVICE

The undersigned duly designated deputy clerk hereby certifies that this NOTICE OF PERMIT and all copies were mailed before the close of business on 12/28/88.

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.

Gaye Flood
Clerk

12/28/88
Date

Final Determination

Naval Training Center
Orange County
Orlando, Florida

Construction Permit Number: AC 48-154732

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

December 16, 1988

Final Determination

The construction permit application has been reviewed by the Department. Public Notice of the Department's Intent to Issue was published in The Orlando Sentinel on November 30, 1988. The Technical Evaluation and Preliminary Determination were available for public inspection at the DER's Central Florida District and Bureau of Air Quality Management offices.

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

The Orlando Sentinel

Published Daily
Orlando, Orange County, Florida

RECEIVED

DEC 6 1988

DER - BAQM

ADVERTISING CHARGE $107.13

State of Florida } ss.
COUNTY OF ORANGE }

Before the undersigned authority personally appeared

Tuesday C. Leavitt, who on oath says that she is the Legal Advertising Representative of the Orlando Sentinel, a Daily newspaper published at Orlando, in Orange County, Florida; that the attached copy of advertisement, being a Notice of Intent in the matter of permit to the Naval Training Center

in the Court, was published in said newspaper in the issues of November 30, 1988

Affiant further says that the said Orlando Sentinel is a newspaper published at Orlando, in said Orange County, Florida, and that the said newspaper has heretofore been continuously published in said Orange County, Florida, each Week Day and has been entered as second-class mail matter at the post office in Orlando, in said Orange County, Florida for a period of one year next preceding the first publication of the attached copy of advertisement; and affiant further says that he/she 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 the said newspaper.

J C Leavitt

Sworn to and subscribed before me this 1 day of December A.D., 1988

Nancy A Puglia

Seal

NOTARY PUBLIC, State of Florida at Large
My Commission Expires May 25, 1991
Bonded By AMERICAN PIONEER CASUALTY INS. CO

Notary Public

FORM NO. AD-262

State of Florida
Department of
Environmental Regulation
Notice of Intent

The Department of Environmental Regulation hereby gives notice of its intent to issue a permit to the Naval Training Center to construct/install a hot water boiler for Building 316 and one for Building 317. Each boiler has a maximum heat input rate of 2.5 MMBtu/hr and to be fired exclusively on natural gas. The proposed project will occur at the applicant's existing facility in Orlando, Orange County, Florida. The department is issuing this intent to issue for the reasons stated in the Technical Evaluation and Preliminary Determination.

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

If a petition is filed, the administrative hearing process is designed to formulate agency action. Accordingly, the department's final action may be different from the proposed agency action. Therefore, persons who may not wish to file a petition may wish to intervene in the proceeding. A petition for intervention must be filed pursuant to Rule 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 32399-2400. Failure to petition to intervene within the allowed time frame constitutes a waiver of any right such person has to request a hearing under Section 120.57, Florida Statutes.

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

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

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

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

CL-279 Nov.30,1988

Florida Department of Environmental Regulation

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

Bob Martinez, Governor Dale Twachtmann, Secretary John Shearer, Assistant Secretary

PERMITTEE:
Naval Training Center
Gardenia Street
Orlando, Florida 32813

Permit Number: AC 48-154732
Expiration Date: July 31, 1991
County: Orange
Latitude/Longitude: 28° 33' 44"N
81° 19' 47"W
Project: Buildings 316 and 317
Hot Water Boilers

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

To construct/install a hot water boiler for Building 316 and one for Building 317. Each boiler is rated for a maximum 2.5 MMBtu/hr heat input using natural gas exclusively as the fuel. The sources are to be installed at the permittee's existing facility. The UTM coordinates are Zone 17, 468.0 km East and 3160.1 km North.

The Source Classification Codes are:

o External Combustion Boilers - Commercial/Institutional
1-03-006-03 (<10 MMBtu/hr) 10^6 ft^3 burned

Construction shall be in accordance with the permit applications and plans, documents, and reference material submitted unless otherwise stated in the General and Specific Conditions herein.

Attachments to be Incorporated:

1. Application to Construct Air Pollution Sources, DER Form 17-1.202(1), and Captain Richard M. Rohrbach's cover letter dated September 8, 1988, and received by the DER's Central Florida District on September 14, 1988.
2. Technical Evaluation and Preliminary Determination dated October 28, 1988.

PERMITTEE:
Naval Training Center

Permit Number: AC 48-154732
Expiration Date: July 31, 1991

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 noncompliance of the permitted activity until the transfer is approved by the Department.

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

13. This permit also constitutes:

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

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

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

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. Annual operation is authorized for up to 8760 hours per year.

2. The maximum heat input shall not exceed 2.5 MMBtu/hr/boiler.

3. Natural gas is the only fuel permitted to be fired.

4. Objectionable odors shall not be allowed off the property in accordance with F.A.C. Rule 17-2.620(2).

SPECIFIC CONDITIONS:

5. Pursuant to F.A.C. Rule 17-2.600(6), visible emissions shall not exceed 20% opacity. A density of 40% opacity is permitted for not more than two minutes in any one hour. Initial and annual compliance verification shall be demonstrated using EPA Reference Method 9 pursuant to F.A.C. Rule 17-2.700, with the source operating at 90-100% of the rated capacity (maximum heat input).

6. The Orange County Environmental Protection Department (OCEPD) shall be notified in writing at least 15 days prior to compliance testing. The test report shall be filed with the OCEPD no later than 45 days after the last test is completed.

7. Each calendar year on or before March 1, submit to the OCEPD an Annual Operations Report using DER Form 17-1.202(6) for the preceding calendar year in accordance with F.A.C. Rule 17-4.140.

8. The project shall comply with all applicable provisions of F.A.C. Rules 17-2 and 17-4.

9. Each boiler is subject to the provisions of F.A.C. Rules 17-2.250: Excess Emissions; and, 17-4.130: Plant Operation-Problems.

10. Any change in the method of operation, fuel changes, equipment, or operating hours pursuant to F.A.C. Rule 17-2.100(119), Modification, shall be submitted for approval to the Department's Bureau of Air Quality Management (BAQM) and Central Florida District.

11. The permittee may request that this construction permit be extended. Such a request shall be submitted to the BAQM prior to sixty days before the expiration of the permit (F.A.C. Rule 17-4.090).

12. An application for an operation permit must be submitted the Department's Central Florida District at least 90 days prior to the expiration date of this construction permit. To properly apply for an operation permit, the applicant shall submit an application, the appropriate fee, certification that construction was completed noting any deviations from the conditions in the construction permit, and compliance test results as required by this permit (F.A.C. Rule 17-4.220).

PERMITTEE:
Naval Training Center

Permit Number: AC 48-154732
Expiration Date: July 31, 1991

Issued this 22 day of Dec, 1988

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL REGULATION

Dale Twachtmann

Dale Twachtmann, Secretary

Florida Department of Environmental Regulation

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

Bob Martinez, Governor Dale Twachtmann, Secretary John Shearer, Assistant Secretary

October 28, 1988

CERTIFIED MAIL-RETURN RECEIPT REQUESTED

Capt. Richard M. Rohrbach
Commanding Officer
CEC, U.S. Navy
Naval Training Center
Gardenia Street
Orlando, Florida 32813

Dear Capt. Rohrbach:

Attached is one copy of the Technical Evaluation and Preliminary Determination and proposed permit for the Naval Training Center to construct/install a hot water boiler in Building 316 and one in Building 317. Each boiler is rated at a maximum of 2.5 MMBtu/hr heat input and to be fired exclusively on natural gas.

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

Sincerely,

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

CHF/

Attachments

cc: C. Collins, Cent. FL Dist
D. Nester, OCEPD
G. C. Bradley, P.E., SD-NFEC

BEFORE THE STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL REGULATION

In the Matter of
Applications for Permit by:

Naval Training Center
Gardenia Street
Orlando, Florida 32813

DER File No. AC 48-154732

INTENT TO ISSUE

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

The applicant, the Naval Training Center, applied on September 14, 1988, to the Department of Environmental Regulation for a permit to construct a hot water boiler for Building 316 and one for Building 317. Each boiler has a maximum heat input rate of 2.5 MMBtu/hr and to be fired exclusively on natural gas. The proposed project will occur at the applicant's existing facility located in Orlando, Orange County, Florida.

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

Pursuant to Section 403.815, F.S., and DER Rule 17-103.150, F.A.C., you (the applicant) are required to publish at your own expense the enclosed Notice of Proposed Agency Action on permit applications. The notice must be published one time only in a section of a major local newspaper of general circulation in the county in which the project is located and within thirty (30) days from receipt of this intent. Proof of publication must be provided to the Department within seven days of publication of the notice. Failure to publish the notice and provide proof of publication within the allotted time may result in the denial of the permit.

The Department will issue the permit with the attached conditions unless a petition for an administrative proceeding (hearing) is filed pursuant to the provisions of Section 120.57, F.S. A person whose substantial interests are affected by the

Department's proposed permitting decision may petition for an administrative proceeding (hearing) in accordance with Section 120.57, Florida Statutes. Petitions must comply with the requirements of Florida Administrative Code Rules 17-103.155 and 28-5.201 (copy enclosed) and be filed with (received by) the Office of General Counsel of the Department at 2600 Blair Stone Road, Tallahassee, Florida 32399-2400. Petitions filed by the permit applicant must be filed within fourteen (14) days of receipt of this intent. Petitions filed by other persons must be filed within fourteen (14) days of publication of the public notice or within fourteen (14) days of receipt of this intent, whichever first occurs. Failure to file a petition within this time period shall constitute a waiver of any right such person may have to request an administrative determination (hearing) under Section 120.57, Florida Statutes, concerning the subject permit applications. Petitions which are not filed in accordance with the above provisions will be dismissed.

Executed 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:

C. Collins, Cent. FL Dist.
D. Nester, OCEPD
G. C. Bradley, P.E., SD-NFEC

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.

CERTIFICATE OF SERVICE

The undersigned duly designated deputy clerk hereby certifies that this NOTICE OF INTENT TO ISSUE and all copies were mailed before the close of business on 10/28/88.

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.

Judy Rogers
Clerk

10/28/88
Date

State of Florida
Department of Environmental Regulation
Notice of Intent

The Department of Environmental Regulation hereby gives notice of its intent to issue a permit to the Naval Training Center to construct/install a hot water boiler for Building 316 and one for Building 317. Each boiler has a maximum heat input rate of 2.5 MMBtu/hr and to be fired exclusively on natural gas. The proposed project will occur at the applicant's existing facility in Orlando, Orange County, Florida. The Department is issuing this Intent to Issue for the reasons stated in the Technical Evaluation and Preliminary Determination.

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

If a petition is filed, the administrative hearing process is designed to formulate agency action. Accordingly, the Department's final action may be different from the proposed agency action. Therefore, persons who may not wish to file a petition may wish to intervene in the proceeding. A petition for intervention must be filed pursuant to Rule 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 32399-2400. Failure to petition to intervene within the allowed time frame constitutes a waiver of any right such person has to request a hearing under Section 120.57, Florida Statutes.

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

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

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

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

Technical Evaluation
and
Preliminary Determination

Naval Training Center
Orange County
Orlando, Florida

Construction Permit No. AC 48-154732

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

October 28, 1988

I. Application

A. Applicant

Naval Training Center
Gardenia Street
Orlando, Florida 32813

B. Project and Location

The applicant proposes to install a hot water boiler for Building 316 and one for Building 317. Each boiler has a maximum heat input rate of 2.5 MMBtu/hr and to be fired exclusively on natural gas. The project will occur at the applicant's existing facility located in Orange County. The UTM coordinates are Zone 17, 468.0 km East and 3160.1 km North.

The Source Classification Codes are:

1. External Combustion Boilers - Commercial/Institutional
   o 1-03-006-03 (< 10 MMBtu/hr) 10^6 ft^3 burned

C. Process and Controls

Each hot water boiler (2) will fire exclusively natural gas as a fuel. The maximum heat input will be 2.5 MMBtu/hr. Pollutant emissions will be minimized by the use of natural gas and proper operation of the boilers.

II. Rule Applicability

The project is subject to preconstruction review pursuant to Chapter 403, Florida Statutes, and Florida Administrative Code (F.A.C.) Rules 17-2 and 17-4.

The application package was deemed complete on September 14, 1988.

Orange County is area designated as an air quality maintenance area for ozone pursuant to F.A.C. Rule 17-2.460(1)(b).

The projected potential pollutant emissions are found in the following table in tons per year (TPY):

Table 1

Source	Projected Potential Pollutant Emissions (TPY) PM	SO_2	NOx	CO	NMHC
Bldg. 316 Boiler	0.05	0.004	1.0	0.2	0.05
Bldg. 317 Boiler	0.05	0.004	1.0	0.2	0.05
Total	0.1	0.01	2.0	0.4	0.1

Note: o Based on 8760 hours/year operation.
o AP-42 Emission factors: Table 1.4-1 - Uncontrolled Emission Factors for Natural Gas Combustion.
o Each boiler rated at max. 2.5 MMBtu/hr heat input and 2273 ft^3/hr natural gas flow rate.

Since the total potential pollutant emissions are less than the significant emission rates in Table 500-2, F.A.C. Rule 17-2, the sources are not subject to new source review pursuant to F.A.C. Rule 17-2.500, Prevention of Significant Deterioration (PSD). Therefore, the total potential pollutant emissions are subject to review pursuant to F.A.C. Rule 17-2.520, Sources Not Subject to PSD or Nonattainment Requirements.

The amount of PM and SO_2 emissions from the boilers will be limited by the firing of natural gas.

A visible emissions (VE) standard of "not greater than 20% opacity" will be imposed, except a density of "not greater than 40% opacity" for not more than two minutes in any one hour. EPA Reference Method 9 in accordance with F.A.C. Rule 17-2.700 will be required for compliance verification.

III. Summary of Emissions and Air Quality Analysis

A. Emission Limitations

A visible emissions limitation will be imposed on each hot water boiler and follows:

Table 2

Source		Emission Limitations
Bldg. 316 Boiler	VE	Not greater than 20% opacity, except 40% opacity for two minutes in any one hour
Bldg. 317 Boiler	VE	Not greater than 20% opacity, except 40% opacity for two minutes in any one hour

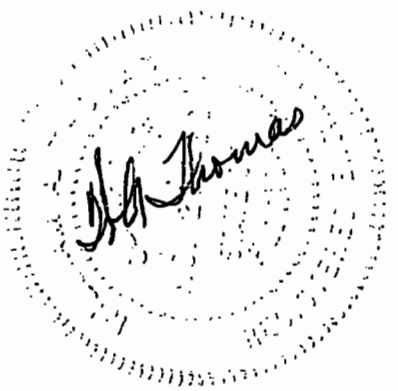
B. Air Quality Analysis

From a review of the application package, an air quality analysis was not required.

VI. Conclusion

The firing of natural gas exclusively and proper operation will minimize pollutant emissions from the boilers. The emission limiting standards are in compliance with F.A.C. Rules 17-2 and 17-4.

Based on the information provided by the Naval Training Center, the Department has reasonable assurance that the proposed new hot water boilers (2), as described in this evaluation, and subject to the conditions proposed herein, will not cause or contribute to a violation of an ambient air quality standard, PSD increment, or any other technical provisions of Chapter 17-2, F.A.C.



Florida Department of Environmental Regulation

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

Bob Martinez, Governor Dale Twachtmann, Secretary John Shearer, Assistant Secretary

PERMITTEE:
Naval Training Center
Gardenia Street
Orlando, Florida 32813

Permit Number: AC 48-154732
Expiration Date: July 31, 1991
County: Orange
Latitude/Longitude: 28° 33' 44"N
81° 19' 47"W
Project: Buildings 316 and 317
Hot Water Boilers

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

To construct/install a hot water boiler for Building 316 and one for Building 317. Each boiler is rated for a maximum 2.5 MMBtu/hr heat input using natural gas exclusively as the fuel. The sources are to be installed at the permittee's existing facility. The UTM coordinates are Zone 17, 468.0 km East and 3160.1 km North.

The Source Classification Codes are:

o External Combustion Boilers - Commercial/Institutional
1-03-006-03 (<10 MMBtu/hr) 10^6 ft^3 burned

Construction shall be in accordance with the permit applications and plans, documents, and reference material submitted unless otherwise stated in the General and Specific Conditions herein.

Attachments to be Incorporated:

1. Application to Construct Air Pollution Sources, DER Form 17-1.202(1), and Captain Richard M. Rohrbach's cover letter dated September 8, 1988, and received by the DER's Central Florida District on September 14, 1988.
2. Technical Evaluation and Preliminary Determination dated October 28, 1988.

PERMITTEE:
Naval Training Center

Permit Number: AC 48-154732
Expiration Date: July 31, 1991

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 noncompliance of the permitted activity until the transfer is approved by the Department.

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

13. This permit also constitutes:

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

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

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

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. Annual operation is authorized for up to 8760 hours per year.

2. The maximum heat input shall not exceed 2.5 MMBtu/hr/boiler.

3. Natural gas is the only fuel permitted to be fired.

4. Objectionable odors shall not be allowed off the property in accordance with F.A.C. Rule 17-2.620(2).

SPECIFIC CONDITIONS:

5. Pursuant to F.A.C. Rule 17-2.600(6), visible emissions shall not exceed a density of Number 1 on the Ringelmann Chart (20% opacity). A density of 40% opacity is permitted for not more than two minutes in any one hour. Initial and annual compliance verification shall be demonstrated using EPA Reference Method 9 pursuant to F.A.C. Rule 17-2.700, with the source operating at 90-100% of the rated capacity (maximum heat input).

6. The Orange County Environmental Protection Department (OCEPD) shall be notified in writing at least 15 days prior to compliance testing. The test report shall be filed with the OCEPD no later than 45 days after the last test is completed.

7. Each calendar year on or before March 1, submit to the OCEPD an Annual Operations Report using DER Form 17-1.202(6) for the preceding calendar year in accordance with F.A.C. Rule 17-4.140.

8. The project shall comply with all applicable provisions of F.A.C. Rules 17-2 and 17-4.

9. Each boiler is subject to the provisions of F.A.C. Rules 17-2.250: Excess Emissions; and, 17-4.130: Plant Operation-Problems.

10. Any change in the method of operation, fuel changes, equipment, or operating hours pursuant to F.A.C. Rule 17-2.100(119), Modification, shall be submitted for approval to the Department's Bureau of Air Quality Management (BAQM) and Central Florida District.

11. The permittee may request that this construction permit be extended. Such a request shall be submitted to the BAQM prior to sixty days before the expiration of the permit (F.A.C. Rule 17-4.090).

12. An application for an operation permit must be submitted the Department's Central Florida District at least 90 days prior to the expiration date of this construction permit. To properly apply for an operation permit, the applicant shall submit an application, the appropriate fee, certification that construction was completed noting any deviations from the conditions in the construction permit, and compliance test results as required by this permit (F.A.C. Rule 17-4.220).

PERMITTEE:
Naval Training Center

Permit Number: AC 48-154732
Expiration Date: July 31, 1991

Issued this_____day of_____,
1988

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL REGULATION

_____
Dale Twachtmann, Secretary

DEPARTMENT OF THE NAVY
SOUTHERN DIVISION
NAVAL FACILITIES ENGINEERING COMMAND
2155 EAGLE DR., P. O. BOX 10068
CHARLESTON, S. C. 29411-0068

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

5090
Code 1141/PI

08 SEP 1988

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. A. Alexander
Florida Department of Environmental Regulation
St. Johns River District
3319 Maguire Boulevard
Suite 232
Orlando, FL 32803

Subj: BARRACKS, BUILDINGS 316 AND 317, NAVAL TRAINING CENTER, ORLANDO, FL

Dear Mr. Alexander:

Enclosed are our applications with supporting information for the construction of a hot water boiler associated with each of the subject buildings. The $100.00 application fee for each source has also been enclosed.

Should you have any questions regarding this application, please contact Mr. James Santarone at (803) 743-0691.

Sincerely,

RICHARD M. ROHRBACH
Captain, CEC, U.S. Navy
Commanding Officer

Encl:
(1) Application to Construct Air Pollution Sources
(2) Emission Calculations
(3) Location and Vicinity Maps
(4) One Set of Plans (Sheets ID-1, C-10, M-3, M-5, M-13, M-14)
(5) One Set of Specifications (Section 15556)
(6) $100.00 Application Fee

RECEIVED
OCT 16 1988
DER - BAQM

SECTION 15556

HOT WATER HEATING BOILERS
(LOW PRESSURE)
(OVER 800,000 BTU/HR OUTPUT)

PART 1 - GENERAL

1.1 APPLICABLE PUBLICATIONS: The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by the basic designation only.

1.1.1 Military Specifications (Mil. Spec.):

MIL-B-17452D	Boilers, Steam and Hot Water, High and Low Pressure: Firetube, Packaged Type
MIL-F-18113D	Feeders, Boiler Water Treatment, By-Pass and Compound Receiver Types
MIL-B-18796E	Burner, Single, Oil, Gas and Gas Oil Combination, (400,000 Btu's Per Hour and Over Input Capacity)

1.1.2 American Boiler Manufacturers Association (ABMA) Publication:

1978	Packaged Firetube Ratings

1.1.3 American National Standards Institute (ANSI) Publications:

Z83.3-71	Gas Utilization Equipment in Large Boilers

1.1.4 American Society for Testing and Materials (ASTM) Publications:

A 53-79	Pipe, Steel, Black and Hot-Dipped Zinc-Coated (Galvanized) Welded and Seamless for Ordinary Uses

1.1.5 American Society of Mechanical Engineers (ASME) Publications:

ASME Boiler and Pressure Vessel Code and Interpretations:

1986	Section IV - Heating Boilers

1.1.6 Underwriters Laboratories (UL) Publications:

UL 726	Oil-Fired Boiler Assemblies
UL 795	Commercial-Industrial Gas Heating Equipment

1.1.7 National Fire Protection Association (NFPA) Publications:

NFPA 85A	Prevention of Furnace Explosions in Fuel Oil and Natural Gas-Fired Single Boiler Burner Furnaces
NFPA 211-1984	Chimneys, Fireplaces, Vents and Solid Fuel Burning Appliances

1.2 GENERAL REQUIREMENTS: Section 15011, "Mechanical General Requirements," applies to this section with the additions and modifications specified herein.

1.3 SUBMITTALS: Submit to the Contracting Officer, who shall forward two complete sets of copies to the Commanding Officer, Southern Division, Naval Facilities Engineering Command, Code 1113.

1.3.1 MANUFACTURER"S DATA: Submit shop drawings and catalog information showing plan, elevations, dimensions, capacities, and ratings for the following:

a. Boilers including the following:

(1) Btu Output
(2) Gross Efficiency
(3) ASME Certification
(4) Allowable Working Pressure
(5) Boiler Model Number
(6) Catalog Cut from Manufacturers current catalog including boiler manufacturer's ABMA certificate of boiler performance along with evidence that the burner provided shall be a make, model, and type certified and approved by the manufacturer of the boiler provided.

b. Boiler Trim and Controls
c. Burners
d. Burner Controls
e. Burner Gas Trains

1.3.2 Shop Drawings

a. Boilers
b. Boiler Stack including Fabrication and Support Details

1.3.3 MANUFACTURER"S INSTALLATION INSTRUCTIONS

a. Boilers, including supervision qualification resume

1.3.4 Operation and Maintenance Manuals

a. Boilers

1.3.5 Posted Operating Instructions

a. Boilers

1.3.6 Field Test Reports

a. Start-Up Test Reports
b. Water Treatment Tests

PART 2 - PRODUCTS

2.1 BOILERS: Shall conform to UL 795, NFPA 85A, or ANSI Z83.3 and, Mil. Spec. MIL-B-17452, Type III - Low Pressure Hot Water, Class 1 - Standard duty, Group 1 - 400,000 to 2,500,000 Btu/Hr output.

2.1.1 Design Requirements: Boilers shall have a gross output as indicated with an efficiency of not less than 80 percent. The boiler shall be designed, tested, and installed in accordance with Section IV (Heating Boilers) of the ASME Boiler and Pressure Vessel Code. Boiler shall be complete with an explosion-relief door, located in accordance with manufacturer's recommendations. Boiler shall be suitable for installation in the space shown with ample room for opening doors and cleaning and/or removal and replacement of tubes. Boiler shall be painted in accordance with manufacturer's standard requirement. Boiler design working pressure shall be 160 psig. Boiler operating pressure shall be 60 psig. Boiler operating temperature shall be 180 degrees F. Boiler return water temperature shall be 160 degrees F.

2.2 BURNERS AND CONTROL EQUIPMENT: Shall conform to the requirements of Mil. Spec. MIL-B-18796, Size 1 - 400,000 to 2,500,000 Btu/Hr input, Class 3 - gas-fired, Control Sequence IB-automatic recycling with proved igniter. Combustion control system shall be the high-low-off type. The burner shall be the partial premix type, complete with primary air fan. Ignition system shall be the interrupted pilot type, and pilot shall be the electrode-ignited natural gas type. Burner and combustion-control equipment shall be designed for firing natural gas having a specific gravity of 0.6 and a heating value of approximately 1000 Btu per cubic foot and shall be an integral part of the boiler. Burner controls and safety equipment shall conform to the requirements of Mil. Spec. Mil-B-18796. In addition, the controls, including operating switches, indicating lights, gages, alarms, motor starters, fuses, and circuit elements of control systems shall be mounted on a single control panel or cabinet and shall be designed for a separate mounting not on the burner in accordance with Mil. Spec. MIL-B-18796. The flame scanner shall be located such that testing and cleaning of the scanner can be accomplished without disassembly of the burner. Provide fuel train as indicated.

2.3 BOILER TRIM AND CONTROL EQUIPMENT: Boiler trim and control equipment shall conform to the requirements of Mil. Spec. MIL-B-17452 and MIL-B-18796. Provide trim required under Section IV of the ASME Boiler and Pressure Vessel Code plus the additional appurtenances specified below. Non-recycling control interlocks shall have the reset located on the control interlock itself.

DEPARTMENT OF THE NAVY
SOUTHERN DIVISION
NAVAL FACILITIES ENGINEERING COMMAND
2155 EAGLE DR., P. O. BOX 10068
CHARLESTON, S. C. 29411-0068

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

5090
Code 1141/P1

08 SEP 1988

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Mr. A. Alexander
Florida Department of Environmental Regulation
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Suite 232
Orlando, FL 32803

Subj: BARRACKS, BUILDINGS 316 AND 317, NAVAL TRAINING CENTER, ORLANDO, FL

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Sincerely,

Richard M Rohrbach

RICHARD M. ROHRBACH
Captain, CEC, U.S. Navy
Commanding Officer

Encl:
(1) Application to Construct Air Pollution Sources
(2) Emission Calculations
(3) Location and Vicinity Maps
(4) One Set of Plans (Sheets ID-1, C-10, M-3, M-5, M-13, M-14)
(5) One Set of Specifications (Section 15556)
(6) $100.00 Application Fee CK # 8352-02615933

2.3.1 Emergency Disconnect Switch: NEMA KS1 provide on the wall near the boiler room entrance to allow rapid and complete shutdown of the boiler in the event of an emergency. Emergency switch shall be a 30-amp fuse-type safety switch. Switch shall be painted red and shall be provided with a label indicating the function of the switch.

2.3.2 Relief Valves: Shall have relieving capacity for the full output of the boiler furnished. Relief-valve piping shall conform to ASTM A 53, schedule 40 steel pipe and shall be piped full size to a floor drain.

2.3.3 Pressure Gage: Shall conform to Mil. Spec. MIL-B-17452, 6-inch diameter.

2.3.4 Thermometers: Shall be located to indicate boiler water temperature and boiler return water temperature. Thermometers shall have a scale equivalent to 1.5 times the outlet water temperature.

2.3.5 Drain Tapping: Shall be complete with drain valve and piping to a floor drain.

2.3.6 Water Feeding Device: A water pressure-reducing valve and relief valve, or a combination of the two, shall be provided in the makeup water line to the boiler and shall function to maintain a water pressure of 60 psig in the hot water system.

2.3.7 Stack Thermometer: Flue gas-dial type thermometer shall have scale calibrated from 150 F to 750 F and shall be mounted in the flue gas outlet.

2.3.8 Air Vent Valve: Shall have screwed connection and stainless steel disk and seats to vent entrapped air from the boiler.

2.3.9 Feedwater Treatment: Shall conform to Mil. Spec. MIL-F-18113, Type II - shot-type feeder (manual feed), Style A - for use with pressure up to 200 psig maximum. Submit water analysis and provide sufficient chemicals to initially place system in service and make tests prior to start up and acceptance by Government. Provide same chemicals used for treatment at station's other boilers.

2.3.10 Combustion Regulator: Shall be the adjustable temperature, thermostatic-immersion type and shall function to limit the boiler water temperature to a maximum of 250 degrees F. The control shall actuate the burner through an electric relay system so as to maintain the boiler water temperature within normal prescribed limits at all loads within the rated capacity of the boiler.

2.3.11 High Temperature Limit Switch: Shall be the immersion aquastat type and have a temperature setting above that of the combustion regulator and below that of the lowest relief valve setting. Aquastat shall function to cause a safety shutdown by closing all fuel valves, shutting down the burner equipment, activating a red indicating light, and sounding an alarm in the event that boiler water temperature rises above the operating temperature to the high limit setting. A safety shutdown due to high temperature shall require manual reset before operation can be resumed and shall prevent recycling of the burner equipment.

2.3.12 Differential Pressure Control: Shall be the mercury switch type. Control shall have a main scale and differential adjusting screws at the top of the case and shall have an internal or an external bellows. Control shall be of the type which will open an electric circuit on a drop in pressure below a set minimum. Control shall be set and installed so as to cause a safety shutdown by closing all fuel valves, shutting down the burner equipment, activating a red indicating light, and sounding an alarm in the event that water pressure in the system drops below 30 psig. A safety shutdown due to low water pressure shall require manual reset before operation can be resumed and shall prevent recycling of the burner equipment.

2.3.13 Low-Water Level Cutoff Switch: Shall be of the float or electrode actuated type. Low-water level cutoff shall function to cause a safety shutdown by closing all fuel valves, shutting down the burner equipment, activating a red indicating light, and sounding an alarm in the event that the water level drops below the lowest safe permissible water level established by the boiler manufacturer. A safety shutdown due to low-water level shall require manual reset before operation can be resumed and shall prevent recycling of the burner equipment. The switch may be integral with or separate from the water feeding device.

2.3.14 Low-Water Flow Interlock: The low-water flow interlock required by Mil Spec. MIL-B-17452 for hot water boilers will not be required.

2.3.15 Boiler Safety Control Circuits: Boiler safety control circuits, including control circuits for burner and draft fan, shall be single-phase, two-wire one-side grounded, and not over 120 Volts. Safety control switching shall be in the ungrounded conductor. Overcurrent protection shall be provided. In addition to circuit grounds, metal parts, which do not carry current, shall be grounded by proper grounding connection to the grounding conductor.

2.3.16 Indicating Lights: Safety interlocks requiring a manual reset shall have an individually-labeled indicating light. Non-recycling controls/interlocks shall have the reset located on the control/interlock itself. In lieu of the colors required by Mil. Spec. MIL-B-18796, indicating lights shall have colors as follow:

a. Amber for ignition on

b. Blue for draft

c. Green for main fuel safety shut-off valves open

d. Red for safety lockout on flame failure and low water pressure, low water level, and high temperature.

2.3.17 Alarm Bell: Alarm bell shall be not less than 4 inches in diameter. Bell shall be electrically operated, and a manual disconnect switch shall be provided. Disconnect switch shall be of such type and so wired that switching off the alarm following a safety shutdown will not prevent the alarm from sounding again upon recurrence of a subsequent safety shutdown condition.

2.3.18 Post-Combustion Purge: In addition to the operating sequence required by Mil. Spec. MIL-B-18796, a post-combustion purge shall be provided. Controls and wiring shall be provided as necessary to assure operation of the draft fan for a period of not less than 15 seconds or of sufficient duration to provide four complete air changes in the boiler (whichever is the greater) following shutdown of the burner upon satisfaction of heat demand. Upon completion of the post-combustion purge period, the draft fan shall automatically shutdown until the next restart.

2.3.19 Stack (Boiler Flue): Construct of sheet steel having a thickness of not less than 0.053 inches. Joints shall be welded gastight. Blast or solvent clean steel surfaces and coat with heat resisting (1200 degree F) aluminum paint. Paint thickness shall be 1.5 mils. Stack shall be provided with stack supports, umbrella collar and cap, and flue transition piece in accordance with NFPA 211.

2.3.20 Draft: Shall be in accordance with boiler manufacturer recommendations.

PART 3 - EXECUTION

3.1 SUPERVISION:

3.1.1 Qualification: Provide the services of a engineer or technician for installation, startup, and tests of equipment as specified below. Submit printed certified qualification resume' of the engineer or technician for approval 10 days before installation. The resume' shall list applicable experience related to installation, startup, and testing of equipment and applicable factory training and education. Submit a written schedule with date of installation, start up, test, and checkout of equipment 10 days before installation. After installation of equipment the engineer or technician shall provide a signed certificate or certified written statement that the equipment is installed in accordance with the manufacturer's recommendations. More than one engineer or technician may be provided based on the types of specific equipment. In the event that more than one engineer or technician is provided, a certified resume' for each one shall be submitted. One engineer or technician as appointed by the Contractor shall supervise and be responsible for the overall installation, start-up, test, and check out of systems.

3.1.2 Start-Up and Test: In addition to the requirements above, the start-up and test engineer or technician shall be approved by the manufacturer of the specific piece of equipment including boiler, boiler controls, and boiler instrumentation equipment. The start-up and test engineer or technician shall remain on the job until the unit has been in successful operation for 3 days, and accepted.

3.2 EQUIPMENT FOUNDATIONS: Locate equipment foundations as shown on the drawings and make sufficient size and weight and of proper design to preclude shifting of equipment under operating conditions or under any abnormal conditions that could be imposed upon the equipment. Foundations shall meet the requirements of the equipment manufacturer.

3.3 EQUIPMENT INSTALLATION: Install equipment in accordance with installation instructions of the manufacturers. Grout equipment mounted on concrete foundations before piping is installed. Install piping in such a manner as not to place a strain on any of the equipment. Do not bolt flanged joints tight unless they match. Grade, anchor, guide, and support all piping without low pockets. Install boiler stack in accordance with NFPA 211.

3.4 BOILER CLEANING: Before being placed in service, boiler shall be boiled out for a period of 24 hours at a pressure not exceeding 12 psig. The solution to be used in the boiler for the boiling out process shall consist of 10 pounds of trisodium phosphate per 100 gallons of water. Upon completion of boiling out, the boiler shall be flushed out with potable water.

3.5 FIELD TESTS AND INSPECTIONS:

3.5.1 General: The CQC Representative shall preform inspections and tests as specified herein to demonstrate that the boilers and auxiliary equipment, as installed, are in compliance with contract requirements. Start up and initially operate the system with components operating. During this time, clean the various strainers until no further accumulation of foreign material occurs. Exercise care so that minimum loss of water occurs when strainers are cleaned. Adjust safety and automatic control instruments as necessary to place them in proper operation and sequence. During startup and during the tests, factory-trained engineers or technicians employed by individual manufactuerer of such components as the burner, flame safeguard and combustion controls, and other auxiliary equipment shall be present as required, to insure the proper functioning, adjustment, and testing of the individual components and systems. Contractor shall furnish everything required for tests.

3.5.2 Field Tests: The Contractor shall operate the boiler and appurtenances prior to final testing and shall insure that adjustments have been made. Submit 10-day advanced written notice to the Contracting Officer indicating the equipment is ready for field testing. Contractor shall provide testing equipment required to perform the tests. The tests shall include the following:

3.5.2.1 Operational Test: Test the boilers continuously for a period of at least 8 hours to demonstrate proper operability of the combustion control, flame safeguard control, and safety interlocks. Record manufacturer's recommended readings hourly.

3.5.2.2 Acceptance Inspection: The above tests shall be conducted prior to requesting an acceptance inspection by a Southern Division, Naval Facilities Engineering Command Boiler inspector. The Contracting Officer, upon receipt of the notice from the CQC Representative, shall request the boiler be inspected by Southern Division Naval Facilities Engineering Command. Ten days advance notice is required for scheduling the inspector to conduct the inspection.

3.6 INSTRUCTIONS TO GOVERNMENT PERSONNEL: Provide 1 man-day of instructions, in accordance with Section 15011, "Mechanical General Requirements."

*** END OF SECTION ***

STATE OF FLORIDA

AC 48-154732

DEPARTMENT OF ENVIRONMENTAL REGULATION

RC# 126582

SOUTH FLORIDA DISTRICT
2269 BAY STREET
FORT MYERS, FLORIDA 33901

PAID
100
SEP 14 1988

CENTRAL FLORIDA DISTRICT

100.00

SEP 1988 RECEIVED Central Florida District

BOB GRAHAM
GOVERNOR

VICTORIA J TSCHINKEL
SECRETARY

PHILIP R EDWARDS
DISTRICT MANAGER

APPLICATION TO OPERATE/CONSTRUCT AIR POLLUTION SOURCES

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

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

COMPANY NAME: Naval Training Center, Orlando COUNTY: Orange

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) Boiler Bldg. 316

SOURCE LOCATION: Street Gardenia Street, Naval Training Center City Orlando

UTM: East 17-468 KME North 3160.1 Km N

Latitude 28 ° 33 ' 44 "N Longitude 81 ° 19 ' 47 "W

APPLICANT NAME AND TITLE: Commanding Officer

APPLICANT ADDRESS: Naval Training Center, Orlando, Florida

SECTION I: STATEMENTS BY APPLICANT AND ENGINEER

A. APPLICANT

I am the undersigned owner or authorized representative* of NTC Orlando

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. Furthe I agree to maintain and operate the pollution control source and pollution contro facilities in such a manner as to comply with the provision of Chapter 403, Floric Statutes, and all the rules and regulations of the department and revisions thereof. also understand that a permit, if granted by the department, will be non-transferab and I will promptly notify the department upon sale or legal transfer of the permitte establishment.

*Attach letter of authorization

Signed: Richard M Rohrbach
RICHARD M. ROHRBACH
Captain, CEC, U.S. Navy
Commanding Officer
Name and Title (Please Type)

Date: 9-8-88 Telephone No. 743-0700

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 ha been ~~designed~~/examined by me and found to be in conformity with modern engineerir principles applicable to the treatment and disposal of pollutants characterized in t permit application. There is reasonable assurance, in my professional judgment, tha

[1] 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 _____

G. C. BRADLEY
Name (Please Type)

Southern Division, Naval Facilities Engineering Command
Company Name (Please Type)

P. O. Box 10068, Charleston, SC 29411
Mailing Address (Please Type)

Florida Registration No. 8954 Date: 2 September 1988 Telephone No. (803) 743-0582

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.

Project to install a 2.5 MMBTU/HR boiler with natural gas as the fuel source.

This facility will result in full compliance.

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

Start of Construction 1 January 1989 Completion of Construction 1 July 1991

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.

N/A

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? Yes

   a. If yes, has "offset" been applied? No

   b. If yes, has "Lowest Achievable Emission Rate" been applied? No

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

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: N/A

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

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

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	
Particulate	.011	.048	CH17-2.610	Latest Tech.	.011	.048	N/A
SO_2	.001	.004	CH17-2.610	" "	.001	.004	N/A
NO_2	.227	.994	CH17-2.610	" "	.227	.994	N/A
CO	.046	.202	CH17-2.610	" "	.046	.202	N/A
THC Nonmethane	.012	.053	CH17-2.610	" "	.012	.053	N/A
THC Methane	.006	.026	CH17-2.610	" "	.006	.026	N/A

[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)

Name and Type (Model & Serial No.)	Contaminant	Efficiency	Range of Particles Size Collected (in microns) (If applicable)	Basis for Efficiency (Section V Item 5)
None				

E. Fuels

Type (Be Specific)	Consumption*		Maximum Heat Input (MMBTU/hr)
	avg/hr	max./hr	
Natural Gas	.0023 MMCF/HR	.0023 MMCF/HR	2.5

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

Fuel Analysis: Natural Gas

Percent Sulfur: None Percent Ash: None

Density: N/A lbs/gal Typical Percent Nitrogen: 5.15

Heat Capacity: 1100 BTU/CF N/A BTU/gal

Other Fuel Contaminants (which may cause air pollution): N/A

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

Annual Average 100% Maximum

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

None

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

Stack Height: 83 ft. Stack Diameter: 0.833 ft.

Gas Flow Rate: 846 ACFM 434 DSCFM Gas Exit Temperature: 400 °F.

Water Vapor Content: 5 % Velocity: 25.9 FPS

SECTION IV: INCINERATOR INFORMATION N/A

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 Diameter: _____ Stack Temp. _____

Gas Flow Rate: _____ ACFM _____ DSCFM* Velocity: _____ FPS

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

Type of pollution control device: [ ] Cyclone [ ] Wet Scrubber [ ] Afterburner

[ ] Other (specify) _____

DER Form 17-1.202(1)
Effective November 30, 1982

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 N/A

Please provide the following supplements where required for this application.

1. Total process input rate and product weight -- show derivation [Rule 17-2.100(127)]

2. To a construction application, attach basis of emission estimate (e.g., design calculations, design drawings, pertinent manufacturer's test data, etc.) and attach proposed methods (e.g., FR Part 60 Methods 1, 2, 3, 4, 5) to show proof of compliance with applicable standards. To an operation application, attach test results or methods used to show proof of compliance. Information provided when applying for an operation permit from a construction permit shall be indicative of the time at which the test was made.

3. Attach basis of potential discharge (e.g., emission factor, that is, AP42 test).

4. With construction permit application, include design details for all air pollution control systems (e.g., for baghouse include cloth to air ratio; for scrubber include cross-section sketch, design pressure drop, etc.)

5. With construction permit application, attach derivation of control device(s) efficiency. Include test or design data. Items 2, 3 and 5 should be consistent: actual emissions = potential (1-efficiency).

6. An 8 1/2" x 11" flow diagram which will, without revealing trade secrets, identify the individual operations and/or processes. Indicate where raw materials enter, where solid and liquid waste exit, where gaseous emissions and/or airborne particles are evolved and where finished products are obtained.

7. An 8 1/2" x 11" plot plan showing the location of the establishment, and points of airborne emissions, in relation to the surrounding area, residences and other permanent structures and roadways (Example: Copy of relevant portion of USGS topographic map).

8. An 8 1/2" x 11" plot plan of facility showing the location of manufacturing processes and outlets for airborne emissions. Relate all flows to the flow diagram.

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

D. 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 N/A

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:

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 N/A

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.

Applicants Maximum Allowable Emission Data

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

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.

Attach all other information supportive to the PSD review.

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.

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.

ILER INSTALLATION NTC ORLANDO FL
EMISSION CALCULATIONS

1. Natural Gas

A. Flow Rate = $\frac{\text{Capacity}}{\text{Heat Content}}$ = $\frac{2.5\text{MMBTU/Hr}}{0.0011\ \text{MBTU/ft}^3}$ = 2273 ft^3/hr

B.

Pollutant	Emission Factor* ($lb/10^6/ft^3$)	Flow Rate (ft^3/hr)	Discharge (lb/hr)	Discharge (Ton/yr)
Particulate	5	2273	0.011	0.048
SO_2	0.6	2273	0.001	0.004
NO_2	100	2273	0.227	0.994
CO	20	2273	0.046	0.202
THC Nonmethane	5.3	2273	0.012	0.053
THC Methane	2.7	2273	0.006	0.026

* From EPA AP-42 Supplement 13

C. Gas Flow Rate at Stack = (Flow Rate)(Products of Combustion)

Products of Combustion - 13.525 ft^3/ft^3, from EPA AP-40 with 20% excess air @ 600F

Gas Flow Rate = (2273 ft^3/hr)(13.525 ft^3/ft^3) = 30742 ft^3/hr

Gas Flow Rate = 8.54 CFS

Actual Gas Flow Rate = $\frac{460 + 400}{460 + 60}$ (8.54 CFS) = 14.1 ACFS

Natural Gas Flow Rate (DSCFM) = (2273 ft^3/hr)(11.442 ft^3/ft^3)/ (60 min/hr) = 433.5 DSCFM

D. Velocity = $\frac{\text{Quantity}}{\text{Area}}$ = $\frac{14.1\ ft^3/sec}{(\pi(0.833)^2/4)ft^2}$ = 25.9 fps

STATE OF FLORIDA

AC 48-154734 combined -154732 C.P.s

DEPARTMENT OF ENVIRONMENTAL REGULATION

RC# 126583

$100.00

BOB GRAHAM
GOVERNOR

VICTORIA J. TSCHINKEL
SECRETARY

PHILIP R. EDWARDS
DISTRICT MANAGER

SOUTH FLORIDA DISTRICT
2269 BAY STREET
FORT MYERS, FLORIDA 33901

PAID $100.00 SEP 14 1988

CENTRAL FLORIDA DISTRICT

SEP 1988 RECEIVED Central Florida District

APPLICATION TO OPERATE/CONSTRUCT AIR POLLUTION SOURCES

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

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

COMPANY NAME: Naval Training Center, Orlando COUNTY: Orange

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) Boiler Bldg. 317

SOURCE LOCATION: Street Hibiscus Street, Naval Training Center City Orlando

UTM: East _____ North _____

Latitude 28 ° 33 ' 44 "N Longitude 81 ° 19 ' 47 "W

APPLICANT NAME AND TITLE: Commanding Officer

APPLICANT ADDRESS: Naval Training Center, Orlando, Florida

SECTION I: STATEMENTS BY APPLICANT AND ENGINEER

A. APPLICANT

I am the undersigned owner or authorized representative* of NTC Orlando

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: Richard M. Rohrbach
RICHARD M. ROHRBACH
Captain, CEC, U.S. Navy
Commanding Officer
Name and Title (Please Type)

Date: 9-8-88 Telephone No. 743-0700

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

[1] 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 _____

G. C. BRADLEY
Name (Please Type)

Southern Division, Naval Facilities Engineering Command
Company Name (Please Type)

P. O. Box 10068, Charleston, SC 29411
Mailing Address (Please Type)

Florida Registration No. 8954 Date: 2 September 1988 Telephone No. (803) 743-0582

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.

Project to install a 2.5 MMBTU/HR boiler with natural gas as the fuel source.

This facility will result in full compliance.

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

Start of Construction 1 January 1989 Completion of Construction 1 July 1991

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.

N/A

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? Yes

   a. If yes, has "offset" been applied? No

   b. If yes, has "Lowest Achievable Emission Rate" been applied? No

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

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

M. 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: N/A

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

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

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	
Particulate	.011	.048	CH17-2.610	Latest Tech.	.011	.048	N/A
SO_2	.001	.004	CH17-2.610	" "	.001	.004	N/A
NO_2	.227	.994	CH17-2.610	" "	.227	.994	N/A
CO	.046	.202	CH17-2.610	" "	.046	.202	N/A
THC Nonmethane	.012	.053	CH17-2.610	" "	.012	.053	N/A
THC Methane	.006	.026	CH17-2.610	" "	.006	.026	N/A

[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)

Name and Type (Model & Serial No.)	Contaminent	Efficiency	Range of Particles Size Collected (in microns) (If applicable)	Basis for Efficiency (Section V Item 5)
None				

E. Fuels

Type (Be Specific)	Consumption*		Maximum Heat Input (MMBTU/hr)
	avg/hr	max./hr	
Natural Gas	.0023 MMCF/HR	.0023 MMCF/HR	2.5

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

Fuel Analysis: Natural Gas

Percent Sulfur: None Percent Ash: None

Density: N/A lbs/gal Typical Percent Nitrogen: 5.15

Heat Capacity: 1100 BTU/~~CF~~ N/A BTU/gal

Other Fuel Contaminents (which may cause air pollution): N/A

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

Annual Average 100% Maximum

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

None

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

Stack Height: 83 ft. Stack Diameter: 0.833 ft.

Gas Flow Rate: 846 ACFM 434 DSCFM Gas Exit Temperature: 400 °F.

Water Vapor Content: 5 % Velocity: 25.9 FPS

SECTION IV: INCINERATOR INFORMATION N/A

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 _____

)tal 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 Type	Fuel BTU/hr	Temperature (°F)
Primary Chamber					
Secondary Chamber					

Stack Height: _____ ft. Stack Diameter: _____ Stack Temp. _____

Gas Flow Rate: _____ ACFM _____ DSCFM* Velocity: _____ FPS

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

ype 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 N/A

Please provide the following supplements where required for this application.

1. Total process input rate and product weight -- show derivation [Rule 17-2.100(127)]

2. To a construction application, attach basis of emission estimate (e.g., design calculations, design drawings, pertinent manufacturer's test data, etc.) and attach proposed methods (e.g., FR Part 60 Methods 1, 2, 3, 4, 5) to show proof of compliance with applicable standards. To an operation application, attach test results or methods used to show proof of compliance. Information provided when applying for an operation permit from a construction permit shall be indicative of the time at which the test was made.

3. Attach basis of potential discharge (e.g., emission factor, that is, AP42 test).

4. With construction permit application, include design details for all air pollution control systems (e.g., for baghouse include cloth to air ratio; for scrubber include cross-section sketch, design pressure drop, etc.)

5. With construction permit application, attach derivation of control device(s) efficiency. Include test or design data. Items 2, 3 and 5 should be consistent: actual emissions = potential (1-efficiency).

6. An 8 1/2" x 11" flow diagram which will, without revealing trade secrets, identify the individual operations and/or processes. Indicate where raw materials enter, where solid and liquid waste exit, where gaseous emissions and/or airborne particles are evolved and where finished products are obtained.

7. An 8 1/2" x 11" plot plan showing the location of the establishment, and points of airborne emissions, in relation to the surrounding area, residences and other permanent structures and roadways (Example: Copy of relevent portion of USGS topographic map).

8. An 8 1/2" x 11" plot plan of facility showing the location of manufacturing processes and outlets for airborne emissions. Relate all flows to the flow diagram.

) 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 N/A

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

). 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:

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 N/A

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.

ILER INSTALLATION NTC ORLANDO FL
EMISSION CALCULATIONS

1. Natural Gas

A. Flow Rate = $\frac{\text{Capacity}}{\text{Heat Content}}$ = $\frac{2.5\text{MMBTU/Hr}}{0.0011\ \text{MBTU/ft}^3}$ = 2273 ft^3/hr

B.

Pollutant	Emission Factor* ($lb/10^6/ft^3$)	Flow Rate (ft^3/hr)	Discharge (lb/hr)	Discharge (Ton/yr)
Particulate	5	2273	0.011	0.048
SO_2	0.6	2273	0.001	0.004
NO_2	100	2273	0.227	0.994
CO	20	2273	0.046	0.202
THC Nonmethane	5.3	2273	0.012	0.053
THC Methane	2.7	2273	0.006	0.026

* From EPA AP-42 Supplement 13

C. Gas Flow Rate at Stack = (Flow Rate)(Products of Combustion)

Products of Combustion - 13.525 ft^3/ft^3, from EPA AP-40 with 20% excess air @ 600F

Gas Flow Rate = (2273 ft^3/hr)(13.525 ft^3/ft^3) = 30742 ft^3/hr

Gas Flow Rate = 8.54 CFS

Actual Gas Flow Rate = $\frac{460 + 400}{460 + 60}$ (8.54 CFS) = 14.1 ACFS

Natural Gas Flow Rate (DSCFM) = (2273 ft^3/hr)(11.442 ft^3/ft^3)/ (60 min/hr) = 433.5 DSCFM

D. Velocity = $\frac{\text{Quantity}}{\text{Area}}$ = $\frac{14.1\ ft^3/sec}{(\pi(0.833)^2/4)ft^2}$ = 25.9 fps

SECTION 15556

HOT WATER HEATING BOILERS
(LOW PRESSURE)
(OVER 800,000 BTU/HR OUTPUT)

PART 1 - GENERAL

1.1 APPLICABLE PUBLICATIONS: The publications listed below form a part of this specification to the extent referenced. The publications are referred to in the text by the basic designation only.

1.1.1 Military Specifications (Mil. Spec.):

MIL-B-17452D	Boilers, Steam and Hot Water, High and Low Pressure: Firetube, Packaged Type
MIL-F-18113D	Feeders, Boiler Water Treatment, By-Pass and Compound Receiver Types
MIL-B-18796E	Burner, Single, Oil, Gas and Gas Oil Combination, (400,000 Btu's Per Hour and Over Input Capacity)

1.1.2 American Boiler Manufacturers Association (ABMA) Publication:

1978	Packaged Firetube Ratings

1.1.3 American National Standards Institute (ANSI) Publications:

Z83.3-71	Gas Utilization Equipment in Large Boilers

1.1.4 American Society for Testing and Materials (ASTM) Publications:

A 53-79	Pipe, Steel, Black and Hot-Dipped Zinc-Coated (Galvanized) Welded and Seamless for Ordinary Uses

1.1.5 American Society of Mechanical Engineers (ASME) Publications:

ASME Boiler and Pressure Vessel Code and Interpretations:

1986	Section IV - Heating Boilers

1.1.6 Underwriters Laboratories (UL) Publications:

UL 726	Oil-Fired Boiler Assemblies
UL 795	Commercial-Industrial Gas Heating Equipment

1.1.7 National Fire Protection Association (NFPA) Publications:

NFPA 85A	Prevention of Furnace Explosions in Fuel Oil and Natural Gas-Fired Single Boiler Burner Furnaces
NFPA 211-1984	Chimneys, Fireplaces, Vents and Solid Fuel Burning Appliances

1.2 GENERAL REQUIREMENTS: Section 15011, "Mechanical General Requirements," applies to this section with the additions and modifications specified herein.

1.3 SUBMITTALS: Submit to the Contracting Officer, who shall forward two complete sets of copies to the Commanding Officer, Southern Division, Naval Facilities Engineering Command, Code 1113.

1.3.1 MANUFACTURER"S DATA: Submit shop drawings and catalog information showing plan, elevations, dimensions, capacities, and ratings for the following:

a. Boilers including the following:

(1) Btu Output
(2) Gross Efficiency
(3) ASME Certification
(4) Allowable Working Pressure
(5) Boiler Model Number
(6) Catalog Cut from Manufacturers current catalog including boiler manufacturer's ABMA certificate of boiler performance along with evidence that the burner provided shall be a make, model, and type certified and approved by the manufacturer of the boiler provided.

b. Boiler Trim and Controls
c. Burners
d. Burner Controls
e. Burner Gas Trains

1.3.2 Shop Drawings

a. Boilers
b. Boiler Stack including Fabrication and Support Details

1.3.3 MANUFACTURER"S INSTALLATION INSTRUCTIONS

a. Boilers, including supervision qualification resume

1.3.4 Operation and Maintenance Manuals

a. Boilers

1.3.5 Posted Operating Instructions

a. Boilers

1.3.6 Field Test Reports

a. Start-Up Test Reports
b. Water Treatment Tests

PART 2 - PRODUCTS

2.1 BOILERS: Shall conform to UL 795, NFPA 85A, or ANSI Z83.3 and, Mil. Spec. MIL-B-17452, Type III - Low Pressure Hot Water, Class 1 - Standard duty, Group 1 - 400,000 to 2,500,000 Btu/Hr output.

2.1.1 Design Requirements: Boilers shall have a gross output as indicated with an efficiency of not less than 80 percent. The boiler shall be designed, tested, and installed in accordance with Section IV (Heating Boilers) of the ASME Boiler and Pressure Vessel Code. Boiler shall be complete with an explosion-relief door, located in accordance with manufacturer's recommendations. Boiler shall be suitable for installation in the space shown with ample room for opening doors and cleaning and/or removal and replacement of tubes. Boiler shall be painted in accordance with manufacturer's standard requirement. Boiler design working pressure shall be 160 psig. Boiler operating pressure shall be 60 psig. Boiler operating temperature shall be 180 degrees F. Boiler return water temperature shall be 160 degrees F.

2.2 BURNERS AND CONTROL EQUIPMENT: Shall conform to the requirements of Mil. Spec. MIL-B-18796, Size 1 - 400,000 to 2,500,000 Btu/Hr input, Class 3 - gas-fired, Control Sequence IB-automatic recycling with proved igniter. Combustion control system shall be the high-low-off type. The burner shall be the partial premix type, complete with primary air fan. Ignition system shall be the interrupted pilot type, and pilot shall be the electrode-ignited natural gas type. Burner and combustion-control equipment shall be designed for firing natural gas having a specific gravity of 0.6 and a heating value of approximately 1000 Btu per cubic foot and shall be an integral part of the boiler. Burner controls and safety equipment shall conform to the requirements of Mil. Spec. Mil-B-18796. In addition, the controls, including operating switches, indicating lights, gages, alarms, motor starters, fuses, and circuit elements of control systems shall be mounted on a single control panel or cabinet and shall be designed for a separate mounting not on the burner in accordance with Mil. Spec. MIL-B-18796. The flame scanner shall be located such that testing and cleaning of the scanner can be accomplished without disassembly of the burner. Provide fuel train as indicated.

2.3 BOILER TRIM AND CONTROL EQUIPMENT: Boiler trim and control equipment shall conform to the requirements of Mil. Spec. MIL-B-17452 and MIL-B-18796. Provide trim required under Section IV of the ASME Boiler and Pressure Vessel Code plus the additional appurtenances specified below. Non-recycling control interlocks shall have the reset located on the control interlock itself.

2.3.1 Emergency Disconnect Switch: NEMA KS1 provide on the wall near the boiler room entrance to allow rapid and complete shutdown of the boiler in the event of an emergency. Emergency switch shall be a 30-amp fuse-type safety switch. Switch shall be painted red and shall be provided with a label indicating the function of the switch.

2.3.2 Relief Valves: Shall have relieving capacity for the full output of the boiler furnished. Relief-valve piping shall conform to ASTM A 53, schedule 40 steel pipe and shall be piped full size to a floor drain.

2.3.3 Pressure Gage: Shall conform to Mil. Spec. MIL-B-17452, 6-inch diameter.

2.3.4 Thermometers: Shall be located to indicate boiler water temperature and boiler return water temperature. Thermometers shall have a scale equivalent to 1.5 times the outlet water temperature.

2.3.5 Drain Tapping: Shall be complete with drain valve and piping to a floor drain.

2.3.6 Water Feeding Device: A water pressure-reducing valve and relief valve, or a combination of the two, shall be provided in the makeup water line to the boiler and shall function to maintain a water pressure of 60 psig in the hot water system.

2.3.7 Stack Thermometer: Flue gas-dial type thermometer shall have scale calibrated from 150 F to 750 F and shall be mounted in the flue gas outlet.

2.3.8 Air Vent Valve: Shall have screwed connection and stainless steel disk and seats to vent entrapped air from the boiler.

2.3.9 Feedwater Treatment: Shall conform to Mil. Spec. MIL-F-18113, Type II - shot-type feeder (manual feed), Style A - for use with pressure up to 200 psig maximum. Submit water analysis and provide sufficient chemicals to initially place system in service and make tests prior to start up and acceptance by Government. Provide same chemicals used for treatment at station's other boilers.

2.3.10 Combustion Regulator: Shall be the adjustable temperature, thermostatic-immersion type and shall function to limit the boiler water temperature to a maximum of 250 degrees F. The control shall actuate the burner through an electric relay system so as to maintain the boiler water temperature within normal prescribed limits at all loads within the rated capacity of the boiler.

2.3.11 High Temperature Limit Switch: Shall be the immersion aquastat type and have a temperature setting above that of the combustion regulator and below that of the lowest relief valve setting. Aquastat shall function to cause a safety shutdown by closing all fuel valves, shutting down the burner equipment, activating a red indicating light, and sounding an alarm in the event that boiler water temperature rises above the operating temperature to the high limit setting. A safety shutdown due to high temperature shall require manual reset before operation can be resumed and shall prevent recycling of the burner equipment.

2.3.12 Differential Pressure Control: Shall be the mercury switch type. Control shall have a main scale and differential adjusting screws at the top of the case and shall have an internal or an external bellows. Control shall be of the type which will open an electric circuit on a drop in pressure below a set minimum. Control shall be set and installed so as to cause a safety shutdown by closing all fuel valves, shutting down the burner equipment, activating a red indicating light, and sounding an alarm in the event that water pressure in the system drops below 30 psig. A safety shutdown due to low water pressure shall require manual reset before operation can be resumed and shall prevent recycling of the burner equipment.

2.3.13 Low-Water Level Cutoff Switch: Shall be of the float or electrode actuated type. Low-water level cutoff shall function to cause a safety shutdown by closing all fuel valves, shutting down the burner equipment, activating a red indicating light, and sounding an alarm in the event that the water level drops below the lowest safe permissible water level established by the boiler manufacturer. A safety shutdown due to low-water level shall require manual reset before operation can be resumed and shall prevent recycling of the burner equipment. The switch may be integral with or separate from the water feeding device.

2.3.14 Low-Water Flow Interlock: The low-water flow interlock required by Mil Spec. MIL-B-17452 for hot water boilers will not be required.

2.3.15 Boiler Safety Control Circuits: Boiler safety control circuits, including control circuits for burner and draft fan, shall be single-phase, two-wire one-side grounded, and not over 120 Volts. Safety control switching shall be in the ungrounded conductor. Overcurrent protection shall be provided. In addition to circuit grounds, metal parts, which do not carry current, shall be grounded by proper grounding connection to the grounding conductor.

2.3.16 Indicating Lights: Safety interlocks requiring a manual reset shall have an individually-labeled indicating light. Non-recycling controls/interlocks shall have the reset located on the control/interlock itself. In lieu of the colors required by Mil. Spec. MIL-B-18796, indicating lights shall have colors as follow:

a. Amber for ignition on

b. Blue for draft

c. Green for main fuel safety shut-off valves open

d. Red for safety lockout on flame failure and low water pressure, low water level, and high temperature.

2.3.17 Alarm Bell: Alarm bell shall be not less than 4 inches in diameter. Bell shall be electrically operated, and a manual disconnect switch shall be provided. Disconnect switch shall be of such type and so wired that switching off the alarm following a safety shutdown will not prevent the alarm from sounding again upon recurrence of a subsequent safety shutdown condition.

2.3.18 Post-Combustion Purge: In addition to the operating sequence required by Mil. Spec. MIL-B-18796, a post-combustion purge shall be provided. Controls and wiring shall be provided as necessary to assure operation of the draft fan for a period of not less than 15 seconds or of sufficient duration to provide four complete air changes in the boiler (whichever is the greater) following shutdown of the burner upon satisfaction of heat demand. Upon completion of the post-combustion purge period, the draft fan shall automatically shutdown until the next restart.

2.3.19 Stack (Boiler Flue): Construct of sheet steel having a thickness of not less than 0.053 inches. Joints shall be welded gastight. Blast or solvent clean steel surfaces and coat with heat resisting (1200 degree F) aluminum paint. Paint thickness shall be 1.5 mils. Stack shall be provided with stack supports, umbrella collar and cap, and flue transition piece in accordance with NFPA 211.

2.3.20 Draft: Shall be in accordance with boiler manufacturer recommendations.

PART 3 - EXECUTION

3.1 SUPERVISION:

3.1.1 Qualification: Provide the services of a engineer or technician for installation, startup, and tests of equipment as specified below. Submit printed certified qualification resume' of the engineer or technician for approval 10 days before installation. The resume' shall list applicable experience related to installation, startup, and testing of equipment and applicable factory training and education. Submit a written schedule with date of installation, start up, test, and checkout of equipment 10 days before installation. After installation of equipment the engineer or technician shall provide a signed certificate or certified written statement that the equipment is installed in accordance with the manufacturer's recommendations. More than one engineer or technician may be provided based on the types of specific equipment. In the event that more than one engineer or technician is provided, a certified resume' for each one shall be submitted. One engineer or technician as appointed by the Contractor shall supervise and be responsible for the overall installation, start-up, test, and check out of systems.

3.1.2 Start-Up and Test: In addition to the requirements above, the start-up and test engineer or technician shall be approved by the manufacturer of the specific piece of equipment including boiler, boiler controls, and boiler instrumentation equipment. The start-up and test engineer or technician shall remain on the job until the unit has been in successful operation for 3 days, and accepted.

3.2 EQUIPMENT FOUNDATIONS: Locate equipment foundations as shown on the drawings and make sufficient size and weight and of proper design to preclude shifting of equipment under operating conditions or under any abnormal conditions that could be imposed upon the equipment. Foundations shall meet the requirements of the equipment manufacturer.

3.3 EQUIPMENT INSTALLATION: Install equipment in accordance with installation instructions of the manufacturers. Grout equipment mounted on concrete foundations before piping is installed. Install piping in such a manner as not to place a strain on any of the equipment. Do not bolt flanged joints tight unless they match. Grade, anchor, guide, and support all piping without low pockets. Install boiler stack in accordance with NFPA 211.

3.4 BOILER CLEANING: Before being placed in service, boiler shall be boiled out for a period of 24 hours at a pressure not exceeding 12 psig. The solution to be used in the boiler for the boiling out process shall consist of 10 pounds of trisodium phosphate per 100 gallons of water. Upon completion of boiling out, the boiler shall be flushed out with potable water.

3.5 FIELD TESTS AND INSPECTIONS:

3.5.1 General: The CQC Representative shall preform inspections and tests as specified herein to demonstrate that the boilers and auxiliary equipment, as installed, are in compliance with contract requirements. Start up and initially operate the system with components operating. During this time, clean the various strainers until no further accumulation of foreign material occurs. Exercise care so that minimum loss of water occurs when strainers are cleaned. Adjust safety and automatic control instruments as necessary to place them in proper operation and sequence. During startup and during the tests, factory-trained engineers or technicians employed by individual manufactuerer of such components as the burner, flame safeguard and combustion controls, and other auxiliary equipment shall be present as required, to insure the proper functioning, adjustment, and testing of the individual components and systems. Contractor shall furnish everything required for tests.

3.5.2 Field Tests: The Contractor shall operate the boiler and appurtenances prior to final testing and shall insure that adjustments have been made. Submit 10-day advanced written notice to the Contracting Officer indicating the equipment is ready for field testing. Contractor shall provide testing equipment required to perform the tests. The tests shall include the following:

3.5.2.1 Operational Test: Test the boilers continuously for a period of at least 8 hours to demonstrate proper operability of the combustion control, flame safeguard control, and safety interlocks. Record manufacturer's recommended readings hourly.

3.5.2.2 Acceptance Inspection: The above tests shall be conducted prior to requesting an acceptance inspection by a Southern Division, Naval Facilities Engineering Command Boiler inspector. The Contracting Officer, upon receipt of the notice from the CQC Representative, shall request the boiler be inspected by Southern Division Naval Facilities Engineering Command. Ten days advance notice is required for scheduling the inspector to conduct the inspection.

3.6 INSTRUCTIONS TO GOVERNMENT PERSONNEL: Provide 1 man-day of instructions, in accordance with Section 15011, "Mechanical General Requirements."

*** END OF SECTION ***