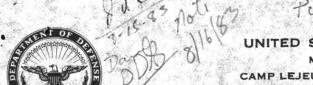
Permanent File



UNITED STATES MARINE CORPS

MARINE CORPS BASE

CAMP LEJEUNE, NORTH CAROLINA 28542

IN REPLY REFER TO

FAC/REA/el 6280 1 0 AUG 198

From: Convending General

To: Commanding General, 2d Marine Division, Fleet Marine Force, Camp Lejeune,

North Carolina 28542

Subj: Classified Materials Incinerator, Building S-355, North Carolina

Air Pollution Permit Number 4320R dtd 2 May 1983

Fncl: (1) N.C. Dept. of Natural Resources and Community Development 1tr w/attached Permit No. 4320R dtd 2 May 1983

- 1. The enclosure forwards the permit to operate the subject facility with appropriate conditions. Repairs are currently being made by the Base Maintenance Division to activate the facility. Prior to the resumption of incinerator operations request that you notify this command for scheduling of an on-site inspection by North Carolina Air Quality Branch personnel. The 1 July date for the inspection has been extended by State personnel.
- As indicated in the permit, reporting of the incinerator operation may be required by the State at some future date. This requirement can be met by simply keeping a log of the date, times, approximate quantity of materials burned, and any major equipment repairs.
- 3. Per paragraph 3 of subject permit, a notice must be made with the State for visible emissions exceeding one hour's duration except during start-up or shutdown. In the unlikely event of such emissions, request that pertinent information be provided to the Natural Resources and Environmental Affairs Division, extensions 5003/2195.
- 4. The future use of this incinerator for destruction of classified materials should be pursued only as a backup technique in favor of the classified materials mulcher operated by Base Communication-Electronics Division. For a long-term solution to these needs, this command is including a mulcher within the project for relocation of the Division Headquarters to the Cld Hospital area.
- 5. For further information regarding this matter, please contact Mr. Bob Alexander, office of the Assistant Chief of Staff, Facilities, extension 3034.

M. G. LILLEY By direction

Blind copy to: CEO (w/o encl) BMO (w/o encl) NREAD (w/encl)



### UNITED STATES MARINE CORPS MARINE CORPS BASE CAME LELEUNE VORTH CAROLINA, 28542

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ion wow little (for all of the Control of the Contr Constant with DIVISION OF ENVIRONMENTAL MANAGEMENT

May 2, 1983

J. T. Marshall Colonel, U. S. Marine Corps Assistant Chief of Staff, Facilities U. S. Marine Corps Base Camp LeJeune, North Carolina 28542

Subject: Permit No. 4320R

U. S. Marine Corps Base Camp LeJeune, North Carolina

Onslow County

Dear Colonel Marshall:

In accordance with your application received March 17, 1983, we are forwarding herewith Permit No. 4320R to U. S. Marine Corps Base, Camp LeJeune, North Carolina, for the construction and/or operation of air pollution abatement facilities and/or emission sources.

If any parts, requirements, or limitations contained in this Permit are unacceptable to you, you have the right to an adjudicatory hearing before a hearing officer upon written demand to the Director within 30 days following receipt of this Permit, identifying the specific issues to be contended. Unless such demand is made, this Permit shall be final and binding.

This Permit shall be effective from the date of issuance until April 1, 1986, is nontransferable to future owners and operators, and shall be subject to the conditions and limitations as specified therein.

Sincerely,

Charles Wakild

Regional Supervisor

CW/WCC/cfp

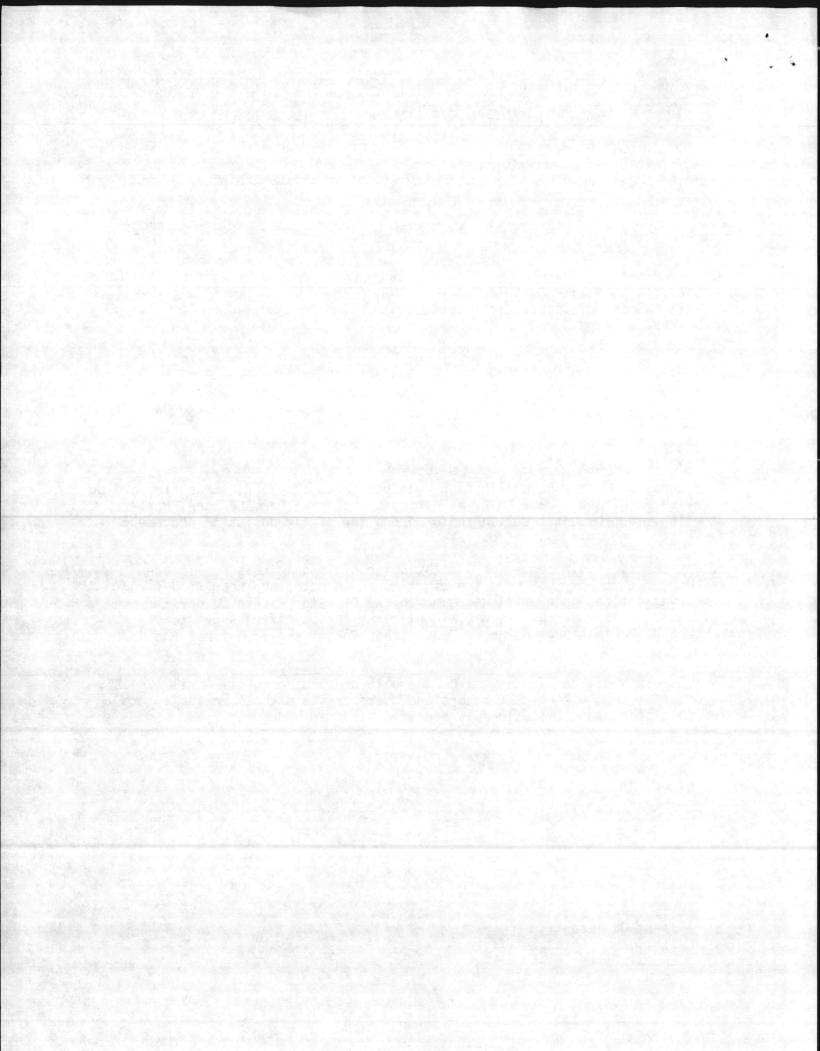
Enclosure

cc: Mike Sewell

Robert Jamieson

Wilmington Regional Office

Central Files



### NORTH CAROLINA

### ENVIRONMENTAL MANAGEMENT COMMISSION

### DEPARTMENT OF NATURAL RESOURCES AND COMMUNITY DEVELOPMENT

Raleigh

### PERMIT

For the Discharge of Air Contaminants Into the Atmosphere

In accordance with the provisions of Article 21B of Chapter 143, General Statutes of North Carolina as amended, and other applicable Laws, Rules and Regulations,

### PERMISSION IS HEREBY GRANTED TO

U. S. Marine Corps Base Camp LeJeune, North Carolina

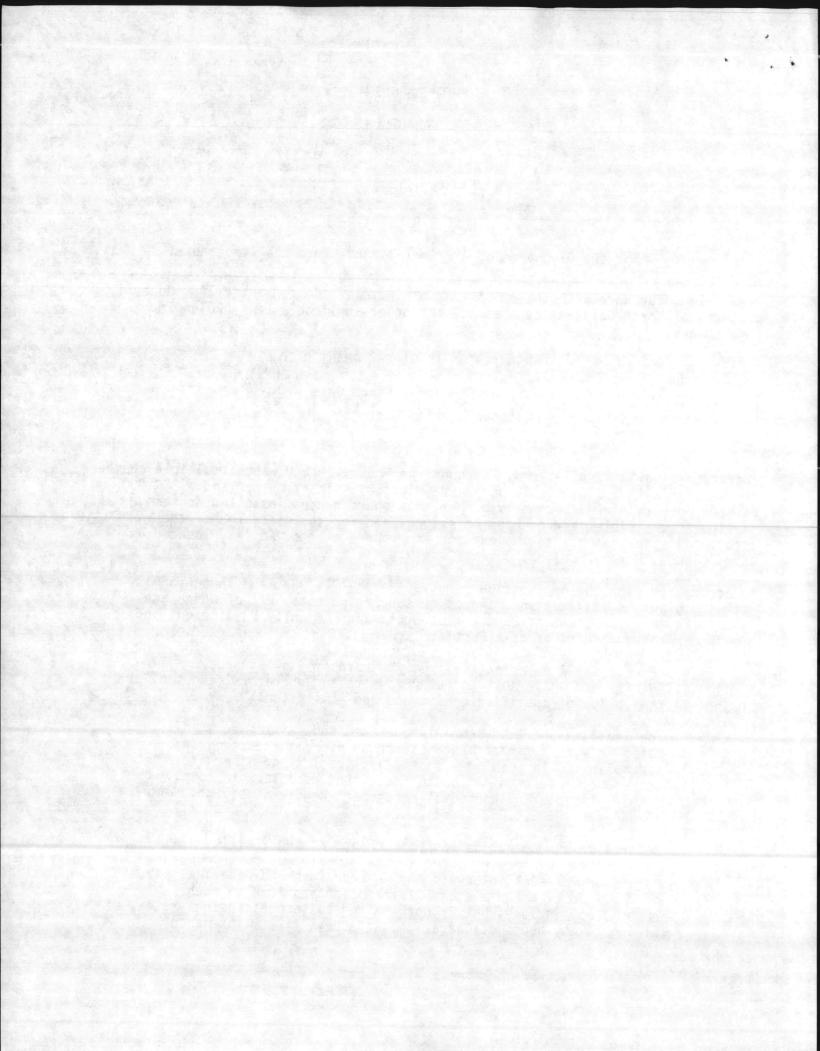
### FOR THE

operation of a No. 2 oil-fired, 75 pounds per hour, type 0 waste, multiple chamber incinerator with a 350,000 BTU per hour (minimum) primary burner and a 350,000 BTU per hour (minimum) secondary burner and appurtenances installed to remove particulate, visible, and odorous emissions, and for the discharge of the associated stack gases into the outdoor atmosphere at its facility located at Camp LeJeune, North Carolina, Onslow County,

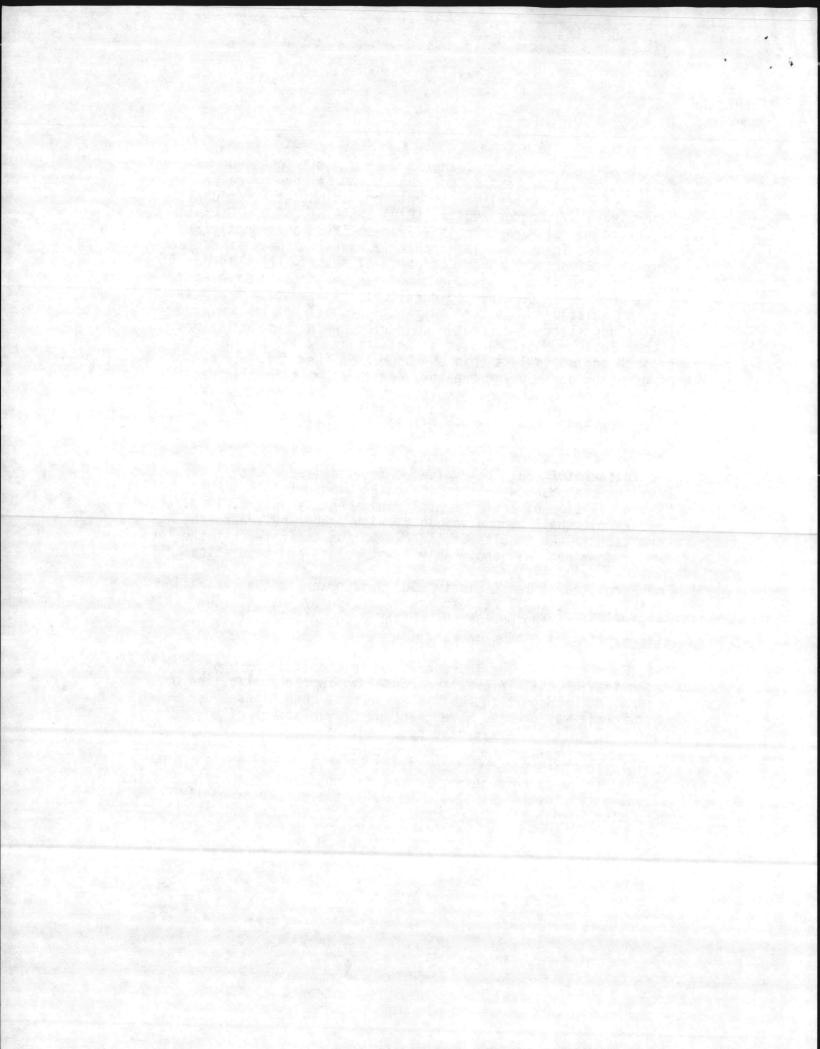
in accordance with the application received March 17, 1983, and in conformity with the plans, specifications, and other supporting data, all of which are filed with the Department of Natural Resources and Community Development and are incorporated as part of this Permit.

This Permit shall be effective from the date of its issuance until April 1, 1986, is nontransferable to future owners and operators, and shall be subject to the following specified conditions and limitations:

- 1. The facility shall be properly operated and maintained at all times in such a manner as to effect an overall reduction in air pollution in keeping with the application and otherwise to reduce air contamination to the extent necessary to comply with applicable Environmental Management Regulations, including 15 NCAC 2D .0505, .0521, and .0522.
- Reports on the operation and maintenance of the facility shall be submitted by the Permittee to the Division of Environmental Management at such intervals and in such form and detail as may be required by the Division. Information required in such reports may include, but is not limited to, process weight rates, firing rates, hours of operation, and preventive maintenance schedules.



- When particulate, visible, and/or odorous emissions, due to a malfunction of the process or control equipment, are or may be in excess of Environmental Management Regulations, the Regional Supervisor, Wilmington Region, (919) 256-4161, of the Division of Environmental Management shall be notified as promptly as possible but in no case later than 12 hours following the start of such malfunction. Such notice shall specify the nature and cause of the malfunction, the time when such malfunction was first observed, the expected duration, and an estimate of the rate of emission. The term malfunction shall not be construed to include start-up or shut-down periods when these emissions exceed Environmental Management Regulations when the duration of such period is less than one hour. Furthermore, any period of duration one hour or greater when these emissions exceed Environmental Management Regulations shall be construed as a malfunction. This malfunction reporting requirement does not allow the operation of the facility in excess of Environmental Management Regulations.
- 4. The incinerator shall be evaluated for compliance with Environmental Management Commission Regulation(s) 15 NCAC 2D .0521 by the Division of Environmental Management by July 1, 1983. This Permit shall become voidable, with proper notice to the Permittee if the results of the evaluation indicate that the incinerator does not meet applicable laws, rules, and regulations.
- 5. The Permittee at least ninety (90) days prior to the expiration of this Permit shall request its extension by letter. The letter should include the permit number and a description of modifications, if any, that have been made.
- 6. This Permit is subject to revocation or modification upon a determination that information contained in the application or presented in support thereof is incorrect, conditions under which this Permit was granted have changed, or violations of conditions contained in this Permit have occurred.
- 7. A violation of any term or condition of this Permit shall subject the Permittee to enforcement procedures contained in North Carolina General Statutes 143-215.114, including assessment of civil penalties.



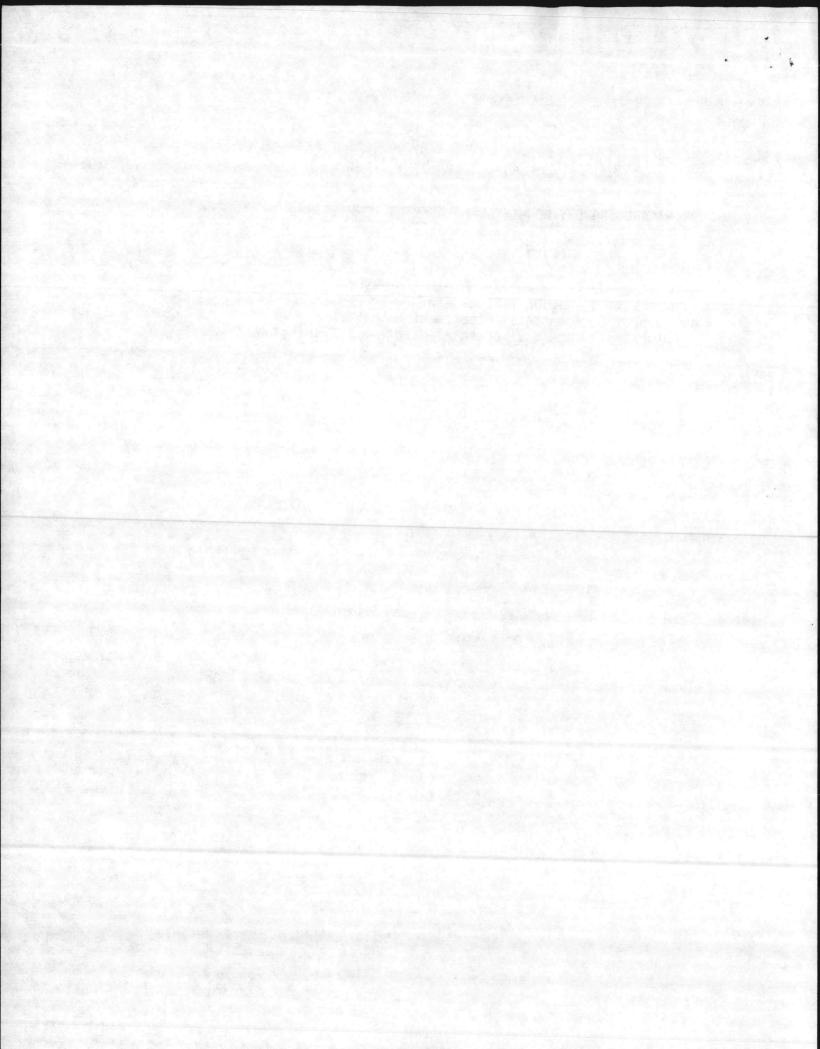
Permit No. 4320R Page 3

Permit issued this the 2nd day of May, 1983.

NORTH CAROLINA ENVIRONMENTAL MANAGEMENT COMMISSION

Charles Wakild, Regional Supervisor
Division of Environmental Management
By Authority of the Environmental Management Commission

Permit No. 4320R





## UNITED STATES MARINE CORPS MARINE CORPS BASE CAMP LEJEUNE, NORTH CAROLINA 28542

IN REPLY REFER TO

NREAD/DDS/jvc 6280 1 1 Map 1083



WILMINGTON REGIONAL OFFICE

DEM Esed R. Quil83

Mr. Charles Wakild
Regional Supervisor
Division of Environmental Management
North Carolina Department of Natural Resources
and Community Development
7225 Wrightsville Avenue
Wilmington, North Carolina 28403

Dear Mr. Wakild:

The purpose of this letter is to request that Permit Number 4320 to U. S. Marine Corps Base, Camp Lejeune, North Carolina, for the construction and/or operation of air pollution abatement facilities and/or emission sources be renewed.

63/1/53

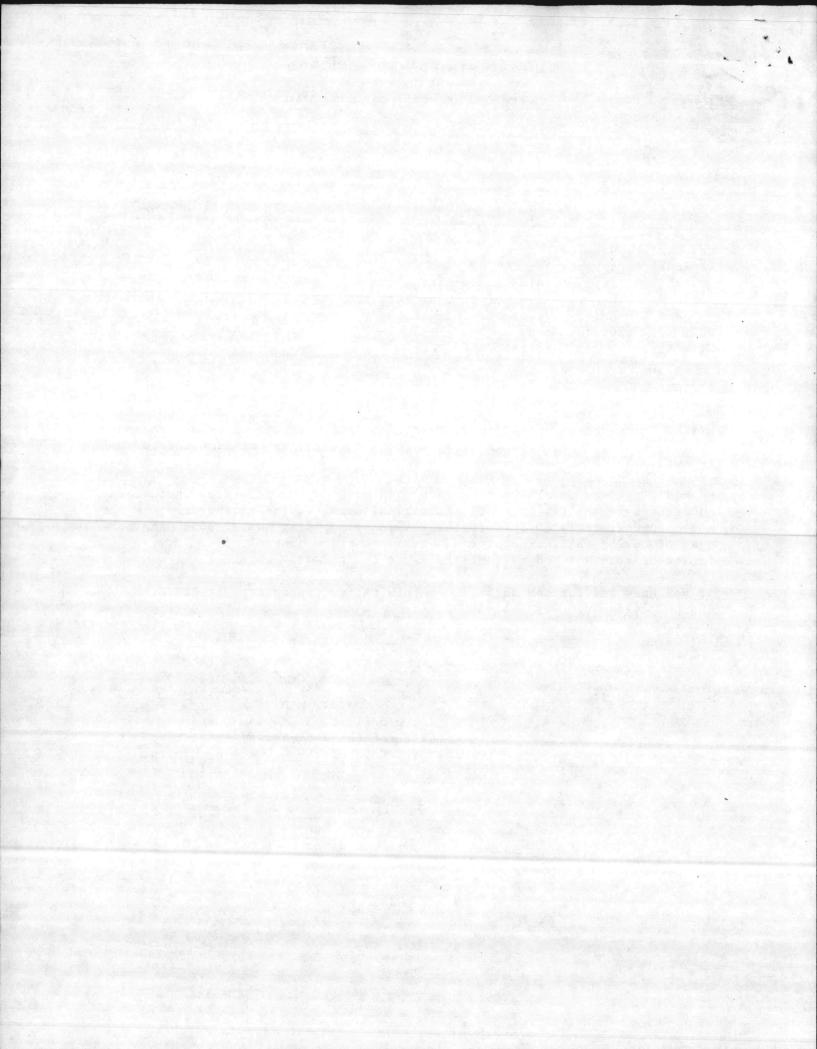
No modifications or alterations have been made to the permitted incinerator subsequent to the issuance of the original permit. The incinerator has been moved approximately 20 feet to the inside of Building Number 355. The purpose of moving the incinerator was to protect the controls from adverse impact of rainfall and to facilitate use in inclement weather.

If you have any further question on this matter please contact Mr. Danny Sharpe, telephone (919) 451-5003.

Sincerely,

J. T. MARSHALL

Colonel, U. S. Marine Corps Assistant Chief of Staff, Facilities By direction of the Commanding General



## North Carolina Department of Natural Resources & Community Development

James B. Hunt, Jr., Governor

Joseph W. Grimsley, Secretary

DIVISION OF ENVIRONMENTAL MANAGEMENT

September 8, 1981

Mr. C.G. Cooper Commanding General, U.S. Marine Corps Marine Corps Base Camp Lejeune, North Carolina 28542

Subject: Permit No. 4641R

Marine Corps Base

Camp Lejeune, North Carolina

Dear General Cooper:

In accordance with your application received August 24, 1981, we are forwarding herewith Permit No. 4641R to Marine Corps Base, Camp Lejeune, North Carolina for the construction and/or operation of air pollution abatement facilities and/or emission sources.

If any parts, requirements, or limitations contained in this permit are unacceptable to you, you have the right to an adjudicatory hearing before a hearing officer upon written demand to the Director within thirty (30) days following receipt of this permit, identifying the specific issues to be contended. Unless such demand is made, this permit shall be final and binding.

This permit shall be effective from the date of issuance until April 1, 1986, is nontransferable to future owners and operators, and shall be subject to the conditions and limitations as specified therein.

For Federal PSD increment tracking purposes, changes to the facility have consumed a maximum of 9.91 lb/hr of particulate and 71.53 lb/hr of SO2.

Sincerely.

Charles Wakild

Regional Supervisor

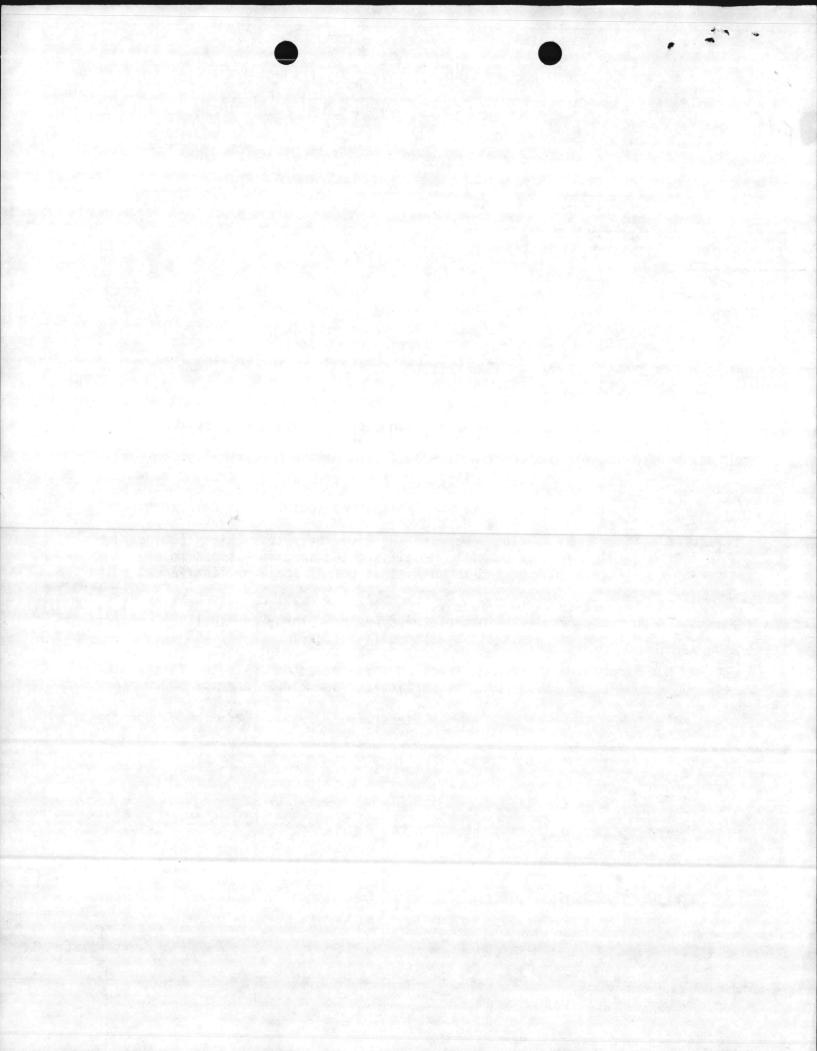
Enclosure

cc:

Mike Sewell

Robert Jamieson Wilmington Regional Office

Central Files

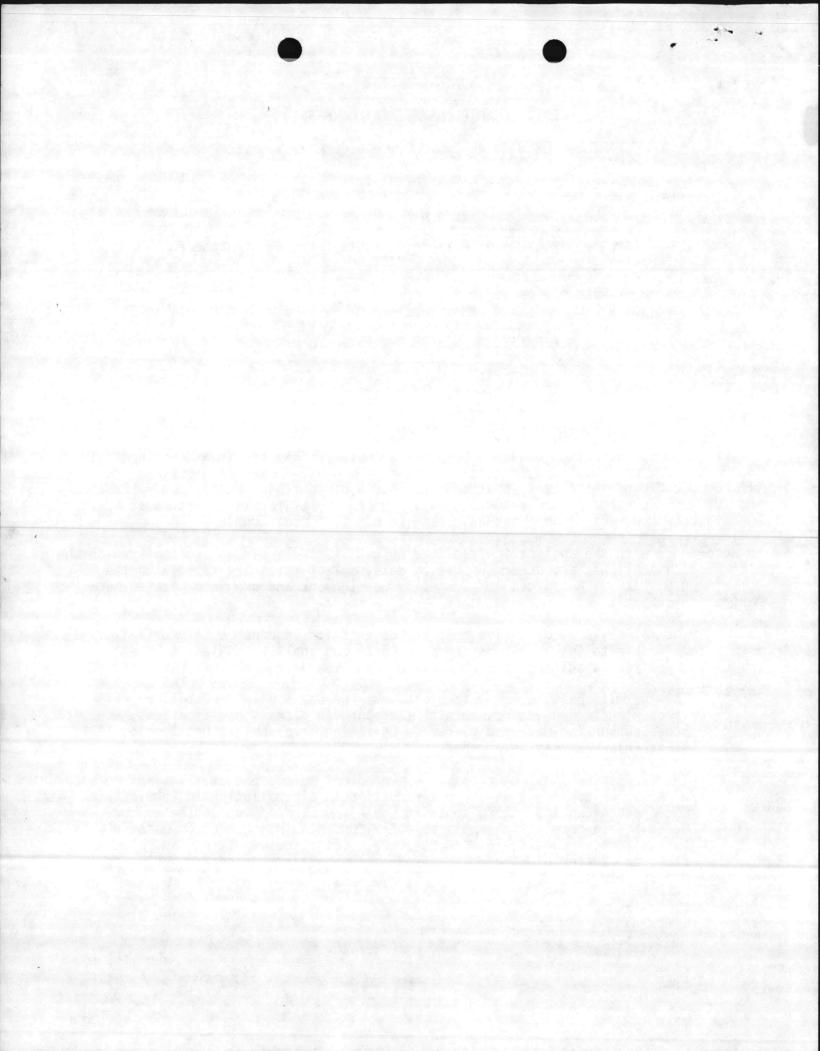


NORTH CAROLINA ENVIRONMENTAL MANAGEMENT COMMISSION DEPARTMENT OF NATURAL RESOURCES AND COMMUNITY DEVELOPMENT Raleigh PERMIT For the Discharge of Air Contaminants Into the Atmosphere In accordance with the provisions of Article 21B of Chapter 143. General Statutes of North Carolina as amended, and other applicable Laws, Rules and Regulations, PERMISSION IS HEREBY GRANTED TO Marine Corps Base Camp Lejeune, North Carolina FOR THE construction and operation of a No. 6 oil-fired boiler (#54) (maximum heat input of 24,200,000 BTU per hour) and for the operation of two No. 6 oil-fired boilers (17,800,000 BTU per hour heat input and 11,000,000 BTU per hour heat input respectively) and for the discharge of the associated stack gases at its facility located at Peach Street, Courthouse Bay, Camp Lejeune, North Carolina, Onslow County, in accordance with the application received August 24, 1981, and in conformity with the plans, specifications, and other supporting data, all of which are filed with the Department of Natural Resources and Community Development and are incorporated as

part of this Permit.

This Permit shall be effective from the date of its issuance until April 1, 1986, is nontransferable to future owners and operators, and shall be subject to the following specified conditions and limitations:

- This permit shall become voidable unless the No. 6 oil-fired boiler (#54) is constructed in accordance with the approved plans, specifications, and other supporting data and placed in operation on or before October 16. 1981. or as this date may be amended.
- The facilities shall be properly operated and maintained at all times in such a manner as to effect an overall reduction in air pollution in keeping with the application and otherwise to reduce air contamination to the extent necessary to comply with applicable Environmental Management Commission Regulations, including 15 NCAC 2D .0503, .0516, and .0521, and in no case shall the sulfur dioxide emissions from the boilers exceed 2.3 pounds per million BTU input.



- 3. Reports on the operation and maintenance of the facilities shall be submitted to the Division of Environmental Management at such intervals and in such form and detail as may be required by the Division. Information required in such reports may include, but is not limited to, process weight rates, firing rates, hours of operation, and preventive maintenance schedules.
- 4. Camp Lejeune Marine Base, at least ninety (90) days prior to the expiration of this Permit, shall request its extension by letter. The letter should include the permit number and a description of modifications, if any, that have been made.
- 5. This permit is subject to revocation or modification upon a determination that information contained in the application or presented in support thereof is incorrect, conditions under which the permit renewal was granted have changed, or violations of conditions contained in the permit have occurred.
- A violation of any term or condition of this Permit shall subject the Permittee to enforcement procedures contained in North Carolina General Statutes 143-215.114, including assessment of civil penalties.

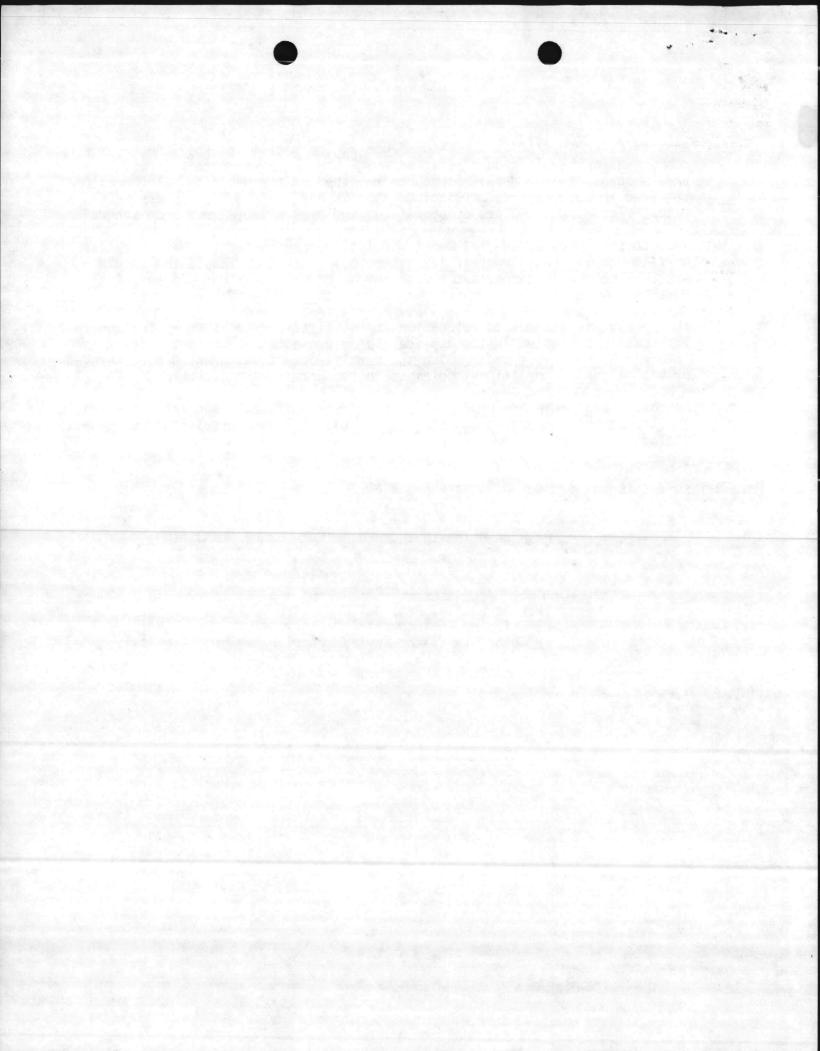
Permit issued this the 8th day of September, 1981.

NORTH CAROLINA ENVIRONMENTAL MANAGEMENT COMMISSION

Charles Wakild, Regional Supervisor Division of Environmental Management

By Authority of the Environmental Management Commission

Permit No. 4641R





## UNITED STATES MARINE CORPS MARINE CORPS BASE CAMP LEJEUNE, NORTH CAROLINA 28542

Wayne -

MAIN/TH/jik 13700 19 Aug 1981

Mr. Charles Wakild
Regional Supervisor
Department of Natural Resources
and Community Development
Division of Environmental Management
7225 Wrightsville Avenue
Wilmington, NC 28403

Dear Mr. Wakild:

Permit No. 4641 was issued by your division for construction and operation of a No. 6 oil-fired boiler (#54) at the Courthouse Bay Steam Generating Plant, with the provision that the boiler be placed in operation on or before 1 September 1981, or as this date may be amended.

The contractor who is installing the boiler for the U.S. Marine Corps has experienced delays in the receipt of materials required to complete the boiler installation. Accordingly, the 1 September deadline for placing the boiler on line cannot be met. It is therefore requested that permit no. 4641 be amended to reflect an October 16, 1981 deadline for placing the boiler into operation.

If you have any further questions on this matter, please contact Mr. Danny Sharpe, Base Maintenance Division, telephone (919) 451-5003.

Sincerely,

K. P. MILLICE, Jr.

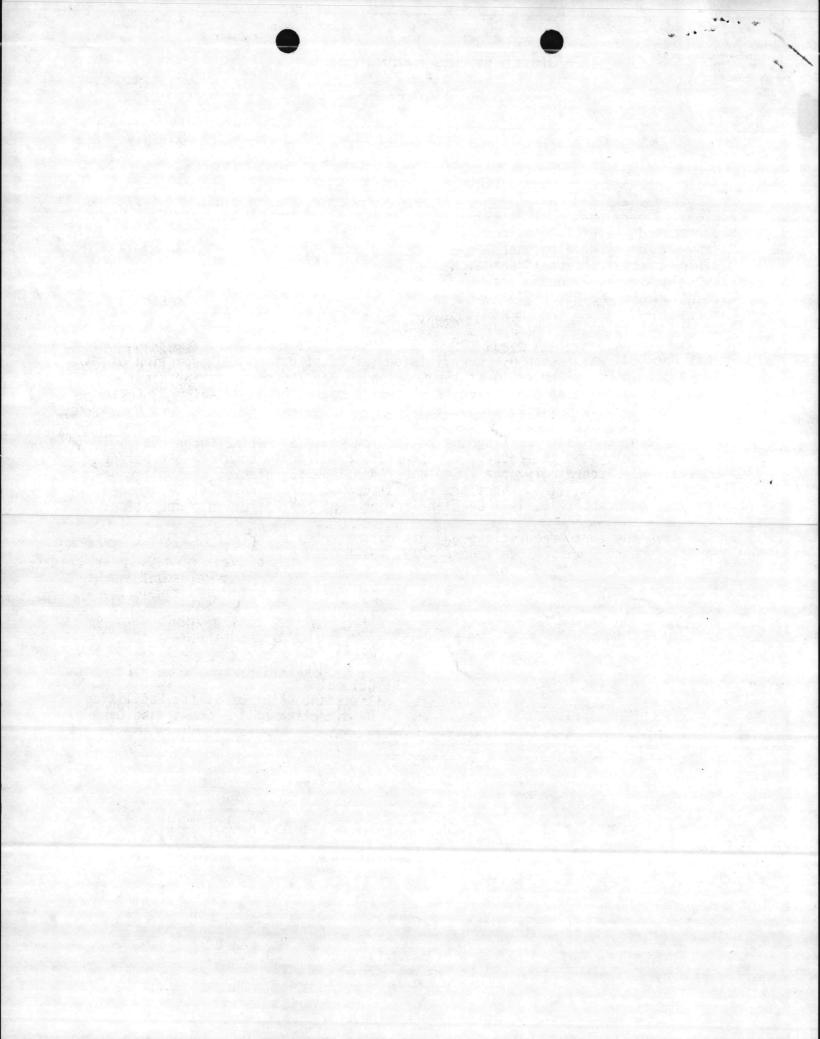
Colonel

Assistant Chief of Staff, Facilities By direction of the Commanding General

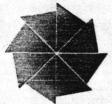
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AUG 24 1981

WILMINGTON REGIONAL OFFICE DEM



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### North Carolina Department of Natural Resources & Community Development

James B. Hunt, Jr., Governor

Howard N. Lee, Secretary

DIVISION OF ENVIRONMENTAL MANAGEMENT

May 22, 1981

Mr. D.B. Barker
Major General, U.S. Marine Corps
Commanding
Marine Corps Base
Camp Lejeune, North Carolina 28542

Subject: Permit No. 4644
Marine Corps Base
Camp Lejeune, North Carolina

Dear General Barker:

In accordance with your application received May 1, 1986, we are forwarding herewith Permit No. 4644 to Marine Corps Base, Camp Lejeune, North Carolina for the construction and/or operation of air pollution abatement facilities and/or emission sources.

If any parts, requirements, or limitations contained in this permit are unacceptable to you, you have the right to an adjudicatory hearing before a hearing officer upon written demand to the Director within thirty (30) days following receipt of this permit, identifying the specific issues to be contended. Unless such demand is made, this permit shall be final and binding.

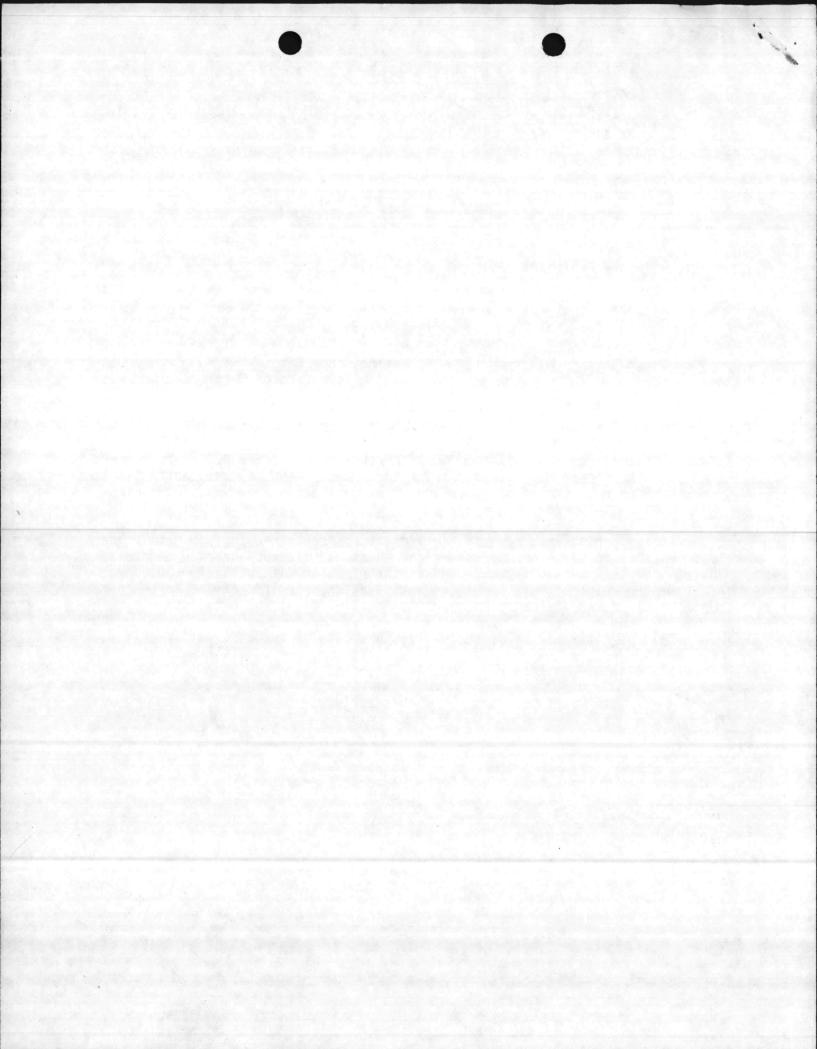
This permit shall be effective from the date of issuance until April 1, 1986, is nontransferable to future owners and operators, and shall be subject to the conditions and limitations as specified therein.

Sincerely,

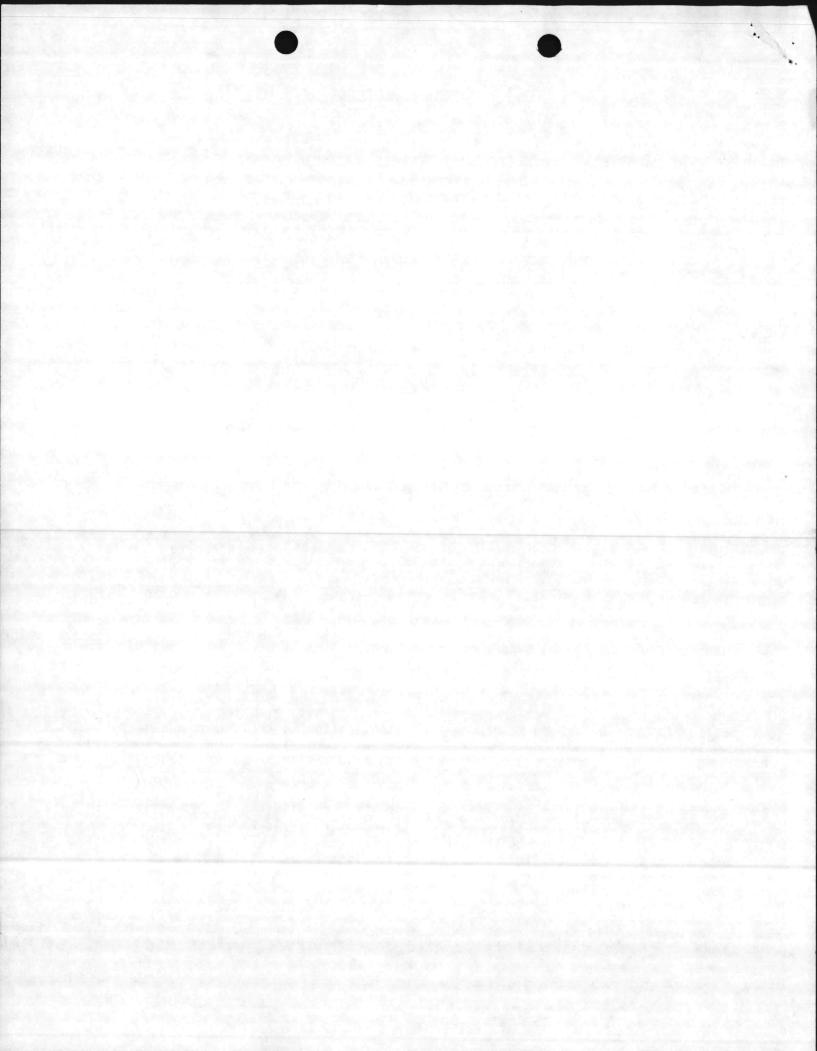
Charles Wakild / Regional Supervisor

Enclosure

cc: Stan Taylor
Robert Jamieson
Wilmington Regional Office
Central Files



NORTH CAROLINA ENVIRONMENTAL MANAGEMENT COMMISSION DEPARTMENT OF NATURAL RESOURCES & COMMUNITY DEVELOPMENT Raleigh PERMIT For the Discharge of Air Contaminants Into the Atmosphere In accordance with the provisions of Article 21B of Chapter 143, General Statutes of North Carolina as amended, and other applicable Laws, Rules and Regulations, PERMISSION IS HEREBY GRANTED TO Marine Corps Base Camp Lejeune, North Carolina FOR THE operation of three No. 6 oil-fired boilers (48.0 million BTU per hour heat input each) and for the discharge of the associated stack gases into the outdoor atmosphere at its facility located at the New River Air Station, Camp Lejeune, North Carolina, Onslow County. in accordance with the application received May 1, 1981, and in conformity with the plans, specifications, and other supporting data, all of which are filed with the Department of Natural Resources & Community Development and are incorporated as part of this Permit. This Permit shall be effective from the date of its issuance until April 1, 1986, is nontransferable to future owners and operators, and shall be subject to the following specified conditions and limitations: The air cleaning devices shall be properly operated and maintained at all times in such a manner as to effect an overall reduction in air pollution in keeping with the application and otherwise to reduce air contamination to the extent necessary to comply with applicable Environmental Management Commission Regulations, including 15 NCAC 2D .0503, .0516, and .0521, and in no case shall the sulfur dioxide emissions from the boilers exceed 2.3 pounds per million BTU input. Reports on the operation and maintenance of the facilities shall be submitted to the Division of Environmental Management at such intervals and in such form and detail as may be required by the Division. Information required in such reports may include, but is not limited to, process weight rates, firing rates, hours of operation, and preventive maintenance schedules. 3. Camp Lejeune Marine Base, at least ninety (90) days prior to the expiration of this Permit, shall request its extension by letter. The letter should include the permit number and a description of modifications, if any, that have been made.



Permit No. 4644 Page 2

- 4. This permit is subject to revocation or modification upon a determination that information contained in the application or presented in support thereof is uncorrect, conditions under which the permit renewal was granted have changed, or violations of conditions contained in the permit have occurred.
- A violation of any term or condition of this Permit shall subject the Permittee to enforcement procedures contained in North Carolina General Statutes 143-215.114, including assessment of civil penalties.

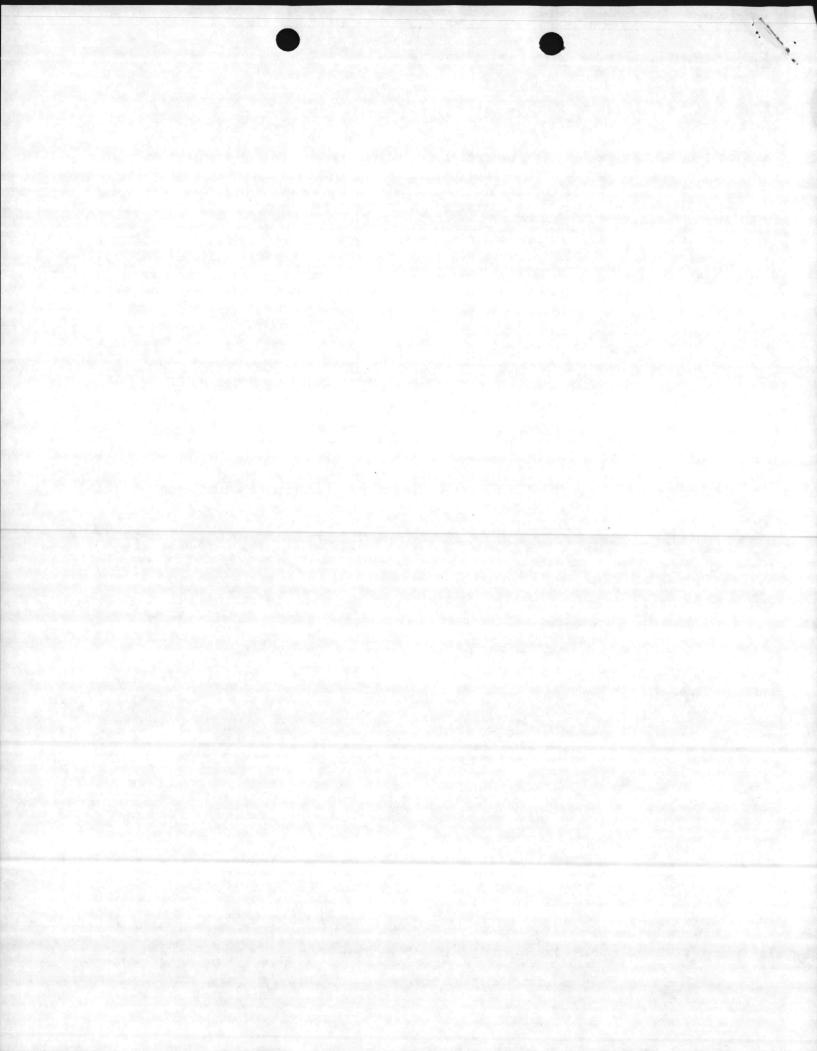
Permit issued this the 22nd day of May

NORTH CAROLINA ENVIRONMENTAL MANAGEMENT COMMISSION

Charles Wakild, Regional Supervisor Division of Environmental Management

By Authority of the Environmental Management Commission

Permit No. 4644



### NORTH CAROLINA

#### ENVIRONMENTAL MANAGEMENT COMMISSION

RALEIGH

WILMINIGTON REGIONAL OFFICE DEM.

APPLICATION FOR

A "PERMIT"

TO CONSTRUCT AND OPERATE AIR

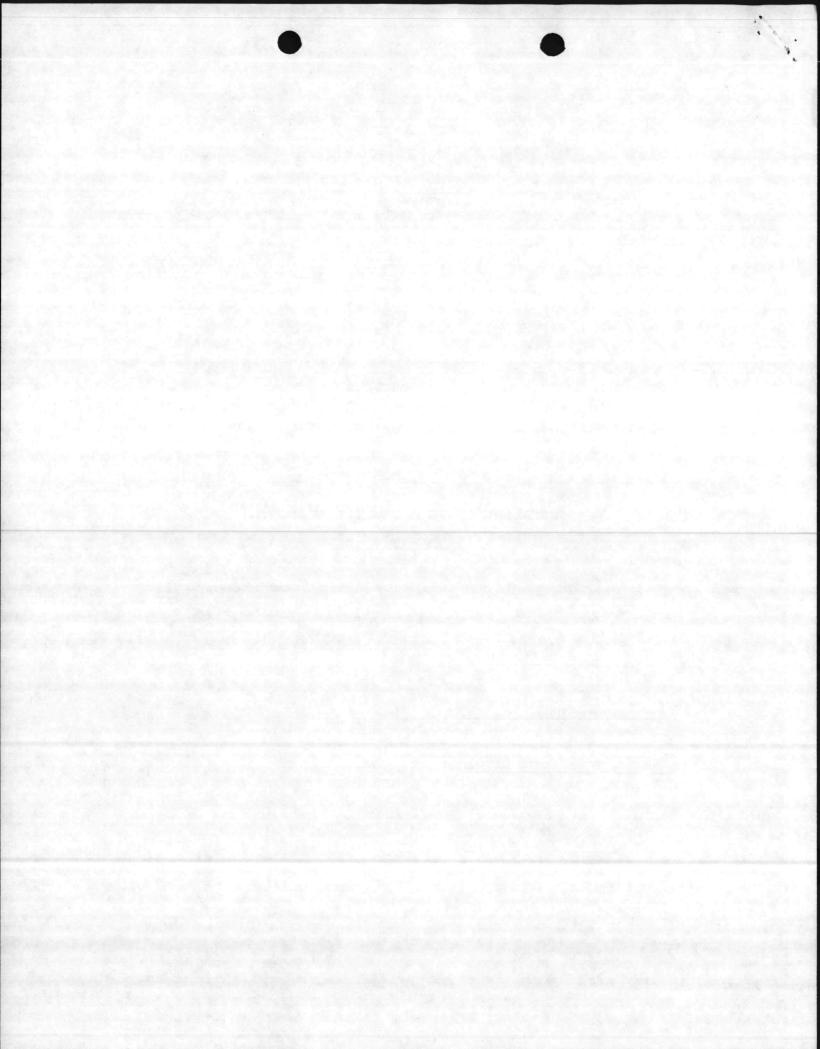
POLLUTION ABATEMENT FACILITIES AND/OR EMISSION SOURCES

Filed By: Major General D. B. Barker (Name)

Marine Corps Base (Address)

Camp Lejeune, North Carolina

AQ-22

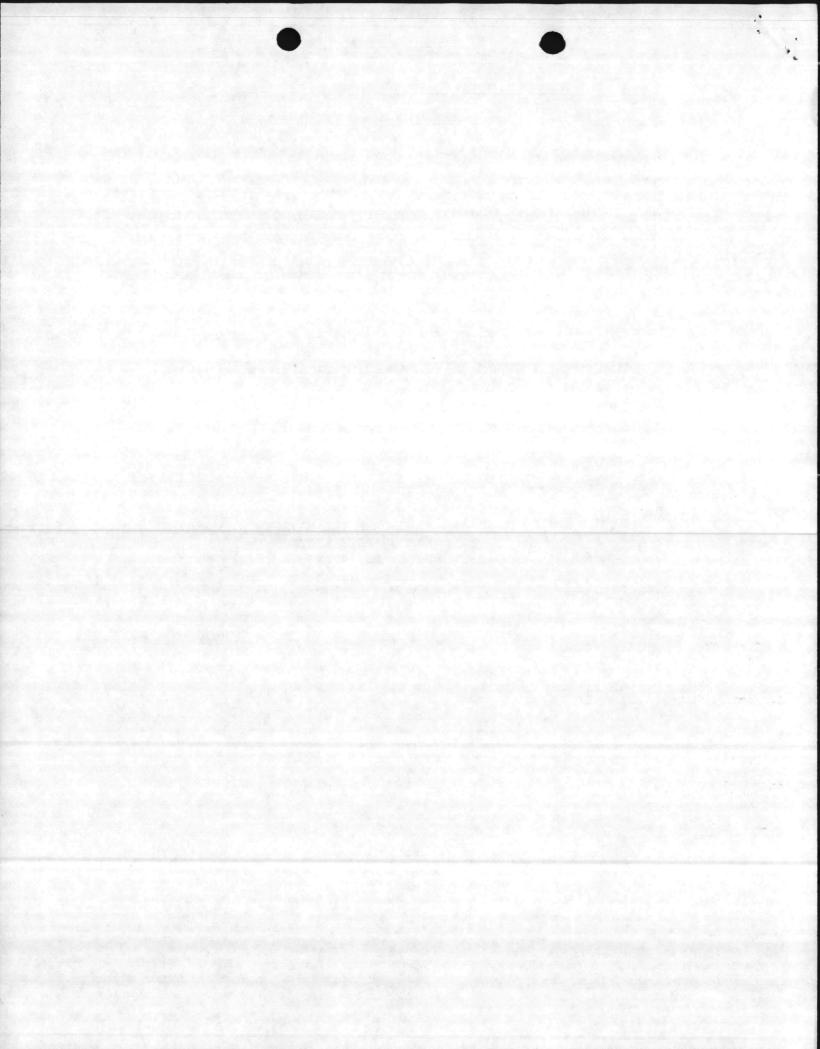


### APPLICATION INSTRUCTIONS

### THIS APPLICATION IS SUBJECT TO REJECTION UNLESS ALL REQUIRED

#### INFORMATION IS SUBMITTED

- T. ATTACH DETAILED ENGINEERING DRAWINGS OF SOURCE(S), PROCESS(ES) AND COLLECTION DEVICE(S) AS
  REQUESTED IN EACH SECTION. IF MULTIPLE SOURCES OR DEVICES, USE ADDENDUM SHEETS AS NECESSARY.
- Submit application, detailed engineering drawings, specifications and other supporting data and documents in TRIPLICATE.
- 3. Attach additional sheets as necessary to complete any portion of the application.
- 4. The application MUST BE SIGNED by the RESPONSIBLE INDIVIDUAL of the company that is to PURCHASE AND OPERATE the facilities for which a Permit is applied.
- 5. ALL APPLICANTS MUST COMPLETE THE FIRST PAGE AND SECTIONS I AND VI.
- If an Incinerator, Fuel Burning Source, Wet Collection Device or Dry Collection Device is to be installed and operated, COMPLETE SECTIONS II, III, IV or V respectively.
- 7. All applications should be mailed to: ENVIRONMENTAL MANAGEMENT COMMISSION
  AIR QUALITY SECTION
  P. O. Box 27687
  Raleigh, North Carolina 27611

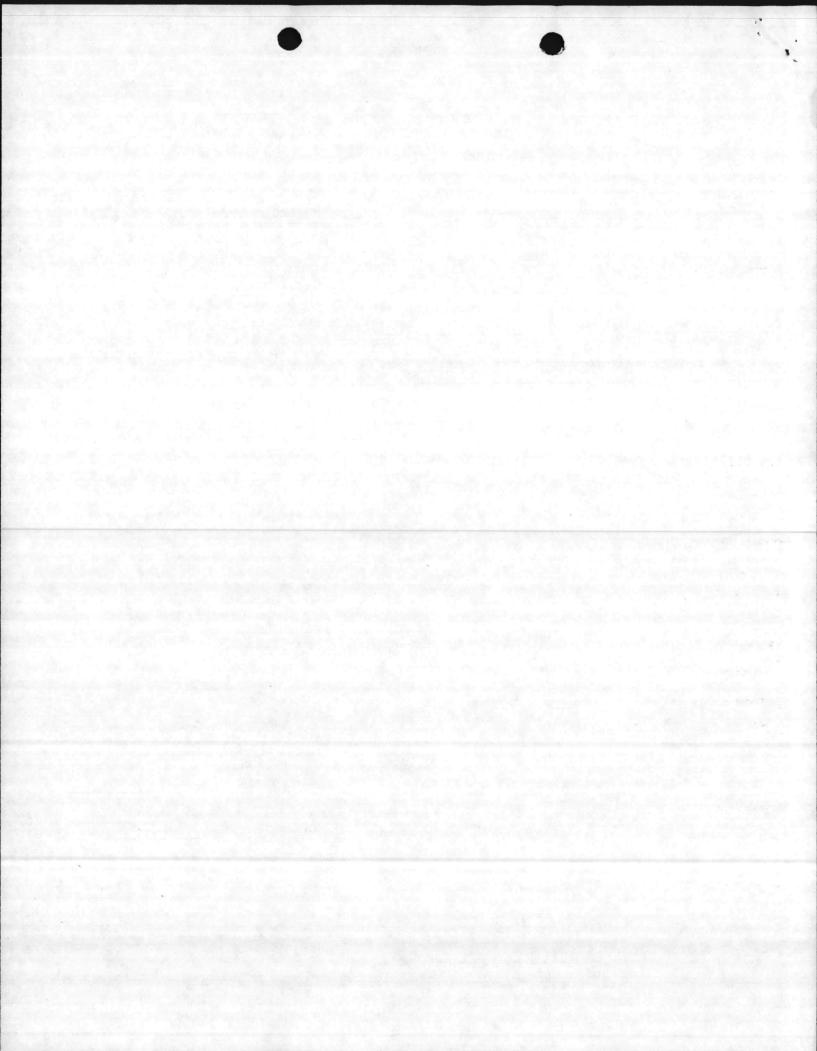


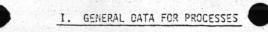
# APPLICATION FOR A "PERMIT" To Construct and Operate Air Pollution Abatement Facilities and/or Emission Sources Three Copies to be Submitted Fourth Copy Should be Retained by Applicant

Date: 24 September 1980

			Date: 27 September	1300
In accordance with th	e provisions of Article 21 o	of Chapter 143, Gener	al Statutes of North Carol	ina as amended, application
is hereby made by	Marine Corps Base,			
(Na	me of Company, Establishment	. Town, Etc.) (Include	de Division or Plant Name	in Addition to Parent
Company if Applicable for issuance of a "Pe location as specified	in the County of Onsiconstruct and opera in the accompanying drawing	te air pollution abai	<pre>cksonville, North C t and City or Town Address tement facilities and/or e nd other pertinent data:</pre>	of Olant on Esciliant
	on Conducted at the Above Fa		y Operation	
2. Description of Pro Constructed or Al	ocess(es) Whose Emission(s) tered. (Complete Section I)	is/are to be Control	ed by the Facility or Sou	rce(s) Which is/are to be
Boiler, No. 6	fuel oil Boiler			
<ol> <li>Furnish Type and I Control Device to Identical Units).</li> </ol>	Marrative Description of Pro be Installed and/or Operate	posed Control Device(	s).(Complete Appropriate Model Number of Control D	Supplemental Data Sheets for evice(s) and Number of
	ed, no control devic			
1. Contaminant Emitted:	Weight Rate of Emission	ons (lb/hr): With Control Device	Cantrol Effic Without Control Device	iency (%): With Control Device
SO <sub>x</sub> and				
Particulate	114.63 lb/hr	N/A	N/A	N/A
. Name and Address o	f Engineering Firm that Prep	pared Plans:		
5. Ultimate Dispositi	on of Collected Pollutants:	7. Date on Whic	h Facilities are to be Com	poleted and in Operation:
None		October		
	Time for Which Facilities e Adequate: 20 Years	a designation of	t of Air Pollution Control	Device \$ 0
<sub>lame:</sub> Major Gener	al D. B. Barker, USI	MC Mailing Address:	lity is Operated Per Y Marine Corps Bas	
(Responsible Ind	ividual of Company Purchasin ityPLEASE PRINT)	g/	Camp Lejeune	
			North Carolina	28542
	777	/		
ignature and Title:	DB Ba	ken	Telephone Nu	mber: 451-5024
	D. B. BARKER MAJOR	GENERAL LICHO		

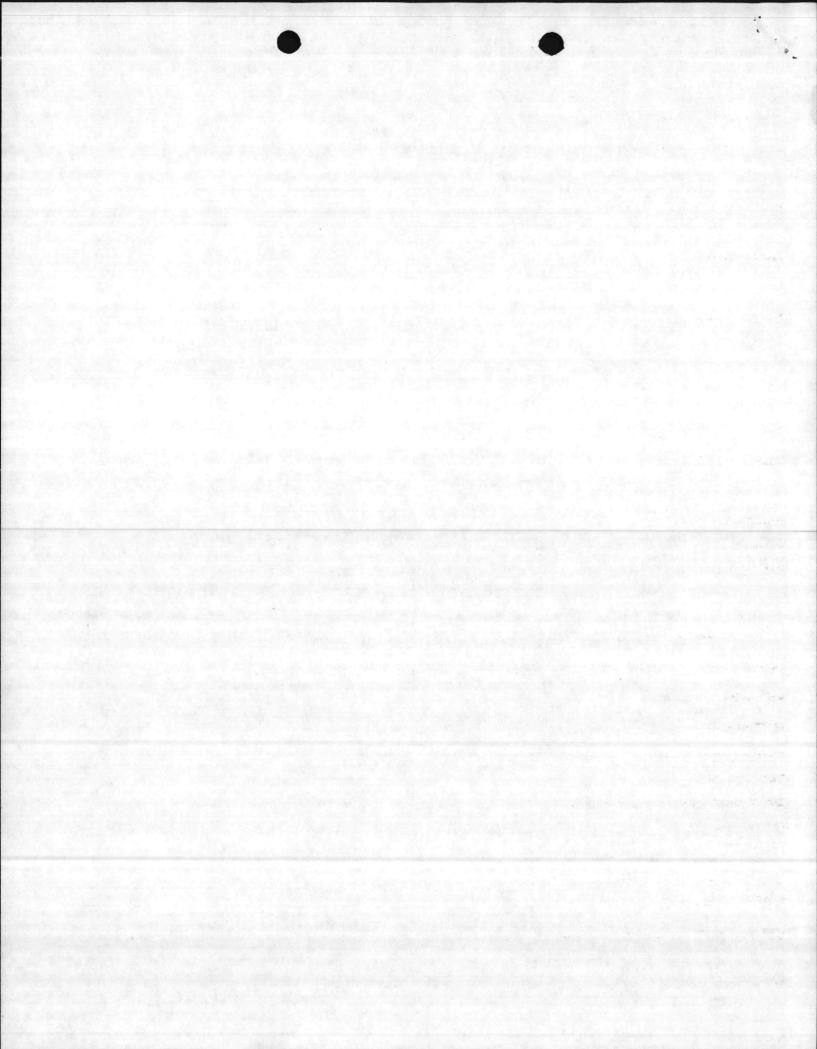
Commanding General





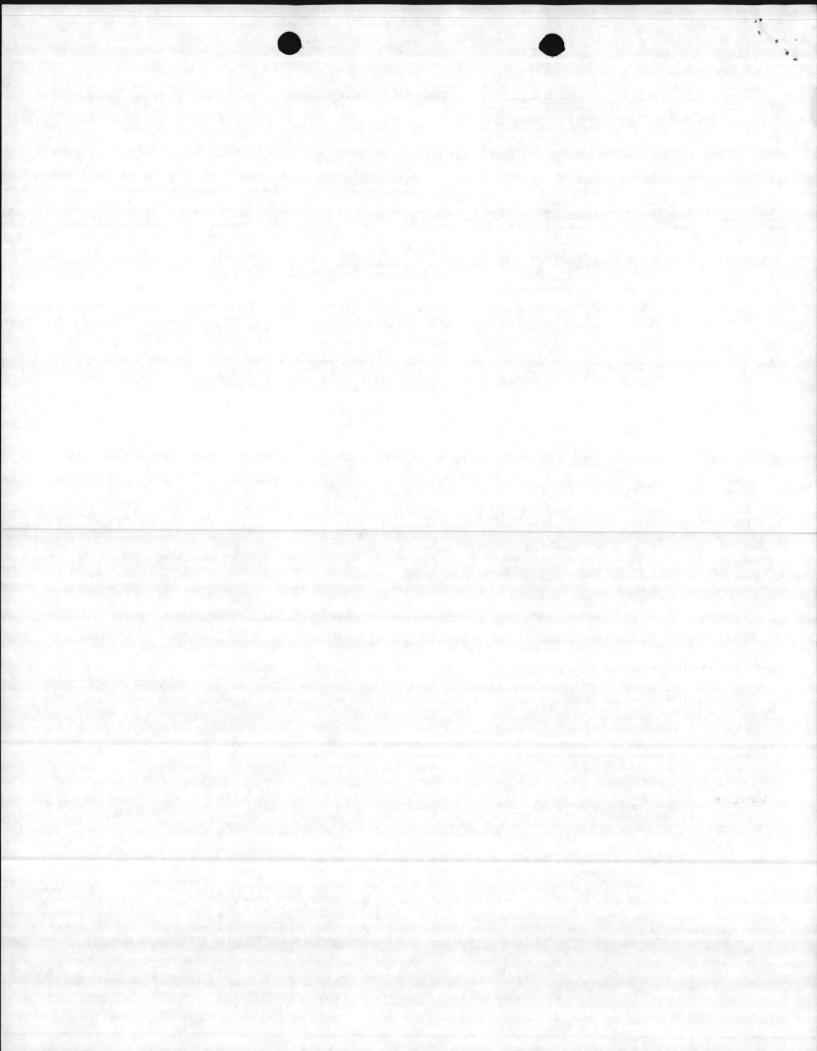
\*Attich detailed process engineering drawings, equipment drawings and flow diagrams for the process(es) or source(s) being constructed or altered.

None of General Heating and Steam Dlant
Name of Process: Heating and Steam Plant
Total Weight of Materials Entering this Process: 327 gals xx/hrxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx
Volume and Temperature of Air Flow Entering Control Device: CFM @ "F  Volume and Temperature of Effluent at Discharge Point to Atmosphere: CFM @ "F  Pollutant(s) to be Controlled:
Height of Process Stack or Vent Above Ground Level 43 ft. Inside area of Stace 8.9 ft <sup>2</sup> .
Particulate Emission Rate (Before Control) 8.044   1b/hr
Particle Size Distribution: 0-5µ %, 5-10µ %, 10-20µ %, 20-30µ %, 30-40µ %, 40-50µ %,>50µ %
Gaseous Emission(s): Name (Chemical Formula) µg/m³, PPM or 1b/hr
SO <sub>X</sub> 106.59
II. SUPPLEMENTARY DATA FOR INCINERATORS (Including Conical Incinerators)
Circle Type of Waste or Indicate Composition: Type 0 Type I Type II Type III Type IV
Combustible: % Non-Combustible: % Moisture: % Heat Value: BTU/1b
Total Waste Generated Per Day: lb. Hours Incinerator will be Operated: hrs/day
Design Capacity for Above Waste: lbs/hr Manufacturer and Model Number; Approximate Cost:
Primary Chamber Volume:ft.3 Secondary Chamber Volume:ft.3
Air Requirements: Total Excess Air. % Draft: Natural Induced Other  Overfire Air:cfm Underfire Air:cfm  Is there an Electronically Controlled, Exhaust Gas Temperature Modulated, Damper Installed on the
Conical Incinerator for: Overfire Air Supply, Underfire Air Supply, DomeTemperature Set Point Flame Port Temperature: °F Secondary Chamber Temperature: °F
Is there a Continuous Exhaust Gas Temperature Recorder? YesNa
Stack: Inside Areaft. <sup>2</sup> Heightft. Gas Velocityft/sec Temperature°F Fan Capacitycfm Stack Lined?
Is there a Wet Scrubber?
Yes No Flow Rate of H <sub>2</sub> O into Scrubbergal/min Temperature Before Scrubber°F
Aux. Fuel: Oil Gas Other Burner Rating: Primary Chamber Secondary Chamber Stack
BTU/hr BTU/hr BTU/hr
Primary Burner: Is there a Preheat Timer? Yes No Preheating Time:min.
Secondary Burner or Afterburner: Is there a Timer? Yes No Length of Time Burner is Operatedmin.
Is the Timer Reset by Charging Door? Yes No Other Mode of Burner Control
Type of Feed: Manual Automatic If Automatic, Describe
Distance from Incinerator to Nearest Structure(s) in which People Live and/or Work. ft.
Title:



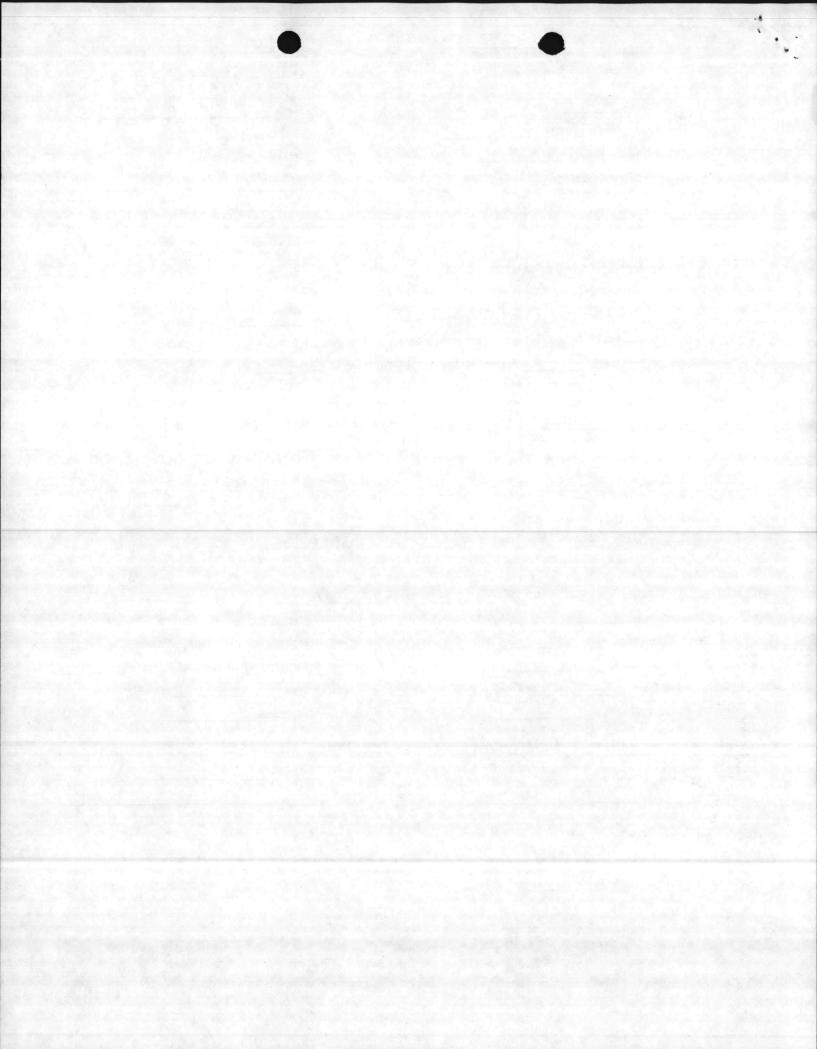
שוווייים ביין וייים וייי

\*Attach detailed dimensioned design or sketch showing internal features of yers, wood or coal fired boilers, and Type of Fuel Burning Source Boiler Ource Boiler Stack Height Above Ground Level 43 ft. Inside Area of Stack 8.9 ft2 Make and Model Number Ser. 10735 Volume of Furnace - ft<sup>3</sup> Specify Actual Amount of Each Fuel Used in Above Source (s): Coal \_\_\_\_ lb/hr; Oil Grade 6 Amount 327 gal/hr, at \_\_\_\_ BTU/gal and \_\_\_\_ lb/hr Wood \_\_\_\_ lb/hr; Natural Gas \_\_\_\_ SCF/hr, at \_\_\_\_ BTU/SCF; Other \_\_ (Specify type, amount and heating value) Specify Maximum Rating for Each Fuel Burning Source: Coal \_\_\_\_ Oil 327 Wood \_\_\_\_ Natural Gas \_\_\_ Other Maximum Sulfur Content of Fuel2.05 % Specify Standby Fuel None Maximum % Sulfur Type of Solid Fuel Burning Equipment Used: Hand Fired \_\_\_ Spreader Stoker \_\_ Underfeed Stoker \_\_ Chain Grate \_\_ Traveling Grate \_\_\_ Pulverizer \_\_\_ Cyclone Furnace \_\_\_ Other (Specify) \_\_\_ Ash Content of Fuel: Specify Method and Schedule of Tube Cleaning, if Applicable: Coal \_\_ % Wood \_\_ % Other \_\_ % Lancing \_\_ Tube Blowing \_\_ Schedule \_ Emission Control Equipment (Describe in Detail in Sections IV and V) Collection Device: Wet \_\_\_ Dry \_\_\_ Steam Injection \_\_\_ Air Injection \_\_\_ Is Collected Flyash Rainjected? Draft on Boiler (Natural Induced X ) cfm at Total Number of Fuel Burning Sources Within Property Boundaries: 3 Maximum Capacity Rating, by Type, for All Fuel Burning Units Excluding that Itemized Above: (Total Like Units) 2 Coal \_\_\_\_ lb/hr Wood \_\_\_\_ lb/hr Oil 654 gal/hr Natural Gas \_\_\_\_ SCF/hr IV. SUPPLEMENTARY DATA FOR WET COLLECTION DEVICES \*Attach detailed engineering drawings of the control device and particle size versus removal efficiency curves. Liquid Scrubbing Medium and Additives: Total Liquid Injection Rate (Include Recirculated and Make-up Rates) \_\_\_\_\_gal/min or gal/1000 ft3 Operating Pressure Drop Across Device in HoO ANSWER FOLLOWING QUESTIONS FOR SPECIFIC DEVICE: VENTURI SCURBBER: Inlet Area \_\_\_ in2 Throat Area \_\_\_ in2 Throat Velocity ft/sec GRAVITY SPRAY CHAMBER: Number of Nozzles \_\_\_ Liquid Droplet Size \_\_\_ u Co-Current \_\_\_ Countercurrent WET CYCLONE: PACKED TOWER OR PLATE TOWER: Body Diameter \_\_\_\_ in Length \_\_\_\_\_ in Cross-Sectional Area \_\_\_\_\_ft<sup>2</sup> Type of Plate Inlet Area \_\_\_\_\_ in<sup>2</sup> Number of Nozzles \_\_\_\_\_ Length \_\_\_\_\_ ft Depth of Packing Cutlet Area in2 1 Number of Plates Type of Packing OTHER WET COLLECTION DEVICES: GIVE COMPLETE DESCRIPTION INCLUDING DESIGN PARAMETERS AND DETAILED ENGINEERING DRAWINGS. Signature: Title:



"Attach detailed engineering drawings of the control device and particle size versus removal efficiency curves. BAGHOUSES: Cloth Area \_\_\_\_\_ft2 Bag Material Number of Compartments Pressure - Drop Total \_\_\_\_\_\_in H<sub>2</sub>O Method of Cleaning Air-to-Cloth Ratio \_\_\_\_\_ft/min Time Between Cleaning mins, hrs ELECTROSTATIC PRECIPITATORS: GENERAL: Effective Area of Grounded Collector Plates ft2 Number of Compartments or Chambers Number of Cells per Compartment Electrical Field Gradient at the Discharge or Emitting Electrodes KV/in Average Electrical Field Gradient at the the Grounded Collecting Electrodes \_\_\_\_\_\_ KV/in Fields of Treatment \_\_\_\_\_ Potential Applied to Emitting Wires \_\_\_\_\_ KV SINGLE STAGE TYPE: Distance Between Emitting Wires and Collecting Plates \_\_\_\_\_\_in. Number of Isolatable Bus Sections \_\_\_\_\_ Corona Power \_\_\_\_ Watts/1000 cfm THO STAGE TYPE: Distance Between First Stage Emitting Electrodes and Field Receiver Electrodes (Ground) Potential Applied to Second Stage Emitting Plates KV Distance Between Second Stage Emitting Plates and Grounded Collection Plates CYCLONES/MULTICYCLONES: Simple Cyclone Multicyclone in Diameter Inlet Dimensions Inlet Dimensions of Individual Cyclone Outlet Dimensions Outlet Dimensions of Individual Cyclone Pressure Drop \_\_\_\_\_ in H20 Pressure Drop Number of Cyclones Number of Cyclones OTHER DRY COLLECTION DEVICES: GIVE COMPLETE DETAILED ENGINEERING DESCRIPTION AND DRAWINGS. Signature: Title:

- 4 -



Owner Marine Corps Base, Camp Lejeune, N.C. Location White St., New River Air Station (Give Street Address)

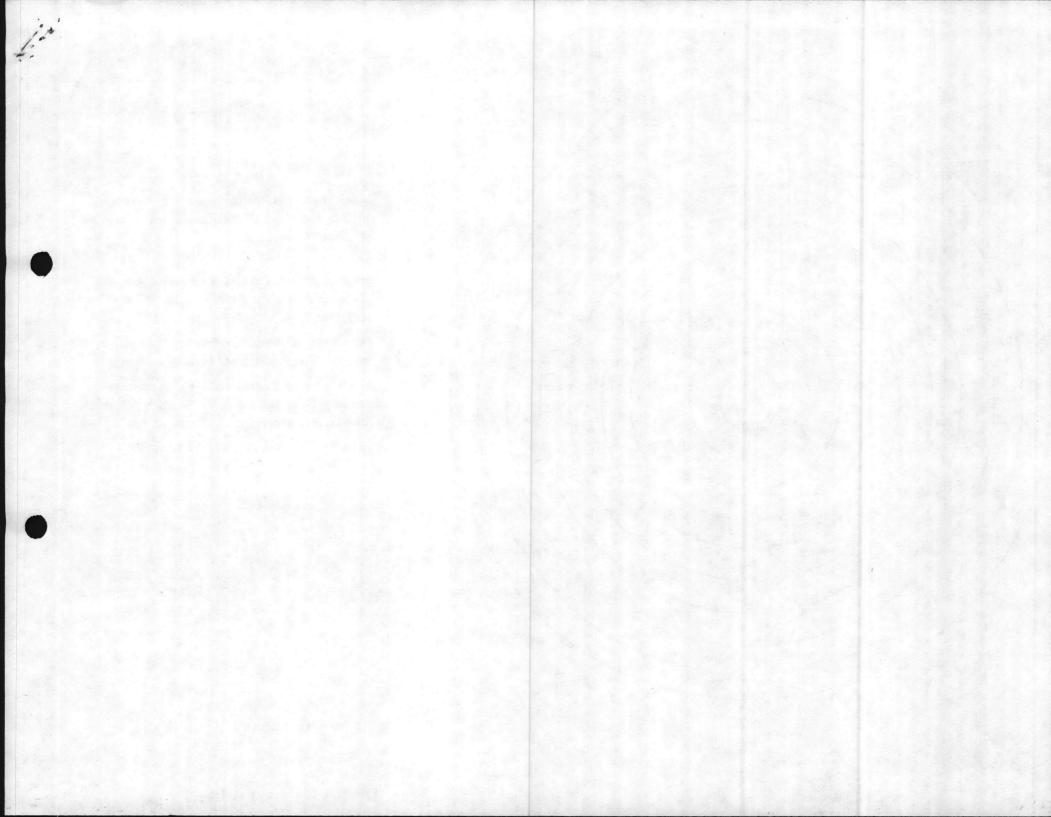
#### INSTRUCTIONS:

- Show all surrounding buildings and roads within 1000 feet of subject equipment which is located at center of circles.
- Indicate location and type of building by the use of small numbered circles with the description below.
- Show roads as lines representing the road edges.
   Indicate street names and highway numbers.
- 4. Show wooded or cleared areas by approximate boundary lines and the words "woods", "cleared", "cornfield", etc.
- 5. Indicate direction of north by arrow.

COD	<u> DESCRIPTION</u>
0	(12) Sewage Lift Station
0	(21) Shed
3	(25) Avionics Shop
0	(26 Engine Test Shop
(3)	(27) Maintenance Hanger (28) Fuel Tanks
6	
0	
(8)	
9	on Carlon Control Market American and the Carlon Control Contr
0	
	The strate was graphed at a great to be a constitution of

X Indicates location of equipment.

EXAMPLE



NORTH CAROLINA

ENVIRONMENTAL MANAGEMENT COMMISSION

RALEIGH

APPLICATION FOR

A "PERMIT"

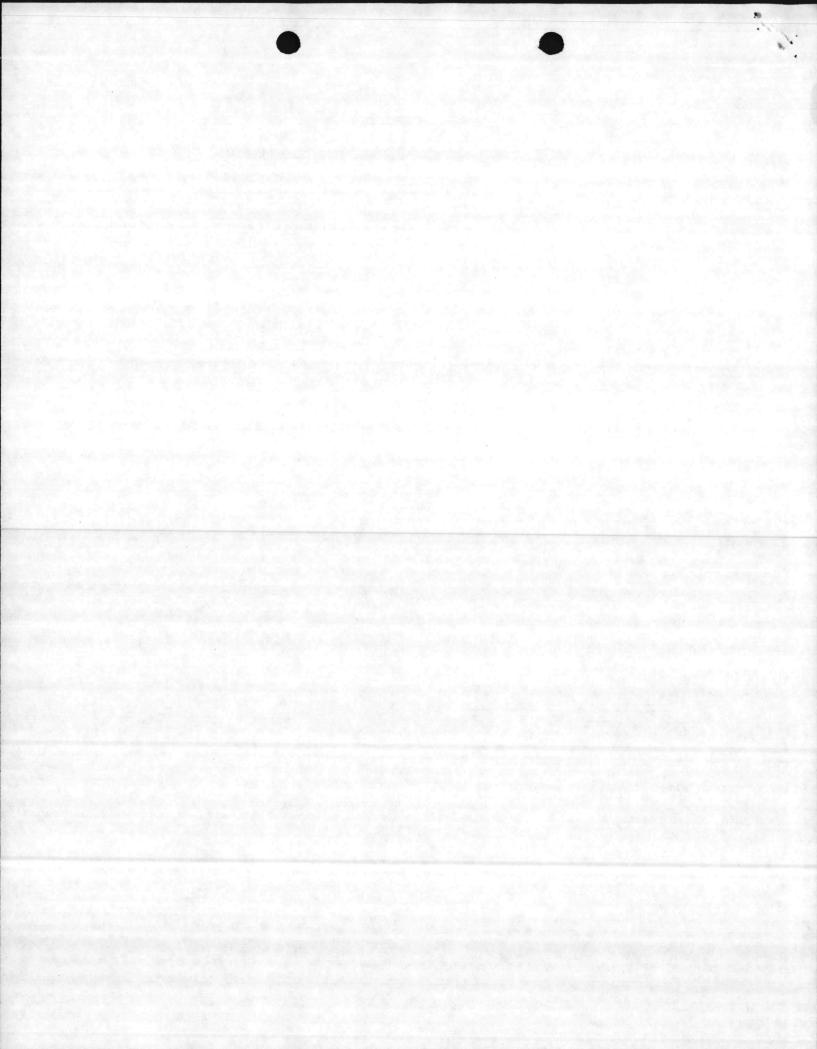
TO CONSTRUCT AND OPERATE AIR

POLLUTION ABATEMENT FACILITIES AND/OR EMISSION SOURCES

Filad Sy: Major General D. B. Barker (Name)

Marine Corps Base
(Address)

Camp Lejeune, North Carolina

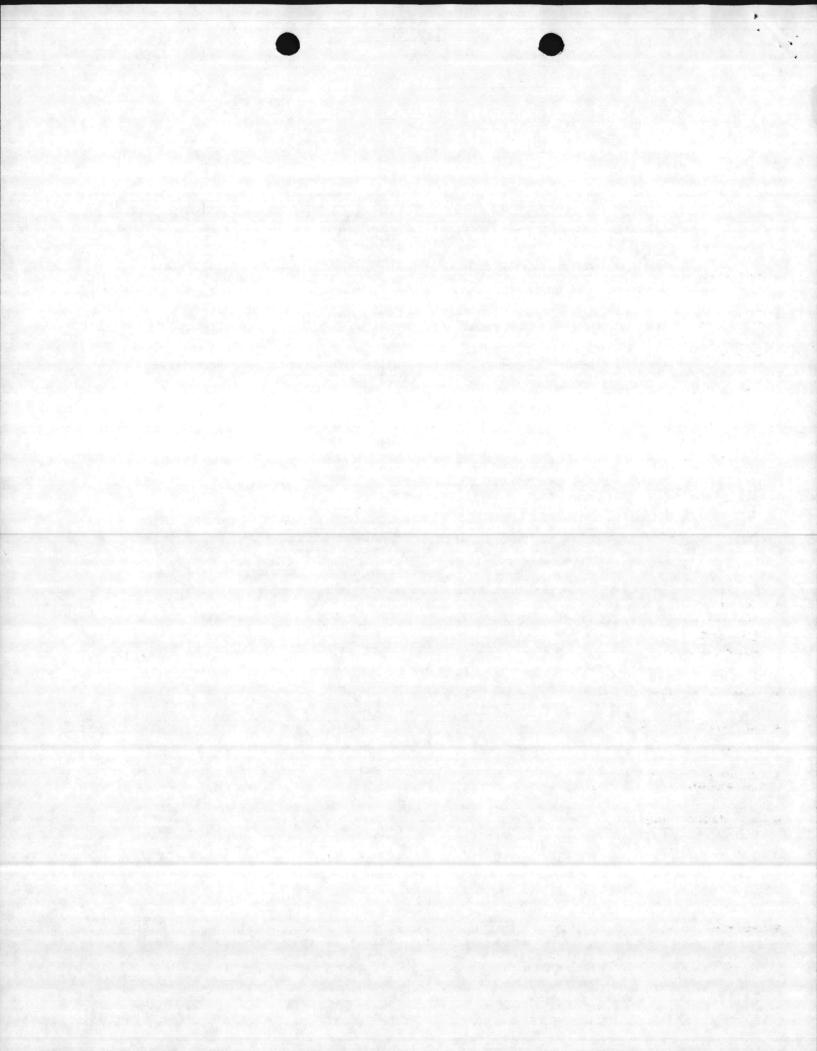


#### APPLICATION INSTRUCTIONS

## THIS APPLICATION IS SUBJECT TO REJECTION UNLESS ALL REQUIRED

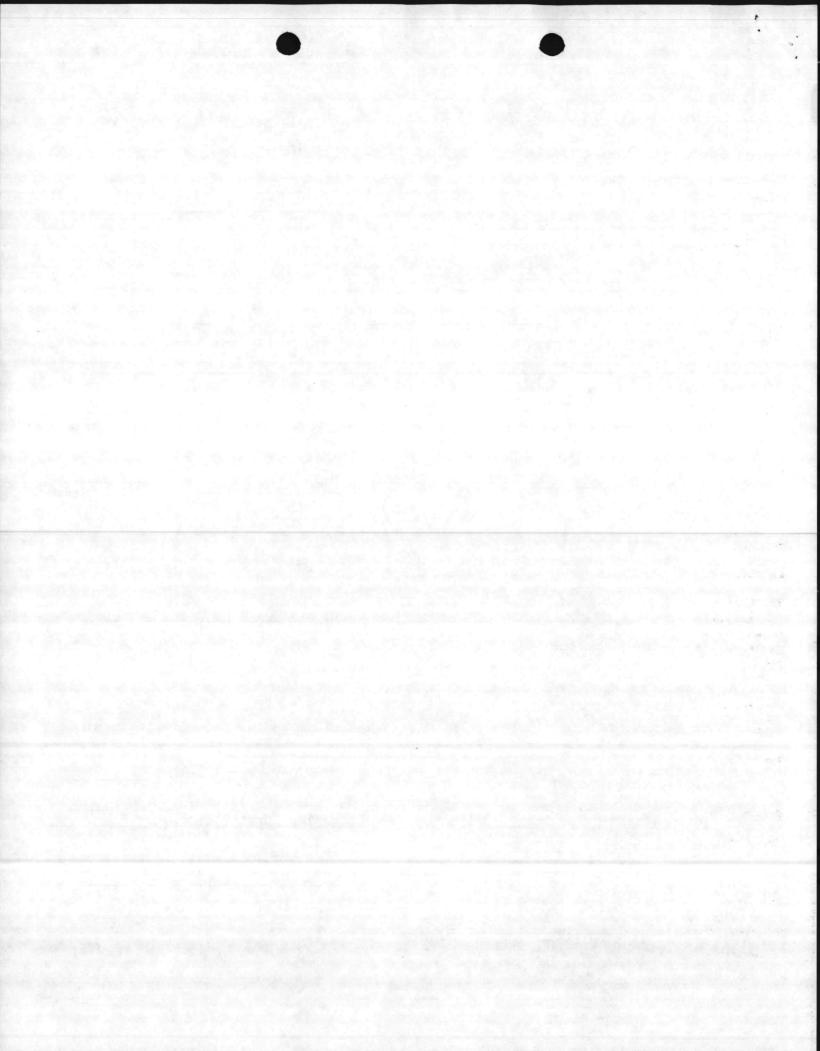
#### INFORMATION IS SUBMITTED

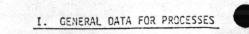
- ATTACH DETAILED ENGINEERING DRAWINGS OF SOURCE(S), PROCESS(ES) AND COLLECTION DEVICE(S) AS
  REQUESTED IN EACH SECTION. IF MULTIPLE SOURCES OR DEVICES, USE ADDENDUM SHEETS AS NECESSARY.
- Submit application, detailed engineering drawings, specifications and other supporting data and documents in TRIPLICATE.
- 3. Attach additional sheets as necessary to complete any portion of the application.
- 4. The application MUST BE SIGNED by the RESPONSIBLE INDIVIOUAL of the company that is to PURCHASE AND OPERATE the facilities for which a Permit is applied.
- 5. ALL APPLICANTS MUST COMPLETE THE FIRST PAGE AND SECTIONS I AND VI.
- If an Incinerator, Fuel Burning Source, Wet Collection Device or Dry Collection Device is to be installed and operated, COMPLETE SECTIONS II, III, IV or V respectively.
- 7. All applications should be mailed to: ENVIRONMENTAL MANAGEMENT COMMISSION
  AIR QUALITY SECTION
  P. O. Box 27687
  Raleigh, North Carolina 27611



# APPLICATION FOR A "PERMIT" To Construct and Operate Air Pollution Abatement Facilities and/or Emission Sources Three Copies to be Submitted Fourth Copy Should be Retained by Applicant

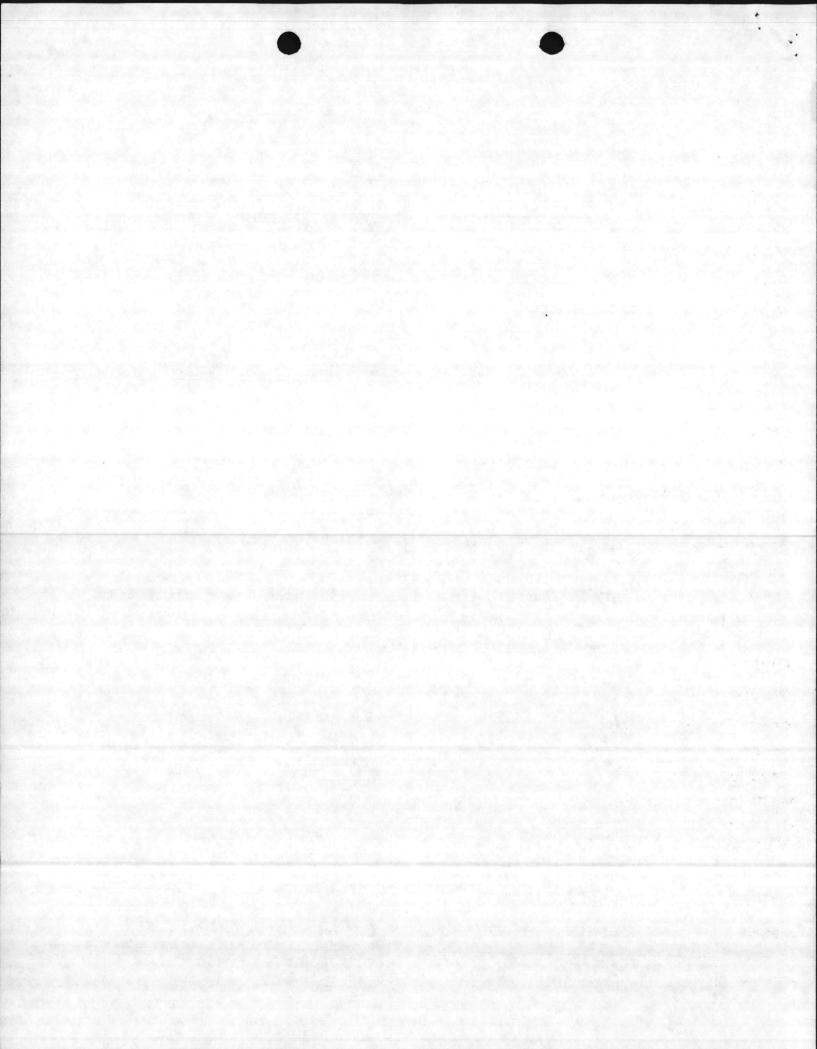
	24 Somtont an 1090	
	Date: 24 September 1980	
In a	accordance with the provisions of Article 21 of Chapter 143, General Statutes of North Carolina as amended applicat	tion
is	Name of Company, Establishment, Town, Etc.) (Include Division or Plant Name in Addition to Parent	
for	in the County of Onslow at Jacksonville, North Carolina (Street and City or Town Address of Plant or Facility) or issuance of a "Permit" to construct and operate air pollution abatement facilities and/or emissions sources at above ocation as specified in the accompanying drawings, specifications, and other pertinent data:	ie ,
١.	Nature of Operation Conducted at the Above Facility: Military Operation	
2.	Cescription of Process(es) Whose Emission(s) is/are to be Controlled by the Facility or Source(s) Which is/are to be Constructed or Altered. (Complete Section I)	e
	Boiler, No. 6 Fuel Oil Boiler No. 17 Bldg No. AS-4151	
3.	그 그 그 그 그 그 그는 그는 그는 것이 되었다면 이렇게 되었다면 하면 하면 하면 하는 것이 없다면 하는 것이 되었다면 하는 것이 되었다면 하는 것이 되었다면 하는 것이다. 그 그는 것이다.	for
	No. 6 oil fired; no control device.	
	Contaminant Weight Rate of Emissions (lb/hr): Control Efficiency (%):  Emitted: Without Control Device With Control Device Without Control Device With Control Device	
	SO <sub>x</sub> and Particulate 114.63 N/A N/A N/A	
j.	Name and Address of Engineering Firm that Prepared Plans:	
j.	Ultimate Disposition of Collected Pollutants: 7. Date on Which Facilities are to be Completed and in Operation	:
	None October 19 80	
3.	Indicate Period of Time for Which Facilities 9. Estimate Cost of Air Pollution Control Device \$ 0 are Estimated to be Adequate: 20 Years	
lame	me: Major General D. B. Barker, USMC Mailing Address: Marine Corps Base	-
	(Responsible Individual of Company Purchasing/ Operating FacilityPLEASE PRINT)  Camp Lejeune	
	North Carolina 28542	- 1.4
	722.	arto e di Lagarata
iigr	gnature and Title: DD Dawer Telephone Number: 451-5024	- 1
	D. B. BARKER, MAJOR GENERAL, USMC Commanding General	





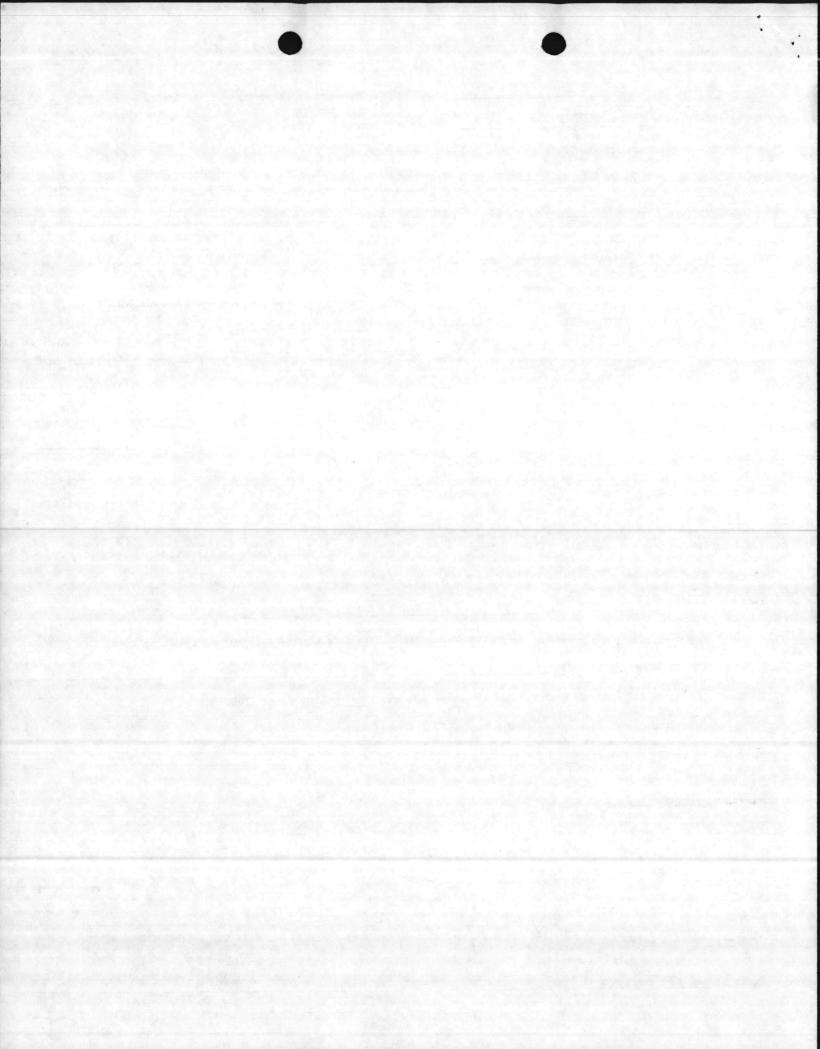
\*Attack detacted process engineering drawings, equipment drawings and flow diagrams for the process(es) or source(s) being constructed or altered.

Name of Process: Heating and Steam Plant	100
Total Weight of Materials Entering this Process: <u>327 gals</u> 始/hr or ton/hr	
Volume and Temperature of Air Flow Entering Control Device:CFM @°F  Volume and Temperature of Effluent at Discharge Point to Atmosphere:CFM @°F	
Pollutant(s) to be Controlled:  Height of Process Stack or Vent Above Ground Level 43 ft. Inside area of Stack 8,9 ft2.	
Particulate Emission Rate (Sefore Control) 8.044 1b/hr	
	4
Particle Size Distribution: 0-5µ %, 5-10µ %, 10-20µ %, 20-30µ %, 30-40µ %, 40-50µ %,>50µ	<u> </u>
Gaseous Emission(s): Name (Chemical Formula) µg/m³, PPM or lb/hr	
SO <sub>x</sub>	
II. SUPPLEMENTARY DATA FOR INCINERATORS (Including Conical Incinerat	ors)
Circle Type of Waste or Indicate Composition: Type O Type I Type II Type III Type IV	
Combustible: % Non-Combustible: % Moisture: % Heat Value: BTU/1b	
Total Waste Generated Per Day: 1b. Hours Incinerator will be Operated: hrs/day	
Design Capacity for Above Waste:lbs/hr Manufacturer and Model Number; Approximate Cost:	
Primary Chamber Volume:ft.3 Secondary Chamber Volume:ft.3	
Air Requirements: Total Excess Air % Draft: Natural Induced Other Overfire Air: cfm	
Inside Area	
Is there a Wet Scrubber?	
Yes No Flow Rate of H <sub>2</sub> O into Scrubber gal/min Temperature Before Scrubber °F	
Aux. Fuel: 0il Gas Other Burner Rating: Primary Chamber Secondary Chamber Stack	
BTU/hr BTU/hr BIU	J/hr
Primary Burner: Is there a Preheat Timer? Yes No Preheating Time: min.	
	in.
Secondary Burner or Afterburner: Is there a Timer? Yes No Length of Time Burner is Operatedm	
Is the Timer Reset by Charging Door? Yes No Other Mode of Burner Control	
Type of Feed: Manual Automatic If Automatic, Describe	_
Distance from Incinerator to Nearest Structure(s) in which People Live and/or Workft.	
Signature: Title:	



THE PRINCES TON TON TON TON SOUNCES

. *Attach detailed dimensioned dong on sketch a recovery boilers.	showing internal features of yers, wood or coal fired boilers, and
Type of Fuel Burning Source Boiler	Stack Height Above Ground Level 43 ft. Inside Area of Stack 8.9 ft
Trane Murray Co.  Make and Model Number Ser. 10735	Volume of Furnace - ft3
Specify Actual Amount of Each Fuel Used in Above Sour	
일하다는 그렇게 하다 아내가 되었다면 하면 되었다면 하는 사람들이 되었다면 하는데 하면 하는데	하는 사용하는 아무슨 아무는 아무슨 사람들이 아무슨 아무는 아무를 하는데 얼마를 하는데 되었다면 하는데 아무는 아무는데 아무는데 가장 아무는데 아무는데 아무는데 아무는데 아무는데 아무는데 아무는데 아무는데
Coal 1b/hr; Oil Grade 6 Amount 327 gal/	
Wood lb/hr; Natural Gas SCF/hr, at	_ BTU/SCF; Other
	(Specify type, amount and heating value)
Specify Maximum Rating for Each Fuel Burning Source:	
Coal 0il 327 Wood Natural Gas	Other
Maximum Sulfur Content of Fuel 2.05% Specify S	itandby Fuel None Maximum I Sulfur
Type of Solid Fuel Burning Equipment Used: Hand Fired	Spreader Stoker Underfeed Stoker Chain Grate
그는 그의 사람이 많아난 사람들은 얼마를 가면 살아가면 되었다.	
	Pulverizer Cyclone Furnace Other (Specify)
Specify	Method and Schedule of Tube Cleaning, if Applicable:
	Tube Blowing Schedule
Emission Control Equipment (Describe in Detail in Sect	ions IV and V)
Collection Device: Wet Dry Steam In Braft on Boiler (Natural Induced X ) Total Number of Fuel Burning Sources Within Property Bo	njection Air Injection Is Collected Flyash Reinjected?
Maximum Capacity Rating, by Type, for All Fuel Burning	Units Excluding that Itemized Above: (Total Like Units) 2
Coal lb/hr Wood lb/hr 011 654 gal/hr Natu	ral Gas SCF/hr
TV STIDDI SHEA	ITADY DATA FOR UCT CONTINUES
그 그 그렇게 모르는 아이들이 내려왔다. 그는 사람들은 경우를 가는 그리고 있다면 하는데 되었다.	ITARY DATA FOR WET COLLECTION DEVICES
	ol device and particle size versus removal efficiency curves.
Liquid Scrubbing Medium and Additives:	
Total Liquid Injection Rate (Include Recirculated and M	ake-up Rates)gal/min or gal/1000 ft3
Operating Pressure Drop Across Device in H20	
ANSWER FOLLOWING QUESTIONS FOR SPECIFIC DEVICE:	
VENTURI SCURBBER: Inlet Areain2 Throat Area	in <sup>2</sup> Throat Valocity ft/sec
	Droplet Size u Co-Current Countercurrent
	PACKED TOWER OR PLATE TOWER:
Body Diameter in Length in	Cross-Sectional Areaft2 Type of Plate
Inlet Area in <sup>2</sup> Number of Nozzles	Length ft Depth of Packing
Outlet Area in2	Number of Plates Type of Packing
	INCLUDING DESIGN PARAMETERS AND DETAILED ENGINEERING DRAWINGS.
· Control of the cont	THE PROPERTY OF THE PROPERTY O
Signature:	Title:

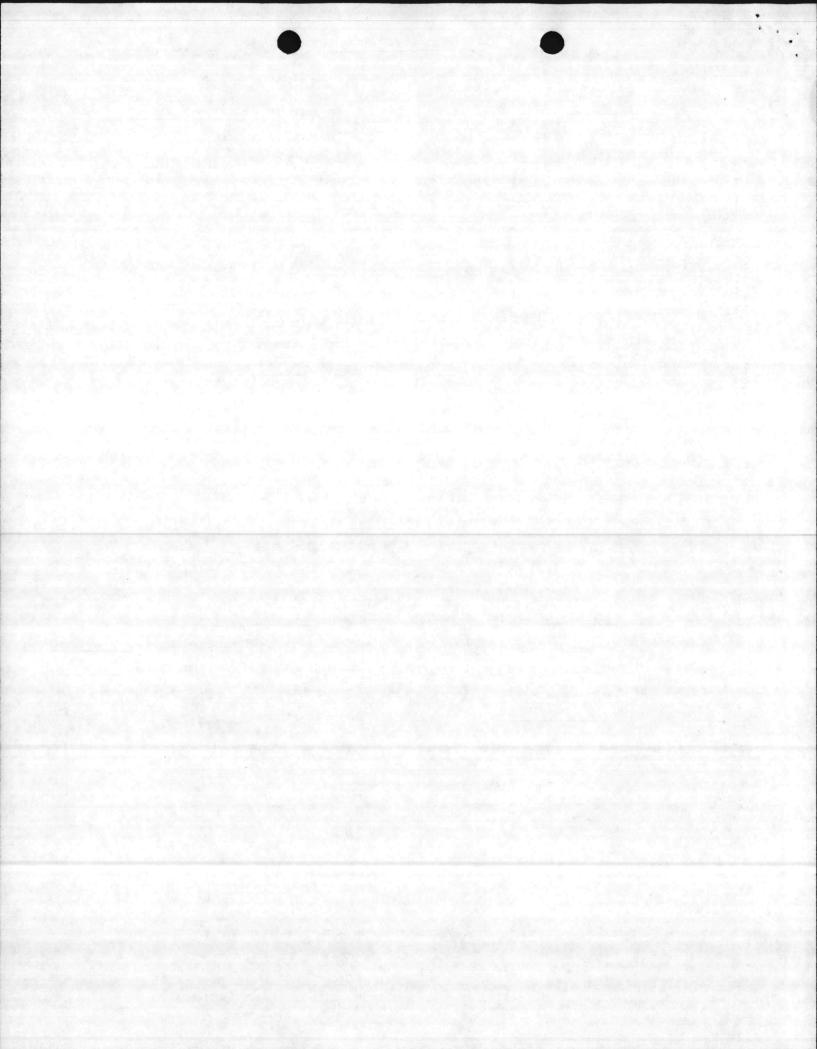


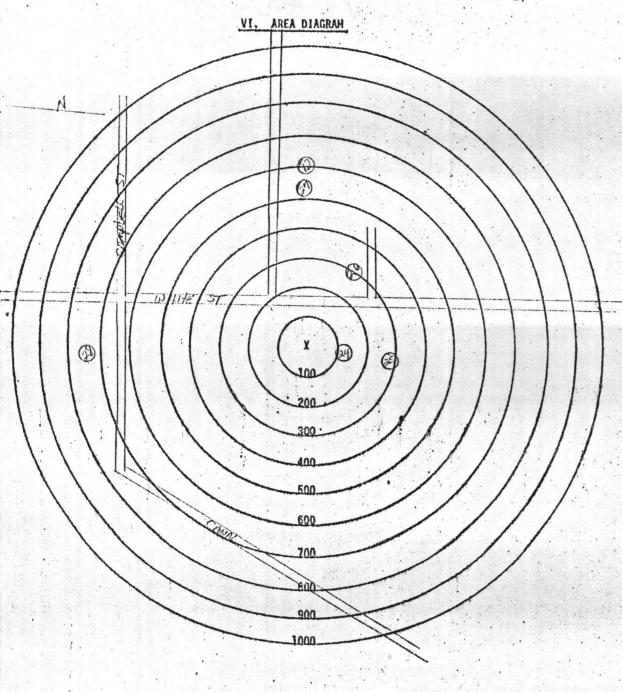
\*Attach detailed engineering drawings of the control device and particle size versus removal efficiency curves. BAGHOUSES: Cloth Area ft2 Bag Material Number of Compartments Pressure - Drop Total in HoO Method of Cleaning \_\_\_ Air-to-Cloth Ratio \_\_\_\_\_\_ft/min Time Between Cleaning mins, hrs ELECTROSTATIC PRECIPITATORS: GENERAL: Effective Area of Grounded Collector Plates ft2 Number of Compartments or Chambers \_\_\_\_\_ Number of Cells per Compartment \_\_\_ Electrical Field Gradient at the Discharge or Emitting Electrodes Ky/in Average Electrical Field Gradient at the the Grounded Collecting Electrodes KV/in Fields of Treatment \_\_\_\_\_ Potential Applied to Emitting Wires \_\_\_\_\_ KV SINGLE STAGE TYPE: Distance Between Emitting Wires and Collecting Plates \_\_\_\_\_\_in. Number of Isolatable Bus Sections Corona Power Watts/1000 cfm THO STAGE TYPE: Distance Between First Stage Emitting Electrodes and Field Receiver Electrodes (Ground) in Potential Applied to Second Stage Emitting Plates \_\_\_\_\_\_KV Distance Between Second Stage Emitting Plates and Grounded Collection Plates CYCLONES/MULTICYCLONES: Simple Cyclone Multicyclone in Diameter Diameter Inlet Dimensions Inlet Dimensions of Individual Cyclone Outlet Dimensions Outlet Dimensions of Individual Cyclone Pressure Drop \_\_\_\_\_ in H20 Pressure Drop Number of Cyclones \_ Number of Cyclones OTHER DRY COLLECTION DEVICES: GIVE COMPLETE DETAILED ENGINEERING DESCRIPTION AND DRAWINGS.

9 ....

Title:

Signature:





Owner Marine Corps Base, Camp Lejeune, N.C.

Location White St., New River Air Station
(Give Street Address)

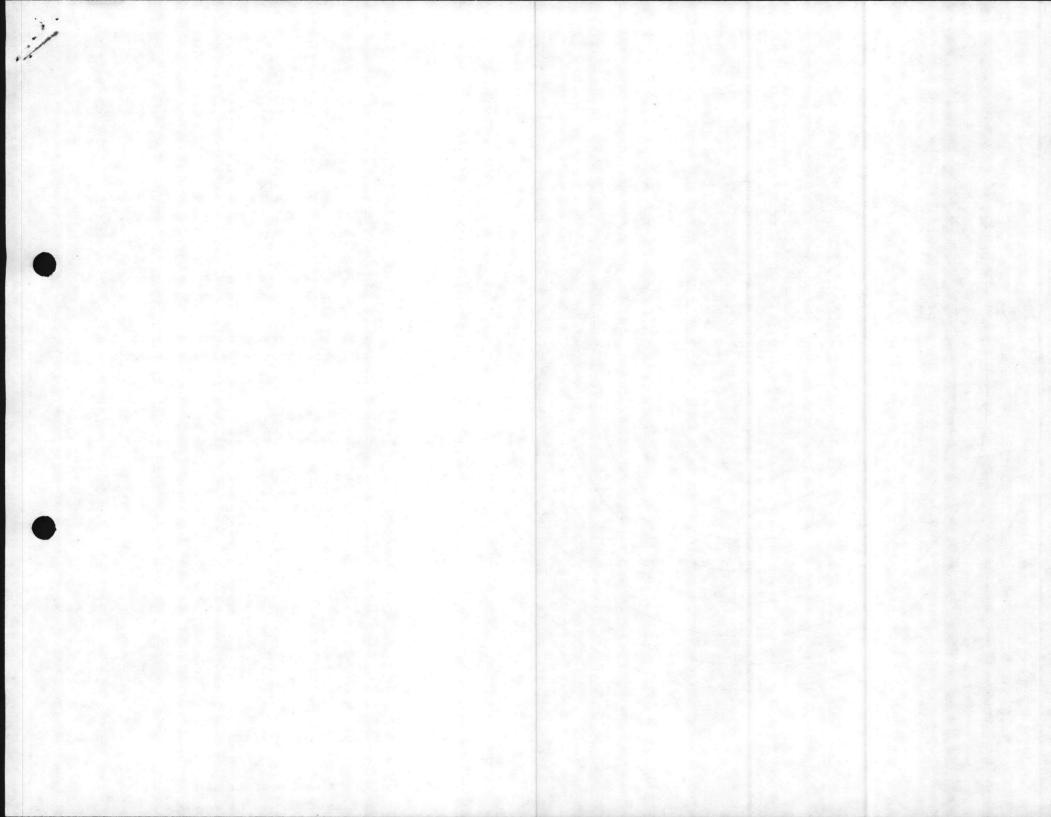
#### INSTRUCTIONS:

- Show all surrounding buildings and roads within 1000 feet of subject equipment which is located at center of circles.
- Indicate location and type of building by the use of small numbered circles with the description below.
- Show roads as lines representing the road edges.Indicate street names and highway numbers,
- Show wooded or cleared areas by approximate boundary lines and the words "woods", "cleared", "cornfield", etc.
- 5. Indicate direction of north by arrow.

CODE	DESCRIPTION		
000000000000000000000000000000000000000	<u> </u>	Sewage Lift Shed Avionics Sho Engine Test Maintenance Fuel Tanks	op Shop
EXAMPLE	(1) Church		A

X Indicates location of equipment.

Residence



WALTONGTON REGIONAL OFFICE

NORTH CAROLINA

ENVIRONMENTAL MANAGEMENT COMMISSION

RALEIGH

APPLICATION FOR

A "PERMIT"

TO CONSTRUCT AND OPERATE AIR

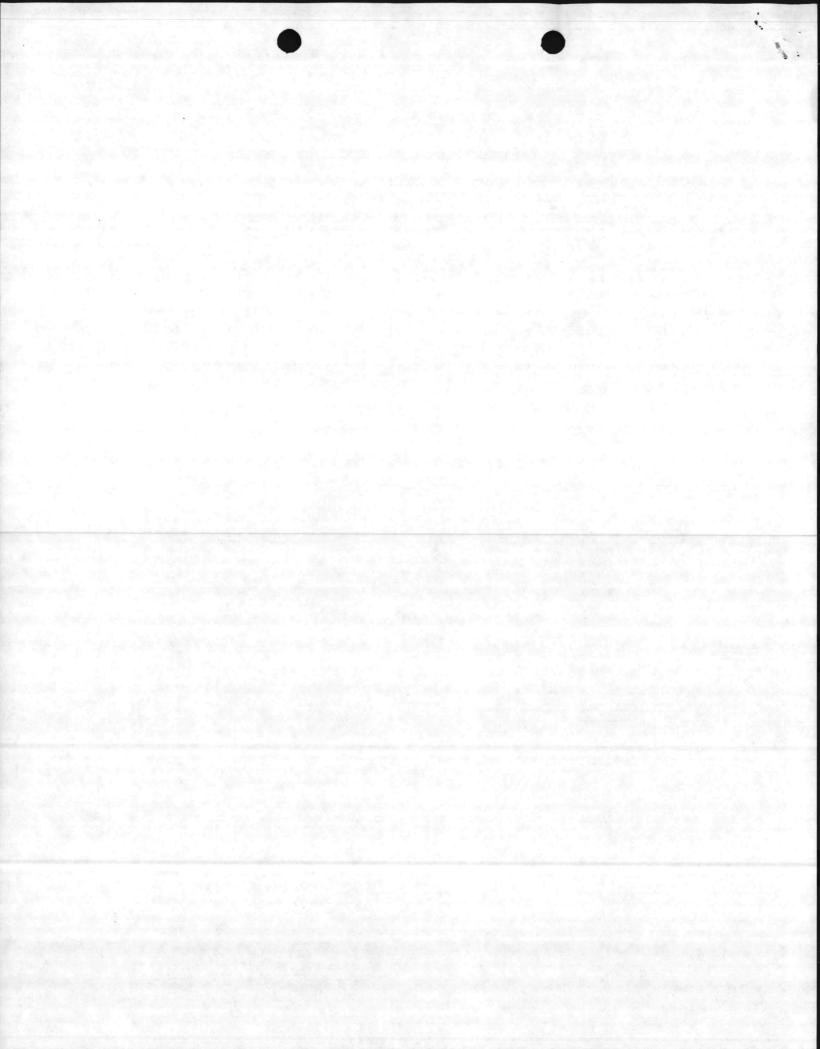
POLLUTION ABATEMENT FACILITIES AND/OR EMISSION SOURCES

Filed By Major General D. R. Barker (Name)

Marine Corps Base (Address)

Camp Lejeune, North Carolina

AQ-22

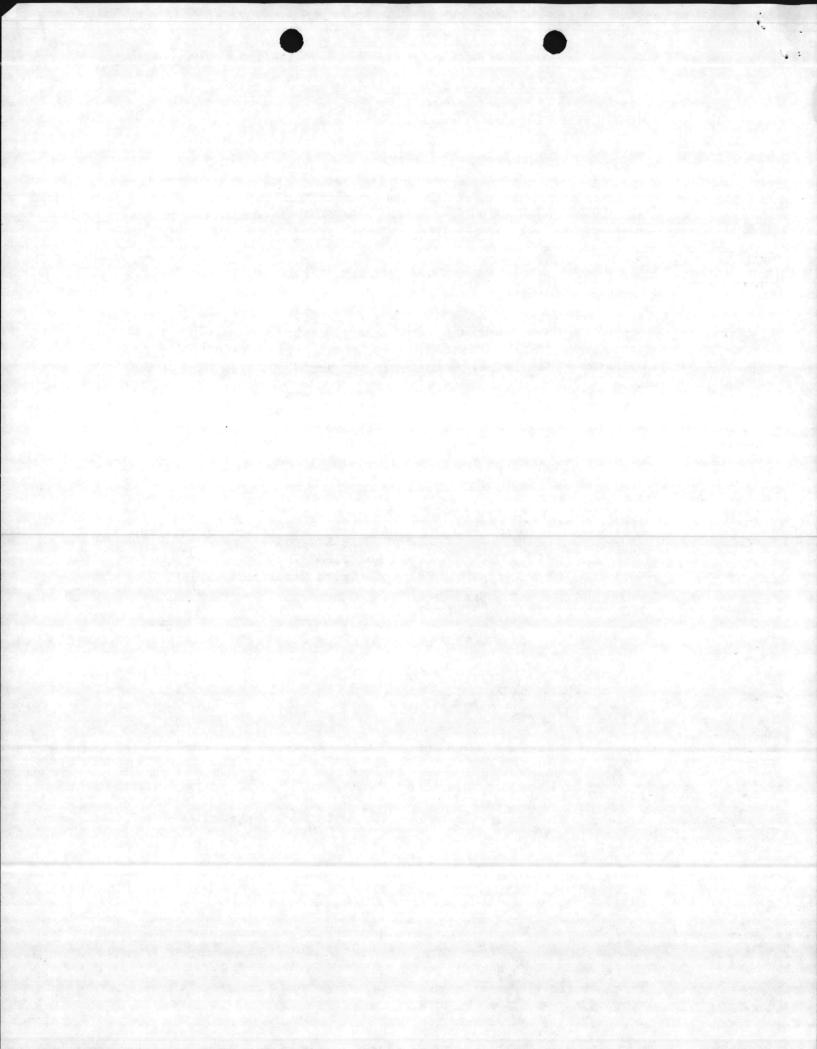


#### APPLICATION INSTRUCTIONS

### THIS APPLICATION IS SUBJECT TO REJECTION UNLESS ALL REQUIRED

#### INFORMATION IS SUBMITTED

- ATTACH DETAILED ENGINEERING DRAWINGS OF SOURCE(S), PROCESS(ES) AND COLLECTION DEVICE(S) AS
  REQUESTED IN EACH SECTION. IF MULTIPLE SOURCES OR DEVICES, USE ADDENDUM SHEETS AS NECESSARY.
- Submit application, detailed engineering drawings, specifications and other supporting data and documents in TRIPLICATE.
- 3. Attach additional sheets as necessary to complete any portion of the application.
- 4. The application MUST BE SIGNED by the RESPONSIBLE INDIVIDUAL of the company that is to PURCHASE AND OPERATE the facilities for which a Permit is applied.
- 5. ALL APPLICANTS MUST COMPLETE THE FIRST PAGE AND SECTIONS I AND VI.
- If an Incinerator, Fuel Burning Source, Wet Collection Device or Dry Collection Device is to be installed and operated, COMPLETE SECTIONS II, III, IV or V respectively.
- 7. All applications should be mailed to: ENVIRONMENTAL MANAGEMENT COMMISSION
  AIR QUALITY SECTION
  P. O. Box 27687
  Raleigh, North Carolina 27611



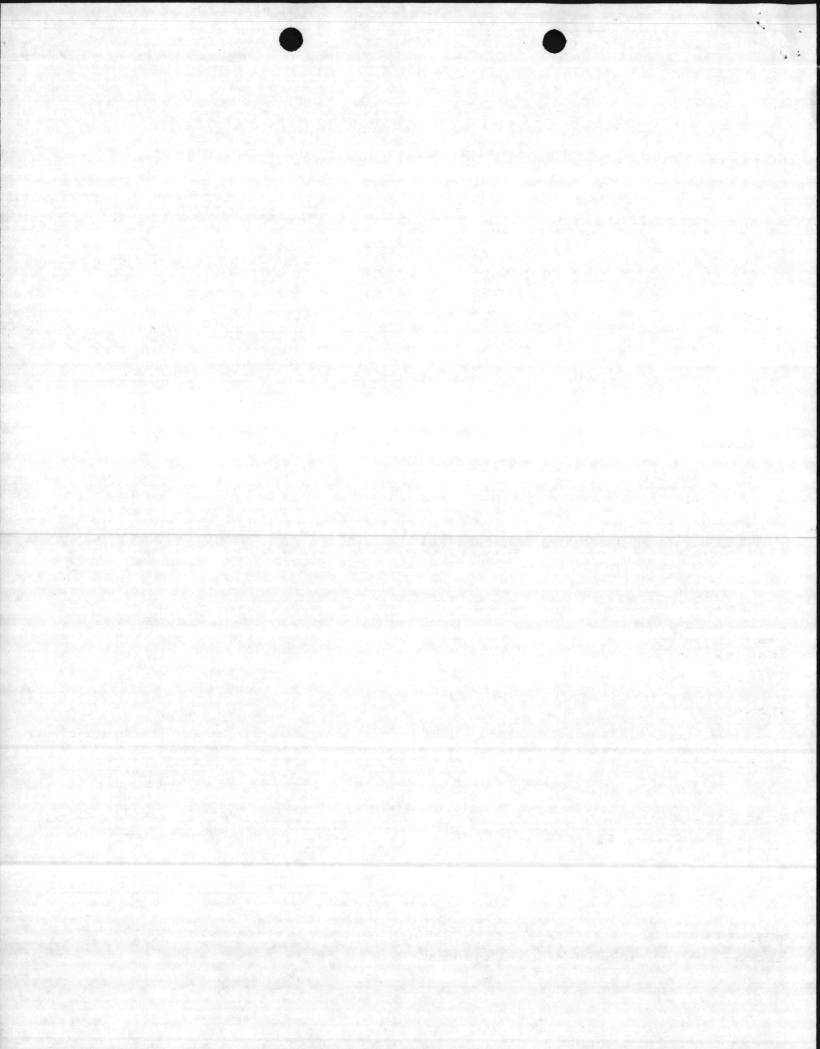
# APPLICATION FOR A "PERMIT" To Construct and Operate Air Pollution Abatement Facilities and/or Emission Sources Three Copies to be Submitted Fourth Copy Should be Retained by Applicant

Date: 24 September 1980 In accordance with the provisions of Article 21 of Chapter 143, General Statutes of North Carolina as amended, application Marine Corps Base, Camp Lejeune, North Carolina
(Name of Company, Establishment, Town, Etc.) (Include Division or Plant Name in Addition to Parent is hereby made by in the County of Onslow in the County of Onslow at Jacksonville, North Carolina

Company if Applicable)

for issuance of a "Permit" to construct and operate air pollution abatement facilities and/or emissions sources at above location as specified in the accompanying drawings, specifications, and other pertinent data: 1. Nature of Operation Conducted at the Above Facility: Military Operation Description of Process(es) Whose Emission(s) is/are to be Controlled by the Facility or Source(s) Which is/are to be Constructed or Altered. (Complete Section I) Boiler, No. 6 Fuel Oil Boiler No. 18 Bldg No. AS-4151 3. Furnish Type and Narrative Description of Proposed Control Device(s). (Complete Appropriate Supplemental Data Sheets for Control Device to be Installed and/or Operated. Include Make and Model Number of Control Device(s) and Number of Identical Units). No. 6 oil fired, No control device. Weight Rate of Emissions (1b/hr): 4. Contaminant Control Efficiency (%): Without Control Device With Control Device Without Control Device Emitted: With Control Device  $S0_x$ and Particultes 114.63 lb/hr N/A N/A N/A 5. Name and Address of Engineering Firm that Prepared Plans: 7. Date on Which Facilities are to be Completed and in Operation: 6. Ultimate Disposition of Collected Pollutants: , 19 80 October None 9. Estimate Cost of Air Pollution Control Device \$ 0 Indicate Period of Time for Which Facilities are Estimated to be Adequate: 20 Years 10. Hours Facility is Operated Per Year: 8,760 Major General D. B. Barker, USMC Mailing Address: Marine Corps Base Name: (Responsible Individual of Company Purchasing) Camp Lejeune Operating Facility ... PLEASE PRINT) North Carolina 28542 451-5024 Telephone Number: Signature and Title: D. B. BARKER, MAJOR GENERAL, USMC

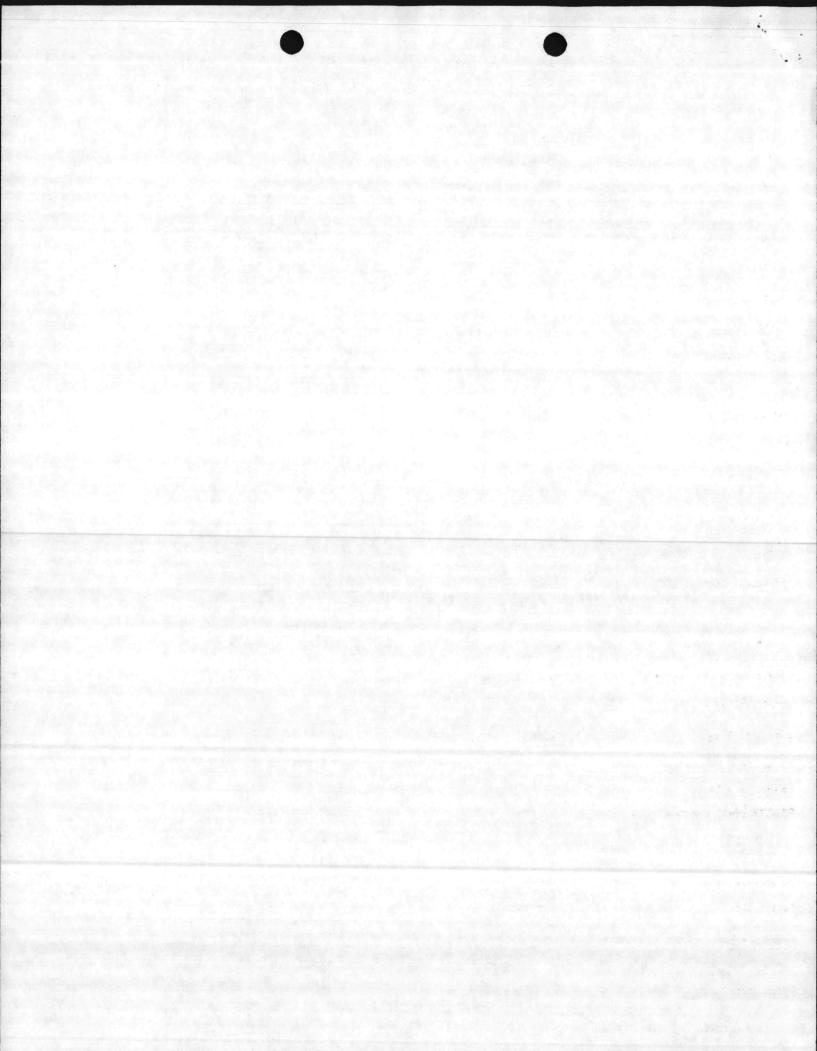
Commanding General



# I. GENERAL DATA FOR PROCESSES

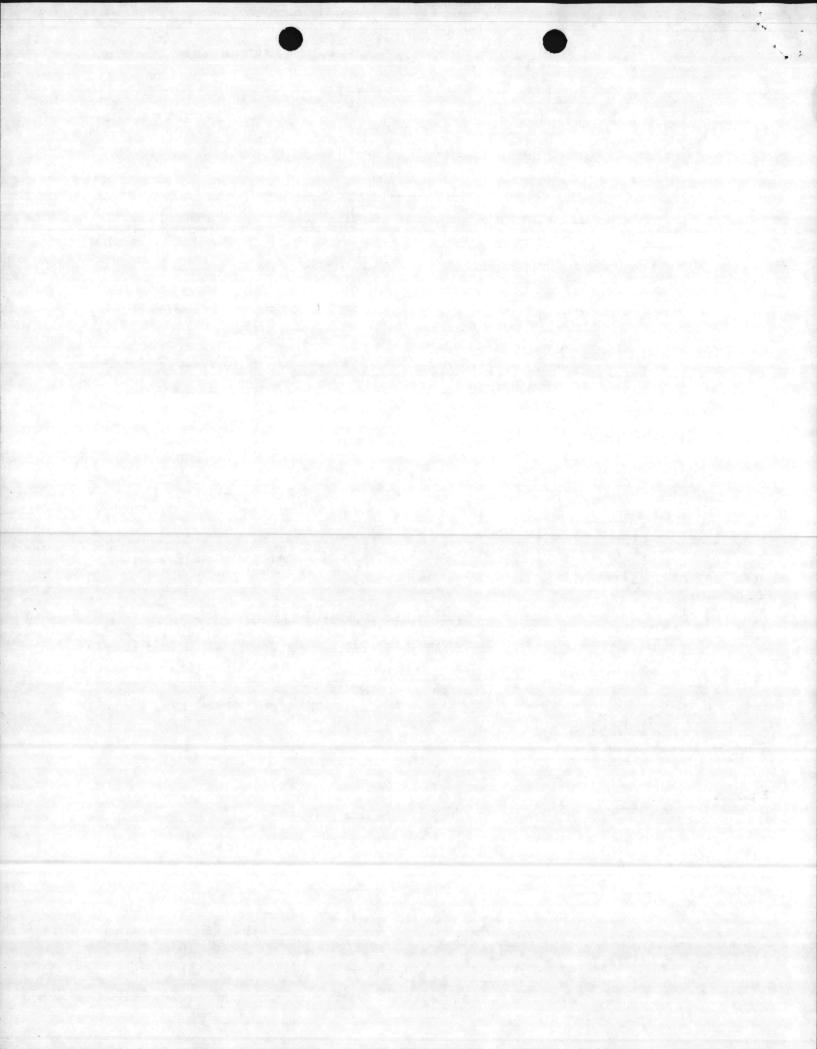
\*Attach detailed process engineering drawings, equipment drawings and flow diagrams for the process(es) or source(s) being constructed or altered.

eme of Process: Heating and Steam Plant
otal Weight of Materials Entering this Process: 327 galsxx/hr xxxxxxx
olume and Temperature of Air Flow Entering Control Device: CFM @ °F clume and Temperature of Effluent at Discharge Point to Atmosphere: CFM @ °F
orliutant(s) to be Controlled:  eight of Process Stack or Vent Above Ground Level 43 ft. Inside area of Stack 8.9 ft².  earticulate Emission Rate (Before Control) 8.044 lb/hr
article Size Distribution: 0-5µ %, 5-10µ %, 10-20µ %, 20-30µ %, 30-40µ %, 40-50µ %, >50p %
aseous Emission(s): Name (Chemical Formula) µg/m³, PPM or 1b/hr  106.59
II. SUPPLEMENTARY DATA FOR INCINERATORS (Including Conical Incinerators)
ircle Type of Waste or Indicate Composition: Type O Type I Type II Type III Type IV
Combustible:
otal Waste Generated Per Day: 1b. Hours Incinerator will be Operated: hrs/day
design Capacity for Above Waste:lbs/hr Manufacturer and Model Number; Approximate Cost:
Primary Chamber Volume:ft.3 Secondary Chamber Volume:ft.3
ir Requirements: Total Excess Air.
Conical Incinerator for: Overfire Air Supply, Underfire Air Supply, DomeTemperature Set Pot Tame Port Temperature:°F Secondary Chamber Temperature:°F
Is there a Continuous Exhaust Gas Temperature Recorder? Yes No
itack: Inside Areaft. <sup>2</sup> Heightft. Gas Velocityft/sec Temperature°F Fan Capacitycfm Stack Lined?
Is there a Wet Scrubber?
Yes No Flow Rate of H <sub>2</sub> O into Scrubbergal/min Temperature Before Scrubber°F
Aux. Fuel: Oil Gas Other Burner Rating: Primary Chamber Secondary Chamber Stack
BTU/hr BTU/hr BTU/hr
Primary Burner: Is there a Preheat Timer? Yes No Preheating Time:min.
Secondary Burner or Afterburner: Is there a Timer? Yes No Length of Time Burner is Operatedmin.
Is the Timer Reset by Charging Door? Yes No Other Mode of Burner Control
Type of Feed: Manual Automatic If Automatic, Describe
Distance from Incinerator to Nearest Structure(s) in which People Live and/or Workft.
Signature: Title:



111. SUPPLEMENTARY DATA FOR FUEL BURNING SCURCES

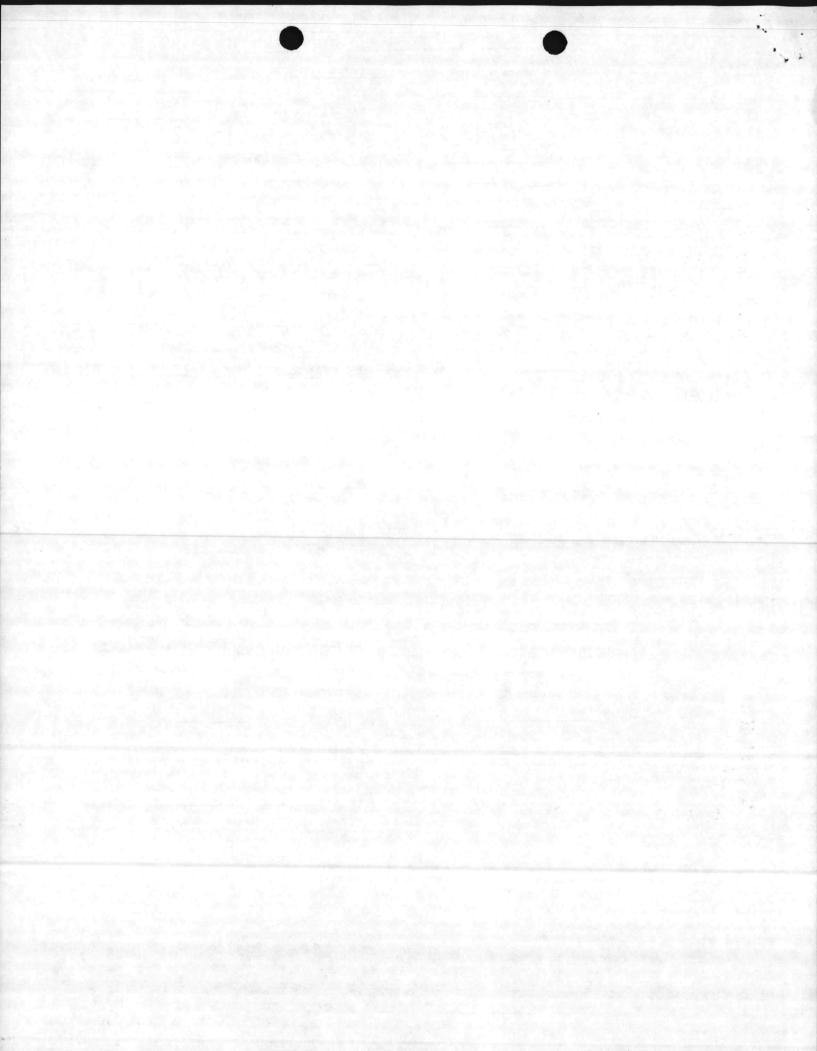
\*Attich detailed dimensioned de org or sketch showing internal features of anyers, wood or coal fired boilers, and recovery boilers. Type of Fuel Burning Source Boiler Stack Height Above Ground Level 43 ft. Inside Area of Stack 8.9 ft2 Trane Murray Company Make and Model Number Ser 10736 Volume of Furnace ft3 Specify Actual Amount of Each Fuel Used in Above Source (s): Coal \_\_\_\_ lb/hr; Oil Grade 6 Amount 327 gal/hr, at \_\_\_\_ BTU/gal and \_\_\_\_ lb/hr Wood \_\_\_\_\_ lb/hr; Natural Gas \_\_\_\_ SCF/hr, at \_\_\_\_ BTU/SCF; Other \_\_\_ (Specify type, amount and heating value) Specify Maximum Rating for Each Fuel Burning Source: Coal \_\_\_\_ Oil 327 Wood \_\_\_\_ Natural Gas \_\_\_\_ Other Maximum Sulfur Content of Fuel 2.05% Specify Standby Fuel None Maximum % Sulfur Type of Solid Fuel Burning Equipment Used: Hand Fired \_\_\_ Spreader Stoker \_\_ Underfeed Stoker \_\_ Chaim Grate \_\_\_ Traveling Grate \_\_ Pulverizer \_\_ Cyclone Furnace \_\_ Other (Specify) \_\_ Ash Content of Fuel: Specify Method and Schedule of Tube Cleaning, if Applicable: Coal \_\_\_ % Wood \_\_\_ % Other \_\_ % Lancing \_\_\_ Tube Blowing \_\_\_ Schedule \_\_ Emission Control Equipment (Describe in Detail in Sections IV and V) Collection Device: Wet \_\_\_\_ Dry \_\_\_ Steam Injection \_\_\_\_ Air Injection \_\_\_ Is Collected Flyash Reinjected? Induced X ) \_\_\_\_cfm at \_\_\_ Total Number of Fuel Burning Sources Within Property Boundaries: Maximum Capacity Rating, by Type, for All Fuel Burning Units Excluding that Itemized Above: (Total Like Units) 2 Coal 1b/hr Wood 1b/hr 0il 654 gal/hr Natural Gas SCF/hr IV. SUPPLEMENTARY DATA FOR WET COLLECTION DEVICES \*Attach detailed engineering drawings of the control device and particle size versus removal efficiency curves. Liquid Scrubbing Medium and Additives: Total Liquid-Injection Rate (Include Recirculated and Make-up Rates) \_\_\_\_\_ gal/min or gal/1000 ft3 Operating Pressure Drop Across Device in H20 ANSWER FOLLOWING QUESTIONS FOR SPECIFIC DEVICE: VENTURI SCURBBER: Inlet Area \_\_\_\_in2 Throat Area \_\_\_\_in2 Throat Velocity \_\_\_\_ft/sec WET CYCLONE: PACKED TOWER OR PLATE TOWER: Sody Diameter \_\_\_\_ in Length \_\_\_\_\_ in Cross-Sectional Area \_\_\_\_\_ft<sup>2</sup> Type of Plate inlet Area \_\_\_\_\_in2 Number of Nozzles Length \_\_\_\_\_ft Depth of Packing \_\_\_\_ Number of Plates Outlet Area \_\_\_\_ in2 Type of Packing OTHER WET COLLECTION DEVICES: GIVE COMPLETE DESCRIPTION INCLUDING DESIGN PARAMETERS AND DETAILED ENGINEERING DRAWINGS. Signature: Title:

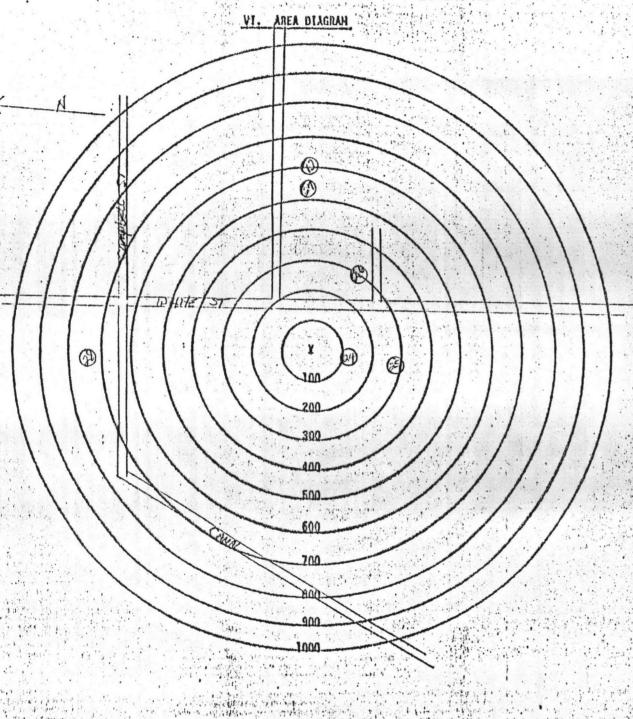


\*Attach detailed engineering drawings of the control device and particle size versus removal efficiency curves.

BAGHOUSES:	: Cloth Area	ft <sup>2</sup>	Bag Material	
	Number of Compartme	nts	Pressure - Drop Total	in H <sub>2</sub>
	Method of Cleaning			ft/mi
	Time Between Cleaning	ng mins, hrs		
ELECTROSTA	TIC PRECIPITATORS:			
GENERAL				
	ffective Area of Groun	eded Collector Plates	2.2	
			Number of Cells per Compartment	
			or Emitting Electrodes XV/in	
		[[일본 시간 1] [[일본 ] 전 경기 [일본 ] 보고 하는데 되었다.	Grounded Collecting Electrodes	KV/in
	reids of freathent	Pocential App	lied to Emitting WiresKy	
SINGLE S	STAGE TYPE:			
Di	istance Between Emitti	ng Wires and Collectin	ng Plates in-	
Nu	umber of Isolatable Bu	s Sections	_ Corona Power Watts/1000 cfm	
TWO STAG	E TYPE.			
		Stage Emitting Electro	odes and Field Receiver Electrodes (Grou	ınd) in
	tential Applied to Sec			
		the second second second second	s and Grounded Collection Plates	in
	LTICYCLONES:			
imple Cycli				
	ameter	in	Multicyclone Diameter	•
	let Dimensions		Inlet Dimensions of Indivi	
Outlet Dimensions		Outlet Dimensions of Indiv		
			Pressure Drop	
	mber of Cyclones		Number of Cyclones	
			number of Officials	
HER DRY CO	DLLECTION DEVICES: GI	VE COMPLETE DETAILED	ENGINEERING DESCRIPTION AND DRAWINGS.	
qnature:			Title:	

- 4 -





Owner Marine Corps Base, Camp Lejeune, N.C.

Location White St. New River Air Station (Give Street Address)

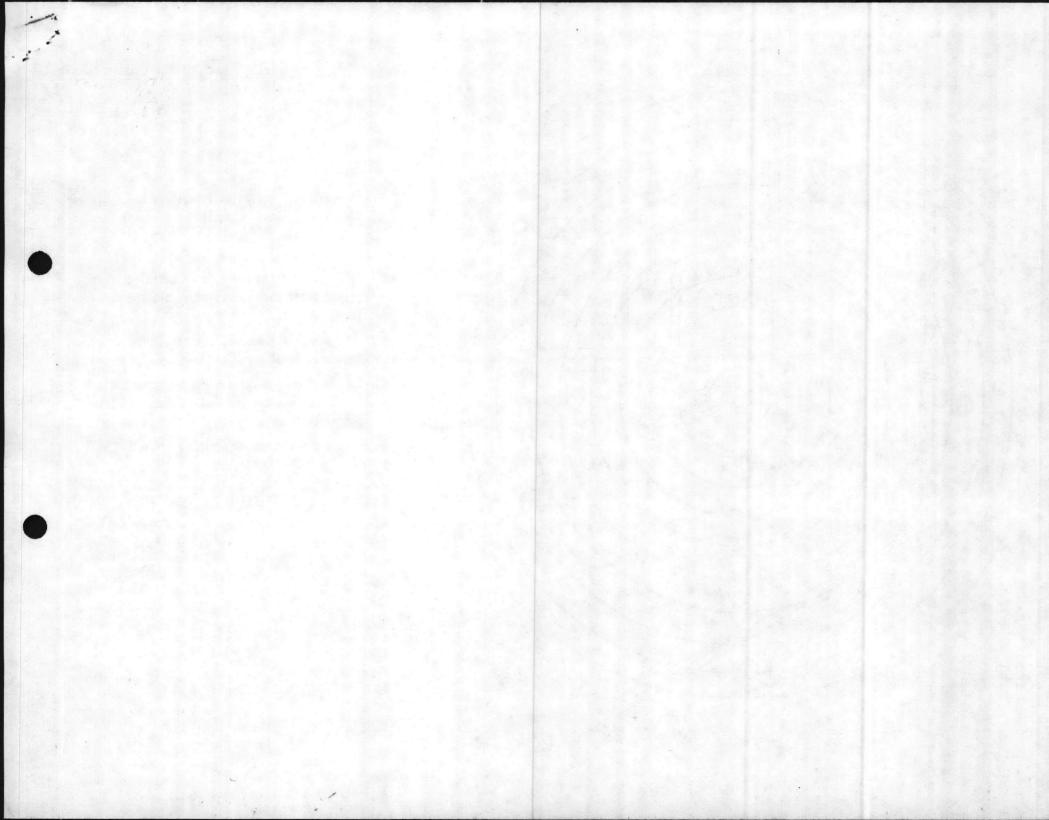
#### INSTRUCTIONS:

- Show all surrounding buildings and roads within 1000 feet of subject equipment which is located at center of circles.
- Indicate location and type of building by the use of small numbered circles with the description below.
- 3. Show roads as lines representing the road edges.
  Indicate street names and highway numbers.
- Show wooded or cleared areas by approximate boundary lines and the words "woods", "cleared", "cornfield", etc.
- 5. Indicate direction of north by arrow.

CODE	DESCRIPTION
0	12 Sewage Lift Stati
. ②	(24) Shed
<b>①</b>	25 Avionics Shop
•	(26) Engine Test Shop (27) Maintenance Hanger
(3)	28) Fuel Tanks
6	
0	
<b>®</b>	
(9)	
0	

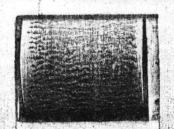
EXMIPLE

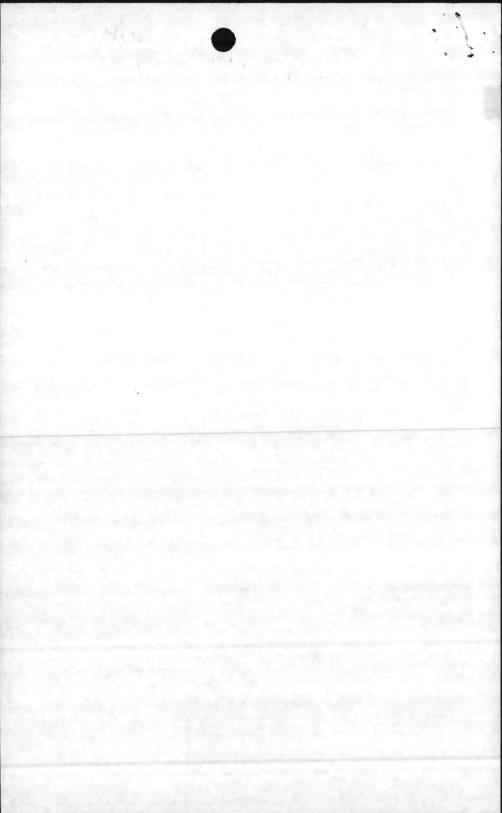
- (1) Church
- @ Residence
- X Indicates location of equipment.



ROUTING P JUN 0 1 1981 ACTION INFO INITIAL BMO 9 10 ABMO ADMIN ENVIRON AFF F&A BRANCH MAINT NCO M&R OPNS PROP TELE UMACS UTIL SECRETARY COMMENTS:

Den Barker recommended 88A. Mook at this





Major M

HEADQUARTERS, MARINE CORPS BASE CAMP LEJUENE, NORTH CAROLINA

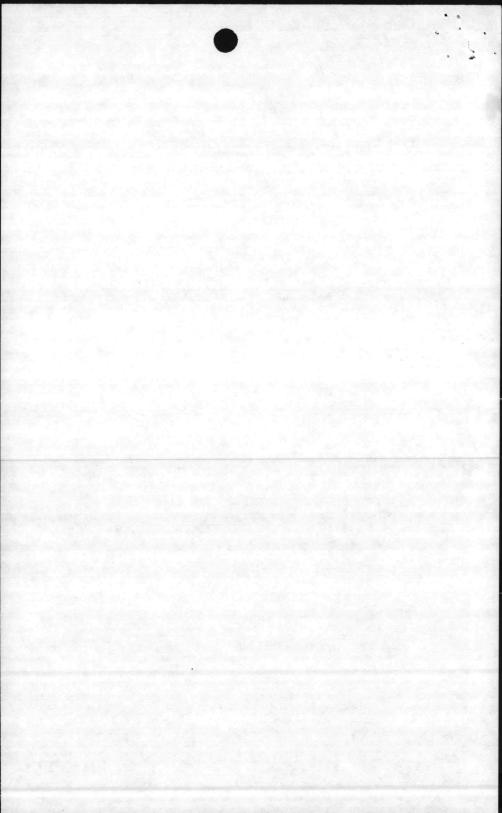
Date 27 May 81

From: Assistant Chief of Staff, Logistics
To: Dash C/S Fize.

Subj: Agtzched.

1. For your rettin

2. Believe This was mesaddressel



### ASSISTANT CHIEF OF STAFF, FACILITIES HEADQUARTERS, MARINE CORPS BASE

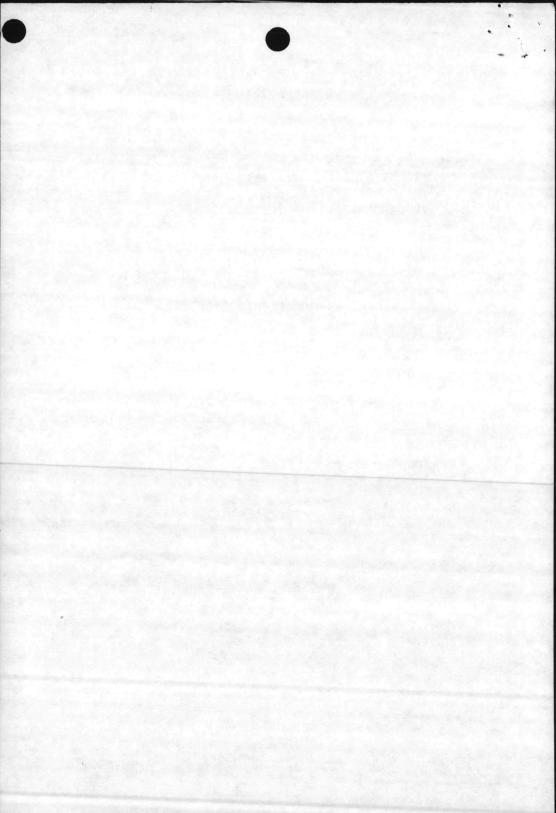
Date / Jens

To: Base Maintenance Officer
Public Works Officer
Motor Transport Officer

~	bj			
111	h			
Ju	D.I			

- 1. Forwarded, approved.
- 2. Forwarded, for information/action.
  - 3. Forwarded, for comment and return endorsement hereon.
  - 4. Forwarded, requesting cost estimate.
  - 5. Forwarded, requesting light/air conditioning survey.
  - 6. Forwarded, for your files.

Jm-

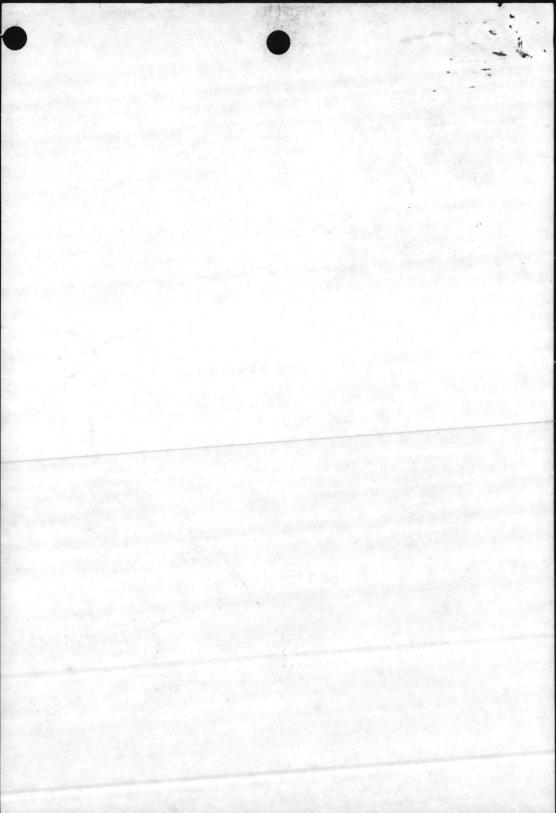


5/20

Dets Kong

For action + sexenting Blo have legal review.

1





North Carolina Department of Natural Resources & Community Development

James B. Hunt, Jr., Governor

Howard N. Lee, Secretary

DIVISION OF ENVIRONMENTAL MANAGEMENT

February 3, 1981

Mr. D. B. Barker
Major General, U.S. Marine Corps
Commanding
Marine Corps Base
Camp Lejeune, North Carolina 28542

Dear Mr. Barker:

Subject: Permit No. 3769R2
Marine Corps Base

Camp Lejeune, North Carolina

In accordance with your application received December 12, 1980, we are forwarding herewith Permit No. 3769R2 to Marine Corps Base, Camp Lejeune, North Carolina for the construction and/or operation of air pollution abatement facilities and/or emission sources.

If any parts, requirements, or limitations contained in this permit are unacceptable to you, you have the right to an adjudicatory hearing before a hearing officer upon written demand to the Director within thirty (30) days following receipt of this permit, identifying the specific issues to be contended. Unless such demand is made, this permit shall be final and binding.

This permit shall be effective from the date of issuance until October 1, 1982, is nontransferable to future owners and operators, and shall be subject to the conditions and limitations as specified therein.

Sincerely yours,

for Robert F. Helms

Acting Director

Enclosures

cc: A. C. Turnage, Jr.
Chuck Wakild
Regional Office Manager

to the following the first of t et e e e e e e e e tree the last the legal country assists the en de la propieta de la companya del companya de la . The same a second containing the en s in section of sec man code a survival and the survival and restant, and the restant and the second of the restance of the restance of the restance of the restance of White Edward Committee and the control of at about 10 . Tie the Tids included by the continue of the continue of the second of the second and the second second second e one galwailed sain Chron of Amilia . . . itt. . iiq . . a reason trains . . . . . . and the state of t Thense Talescope U.S. . ... '598

NORTH CAROLINA

#### ENVIRONMENTAL MANAGEMENT COMMISSION

#### DEPARTMENT OF NATURAL RESOURCES & COMMUNITY DEVELOPMENT

Raleigh

#### PERMIT

For the Discharge of Air Contaminants Into the Atmosphere

In accordance with the provisions of Article 21B of Chapter 143, General Statutes of North Carolina as amended, and other applicable Laws, Rules and Regulations,

#### PERMISSION IS HEREBY GRANTED TO

Marine Corps Base Camp Lejeune, North Carolina

#### FOR THE

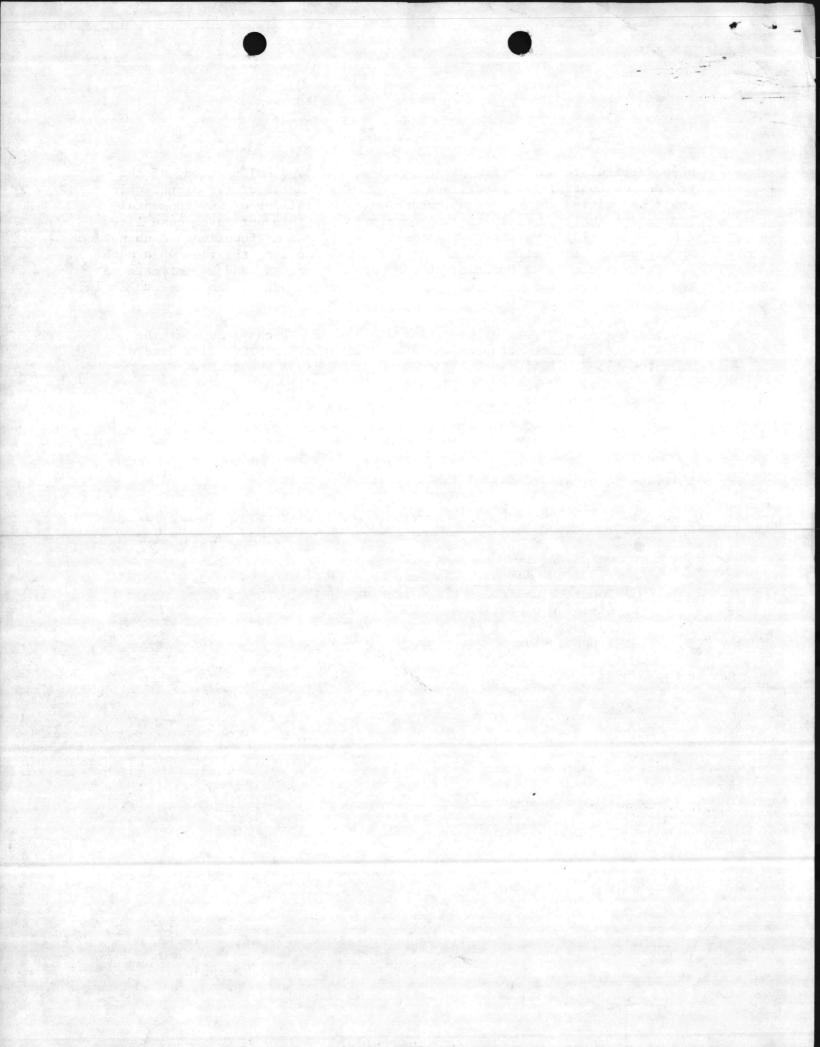
construction and operation of air cleaning devices and appurtenances consisting of two single stage, dry type electrostatic precipitators (plate area of 36,540 square feet each) in series with two multicyclones installed on the exhausts from four coal/No. 6 oil-fired boilers (maximum heat input of 114,500,000 BTU per hour each) to remove visible and particulate emissions, and for the discharge of the treated air and associated stack gases into the outdoor atmosphere at its facility located at Camp Lejeune, North Carolina, Onslow County,

in accordance with the application received December 12, 1980, and in conformity with the plans, specifications, and other supporting data, all of which are filed with the Department of Natural Resources & Community Development and are incorporated as part of this Permit.

This Permit shall be effective from the date of its issuance until October 1, 1982, is nontransferable to future owners and operators, and shall be subject to the following specified conditions and limitations:

- 1. The air cleaning devices shall be properly operated and maintained at all times in such a manner as to effect an overall reduction in air pollution in keeping with the application and otherwise to reduce air contamination to the extent necessary to comply with applicable Environmental Management Commission Regulations, including 15 NCAC 2D .0503, .0516, and .0521.
- 2. Reports on the operation and maintenance of the facilities shall be submitted to the Division of Environmental Management at such intervals and in such form and detail as may be required by the Division. Information required in such reports may include, but is not limited to, process weight rates, firing rates, hours of operation, and preventive maintenance schedules.

the part of a area and a second of the control of t  Permit No. 3769R2 Page 2 3. When particulate and/or visible emissions, due to a malfunction, of the process or control equipment, are or may be in excess of the amount which would be emitted during normal operation, the Division of Environmental Management shall be notified as promptly as possible but in no case later than twelve (12) hours following the start of such malfunction. Such notice shall specify the nature and cause of the malfunction, the time when such malfunction was first observed, the expected duration, and an estimate of the rate of emission. The term malfunction shall not be construed to include start-up or shut-down periods. A violation of any term or condition of this Permit shall subject the Permittee to enforcement procedures contained in North Carolina General Statutes 143-215.114, including assessment of civil penalties. 5. Coal shall not be burned in the boilers unless the air cleaning devices are in operation. Permit issued this the 3rd day of February, 1981. NORTH CAROLINA ENVIRONMENTAL MANAGEMENT COMMISSION for Robert F. Helms, Acting Director Division of Environmental Management By Authority of the Environmental Management Commission Permit No. 3769R2





# North Carolina Department of Natural Resources & Community Development

James B. Hunt, Jr., Governor

Joseph W. Grimsley, Secretary

DIVISION OF ENVIRONMENTAL MANAGEMENT

September 8, 1981

Mr. C.G. Cooper Commanding General, U.S. Marine Corps Marine Corps Base Camp Lejeune, North Carolina 28542

Subject: Permit No. 4641R

Marine Corps Base

Camp Lejeune, North Carolina

Dear General Cooper:

In accordance with your application received August 24, 1981, we are forwarding herewith Permit No. 4641R to Marine Corps Base, Camp Lejeune, North Carolina for the construction and/or operation of air pollution abatement facilities and/or emission sources.

If any parts, requirements, or limitations contained in this permit are unacceptable to you, you have the right to an adjudicatory hearing before a hearing officer upon written demand to the Director within thirty (30) days following receipt of this permit, identifying the specific issues to be contended. Unless such demand is made, this permit shall be final and binding.

This permit shall be effective from the date of issuance until April 1, 1986, is nontransferable to future owners and operators, and shall be subject to the conditions and limitations as specified therein.

For Federal PSD increment tracking purposes, changes to the facility have consumed a maximum of 9.91 lb/hr of particulate and 71.53 lb/hr of SO2.

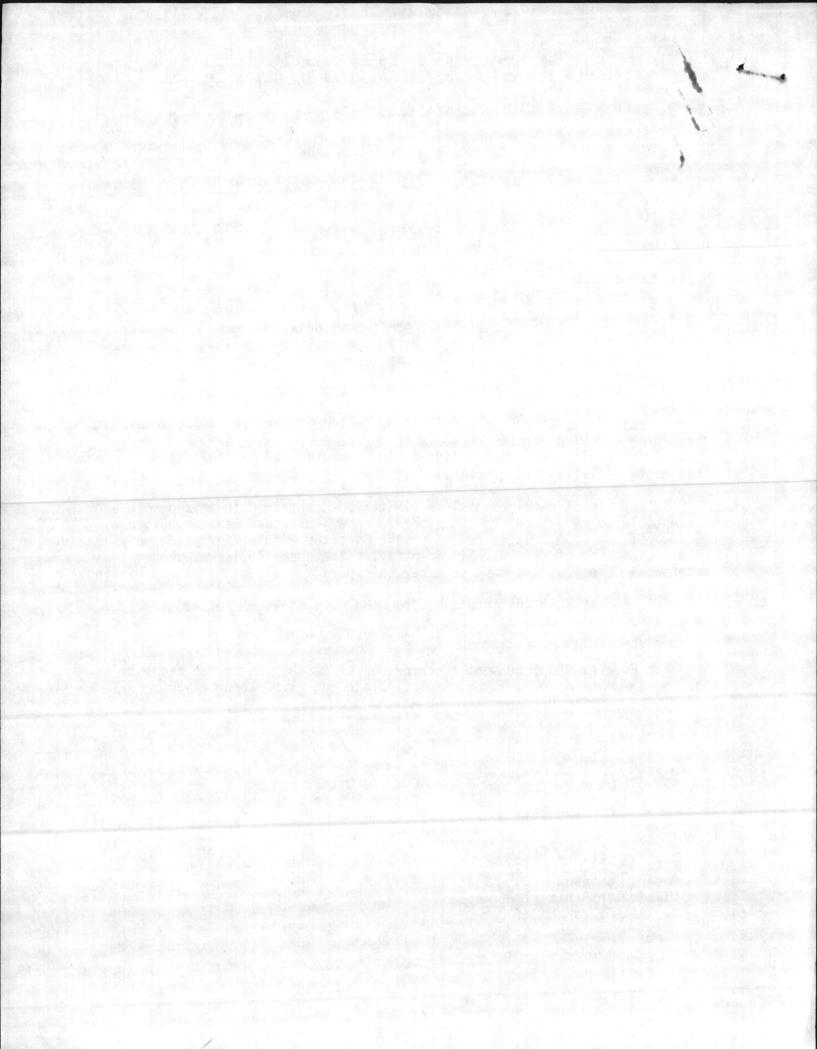
Sincerely.

Charles Wakild

Regional Supervisor

Enclosure

cc: Mike Sewell Robert Jamieson Wilmington Regional Office Central Files





## UNITED STATES MARINE CORPS MARINE CORPS BASE CAMP LEJEUNE, NORTH CAROLINA 28542

Wayne

IN REPLY REFER TO

MAIN/TH/jik 13700 19 Aug 1981

Mr. Charles Wakild
Regional Supervisor
Department of Natural Resources
and Community Development
Division of Environmental Management
7225 Wrightsville Avenue
Wilmington, NC 28403

Dear Mr. Wakild:

Permit No. 4641 was issued by your division for construction and operation of a No. 6 oil-fired boiler (#54) at the Courthouse Bay Steam Generating Plant, with the provision that the boiler be placed in operation on or before 1 September 1981, or as this date may be amended.

The contractor who is installing the boiler for the U.S. Marine Corps has experienced delays in the receipt of materials required to complete the boiler installation. Accordingly, the 1 September deadline for placing the boiler on line cannot be met. It is therefore requested that permit no. 4641 be amended to reflect an October 16, 1981 deadline for placing the boiler into operation.

If you have any further questions on this matter, please contact Mr. Danny Sharpe, Base Maintenance Division, telephone (919) 451-5003.

Sincerely,

K. P. MILLICE, Jr.

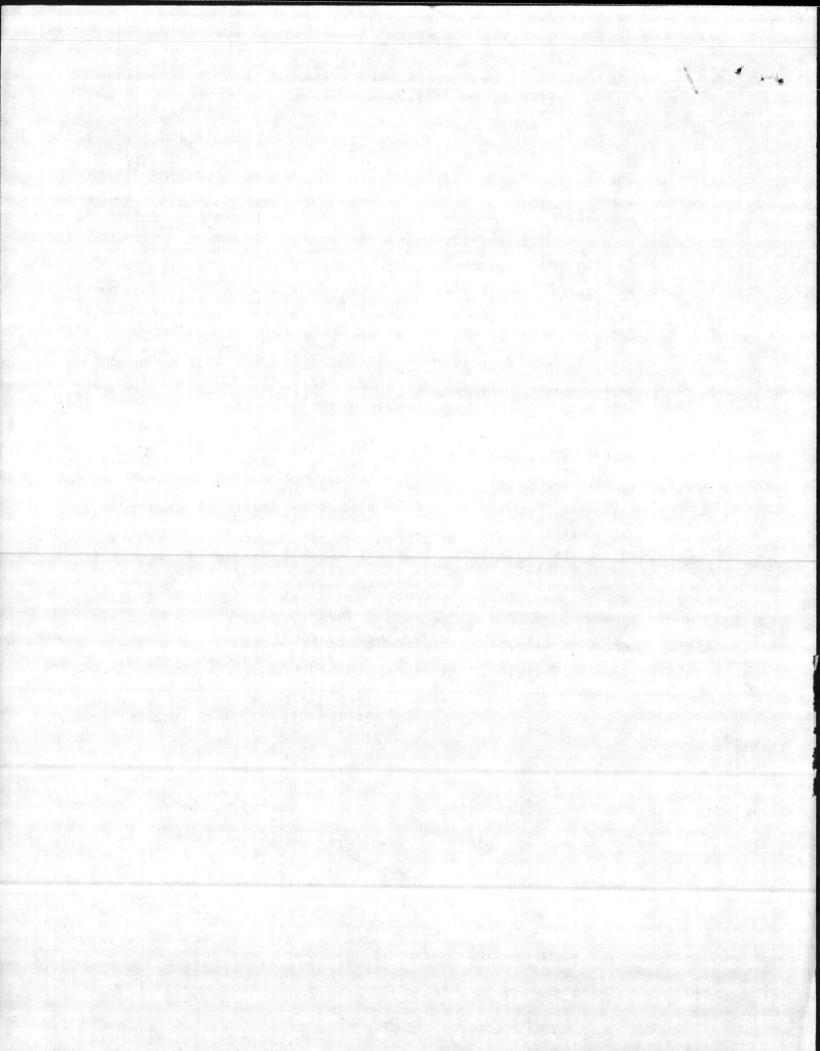
Colonel

Assistant Chief of Staff, Facilities By direction of the Commanding General

JECKHAJEII.

AUG 24 1981

WILMINGTON RECIONAL OFFICE DEM



#### NORTH CAROLINA

#### ENVIRONMENTAL MANAGEMENT COMMISSION

DEPARTMENT OF NATURAL RESOURCES AND COMMUNITY DEVELOPMENT

Raleigh

#### PERMIT

For the Discharge of Air Contaminants Into the Atmosphere

In accordance with the provisions of Article 21B of Chapter 143, General Statutes of North Carolina as amended, and other applicable Laws, Rules and Regulations,

#### PERMISSION IS HEREBY GRANTED TO

Marine Corps Base Camp Lejeune, North Carolina

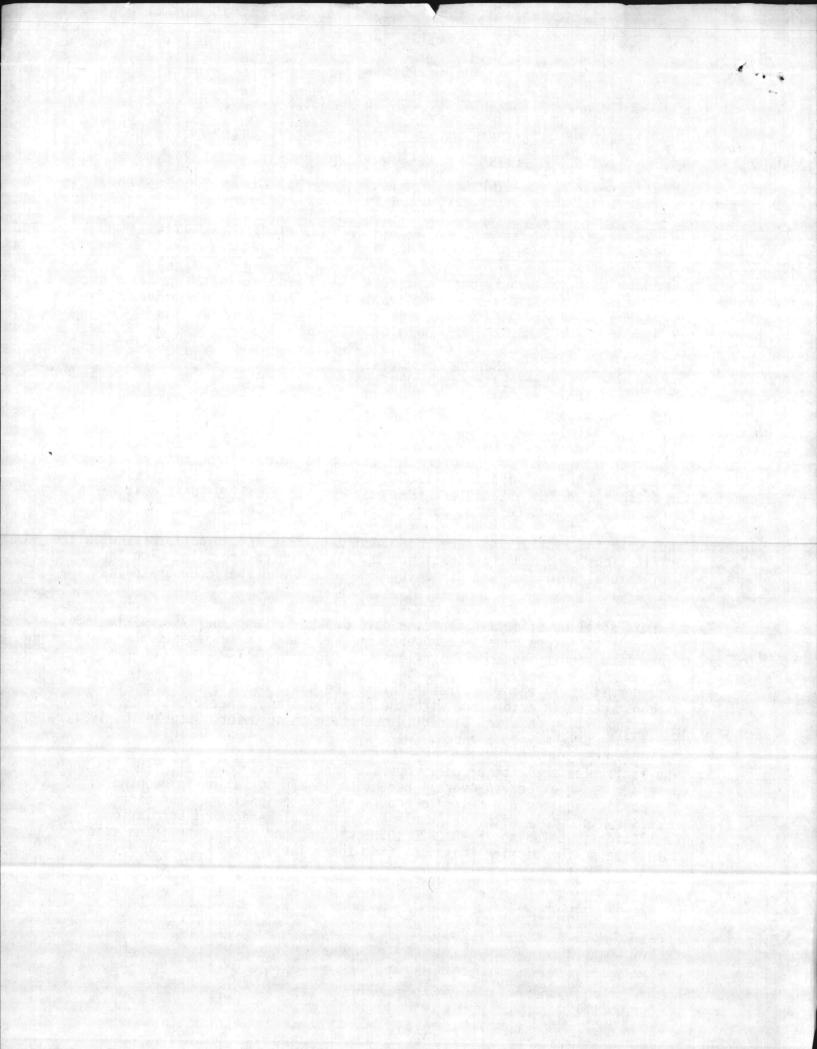
#### FOR THE

construction and operation of a No. 6 oil-fired boiler (#54) (maximum heat input of 24,200,000 BTU per hour) and for the operation of two No. 6 oil-fired boilers (17,800,000 BTU per hour heat input and 11,000,000 BTU per hour heat input respectively) and for the discharge of the associated stack gases at its facility located at Peach Street, Courthouse Bay, Camp Lejeune, North Carolina, Onslow County,

• in accordance with the application received August 24, 1981, and in conformity with the plans, specifications, and other supporting data, all of which are filed with the Department of Natural Resources and Community Development and are incorporated as part of this Permit.

This Permit shall be effective from the date of its issuance until April 1, 1986, is nontransferable to future owners and operators, and shall be subject to the following specified conditions and limitations:

- This permit shall become voidable unless the No. 6 oil-fired boiler (#54)
  is constructed in accordance with the approved plans, specifications, and
  other supporting data and placed in operation on or before October 16, 1981,
  or as this date may be amended.
- 2. The facilities shall be properly operated and maintained at all times in such a manner as to effect an overall reduction in air pollution in keeping with the application and otherwise to reduce air contamination to the extent necessary to comply with applicable Environmental Management Commission Regulations, including 15 NCAC 2D .0503, .0516, and .0521, and in no case shall the sulfur dioxide emissions from the boilers exceed 2.3 pounds per million BTU input.



- 3. Reports on the operation and maintenance of the facilities shall be submitted to the Division of Environmental Management at such intervals and in such form and detail as may be required by the Division. Information required in such reports may include, but is not limited to, process weight rates, firing rates, hours of operation, and preventive maintenance schedules.
- 4. Camp Lejeune Marine Base, at least ninety (90) days prior to the expiration of this Permit, shall request its extension by letter. The letter should include the permit number and a description of modifications, if any, that have been made.
- 5. This permit is subject to revocation or modification upon a determination that information contained in the application or presented in support thereof is incorrect, conditions under which the permit renewal was granted have changed, or violations of conditions contained in the permit have occurred.
- A violation of any term or condition of this Permit shall subject the Permittee to enforcement procedures contained in North Carolina General Statutes 143-215.114, including assessment of civil penalties.

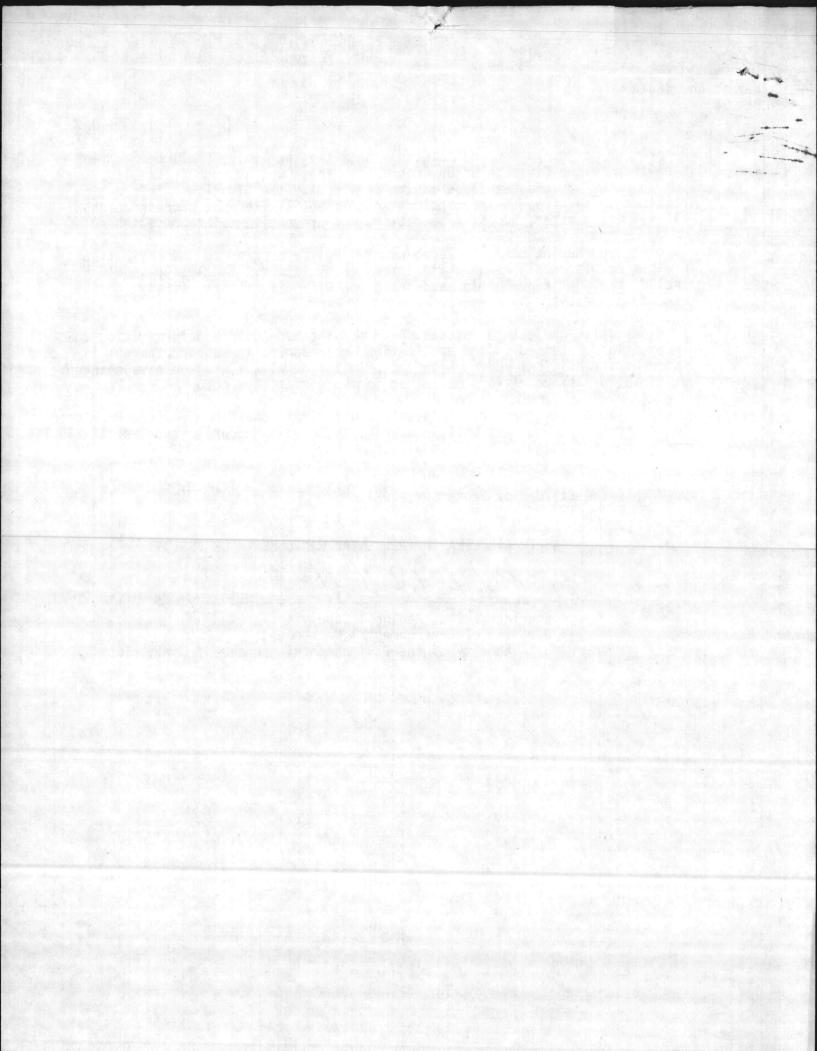
Permit issued this the 8th day of September, 1981.

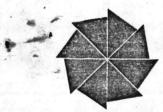
NORTH CAROLINA ENVIRONMENTAL MANAGEMENT COMMISSION

Charles Wakild, Regional Supervisor Division of Environmental Management

By Authority of the Environmental Management Commission

Permit No. 4641R





### North Carolina Department of Natural Resources & Community Development

James B. Hunt, Jr., Governor

Howard N. Lee, Secretary

DIVISION OF ENVIRONMENTAL MANAGEMENT

May 28, 1981

Mr. D.B. Barker Major General, U.S. Marine Corps Commanding Marine Corps Base Camp Lejeune, North Carolina 28542

Subject: Permit No. 4645

Marine Corps Base

Camp Lejeune, North Carolina

Dear General Barker:

In accordance with your application received May 1, 1981, we are forwarding herewith Permit No. 4645 to Marine Corps Base, Camp Lejeune, North Carolina for the construction and/or operation of air pollution abatement facilities and/or emission sources.

If any parts, requirements, or limitations contained in this permit are unacceptable to you, you have the right to an adjudicatory hearing before a hearing officer upon written demand to the Director within thirty (30) days following receipt of this permit, identifying the specific issues to be contended. Unless such demand is made, this permit shall be final and binding.

This permit shall be effective from the date of issuance until April 1, 1986, is nontransferable to future owners and operators, and shall be subject to the conditions and limitations as specified therein.

For Federal PSD increment tracking purposes, changes to the facility have consumed a maximum of 1.79 lbs/hr of particulate and 12.88 lb/hr of SO2.

Sincerely,

Charles Wakild

Regional Supervisor

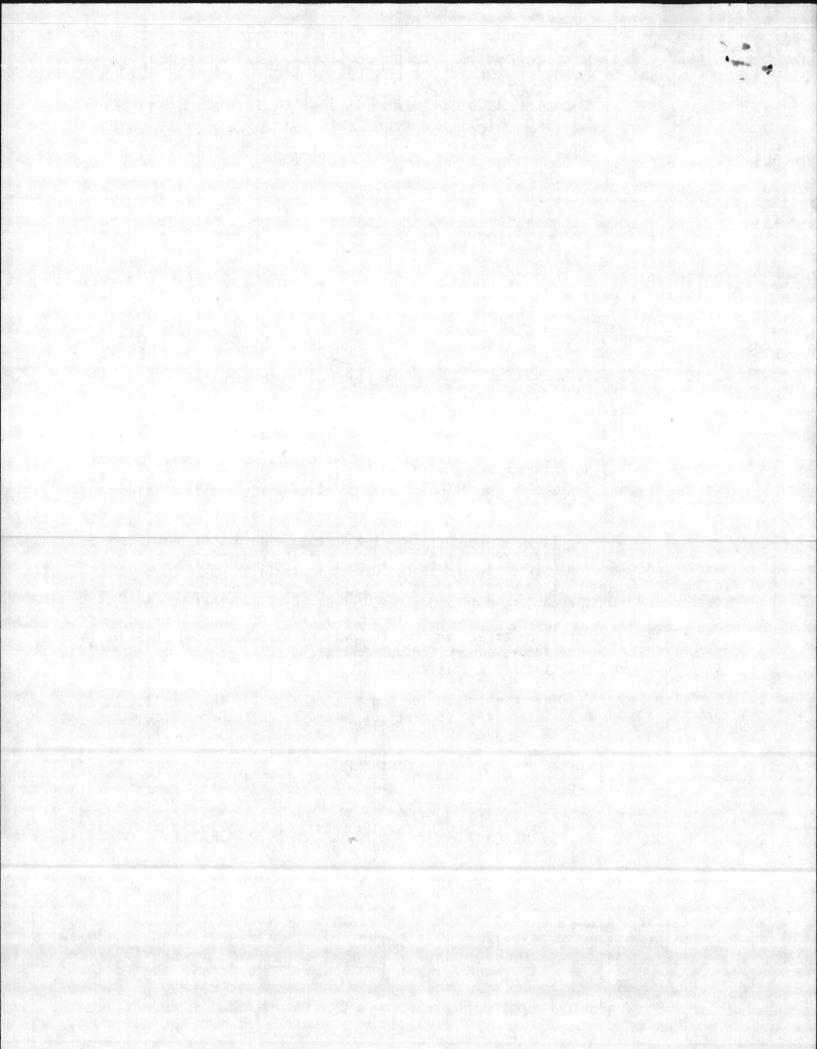
**Enclosure** 

Stan Taylor cc:

Robert Jamieson

Wilmington Regional Office

Central Files



#### NORTH CAROLINA

#### ENVIRONMENTAL MANAGEMENT COMMISSION

DEPARTMENT OF NATURAL RESOURCES AND COMMUNITY DEVELOPMENT

RALEIGH

#### PERMIT

For the Discharge of Air Contaminants Into the Atmosphere

In accordance with the provisions of Article 21B of Chapter 143, General Statutes of North Carolina as amended, and other applicable Laws, Rules and Regulations,

#### PERMISSION IS HEREBY GRANTED TO

Marine Corps Base Camp Lejeune, North Carolina

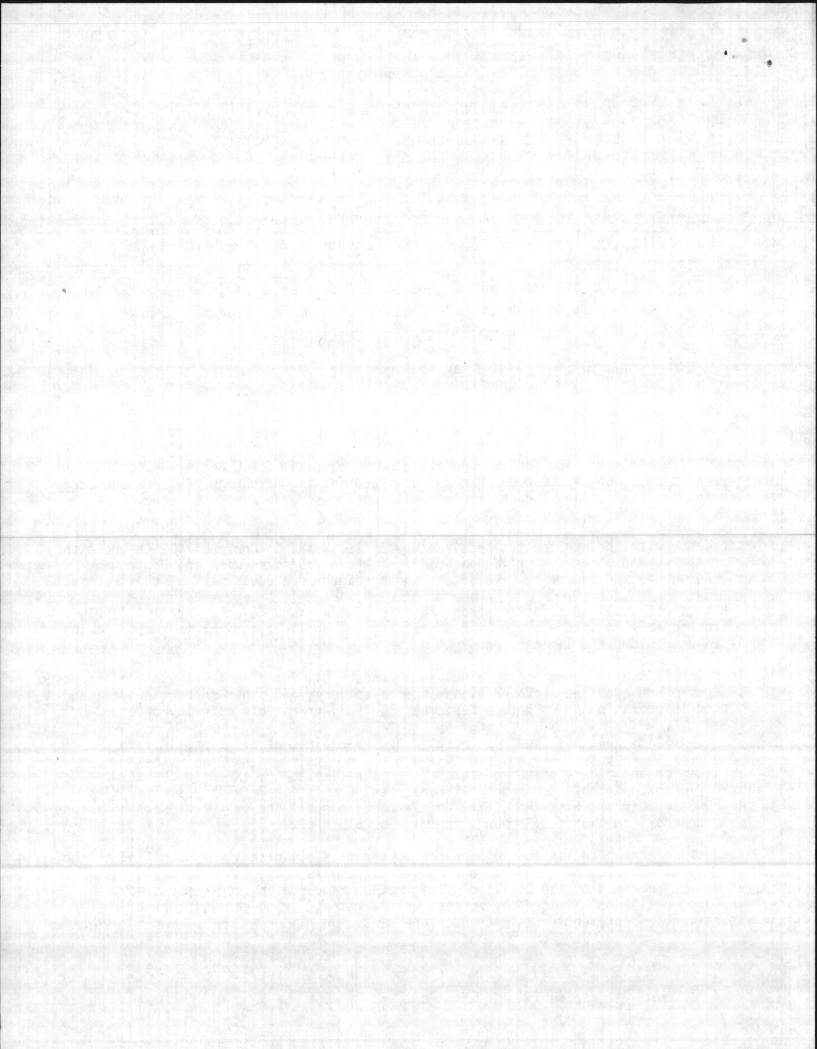
#### FOR THE

construction and operation of a No. 6 oil-fired boiler (#9) (maximum heat input of 16,500,000 BTU per hour) and for the operation of a No. 6 oil-fired boiler (#10) (maximum heat input of 11,200,000 BTU per hour), and for the discharge of the associated stack gases at its facility located at Seth Williams Boulevard, Paradise Point, Camp Lejeune, North Carolina, Onslow County,

in accordance with the application received May 1, 1981, and in conformity with the plans, specifications, and other supporting data, all of which are filed with the Department of Natural Resources and Community Development and are incorporated as part of this Permit.

This Permit shall be effective from the date of its issuance until April 1, 1986, is nontransferable to future owners and operators, and shall be subject to the following specified conditions and limitations:

- 1. This permit shall become voidable unless the No. 6 oil-fired boiler (#9) is constructed in accordance with the approved plans, specifications, and other supporting data and placed in operation on or before September 1, 1981, or as this date may be amended.
- 2. The facilities shall be properly operated and maintained at all times in such a manner as to effect an overall reduction in air pollution in keeping with the application and otherwise to reduce air contamination to the extent necessary to comply with applicable Environmental Management Commission Regulations, including 15 NCAC 2D .0503, .0516, and .0521, and in no case shall the sulfur dioxide emissions from the boilers exceed 2.3 pounds per million BTU input.
- 3. Reports on the operation and maintenance of the facilities shall be submitted to the Division of Environmental Management at such intervals and in such form and detail as may be required by the Division. Information required in such reports may include, but is not limited to, process weight rates, firing rates, hours of operation, and preventive maintenance schedules.



- 4. Camp Lejeune Marine Base, at least ninety (90) days prior to the expiration of this Permit, shall request its extension by letter. The letter should include the permit number and a description of modifications, if any, that have been made.
- 5. This permit is subject to revocation or modification upon a determination that information contained in the application or presented in support thereof is incorrect, conditions under which the permit renewal was granted have changed, or violations of conditions contained in the permit have occurred.
- 6. A violation of any term or condition of this Permit shall subject the Permittee to enforcement procedures contained in North Carolina General Statutes 143-215.114, including assessment of civil penalties.

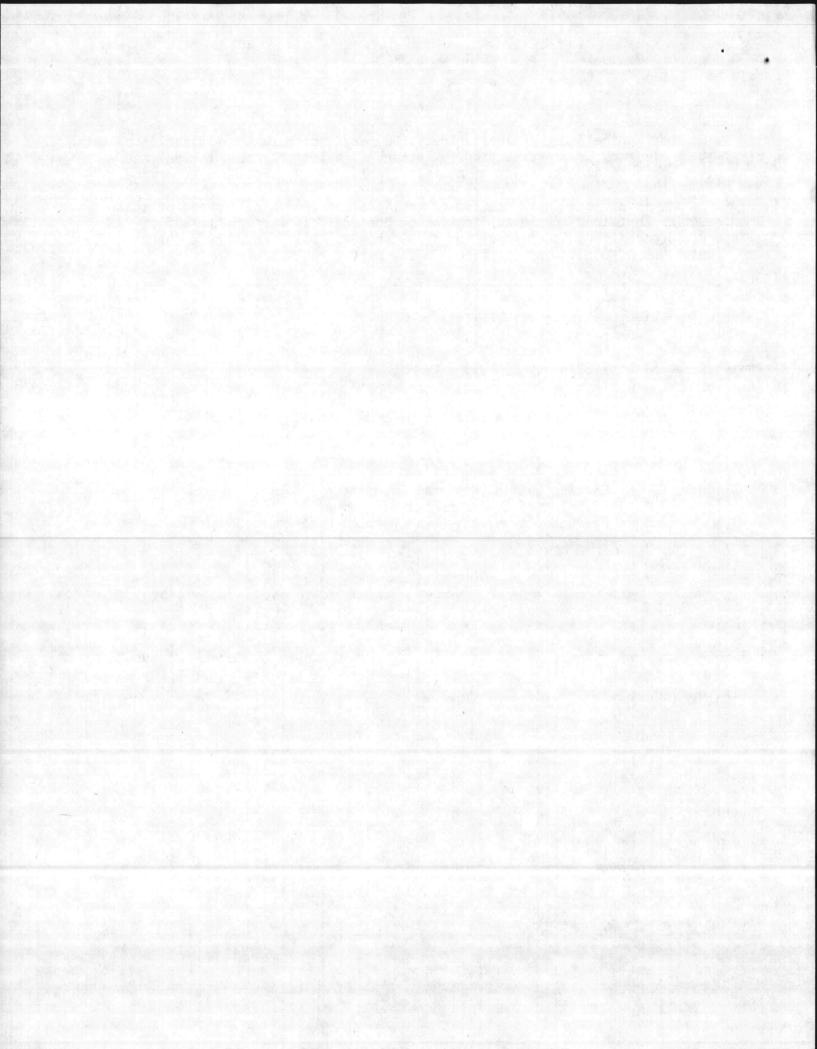
Permit issued this the 28th day of May.

NORTH CAROLINA ENVIRONMENTAL MANAGEMENT COMMISSION

Charles Wakild, Regional Supervisor Division of Environmental Management

By Authority of the Environmental Management Commission

Permit No. 4645



## UNITED STATES MARINE CORPS Marine Corps Base Camp Lejeune, North Carolina 28542

FAC: RCP: mkc 6280 4 Jun 1981

From: Commanding General

To: Base Maintenance Officer
Via: Staff Judge Advocate

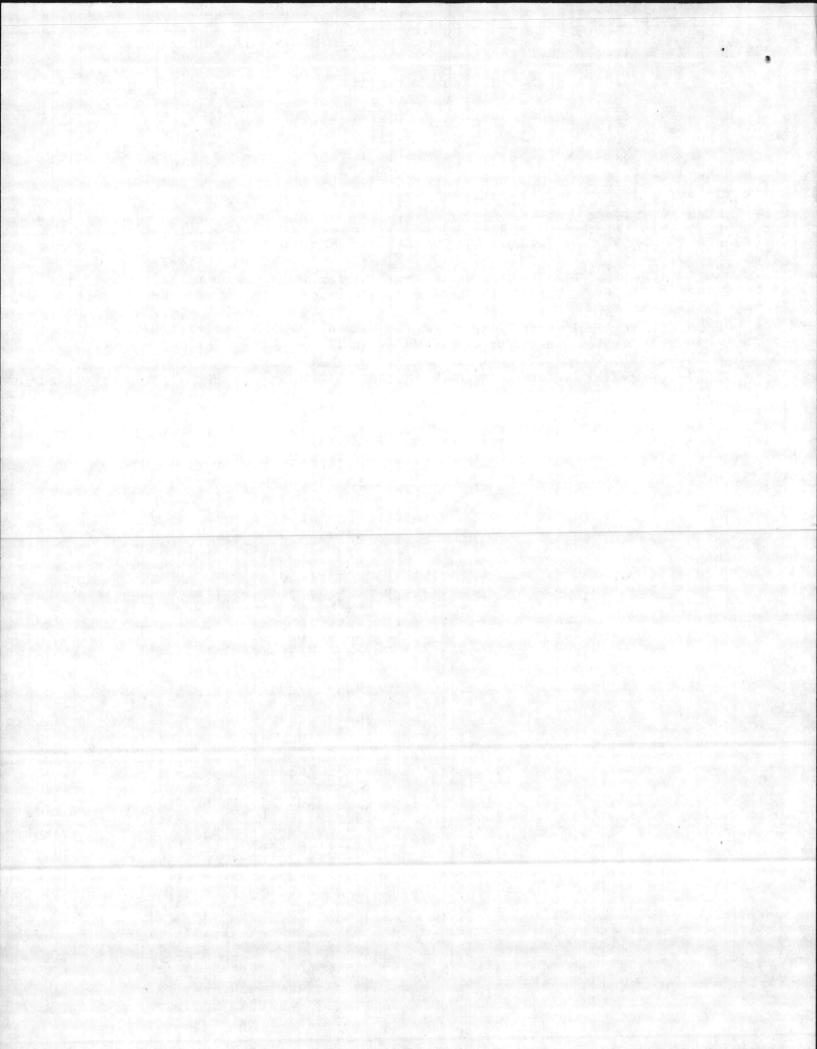
Subj: Permit No. 4645 for the construction and/or operation of air pollution

abatement facilities and/or emission sources

Encl: (1) Regional Supervisor, NC Dept of Natural Resources and Community Development 1tr of 28 May 1981 w/encl

1. Enclosure (1) is forwarded for appropriate action.

K. P. MILLICE, Jr. By direction



RECEIVED

#### NORTH CAROLINA

MAY 1 1981

### ENVIRONMENTAL MANAGEMENT COMMISSIONWILMINGTON REGIONAL OFFICE

RALEIGH

DEM

#### APPLICATION FOR

A "PERMIT"

TO CONSTRUCT AND OPERATE AIR

POLLUTION ABATEMENT FACILITIES AND/OR EMISSION SOURCES

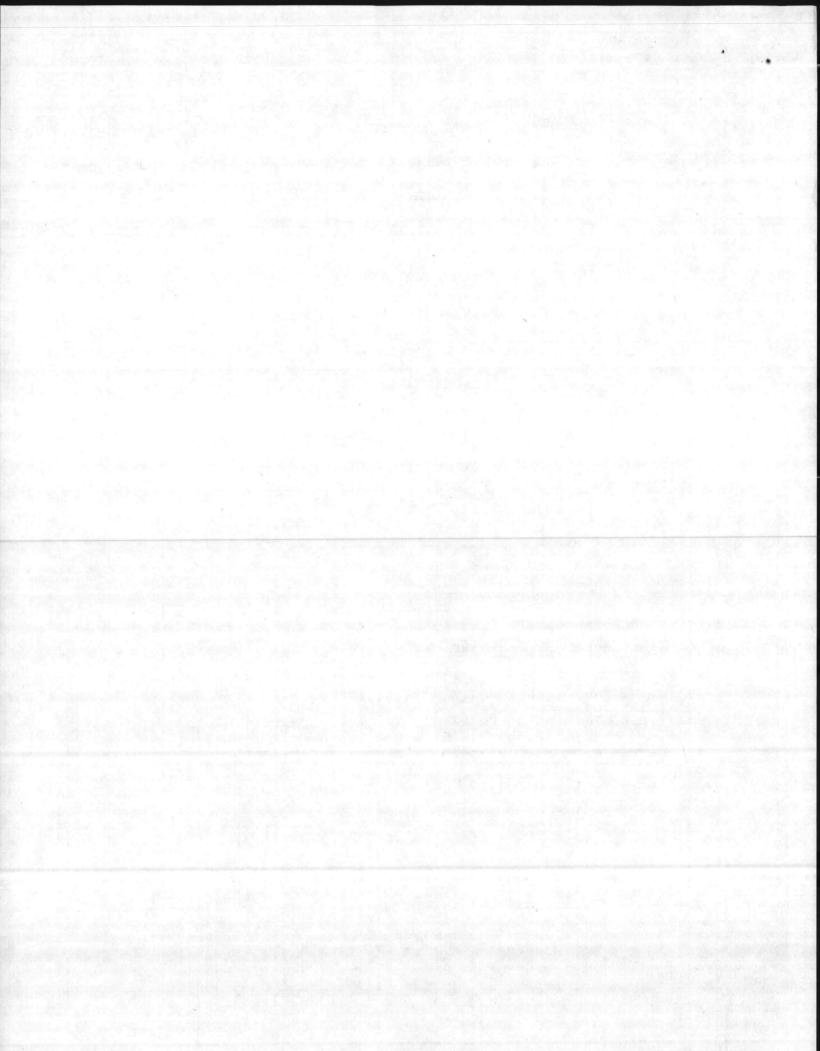
Major General D. B. Barker

(Name)

Marine Corps Base

(Address)

Camp Lejeune, N. C. 28542

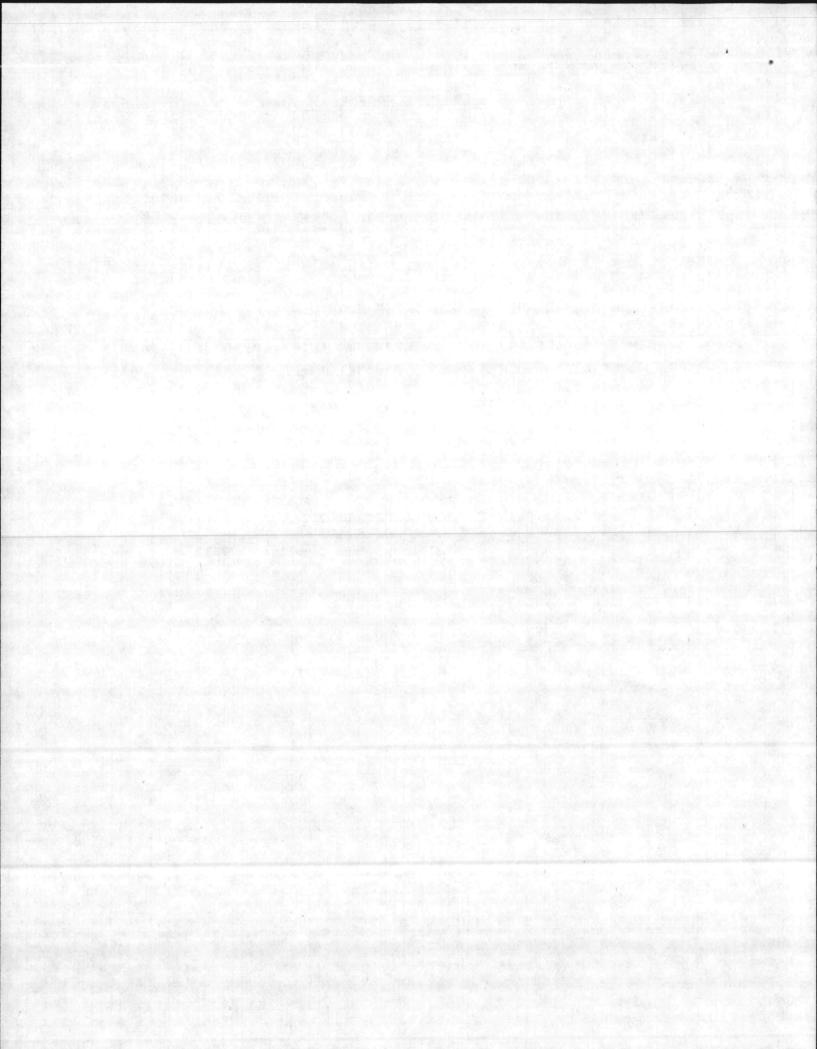


APPLICATION INSTRUCTIONS

#### THIS APPLICATION IS SUBJECT TO REJECTION UNLESS ALL REQUIRED

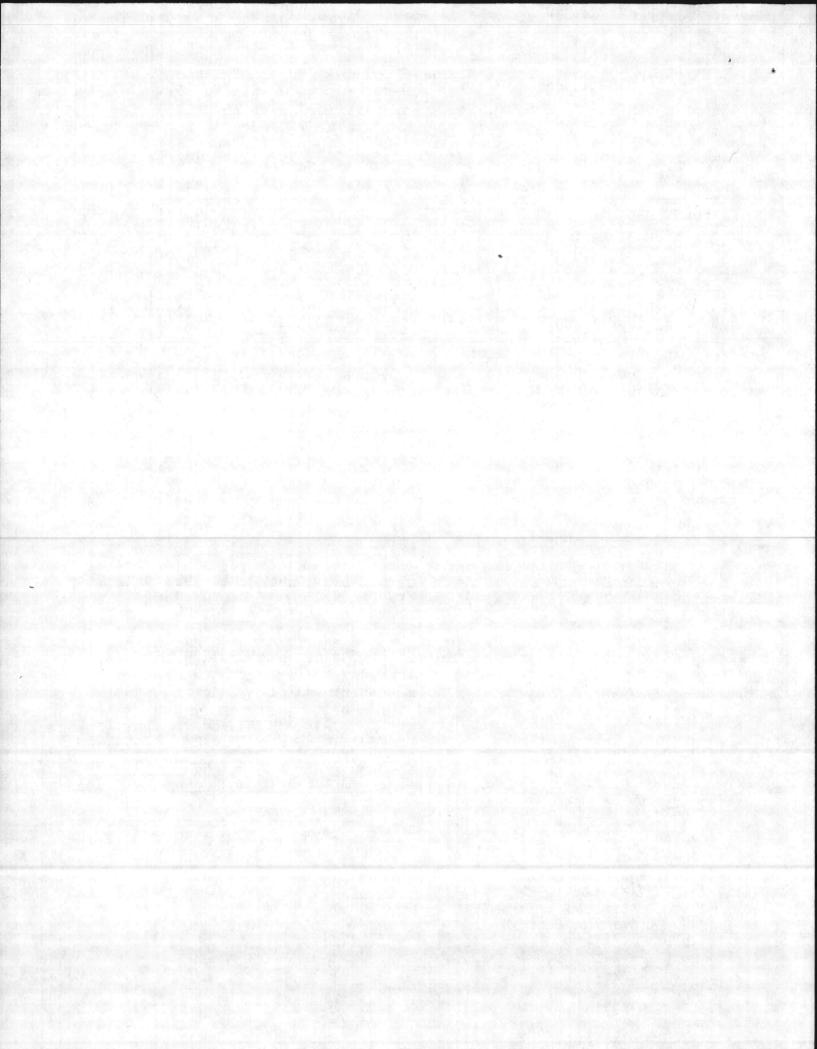
#### INFORMATION IS SUBMITTED

- ATTACH DETAILED ENGINEERING DRAWINGS OF SOURCE(S), PROCESS(ES) AND COLLECTION DEVICE(S) AS
  REQUESTED IN EACH SECTION. IF MULTIPLE SOURCES OR DEVICES, USE ADDENDUM SHEETS AS NECESSARY.
- Submit application, detailed engineering drawings, specifications and other supporting data and documents in TRIPLICATE.
- 3. Attach additional sheets as necessary to complete any portion of the application.
- 4. The application MUST BE SIGNED by the RESPONSIBLE INDIVIDUAL of the company that is to PURCHASE AND OPERATE the facilities for which a Permit is applied.
- 5. ALL APPLICANTS MUST COMPLETE THE FIRST PAGE AND SECTIONS I AND VI.
- 6. If an Incinerator, Fuel Burning Source, Wet Collection Device or Dry Collection Device is to be installed and operated, COMPLETE SECTIONS II, III, IV or V respectively.
- 7. All applications should be mailed to: ENVIRONMENTAL MANAGEMENT COMMISSION
  AIR QUALITY SECTION
  P. O. Box 27687
  Raleigh, North Carolina 27611



## APPLICATION FOR A "PERMIT" To Construct and Operate Air Pollution Abatement Facilities and/or Emission Sources Three Copies to be Submitted Fourth Copy Should be Retained by Applicant

				Date: 7 April 198	1
	by made by	U. S. Marine Con	rps		olina as amended, application
	(Nar	ne of Company, Establis	hment, Town, Etc.) (Includ	e Division or Plant Name	in Addition to Parent
for iss		) rmit" to construct and	Onslow at Camp (Street operate air pollution abat awings, specifications, an	ement facilities and/or	28542 ss of Plant or Facility) emissions sources at above
1. Nat	cure of Operation	on Conducted at the Abo	ve Facility: Militar	y Operation	
		ocess(es) Whose Emissio tered. (Complete Secti		ed by the Facility or So	ource(s) Which is/are to be
St	eam Boiler	, No. 9, Bldg 261	5; No. 6 oil fired		
Cor		be Installed and/or Op	f Proposed Control Device( erated. Include Make and		e Supplemental Data Sheets for Device(s) and Number of
No	control de	evice		• 2	
	taminant	Weight Rate of E	missions (lb/hr): e With Control Device	Control Eff	iciency (%): ice With Control Device
	O <sub>X</sub> and articulates	39.27	N/A	N/A	N/A
5. Nam	ne and Address	of Engineering Firm tha	t Prepared Plans: Smit Rale	th/Sinnett Archite	ects, P.A.
6. UI1	timate Disposit N/A	ion of Collected Pollut		th Facilities are to be (	Completed and in Operation:
8. Inc	licate Period o	f Time for Which Facili be Adequate: 20 Year	ties 9. Estimate Cos	t of Air Pollution Cont	rol Device \$ 0
Name:	Major Gene	ral D. B. Barker	ity is Operated Per Year: 8760  Marine Corps Base		
	(Responsible In Operating Faci	dividual of Company Pur lity <u>PLEASE PRINT</u> )	chasing/	Camp Lejeune	
				North Carolina	28542
Signati	ure and Title:	DB Ban be	y Man assessi	Telephone	Number: 451-5024
		D. B. BARKER, M Commanding Gene			



#### I: GENERAL DATA FOR PROCESSES

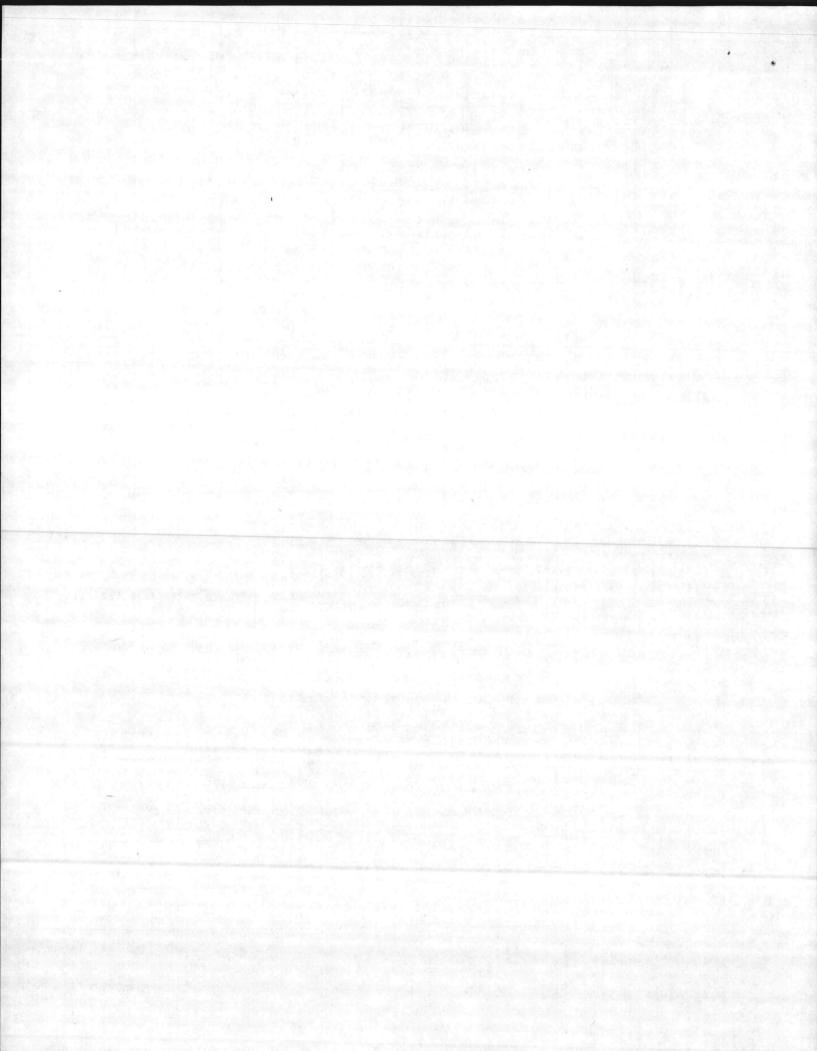
\*Attach detailed process engineering drawings, equipment drawings and flow diagrams for the process(es) or source(s) · being constructed or altered. Name of Process: Heating Plant Total Weight of Materials Entering this Process: 112 gal/hr 1b/hr or ton/hr Pollutant(s) to be Controlled: Height of Process Stack or Vent Above Ground Level 29 ft. Inside area of Stack 3.14 ft2. Particulate Emission Rate (Before Control) \_\_\_\_\_\_ 2.76 \_\_\_ lb/hr Particle Size Distribution: 0-5µ %, 5-10µ %, 10-20µ %, 20-30µ %, 30-40µ %, 40-50µ %,>50µ Gaseous Emission(s): Name (Chemical Formula) µg/m³, PPM or 1b/hr  $SO_{x}$ 36.51 II. SUPPLEMENTARY DATA FOR INCINERATORS (Including Conical Incinerators) Circle Type of Waste or Indicate Composition: Type 0 Type I Type II Type III Type IV Combustible: \_\_\_\_ % Non-Combustible: \_\_\_\_ % Moisture: \_\_\_\_ % Heat Value: \_\_\_\_ BTU/1b Total Waste Generated Per Day: 1b. Hours Incinerator will be Operated: hrs/day Design Capacity for Above Waste: lbs/hr Manufacturer and Model Number; Approximate Cost: Primary Chamber Volume: \_\_\_\_ ft.3 Secondary Chamber Volume: ft.3 Air Requirements: Total Excess Air. \_\_\_\_ % Draft: Natural \_\_\_\_ Induced \_\_\_\_ Is there a Continuous Exhaust Gas Temperature Recorder? Yes\_\_\_\_ No\_ Stack: Inside Area \_\_\_ft.<sup>2</sup> Height \_\_\_ft. Gas Velocity \_\_\_ft/sec Temperature \_\_\_°F Fan Capacity \_\_\_cfm Stack Lined? \_\_ Is there a Wet Scrubber? Yes \_\_\_ No \_\_\_ Flow Rate of H<sub>2</sub>O into Scrubber \_\_\_gal/min Temperature Before Scrubber \_\_\_°F Aux. Fuel: 0il \_\_\_\_ Gas \_\_\_\_ Other \_\_\_\_ Burner Rating: Primary Chamber Secondary Chamber BTU/hr BTU/hr BTU/hr Primary Burner: Is there a Preheat Timer? Yes \_\_\_\_ No \_\_\_\_ Preheating Time: \_\_\_\_min. Secondary Burner or Afterburner: Is there a Timer? Yes \_\_\_\_ No \_\_\_\_ Length of Time Burner is Operated min. Is the Timer Reset by Charging Door? Yes \_\_\_\_ No \_\_\_ Other Mode of Burner Control \_\_\_\_

Title:

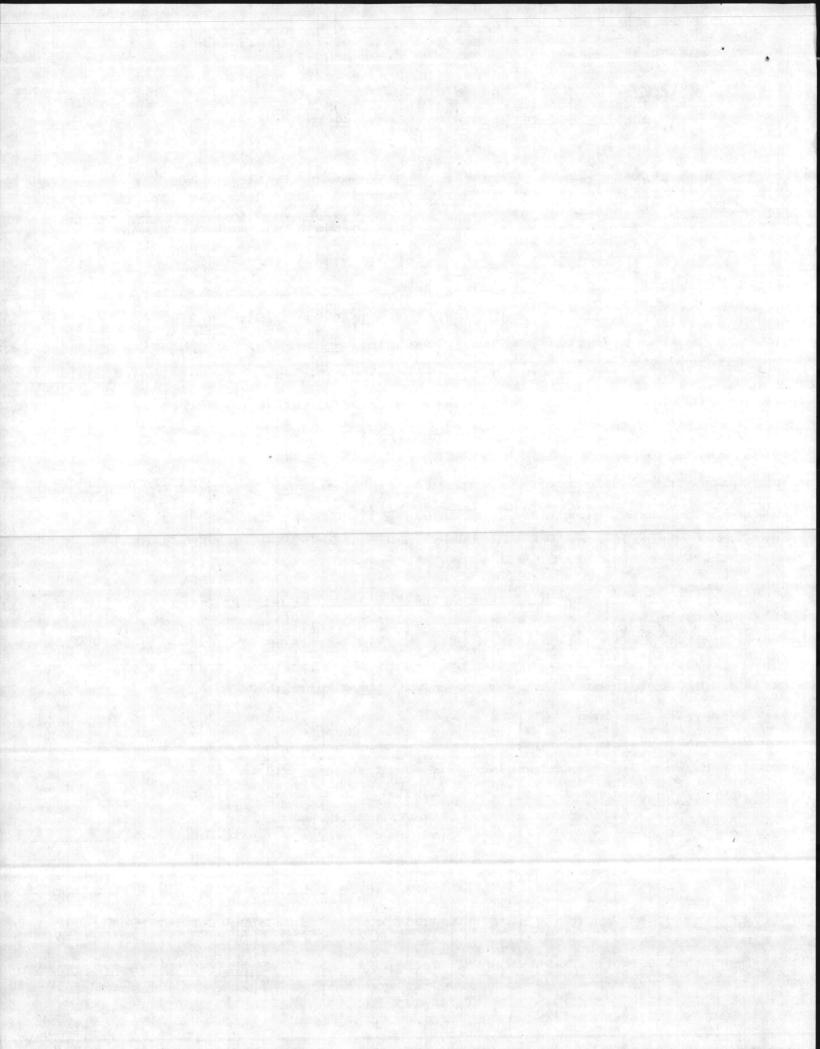
Type of Feed: Manual \_\_\_\_\_ Automatic \_\_\_\_ If Automatic, Describe \_\_\_\_\_

Signature:

Di-stance from Incinerator to Nearest Structure(s) in which People Live and/or Work.\_\_\_\_ft.

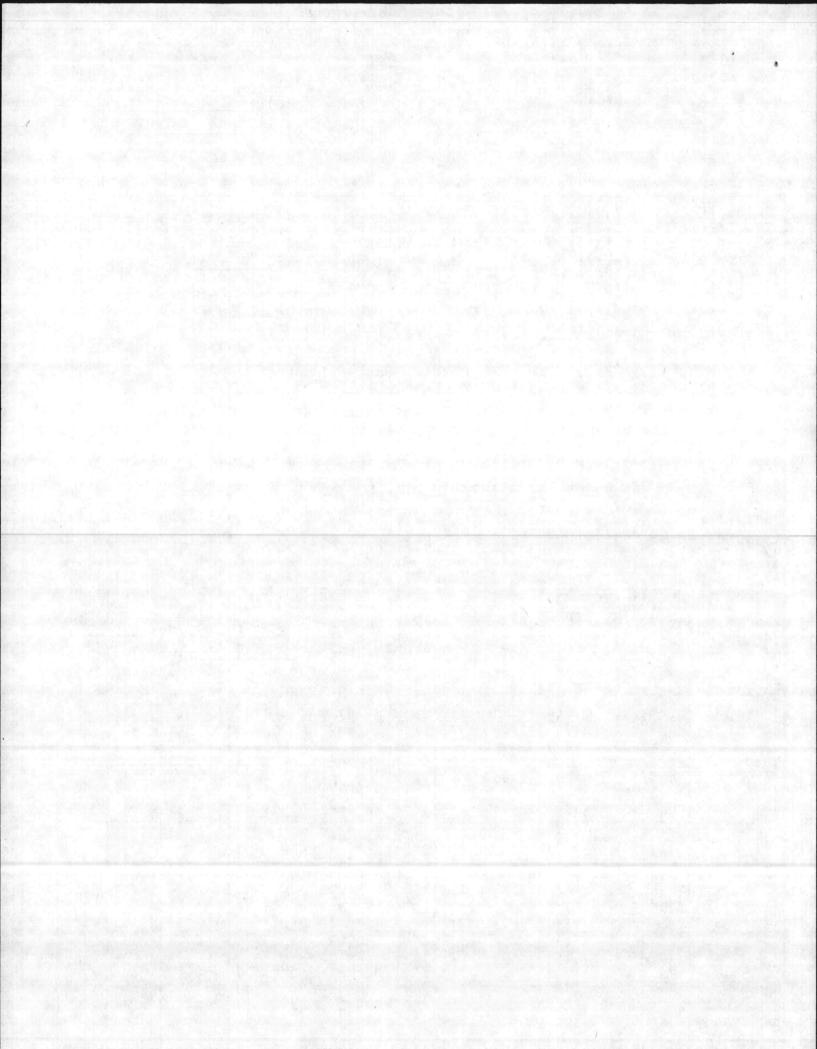


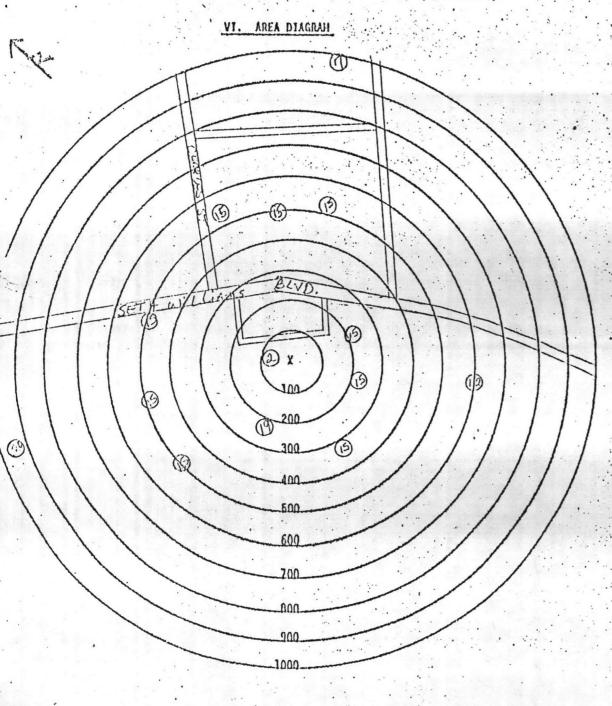
Cleaver-Brooks Specify Actual Acount of Each Fuel Used in Above Source (s):    146,900	*Attach detailed dimensioned drawing or sketch show recovery boilers.	ing internal features of dryers, wood or coal fired boilers, and
Cleaver-Brooks Make and Model Number of Model CB-600-400 Volume of Furnace 123 ft3  Specify Actual Amount of Each Fuel Used in Above Source (s):  146,900 BTU/SET; Other BTU/SET; Other Specify type, amount and heating value)  Specify Maximum Rating for Each Fuel Burning Source:  Coal 1112 Wood Natural Gas Other Saximum Rating for Each Fuel Burning Source:  Coal 011 112 Wood Natural Gas Other Used: Hand Fired Spreader Stoker Underfeed Striker Chain Grate Traveling Grate Pulverizer Cyclone Furnace Other (Specify)  Which Content of Fuel 2.05 x Specify Standby Fuel None Maximum x Sulfur Traveling Grate Pulverizer Cyclone Furnace Other (Specify)  Which Content of Fuel;  Specify Method and Schedule of Tube Cleaning, if Applicable:  Specify Method and Schedule of Tube Blowing Schedule Schedule Schedule Of Tube Blowing Schedule Schedule Schedule Of Tube Blowing Schedule Schedule Schedule Of Book Schedule Indication Bevice: Wat Dry Steam Injection Air Injection Is Collected Flyash Reinjected? Straft on Soiler (Natural Induced X) offn at OF Schedule Indication Bovice: Wat Dry Steam Injection Air Injection Is Collected Flyash Reinjected? Survices Nation Frogerty Boundaries: Z  Eaximum Capacity Rating, by Type, for All Fuel Burning Units Excluding that Itemized Above: (Total Like Units) 1 and 1 lb/hr Wood 1b/hr Oil 76 gal/hr Natural Gas SCF/hr  1V. SUPPLEMENTARY DATA FOR WET COLLECTION DEVICES  *Actinch detailed engineering dimmings of the contract device and particle size versus removal efficiency curves. Supplementary Data For Wet College Schedule India Countercurrent India Cross-Sectional Area in Type of Packing From Packed India Cross-Sectional Area ft Type of Plate India Cross-Sectional Area ft Depth of Packing ft Runber of Nozzles India Cross-Sectional Area ft Depth of Packing ft Counter Counter India Cross-Sectional Area ft Depth of Packing ft Counter Counter India Cross-Sectional Area ft Depth of Packing ft Counter Counte	Type of Fuel Burning Source Boiler St	tack Height Above Ground Level 29 ft. Inside Area of Stack3.14 ft2
18/hr; 0il Grade 6 Amount 112 gal/hr, at   BTU/SGF; Other   Specify type, amount and heating value   Specify Eaximum Rating for Each Fuel Burning Source:   Specify Eaximum Rating for Each Fuel Burning Source:   Specify Saximum Rating for Each Fuel Burning Source:   Specify Faximum Rating for Each Fuel Burning Source:   Specify Saximum Sulfur Content of Fuel 2.05 x	· Cleaver-Brooks	
10/hr;   011 Grade   0	Specify Actual Amount of Each Fuel Used in Above Source (	(s):
(Specify Maximum Rating for Each Fuel Burning Source:    Coal	Coal 1b/hr; Oil Grade 6 Amount 112 gal/hr,	146,900 at lb/gal or lb/hr
Specify Maximum Rating for Each Fuel Burning Source:    Doal	Wood lb/hr; Natural Gas SCF/hr, at BT	U/SCF; Other
Online Time Surphement Data For Within Property Boundaries:  **Actach detailed engineering danwings of the control device and purticle size versus removal efficiency curves.  **Actach detailed engineering danwings of the control device and purticle size versus removal efficiency curves.  **Actach detailed engineering danwings of the control device and purticle size versus removal efficiency curves.  **Actach detailed engineering Administration and Make-up Rates) gal/min or gal/1000 ft²  **DIAM Throat For Spreader Stoker Underfeed Striker Chain Grete Countercurrent Encircle Throat Velocity ft² Type of Plate Counter of Flates in a ft² Type of Plate ft² Type of Plates		(Specify type, amount and heating value)
None Maximum % Sulfur	Specify Maximum Rating for Each Fuel Burning Source:	
Traveling Grate Pulverizer Cyclone Furnace Other (Specify)		
Traveling Grate Pulverizer Cyclone Furnace Other (Specify)	Maximum Sulfur Content of Fuel $\frac{2.05}{3}$ Specify Star	ndby Fuel None Maximum % Sulfur
Specify Method and Schedule of Tube Cleaning, if Applicable:  Specify Method and Schedule of Tube Cleaning, if Applicable:  Soal _ % Wood _ % Other _ % Lancing Tube Blowing Schedule  Imission Control Equipment (Describe in Detail in Sections IV and V)  Steam Injection Air Injection Is Collected Flyash Reinjected?  Orall Collection Device: Wat Induced X )	[1] [1] [1] [1] [1] [1] [1] [1] [1] [1]	3시 [22] 이 일어나 있다고 있는데 모든 사람이 되었다고 되었다고 있다고 있는데 그 나를 받는데 되었다고 있다.
Tube Blowing Schedule Tube Blowing Blowers Blowdown Schedule Tube Blowing Schedule Tube Blowing Blowers Blowdown Schedule Tube Blowing Schedule Tube Blowing Blowdown Schedule Tube Blowing Blowdown Indicate Blowdown Schedule Tube Blowing Blowdown Indicate Blowdown Schedule Blowdown Indicate I	Traveling Grate	Pulverizer Cyclone Furnace Other (Specify)
Steam Injection IV and V)  collection Device: Wat Dry Steam Injection Air Injection Is Collected Flyash Reinjected? praft on Boiler (Natural Induced X) cfm at OF  cotal Number of Fuel Burning Sources Within Property Boundaries: Z  aximum Capacity Rating, by Type, for All Fuel Burning Units Excluding that Itemized Above: (Total Like Units) 1  coal lb/hr Wood lb/hr Oil 76 gal/hr Natural Gas SCF/hr	Ash Content of Fuel: Specify Met	hod and Schedule of Tube Cleaning, if Applicable:
Steam Injection Device: Wat Dry Steam Injection Air Injection Is Collected Flyash Reinjected? braft on Boiler (Natural Induced X ) cfm at of	Coal % Wood % Other % Lancing	Tube Blowing Schedule
oral Number of Fuel Burning Sources Within Property Boundaries: Z  aximum Capacity Rating, by Type, for All Fuel Burning Units Excluding that Itemized Above: (Total Like Units) 1  locallb/hr Woodlb/hr Oil 76 gal/hr Natural GasSCF/hr	Emission Control Equipment (Describe in Detail in Section	s IV and V)
1b/hr   Wood 1b/hr   Oil   76   gal/hr   Natural   Gas   SCF/hr     IV.   SUPPLEMENTARY DATA FOR WET COLLECTION DEVICES     *Attach detailed engineering drawings of the control device and particle size versus removal efficiency curves.     iquid Scrubbing Medium and Additives:   gal/min or gal/1000 ft3     otal Liquid Injection Rate (Include Recirculated and Make-up Rates)   gal/min or gal/1000 ft3     perating Pressure Drop Across Device   in H20     NSWER FOLLOWING QUESTIONS FOR SPECIFIC DEVICE:     ENTURI SCURSBER: Inlet Area   in <sup>2</sup>   Throat Area   in <sup>2</sup>   Throat Velocity   ft/sec     RAVITY SPRAY CHAMBER:   Number of Nozzles   Liquid Droplet Size   u   Co-Current   Countercurrent     ET CYCLONE:	Draft on Boiler (Natural Induced A )	cfm at OF
*Attach detailed engineering drawings of the control device and particle size versus removal efficiency curves.  iquid Scrubbing Medium and Additives:  otal Liquid Injection Rate (Include Recirculated and Make-up Rates) gal/min or gal/1000 ft <sup>3</sup> perating Pressure Drop Across Device in H20  NSWER FOLLOWING QUESTIONS FOR SPECIFIC DEVICE:  ENTURI SCURSBER: Inlet Area in <sup>2</sup> Throat Area in <sup>2</sup> Throat Velocity ft/sec  RAVITY SPRAY CHAMBER: Number of Nozzles Liquid Droplet Size u Co-Current Countercurrent  ET CYCLONE:	Maximum Capacity Rating, by Type, for All Fuel Burning U	nits Excluding that Itemized Above: (Total Like Units) ]
*Attach detailed engineering drawings of the control device and particle size versus removal efficiency curves.  iquid Scrubbing Medium and Additives:  otal Liquid Injection Rate (Include Recirculated and Make-up Rates) gal/min or gal/1000 ft <sup>3</sup> perating Pressure Drop Across Device in H <sub>2</sub> O  NSWER FOLLOWING QUESTIONS FOR SPECIFIC DEVICE:  ENTURI SCURBBER: Inlet Area in <sup>2</sup> Throat Area in <sup>2</sup> Throat Velocity ft/sec  RAVITY SPRAY CHAMBER: Number of Nozzles Liquid Droplet Size u Co-Current Countercurrent  ET CYCLONE:	Coal lb/hr Wood lb/hr Oil 76 gal/hr Natura	1 Gas SCF/hr
iquid Scrubbing Medium and Additives:  otal Liquid Injection Rate (Include Recirculated and Make-up Rates) gal/min or gal/1000 ft <sup>3</sup> perating Pressure Drop Across Device in H <sub>2</sub> O  NSWER FOLLOWING QUESTIONS FOR SPECIFIC DEVICE:  ENTURI SCURBBER: Inlet Area in <sup>2</sup> Throat Area in <sup>2</sup> Throat Velocity ft/sec  RAVITY SPRAY CHAMBER: Number of Nozzles Liquid Droplet Size u Co-Current Countercurrent  ET CYCLONE:	IV. SUPPLEMENTAL	RY DATA FOR WET COLLECTION DEVICES
perating Pressure Drop Across Devicein H <sub>2</sub> O  NSWER FOLLOWING QUESTIONS FOR SPECIFIC DEVICE:  ENTURI SCURSBER: Inlet Areain <sup>2</sup> Throat Areain <sup>2</sup> Throat Velocityft/sec  RAVITY SPRAY CHAMBER: Number of Nozzles Liquid Droplet Size u Co-Current Countercurrent  ET CYCLONE:	*Attach detailed engineering drawings of the control	device and particle size versus removal efficiency curves.
Perating Pressure Drop Across Device in H <sub>2</sub> O  NSWER FOLLOWING QUESTIONS FOR SPECIFIC DEVICE:  ENTURI SCURBBER: Inlet Area in <sup>2</sup> Throat Area in <sup>2</sup> Throat Velocity ft/sec  RAVITY SPRAY CHAMBER: Number of Nozzles Liquid Droplet Size u Co-Current Countercurrent  ET CYCLONE:	Liquid Scrubbing Medium and Additives:	
NSWER FOLLOWING QUESTIONS FOR SPECIFIC DEVICE:  ENTURI SCURBBER: Inlet Areain2 Throat Areain2 Throat Velocityft/sec  RAVITY SPRAY CHAMBER: Number of Nozzles Liquid Droplet Size u Co-Current Countercurrent  ET CYCLONE:	Total Liquid Injection Rate (Include Recirculated and Make	e-up Rates) gal/min or gal/1000 ft <sup>3</sup>
ENTURI SCURBER: Inlet Areain2 Throat Areain2 Throat Velocityft/sec  RAVITY SPRAY CHAMBER: Number of Nozzles Liquid Droplet Size u Co-Current Countercurrent  ET CYCLONE:	Operating Pressure Drop Across Device in H <sub>2</sub> O	
RAVITY SPRAY CHAMBER: Number of Nozzles Liquid Droplet Size u Co-Current Countercurrent  ET CYCLONE: PACKED TOWER OR PLATE TOWER: ody Diameter in Length in Cross-Sectional Area ft <sup>2</sup> Type of Plate  nlet Area in <sup>2</sup> Number of Nozzles Length ft Depth of Packing f  uslet Area in <sup>2</sup> Number of Plates Type of Packing	ANSWER FOLLOWING QUESTIONS FOR SPECIFIC DEVICE:	
PACKED TOWER OR PLATE TOWER:  ody Diameter in Length in Cross-Sectional Area ft <sup>2</sup> Type of Plate  nlet Area in <sup>2</sup> Number of Nozzles Length ft Depth of Packing f  utlet Area in <sup>2</sup> Number of Plates Type of Packing	VENTURI SCURSBER: Inlet Area in2 Throat Area	in <sup>2</sup> Throat Velocity ft/sec
ody DiameterinLengthin Cross-Sectional Areaft2 Type of Plate  nlet Areain2 Number of Nozzles Lengthft Depth of Packingf  stlet Areain2in2in2in2in3in4	GRAVITY SPRAY CHAMBER: Number of Nozzles Liquid [	Proplet Size u Co-Current Countercurrent
nlet Area in <sup>2</sup> Number of Nozzles Length ft Depth of Packing f  utlet Area in <sup>2</sup> Number of Plates Type of Packing	WET CYCLONE:	PACKED TOWER OR PLATE TOWER:
outlet Area in <sup>2</sup> Number of Plates Type of Packing	Body Diameter in Length in	Cross-Sectional Area ft <sup>2</sup> Type of Plate
THER WET COLLECTION DEVICES: GIVE COMPLETE DESCRIPTION INCLUDING DESIGN PARAMETERS AND DETAILED ENGINEERING DRAWINGS.	Outlet Areain <sup>2</sup>	Number of Plates Type of Packing
그 사람들은 사람들이 되었다. 그는 사람들은 사람들은 사람들은 사람들은 사람들은 사람들은 사람들은 사람들은	OTHER WET COLLECTION DEVICES: GIVE COMPLETE DESCRIPTION I	NCLUDING DESIGN PARAMETERS AND DETAILED ENGINEERING DRAWINGS.
ignature:Title:	Signature:	Title:



. SUPPLEMENTARY DATA FOR DRY COLLECTION DES

BAGHOUSES:	Cloth Areaft <sup>2</sup>	Bag Material	
	Number of Compartments	Pressure - Drop Total	in H <sub>2</sub> C
	Method of Cleaning	Air-to-Cloth Ratio	ft/min
	Time Between Cleaning mins, hrs		
ELECTROSTAT	TIC PRECIPITATORS:		
GENERAL:			
Ef	ffective Area of Grounded Collector Plates	ft <sup>2</sup>	
. Nu	umber of Compartments or Chambers	Number of Cells per Compartment	
El	lectrical Field Gradient at the Discharge or	r Emitting Electrodes KV/in	
Av	verage Electrical Field Gradient at the the	Grounded Collecting Electrodes KV,	/in
Fi	ields of Treatment Potential Appl	lied to Emitting Wires KV	
SINGLE S	STAGE TYPE:		
· Di	stance Between Emitting Wires and Collectin	ng Platesin.	
Nu	umber of Isolatable Bus Sections	Corona Power Watts/1000 cfm	
TWO STAG	SE TYPE:		
Di	stance Between First Stage Emitting Electro	odes and Field Receiver Electrodes (Ground) _	in
Po	tential Applied to Second Stage Emitting Pl	ates KV	
Di	stance Between Second Stage Emitting Plates	and Grounded Collection Platesin	n
YCLONES/MU	LTICYCLONES:		
imple Cycl		Multicyclone	
. Dia	ameterin	Diameteri	in
In	let Dimensions	Inlet Dimensions of Individual C	Cyclone
Ou	tlet Dimensions	Outlet Dimensions of Individual	Cyclone
Pro	essure Drop in H <sub>2</sub> O	Pressure Drop	_ in H <sub>2</sub> 0
Nur	mber of Cyclones	Number of Cyclones	
THED DOV C	OUT FOTTON DEVICES. CINE COMPLETE DETAILED	ENCINEEDING DESCRIPTION AND DRAUTNES	
THEK DAY C	OLLECTION DEVICES: GIVE COMPLETE DETAILED	ENGINEERING DESCRIPTION AND DRAWINGS.	





Owner Marine Corps Base, Camp Lejeune, N.C.

11.000

Location Seth Williams, Paradise Point (Cive Street Address)

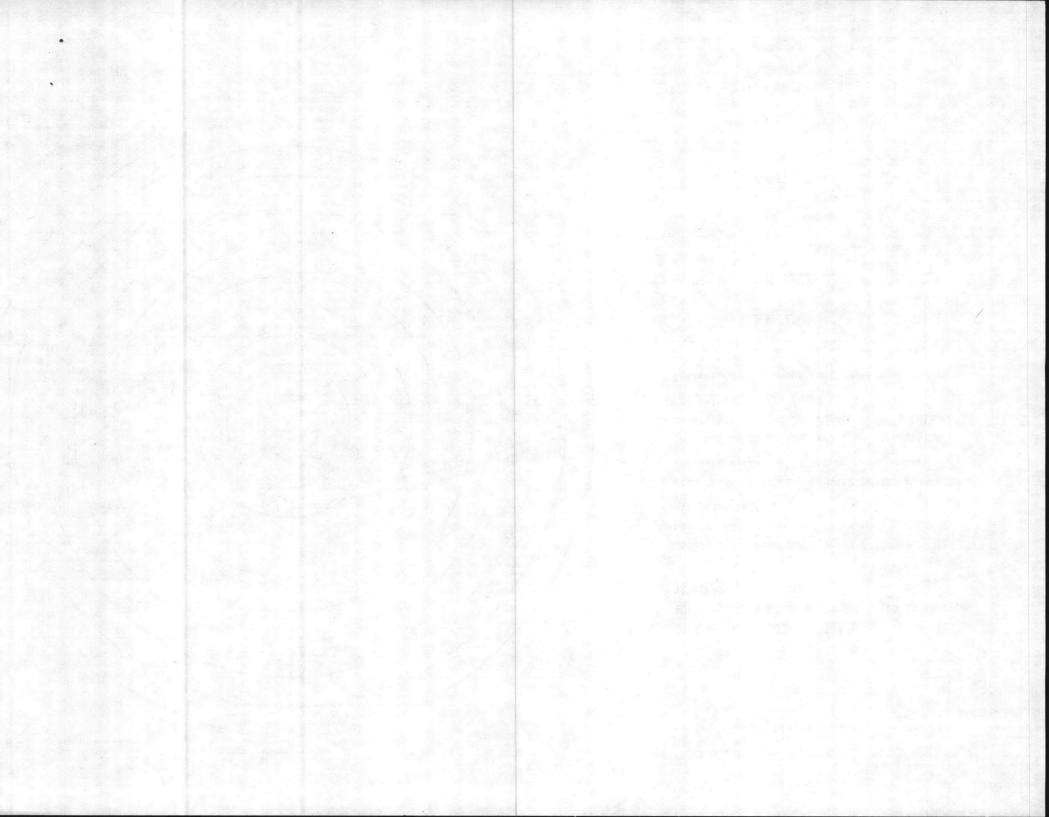
#### INSTRUCTIONS:

- 1. Show all surrounding buildings and roads within 1000 feet of subject equipment which is located at center of circles.
- Indicate location and type of building by the use of small numbered circles with the description below.
- 3. Show roads as lines representing the road edges.
  Indicate street names and highway numbers.
- Show wooded or cleared areas by approximate boundary lines and the words "woods", "cleared", "cornfield", etc.
- 6. Indicate direction of north by arrow.

CODE DESCRIPTION	
<b>O</b> (1)	(12) Sewage Lift Station (15) Barracks-Bachelor
② Mess Hall	
<u> </u>	(19) Swimming Pool (20) Residence
<b>(1)</b>	egy no side no c
6	
<ul><li>Warehouse</li></ul>	
Ŏ	
0	

EXAMPLE (1) Church
(2) Residence

X Indicates location of equipment.



#### NORTH CAROLINA

#### ENVIRONMENTAL MANAGEMENT COMMISSION

RALEIGH

APPLICATION FOR

WILMINGTON REGIO

A "PERMIT"

TO CONSTRUCT AND OPERATE AIR

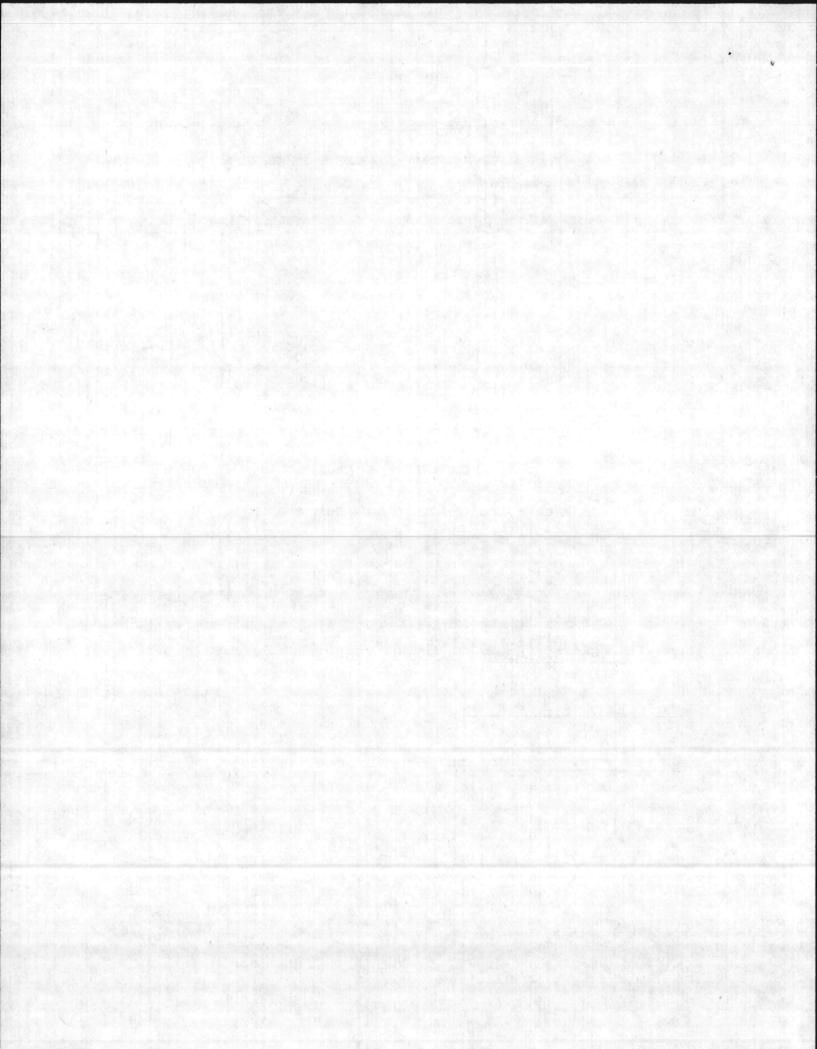
POLLUTION ABATEMENT FACILITIES AND/OR EMISSION SOURCES

Filed By: Major General D. B. Barker
(Name)

Marine Corps Base (Address)

Camp Lejeune, North Carolina

AQ-22

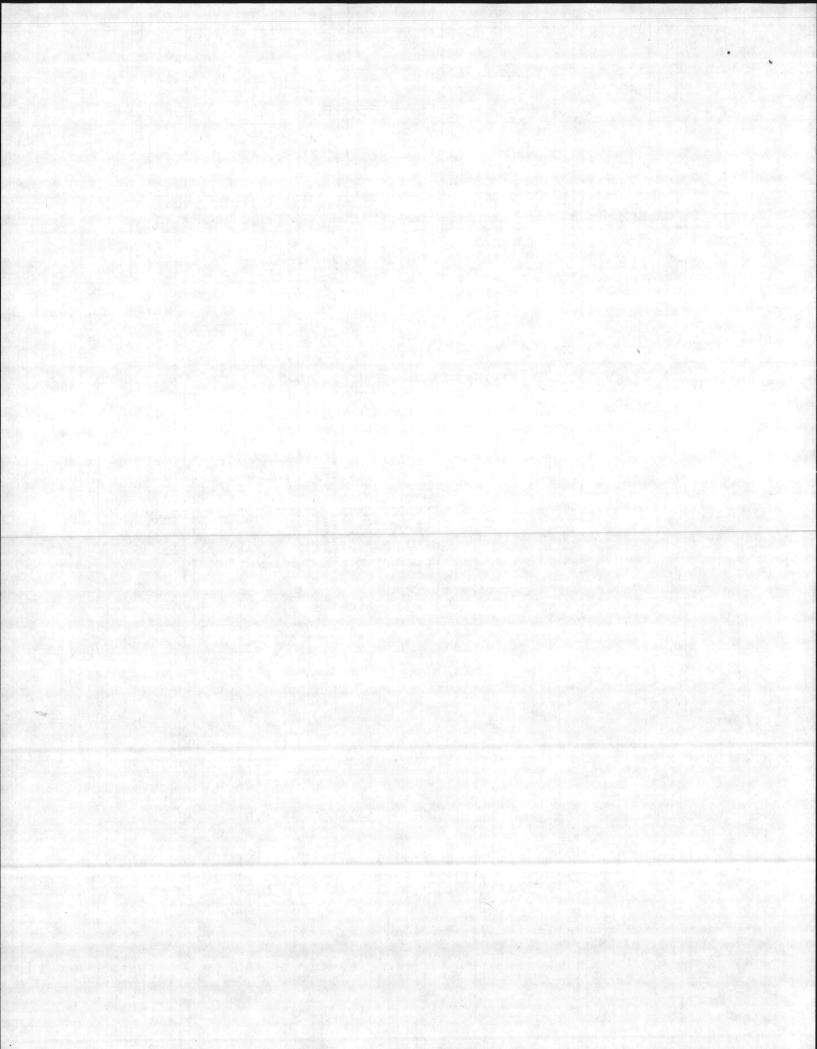


#### APPLICATION INSTRUCTIONS

## THIS APPLICATION IS SUBJECT TO REJECTION UNLESS ALL REQUIRED

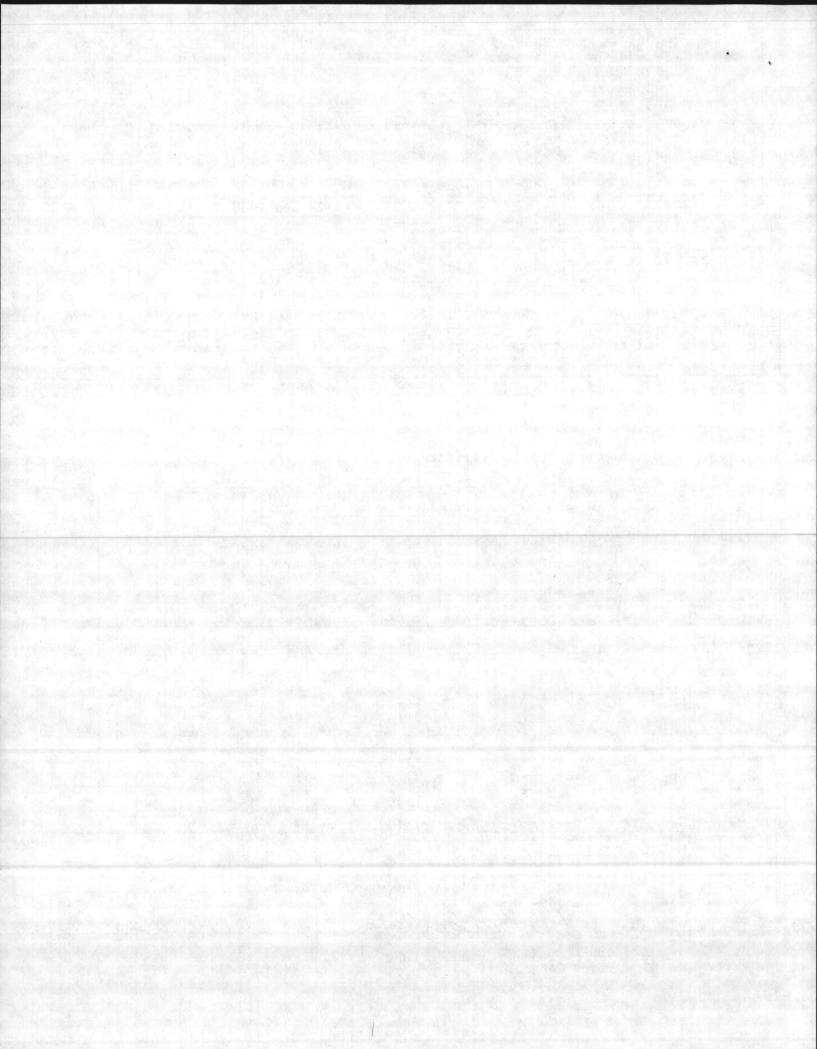
#### INFORMATION IS SUBMITTED

- ATTACH DETAILED ENGINEERING DRAWINGS OF SOURCE(S), PROCESS(ES) AND COLLECTION DEVICE(S) AS
  REQUESTED IN EACH SECTION. IF MULTIPLE SOURCES OR DEVICES, USE ADDENDUM SHEETS AS NECESSARY.
- Submit application, detailed engineering drawings, specifications and other supporting data and documents in TRIPLICATE.
- 3. Attach additional sheets as necessary to complete any portion of the application.
- 4. The application MUST BE SIGNED by the RESPONSIBLE INDIVIDUAL of the company that is to PURCHASE AND OPERATE the facilities for which a Permit is applied.
- 5. ALL APPLICANTS MUST COMPLETE THE FIRST PAGE AND SECTIONS I AND VI.
- If an Incinerator, Fuel Burning Source, Wet Collection Device or Dry Collection Device is to be installed and operated, COMPLETE SECTIONS II, III, IV or V respectively.
- 7. All applications should be mailed to: ENVIRONMENTAL MANAGEMENT COMMISSION
  AIR QUALITY SECTION
  P. O. Box 27687
  Raleigh, North Carolina 27611



# APPLICATION FOR A "PERMIT" To Construct and Operate Air Pollution Abatement Facilities and/or Emission Sources Three Copies to be Submitted Fourth Copy Should be Retained by Applicant

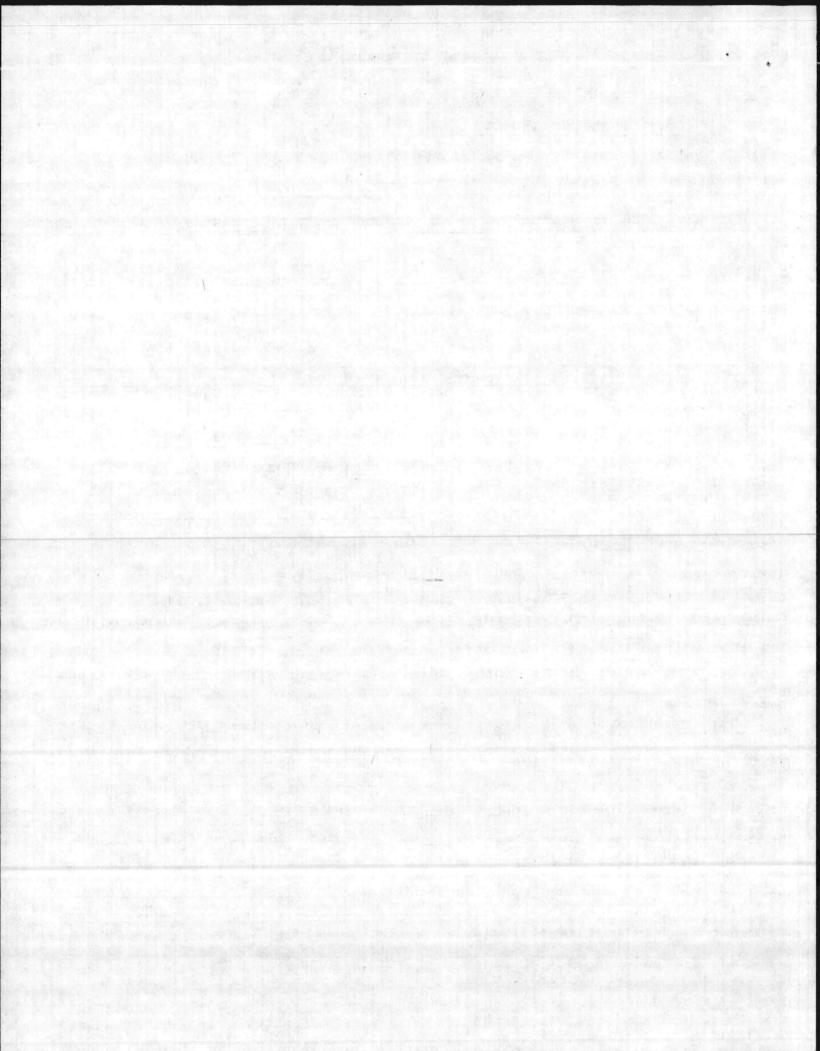
				Date:	24 Sep 1980	
In a	accordance with	the provisions of Article 2	?1 of Chapter 143,	General Sta	tutes of North Carolina	a as amended, application
is h	mereby made by	Marine Corps Bas				
		(Name of Company, Establishm	ent, Town, Etc.)	(Include Div	ision or Plant Name in	Addition to Parent
		in the County of Or	slow at	Jack	sonville, North	Carolina
for	pany if Applica issuance of a ation as specif	ble) "Permit" to construct and op- ied in the accompanying draw	perate air pollution	on abatement	facilities and/or emis	Plant or Facility
Į.	Nature of Oper	ation Conducted at the Above	Facility: Mil	itary Ope	ration	and the second second
2.	constructed or	Process(es) Whose Emission( Altered. (Complete Section D. 6 Fuel Oil	s) is/are to be Co I) Boiler 10 Bldg PP-26		the Facility or Source	(s) Which is/are to be
E 8	Furnish Type a Control Device Identical Unit	nd Narrative Description of to be Installed and/or Opers).	Proposed Control I	Device(s).(Co	mmplete Appropriate Sup Number of Control Devi	plemental Data Sheets for ce(s) and Number of
	No. 6 0il	Fired, no control de	vice.			
-						
	Contaminant Emitted:	Weight Rate of Emi Without Control Device	ssions (lb/hr): With Control De	evice Wi	Control Efficien	
S	SO <sub>X</sub> and					
P	Particulate	26.64	N/A		N/A	N/A
5. 1	Name and Addre	ss of Engineering Firm that	Prepared Plans:			
5. 1	Ultimate Dispo	sition of Collected Pollutan	ts: 7. Date of	on Which Faci	lities are to be Compl	eted and in Operation:
	None		_ Oct	ober	, 19 80	
3.	Indicate Periodare Estimated	d of Time for Which Faciliti to be Adequate: 20 Years	es 9. Estima	ite Cost of A	ir Pollution Control D	evice \$ 0
				Facility	is Operated Per Yea	r: 8,760
vame.	: Major Ge	neral D. B. Barker	ISMC Mailing Ad	ldress: 1	Marine Corps Base	
	Operating F	Individual of Company Purch acilityPLEASE PRINT)	asing/	(	Camp Lejeune	
					North Carolina	28542
		12	n /			Salar Andrews
Sian	ature and Title	DB I	Sarken		Telephone Numb	er: 451-5024
		D. B. BARKER, MAJ Commanding Genera	OR GENERAL, U	SMC		



#### I. GENERAL DATA FOR PROCESSES

\*Attach detailed process engineering drawings, equipment drawings and flow diagrams for the process(es) or source(s) being constructed or altered.

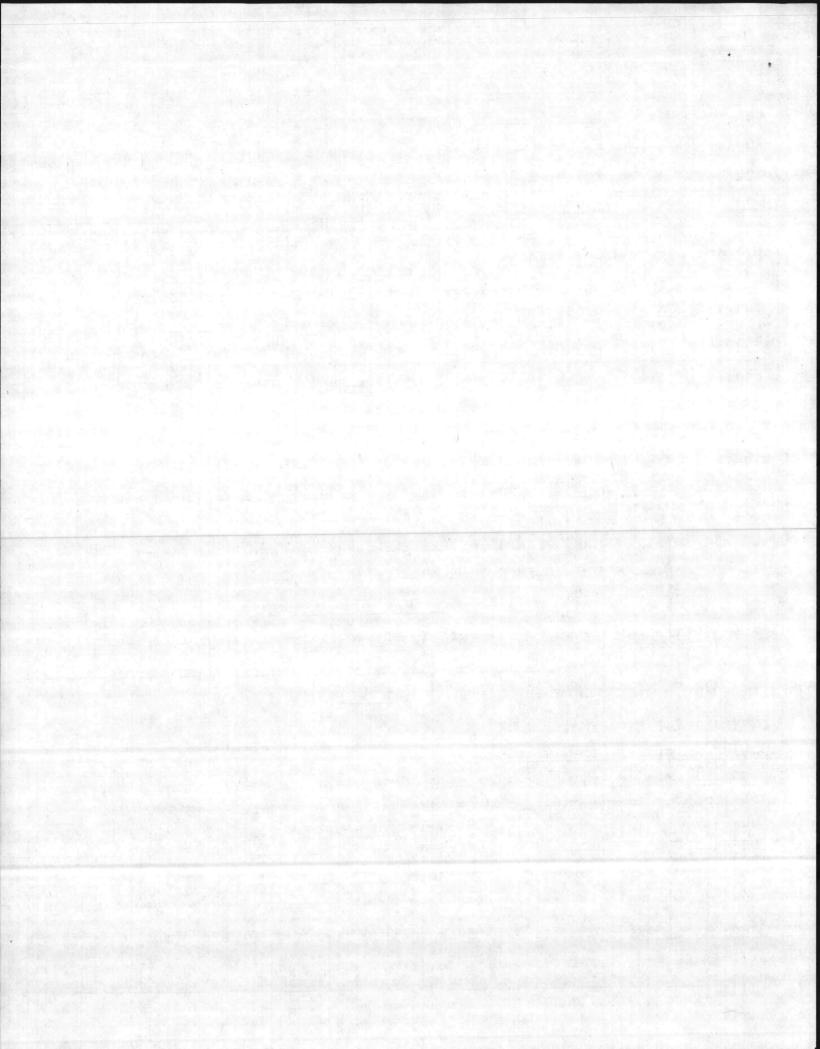
Name of Process: Heating and Steam Plant	
Total Waight of Materials Entering this Process: 76	gals_xxhrxxxxxx
volume and Temperature of Air Flow Entering Control D Volume and Temperature of Effluent at Discharge Point Pollutant(s) to be Controlled:	t to Atmosphere:CFM @°F
eight of Process Stack or Vent Above Ground Level earticulate Emission Rate (Before Control)	28 ft. Inside area of Stack 4.26 ft <sup>2</sup> . lb/hr
article Size Distribution: 0-5µ %, 5-10µ	z, 10-20µ z, 20-30µ z, 30-40µ z, 40-50µ z,>50µ z
Saseous Emission(s): Name (Chemical Formula) SO <sub>X</sub>	μg/m <sup>3</sup> , PPM or 1b/hr 24.77
II. SUPF	PLEMENTARY DATA FOR INCINERATORS (Including Conical Incinerators)
ircle Type of Waste or Indicate Composition: Type C	
Combustible:% Non-Combustible:%	Moisture:% Heat Value:BTU/lb
otal Waste Generated Per Day: lb.	Hours Incinerator will be Operated: hrs/day
esign Capacity for Above Waste:lbs/hr	Manufacturer and Model Number; Approximate Cost:
rimary Chamber Volume:ft.3	Secondary Chamber Volume: ft. <sup>3</sup>
ir Requirements: Total Excess Air % Draft:  Overfire Air: cfm s there an Electronically Controlled, Exhau	Natural Induced Other Underfire Air: cfm st Gas Temperature Modulated, Damper Installed on the
onical Incinerator for: Overfire Air Supply lame Port Temperature: °F	, Underfire Air Supply, DomeTemperature Set Point Secondary Chamber Temperature: °F
s there a Continuous Exhaust Gas Temperatur	
Inside Areaft. Heightft. Gas Velocity	ft/sec Temperature°F Fan Capacitycfm Stack Lined?
s there a Wet Scrubber?	
Yes No Flow Rate of H <sub>2</sub> O into Scrubber _	gal/min Temperature Before Scrubber°F
ux. Fuel: 0il Gas Other	Burner Rating: Primary Chamber Secondary Chamber Stack
	BTU/hrBTU/hrBTU/hr
rimary Burner: Is there a Preheat Timer? Yes	No Preheating Time:min.
econdary Burner or Afterburner: Is there a Timer?	Yes No Length of Time Burner is Operatedmin.
Is the Timer Reset by Charging Door? Yes	No Other Mode of Burner Control
ype of Feed: Manual Automatic If	Automatic, Describe
Distance from Incinerator to Nearest Structu	re(s) in which People Live and/or Workft.
Signature:	Title:



"Actach detailed dimensioned unving on shetch showing internal features of dryers, wood or coal fired boilers, and Type of Fuel Burning Source Boiler Stack Height Above Ground Level 28 ft. Inside Area of Stack 4.26 ft2 Make and Model Number VL Erie City Iron WorkSyolume of Furnace \_\_\_\_ft3 Specify Actual Amount of Each Fuel Used in Above Source (s): Coal \_\_\_\_ lb/hr; Oil Grade 6 Amount 76 gal/hr, at \_\_\_\_ lb/gal and \_\_\_\_ lb/gal or \_\_\_\_ lb/hr Wood \_\_\_\_ 1b/hr; Natural Gas \_\_\_\_ SCF/hr, at \_\_\_\_ BTU/SCF; Other \_\_ (Specify type, amount and heating value) Specify Maximum Rating for Each Fuel Burning Source: Coal \_\_\_\_\_ Oil76 g/hrWood \_\_\_\_ Natural Gas \_\_\_\_ Other \_\_\_ Maximum Sulfur Content of Fuel 2.05% Specify Standby Fuel None Maximum % Sulfur Type of Solid Fuel Burning Equipment Used: Hand Fired \_\_\_ Spreader Stoker \_\_\_ Underfeed Stoker \_\_\_ Chain Grate Traveling Grate \_\_ Pulverizer \_\_ Cyclone Furnace \_\_ Other (Specify) \_\_ Ash Content of Fuel: Specify Method and Schedule of Tube Cleaning, if Applicable: Coal \_\_\_ % Wood \_\_ % Other \_\_ % Lancing \_\_\_ Tube Blowing \_\_\_ Schedule \_ Emission Control Equipment (Describe in Detail in Sections IV and V) Collection Device: Wet \_\_\_\_ Dry \_ Steam Injection \_\_\_\_ Air Injection \_\_\_ Is Collected Flyash Reinjected? Graft on Boiler (Natural Induced X ) \_\_\_\_cfm at \_ Total Number of Fuel Burning Sources Within Property Boundaries: Maximum. Capacity Rating, by Type, for All Fuel Burning Units Excluding that Itemized Above: (Total Like Units) Coal \_\_\_ lb/hr Wood \_\_\_ lb/hr Oil 74 gal/hr Natural Gas \_\_\_ SCF/hr IV. SUPPLEMENTARY DATA FOR WET COLLECTION DEVICES \*Attach detailed engineering drawings of the control device and particle size versus removal efficiency curves. Liquid Scrubbing Medium and Additives: Total Liquid Injection Rate (Include Recirculated and Make-up Rates) \_\_\_\_\_ gal/min or gal/1000 ft3 Operating Pressure Drop Across Device in H<sub>2</sub>O ANSWER FOLLOWING QUESTIONS FOR SPECIFIC DEVICE: VENTURI SCURBBER: Inlet Area \_\_\_ in<sup>2</sup> Throat Area \_\_\_ in<sup>2</sup> Throat Velocity \_\_\_ ft/sec GRAYITY SPRAY CHAMSER: Number of Nozzles \_\_\_\_ Liquid Droplet Size \_\_\_ u Co-Current \_\_\_ Countercurrent WET CYCLONE: PACKED TOWER OR PLATE TOWER: Body Diameter \_\_\_\_ in Length \_\_\_\_\_ in Cross-Sectional Area \_\_\_\_\_ft2 Type of Plate \_\_\_ Inlet Area \_\_\_\_\_in<sup>2</sup> Number of Nozzles \_\_\_\_\_ Length \_\_\_\_\_ ft Depth of Packing \_\_\_\_ Outlet Area in2 Number of Plates Type of Packing OTHER WET COLLECTION DEVICES: GIVE COMPLETE DESCRIPTION INCLUDING DESIGN PARAMETERS AND DETAILED ENGINEERING DRAWINGS.

Title:

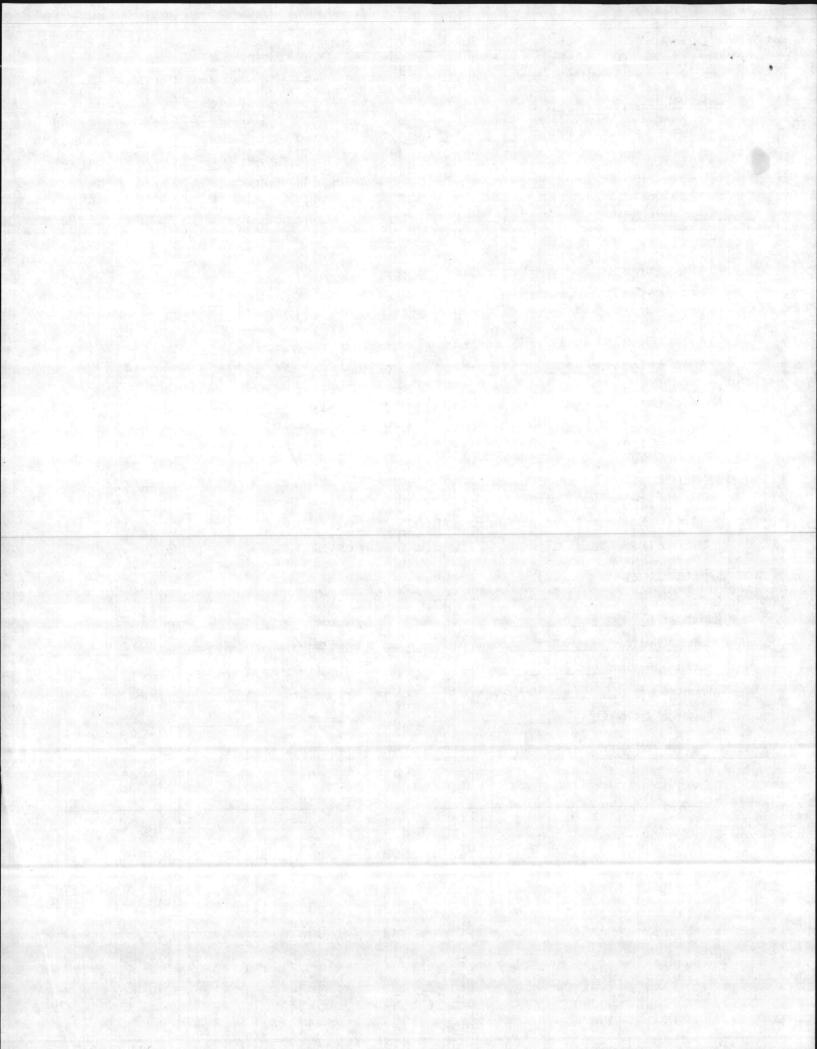
Signature:

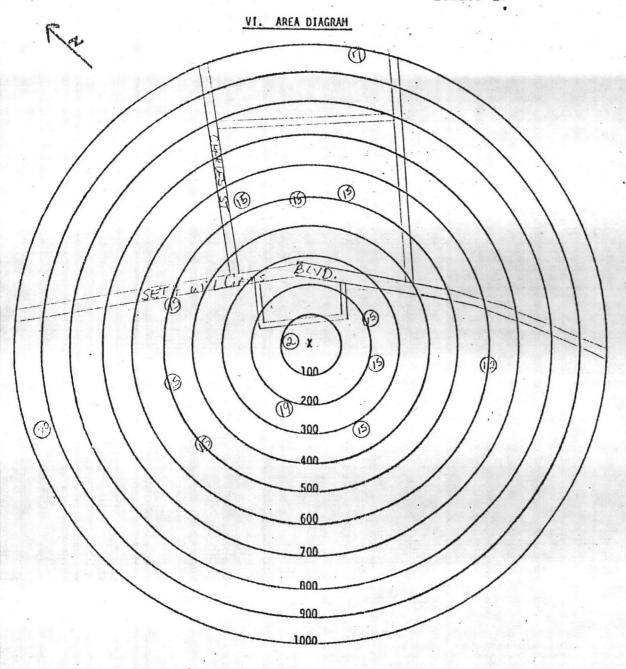


## V. SUPPLEMENTARY DATA FOR DRY COLLECT. JEVICES

DAGROSSES.	Cloth Area	ft <sup>c</sup>	Bag Material	
	Number of Compartmen	its		in H <sub>2</sub> (
	Method of Cleaning _			ft/mir
	Time Between Cleanin	ng mins, hrs		
LECTROSTAT	IC PRECIPITATORS:			
GENERAL:				
Ef	fective Area of Ground	ded Collector Plates	ft <sup>2</sup>	
Nu	mber of Compartments	or Chambers	Number of Cells per Compartment	
			r Emitting Electrodes KV/i	
			Grounded Collecting Electrodes	
			lied to Emitting Wires KV	
SINGLE ST	TAGE TYPE:			
Di:	stance Between Emittin	ng Wires and Collectin	ng Platesin.	
Nur	mber of Isolatable Bus	Sections	Corona Power Watts/1000 cfr	1
TWO STAGE	N. B. B. B. Brein, and B.			
		Stage Emitting Electro	des and Field Receiver Electrodes (Gro	
		ond Stage Emitting Pl		ound)in
			and Grounded Collection Plates	
		The second secon	and distances correction Flates	
	TICYCLONES:			
mple Cyclo Dia	meter	4.	Multicyclone	
	et Dimensions		Diameter	
	let Dimensions		Inlet Dimensions of Indiv	
	ssure Drop	in H-O	Outlet Dimensions of Indi	Market State of the State of th
	ber of Cyclones		Pressure Drop	
114111	oct of cyclones.		Number of Cyclones	
HER DRY COL	LLECTION DEVICES: GIV	VE COMPLETE DETAILED E	ENGINEERING DESCRIPTION AND DRAWINGS.	

- 1 -





Owner Marine Corps Base, Camp Lejeune, N.C.

Location Seth Williams, Paradise Point (Give Street Address)

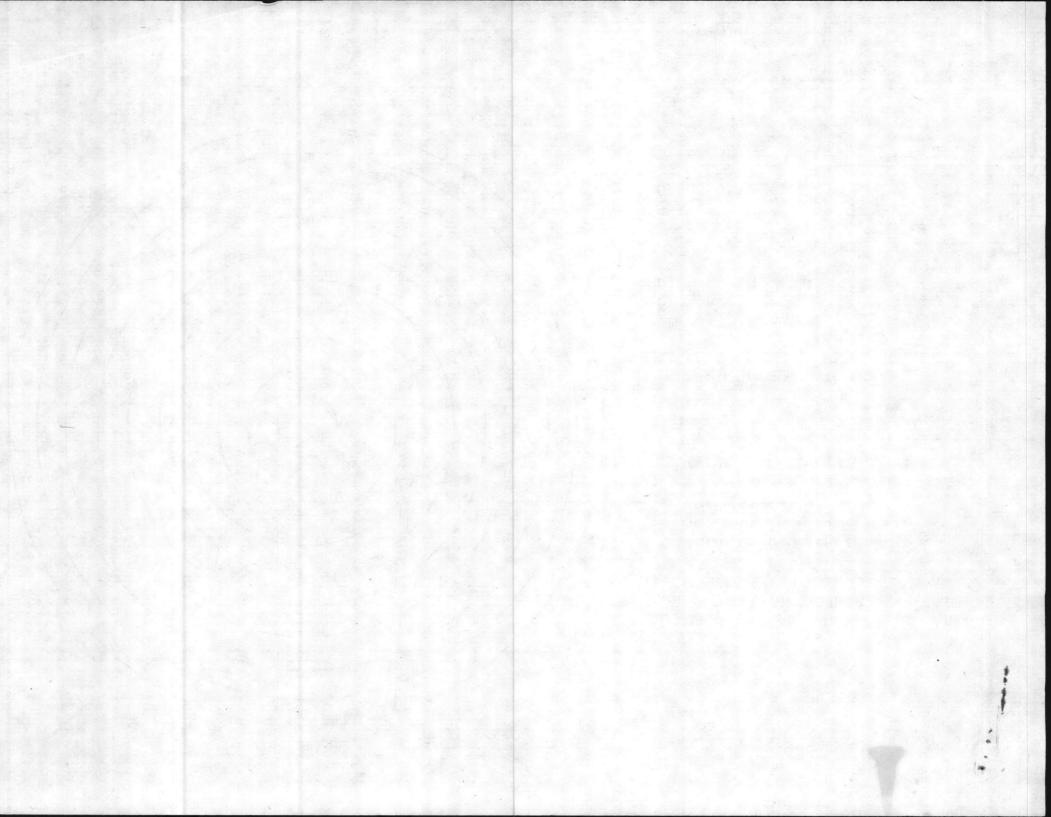
#### INSTRUCTIONS:

- Show all surrounding buildings and roads within 1000 feet of subject equipment which is located at center of circles.
- Indicate location and type of building by the use of small numbered circles with the description below.
- Show roads as lines representing the road edges.
   Indicate street names and highway numbers.
- Show wooded or cleared areas by approximate boundary lines and the words "woods", "cleared", "cornfield", etc.
- 5. Indicate direction of north by arrow.

CODE	DESCRIPTION		
0		(2)	Sewage Lift St
2	Mess Hall	(15)	Barracks-Bache
3		(20)	Swimming Pool Residence
4		(29)	RESIDENCE
(5)			
6			
① ⑧	Warehouse		
9			
0			
100			

EXAMPLE ① Church ② Residence

X Indicates location of equipment.





DIVISION OF ENVIRONMENTAL MANAGEMENT

May 28, 1981

Mr. D.B. Barker
Major General, U.S. Marine Corps
Commanding
Marine Corps Base
Camp Lejeune, North Carolina 28542

Subject:

Permit No. 4641 Marine Corps Base

Camp Lejeune, North Carolina

Dear General Barker:

In accordance with your application received May 1, 1986, we are forwarding herewith Permit No. 4641 to Marine Corps Base, Camp Lejeune, North Carolina for the construction and/or operation of air pollution abatement facilities and/or emission sources.

If any parts, requirements, or limitations contained in this permit are unacceptable to you, you have the right to an adjudicatory hearing before a hearing officer upon written demand to the Director within thirty (30) days following receipt of this permit, identifying the specific issues to be contended. Unless such demand is made, this permit shall be final and binding.

This permit shall be effective from the date of issuance until April 1, 1986, is nontransferable to future owners and operators, and shall be subject to the conditions and limitations as specified therein.

For Federal PSD increment tracking purposes, changes to the facility have consumed a maximum of 9.91 lb/hr of particulate and 71.53 lb/hr of  $SO_2$ .

Sincerely.

Charles Wakild

Regional Supervisor

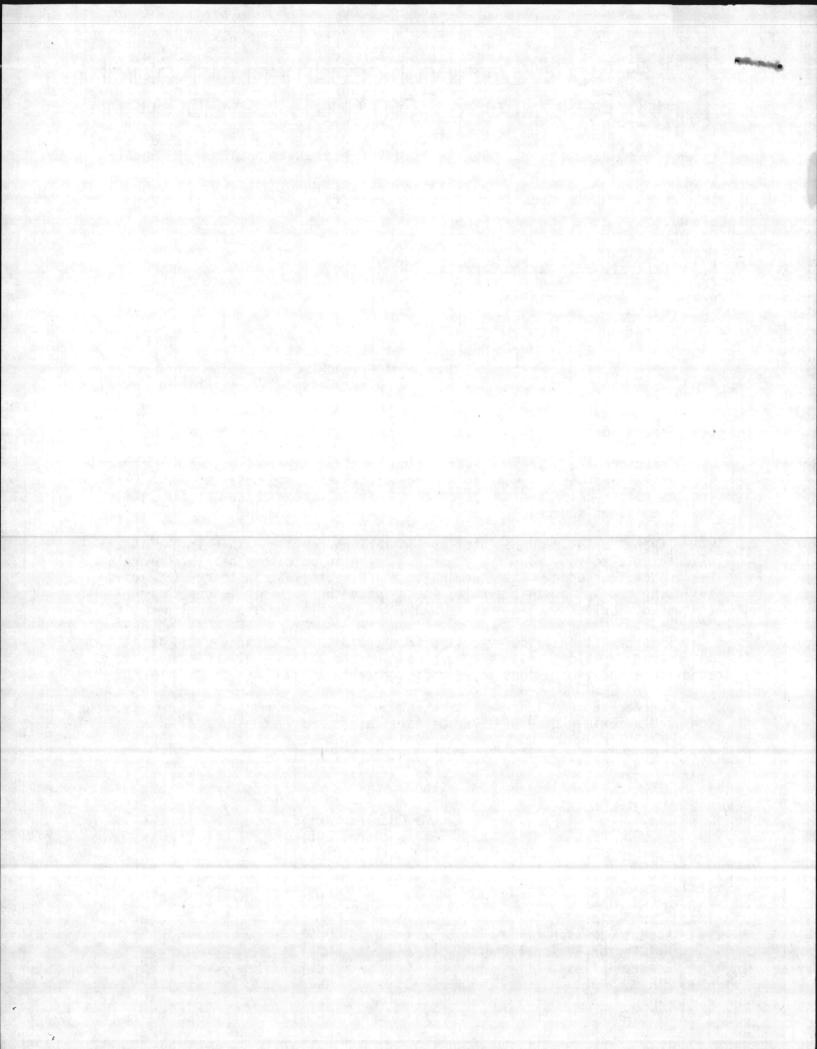
Enclosure

cc: Stan Taylor

Robert Jamieson

Wilmington Regional Office

Central Files



# UNITED STATES MARINE CORPS Marine Corps Base Camp Lejeune, North Carolina 28542

FAC: RCP: mkc 6280 4 Jun 1981

From: Commanding General

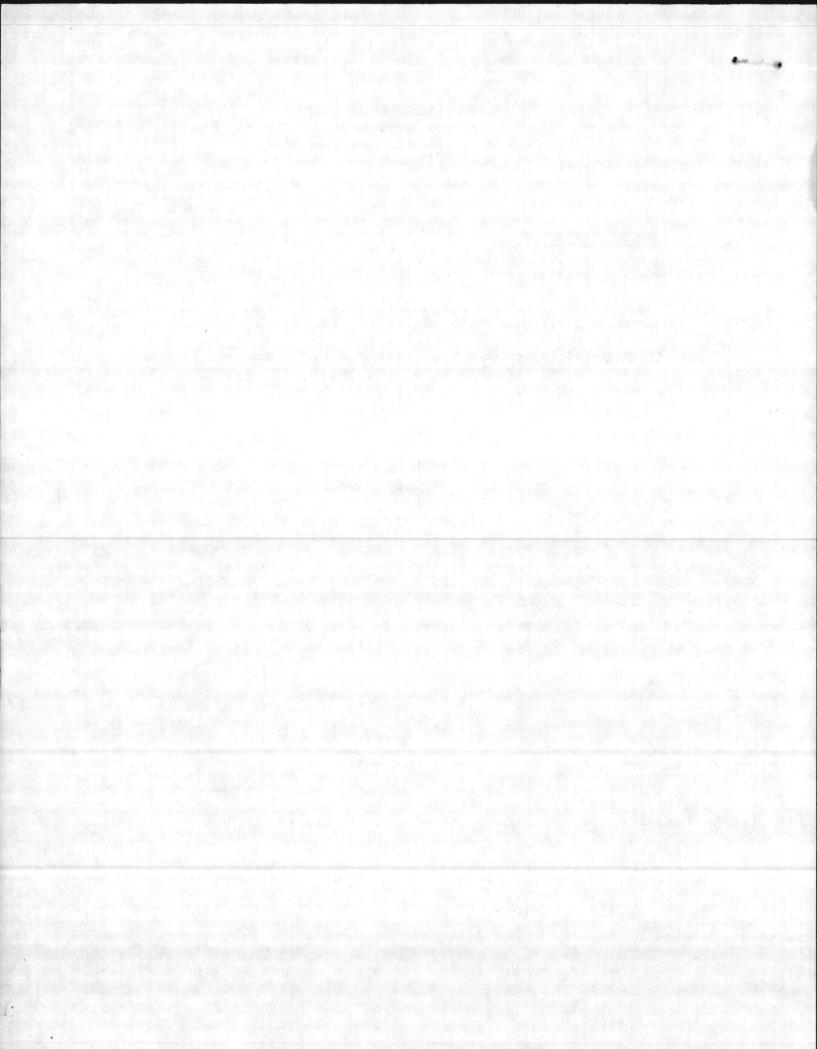
To: Base Maintenance Officer
Via: Staff Judge Advocate

Subj: Permit No. 4641 for the construction and/or operation of air pollution abatement facilities and/or emission sources

Encl: (1) Regional Supervisor, N. C. Dept of Natural Resources and Community Development 1tr of 28 May 1981 w/encl

1. Enclosure (1) is forwarded for appropriate action.

K. P. MILLICE, Jr. By direction



# UNITED STATES MARINE CORPS Marine Corps Base Camp Lejeune, North Carolina 28542

FAC: RCP: mkc 6280 4 Jun 1981

From: Commanding General

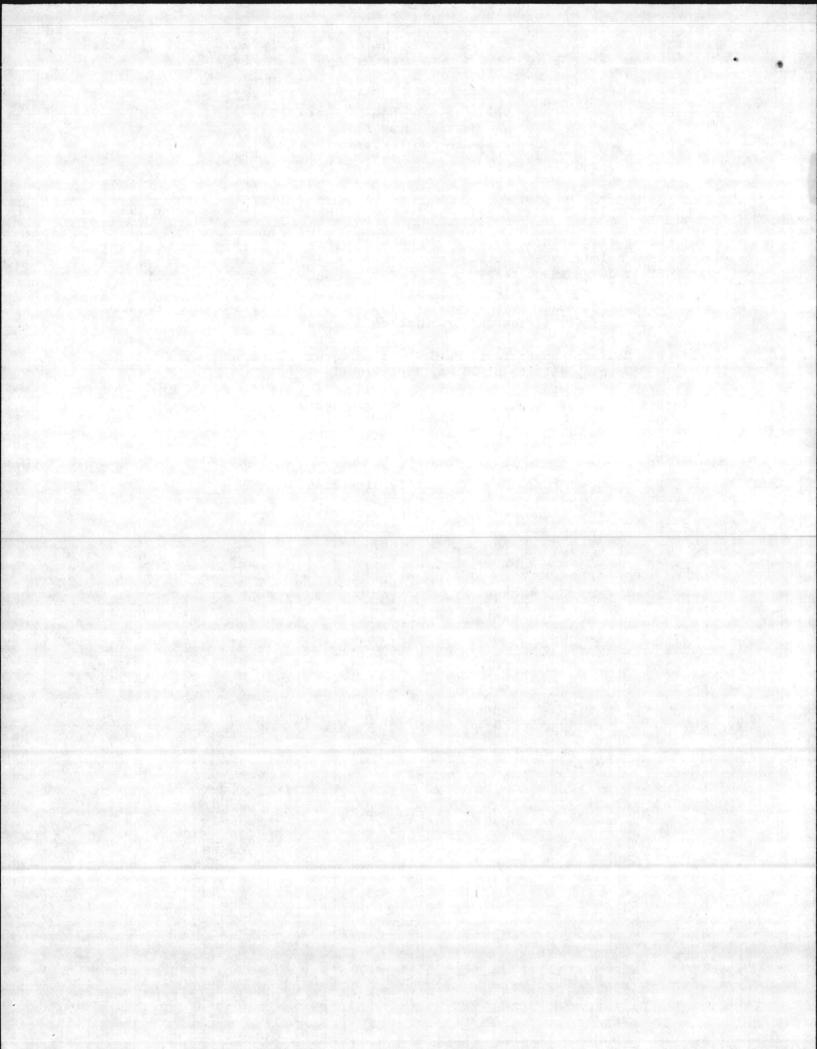
To: Base Maintenance Officer Via: Staff Judge Advocate

Subj: Permit No. 4641 for the construction and/or operation of air pollution abatement facilities and/or emission sources

Encl: (1) Regional Supervisor, N. C. Dept of Natural Resources and Community
Development 1tr of 28 May 1981 w/encl

1. Enclosure (1) is forwarded for appropriate action.

K. P. MILLICE, Jr. By direction



#### NORTH CAROLINA

#### ENVIRONMENTAL MANAGEMENT COMMISSION

#### DEPARTMENT OF NATURAL RESOURCES AND COMMUNITY DEVELOPMENT

Raleigh

#### PERMIT

For the Discharge of Air Contaminants Into the Atmosphere

In accordance with the provisions of Article 21B of Chapter 143, General Statutes of North Carolina as amended, and other applicable Laws, Rules and Regulations,

#### PERMISSION IS HEREBY GRANTED TO

Marine Corps Base Camp Lejeune, North Carolina

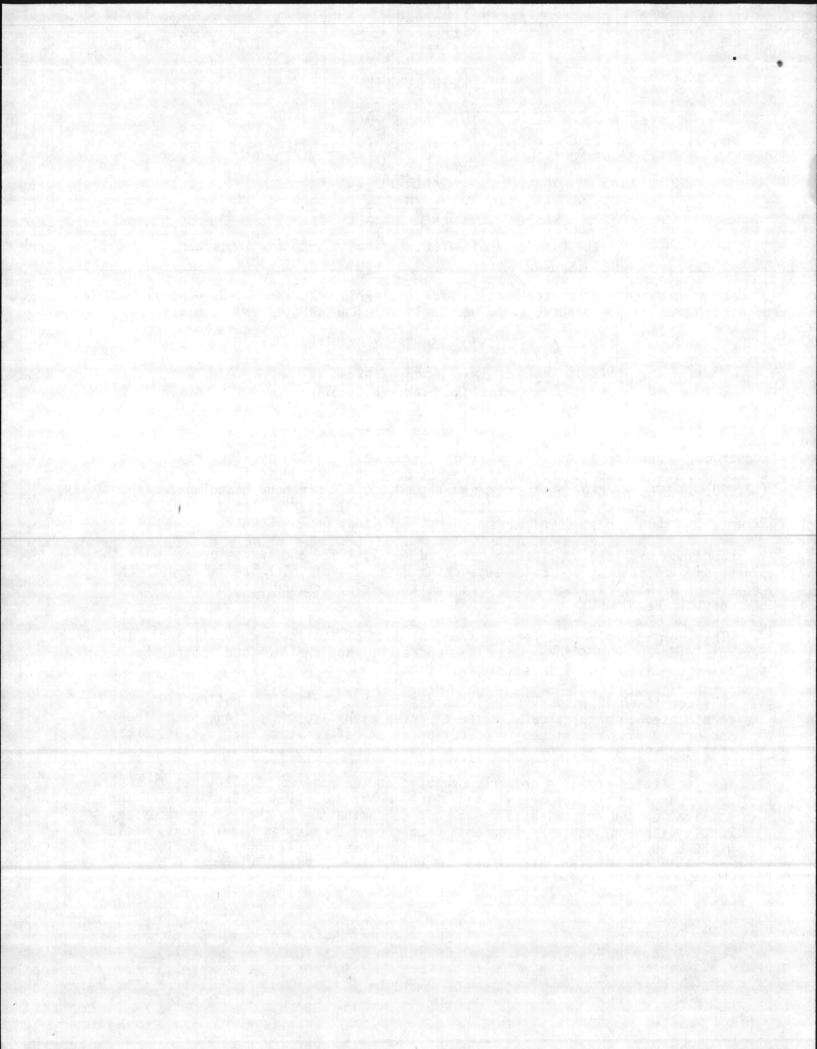
#### FOR THE

construction and operation of a No. 6 oil-fired boiler (#54) (maximum heat input of 24,200,000 BTW per hour) and for the operation of two No. 6 oil-fired boilers (17,800,000 BTU per hour heat input and 11,000,000 BTU per hour heat input respectively) and for the discharge of the associated stack gases at its facility located at Peach Street, Courthouse Bay, Camp Lejeune, North Carolina, Onslow County,

in accordance with the application received May 1, 1981, and in conformity with the plans, specifications, and other supporting data, all of which are filed with the Department of Natural Resources and Community Development and are incorporated as part of this Permit.

This Permit shall be effective from the date of its issuance until April 1, 1986, is nontransferable to future owners and operators, and shall be subject to the following specified conditions and limitations:

- 1. This permit shall become voidable unless the No. 6 oil-fired boiler (#54) is constructed in accordance with the approved plans, specifications, and other supporting data and placed in operation on or before September 1, 1981, or as this date may be amended.
- 2. The facilities shall be properly operated and maintained at all times in such a manner as to effect an overall reduction in air pollution in keeping with the application and otherwise to reduce air contamination to the extent necessary to comply with applicable Environmental Management Commission Regulations, including 15 NCAC 2D .0503, .0516, and .0521, and in no case shall the sulfur dioxide emissions from the boilers exceed 2.3 pounds per million BTU input.



- 3. Reports on the operation and maintenance of the facilities shall be submitted to the Division of Environmental Management at such intervals and in such form and detail as may be required by the Division. Information required in such reports may include, but is not limited to, process weight rates, firing rates, hours of operation, and preventive maintenance schedules.
- 4. Camp Lejeune Marine Base, at least ninety (90) days prior to the expiration of this Permit, shall request its extension by letter. The letter should include the permit number and a description of modifications, if any, that have been made.
- 5. This permit is subject to revocation or modification upon a determination that information contained in the application or presented in support thereof is incorrect, conditions under which the permit renewal was granted have changed, or violations of conditions contained in the permit have occurred.
- 6. A violation of any term or condition of this Permit shall subject the Permittee to enforcement procedures contained in North Carolina General Statutes 143-215.114, including assessment of civil penalties.

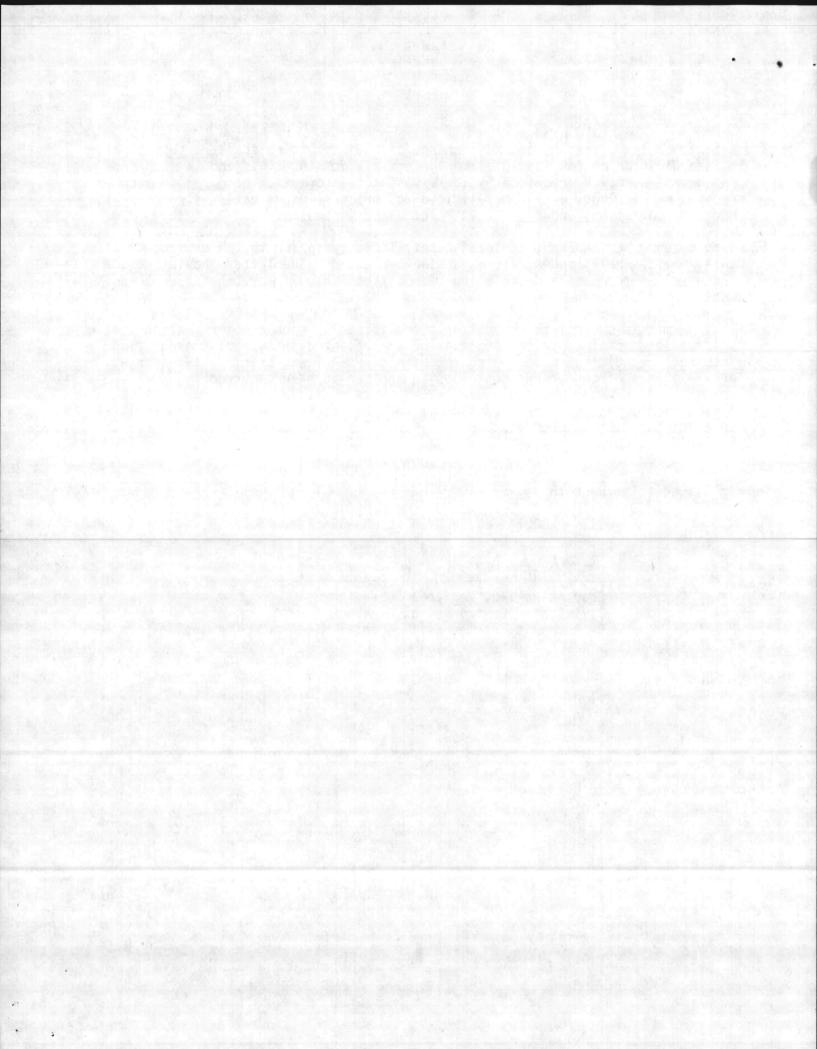
Permit issued this the 28th day of May

NORTH CAROLINA ENVIRONMENTAL MANAGEMENT COMMISSION

Charles Wakild, Regional Supervisor Division of Environmental Management

By Authority of the Environmental Management Commission

Permit No. 4641



NORTH CAROLINA

ENVIRONMENTAL MANAGEMENT COMMISSION

RALEIGH

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APPLICATION FOR

A "PERMIT"

TO CONSTRUCT AND OPERATE AIR

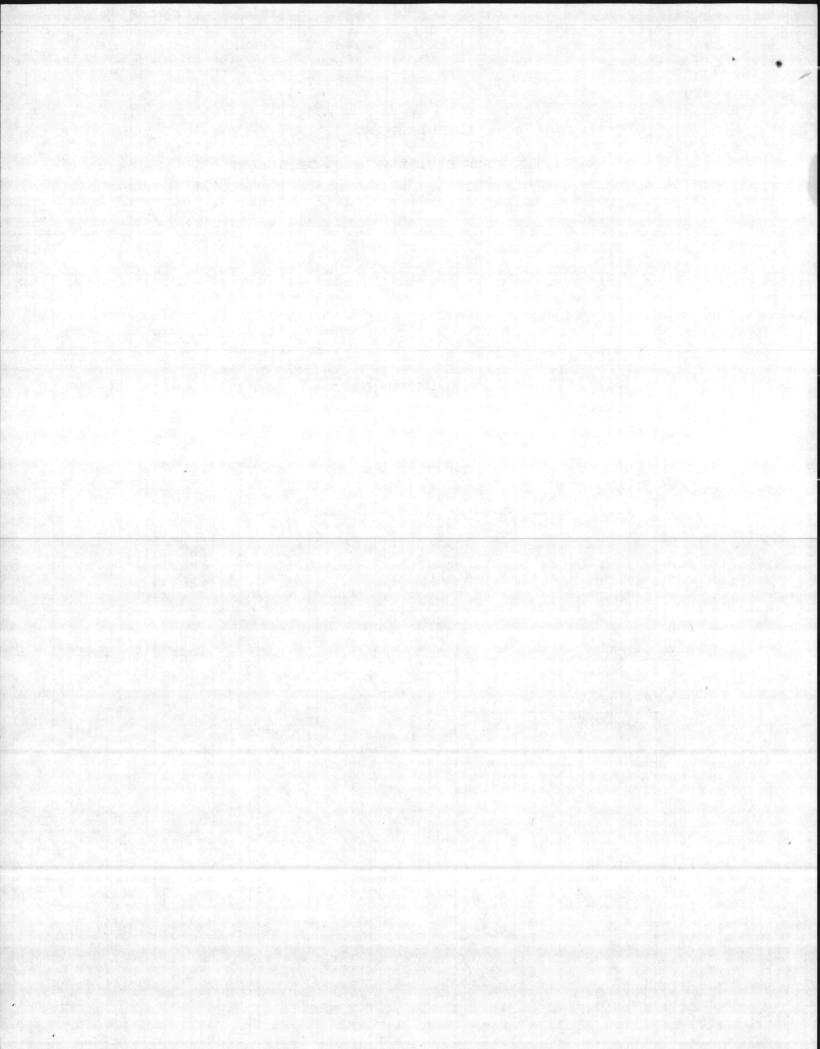
POLLUTION ABATEMENT FACILITIES AND/OR EMISSION SOURCES

Filed By: Major General D. B. Barker (Name)

Marine Corps Base (Address)

Camp Lejeune, North Carolina

AQ-22

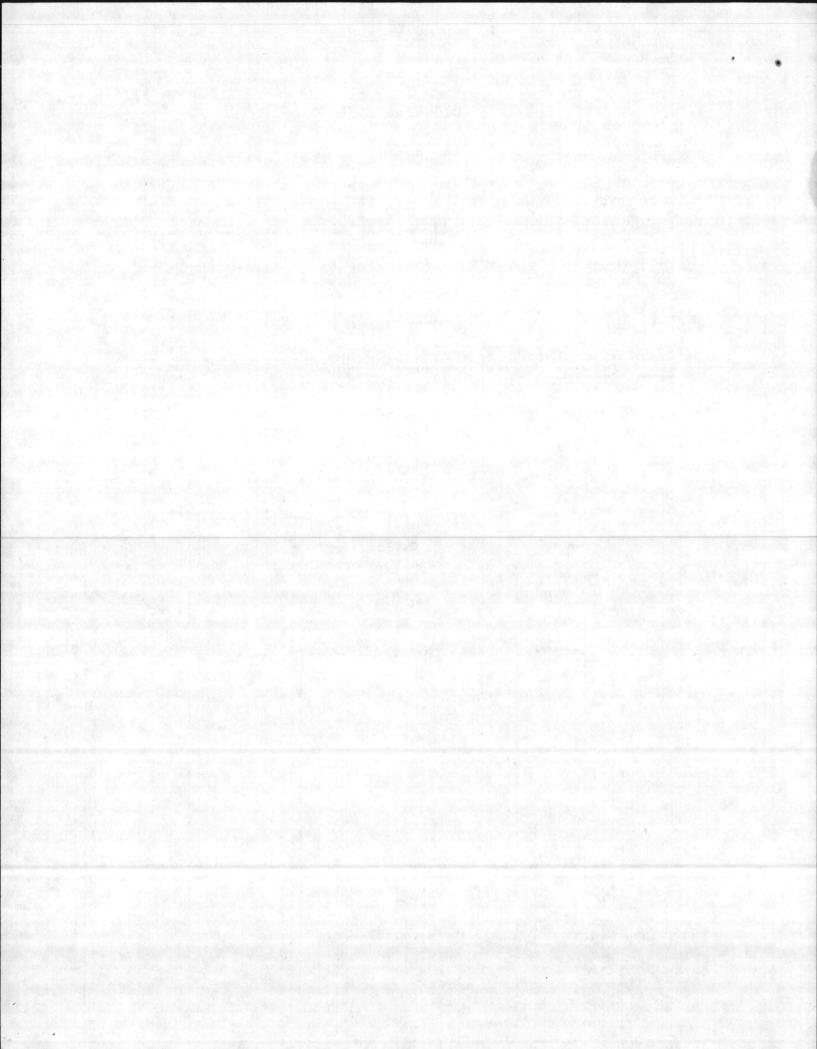


#### APPLICATION INSTRUCTIONS

### THIS APPLICATION IS SUBJECT TO REJECTION UNLESS ALL REQUIRED

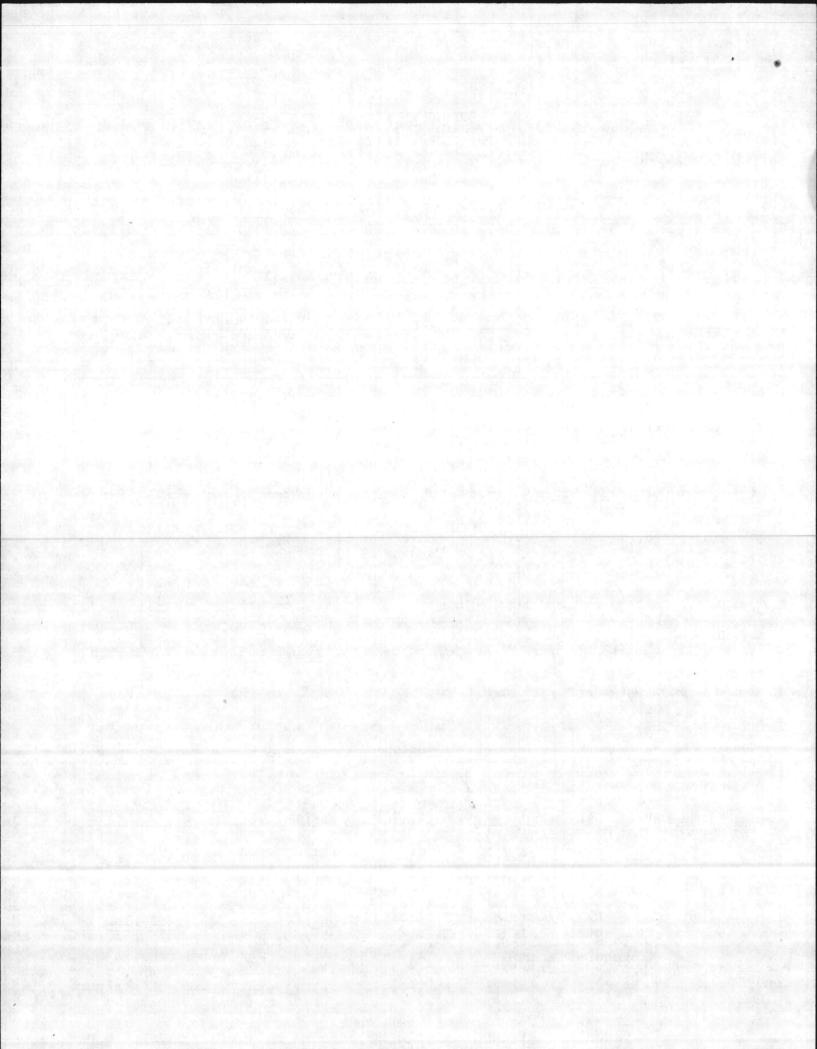
#### INFORMATION IS SUBMITTED

- ATTACH DETAILED ENGINEERING DRAWINGS OF SOURCE(S), PROCESS(ES) AND COLLECTION DEVICE(S) AS
  REQUESTED IN EACH SECTION. IF MULTIPLE SOURCES OR DEVICES, USE ADDENDUM SHEETS AS NECESSARY.
- Submit application, detailed engineering drawings, specifications and other supporting data and documents in TRIPLICATE.
- 3. Attach additional sheets as necessary to complete any portion of the application.
- 4. The application MUST BE SIGNED by the RESPONSIBLE INDIVIDUAL of the company that is to PURCHASE AND OPERATE the facilities for which a Permit is applied.
- 5. ALL APPLICANTS MUST COMPLETE THE FIRST PAGE AND SECTIONS I AND VI.
- If an Incinerator, Fuel Burning Source, Wet Collection Device or Dry Collection Device is to be installed and operated, COMPLETE SECTIONS II, III, IV or V respectively.
- 7. All applications should be mailed to: ENVIRONMENTAL MANAGEMENT COMMISSION
  AIR QUALITY SECTION
  P. O. Box 27687
  Raleigh, North Carolina 27611



# APPLICATION FOR A "PERMIT" To Construct and Operate Air Pollution Abatement Facilities and/or Emission Sources Three Copies to be Submitted Fourth Copy Should be Retained by Applicant

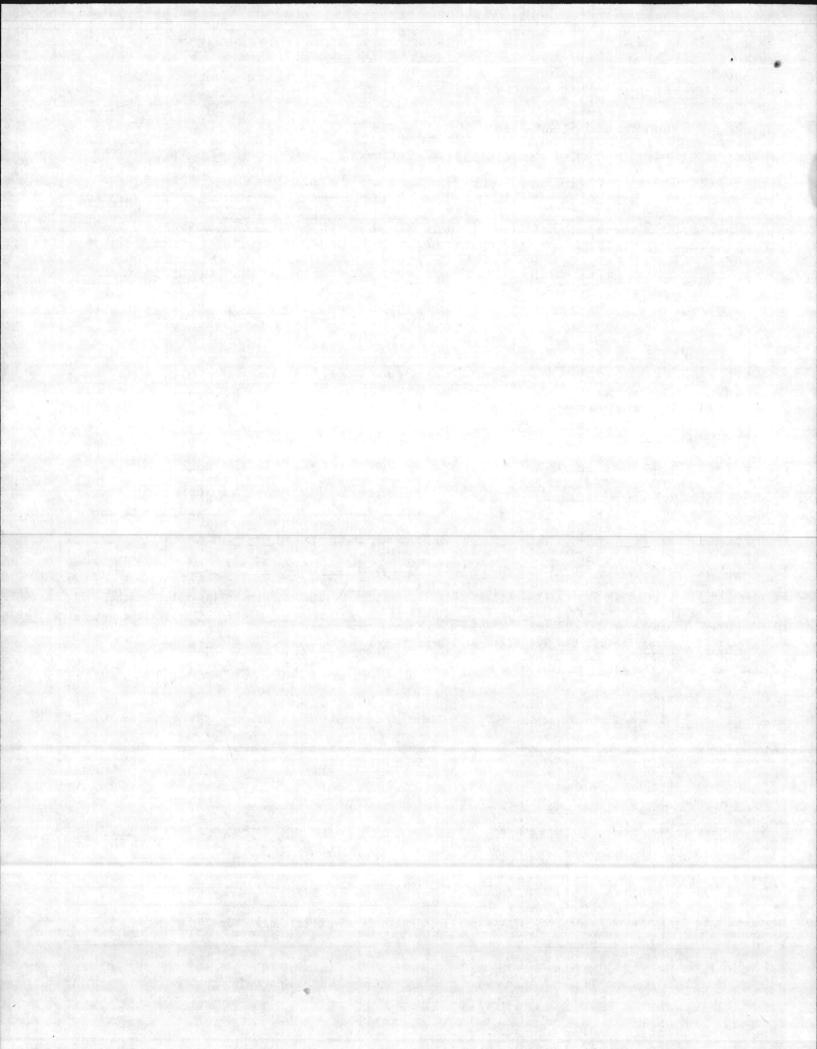
			Date: 24 Sep 1980	
is hereby made by Name  it  Company if Applicable)  for issuance of a "Permi	darine Corps Base, Of Company, Establishment on the County ofOnslo	Camp Lejeune, Nown, Etc.) (Incluing at Jackson (Streete air pollution aba	North Carolina  de Division or Plant Name in  acksonville, North C  t and City or Town Address tement facilities and/or en	Carolina of Plant or Facility)
1. Nature of Operation	Conducted at the Above Fac	ility: Milita	ary Operation	
2. Description of Proce Constructed or Alter Boiler, No. 6 F	ed. (Complete Section I)	is/are to be Control	led by the Facility or Sour	rce(s) Which is/are to be
<ol> <li>Furnish Type and Nar Control Device to be Identical Units).</li> </ol>	rative Description of Prop Installed and/or Operated	posed Control Device i. Include Make and	(s).(Complete Appropriate S Model Number of Control De	Supplemental Data Sheets for evice(s) and Number of
No. 6 Oil Fired	, no control device	Boiler No.	JOSEP () : 1 : (1 : 1 : 1 : 1 : 1 : 1 : 1 : 1 :	
4. Contaminant Emitted: SO <sub>X</sub> and Particulate	Weight Rate of Emissic	ons (lb/hr): With Control Device	Control Effici Without Control Device	ency (%):  With Control Device  N/A
5. Name and Address of	Engineering Firm that Prep	pared Plans:		
<ol><li>Ultimate Disposition None</li></ol>	of Collected Pollutants:	7. Date on Whi	ch Facilities are to be Com	pleted and in Operation:
are Estimated to be	ime for Which Facilities Adequate: 20 Years	10. Hours Fact	st of Air Pollution Control	ear: 8,760
(Responsible Indiv	ral D. B. Barker	SMC Mailing Address	: Marine Corps E  Camp Lejeune	oase
Signature and Title:	DB Back  B. BARKER, Major	General USMC	North Carolina  Telephone Nu	
	commanding General	delicitut, oanc		



### I. GENERAL DATA FOR PROCESSES

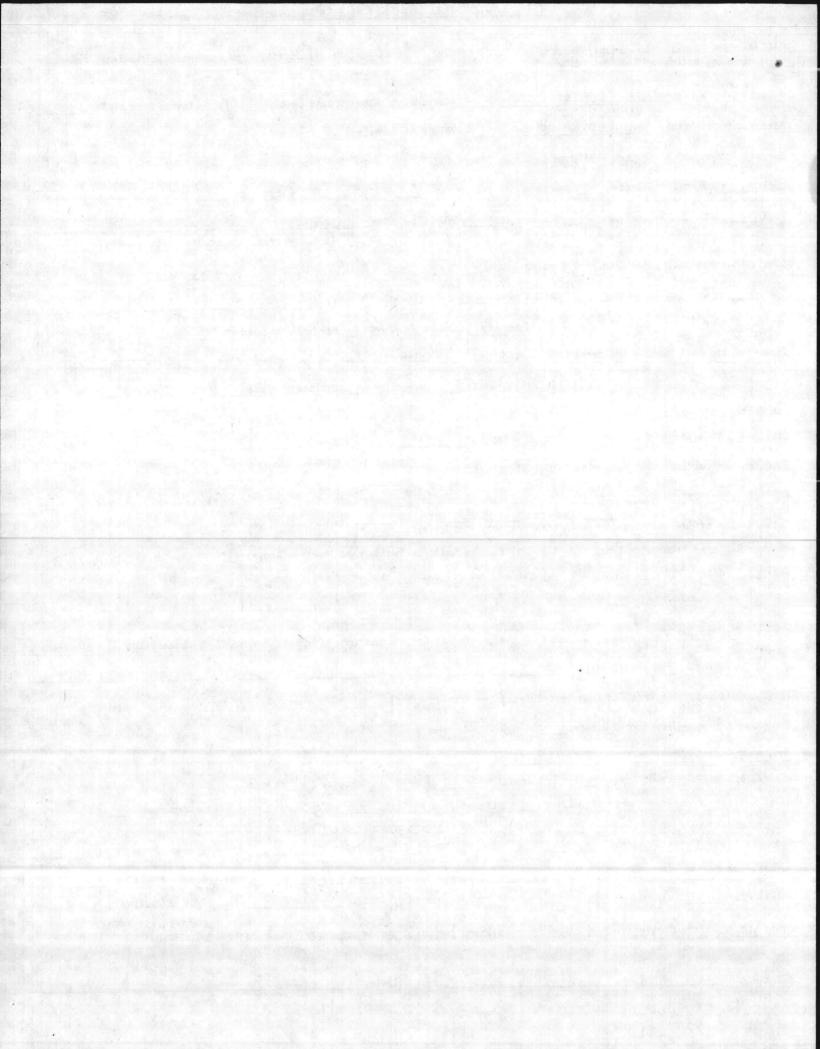
\*Attach detailed process engineering drawings, equipment drawings and flow diagrams for the process(es) or source(s) being constructed or altered.

Name of Process: Heating and Steam Plant
Total Weight of Materials Entering this Process: 121 galsw/hr xxxxxxxx
Volume and Temperature of Air Flow Entering Control Device: CFM @ °F  Volume and Temperature of Effluent at Discharge Point to Atmosphere: CFM @ °F  Pollutant(s) to be Controlled:
Height of Process Stack or Vent Above Ground Level 27'10" ft. Inside area of Stack 3.14 ft <sup>2</sup> .
Particulate Emission Rate (Before Control) 1b/hr
Particle Size Distribution: 0-5µ %, 5-10µ %, 10-20µ %, 20-30µ %, 30-40µ %, 40-50µ %, >50µ %
Gaseous Emission(s): Name (Chemical Formula) µg/m³, PPM or 1b/hr
S0x 39.44
II. SUPPLEMENTARY DATA FOR INCINERATORS (Including Conical Incinerators)
Circle Type of Waste or Indicate Composition: Type 0 Type I Type II Type III Type IV
Combustible:
Total Waste Generated Per Day: 1b. Hours Incinerator will be Operated: hrs/day
Design Capacity for Above Waste:lbs/hr Manufacturer and Model Number; Approximate Cost:
Primary Chamber Volume: ft.3 Secondary Chamber Volume: ft.3
Air Requirements: Total Excess Air.
Conical Incinerator for: Overfire Air Supply, Underfire Air Supply, DomeTemperature Set Point Flame Port Temperature:°F Secondary Chamber Temperature:°F
Is there a Continuous Exhaust Gas Temperature Recorder? Yes No
Stack: Inside Areaft. <sup>2</sup> Heightft. Gas Velocityft/sec Temperature°F Fan Capacitycfm Stack Lined?
Is there a Wet Scrubber?
Yes No Flow Rate of H <sub>2</sub> O into Scrubbergal/min Temperature Before Scrubber°F
Aux. Fuel: 0il Gas Other Burner Rating: Primary Chamber Secondary Chamber Stack
BTU/hr BTU/hr BTU/hr
Primary Burner: Is there a Preheat Timer? YesNo Preheating Time:min.
Secondary Burner or Afterburner: Is there a Timer? Yes No Length of Time Burner is Operatedmin.
Is the Timer Reset by Charging Door? Yes No Other Mode of Burner Control
Type of Feed: Manual Automatic If Automatic, Describe
Distance from Incinerator to Nearest Structure(s) in which People Live and/or Workft.
Signature: Title:



### III. SUPPLEMENTARY DATA FOR FUEL BURNING SOURCES

*Attach detailed dimensioned drawing or sketch showing inte recovery boilers.	rnal features of dryers, wood or coal fired boilers, and
Type of Fuel Burning Source Boiler Stack Hei	ght Above Ground Level 27'10ft. Inside Area of Stack 3.14 ft2
Nebraska  Make and Model Number Ser. No.2D 1801  Volume of	
Specify Actual Amount of Each Fuel Used in Above Source (s):	
Coal 1b/hr; Oil Grade 6 Amount 121 gal/hr, at	OO _BTU/gal andlb/gal orlb/hr
Wood 1b/hr; Natural Gas SCF/hr, at BTU/SCF;	
	(Specify type, amount and heating value)
Specify Maximum Rating for Each Fuel Burning Source:	
Coal Oil 128.4 Wood Natural Gas Other	
Maximum Sulfur Content of Fuel 2.05 % Specify Standby Fu	el None Maximum & Sulfur
Type of Solid Fuel Burning Equipment Used: Hand Fired Sprea	
	rizer Cyclone Furnace Other (Specify)
일본 시간 그 그 그 그 그 그 이번 이번 회사에 되었다. 이 회사	Schedule of Tube Cleaning, if Applicable:
Coal % Wood % Other % Lancing	Tube Blowing Schedule
Emission Control Equipment (Describe in Detail in Sections IV and	
Collection Device: Wet Dry Steam Injection Draft on Boiler (Natural Induced $X$ ) cfm a Total Number of Fuel Burning Sources Within Property Boundaries:	
Maximum Capacity Rating, by Type, for All Fuel Burning Units Exc	luding that Itemized Above: (Total Like Units) 2
Coal lb/hr Wood lb/hr Oil 149 gal/hr Natural Gas	_ SCF/hr
IV. SUPPLEMENTARY DATA	OR WET COLLECTION DEVICES
*Attach detailed engineering drawings of the control device of	and particle size versus removal essiciency curves
Liquid Scrubbing Medium and Additives:	
Total Liquid Injection Rate (Include Recirculated and Make-up Rate	s) gal/min or gal/1000 5+3
Operating Pressure Drop Across Device in H <sub>2</sub> O	3 gar/, 31 gar/, 1000 112
ANSWER FOLLOWING QUESTIONS FOR SPECIFIC DEVICE:	
VENTURI SCURBBER: Inlet Area in <sup>2</sup> Throat Area in <sup>2</sup> T	hroat Velocity #t/con
GRAVITY SPRAY CHAMBER: Number of Nozzles Liquid Droplet S	
WET CYCLONE: PACKED	TOWER OR PLATE TOWER:
Body Diameter in Length in Cross-S	ectional Areaft <sup>2</sup> Type of Plate
Inlet Area in <sup>2</sup> Number of Nozzles Length	ft Depth of Packingft
Outlet Area in <sup>2</sup> } Number	of Plates Type of Packing
OTHER WET COLLECTION DEVICES: GIVE COMPLETE DESCRIPTION INCLUDING	DESIGN PARAMETERS AND DETAILED ENGINEERING DRAWINGS.
Signature:	Title:

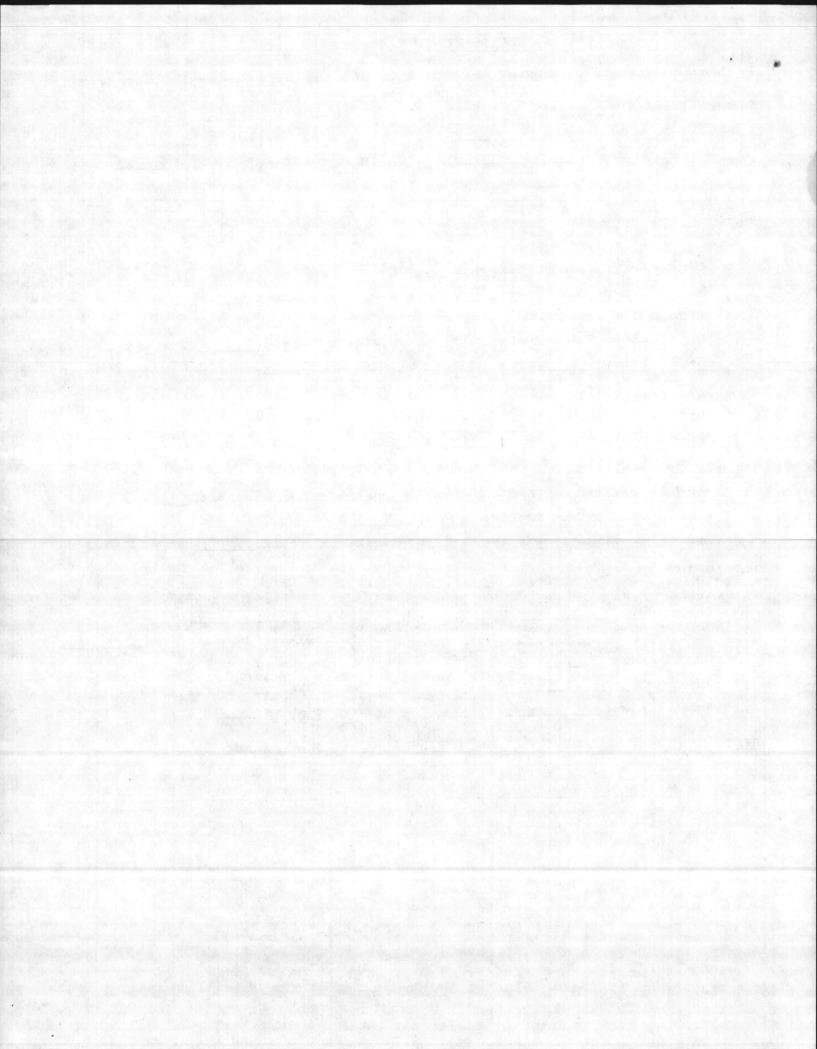


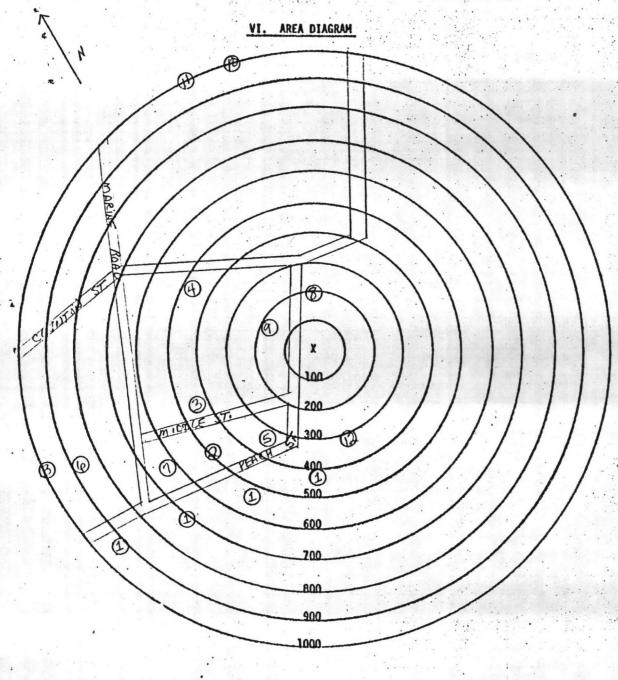
# V. SUPPLEMENTARY DATA FOR DRY COLLECTION LANCES

	_ ft <sup>2</sup>	Bag Material	
	nts	Pressure - Drop Tota	1in H <sub>2</sub>
Method of Cleaning		Air-to-Cloth Ratio _	ft/mi
Time Between Cleanin	ng mins, hrs		
ECTROSTATIC PRECIPITATORS:			
GENERAL:			
Effective Area of Groun	nded Collector Plates _	ft <sup>2</sup>	
Number of Compartments	or Chambers	Number of Cells per Compartment	
Electrical Field Gradie	ent at the Discharge or	Emitting Electrodes KV/	'in
Average Electrical Fiel	d Gradient at the the	Grounded Collecting Electrodes	KV/in
		ied to Emitting Wires KV	A STATE OF THE STATE OF
SINGLE STAGE TYPE:			
	ng Wires and Collecting	g Platesin.	
		Corona Power Watts/1000 c	fm
TWO STAGE TYPE:	S		
		des and Field Receiver Electrodes (G	round) in
Potential Applied to Sec			
piscance perween Second	Stage Emitting Plates	and Grounded Collection Plates	1n
CLONES/MULTICYCLONES:			
2011257110211212201123.		Multicyclone	
mple Cyclone	in	D:	
nple Cyclone Diameter		Diameter	in
ple Cyclone Diameter Inlet Dimensions			in vidual Cyclone
Diameter  Inlet Dimensions  Outlet Dimensions		Inlet Dimensions of Indi	vidual Cyclone
ple Cyclone Diameter Inlet Dimensions Outlet Dimensions Pressure Drop	in H <sub>2</sub> 0	Inlet Dimensions of Indi	vidual Cyclone
ple Cyclone Diameter Inlet Dimensions Outlet Dimensions	in H <sub>2</sub> 0	Inlet Dimensions of Indi	vidual Cyclone lividual Cyclone in H <sub>2</sub> O
ple Cyclone Diameter Inlet Dimensions Outlet Dimensions Pressure Drop Number of Cyclones	in H <sub>2</sub> O	Inlet Dimensions of Indi Outlet Dimensions of Ind Pressure Drop Number of Cyclones	vidual Cyclone lividual Cyclone in H <sub>2</sub> O
Inlet Dimensions  Outlet Dimensions  Pressure Drop  Number of Cyclones	in H <sub>2</sub> O	Inlet Dimensions of Indi Outlet Dimensions of Ind Pressure Drop	vidual Cyclone lividual Cyclone in H <sub>2</sub> O

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Owner Marine Corps Base, Camp Lejeune, N.C.

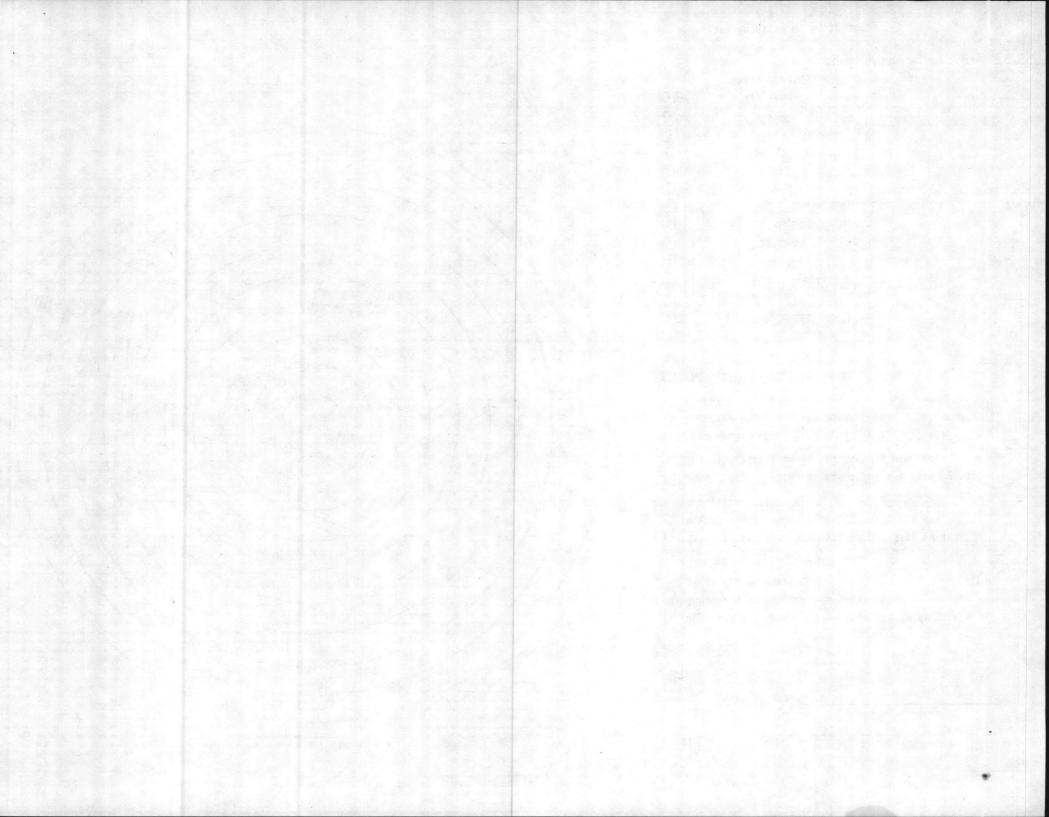
Location Peach Street, Courthouse Bay (Give Street Address)

#### INSTRUCTIONS:

- Show all surrounding buildings and roads within 1000 feet of subject equipment which is located at center of circles.
- Indicate location and type of building by the use of small numbered circles with the description below.
- Show roads as lines representing the road edges.
   Indicate street names and highway numbers.
- Show wooded or cleared areas by approximate boundary lines and the words "woods", "cleared", "cornfield", etc.
- 5. Indicate direction of north by arrow.

CODE	DESCRIPTION
0	Barracks
2	Mess Hall
3	Administration
•	Theater
(5)	Fire Station
6	Telephone Exchange
0	Warehouse
<b>®</b>	Chaplin's Office
9	Marine Corps Exchange
Q	Water Reservoir
	Water Treatment Plant
EXAMPLE	① Church
	② Residence
(12)	Sewage Lift Station

X Indicates location of equipment. ..



#### NORTH CAROLINA

#### ENVIRONMENTAL MANAGEMENT COMMISSION

RALEIGH

MSY 1 1981

WILMINGTON REGIONAL OFFICE DEM

APPLICATION FOR

A "PERMIT"

TO CONSTRUCT AND OPERATE AIR

POLLUTION ABATEMENT FACILITIES AND/OR EMISSION SOURCES

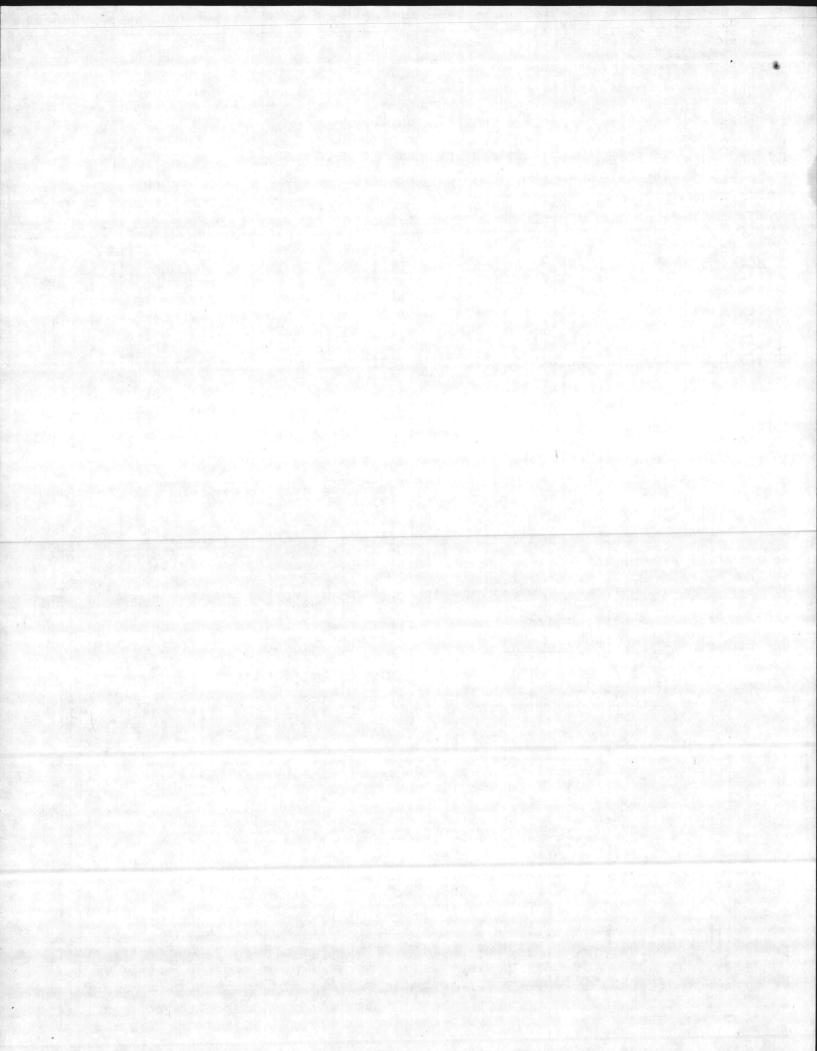
Filed By: Major General D. B. Barker

(Name)

Marine Corps Base

(Address)

Camp Lejeune, N. C. 28542

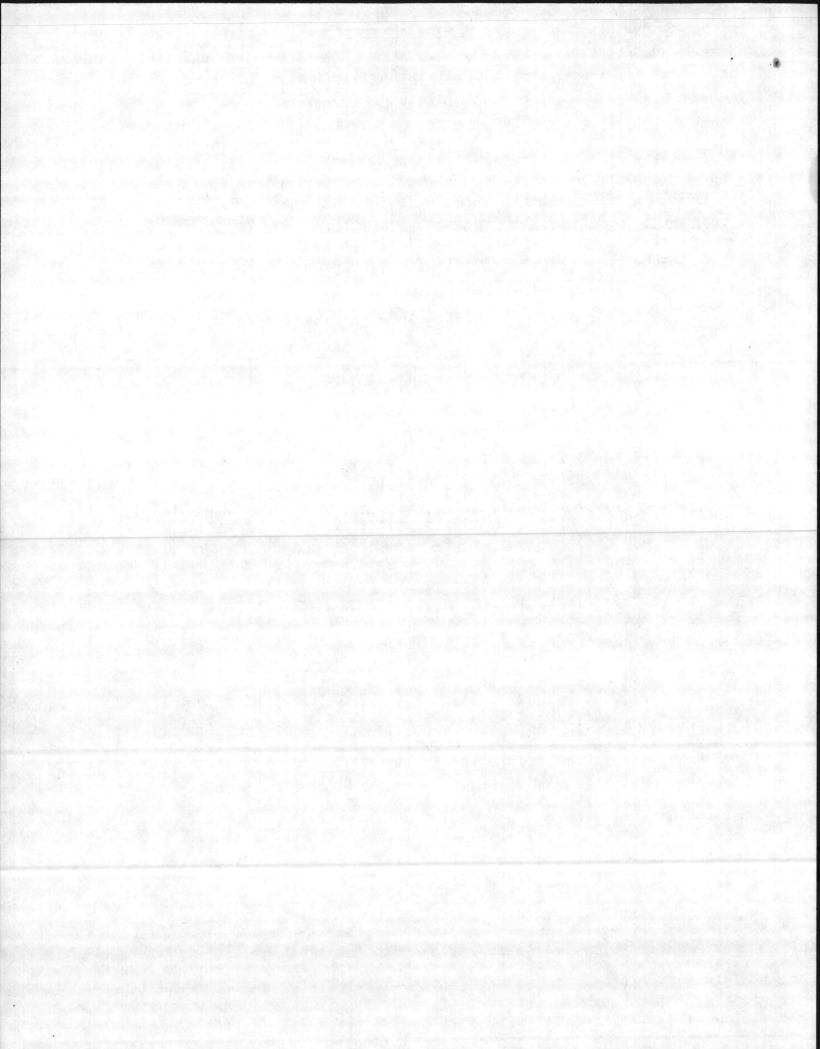


APPLICATION INSTRUCTIONS

#### THIS APPLICATION IS SUBJECT TO REJECTION UNLESS ALL REQUIRED

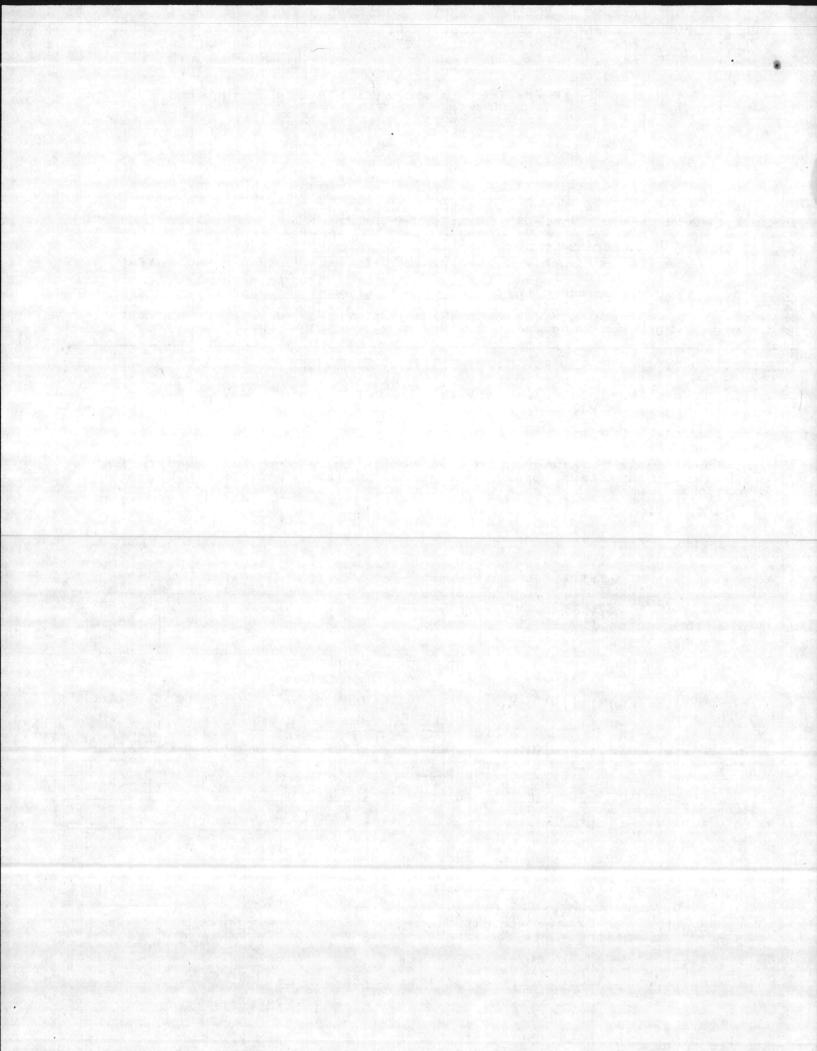
#### INFORMATION IS SUBMITTED

- ATTACH DETAILED ENGINEERING DRAWINGS OF SOURCE(S), PROCESS(ES) AND COLLECTION DEVICE(S) AS
  REQUESTED IN EACH SECTION. IF MULTIPLE SOURCES OR DEVICES, USE ADDENDUM SHEETS AS NECESSARY.
- Submit application, detailed engineering drawings, specifications and other supporting data and documents in TRIPLICATE.
- 3. Attach additional sheets as necessary to complete any portion of the application.
- 4. The application MUST 8E SIGNED by the RESPONSIBLE INDIVIDUAL of the company that is to PURCHASE AND OPERATE the facilities for which a Permit is applied.
- 5. ALL APPLICANTS MUST COMPLETE THE FIRST PAGE AND SECTIONS I AND VI.
- If an Incinerator, Fuel Burning Source, Wet Collection Device or Dry Collection Device is to be installed and operated, COMPLETE SECTIONS II, III, IV or V respectively.
- 7. All applications should be mailed to: ENVIRONMENTAL MANAGEMENT COMMISSION
  AIR QUALITY SECTION
  P. O. Box 27687
  Raleigh, North Carolina 27611



# APPLICATION FOR A "PERMIT" To Construct and Operate Air Pollution Abatement Facilities and/or Emission Sources Three Copies to be Submitted Fourth Copy Should be Retained by Applicant

	Date	: 7 April 1981	
de la companya de la	Chanton 142 Concurs C	tatutas of North Canalina	as amended, application
in accordance with the provisions of Article 21 of U. S. Marine Corps	chapter 143, General 3	tatutes of North Carotina	as amended, apprication
(Name of Company, Establishment,	Town, Etc.) (Include D	ivision or Plant Name in	Addition to Parent .
in the County of Onslow Company if Applicable) For issuance of a "Permit" to construct and operate location as specified in the accompanying drawings,	(Street an	ejeune, N. C. d City or Town Address of nt facilities and/or emis- ther pertinent data:	Plant or Facility) sions sources at above
. Nature of Operation Conducted at the Above Faci	lity: Military O	peration	
<ol> <li>Description of Process(es) Whose Emission(s) is Constructed or Altered. (Complete Section I) Steam Boiler, No. 54, Building BB-</li> </ol>			(s) Which is/are to be
<ol> <li>Furnish Type and Narrative Description of Propo Control Device to be Installed and/or Operated. Identical Units)</li> </ol>	sed Control Device(s). Include Make and Mod	(Complete Appropriate Supplet Number of Control Devi	plemental Data Sheets for ce(s) and Number of
No Control Device		•	
4. Contaminant Weight Rate of Emission Emitted: Without Control Device Wi	s (lb/hr): th Control Device	Control Efficient	cy (%): With Control Device
SO <sub>X</sub> and 57.83 Particulates	N/A	N/A	N/A
5. Name and Address of Engineering Firm that Prepa		Works Department	28542
6. Ultimate Disposition of Collected Pollutants: N/A	7. Date on Which F	acilities are to be Compler, 1981	eted and in Operation:
<ol> <li>Indicate Period of Time for Which Facilities are Estimated to be Adequate:Years</li> </ol>	9. Estimate Cost o	of Air Pollution Control D	evice \$ 0
Name: Major General D. B. Barker	<pre>10. Hours Facili Mailing Address: _</pre>	ty is Operated Per Yea Marine Corps Base	
(Responsible Individual of Company Purchasing Operating Facility <u>PLEASE PRINT</u> )		Camp Lejeune	
		North Carolina 2	28542
Signature and Title: DBBacky		Telephone Numb	er: 451-5024
D. B. BARKER, MAJOR Commanding General	GENERAL .		



#### I. GENERAL DATA FOR PROCESSES

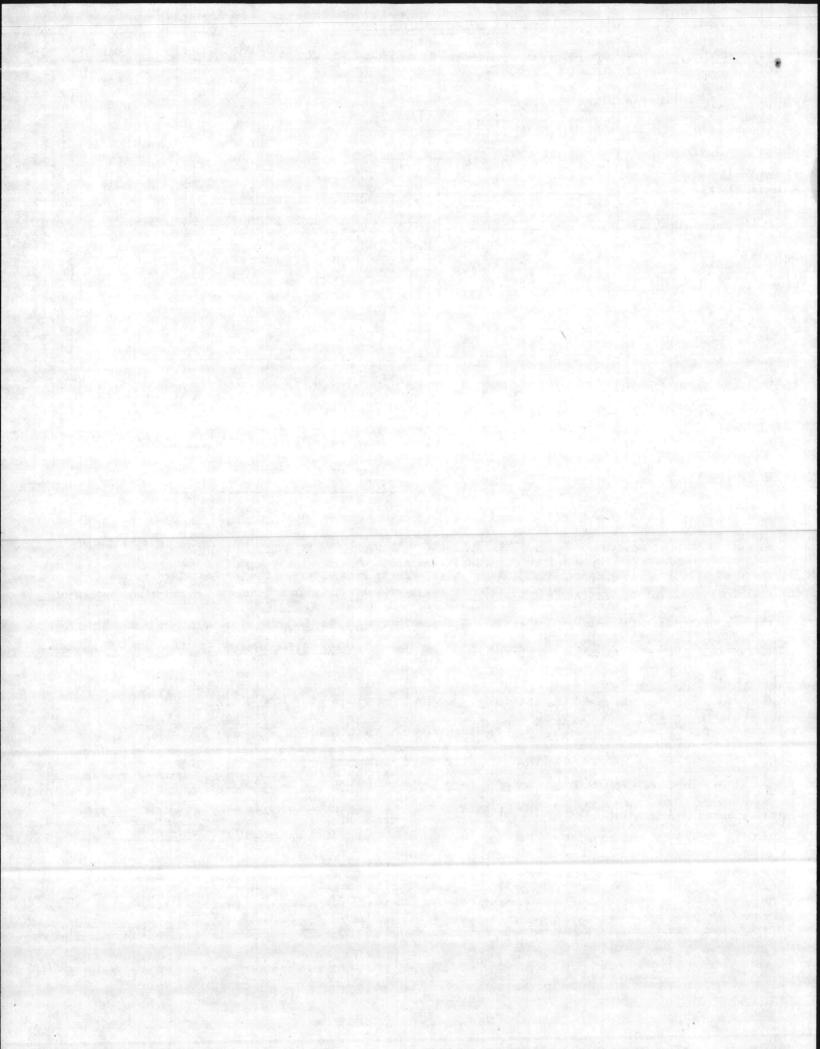
\*Attach detailed process engineering drawings, equipment drawings and flow diagrams for the process(es) or source(s) being constructed or altered. Name of Process: Heating Plant gal/hr Total Weight of Materials Entering this Process: 165 Volume and Temperature of Air Flow Entering Control Device: CFM 0 F

Volume and Temperature of Effluent at Discharge Point to Atmosphere: CFM 0 500 °F Volume and Temperature of Air Flow Entering Control Device: Pollutant(s) to be Controlled: Height of Process Stack or Vent Above Ground Level 29 ft. Inside area of Stack 3.14 ft2. Particulate Emission Rate (Before Control) 4.05 lb/hr Particle Size Distribution: 0-54 %, 5-104 %, 10-204 %, 20-304 %, 30-404 %, 40-504 %, >504 % µg/m³, PPM or 1b/hr Gaseous Emission(s): Name (Chemical Formula) SOx 53.78 II. SUPPLEMENTARY DATA FOR INCINERATORS (Including Conical Incinerators) Type III Type IV Circle Type of Waste or Indicate Composition: Type 0 Type I Type II Combustible: % Non-Combustible: % Moisture: % Heat Value: \_\_\_\_BTU/lb Hours Incinerator will be Operated: hrs/day Total Waste Generated Per Day: 1b. Design Capacity for Above Waste: \_\_\_\_\_lbs/hr Manufacturer and Model Number; Approximate Cost: Secondary Chamber Volume: \_\_\_\_ft.3 Primary Chamber Volume: ft.3 Air Requirements: Total Excess Air. \_ % Draft: Natural \_ Induced Overfire Air: cfm Underfire Air: cfm Is there an Electronically Controlled, Exhaust Gas Temperature Modulated, Damper Installed on the Conical Incinerator for: Overfire Air Supply\_\_\_\_, Underfire Air Supply\_\_\_\_, Dome\_\_\_Temperature Set Point\_\_of
Flame Port Temperature: \_\_\_\_\_of
Secondary Chamber Temperature: \_\_\_\_\_of Flame Port Temperature: \_\_\_\_\_°F Is there a Continuous Exhaust Gas Temperature Recorder? Yes No Inside Area \_\_ft.2 Height \_\_ft. Gas Velocity \_\_ft/sec Temperature \_\_°F Fan Capacity \_\_cfm Stack Lined? \_\_\_ Is there a Wet Scrubber? Yes \_\_\_ No \_\_\_ Flow Rate of H<sub>2</sub>O into Scrubber \_\_\_gal/min Temperature Before Scrubber \_\_\_°F Aux. Fuel: Oil \_\_\_\_ Gas \_\_\_ Other \_\_\_ Burner Rating: Primary Chamber Secondary Chamber Stack BTU/hr BTU/hr BTU/hr Primary Burner: Is there a Preheat Timer? Yes \_\_\_\_ No \_\_\_ Preheating Time: \_\_\_\_ min. Secondary Burner or Afterburner: Is there a Timer? Yes \_\_\_\_ No \_\_\_ Length of Time Burner is Operated \_\_\_\_ min. Is the Timer Reset by Charging Door? Yes \_\_\_\_ No \_\_\_ Other Mode of Burner Control \_\_\_\_ Type of Feed: Manual \_\_\_\_ Automatic \_\_\_\_ If Automatic, Describe \_\_\_\_

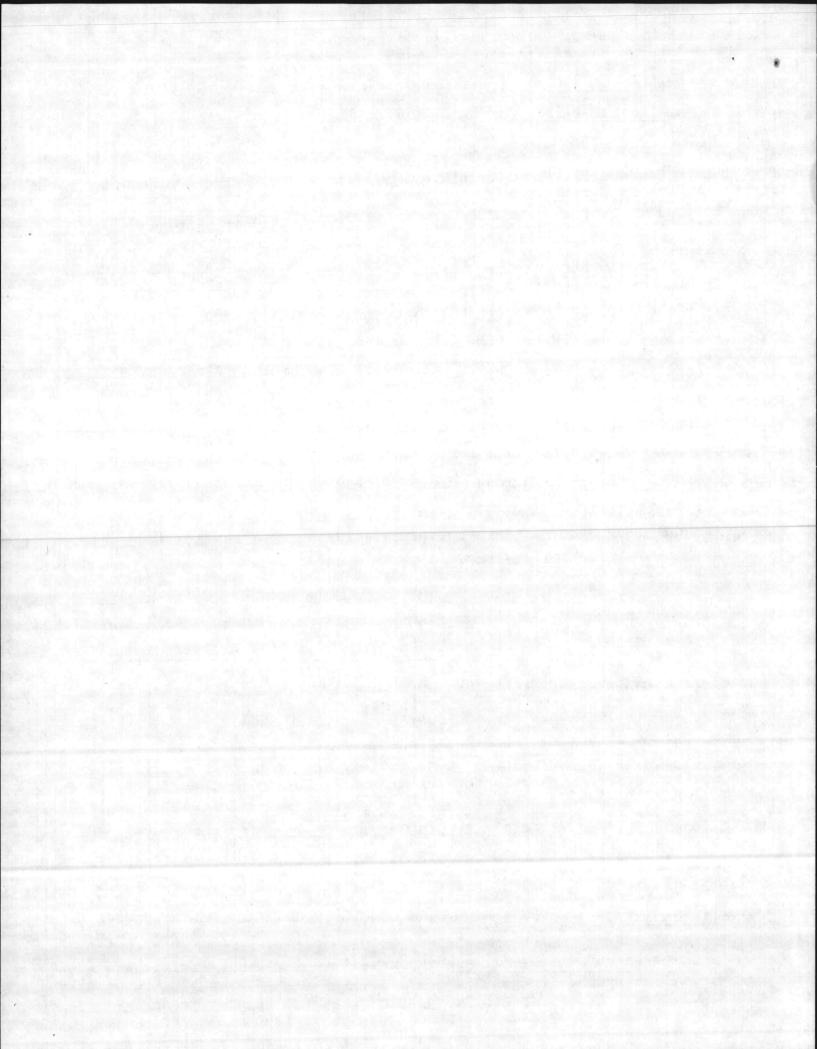
Title:

Distance from Incinerator to Nearest Structure(s) in which People Live and/or Work. \_\_\_\_ft.

Signature:

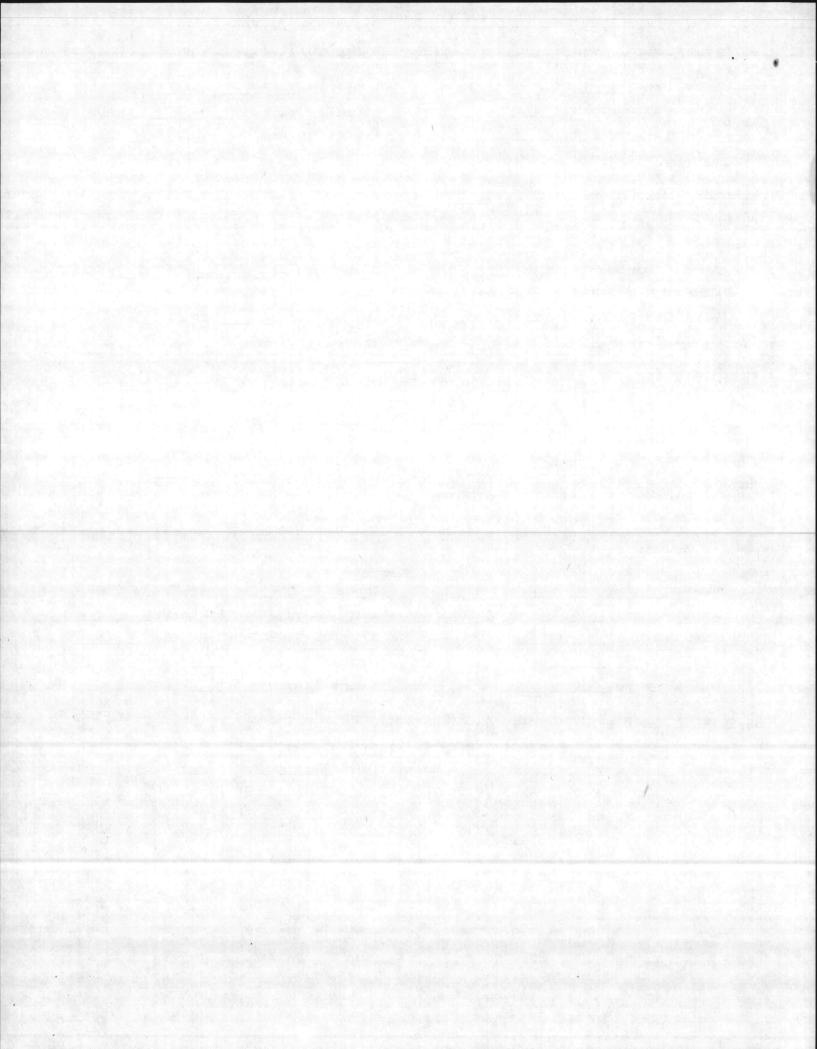


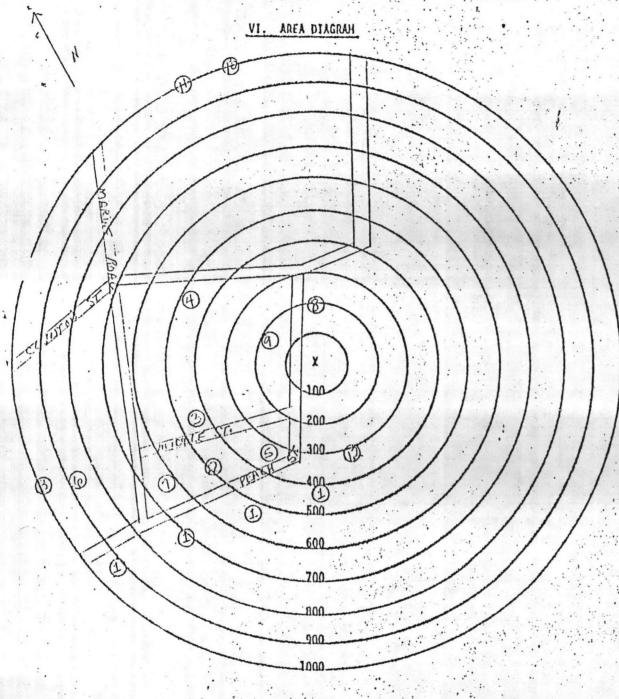
*Attach detailed dimensioned draw or sketch showing internal Seatures of dr. s, wood or coal fired boilers, and recovery boilers.
Type of Fuel Burning Source Boiler Stack Height Above Ground Level 29 ft. Inside Area of Stack 3.14 ft2
Make and Model Number Model NS-B-31 Volume of Furnace 480 ft3
Specify Actual Amount of Each Fuel Used in Above Source (s):
Coal 1b/hr; Oil Grade 6 Amount 165 gal/hr, at BTU/gal and 1b/gal or 1b/hr
Wood lb/hr; Natural Gas SCF/hr, at BTU/SCF; Other
(Specify type, amount and heating value)
Specify Maximum Rating for Each Fuel Burning Source:
Coal 0il 165 Wood Natural Gas Other
Maximum Sulfur Content of Fuel 2.05 % Specify Standby Fuel None Maximum % Sulfur
Type of Solid Fuel Burning Equipment Used: Hand Fired Spreader Stoker Underfeed Stoker Chain Grate
Traveling Grate Pulverizer Cyclone Furnace Other (Specify)
Ash Content of Fuel: Specify Method and Schedule of Tube Cleaning, if Applicable:
Coal % Wood % Other % Lancing Tube Blowing Schedule
Emission Control Equipment (Describe in Detail in Sections IV and V)
Collection Device: Wet Dry Steam Injection Air Injection Is Collected Flyash Reinjected? Draft on Boiler (Natural InducedX ) cfm at OF Total Number of Fuel Burning Sources Within Property Boundaries: 3
Maximum Capacity Rating, by Type, for All Fuel Burning Units Excluding that Itemized Above: (Total Like Units) 2
Coal lb/hr Wood lb/hr Oil 196 gal/hr Natural Gas SCF/hr
IV. SUPPLEMENTARY DATA FOR WET COLLECTION DEVICES
*Attach detailed engineering drawings of the control device and particle size versus removal efficiency curves.
Liquid Scrubbing Medium and Additives:
Total Liquid Injection Rate (Include Recirculated and Make-up Rates) gal/min or gal/1000 ft <sup>3</sup>
Operating Pressure Drop Across Device in H <sub>2</sub> O
ANSWER FOLLOWING QUESTIONS FOR SPECIFIC DEVICE:
VENTURI SCURBBER: Inlet Areain <sup>2</sup> Throat Areain <sup>2</sup> Throat Velocityft/sec
GRAVITY SPRAY CHAMBER: Number of Nozzles Liquid Droplet Size u Co-Current Countercurrent
WET CYCLONE: PACKED TOWER OR PLATE TOWER:
Body Diameter in Length in Cross-Sectional Area ft <sup>2</sup> Type of Plate
Inlet Area in Number of Nozzles Length ft Depth of Packing ft
Cutlet Areain <sup>2</sup> Number of Plates Type of Packing
OTHER WET COLLECTION DEVICES: GIVE COMPLETE DESCRIPTION INCLUDING DESIGN PARAMETERS AND DETAILED ENGINEERING DRAWINGS.
Signature: Title:



# V. SUPPLEMENTARY DATA FOR DRY COLLECTION DETTES

AGHUU3E3:	Cloth Areaft <sup>2</sup>	Bag Material	
	Number of Compartments	Pressure - Drop Total _	in H <sub>2</sub>
	Method of Cleaning	Air-to-Cloth Ratio	ft/mi
	Time Between Cleaning mins, hrs		
LECTROSTAT	FIC PRECIPITATORS:		
<ul> <li>Control of the control of the control</li></ul>			
GENERAL:			
	ffective Area of Grounded Collector Plates		
Nu	umber of Compartments or Chambers	Number of Cells per Compartment	
E1	lectrical Field Gradient at the Discharge o	or Emitting Electrodes KV/in	
Av	verage Electrical Field Gradient at the the	Grounded Collecting Electrodes	KV/in
Fi	elds of TreatmentPotential App	olied to Emitting Wires KV	
SINGLE	STAGE TYPE:		
	stance Between Emitting Wires and Collecti	ng Plates in.	
	umber of Isolatable Bus Sections		
TWO STAG			
	stance Between First Stage Emitting Electr		und)in
Po	tential Applied to Second Stage Emitting P	lates KV	
Di	stance Between Second Stage Emitting Plate	s and Grounded Collection Plates	in
LONES/MU	LTICYCLONES:		
mple Cycl	one	Multicyclone	
Di	ameter in	Diameter	in
In	let Dimensions	Inlet Dimensions of Indiv	idual Cyclone
. Ou	tlet Dimensions	Outlet Dimensions of Indi	vidual Cyclone
Pr	essure Drop in H <sub>2</sub> O	Pressure Drop	in H <sub>2</sub> 0
Nu	mber of Cyclones	Number of Cyclones	
ER DRY C	OLLECTION DEVICES: GIVE COMPLETE DETAILED	ENGINEERING DESCRIPTION AND DRAWINGS.	
		Title:	





Owner Marine Corps Base, Camp Lejeune, N.C.

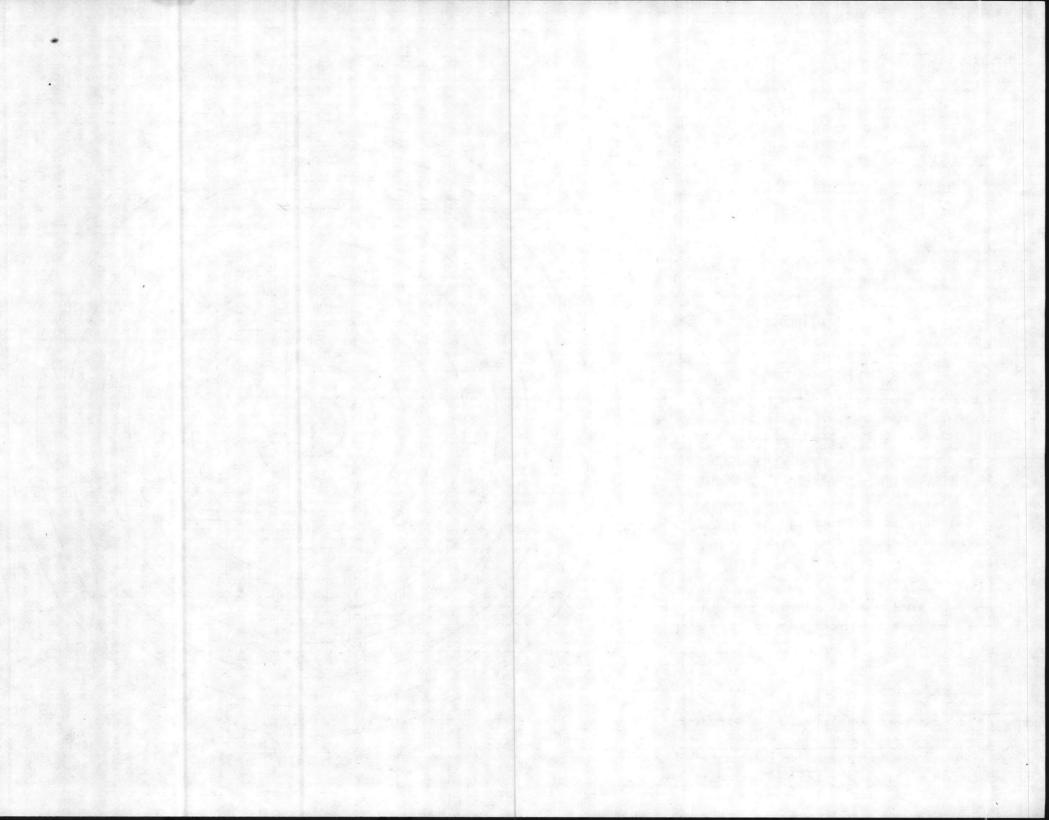
Location Peach Street, Courthouse Bay (Give Street Address)

#### INSTRUCTIONS:

- Show all surrounding buildings and roads within 1000 feet of subject equipment which is located at center of circles.
- 2. Indicate location and type of building by the use of small numbered circles with the description below.
- Show roads as lines representing the road edges.
   Indicate street names and highway numbers.
- Show wooded or cleared areas by approximate boundary lines and the words "woods", "cleared", "cornfield", etc.
- 5. Indicate direction of north by arrow.

CODE	DESCRIPTION
0	Barracks
0	Mess Hall.
. (3)	Administration
0	Theater,
(5)	Fire Station
<b>©</b>	Telephone Exchange
<b>①</b>	Warehouse:
<b>®</b>	Chaplin's Office
<b>①</b>	Marine Corps Exchange
0	Water Reservoir
QD Q	Water Treatment Plant
EXAMPLE	① Church
	@ Residence
(12)	Sewage Lift Station

X Indicates location of equipment.



BoiLER #55

NORTH CAROLINA

ENVIRONMENTAL MANAGEMENT COMMISSION

RALFIGH

APPLICATION FOR

A "PERMIT"

TO CONSTRUCT AND OPERATE AIR

POLLUTION ABATEMENT FACILITIES AND/OR EMISSION SOURCES

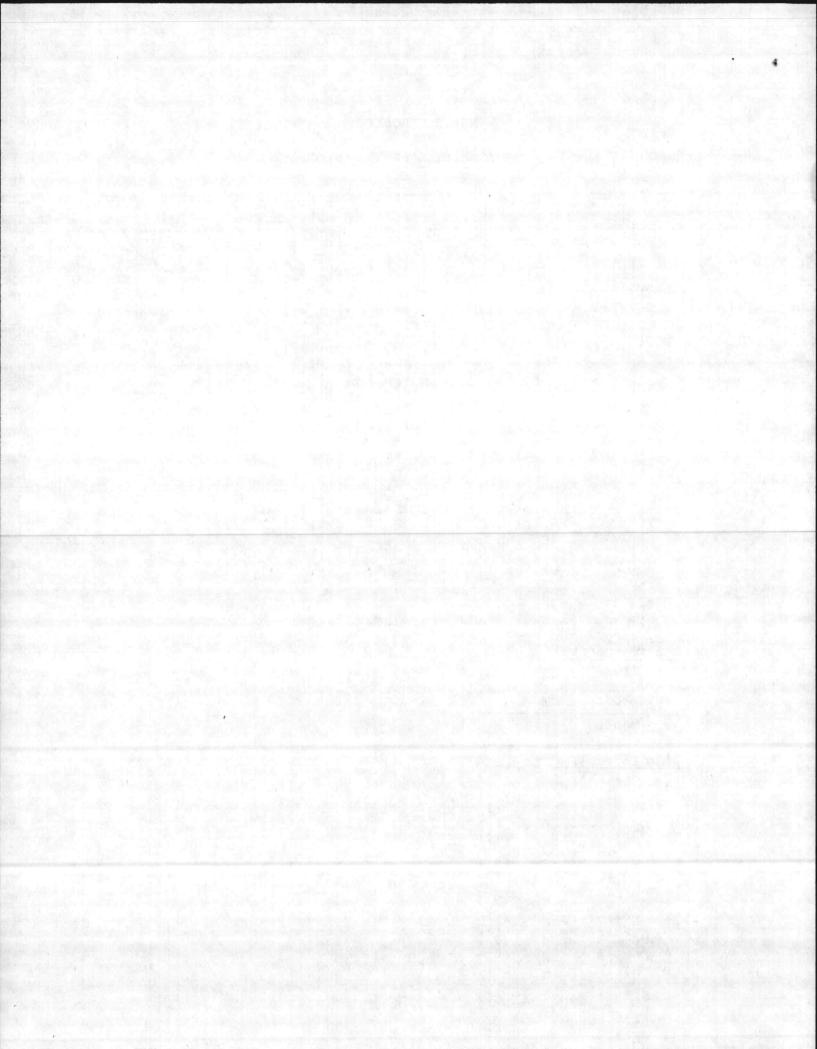
Filed By: Major General D. B. Barker (Name)

Marine Corps Base

(Address)

Camp Lejeune. North Carolina

AQ-22

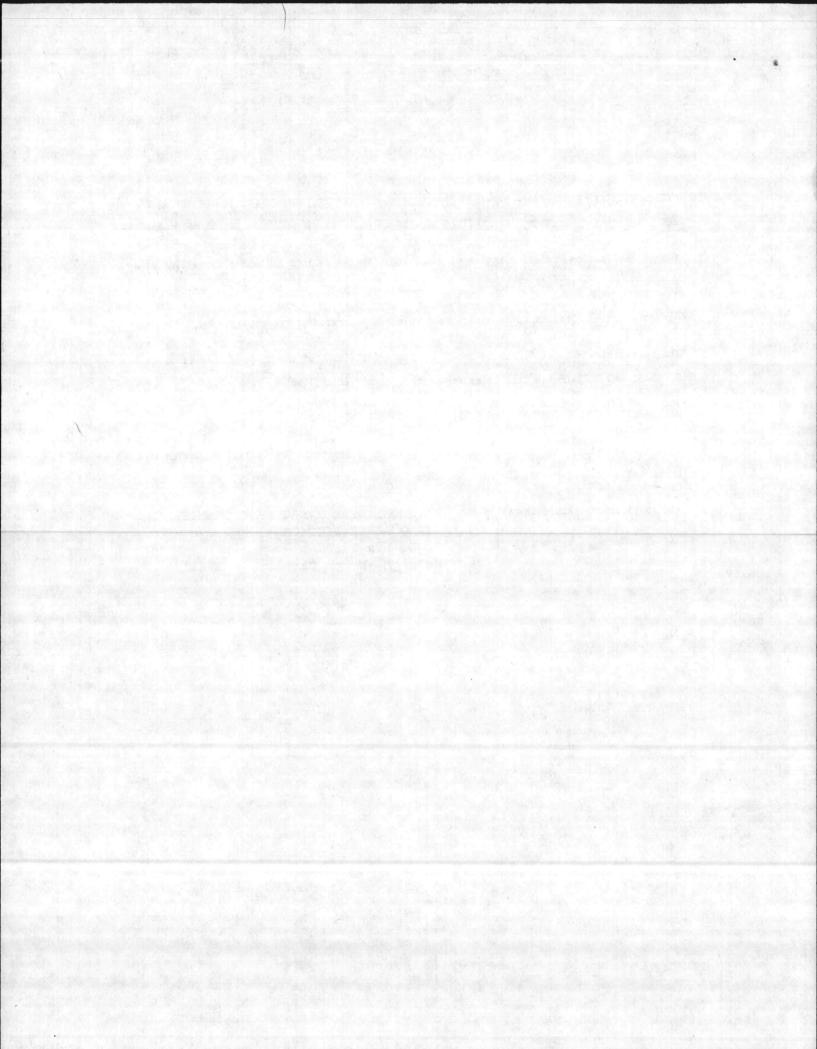


#### APPLICATION INSTRUCTIONS

### THIS APPLICATION IS SUBJECT TO REJECTION UNLESS ALL REQUIRED

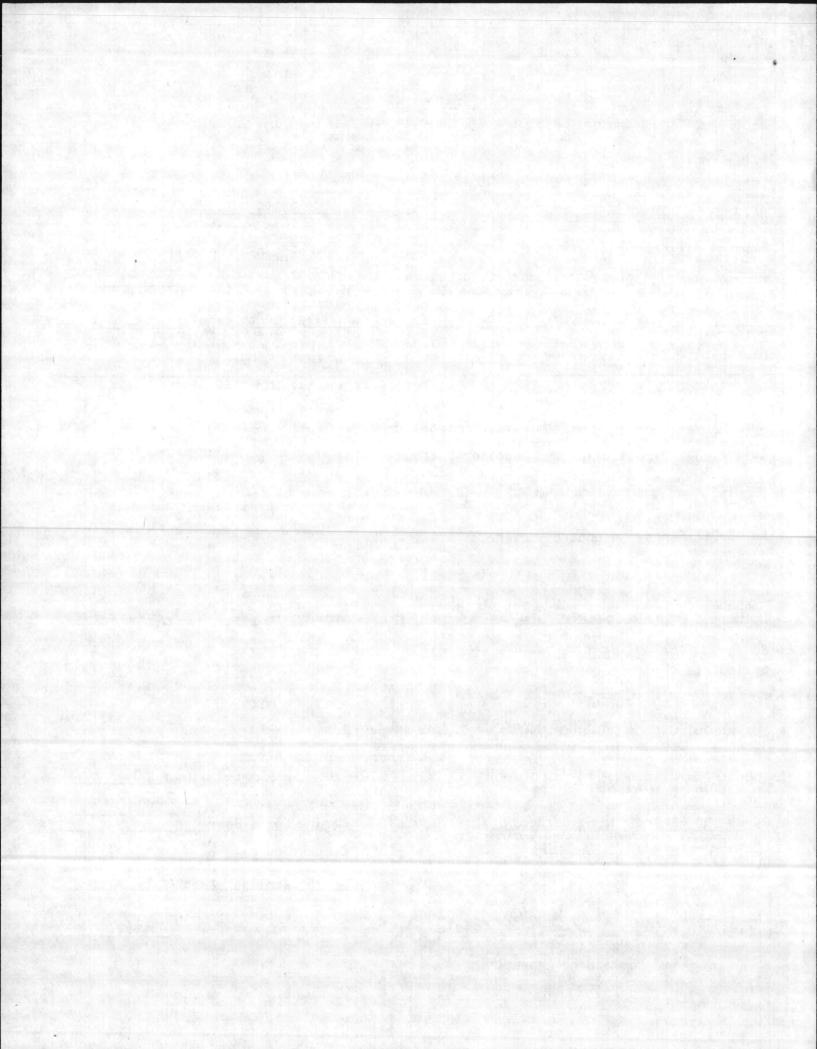
#### INFORMATION IS SUBMITTED

- ATTACH DETAILED ENGINEERING DRAWINGS OF SOURCE(S), PROCESS(ES) AND COLLECTION DEVICE(S) AS
  REQUESTED IN EACH SECTION. IF MULTIPLE SOURCES OR DEVICES, USE ADDENDUM SHEETS AS NECESSARY.
- Submit application, detailed engineering drawings, specifications and other supporting data and documents in TRIPLICATE.
- 3. Attach additional sheets as necessary to complete any portion of the application.
- 4. The application MUST BE SIGNED by the RESPONSIBLE INDIVIDUAL of the company that is to PURCHASE AND OPERATE the facilities for which a Permit is applied.
- 5. ALL APPLICANTS MUST COMPLETE THE FIRST PAGE AND SECTIONS I AND VI.
- If an Incinerator, Fuel Burning Source, Wet Collection Device or Dry Collection Device is to be installed and operated, COMPLETE SECTIONS II, III, IV or V respectively.
- 7. All applications should be mailed to: 'ENVIRONMENTAL MANAGEMENT COMMISSION
  AIR QUALITY SECTION
  P. O. Box 27687
  Raleigh, North Carolina 27611



# APPLICATION FOR A "PERMIT" To Construct and Operate Air Pollution Abatement Facilities and/or Emission Sources Three Copies to be Submitted Fourth Copy Should be Retained by Applicant

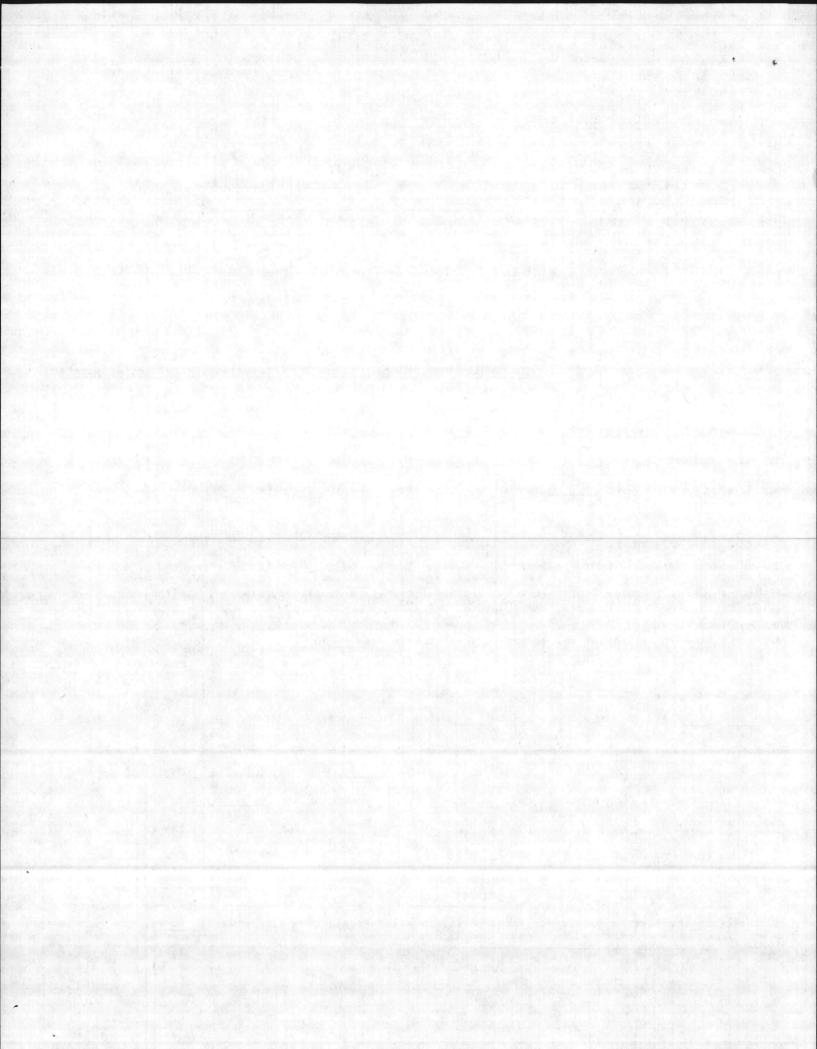
	D.	ate: 24 September	1980
In accordance with the provisions of Article	21 of Chapter 143, Genera	Statutes of North Caroli	na as amended, application
Maning Comps Pag	o Cama Laisuna Nu	wath Camalina	
is hereby made by Marine Corps Bas (Name of Company, Establish	e, Camp Lejeune, No	Drin Carolina Division or Plant Name i	n Addition to Parent
Company if Applicable) in the County of	nslow at Jack	csonville, North Ca	rolina
for issuance of a "Permit" to construct and o location as specified in the accompanying dra	perate air pollution abate	and City or Town Address ement facilities and/or em i other pertinent data:	issions sources at above
1. Nature of Operation Conducted at the Abov	e Facility: Militar	y Operation	
<ol> <li>Description of Process(es) Whose Emission Constructed or Altered. (Complete Section</li> </ol>	(s) is/are to be Controlle	ed by the Facility or Source	ce(s) Which is/are to be
Boiler, No. 6 Fuel Oil	Boiler No. 55 Bldg No. BB-9		
<ol> <li>Furnish Type and Narrative Description of Control Device to be Installed and/or Ope Identical Units).</li> </ol>	Proposed Control Device(s	s).(Complete Appropriate So Model Number of Control Dev	upplemental Data Sheets for vice(s) and Namber of
No. 6 Oil Fired, no control de	vice.		
4. Contaminant Weight Rate of Em	desiene (15/bm):	Control Control	
- ''마리트 - '' ''마리아 '' '' '' '' '' '' '' '' '' '' '' '' ''	With Control Device	Entrol Efficient Without Control Device	With Control Device
SO and 26.30 lb/hr Particulate	N/A	N/A	N/A .
5. Name and Address of Engineering Firm that	Prepared Plans:		
<ol> <li>Biltimate Disposition of Collected Polluta None</li> </ol>		Facilities are to be Comp	oleted and in Operation:
<ol> <li>Indicate Period of Time for Which Facilit are Estimated to be Adequate: 20 Years</li> </ol>		of Air Pollution Control	Device \$ 0
	10. Hours Facil	ity is Operated Per Yo	ear: 8.760
Name: Major General D. B. Barker,	. USMC Mailing Address:	Marine Corps Base	
(Responsible Individual of Company Purc Operating Facility <u>PLEASE PRINT</u> )	nas i mg/	Camp Lejeune	
		North Carolina	22542
1 7 7		- NOT LIT CATOTTIA	
$\lambda R R$	1.6.		
Signature and Title:	men	Telephone Num	ber: 451-5024
D. B. BARKER, Ma	jor General, USMC		
Commanding Gener	ral		



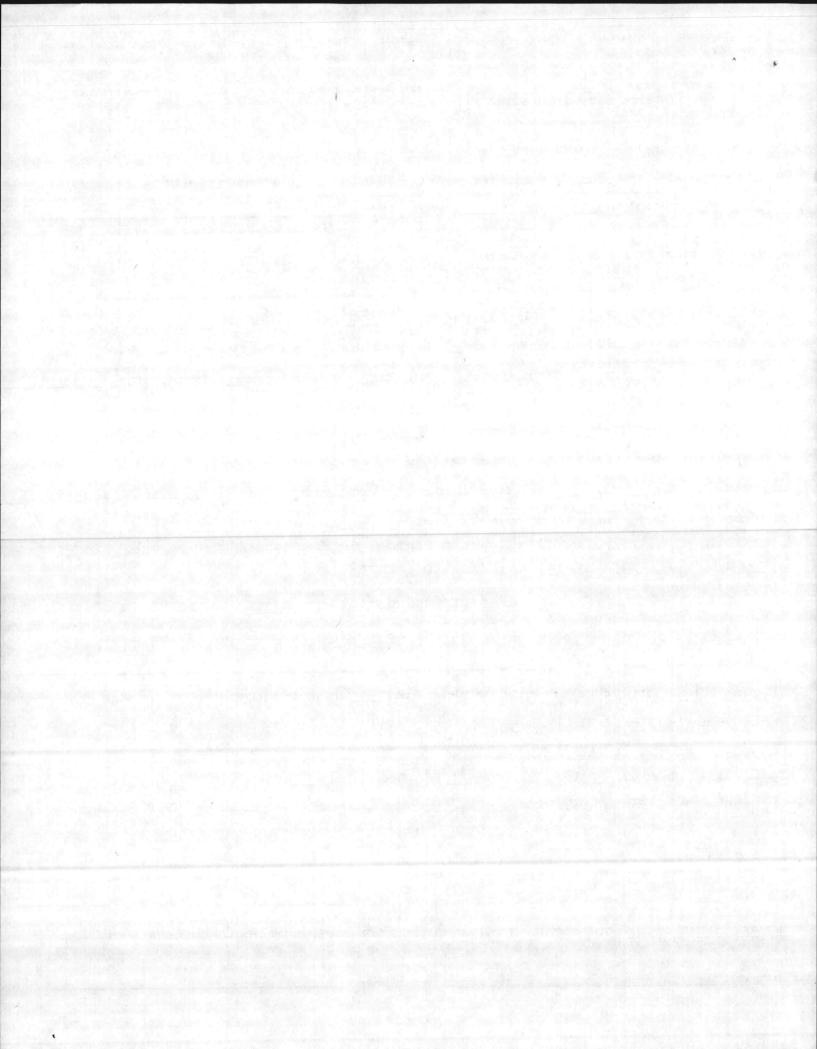
#### I. GENERAL DATA FOR PROCESSES

\*Attach detailed process engineering drawings, equipment drawings and flow diagrams for the process(es) or source(s) being constructed or aftered.

Name of Process: Heating and Steam Plant
Total Weight of Materials Entering this Process: 75 gals%/hr ************************************
Volume and Temperature of Air Flow Entering Control Device: CFM @ "F  Volume and Temperature of Effluent at Discharge Point to Atmosphere: CFM @ "F
Pollutant(s) to be Controlled:  Height of Process Stack or Vent Above Ground Level 33'7" ft. Inside area of Stack 4.26 ft <sup>2</sup> .
Particulate Emission Rate (Before Control) 1.85 lb/hr
Particle Size Distribution: 0-5µ 3, 5-10µ 3, 10-20µ 3, 20-30µ 3, 30-40µ 3, 40-50µ 3,>50p 3
Gaseous Emission(s): Name (Chemical Formula) µg/m³, PPM gr lb/hr
SO <sub>x</sub> 24.45
II. SUPPLEMENTARY DATA FOR INCINERATORS (Including Conical Incinerators)
Circle Type of Waste or Indicate Composition: Type 8 Type I Type II Type III Type IV
Combustible:
Total Waste Generated Per Day: lb. Hours Incinerator will be Operated: hrs/day
Design Capacity for Above Waste: lbs/hr Manufacturer and Model Number; Approximate Cost:
Primary Chamber Volume:ft.3 Secondary Chamber Volume:ft.3
Air Requirements: Total Excess Air
Comical Incinerator for: Overfire Air Supply , Underfire Air Supply , Dome Temperature Set Point  Flame Port Temperature: F
Is there a Continuous Exhaust Gas Temperature Recorder? YesNo
Stack: Inside Areaft. <sup>2</sup> Heightft. Gas Velocityft/sec Temperature°F Fan Capacitycfm Stack Lined?
Is there a Wet Scrubber?
Yes No Flow Rate of H <sub>2</sub> O into Scrubbergal/min Temperature Before Scrubber°F
Aux. Fuel: Oil Gas Other Burner Rating: Primary Chamber Secondary Chamber Stack
GTU/hr BTU/hr BTU/hr
Preheating Time:min.
Secondary Burner or Afterburner: Is there a Timer? Yes No Length of Time Burner is Operatedmin.
Is the Timer Reset by Charging Door? Yes No Other Mode of Burner Control
Type of Feed: Manual Automatic If Automatic, Describe
Oistance from Incinerator to Nearest Structure(s) in which People Live and/or Workft.
Signature:

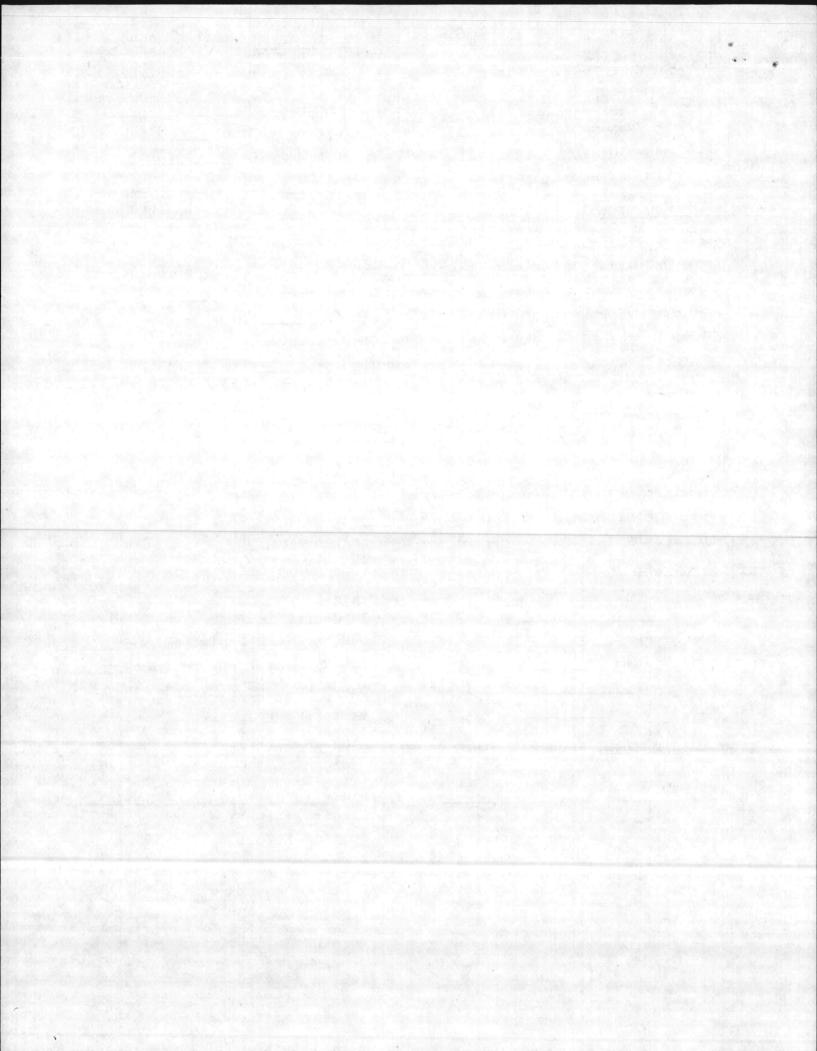


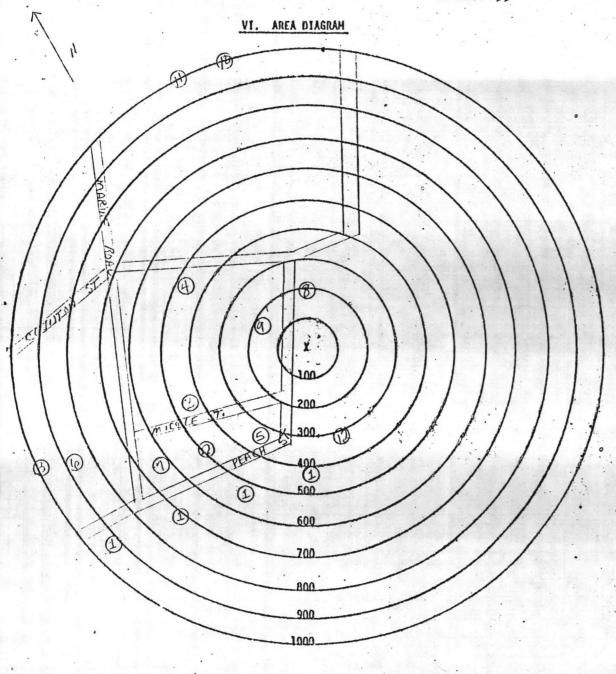
*Actich detailed dimensioned do ng or sketch showing internal features of jers, wood or coal fired boilers, and recovery boilers.
Type of Fuel Surning Source Boiler Stack Height Above Ground Level 33'7"ft. Inside Area of Stack 4.26 ft
Make and Model Number Model V4 Volume of Furnaceft3
Specify Actual Amount of Each Fuel Used in Above Source (s):
Coal lb/hr; Oil Grade 6 Amount 75 gal/hr, at 146,900 BTU/gal and lb/gal or lb/hr
Wood lb/hr; Natural Gas SCF/hr, at BTU/SCF; Other
(Specify type, amount and heating value)
Specify Maximum Rating for Each Fuel Burning Source:
Coal Oil75 g/hmood Natural Gas Other
Maximum Sulfur Content of Fuel2.05 % Specify Standby Fuel None Maximum % Sulfur
Type of Solid Fuel Burning Equipment Used: Hand Fired Spreader Stoker Underfeed Stoker Chain Grate
Traveling Grate Pulverizer Cyclone Furnace Other (Specify)
Ash Content of Fuel: Specify Method and Schedule of Tube Cleaning, if Applicable:
Coal % Wood _ % Other _ % Lancing _ Tube Blowing _ Schedule
Emission Control Equipment (Describe in Detail in Sections IV and V)
Collection Device: Wet Dry Steam Injection Air Injection Is Collected Flyash Reinjected? Draft on Boiler (Natural Induced $X$ ) cfm at of Total Number of Fuel Burning Sources Within Property Boundaries: 3
Maximum Capacity Rating, by Type, for All Fuel Burning Units Excluding that Itemized Above: (Total Like Units) 2
Coal lb/hr Wood lb/hr Oil 195 gal/hr Natural Gas SCF/hr
IV. SUPPLEMENTARY DATA FOR WET COLLECTION DEVICES
*Attach detailed engineering drawings of the control device and particle size versus removal efficiency curves.
Liquid Scrubbing Medium and Additives:
Total Liquid Injection Rate (Include Recirculated and Make-up Rates)gal/min or gal/1000 ft3
Operating Pressure Drop Across Device in H2O
ANSWER FOLLOWING QUESTIONS FOR SPECIFIC DEVICE:
VENTURI SCURBBER: Inlet Area in2 Throat Area in2 Throat Velocity ft/sec
GRAVITY SPRAY CHAMBER: Number of Nozzles Liquid Droplet Size u Co-Current Countercurrent
WET CYCLONE: PACKED TOWER OR PLATE TOWER:
Body Diameter in Length in Cross-Sectional Area ft <sup>2</sup> Type of Plate
Inlet Area in Number of Nozzles Length ft Depth of Packing
Outlet Areain <sup>2</sup> Number of Plates Type of Packing
OTHER WET COLLECTION DEVICES: GIVE COMPLETE DESCRIPTION INCLUDING DESIGN PARAMETERS AND DETAILED ENGINEERING DRAWINGS.
Signature: Title:



## V. SUPPLEMENTARY DATA FOR DRY COLLECTIC EVICES

840400252:	Cloth Areaft <sup>2</sup>	Bag Material	
	Number of Compartments	Pressure - Drop Total	in l
	Method of Cleaning	Air-to-Cloth Ratio	ft/:
	Time Between Cleaning mins, hrs		
LECTROSTA	TIC PRECIPITATORS:		
GENERAL			
<b>E</b> 1	ffective Area of Grounded Collector Plate	sft <sup>2</sup>	
	그렇게 이 계속을 하고 있다면 하는 말이 말았다면 하는데 하는데 없다고 있다.	Number of Cells per Compartment	
		or Emitting Electrodes KY/in	
	- HONGO (10. * Broughthan)는 Health Markett (2. B. 1995) [18] Health Markett (2. B. 1996) [18] Heal	ne Grounded Collecting Electrodes KV/in	
	elds of Treatment Potential Ag		
SINGLE S	TAGE TYPE:		
	stance Between Emitting Wires and Collect	ring Plates in	
	mber of Isolatable Bus Sections		
THO STAG			
		rodes and Field Receiver Electrodes (Ground)	_ in
Po	tential Applied to Second Stage Emitting	PlatesKY	
. Di	stance Between Second Stage Emitting Plat	es and Grounded Collection Platesin	
CLONES/MUI	LTICYCLONES:		
mple Cycl	one	Multicyclone	
Dia	ameterin	Glameterin	
In	let Dimensions	Inlet Dimensions of Individual Cyclone	
Cut	let Dimensions	Outlet Dimensions of Individual Cyclon	
Pre	essure Drop in H <sub>2</sub> O	Pressure Drop in H <sub>2</sub>	
Nun	ber of Cyclones	Mumber of Cyclones	
HER DRY CO	DLLECTION DEVICES: GIVE COMPLETE DETAILED	SUCINCEDING DESCRIPTION AND SPAUTNOS	
MAN DRI GO	COLOR SCHOOL STREET	CONTREATING DESCRIPTION AND DRAWINGS.	





Owner Marine Corps Base, Camp Lejeune, N.C.

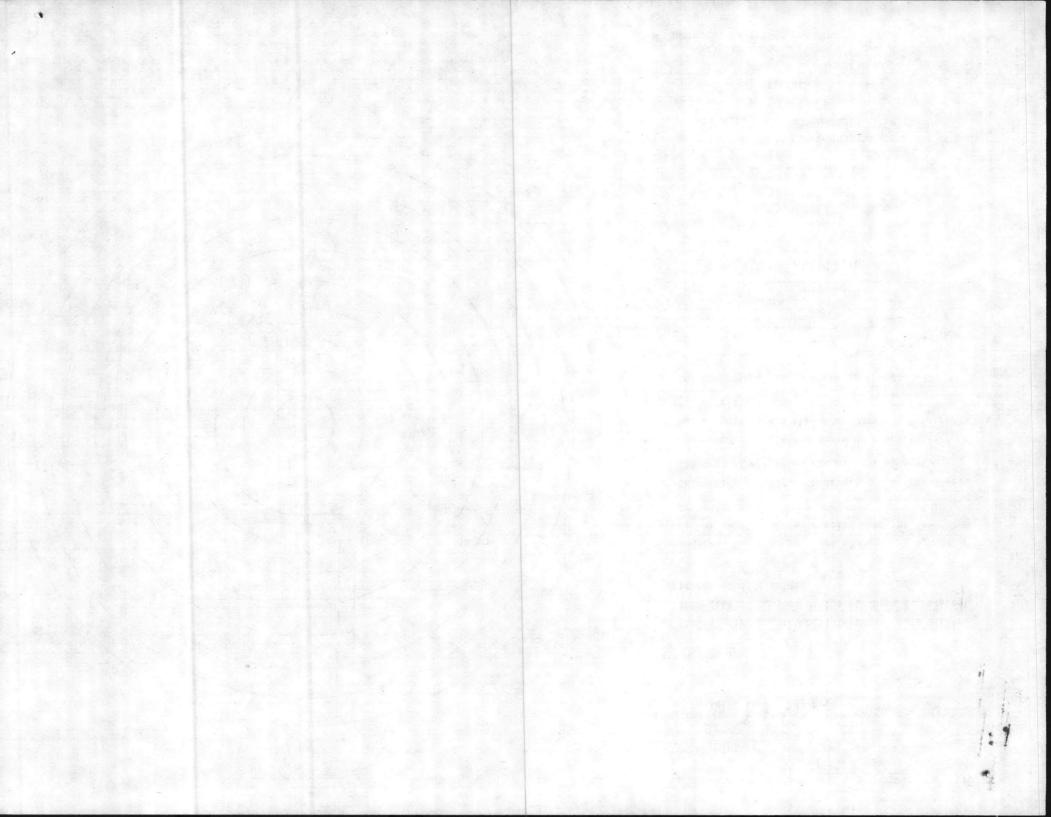
Location Peach Street, Courthouse Bay
(Give Street Address)

#### INSTRUCTIONS:

- Show all surrounding buildings and roads within 1000 feet of subject equipment which is located at center of circles.
- Indicate location and type of building by the use of small numbered circles with the description below.
- Show roads as lines representing the road edges.
   Indicate street names and highway numbers.
- Show wooded or cleared areas by approximate boundary lines and the words "woods", "cleared", "cornfield", etc.
- 5. Indicate direction of north by arrow.

CODE	DESCRIPTION
0	Barracks
(2)	Mess Hall
· ② ③ ④	Administration
•	Theater
(5)	Fire Station
6	Telephone Exchange
①	Warehouse
3	Chaplin's Office
<b>①</b>	Marine Corps Exchange
0	Water Reservoir
(I)	Water Treatment Plant
EXAMPLE	(1) Church
12	② Residence Sewage Lift Station

X Indicates location of equipment.





# North Carolina Department of Natural Resources & Community Development

James B. Hunt, Jr., Governor

Howard N. Lee, Secretary

formit for

DIVISION OF ENVIRONMENTAL MANAGEMENT

May 27, 1981

Mr. D.B. Barker
Major General, U.S. Marine Corps
Commanding
Marine Corps Base
Camp Lejeune, North Carolina 28542

Subject: Permit No. 4642

Marine Corps Base

Camp Lejeune, North Carolina

Dear General Barker:

In accordance with your application received May 1, 1981, we are forwarding herewith Permit No. 4642 to Marine Corps Base, Camp Lejeune, North Carolina for the construction and/or operation of air pollution abatement facilities and/or emission sources.

If any parts, requirements, or limitations contained in this permit are unacceptable to you, you have the right to an adjudicatory hearing before a hearing officer upon written demand to the Director within thirty (30) days following receipt of this permit, identifying the specific issues to be contended. Unless such demand is made, this permit shall be final and binding.

This permit shall be effective from the date of issuance until April 1, 1986, is nontransferable to future owners and operators, and shall be subject to the conditions and limitations as specified therein.

Sincerely.

Charles Wakild

Regional Supervisor

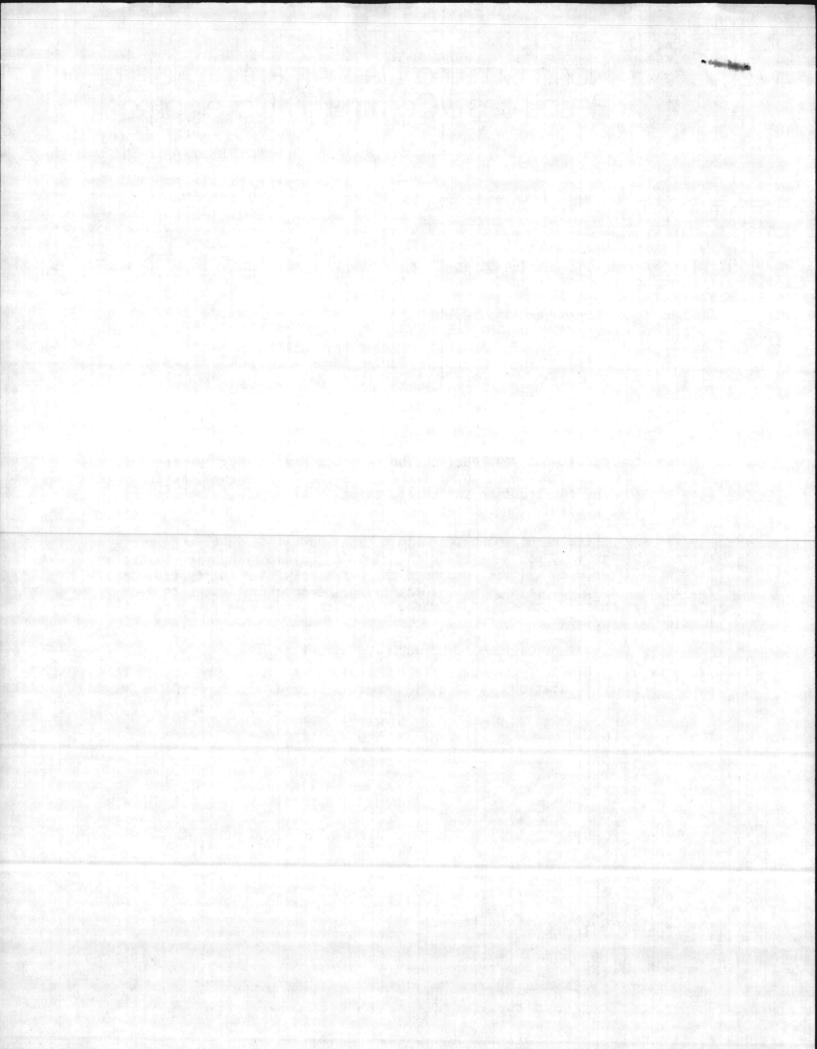
Enclosure

cc: Stan Taylor

Robert Jamieson

Wilmington Regional Office

Central Files



#### ENVIRONMENTAL MANAGEMENT COMMISSION

#### DEPARTMENT OF NATURAL RESOURCES & COMMUNITY DEVELOPMENT

Raleigh

#### PERMIT

For the Discharge of Air Contaminants Into the Atmosphere

In accordance with the provisions of Article 21B of Chapter 143, General Statutes of North Carolina as amended, and other applicable Laws, Rules and Regulations,

#### PERMISSION IS HEREBY GRANTED TO

Marine Corps Base Camp Lejeune, North Carolina

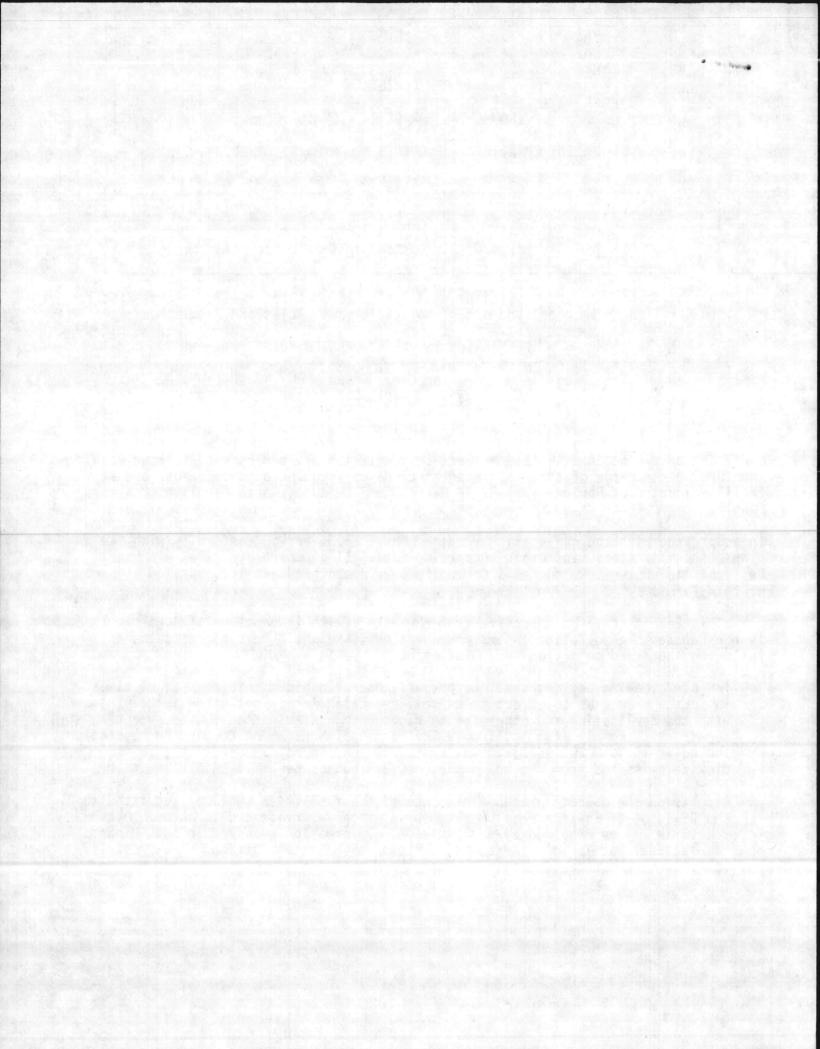
#### FOR THE

operation of two No. 6 oil-fired boilers (11.2 million BTU per hour heat input each) and for the discharge of the associated stack gases into the outdoor atmosphere at its facility located at Powder Lane, Rifle Range, Camp Lejeune, North Carolina, Onslow County,

in accordance with the application received May 1, 1986 and in conformity with the plans, specifications, and other supporting data, all of which are filed with the Department of Natural Resources & Community Development and are incorporated as part of this Permit.

This Permit shall be effective from the date of its issuance until April 1, 1986, is nontransferable to future owners and operators, and shall be subject to the following specified conditions and limitations:

- 1. The air cleaning devices shall be properly operated and maintained at all times in such a manner as to effect an overall reduction in air pollution in keeping with the application and otherwise to reduce air contamination to the extent necessary to comply with applicable Environmental Management Commission Regulations, including 15 NCAC 2D .0503, .0516, and .0521, and in no case shall the sulfur dioxide emissions from the boilers exceed 2.3 pounds per million BTU input.
- 2. Reports on the operation and maintenance of the facilities shall be submitted to the Division of Environmental Management at such intervals and in such form and detail as may be required by the Division. Information required in such reports may include, but is not limited to, process weight rates, firing rates, hours of operation, and preventive maintenance schedules.



- 3. Camp Lejeune Marine Base, at least ninety (90) days prior to the expiration of this Permit, shall request its extension by letter. The letter should include the permit number and a description of modifications, if any, that have been made.
- 4. This permit is subject to revocation or modification upon a determination that information contained in the application or presented in support thereof is incorrect, conditions under which the permit renewal was granted have changed, or violations of conditions contained in the permit have occurred.
- 5. A violation of any term or condition of this Permit shall subject the Permittee to enforcement procedures contained in North Carolina General Statutes 143-215.114, including assessment of civil penalties.

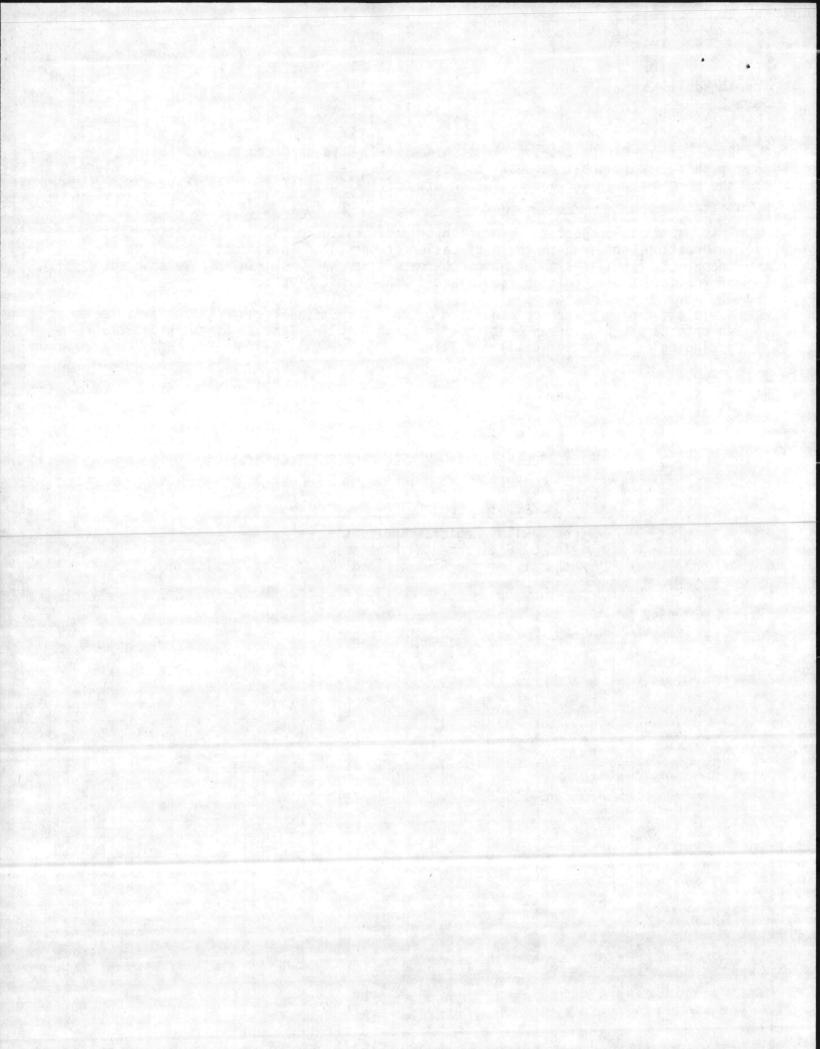
Permit issued this the 27th day of May

NORTH CAROLINA ENVIRONMENTAL MANAGEMENT COMMISSION

Charles Wakild, Regional Supervisor Division of Environmental Management

By Authority of the Environmental Management Commission

Permit No. 4642



ENVIRONMENTAL MANAGEMENT COMMISSION

RALEIGH

WILMINGTON REGIONAL OFFICE

APPLICATION FOR

A "PERMIT"

TO CONSTRUCT AND OPERATE AIR

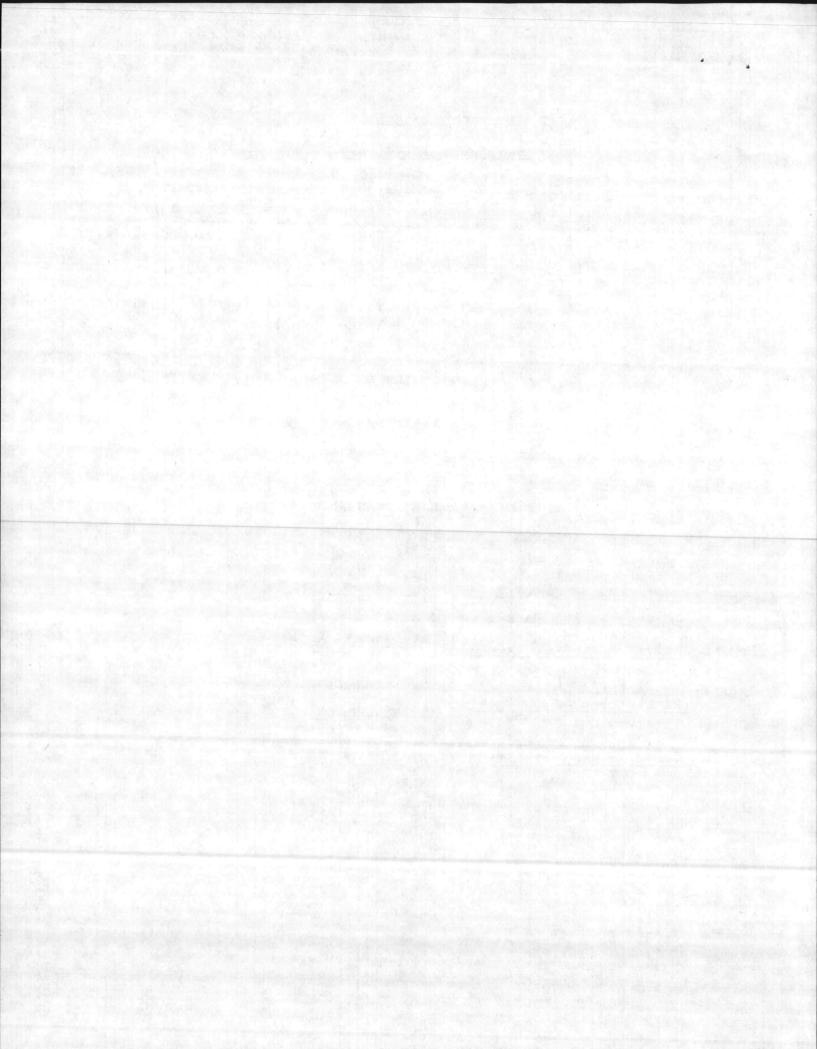
POLLUTION ABATEMENT FACILITIES AND/OR EMISSION SOURCES

Filed By: Major General D. B. Barker (Name)

Marine Corps Base
(Address)

Camp Lejeune, North Carolina

AQ-ZZ

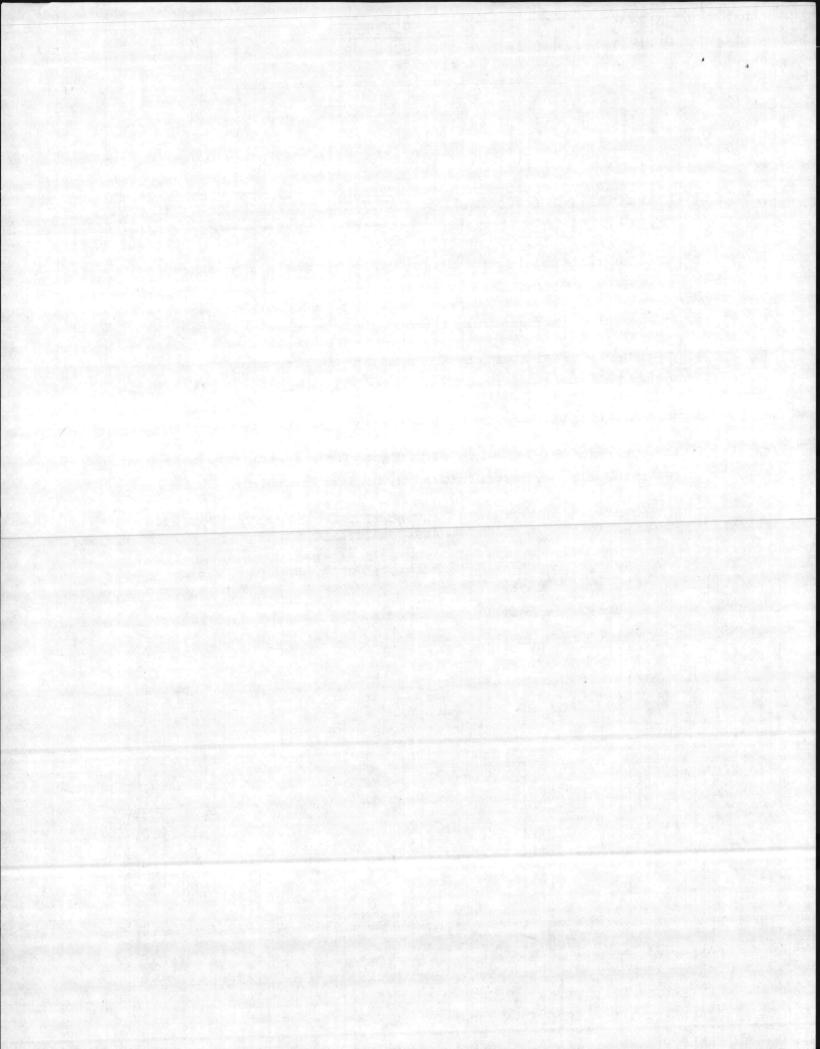


#### APPLICATION INSTRUCTIONS

#### THIS APPLICATION IS SUBJECT TO REJECTION UNLESS ALL REQUIRED

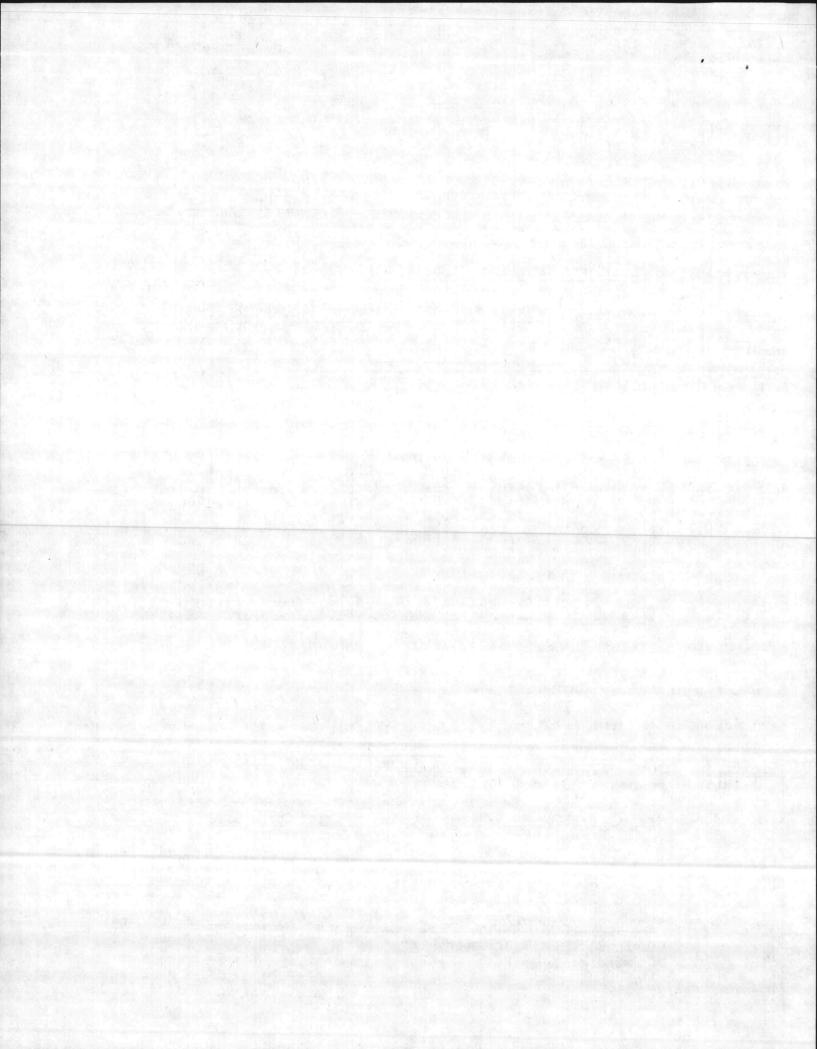
#### INFORMATION IS SUBMITTED

- 1. ATTACH DETAILED ENGINEERING DRAWINGS OF SOURCE(S), PROCESS(ES) AND COLLECTION DEVICE(S) AS REQUESTED IN EACH SECTION. IF MULTIPLE SOURCES OR DEVICES, USE ADDENDUM SHEETS AS NECESSARY.
- Submit application, detailed engineering drawings, specifications and other supporting data and documents in TRIPLICATE.
- 3. Attach additional sheets as necessary to complete any portion of the application.
- 4. The application MUST BE SIGNED by the RESPONSIBLE INDIVIDUAL of the company that is to PURCHASE AND OPERATE the facilities for which a Permit is applied.
- 5. ALL APPLICANTS MUST COMPLETE THE FIRST PAGE AND SECTIONS I AND VI.
- If an Incinerator, Fuel Burning Source, Wet Collection Device or Dry Collection Device is to be installed and operated, COMPLETE SECTIONS II, III, IV or V respectively.
- 7. All applications should be mailed to: ENVIRONMENTAL MANAGEMENT COMMISSION
  AIR QUALITY SECTION
  P. O. Box 27687
  Raleigh, North Carolina 27611



# APPLICATION FOR A "PERMIT" To Construct and Operate Air Pollution Abatement Facilities and/or Emission Sources Three Copies to be Submitted Fourth Copy Should be Retained by Applicant

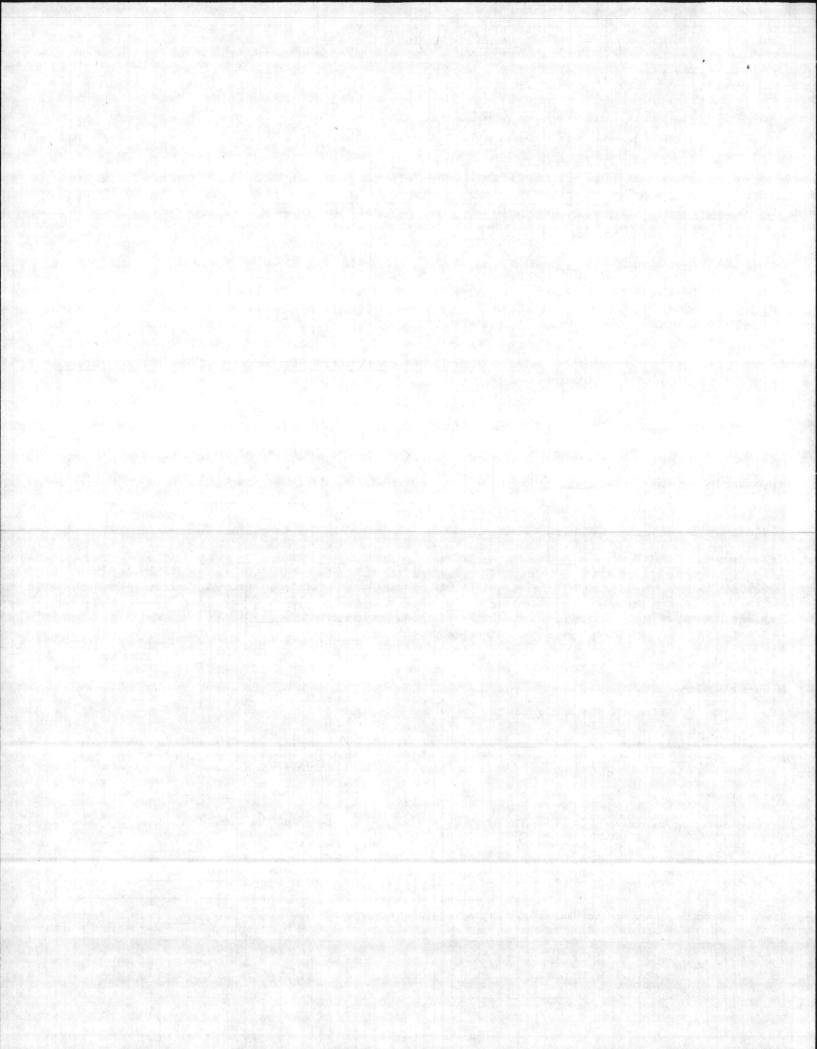
	Da	te: 24 Sep 1980	
In accordance with the provisions of Article 21 o			ina as amended, application
is hereby made by Marine Corps Base, C (Name of Company, Establishment			in Addition to Parent
in the County of Onsl Company if Applicable) for issuance of a "Permit" to construct and opera location as specified in the accompanying drawing	te air pollution abate	ment facilities and/or e	of Plant or Facility) missions sources at above
1. Nature of Operation Conducted at the Above Fa	cility: Military O	peration	
<ol> <li>Description of Process(es) Whose Emission(s) Constructed or Altered. (Complete Section I)</li> </ol>	is/are to be Controlle	d by the Facility or Sou	rce(s) Which is/are to be
Boiler, No. 6 Fuel Oil	Boiler No. 46 Bldg No. RR-1		
<ol> <li>Furnish Type and Narrative Description of Pro Control Device to be Installed and/or Operate Identical Units).</li> </ol>	posed Control Device(s d. Include Make and M	).(Complete Appropriate odel Number of Control D	Supplemental Data Sheets for evice(s) and Number of
No. 6 Oil Fired, no control devi	ce.		
4. Contaminant Weight Rate of Emissi Emitted: Without Control Device SO <sub>x</sub> and		Control Effic Without Control Devic	iency (%): e <u>With Control Device</u>
Particulate 26.64 lb/hr	N/A	N/A	N/A
5. Name and Address of Engineering Firm that Pre	pared Plans:		
<ol> <li>Ultimate Disposition of Collected Pollutants: None</li> </ol>		Facilities are to be Con	mpleted and in Operation:
<ol> <li>Indicate Period of Time for Which Facilities are Estimated to be Adequate: 20 Years</li> </ol>		of Air Pollution Contro	
Name: Major General D. B. Barker, U	SMC Mailing Address:	ity is Operated Per Marine Corps Bas	
(Responsible Individual of Company Purchasi Operating Facility <u>PLEASE PRINT</u> )	ng/	Camp Lejeune	
		North Carolina	28542
Signature and Title: DB Bo	uku	· Telephone N	umber: 451-5024
D. B. BARKER, Major Commanding General	General, USMC	Terephone N	101-3027



#### I. GENERAL DATA FOR PROCESSES

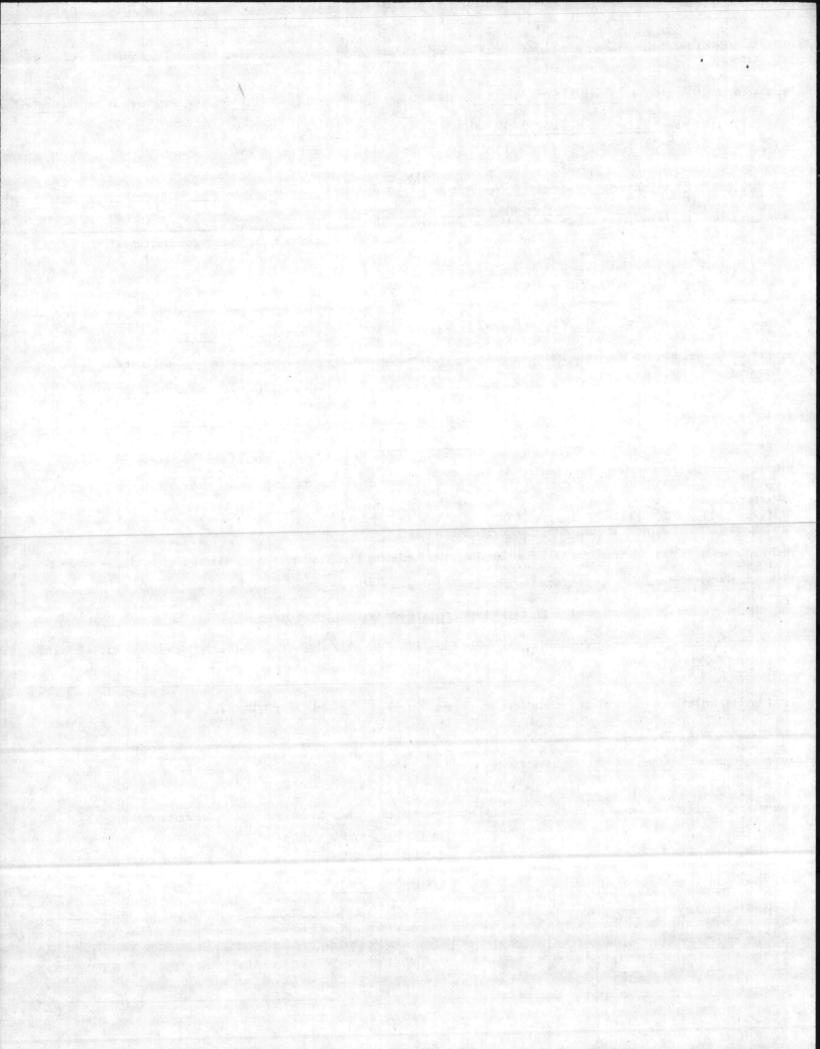
\*Attach detailed process engineering drawings, equipment drawings and flow diagrams for the process(es) or source(s) being constructed on altered.

Name of Process: Heating and Steam Plant
Total Weight of Materials Entering this Process: 76 gals xx/hrxxxxxxxx
Volume and Temperature of Air Flow Entering Control Device: CFM @ °F  Volume and Temperature of Effluent at Discharge Point to Atmosphere: CFM @ °F  Pollutant(s) to be Controlled: ft. Inside area of Stack 3.97 ft2.
Particulate Emission Rate (Before Control)1.871b/hr
Particle Size Distribution: 0-5µ %, 5-10µ %, 10-20µ %, 20-30µ %, 30-40µ %, 40-50µ %,>50µ %
Gaseous Emission(s): Name (Chemical Formula) ug/m³, PPM or 1b/hr SOX 24.77
II. SUPPLEMENTARY DATA FOR INCINERATORS (Including Conical Incinerators)
Circle Type of Waste or Indicate Composition: Type O Type I Type II Type III Type IV
Combustible: % Non-Combustible: % Moisture: % Heat Value: BTU/1b
Total Waste Generated Per Day: lb. Hours Incinerator will be Ogerated: hrs/day
Design Capacity for Above Waste: lbs/hr Manufacturer and Model Number; Approximate Cost:
Primary Chamber Volume:ft.3 Secondary Chamber Volume:ft.3  Air Requirements: Total Excess Air.
Conical Incinerator for: Overfire Air Supply, Underfire Air Supply, DomeTemperature Set Poi Flame Port Temperature: °F Secondary Chamber Temperature: °F
Is there a Continuous Exhaust Gas Temperature Recorder? YesNo Stack:
Inside Areaft. <sup>2</sup> Heightft. Gas Velocityft/sec TemperaturefF Fan Capacitycfm Stack Lined?
Is there a Wet Scrubber?
Yes No Flow Rate of H <sub>2</sub> O into Scrubbergal/min Temperature Before Scrubber*F
Aux. Fuel: 0il Gas Other Burner Rating: Primary Chamber Secondary Chamber Stack
BTU/hr BTU/hr BTU/hr
Primary Burner: Is there a Preheat Timer? YesNo Preheating Time:min.
Secondary Burner or Afterburner: Is there a Timer? Yes No Length of Time Burner is Operatedmin.
Is the Timer Reset by Charging Door? Yes No Other Mode of Burner Control
Type of Feed: Manual Automatic If Automatic, Describe
Distance for Incinerator to Nearest Structure(s) in which Books 1977
Distance from Incinerator to Nearest Structure(s) in which People Live and/or Workft.  Signature:
Jightsuis.



#### III. SUPPLEMENTARY DATA FOR FUEL BURNING SOURCES

*Attach detailed dimensioned drawing or sketch showing internal features of dryers, wood or coal fired boilers, and recovery boilers.	
Type of Fuel Burning Source Boiler Stack Height Above Ground Level 34 ft. Inside Area of Stace	97 5.2
Make and Model Number VL - Erie City Iron Workslume of Furnaceft3	71 752
Specify Actual Amount of Each Fuel Used in Above Source (s):	
Coal lb/hr; Oil Grade 6 Amount 76 gal/hr, at lb/gal or lb/hr	
Hood lb/hr; Natural Gas SCF/hr, at BTU/SCF; Other	
(Specify type, amount and heating value)	-14
Specify Maximum Rating for Each Fuel Burning Source:	
Coal Oil 76 g/hMood Natural Gas Other	
Maximum Sulfur Content of Fuel2.05 % Specify Standby FuelNone Maximum % Sulfur	
Type of Solid Fuel Burning Equipment Used: Hand Fired Spreader Stoker Underfeed Stoker Chain Grate	
Traveling Grate Pulverizer Cyclone Furnace Other (Specify)	
그는 그 맛있는 그는 그는 그런 프랑프리아 그 아내는 그는 아내를 들어가면 하면 사람들이 되었다. 그는	
Specify Method and Schedule of Tube Cleaning, if Applicable:  Coal % Wood % Other % Lancing Tuba 81cwing Schedule	
Emission Control Equipment (Describe in Detail in Sections IV and V)	_
Collection Device: Wet Dry Steam Injection Air Injection Is Collected Flyash Reinjec Draft on Boiler (Natural Induced X ) cfm at of  Total Number of Fuel Burning Sources Within Property Boundaries: 2	ted?
Maximum Capacity Rating, by Type, for All Fuel Burning Units Excluding that Itemized Above: (Total Like Units) 1	
Coal lb/hr Wood lb/hr Oil 76 gal/hr Natural Gas SCF/hr	
IV. SUPPLEMENTARY DATA FOR WET COLLECTION DEVICES	
*Attach detailed engineering drawings of the control device and particle size versus removal efficiency curves.	
Liquid Scrubbing Medium and Additives:	
Total Liquid-Injection Rate (Include Recirculated and Make-up Rates)gal/min or gal/1000 ft3	
Operating Pressure Drop Across Device in H2O	
AMSWER FOLLOWING QUESTIONS FOR SPECIFIC DEVICE:	
VENTURI SCURBBER: Inlet Area in2 Throat Area in2 Throat Velocity ft/sec	
GRAVITY SPRAY CHAMSER: Number of Nozzles Liquid Droplet Size u Co-Current Countercurrent	
WET CYCLONE: PACKED TOWER OR PLATE TOWER:	
Body Diameter in Length in Cross-Sectional Area ft <sup>2</sup> Type of Plate	
Inlet Area in Number of Nozzles Length ft Depth of Packing	f
Outlet Areain <sup>2</sup>   Number of Plates Type of Packing	
OTHER WET COLLECTION DEVICES: GIVE COMPLETE DESCRIPTION INCLUDING DESIGN PARAMETERS AND DETAILED ENGINEERING DRAWINGS.	
Signature: Title:	

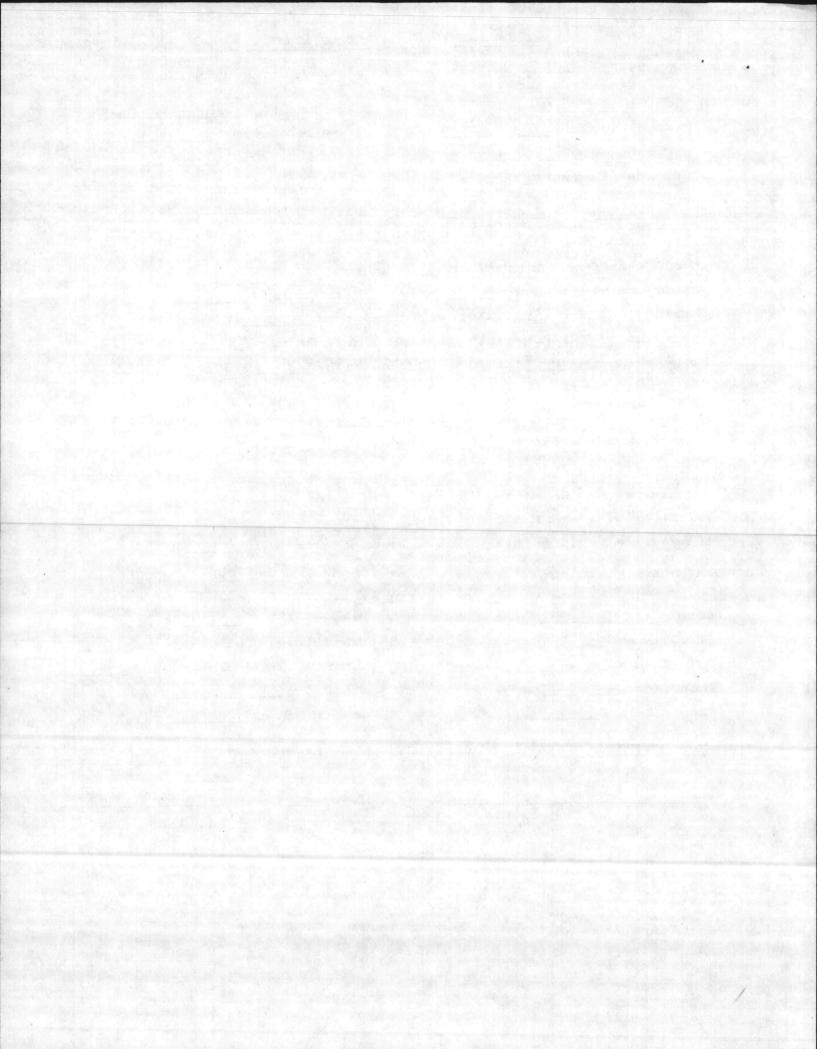


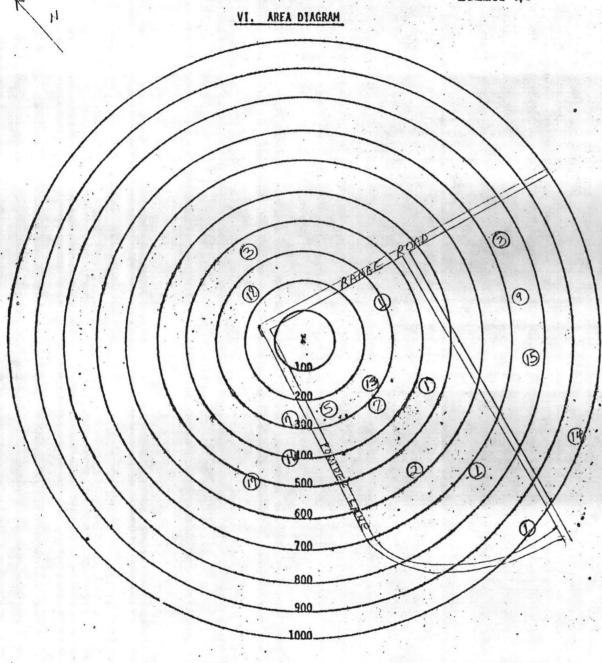
### V. SUPPLEMENTARY DATA FOR DRY COLLECTION DEVICES

M9400252:	Cloth Areaft <sup>2</sup>	Bag Material	
	Number of Compartments	Pressure - Brop Total	fn H
	Method of Cleaning	Air-to-Cloth Ratio	ft/m
	Time Between Cleaning mins, hrs		
ECTROSTAT	IC PRECIPITATORS:		
GENERAL:			
Eff	fective Area of Grounded Collector Plates _	ft <sup>2</sup>	a da anti-alla de la companya de la
Мил	mber of Compartments or Chambers	Number of Cells per Compartment	
Ele	ectrical Field Gradient at the Discharge or	Emitting Electrodes KV/	in
Ave	erage Electrical Field Gradient at the the G	Grounded Collecting Electrodes	KV/in
	elds of Treatment Potential Appli		
SINGLE ST	TAGE TYPE: .		
Dis	tance Between Emitting Wires and Collecting	Plates in.	
Num	ber of Isolatable Bus Sections	Corona Power Watts/1000 cf	in
TWO STAGE	TYPE:		
	tance Between First Stage Emitting Electrod	es and Field Receiver Electrodes (Gr	ound) in
	ential Applied to Second Stage Emitting Pla		
	tance Between Second Stage Emitting Plates		io
	TICYCLONES:		
ple Cyclor		Hull+favelana	
	meterin	Multicyclone Brameter	in
Inle	et Dimensions	inlet Dimensions of Indiv	명, 얼마. 그 나라게 선생 그님까
Outl	let Dimensions	Outlet Dimensions of Ind	
Pres	ssure Dropin H <sub>2</sub> O	Pressure Drop	in H <sub>2</sub> O
Numb	per of Cyclones	Number of Cyclones	
ER DRY COL	LECTION DEVICES: GIVE COMPLETE DETAILED EN	WEINEEDING DESCRIPTION AND GRAVINGS	
		CAMERATING DESCRIPTION AND DRAWINGS.	

- 4

7





#### Owner Marine Corps Base, Camp Lejeune, N.C.

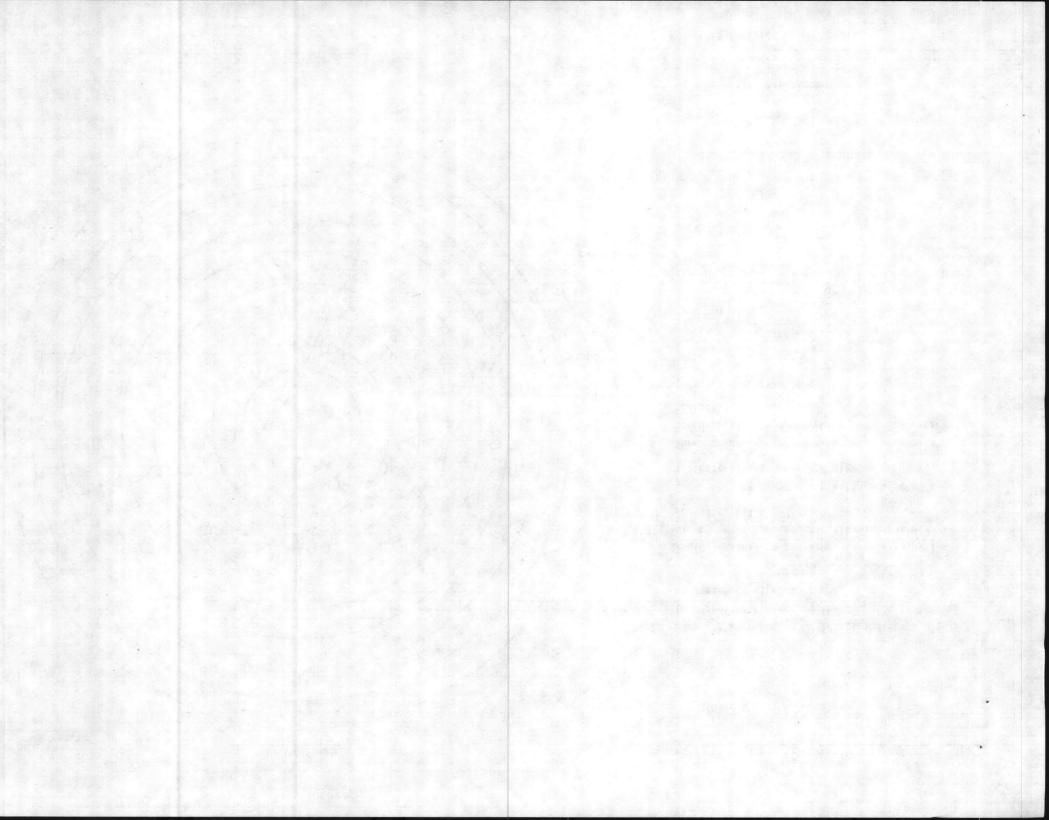
Location Powder Lane, Rifle Range (Give Street Address)

#### INSTRUCTIONS:

- Show all surrounding buildings and roads within 1000 feet of subject equipment which is located at center of circles.
- Indicate location and type of building by the use of small numbered circles with the description below.
- Show roads as lines representing the road edges.
   Indicate street names and highway numbers.
- Show wooded or cleared areas by approximate boundary lines and the words "woods", "cleared", "cornfield", etc.
- 5. Indicate direction of north by arrow.

CODE	DESCRIPTION	
0	Barracks (14)	Dispensary
2	Mess Hall '55	Barracks - Bachelon
(a)	Administration (16)	Maintenance Shop
<b>①</b>	(19)	Training Building Water Tank
	Fire Station	water lank
6		
<b>(1)</b>	Warehouse	
<b>®</b>		
9	Marine Corps Exchar	nge
0		
:(13)	Recreation Building	3
EXAMPLE	(1) Church	
	(2) Residence	

X Indicates location of equipment.



#### ENVIRONMENTAL MANAGEMENT COMMISSION

RALEIGH

11.2 mm BTL/HR

STACK HT = 33.58 FT DIA. = 2.33 ET TEMP = 420 °F Octual velocity = 8.59 m/s

APPLICATION FOR

A "PERMIT"

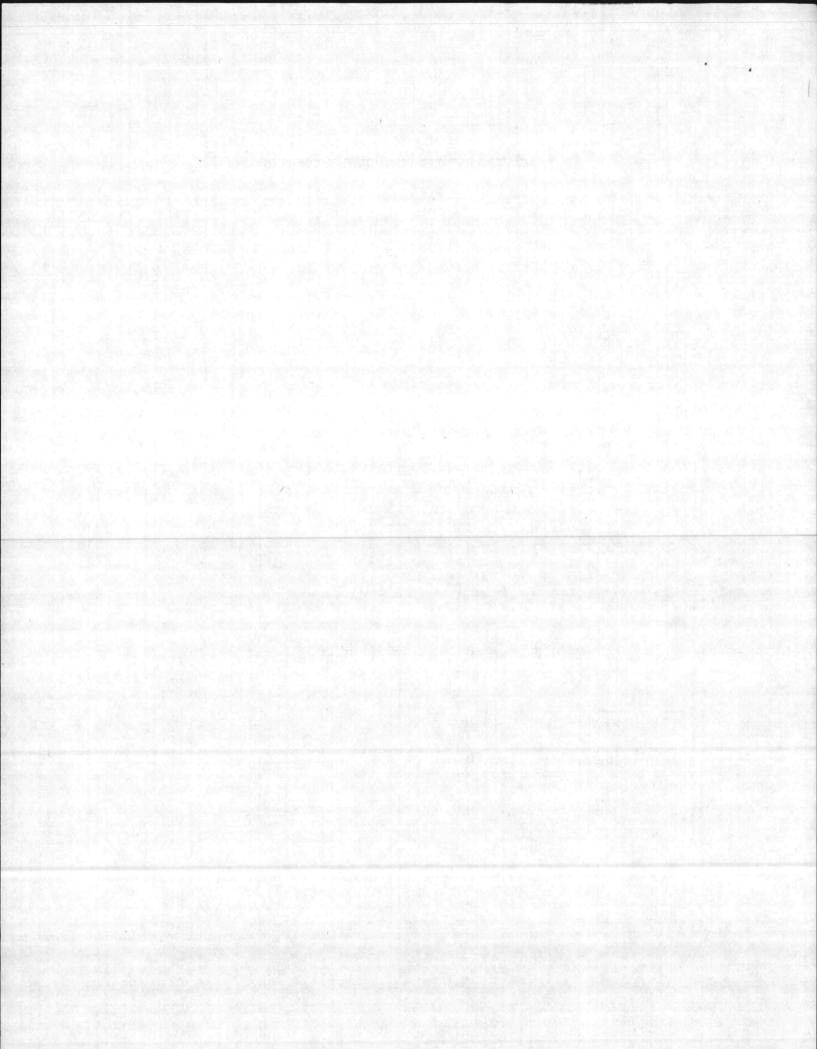
TO CONSTRUCT AND OPERATE AIR

POLLUTION ABATEMENT FACILITIES ANO/OR EMISSION SOURCES

Filed By: Major General D. B. Barker (Name)

> Marine Corps Base (Address)

Camp Lejeune, North Carolina

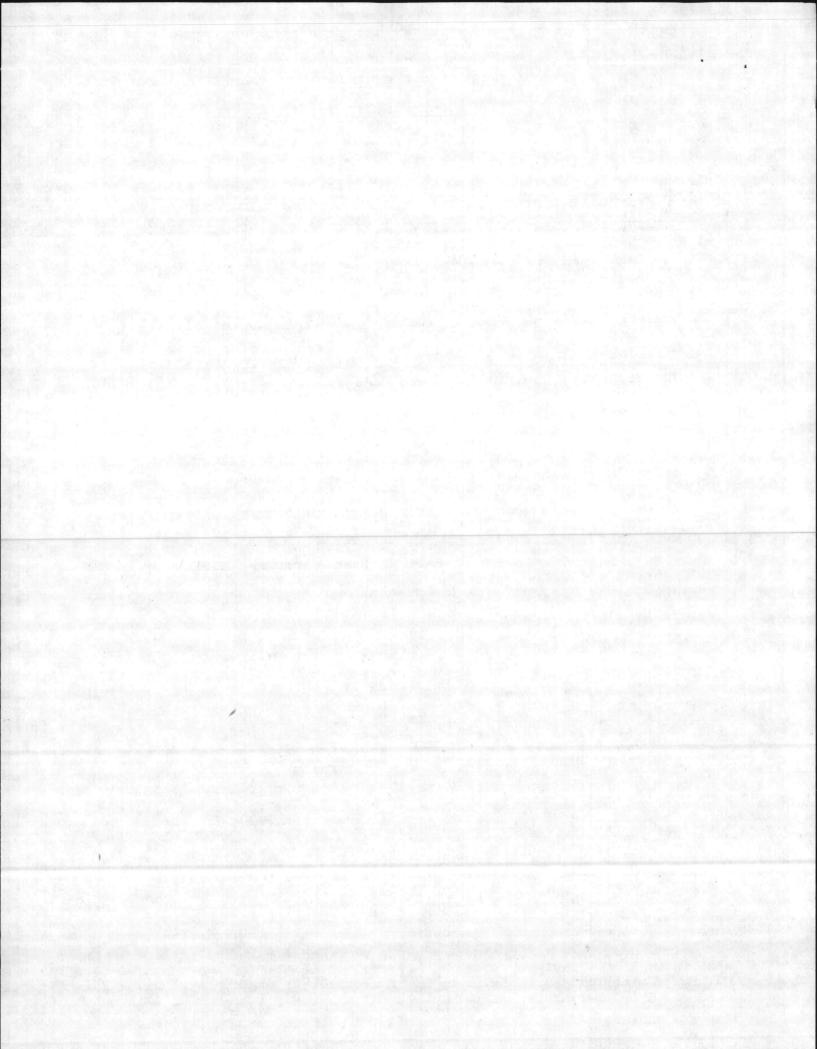


#### APPLICATION INSTRUCTIONS

# THIS APPLICATION IS SUBJECT TO REJECTION UNLESS ALL REQUIRED INFORMATION IS SUBMITTED

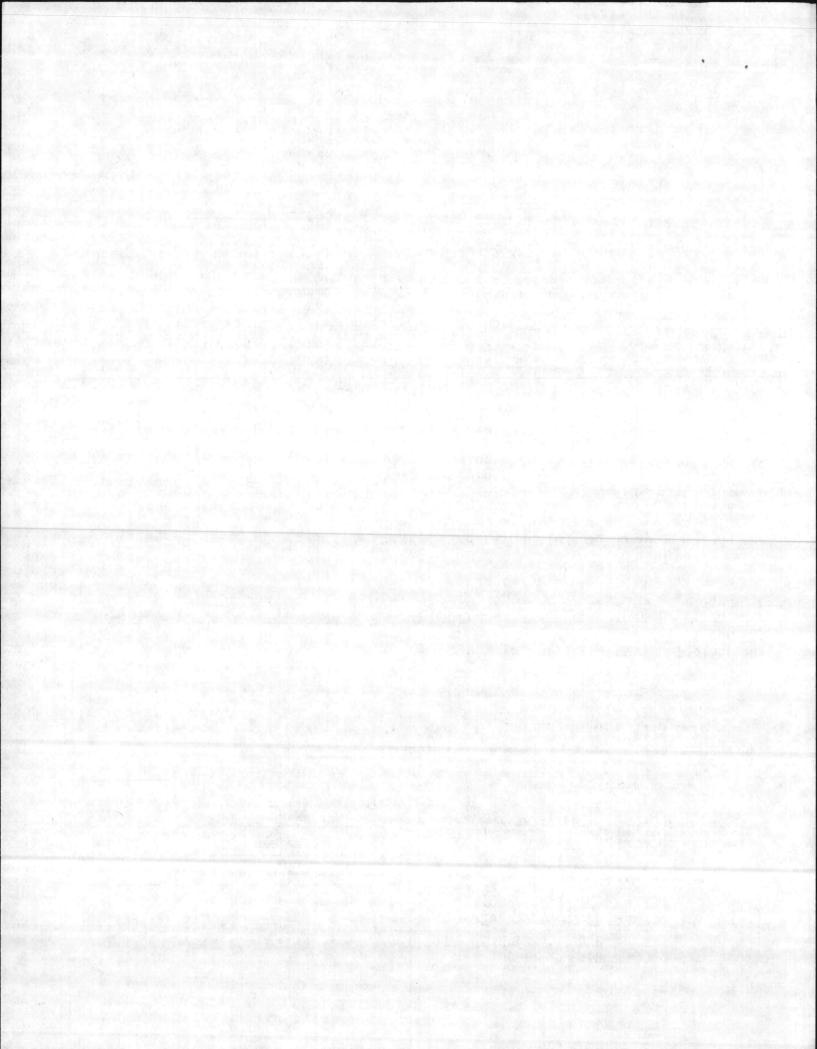
- ATTACH DETAILED ENGINEERING DRAWINGS OF SOURCE(S), PROCESS(ES) AND COLLECTION DEVICE(S) AS
  REQUESTED IN EACH SECTION. IF MULTIPLE SOURCES OR DEVICES, USE ADDENDUM SHEETS AS NECESSARY.
- Submit application, detailed engineering drawings, specifications and other supporting data and documents in TRIPLICATE.
- 3. Attach additional sheets as necessary to complete any portion of the application.
- 4. The application MUST BE SIGNED by the RESPONSIBLE INDIVIDUAL of the company that is to PURCHASE AND OPERATE the facilities for which a Permit is applied.
- 5. ALL APPLICANTS MUST COMPLETE THE FIRST PAGE AND SECTIONS I AND VI.
- If an Incinerator, Fuel Burning Source, Wet Collection Device or Dry Collection Device is to be installed and operated, COMPLETE SECTIONS II, III, IV or V respectively.
- 7. All applications should be mailed to: ENVIRONMENTAL MANAGEMENT COMMISSION
  AIR QUALITY SECTION
  P. O. Box 27687
  Raleigh, North Carolina 27611

7



# APPLICATION FOR A "PERMIT" To Construct and Operate Air Pollution Abatement Facilities and/or Emission Sources Three Copies to be Submitted Fourth Copy Should be Retained by Applicant

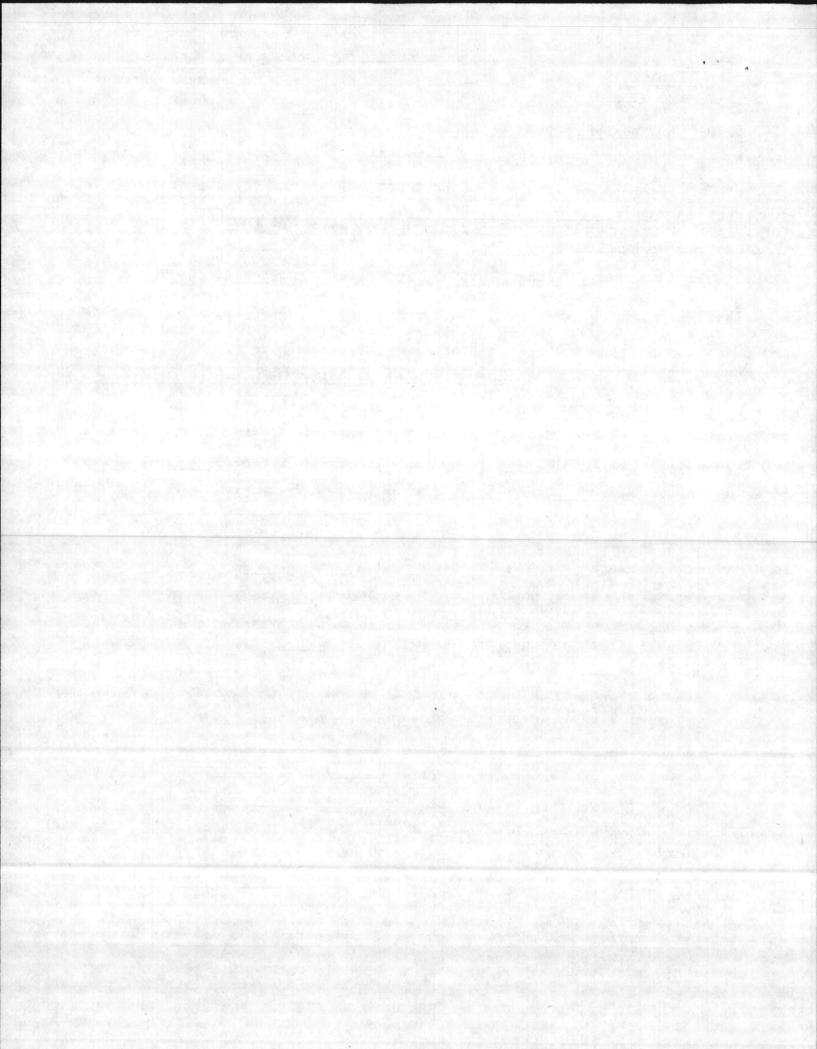
	Date:
is Con	accordance with the provisions of Article 21 of Chapter 143, General Statutes of North Carolina as amended, application hereby made by Marine Corps Base, Camp Lejeune, North Carolina  (Name of Company, Establishment, Town, Etc.) (Include Division or Plant Name in Addition to Parent  in the County of Onslow at Jacksonville, North Carolina (Street and City or Town Address of Plant or Facility) rissuance of a "Permit" to construct and operate air pollution abatement facilities and/or emissions sources at above cation as specified in the accompanying drawings, specifications, and other pertinent data:
1.	Nature of Operation Conducted at the Above Facility: Military Operation
2.	Description of Process(es) Whose Emission(s) is/are to be Controlled by the Facility or Source(s) Which is/are to be Constructed or Altered. (Complete Section I)
	Boiler, No. 6 Fuel Oil Boiler No. 47 Bldg No. RR-15
3.	Furnish Type and Narrative Description of Proposed Control Device(s).(Complete Appropriate Supplemental Data Sheets for Control Device to be Installed and/or Operated. Include Make and Model Number of Control Device(s) and Number of Identical Units).
4.	Contaminant Weight Rate of Emissions (lb/hr): Control Efficiency (%):  Emitted: Without Control Device With Control Device Without Control Device  SO <sub>X</sub> and Particulate 26.64 lb/hr N/A N/A N/A
5.	Name and Address of Engineering Firm that Prepared Plans:
6.	Ultimate Disposition of Collected Pollutants:  7. Date on Which Facilities are to be Completed and in Operation:  October , 19 80
	Indicate Period of Time for Which Facilities are Estimated to be Adequate: 20 Years  9. Estimate Cost of Air Pollution Control Device \$ 0 10. Hours Facility is Operated Per Year: 8,760
Nan	me: Major General D. B. Barker, USMC Mailing Address: Marine Corps Base (Responsible Individual of Company Purchasing/ Operating FacilityPLEASE PRINT)  Camp Lejeune
	North Carolina 28542
Sig	D. B. BARKER, Major General, USMC Commanding General



#### I. GENERAL DATA FOR PROCESSES

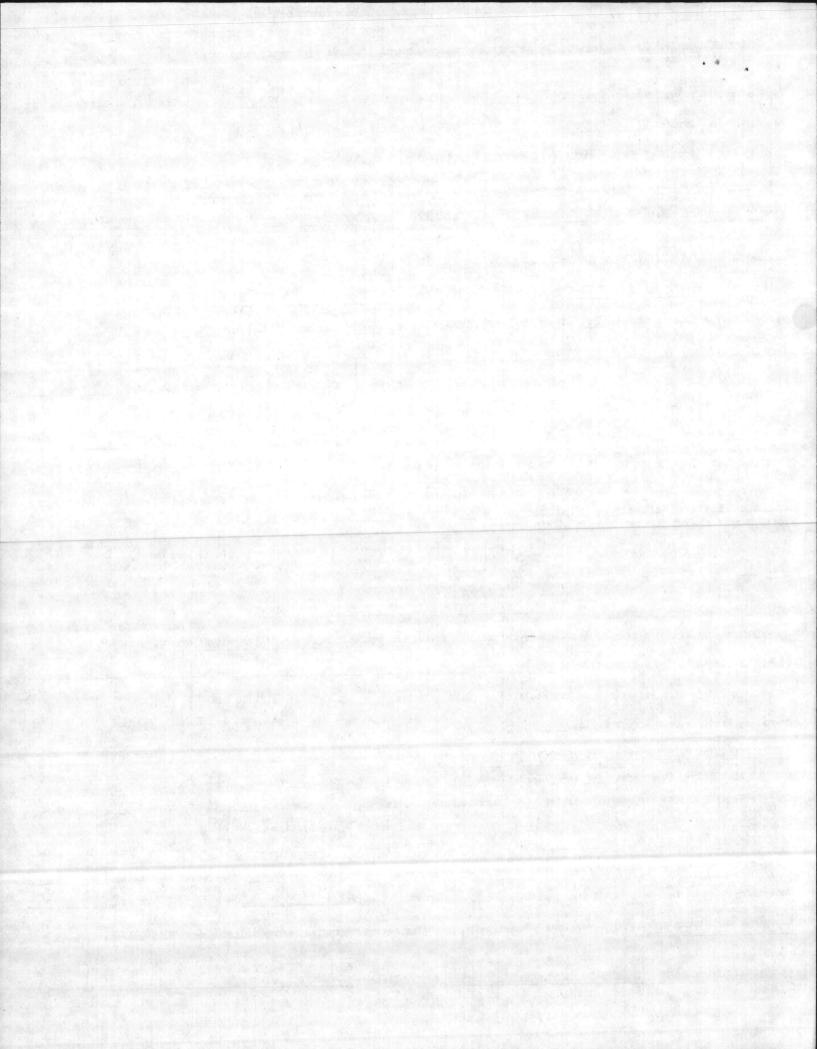
\*Attach detailed process engineering drawings, equipment drawings and flow diagrams for the process(es) or source(s) being constructed or altered.

Name of Process: Heating and Steam Plant
Total Weight of Materials Entering this Process: 76 galsk/hrxxxxxxxx
Volume and Temperature of Air Flow Entering Control Device: CFM @ °F  Volume and Temperature of Effluent at Discharge Point to Atmosphere: CFM @ °F
Pollutant(s) to be Controlled:  Height of Process Stack or Vent Above Ground Level 33'7" ft. Inside area of Stack 4.26 ft <sup>2</sup> .
Particulate Emission Rate (Before Control) 1.87 lb/hr
Particle Size Distribution: 0-5µ %, 5-10µ %, 10-20µ %, 20-30µ %, 30-40µ %, 40-50µ %,>50µ %
Gaseous Emission(s): Name (Chemical Formula) µg/m³, PPM or lb/hr
SO <sub>x</sub> 24.77
II. SUPPLEMENTARY DATA FOR INCINERATORS (Including Conical Incinerators)
Circle Type of Waste or Indicate Composition: Type 0 Type I Type II Type III Type IV
Combustible:% Non-Combustible:% Moisture:% Heat Value:BTU/1b
Total Waste Generated Per Day: 1b. Hours Incinerator will be Operated: hrs/day
Design Capacity for Above Waste:lbs/hr Manufacturer and Model Number; Approximate Cost:
Primary Chamber Volume: ft.3 Secondary Chamber Volume: ft.3
Air Requirements: Total Excess Air.
Conical Incinerator for: Overfire Air Supply, Underfire Air Supply, DomeTemperature Set Point Flame Port Temperature: °F Secondary Chamber Temperature: °F
Is there a Continuous Exhaust Gas Temperature Recorder? Yes No
Stack: Inside Areaft. <sup>2</sup> Heightft. Gas Velocityft/sec Temperature°F Fan Capacitycfm Stack Lined?
Is there a Wet Scrubber?
Yes No Flow Rate of H <sub>2</sub> O into Scrubbergal/min Temperature Before Scrubber°F
Aux. Fuel: Oil Gas Other Burner Rating: Primary Chamber Secondary Chamber Stack
BTU/hrBTU/hrBTU/hr
Primary Burner: Is there a Preheat Timer? Yes No Preheating Time: min.
Secondary Burner or Afterburner: Is there a Timer? Yes No Length of Time Burner is Operatedmin.
Is the Timer Reset by Charging Door? Yes No Other Mode of Burner Control
Type of Feed: Manual Automatic If Automatic, Describe
Distance from Incinerator to Nearest Structure(s) in which People Live and/or Workft.
Signature: Title:



#### III. SUPPLEMENTARY DATA FOR FUEL BURNING SOURCES

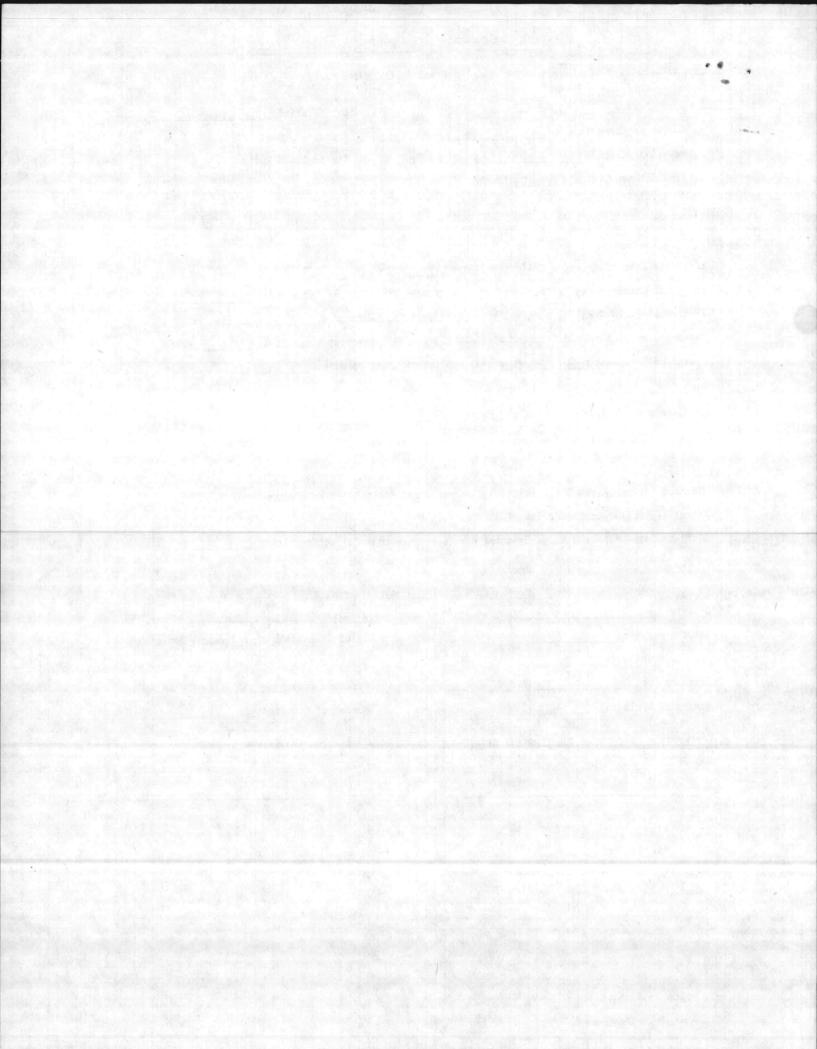
*Attach detailed dimensioned drawing or sketch showing internal features of dryers, wood or coal fired boilers, and recovery boilers.
Type of Fuel Burning Source Boiler Stack Height Above Ground Level3317" ft. Inside Area of Stack 4.26 ft2
Make and Model Number VL - Erie City Iron Workslume of Furnace ft3
Specify Actual Amount of Each Fuel Used in Above Source (s):
Coal 1b/hr; Oil Grade 6 Amount 76 gal/hr, at BTU/gal and 1b/gal or 1b/hr
Wood 1b/hr; Natural Gas SCF/hr, at BTU/SCF; Other
(Specify type, amount and heating value)
Specify Maximum Rating for Each Fuel Burning Source:
Coal Oil 76 g/hrood Natural Gas Other
Maximum Sulfur Content of Fuel 2.05% Specify Standby Fuel None Maximum % Sulfur
Type of Solid Fuel Burning Equipment Used: Hand Fired Spreader Stoker Underfeed Stoker Chain Grate
Traveling Grate Pulverizer Cyclone Furnace Other (Specify)
Ash Content of Fuel: Specify Method and Schedule of Tube Cleaning, if Applicable:
Coal % Wood % Other % Lancing Tube Blowing Schedule
Emission Control Equipment (Describe in Detail in Sections IV and V)
Collection Device: Wet Dry Steam Injection Air Injection Is Collected Flyash Reinjected? Draft on Boiler (Natural Induced $X$ ) of $X$ of Total Number of Fuel Burning Sources Within Property Boundaries: $X$ Maximum Capacity Rating, by Type, for All Fuel Burning Units Excluding that Itemized Above: (Total Like Units) $X$
Coal lb/hr Wood lb/hr Oil 76 gal/hr Natural Gas SCF/hr
IV. SUPPLEMENTARY DATA FOR WET COLLECTION DEVICES
*Attach detailed engineering drawings of the control device and particle size versus removal efficiency curves.
Liquid Scrubbing Medium and Additives:
Total Liquid Injection Rate (Include Recirculated and Make-up Rates) gal/min or gal/1000 ft <sup>3</sup>
Operating Pressure Drop Across Device in H <sub>2</sub> O
ANSWER FOLLOWING QUESTIONS FOR SPECIFIC DEVICE:
VENTURI SCURBBER: Inlet Area in <sup>2</sup> Throat Area in <sup>2</sup> Throat Velocity ft/sec
GRAVITY SPRAY CHAMBER: Number of Nozzles Liquid Droplet Size u Co-Current Countercurrent
WET CYCLONE: PACKED TOWER OR PLATE TOWER-
Body Diameter in Length in Cross-Sectional Area ft <sup>2</sup> Type of Plate
Inlet Areain <sup>2</sup> Number of Nozzles Lengthft Depth of Packingft
Outlet Area in <sup>2</sup>   Number of Plates Type of Packing
OTHER WET COLLECTION DEVICES: GIVE COMPLETE DESCRIPTION INCLUDING DESIGN PARAMETERS AND DETAILED ENGINEERING DRAWINGS.
Signature:Title:



## V. SUPPLEMENTARY DATA FOR DRY COLLECTION DEVICES

BAGHOUSES: Cloth Areaft <sup>2</sup>	Bag Material	
Number of Compartments		in H <sub>2</sub>
Method of Cleaning	Air-to-Cloth Ratio	ft/min
Time Between Cleaning mins, hrs		
ELECTROSTATIC PRECIPITATORS:		
GENERAL:		
Effective Area of Grounded Collector Plates	s ft <sup>2</sup>	
Number of Compartments or Chambers	Number of Cells per Compartment	
Electrical Field Gradient at the Discharge	- CHANGE COMPANY CONTROL CO	
Average Electrical Field Gradient at the the	e Grounded Collecting Electrodes	KV/in
Fields of Treatment Potential App		
SINGLE STAGE TYPE:		
Distance Between Emitting Wires and Collecti	ing Platesin.	
Number of Isolatable Bus Sections		
	AND CONTRACTOR AND CONTRACTOR OF THE CONTRACTOR	
TWO STAGE TYPE:  Distance Between First Stage Emitting Flects	modes and Field Reseive Flanks to	
Distance Between First Stage Emitting Electr Potential Applied to Second Stage Emitting P		ound) in
Distance Between Second Stage Emitting Plate		
	es and distincted correction Plates	1n
YCLONES/MULTICYCLONES:		
imple Cyclone	Multicyclone	
Diameterin	Diameter	
Inlet Dimensions	Inlet Dimensions of Indiv	
Outlet Dimensions	Outlet Dimensions of Indi	
Pressure Drop in H <sub>2</sub> O	Pressure Drop	in H <sub>2</sub> 0
Number of Cyclones	Number of Cyclones	
HER DRY COLLECTION DEVICES: GIVE COMPLETE DETAILED	ENGINEERING DESCRIPTION AND DRAWINGS.	
ignature:	Title:	

- 4 -



Owner Marine Corps Base, Camp Lejeune, N.C.

Location Powder Lane, Rifle Range (Give Street Address)

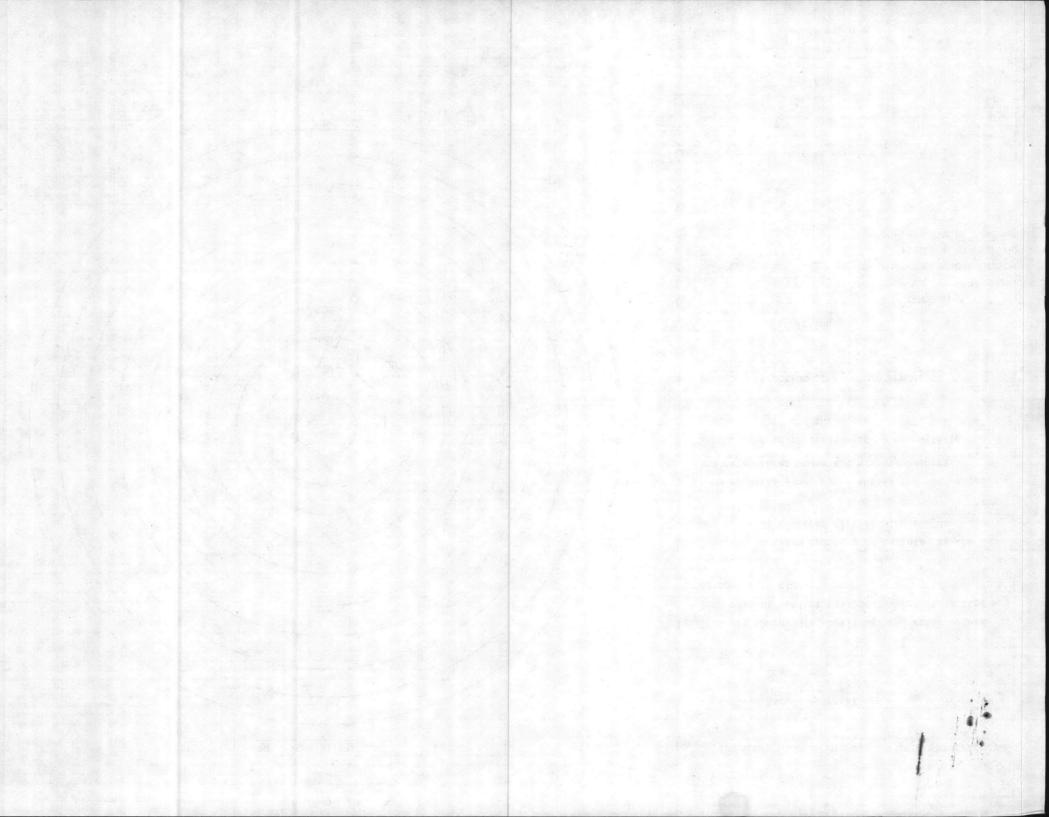
#### INSTRUCTIONS:

- Show all surrounding buildings and roads within 1000 feet of subject equipment which is located at center of circles.
- Indicate location and type of building by the use of small numbered circles with the description below.
- Show roads as lines representing the road edges.Indicate street names and highway numbers.
- Show wooded or cleared areas by approximate boundary lines and the words "woods", "cleared", "cornfield", etc.
- 5. Indicate direction of north by arrow.

CODE	DESCRIPTION	
0	Barracks (1)	Dispensary
2	Mess Hall (5)	Barracks - Bacheror
3	Administration (16)	Maintenance Shop
•	(17)	Training Building
(5)	Fire Station (18)	Water Tank
6		
0	Warehouse	
8		
9	Marine Corps Exchai	nge
0		
(13)	Recreation Building	g
EXAMPLE	① Church	PT ACT

X Indicates location of equipment.

Residence





## North Carolina Department of Natural Resources & Community Development

James B. Hunt, Jr., Governor

Howard N. Lee. Secretary

DIVISION OF ENVIRONMENTAL MANAGEMENT

May 27, 1981

Period to 12 125

Mr. D.B. Barker Major General, U.S. Marine Corps Commanding Marine Corps Base Camp Lejeune, North Carolina 28542

Subject: Permit No. 4643 Marine Corps Base

Camp Lejeune, North Carolina

Dear General Barker:

In accordance with your application received May 1, 1981, we are forwarding herewith Permit No. 4643 to Marine Corps Base, Camp Lejeune, North Carolina for the construction and/or operation of air pollution abatement facilities and/or emission sources.

If any parts, requirements, or limitations contained in this permit are unacceptable to you, you have the right to an adjudicatory hearing before a hearing officer upon written demand to the Director within thirty (30) days following receipt of this permit, identifying the specific issues to be contended. Unless such demand is made, this permit shall be final and binding.

This permit shall be effective from the date of issuance until April 1, 1986, is nontransferable to future owners and operators, and shall be subject to the conditions and limitations as specified therein.

Sincerely.

Charles Wakild

Regional Supervisor

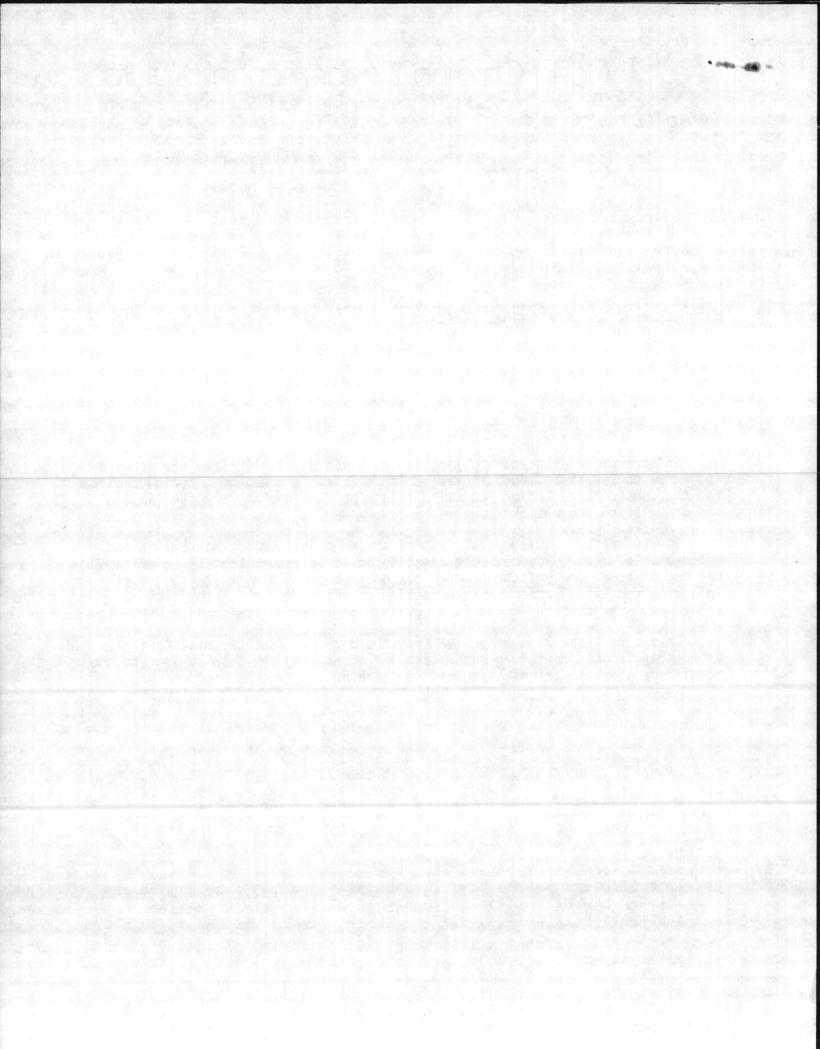
Il Wally

Enclosure

cc: Stan Taylor Robert Jamieson

Wilmington Regional Office

Central Files



#### ENVIRONMENTAL MANAGEMENT COMMISSION

#### DEPARTMENT OF NATURAL RESOURCES & COMMUNITY DEVELOPMENT

Raleigh

#### PERMIT

For the Discharge of Air Contaminants Into the Atmosphere

In accordance with the provisions of Article 21B of Chapter 143, General Statutes of North Carolina as amended, and other applicable Laws, Rules and Regulations,

#### PERMISSION IS HEREBY GRANTED TO

Marine Corps Base Camp Lejeune, North Carolina

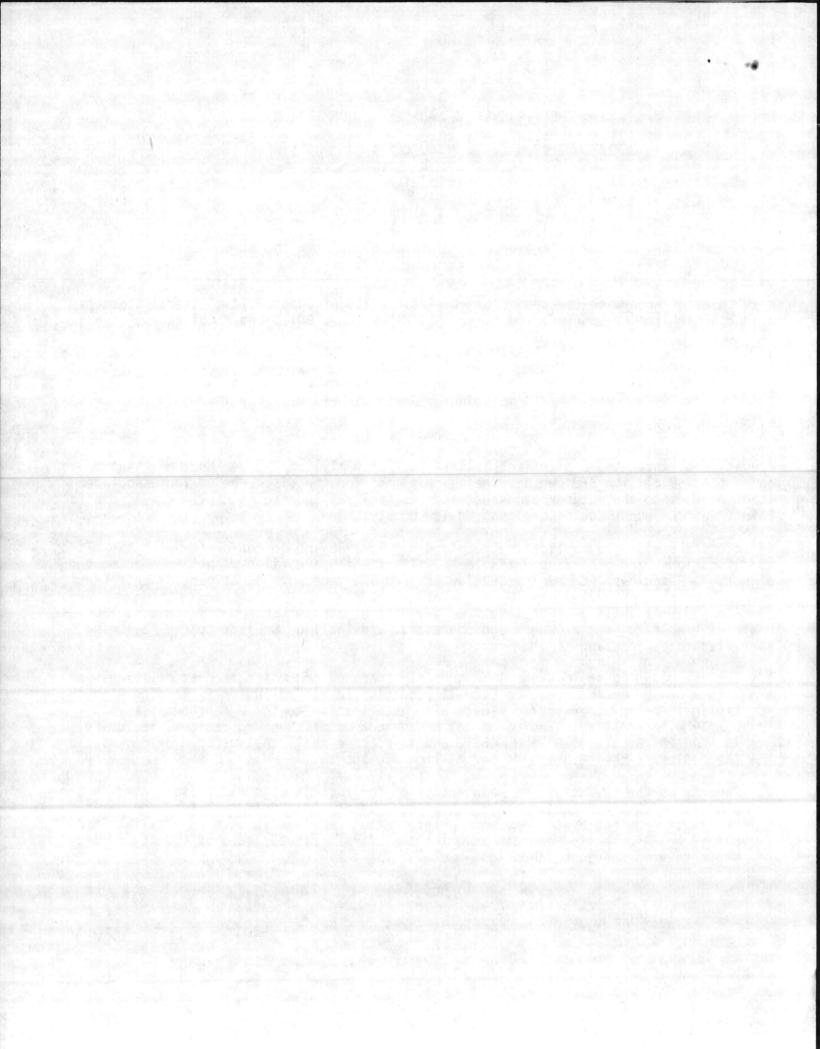
#### FOR THE

operation of three No. 6 oil-fired boilers two (21.0 million BTU per hour heat input each) and one (17.9 million BTU per hour heat input) and for the discharge of the associated stack gases into the outdoor atmosphere at its facility located at Harlem Drive, Montford Point, Camp Lejeune, North Carolina, Onslow County,

in accordance with the application received May 1, 1986 and in conformity with the plans, specifications, and other supporting data, all of which are filed with the Department of Natural Resources & Community Development and are incorporated as part of this Permit.

This Permit shall be effective from the date of its issuance until April 1, 1986, is nontransferable to future owners and operators, and shall be subject to the following specified conditions and limitations:

- 1. The air cleaning devices shall be properly operated and maintained at all times in such a manner as to effect an overall reduction in air pollution in keeping with the application and otherwise to reduce air contamination to the extent necessary to comply with applicable Environmental Management Commission Regulations, including 15 NCAC 2D .0503, .0516, and .0521, and in no case shall the sulfur dioxide emissions from the boilers exceed 2.3 pounds per million BTU input.
- 2. Reports on the operation and maintenance of the facilities shall be submitted to the Division of Environmental Management at such intervals and in such form and detail as may be required by the Division. Information required in such reports may include, but is not limited to, process weight rates, firing rates, hours of operation, and preventive maintenance schedules.



- Camp Leieune Marine Base, at least ninety (90) days prior to the expiration of this Permit, shall request its extension by letter. The letter should include the permit number and a description of modifications, if any, that have been made.
- 4. This permit is subject to revocation or modification upon a determination that information contained in the application or presented in support thereof is incorrect, conditions under which the permit renewal was granted have changed, or violations of conditions contained in the permit have occurred.
- 5. A violation of any term or condition of this Permit shall subject the Permittee to enforcement procedures contained in North Carolina General Statutes 143-215.114, including assessment of civil penalties.

Permit issued this the 27th day of May

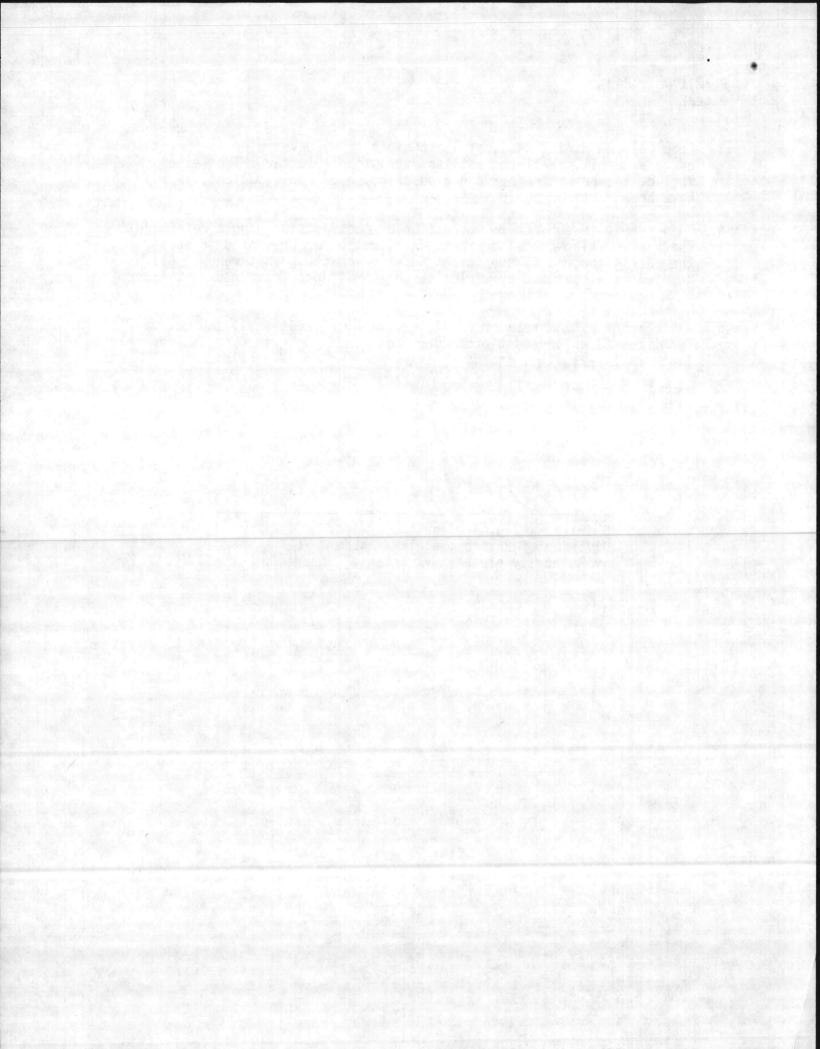
NORTH CAROLINA ENVIRONMENTAL MANAGEMENT COMMISSION

Charles Wakild, Regional Supervisor

Division of Environmental Management

By Authority of the Environmental Management Commission

Permit No. 4643



## NORTH CAROLINA

## ENVIRONMENTAL MANAGEMENT COMMISSION

RALEIGH

WILMINGTON REGIONAL DEFRICE

APPLICATION FOR

A "PERMIT"

TO CONSTRUCT AND OPERATE AIR

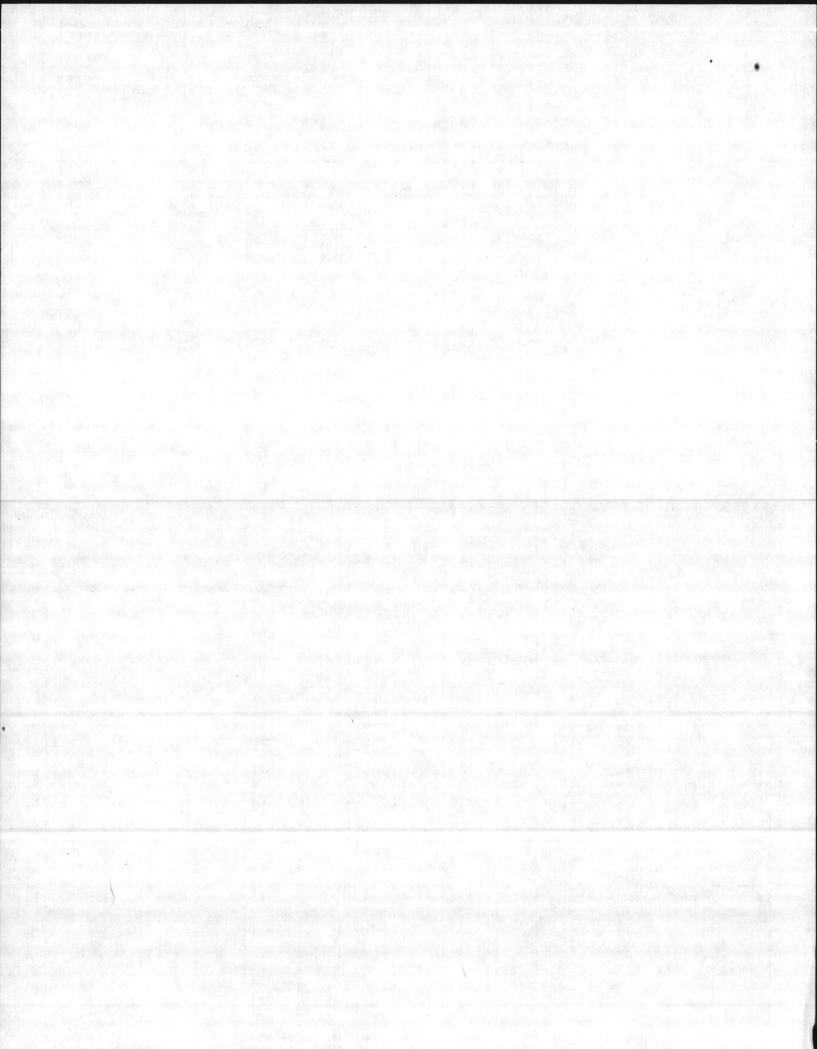
POLLUTION ABATEMENT FACILITIES AND/OR EMISSION SOURCES

Filed By: Major General D. B. Barker (Name)

Marine Corps Base
(Address)

Camp Lejeune, North Carolina

AQ-22

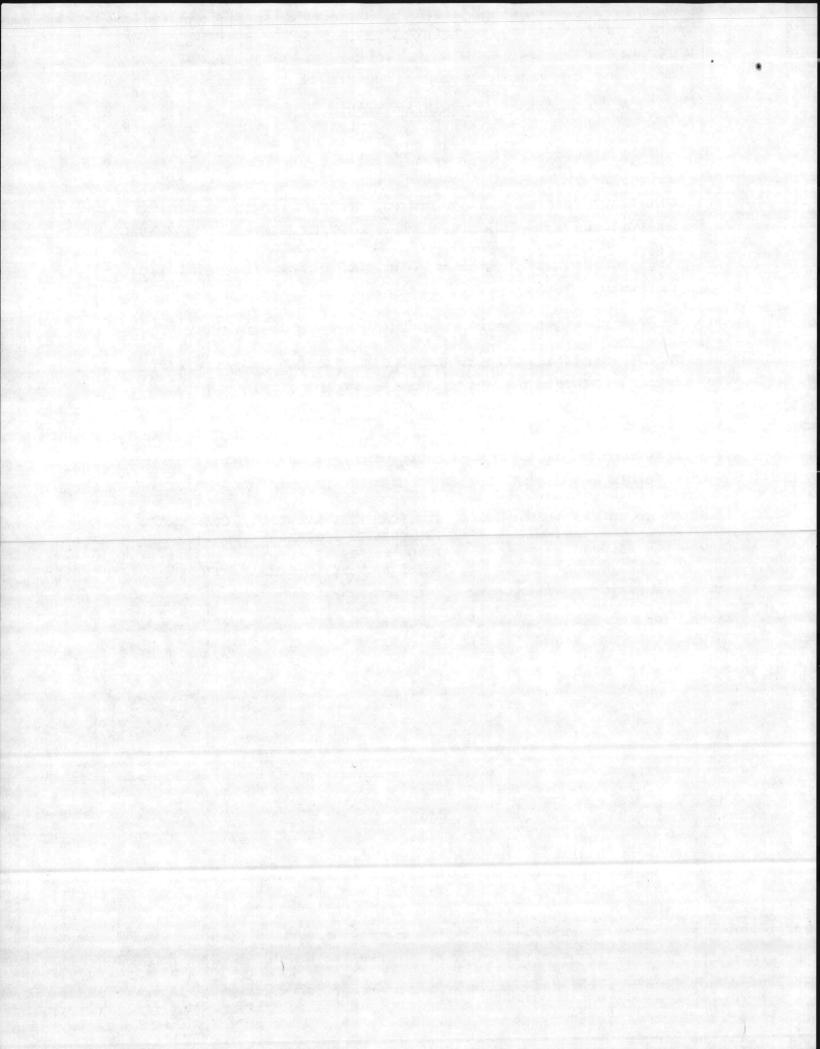


# APPLICATION INSTRUCTIONS

# THIS APPLICATION IS SUBJECT TO REJECTION UNLESS ALL REQUIRED

#### INFORMATION IS SUBMITTED

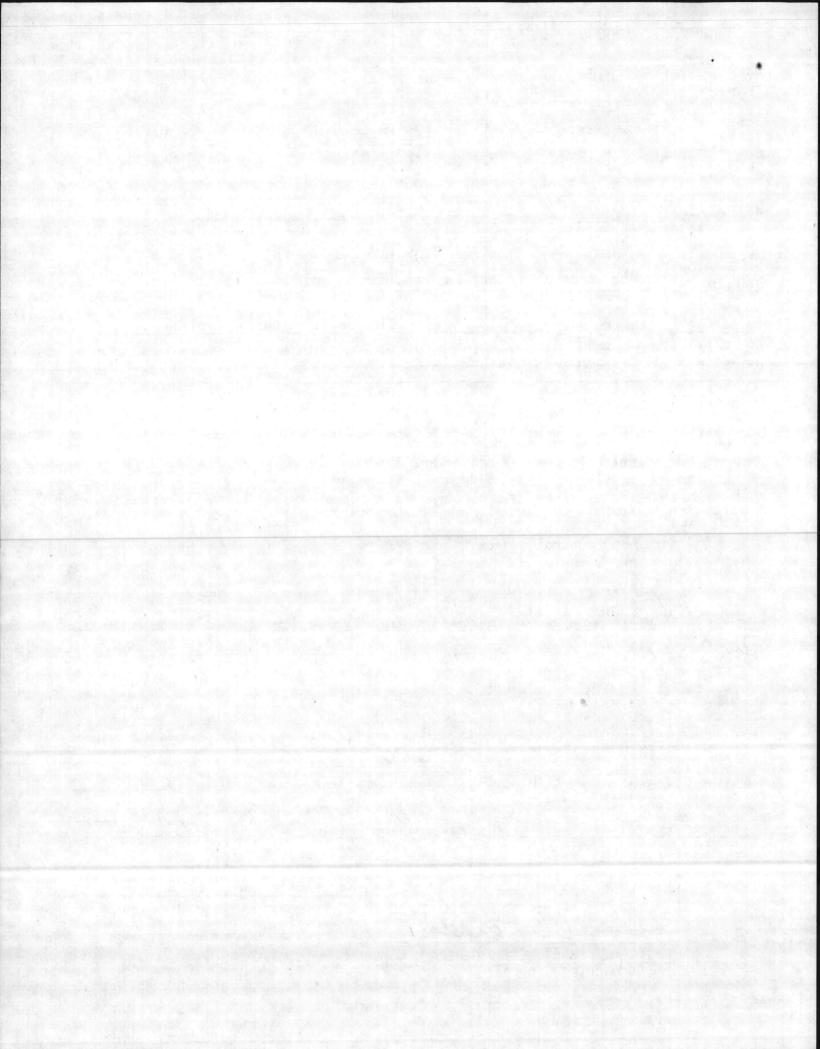
- 1. ATTACH DETAILED ENGINEERING DRAWINGS OF SOURCE(S), PROCESS(ES) AND COLLECTION DEVICE(S) AS REQUESTED IN EACH SECTION. IF MULTIPLE SOURCES OR DEVICES, USE ADDENDUM SHEETS AS NECESSARY.
- Submit application, detailed engineering drawings, specifications and other supporting data and documents in TRIPLICATE.
- 3. Attach additional sheets as necessary to complete any portion of the application.
- The application MUST BE SIGNED by the RESPONSIBLE INDIVIDUAL of the company that is to PURCHASE AND OPERATE the facilities for which a Permit is applied.
- 5. ALL APPLICANTS MUST COMPLETE THE FIRST PAGE AND SECTIONS I AND VI.
- 6. If an Incinerator, Fuel Burning Source, Wet Collection Device or Dry Collection Device is to be installed and operated, COMPLETE SECTIONS II, III, IV or V respectively.
- 7. All applications should be mailed to: ENVIRONMENTAL MANAGEMENT COMMISSION
  AIR QUALITY SECTION
  P. O. Box 27687
  Raleigh, North Carolina 27611



# APPLICATION FOR A "PERMIT" To Construct and Operate Air Pollution Abatement Facilities and/or Emission Sources Three Copies to be Submitted Fourth Copy Should be Retained by Applicant

Date: 24 September 1980

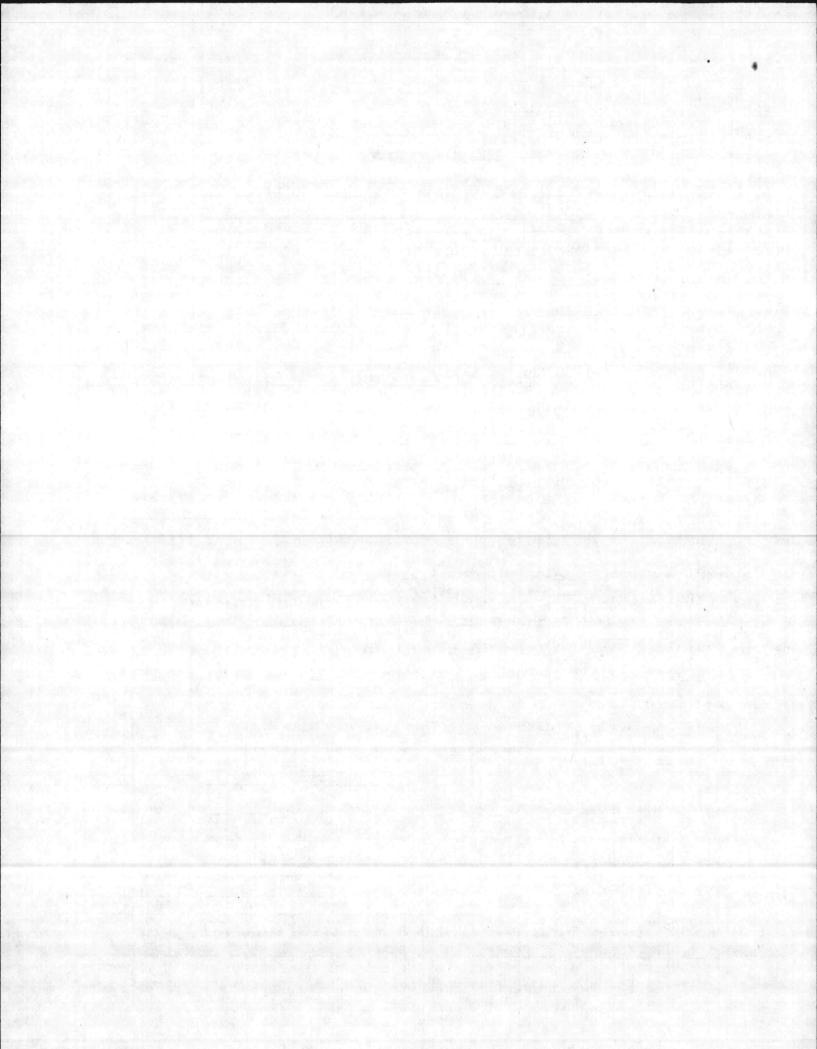
In	accordance with the provisions of Article 21 of Chapter 143, General Statutes of North Carolina as amended, applicatio
is	hereby made byMarine Corps Base, Camp Lejeune, North Carolina
	(Name of Company, Establishment, Town, Etc.) (Include Division or Plant Name in Addition to Parent
	in the County of Onslow at Jacksonville, North Carolina
for	(Street and City or Town Address of Plant or Facility) issuance of a "Permit" to construct and operate air pollution abatement facilities and/or emissions sources at above ation as specified in the accompanying drawings, specifications, and other pertinent data:
1.	Nature of Operation Conducted at the Above Facility: Military Operation
2.	Description of Process(es) Whose Emission(s) is/are to be Controlled by the Facility or Source(s) Which is/are to be Constructed or Altered. (Complete Section I)
	Boiler, No. 6 Fuel Oil Boiler No. 33 Bldg No. M-625
3.	Furnish Type and Narrative Description of Proposed Control Device(s).(Complete Appropriate Supplemental Data Sheets for Control Device to be Installed and/or Operated. Include Make and Model Number of Control Device(s) and Number of Identical Units).
	No. 6 Oil fired, no control device.
4.	Contaminant Weight Rate of Emissions (1b/hr): Control Efficiency (%):  Emitted: Without Control Device With Control Device Without Control Device With Control Device
	SO <sub>X</sub> and Particulate 42.77 lb/hr N/A N/A N/A N/A
	Particulate 42.77 lb/hr N/A N/A N/A
5.	Name and Address of Engineering Firm that Prepared Plans:
6.	Ultimate Disposition of Collected Pollutants: 7. Date on Which Facilities are to be Completed and in Operation:
	None October 19 80
8.	Indicate Period of Time for Which Facilities 9. Estimate Cost of Air Pollution Control Device \$ 0 are Estimated to be Adequate: 20 Years
	10. Hours Facility is Operated Per Year: 8.760
Nar	e: Major General D. B. Barker USM@mailing Address: Marine Corps Base (Responsible Individual of Company Purchasing/
	Operating FacilityPLEASE PRINT)  Camp Lejeune
	North Carolina 28542
Sic	nature and Title: DB Backer Telephone Number: 451-5024
	D. B. BARKER, MAJOR GENERAL, USMC
	Commanding General



# I. GENERAL DATA FOR PROCESSES

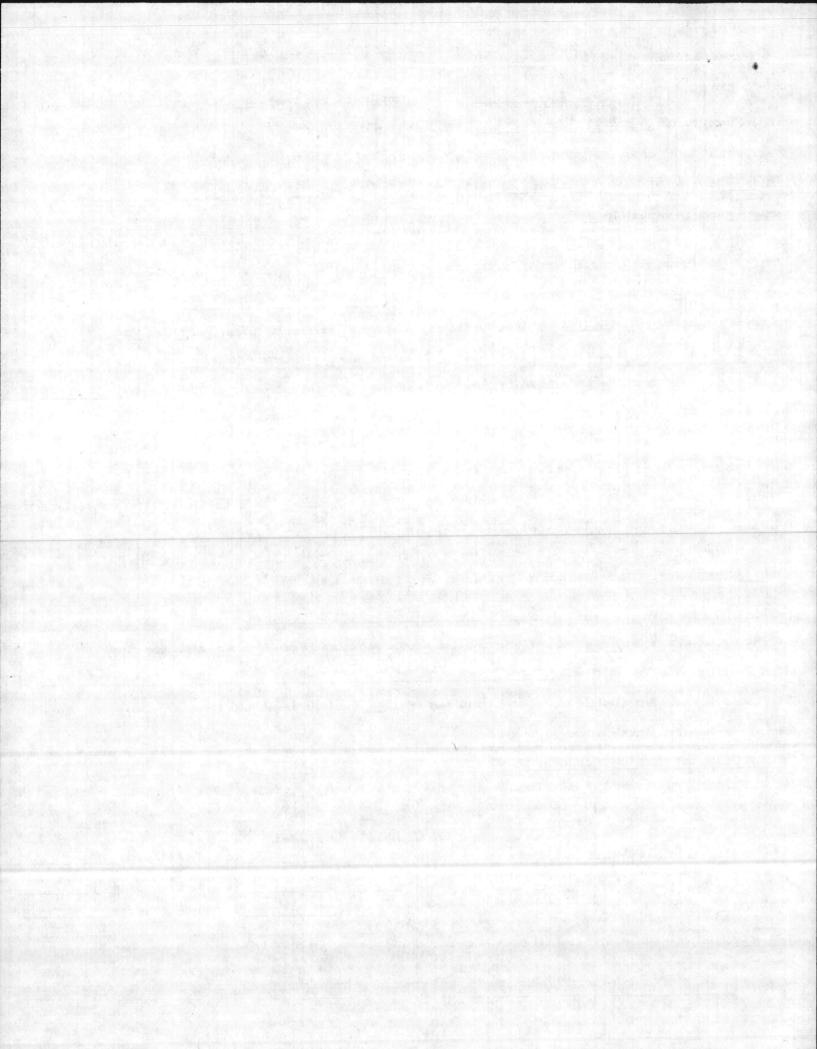
\*Attach detailed process engineering drawings, equipment drawings and flow diagrams for the process(es) or source(s) being constructed or altered.

Name of Process: Heating and Steam Plant
Total Weight of Materials Entering this Process: 122 galsxx/hrxxxxxxxx
Volume and Temperature of Air Flow Entering Control Device:CFM @°F  Volume and Temperature of Effluent at Discharge Point to Atmosphere:CFM @°F
Pollutant(s) to be Controlled:
Particle Size Distribution: 0-5µ %, 5-10µ %, 10-20µ %, 20-30µ %, 30-40µ %, 40-50µ %,>50µ %
Gaseous Emission(s): Name (Chemical Formula) µg/m³, PPM or Tb/hr SO <sub>X</sub> 39.77
II. SUPPLEMENTARY DATA FOR INCINERATORS (Including Conical Incinerators
Circle Type of Waste or Indicate Composition: Type O Type I Type II Type III Type IV
Combustible: % Non-Combustible: % Moisture: % Heat Value: BTU/1b
Total Waste Generated Per Day: 1b. Hours Incinerator will be Operated: hrs/day .
Design Capacity for Above Waste:lbs/hr Manufacturer and Model Number; Approximate Cost:
Primary Chamber Volume:ft.3 Secondary Chamber Volume:ft.3
Air Requirements: Total Excess Air.
Conical Incinerator for: Overfire Air Supply, Underfire Air Supply, DomeTemperature Set Portion Port Temperature: °F
Is there a Continuous Exhaust Gas Temperature Recorder? YesNo Stack: Inside Areaft. <sup>2</sup> Heightft. Gas Velocityft/sec Temperature°F Fan Capacitycfm Stack Lined?
Is there a Wet Scrubber?
Yes No Flow Rate of H <sub>2</sub> O into Scrubbergal/min Temperature Before Scrubber°F
Aux. Fuel: Oil Gas Other Burner Rating: Primary Chamber Secondary Chamber Stack
8TU/hr BTU/hr BTU/hr
Primary Burner: Is there a Preheat Timer? Yes No Preheating Time:min.
Secondary Burner or Afterburner: Is there a Timer? Yes No Length of Time Burner is Operated min.
Is the Timer Reset by Charging Door? Yes No Other Mode of Burner Control
Type of Feed: Manual Automatic If Automatic, Describe
Distance from Incinerator to Nearest Structure(s) in which People Live and/or Workft.
Signature: Title:



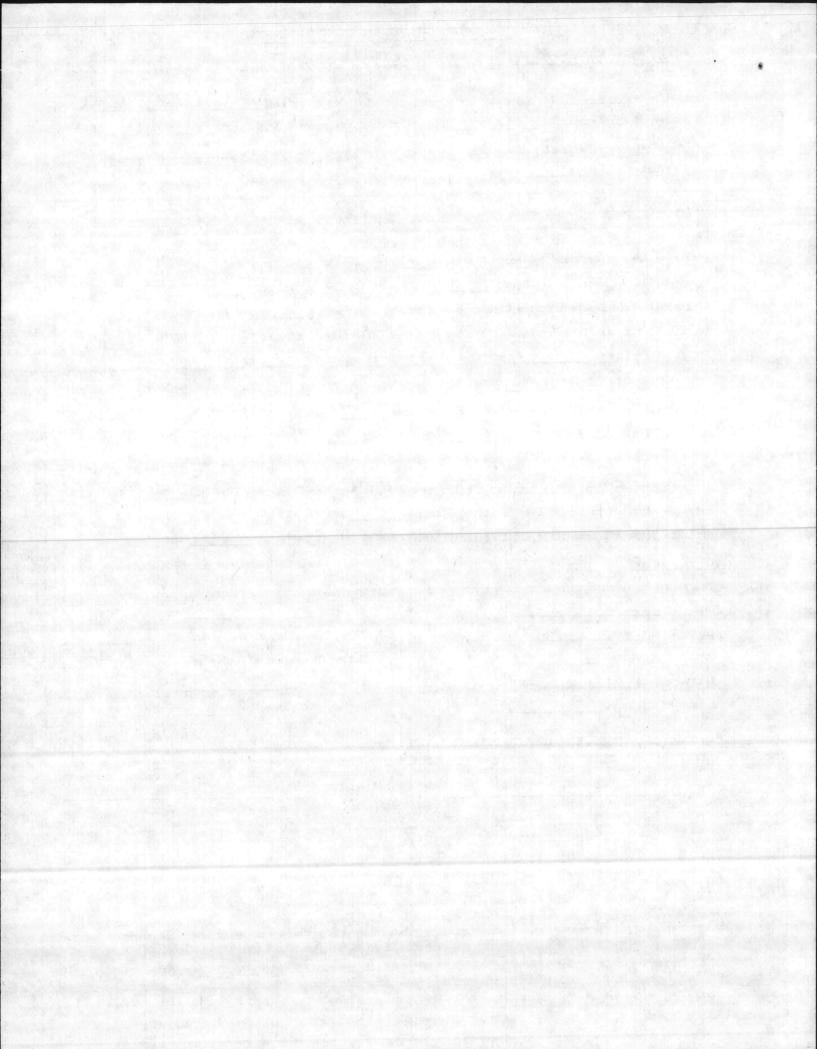
#### TITE SUPPLEMENTARY DATA FOR FUEL BURNING SOURCES

*Attach detailed dimensioned drawing or sketch so recovery boilers.	howing internal features of dryers, wood or coal fired boilers, and
Type of Fuel Burning Source Boiler	Stack Height Above Ground Level 46 ft. Inside Area of Stack 4.9 ft
E. Keeler Company Make and Model Number Ser.# 11127	사용 : The STORY HERE THE TRANSPORT OF THE STORY HERE THE STORY HE STORY HERE THE
Specify Actual Amount of Each Fuel Used in Above Source	그렇게 들어가게 되었는데 가게 되었다. 그 그가게 되고 있었다면 하는 그는 그 사람들이 되었다면 하는 것이 되었다.
Coal 1b/hr; Oil Grade 6 Amount 122 gal/h	or, at
Wood lb/hr; Natural Gas SCF/hr, at	
	(Specify type, amount and heating value)
Specify Maximum Rating for Each Fuel Burning Source:	
Coal Oil 122 g/ward Natural Gas	
Maximum Sulfur Content of Fuel 2.05% Specify S	tandby Fuel None Maximum % Sulfur
	Spreader Stoker Underfeed Stoker Chain Grate
	Pulverizer Cyclone Furnace Other (Specify)
	Method and Schedule of Tube Cleaning, if Applicable:
Coal % Wood % Other % Lancing	Tube Blowing Schedule
Emission Control Equipment (Describe in Detail in Secti	
Collection Device: Wet $\_$ Dry $\_$ Steam In Draft on Boiler (Natural $\_$ Induced $X$ ) Total Number of Fuel Burning Sources Within Property Bo	Air Injection Is Collected Flyash Reinjected? cfm atof undaries:3
Maximum Capacity Rating, by Type, for All Fuel Burning	Units Excluding that Itemized Above: (Total Like Units) 2
Coal 1b/hr Wood 1b/hr 011 286 gal/hr Natu	ral Gas SCF/hr
IV. SUPPLEMEN	TARY DATA FOR WET COLLECTION DEVICES
그는 그 그는 그는 이 생생님의 경우를 가게 되었다면서 다른데 아	al device and particle size versus removal efficiency curves.
Liquid Scrubbing Medium and Additives:	the state of the s
Total Liquid Injection Rate (Include Recirculated and Ma	aka una Ostana a
Operating Pressure Drop Across Device in H <sub>2</sub> O	gal/min or gal/1000 ft
ANSWER FOLLOWING QUESTIONS FOR SPECIFIC DEVICE:	
VENTURI SCURSSER: Inlet Area in2 Throat Area	
	Droplet Size u Co-Current Countercurrent
	PACKED TOWER OR PLATE TOWER:  Cross-Sectional Areaft <sup>2</sup> Type of Plate
Inlet Area in <sup>2</sup> Number of Nozzles	tength ft Depth of Packing f
Outlet Areain <sup>2</sup>	Number of Plates Type of Packing f
OTHER WELL COLLECTION DEVICES: GIVE COMPLETE DESCRIPTION	INCLUDING DESIGN PARAMETERS AND DETAILED ENGINEERING DRAWINGS.
Signature:	Ti+lo-
	Title:



# V. SUPPLEMENTARY DATA FOR DRY COLLECTIC EVICES

BAGHOUSES: Cloth Area _	ft²	Bag Material	
	mpartments	Pressure - Drop Total _	in H
Method of Cla	eaning	Air-to-Cloth Ratio	ft/m
Time Between	Cleaning mins, hrs		
ELECTROSTATIC PRECIPITATO	ORS:		
GENERAL:			
Effective Area o	of Grounded Collector Plates	ft <sup>2</sup>	*11.00
Number of Compar	tments or Chambers N	umber of Cells per Compartment	
		Emitting Electrodes KV/in	
		rounded Collecting Electrodes	-KV/in
		ed to Emitting Wires KV	
SINGLE STAGE TYPE:			
	Emitting Wires and Collecting	Plates	
		Corona Power Watts/1000 cfm	
		wates/1900 eriii	
TWO STAGE TYPE:			
	[17 x 1 - 2 ] [17 [18] [22] [22] [23] [23] [23] [23] [23]	es and Field Receiver Electrodes (Grou	nd)in
	d to Second Stage Emitting Plat		
Distance Between	Second Stage Emitting Plates a	and Grounded Collection Plates	in
CLONES/MULTICYCLONES:			
mple Cyclone		Multicyclone	
	in	Diameter	in
Inlet Dimensions		Inlet Dimensions of Individ	dual Cyclone
Outlet Dimensions		Outlet Dimensions of Indiv	
Pressure Drop	in H <sub>2</sub> 0	Pressure Drop	in H <sub>2</sub> O
Number of Cyclone	s	Number of Cyclones	
HER DRY COLLECTION DEVIC	ES: GIVE COMPLETE DETAILED EN	GINEERING DESCRIPTION AND DRAWINGS.	
		Tall tilb plantings.	
gnature:		Title:	



Owner Marine Corps Base, Camp Lejeune, N.C.

Location Harlem Drive, Montford Point [Give Street Address]

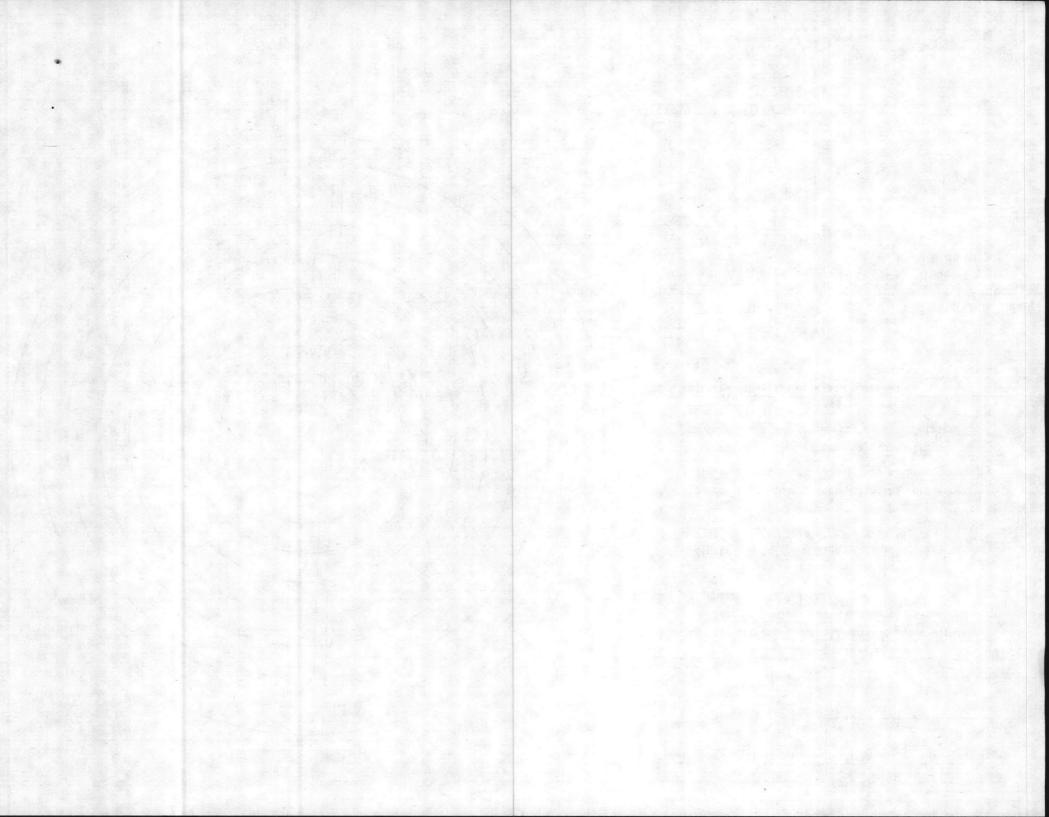
## INSTRUCTIONS:

- Show all surrounding buildings and roads within 1000 feet of subject equipment which is located at center of circles.
- Indicate location and type of building by the use of small numbered circles with the description below.
- 3. Show roads as lines representing the road edges.
  Indicate street names and highway numbers.
- Show wooded or cleared areas by approximate boundary lines and the words "woods", "cleared", "cornfield", etc.
- 5. Indicate direction of north by arrow.

	A PART OF THE STATE OF THE STAT	
CODE	DESCRIPTION	
0	Barracks	(7) Training Building
2		(18) Elevated Water Ta
3	Administrati	on (21) Washroom (22) Field Bakery
•		(22) Field Bakery
(5)		
6		
1	Warehouse	
8		
9		
Q		
(13)	Recreation	
EXAMPLE	(1) Church	

X Indicates location of equipment.

Residence



# NORTH CAROLINA

# ENVIRONMENTAL MANAGEMENT COMMISSION

RALEIGH



APPLICATION FOR

A "PERMIT"

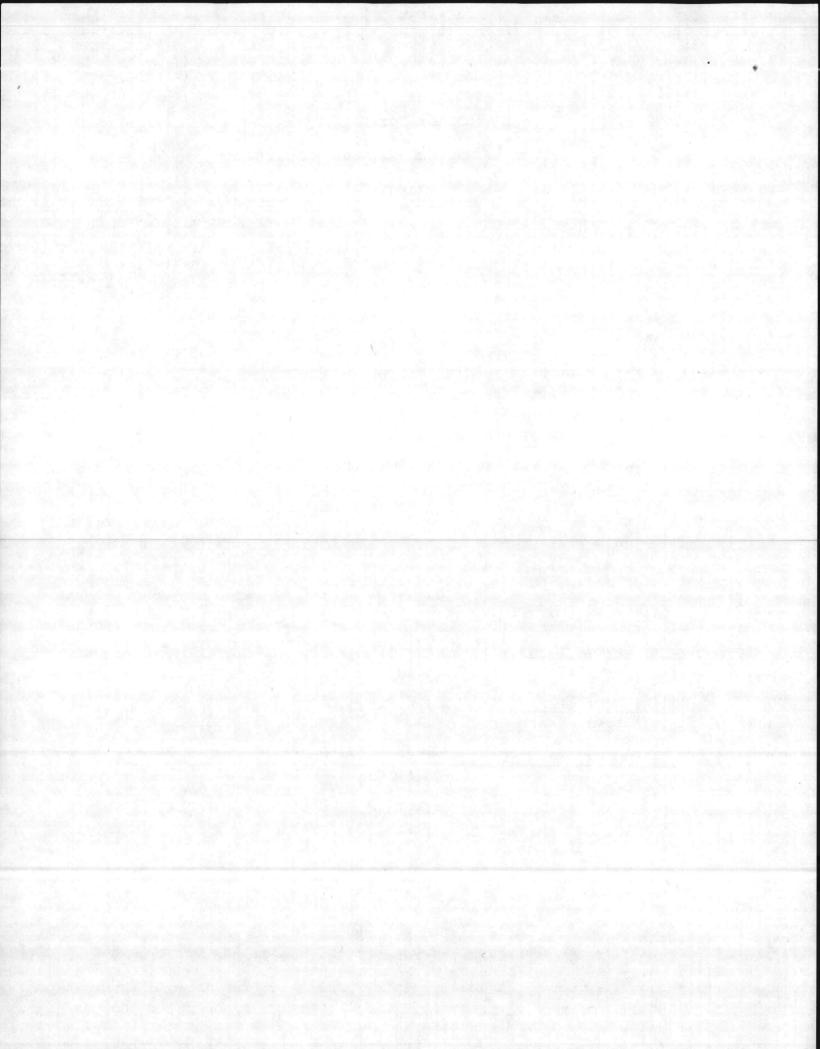
TO CONSTRUCT AND OPERATE AIR

POLLUTION ABATEMENT FACILITIES AND/OR EMISSION SOURCES

Filed By: Major General D. B. Barker
(Name)

Marine Corps Base (Address)

Camo Lejeune. North Carolina

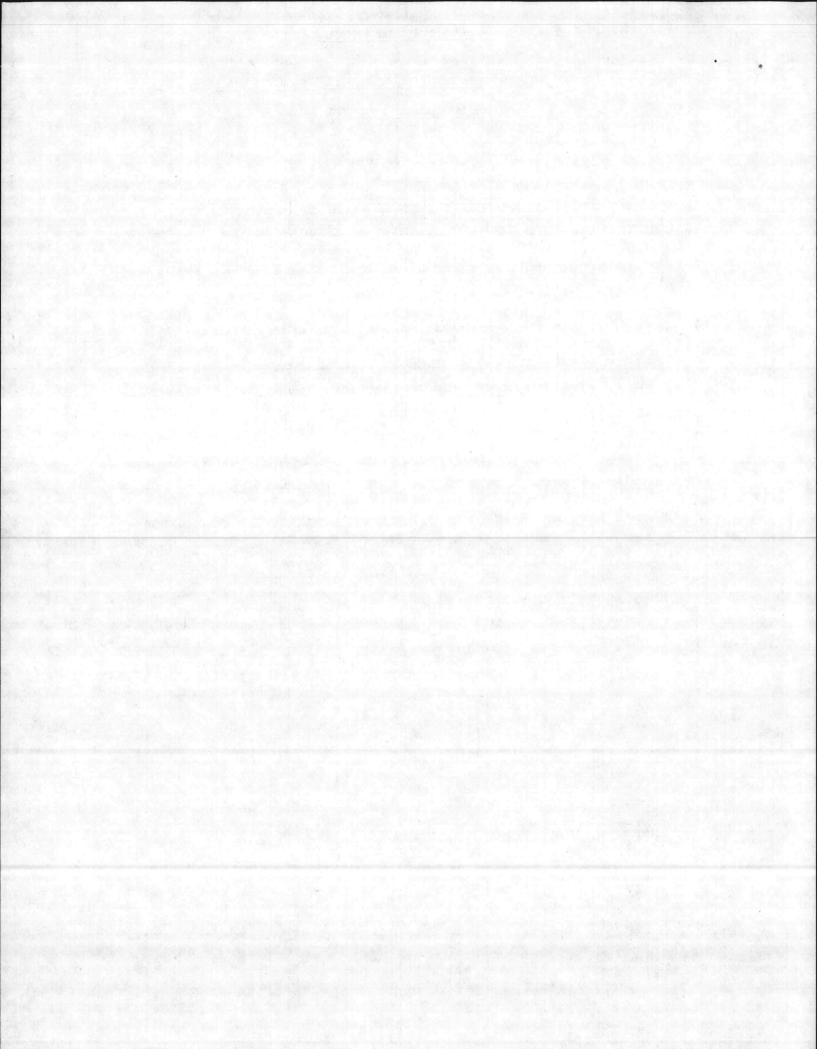


#### APPLICATION INSTRUCTIONS

# THIS APPLICATION IS SUBJECT TO REJECTION UNLESS ALL REQUIRED

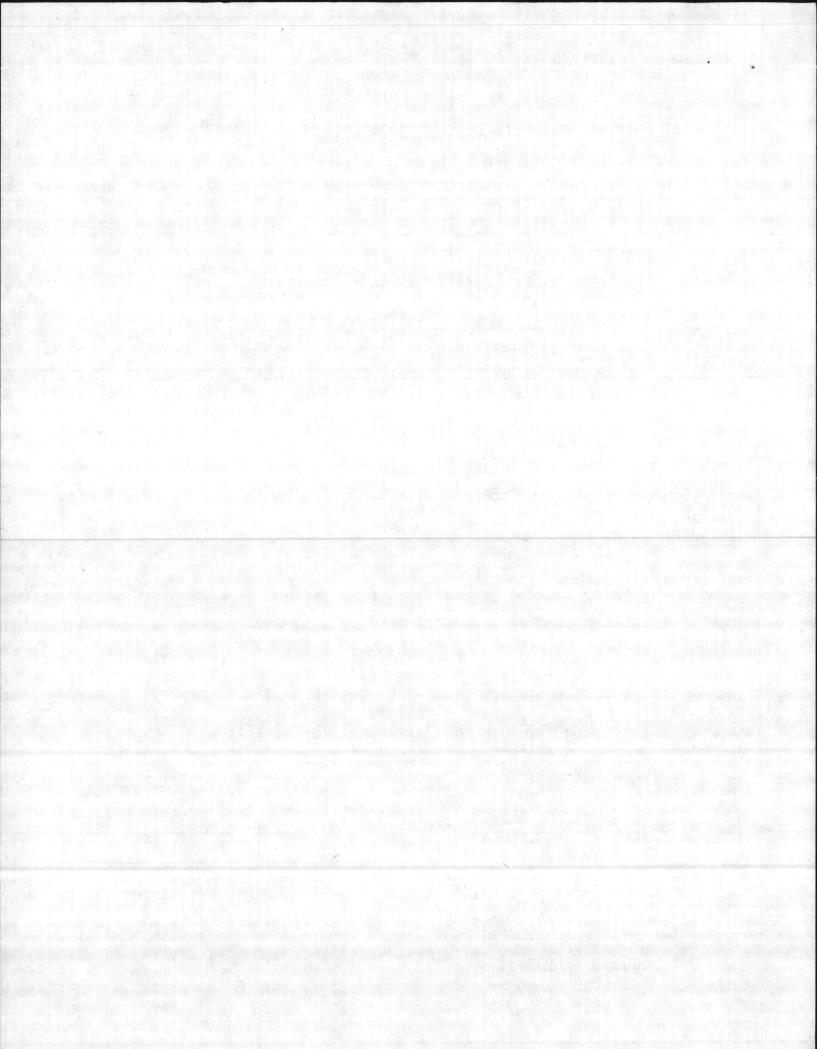
## INFORMATION IS SUBMITTED

- 1. ATTACH DETAILED ENGINEERING DRAWINGS OF SOURCE(S), PROCESS(ES) AND COLLECTION DEVICE(S) AS
  REQUESTED IN EACH SECTION. IF MULTIPLE SOURCES OR DEVICES, USE ADDENDUM SHEETS AS NECESSARY.
- Submit application, detailed engineering drawings, specifications and other supporting data and documents in TRIPLICATE.
- 3. Attach additional sheets as necessary to complete any portion of the application.
- 4. The application MUST BE SIGNED by the RESPONSIBLE INDIVIDUAL of the company that is to PURCHASE AND OPERATE the facilities for which a Permit is applied.
- 5. ALL APPLICANTS MUST COMPLETE THE FIRST PAGE AND SECTIONS I AND VI.
- If an Incinerator, Fuel Burning Source, Wet Collection Device or Dry Collection Device is to be installed and operated, COMPLETE SECTIONS II, III, IV or V respectively.
- 7. All applications should be mailed to: 'ENVIRONMENTAL MANAGEMENT COMMISSION
  AIR QUALITY SECTION
  P. O. Box 27687
  Raleigh, North Carolina 27611



# APPLICATION FOR A "PERMIT" To Construct and Operate Air Pollution Abatement Facilities and/or Emission Sources Three Copies to be Submitted Fourth Copy Should be Retained by Applicant

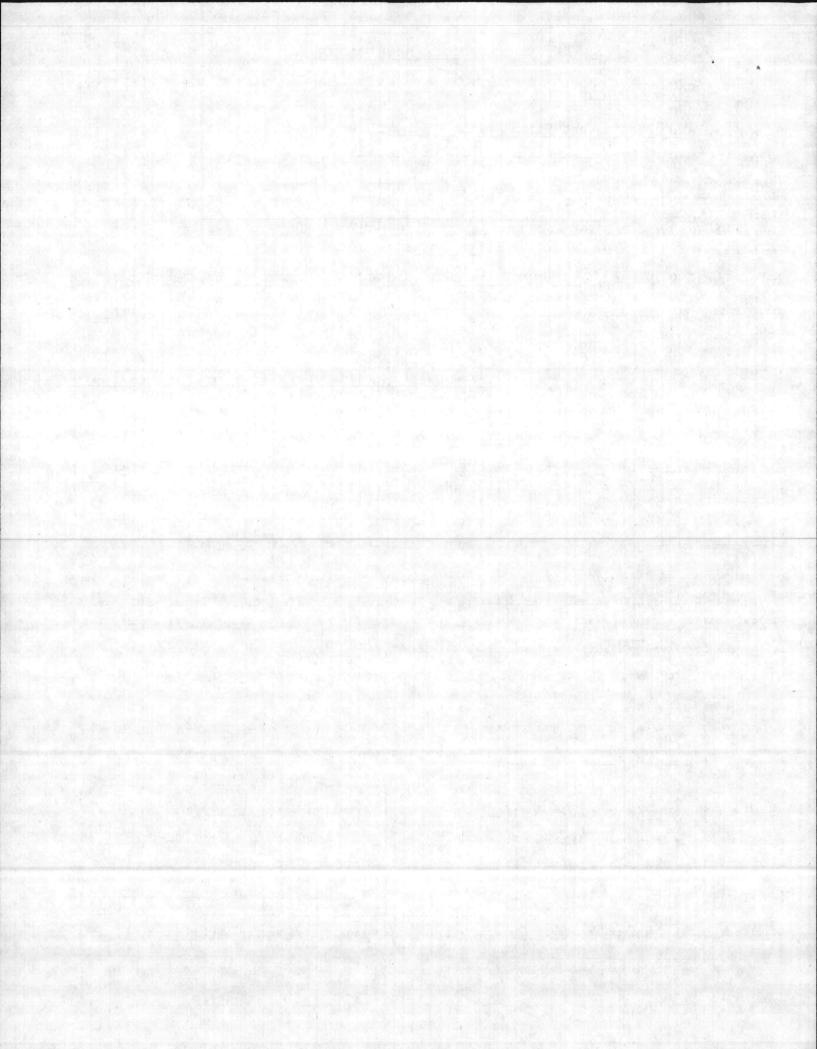
	Date: 24 Sep 1980
In	accordance with the provisions of Article 21 of Chapter 143, General Statutes of North Carolina as amended, application
is	hereby made by Marine Corps Base, Camp Lejeune, North Carolina (Name of Company, Establishment, Town, Etc.) (Include Division or Plant Name in Addition to Parent
for	in the County of Onslow at Jacksonville, North Carolina (Street and City or Town Address of Plant or Facility) issuance of a "Permit" to construct and operate air pollution abatement facilities and/or emissions sources at above eation as specified in the accompanying drawings, specifications, and other pertinent data:
1.	Nature of Operation Conducted at the Above Facility: Military Operation
2.	Description of Process(es) Whose Emission(s) is/are to be Controlled by the Facility or Source(s) Which is/are to be Constructed or Altered. (Complete Section I) Boiler, No. 6 Fuel Oil Boiler No. 73 Bldg No. M-625
3.	Furnish Type and Narrative Description of Proposed Control Device(s). (Complete Appropriate Supplemental Data Sheets for Control Device to be Installed and/or Operated. Include Make and Model Number of Control Device(s) and Number of Identical Units).  No. 6 Oil Fired, no control device.
4.	Contaminant Weight Rate of Emissions (lb/hr): Control Efficiency (%): Emitted: Without Control Device With Control Device With Control Device
	SO <sub>X</sub> and Particulate 50.13 N/A N/A N/A
5.	Name and Address of Engineering Firm that Prepared Plans:
6.	Viltimate Disposition of Collected Pollutants:  7. Date on Which Facilities are to be Completed and in Operation:  October , 19 80
8.	Indicate Period of Time for Which Facilities 9. Estimate Cost of Air Pollution Control Device \$ 0 are Estimated to be Adequate: 20 Years
Nam	10. Hours Facility is Operated Per Year: 8,760  me: Major General D. B. Barker USMC Mailing Address: Marine Corns Rase
	(Responsible Individual of Company Purchasing/ Operating FacilityPLEASE PRINT)  Camp Lejeune
	North Carolina 28542
Sig	gnature and Title: D. R. RARVER, MA 10R CENERAL USAGE Telephone Number: 451-5024
	D. B. BARKER, MAJOR GENERAL, USMC Commanding General



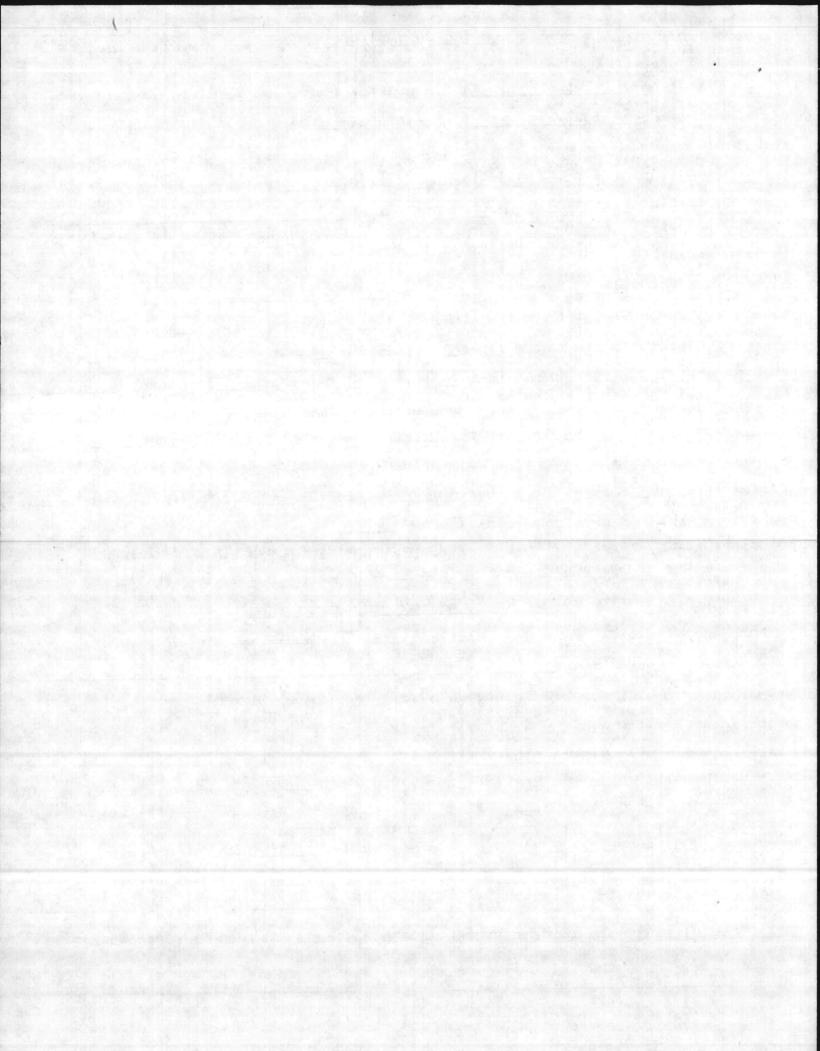
# I. GENERAL DATA FOR PROCESSES

\*Attach detailed process engineering drawings, equipment drawings and flow diagrams for the process(es) or source(s) being constructed or altered.

ame of Process: Heating and Steam Plant	
otal Weight of Materials Entering this Process: 143 gals	
colume and Temperature of Air Flow Entering Control Device:	CFM @°F
ollutant(s) to be Controlled: eight of Process Stack or Vent Above Ground Level 41'3"	ft. Inside area of Stack 5.23 ft2.
articulate Emission Rate (Before Control) 3.52	
article Size Distribution: 0-5µ 3, 5-10µ 3, 10-20	μ <u>χ, 20-30μ</u> χ, 30-40μ <u>χ, 40-50μ</u> χ.>50μ <u>χ</u>
	/m³, PPM or 1b/hr
SO <sub>X</sub>	46.61
II. SUPPLEMENTA	RY DATA FOR INCINERATORS (Including Conical Incinerators)
ircle Type of Waste or Indicate Composition: Type 0 Ty	pe I Type II Type III Type IV
Combustible:% Non-Combustible:% Moistu	re: Heat Value:BTU/lb
otal Waste Generated Per Day: 1b.	Hours Incinerator will be Operated: hrs/day
Design Capacity for Above Waste:lbs/hr	Manufacturer and Model Number; Approximate Cost:
Primary Chamber Volume:ft.3	Secondary Chamber Volume: ft. <sup>3</sup>
Air Requirements: Total Excess Air	fire Air: cfm
Conical Incinerator for: Overfire Air Supply,  Secondary Seco	Underfire Air Supply, DomeTemperature Set Pointary Chamber Temperature: °F
Is there a Continuous Exhaust Gas Temperature Reco	[개원][12][12][12][12][12][12][12][12][12][12
Inside Areaft. <sup>2</sup> Heightft. Gas Velocityft/	sec Temperature°F Fan Capacitycfm Stack Lined?
s there a Wet Scrubber?	
Yes No Flow Rate of H <sub>2</sub> O into Scrubbergal	/min Temperature Before Scrubber°F
Nux. Fuel: Oil Gas Other Burner	Rating: Primary Chamber Secondary Chamber Stack
	BTU/hr BTU/hr BTU/hr
rimary Burner: Is there a Preheat Timer? Yes No	Preneating Time:min.
econdary Burner or Afterburner: Is there a Timer? Yes	No Length of Time Burner is Operatedmin.
Is the Timer Reset by Charging Door? Yes No	Other Mode of Burner Control
Type of Feed: Manual Automatic If Automat	tic, Describe
Distance from Incinerator to Nearest Structure(s)	in which People Live and/or Workft.
Signature:	Title:

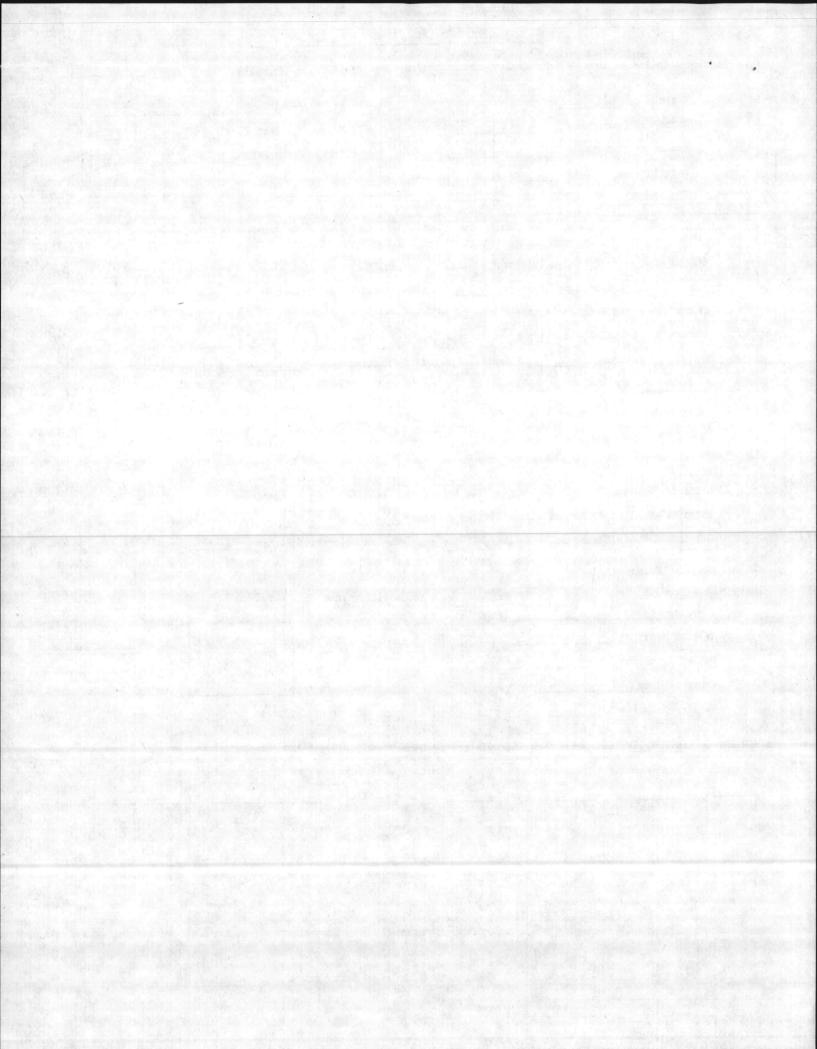


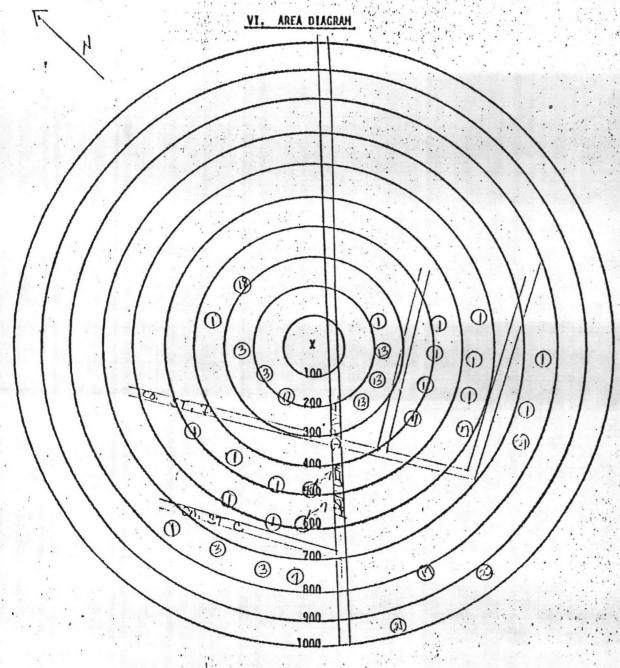
**************************************
E. Keeler Company  Make and Model Number Ser# 11/327-2  Volume of Furnaceft3  Specify Actual Amount of Each Fuel Used in Above Source (s):  Coallb/hr; Oil Grade 6
E. Keeler Company  Make and Model Number Ser# 1/327-2
Specify Actual Amount of Each Fuel Used in Above Source (s):  Coal lb/hr; Oil Grade 6
Coal
Specify Maximum Rating for Each Fuel Burning Source:
Specify Maximum Rating for Each Fuel Burning Source:
Specify Maximum Rating for Each Fuel Burning Source:  Coal Oil 122g/labod Natural Gas Other  Maximum Sulfur Content of Fuel 2_05 % Specify Standby Fuel None Maximum % Sulfur  Type of Solid Fuel Burning Equipment Used: Hand Fired Spreader Stoker Underfeed Staker Chain Grate  Traveling Grate Pulverizer Cyclone Furnace Other (Specify)  Ash Content of Fuel:
Coal Oil 122g/h3cod Natural Gas Other  Maximum Sulfur Content of Fuel 2.05 % Specify Standby Fuel None Maximum % Sulfur  Type of Solid Fuel Surning Equipment Used: Hand Fired Spreader Stoker Underfeed Shaker Chain Grate  Traveling Grate Pulverizer Cyclone Furnace Other (Specify)  Ash Content of Fuel:
Maximum Sulfur Content of Fuel 2.05% Specify Standby Fuel None Maximum % Sulfur  Type of Solid Fuel Surning Equipment Used: Hand Fired Spreader Stoker Underfeed Stoker Chain Grate  Traveling Grate Pulverizer Cyclone Furnace Other (Specify)  Ash Content of Fuel:
Traveling Grate Pulverizer Cyclone Furnace Other (Specify)  Ash Content of Fuel: Specify Method and Schedule of Tube Cleaning, if Applicable:  Coal % Wood % Other % Lancing Tube Blowing Schedule  Emission Control Equipment (Describe in Detail in Sections IV and V)  Collection Device: Wet Dry Steam Injection Air Injection Is Collected Flyash Reinjected?  Draft on Boiler (Natural Induced X ) cfm at of  Total Number of Fuel Burning Sources Within Property Boundaries: 3  Maximum Capacity Rating, by Type, for All Fuel Burning Units Excluding that Itemized Above: (Total Like Units) 2  Coal 1b/hr Wood 1b/hr Oil 265 gal/hr Natural Gas SCF/hr
Traveling Grate Pulverizer Cyclone Furnace Other (Specify)  Ash Content of Fuel: Specify Method and Schedule of Tube Cleaning, if Applicable:  Coal % Wood % Other % Lancing Tube Blowing Schedule  Emission Control Equipment (Describe in Detail in Sections IV and V)  Collection Device: Wet Dry Steam Injection Air Injection Is Collected Flyash Reinjected?  Draft on Boiler (Natural Induced X ) cfm at of  Total Number of Fuel Burning Sources Within Property Boundaries: 3  Maximum Capacity Rating, by Type, for All Fuel Burning Units Excluding that Itemized Above: (Total Like Units) 2  Coal 1b/hr Wood 1b/hr Oil 265 gal/hr Natural Gas SCF/hr
Traveling Grate Pulverizer Cyclone Furnace Other (Specify)  Ash Content of Fuel:
Coal % Wood % Other % Lancing Tube Blowing Schedule Emission Control Equipment (Describe in Detail in Sections IV and V)  Collection Device: Wet Dry Steam Injection Air Injection Is Collected Flyash Reinjected? Draft on Boiler (Natural Induced X ) cfm at of Total Number of Fuel Burning Sources Within Property Boundaries: 3  Maximum. Capacity Rating, by Type, for All Fuel Burning Units Excluding that Itemized Above: (Total Like Units) 2  Coal 1b/hr Wood 1b/hr Oil 265 gal/hr Natural Gas SCF/hr
Emission Control Equipment (Describe in Detail in Sections IV and V)  Collection Device: Wet Dry Steam Injection Air Injection Is Collected Flyash Reinjected?  Draft on Boiler (Natural Induced X ) cfm at of Total Number of Fuel Burning Sources Within Property Boundaries: 3  Maximum. Capacity Rating, by Type, for All Fuel Burning Units Excluding that Itemized Above: (Total Like Units) 2  Coal lb/hr Wood lb/hr Oil 265 gal/hr Natural Gas SCF/hr
Emission Control Equipment (Describe in Detail in Sections IV and V)  Collection Device: Wet Dry Steam Injection Air Injection Is Collected Flyash Reinjected?  Draft on Boiler (Natural Induced X ) cfm at or  Total Number of Fuel Burning Sources Within Property Boundaries: 3  Maximum Capacity Rating, by Type, for All Fuel Burning Units Excluding that Itemized Above: (Total Like Units) 2  Coal lb/hr Wood lb/hr Oil 265 gal/hr Natural Gas SCF/hr
Total Number of Fuel Burning Sources Within Property Boundaries: 3  Maximum Capacity Rating, by Type, for All Fuel Burning Units Excluding that Itemized Above: (Total Like Units) 2  Coal lb/hr Wood lb/hr Oil 265 gal/hr Natural Gas SCF/hr
Coal lb/hr Wood lb/hr Oil 265 gal/hr Natural Gas SCF/hr
Coal lb/hr Wood lb/hr Oil 265 gal/hr Natural Gas SCF/hr
IV. SUPPLEMENTARY DATA FOR WET COLLECTION DEVICES
*Attach detailed engineering drawings of the control device and particle size versus removal efficiency curves.
Liquid Scrubbing Medium and Additives:
Total Liquid Injection Rate (Include Recirculated and Make-up Rates)gal/min or gal/1000 ft3
Operating Pressure Drop Across Device in H <sub>2</sub> O
ANSWER FOLLOWING QUESTIONS FOR SPECIFIC DEVICE:
VENTURI SCURBBER: Inlet Area in <sup>2</sup> Throat Area in <sup>2</sup> Throat Velocity ft/sec
GRAVITY SPRAY CHAMBER: Number of Nozzles Liquid Droplet Size u Co-Current Countercurrent
WET CYCLONE:  PACKED TOWER OR PLATE TOWER:  Body Diameter in Length in Cross-Sectional Area ft <sup>2</sup> Type of Plate
Inlet Area in <sup>2</sup> Number of Nozzles leasth
Inlet Area in Number of Nozzles Length ft Depth of Packing ft  Outlet Area in Type of Packing
Type of Packing
OTHER WET COLLECTION DEVICES: GIVE COMPLETE DESCRIPTION INCLUDING DESIGN PARAMETERS AND DETAILED ENGINEERING DRAWINGS.
Signature: Title:



# V. SUPPLEMENTARY DATA FOR DRY COLLECTION DEVICES

BAGHOUSES: Cloth Areaft <sup>2</sup>	Bag Material
Number of Compartments	Pressure - Drop Totalin
Method of Cleaning	Air-to-Cloth Ratioft/
Time Batween Cleaning mins, hrs	
ELECTROSTATIC PRECIPITATORS:	
GENERAL:	
Effective Area of Grounded Collector Plates	ft <sup>2</sup>
Number of Compartments or Chambers No	umber of Calls per Compartment
Electrical Field Gradient at the Discharge or a	
Average Electrical Field Gradient at the the Gr	rounded Collecting Electrodes KV/in
Fields of Treatment Potential Applie	ed to Emitting Wires KV
SINGLE STAGE TYPE:	
Distance Between Emitting Wires and Collecting	Platesin-
Number of Isolatable Bus Sections	Corona Power Watts/1000 cfm
TWO STAGE TYPE:	
	es and Field Receiver Electrodes (Ground)in
Potential Applied to Second Stage Emitting Plat	
Distance Between Second Stage Emitting Plates a	[18] [18] [18] [18] [18] [18] [18] [18]
YCLONES/MULTICYCLONES:	
imple Cyclone	Multicyclone
Diameterin	Diameter in
Diameter in  Inlet Dimensions	대한 사람들은 보다 보는 사람들이 있는 것이 되었다. 그는 사람들은 사람들은 사람들은 사람들은 사람들은 사람들은 사람들은 사람들은
	Diameterin
Inlet Dimensions	Diameter in  Inlet Dimensions of Individual Cyclone
Inlet Dimensions	Diameter in  Inlet Dimensions of Individual Cyclone  Outlet Dimensions of Individual Cyclone
Inlet Dimensions in H <sub>2</sub> O	Diameter





Owner Marine Corps Rase, Camp Lejeune, N.C.

Location Harlem Drive, Montford Point (Give Street Address)

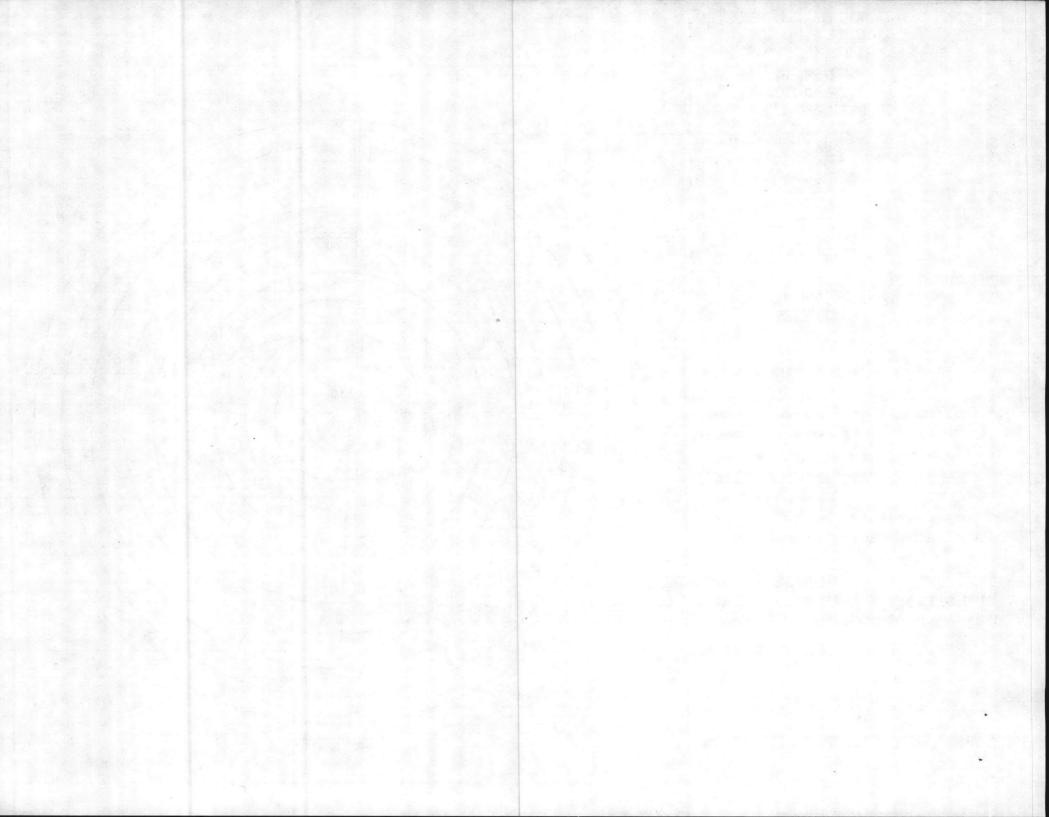
## INSTRUCTIONS:

- Show all surrounding buildings and roads within 1000 feet of subject equipment which is located at center of circles.
- Indicate location and type of building by the use of small numbered circles with the description below.
- Show roads as lines representing the road edges.
   Indicate street names and highway numbers.
- Show wooded or cleared areas by approximate boundary lines and the words "woods", "cleared", "cornfield", etc.
- 5. Indicate direction of north by arrow.

4,00		
CODE	DESCRIPTION	
0	Barracks	Training Buil ng
2		(18) Elevated Water To
② ③ ④	Administra	tion
		(22) Field Bakery
<b>(S)</b>		
<b>6</b>	Warehouse	
<b>®</b>	warenouse	
<b>①</b>		
0 :		
(13)	Recreation	
FYWALLE	(1) Church	

X Indicates location of equipment,

Church Residence



# NORTH CAROLINA

# ENVIRONMENTAL MANAGEMENT COMMISSION

RALEIGH

APPLICATION FOR

A "PERMIT"

TO CONSTRUCT AND OPERATE AIR

POLLUTION ABATEMENT FACILITIES AND/OR EMISSION SOURCES

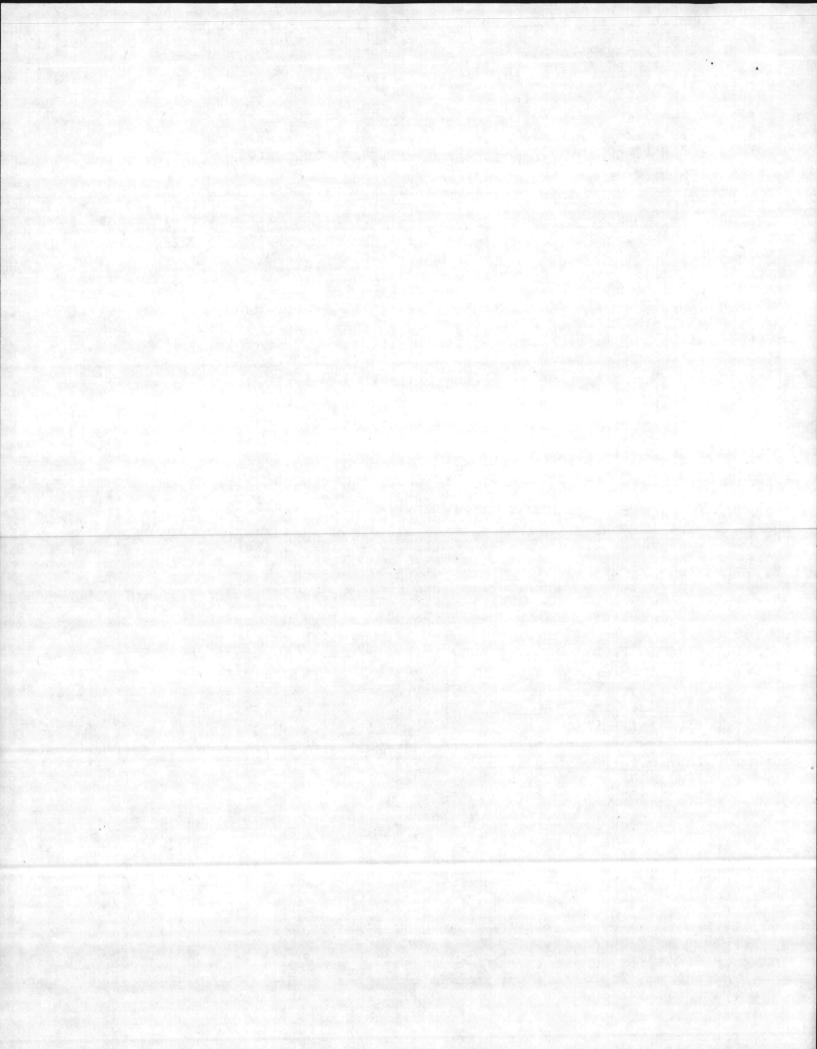
Filed By: Major General D. B. Barker (Name)

Marine Corps Base

(Address)

Camp Lejeune, North Carolina

AQ-22

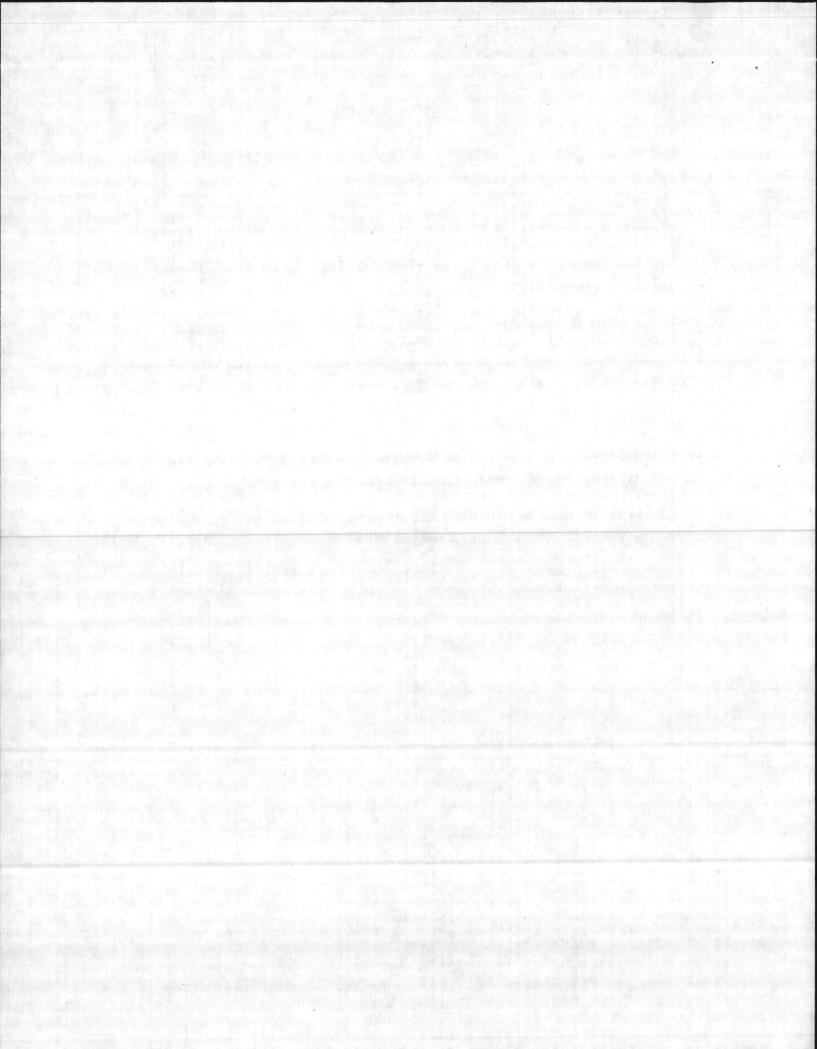


#### APPLICATION INSTRUCTIONS

# THIS APPLICATION IS SUBJECT TO REJECTION UNLESS ALL REQUIRED

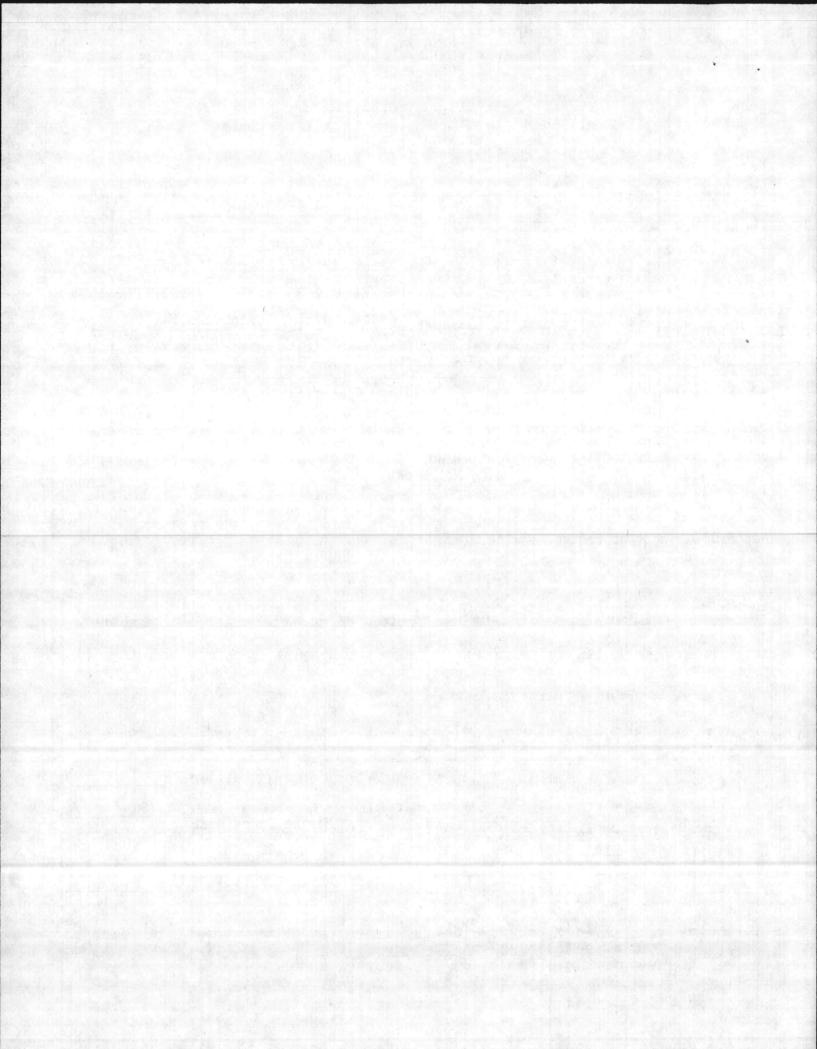
#### INFORMATION IS SUBMITTED

- 1. ATTACH DETAILED ENGINEERING DRAWINGS OF SOURCE(S), PROCESS(ES) AND COLLECTION DEVICE(S) AS REQUESTED IN EACH SECTION. IF MULTIPLE SOURCES OR DEVICES, USE ADDENDUM SHEETS AS NECESSARY.
- Submit application, detailed engineering drawings, specifications and other supporting data and documents in TRIPLICATE.
- 3. Attach additional sheets as necessary to complete any portion of the application.
- 4. The application MUST BE SIGNED by the RESPONSIBLE INDIVIDUAL of the company that is to PURCHASE AND OPERATE the facilities for which a Permit is applied.
- 5. ALL APPLICANTS MUST COMPLETE THE FIRST PAGE AND SECTIONS I AND VI.
- If an Incinerator, Fuel Burning Source, Wet Collection Device or Dry Collection Device is to be "installed and operated, COMPLETE SECTIONS II, III, IV or V respectively.
- 7. All applications should be mailed to: ENVIRONMENTAL MANAGEMENT COMMISSION
  AIR QUALITY SECTION
  P. O. Box 27687
  Raleigh, North Carolina 27611



# APPLICATION FOR A "PERMIT" To Construct and Operate Air Pollution Abatement Facilities and/or Emission Sources Three Copies to be Submitted Fourth Copy Should be Retained by Applicant

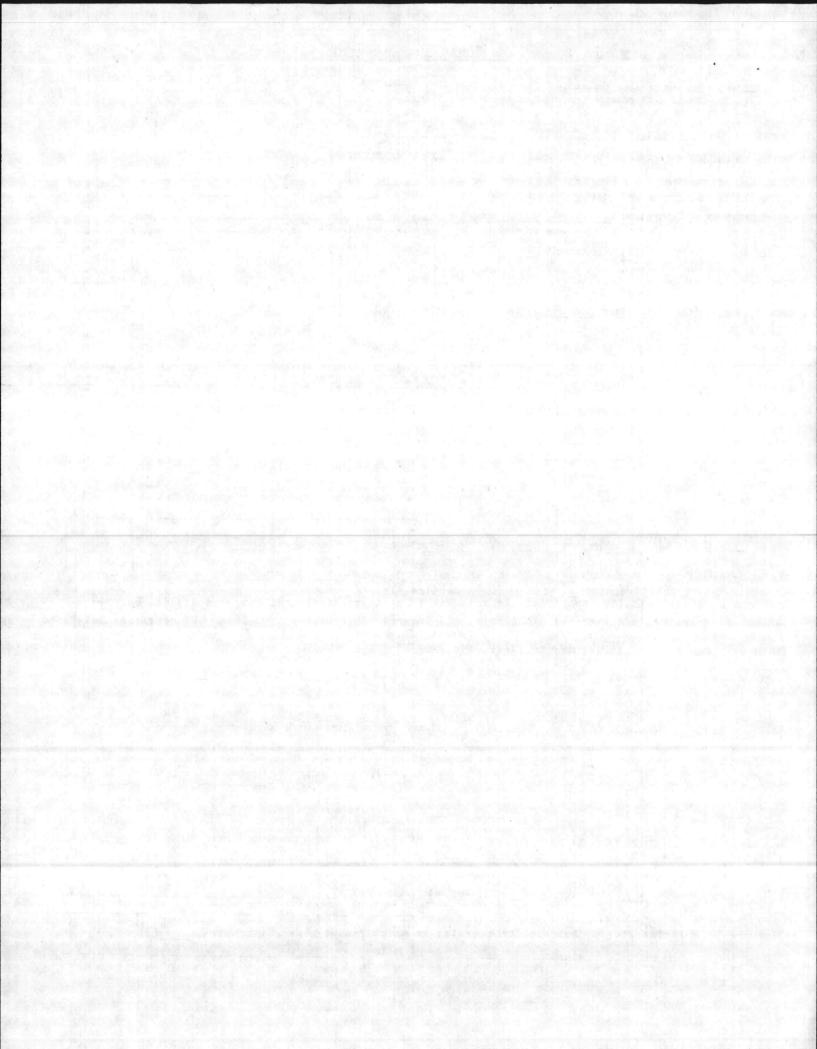
	D	ate: 24 Sep 1980	
. In recordings with the provision of Arrival 20	5 () 142 (		
In accordance with the provisions of Article 21	of Chapter 143, Genera	1 Statutes of North Carolina as	amended, application
Marine Corps Base, Control (Name of Company, Establishmen)	amp Lejeune, Nor t, Town, Etc.) (Includ	th Carolina e Division or Plant Name in Add	dition to Parent
in the County of Ons	low at Ja	cksonville, North Caro	lina
Company if Applicable) for issuance of a "Permit" to construct and operation as specified in the accompanying drawing	Street) ate air pollution abat	and City or Town Address of Plement facilities and/or emission	ant or Facility)
. Nature of Operation Conducted at the Above Fa	acility: Military	Operation	
2. Description of Process(es) Whose Emission(s) Constructed or Altered. (Complete Section I)		ed by the Facility or Source(s)	Which is/are to be
	Boiler No. 74 Bldg No. M-625		
<ol> <li>Furnish Type and Narrative Description of Pro Control Cevice to be Installed and/or Operate Identical Units).</li> </ol>	oposed Control Device( ed. Include Make and I	s).(Complete Appropriate Supple Model Number of Control Device(	mental Data Sheets for s) and Number of
No. 6 Oil Fired, no control device	e.		
L. Contaminant Weight Rate of Emissi  Emitted: Without Control Device	ions (1b/hr): With Control Device	Tontrol Efficiency Without Control Device W	(%): ith Control Device
SO <sub>X</sub> and Particulate 50.13	N/A	N/A	N/A
5. Name and Address of Engineering Firm that Pre	epared Plans:		
5. Ultimate Disposition of Collected Pollutants:	: 7. Date on Which	r Facilities are to be Complete	d and in Operation:
None	_ October	, 19 80	
I. Indicate Period of Time for Which Facilities are Estimated to be Adequate: 20 Years	9. Estimate Cost	t of Air Pollution Control Devi	ce \$
1		ity is Operated Per Year: Marine Corps Base	8,760
Hame: Major General D R Barker. II (Responsible Individual of Company Purchasi Operating Facility PLEASE PRINT)	ing/	Camp Lejeune	• • • • • • • • • • • • • • • • • • • •
			3542
> 7 7	/	Hor cir caroffila 20	0344
Signature and Title:	ku	Telephone Number:	451-5024
D. B. BARKER, MAJO Commanding General	R GENERAL, USMC		



#### I. GENERAL DATA FOR PROCESSES

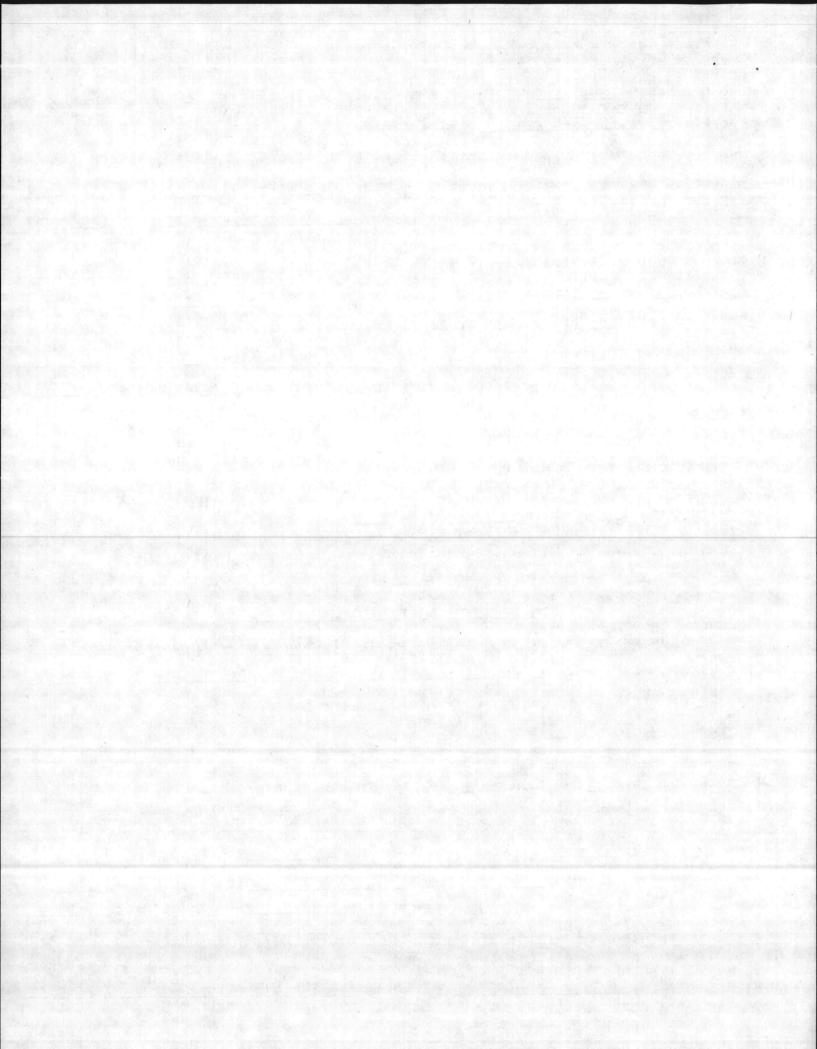
\*Attach detailed process engineering drawings, equipment drawings and flow diagrams for the process(es) or source(s) being constructed or altered.

	####################################
me of Process: <u>Heating and Steam Plant</u>	
tal Weight of Materials Entering this Process: 14	13 galsžty hr xxxxxxxx
	int to Atmosphere: CFM @ F
Ilutant(s) to be Controlled:  ight of Process Stack or Vent Above Ground Level  rticulate Emission Rate (Before Control) 3.5	41'3" ft. Inside area of Stack <u>5.23</u> ft <sup>2</sup> .
	*, 10-20µ *, 20-30µ *, 30-40µ *, 40-50µ *,>50µ *
secus Emission(s): <u>Name (Chemical Formula)</u> SO <sub>X</sub>	46.61
II. SU	UPPLEMENTARY DATA FOR INCINERATORS (Including Conical Incinerators)
rcle Type of Waste or Indicate Composition: Type	e O Type I Type III Type IV
Combustible:% Non-Combustible:	% Moisture: % Heat Value:BTU/1b
otal Waste Generated Per Day: 1b.	Hours Incinerator will be Operated:hrs/day
esign Capacity for Above Waste: lbs/hr	Manufacturer and Model Number; Approximate Cost:
rizary Chamber Volume:ft.3	Secondary Chamber Volume:ft.3
ir Requirements: Total Excess Air % Draft:  Overfire Air: cfm  s there an Electronically Controlled, Exh	: Natural Induced Other Underfire Air: cfm naust Gas Temperature Modulated, Damper Installed on the
Conical Incinerator for: Overfire Air Supp lame Port Temperature:°F	Secondary Chamber Temperature: F Temperature Set Point
s there a Continuous Exhaust Gas Temperat tack:	(1985) 1985 (1985
Inside Areaft. <sup>2</sup> Heightft. Gas Veloci	tyft/sec Temperature°F Fan Capacitycfm Stack Lined?
s there a Wet Scrubber?	
Yes No Flow Rate of H <sub>2</sub> O into Scrubbe	rgal/min Temperature Before Scrubber°F
ux. Fuel: Oil Gas Other	Burner Rating: Primary Chamber Secondary Chamber Stack
	** 100 miles 100
rimary Burner: Is there a Preheat Timer? Yes	No Preheating Time:min.
econdary Surner or Afterburner: Is there a Timer	-? Yes No Length of Time Burner is Operatedmin.
Is the Timer Reset by Charging Door? Yes _	Mo Other Mode of Burner Control
Type of Feed: Manual Automatic	If Automatic, Describe
Distance from Incinerator to Nearest Struck	cture(s) in which People Live and/or Workft.
	Fitle:



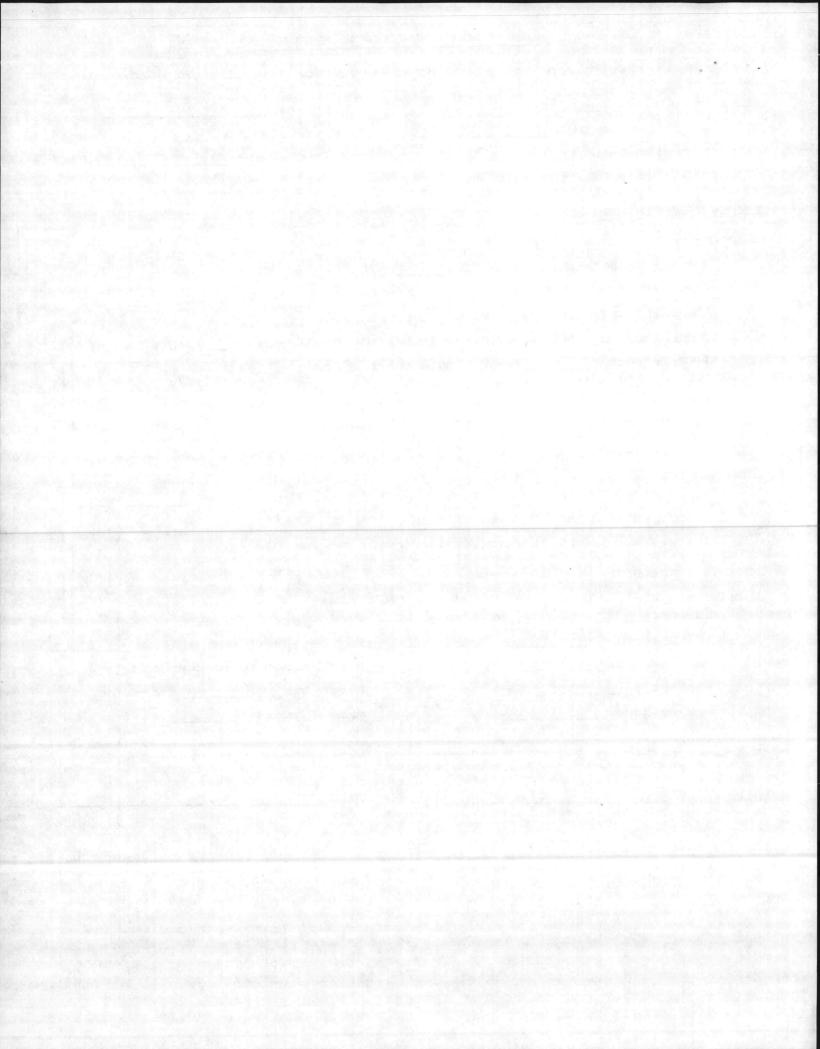
#### THE STATE OF THE POST SON THE SON OF STATE S

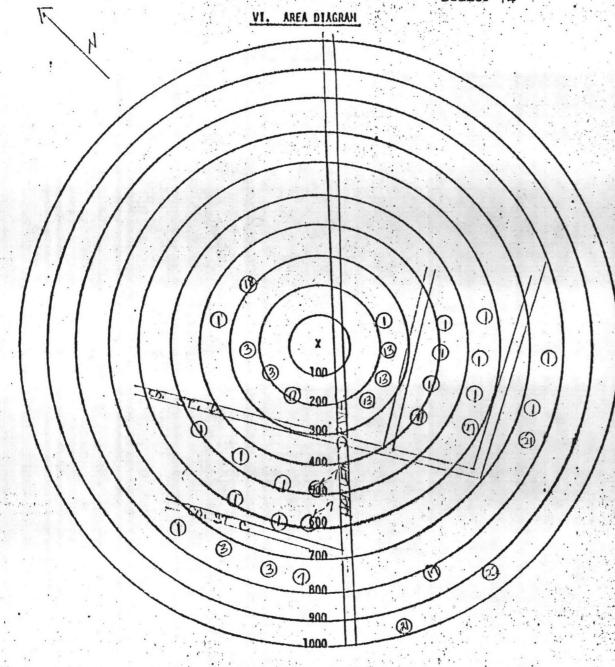
*Attach detailed dimensioned drawing on sketch recovery boilers.	showing interral features of dry	ers, wood or coal fired boilers, and
Type of Fuel Burning SourceBoiler	Stack Height Above Ground Lev	el <u>41'3"</u> ft. Inside Area of Stack5.23 ft
E. Keeler Company Make and Model Number Ser.#14327-2	Volume of Furnace:ft3	erun in the state of States 23 ft
Specify Actual Amount of Each Fuel Used in Above Son		
		the respectful to
Coal 1b/hr; Oil Grade6 Amount 143 ga	1/hr, at BTU/gal and 1	lb/gal orlb/hr
Wood 1b/hr; Natural Gas SCF/hr, at	BTU/SCF; Other	
	(Specify	type, amount and heating yalue)
Specify Maximum Rating for Each Fuel Burning Source:		
Coal Oil122 g/hadod Natural Gas	Other	
Maximum Sulfur Content of Fuel 2.05% Specify	Standby Fuel None Maximum	% Sulfur
Type of Solid Fuel Burning Equipment Used: Hand Fir		
() (1885 - 1985 - 1987 - 1985 - 1985 - 1985 - 1985 - 1985 - 1985 - 1985 - 1985 - 1985 - 1985 - 1985 - 1985 - 1	te Pulverizer Cyclone Fo	
	y Method and Schedule of Tube Clea	
Coal % Wood % Other % Lancin	Tube Slowing	aning, it Applicable:
Emission Control Equipment (Describe in Detail in Sec		Schedule
Collection Device: Wet $\_$ Dry $\_$ Steam Draft on Soiler (Natural $\_$ Induced $X$ ) Total Number of Fuel Burning Sources Within Property	Injection Air Injection	Is Collected Flyash Reinjected?
Maximum Capacity Rating, by Type, for All Fuel Burn	ing Units Excluding that Itemized	Above: (Total Like Units) 2
Coal lb/hr Wood lb/hr 0il 265 gal/hr Na	atural Gas SCF/hr	
IV. SUPPLEM	HENTARY DATA FOR WET COLLECTION DE	Nicre
		가게 가입하다 하네 보다 보다 하는 사람은 사람이 되어 있다.
*Attach detailed engineering drawings of the con	strol device and particle size ver	sus removal efficiency curves.
Liquid Scrubbing Medium and Additives:		
Total Liquid Injection Rate (Include Recirculated and	Make-up Rates) gal/min or	ga1/1000 ft <sup>3</sup>
Operating Pressure Drop Across Device in H2O		
ANSWER FOLLOWING QUESTIONS FOR SPECIFIC DEVICE:		
VENTURI SCURBBER: Inlet Areain2 Throat Area	- in <sup>2</sup> Throat Velocity	ft/sec
GRAVITY SPRAY CHAMBER: Number of Mozzles Liq		
	PACKED TOWER OR PLATE TOWER:	
Body Diameter in Length in	Cross-Sectional Area	ft2 Type of Plate
Inlet Area in <sup>2</sup> Number of Nozzles	tength	ft Depth of Packing
Cutlet Area in <sup>2</sup>	Number of Plates	Type of Packing
OTHER MET COLLECTION DEVICES: GIVE COMPLETE DESCRIPT	ION INCLUDING DESIGN PARAMETERS AN	O DETAILED ENGINEERING DRAWINGS.
Signature:	Title:	per an establishe Math



### V. SUPPLEMENTARY DATA FOR DRY COLLECTION DEVICES

,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	Cloth Areaft <sup>2</sup>	Bag Material	
	Number of Compartments	Pressure - Orop Total	
	Method of Cleaning		
	Time Batween Cleaning mins, hrs		
LECTROSTAT	TIC PRECIPITATORS:		
GENERAL:			
Ef	ffective Area of Grounded Collector Plate	하나 사람이 하다 가는 것이 없는 것이 없는 것이 되었다. 그는 것이 없는 것이 없습니 없는 것이 없습니 없는 것이 없습니 없는 것이 없습니	
Nu	umber of Compartments or Chambers	Number of Cells per Compartment	
		or Emitting ElectrodesKY/in	
	이 경기에 맞는 생님이 있었다. 아이는 아이들은 아이들은 아이들은 아이들은 아이들은 아이들은 아이들은 아이들은	he Grounded Collecting Electrodes XV/in	
	elds of Treatment Potential Ap		
	TAGE TYPE: stance Between Emitting Wires and Collect	ting Plates 5-	
		Corona Power Watts/1000 cfm	
		COT ONA TOWER WALLES/ TUGO CTIR	
TWO STAG			
	- 10 10 12 15 15 16 16 16 16 16 16 16 16 16 16 16 16 16	crodes and Field Receiver Electrodes (Ground)	in
	tential Applied to Second Stage Emitting	사람 회사님은 유리를 보고 있다면 하는 것은 사람들이 사람들이 되었다. 이번째는 그리고 사람들이 얼마나 되었다.	
, 111	stance Between Second Stage Emitting Plat	es and Grounded Collection Platesin	
ICTONEZ/WII	LTICYCLONES:		
imple Cyclo		Multicyclone	
Dia	ameterin	Diameter in	
	let Dimensions	inlet Dimensions of Individual Cyclone _	
Inl	tlet Dimensions	Outlet Dimensions of Individual Cyclone	
Cut	essure Drop in H <sub>2</sub> O	Pressure Drop in H2O	
Out Pre		Pressure Drop in H <sub>2</sub> O  Admber of Cyclones	
Cut Pre Num	essure Dropin H <sub>2</sub> O	Admber of Cyclones	
Cut Pre Num	essure Drop in H <sub>2</sub> O	Admber of Cyclones	





Owner Marine Corps Base, Camp Lejeune, N.C.

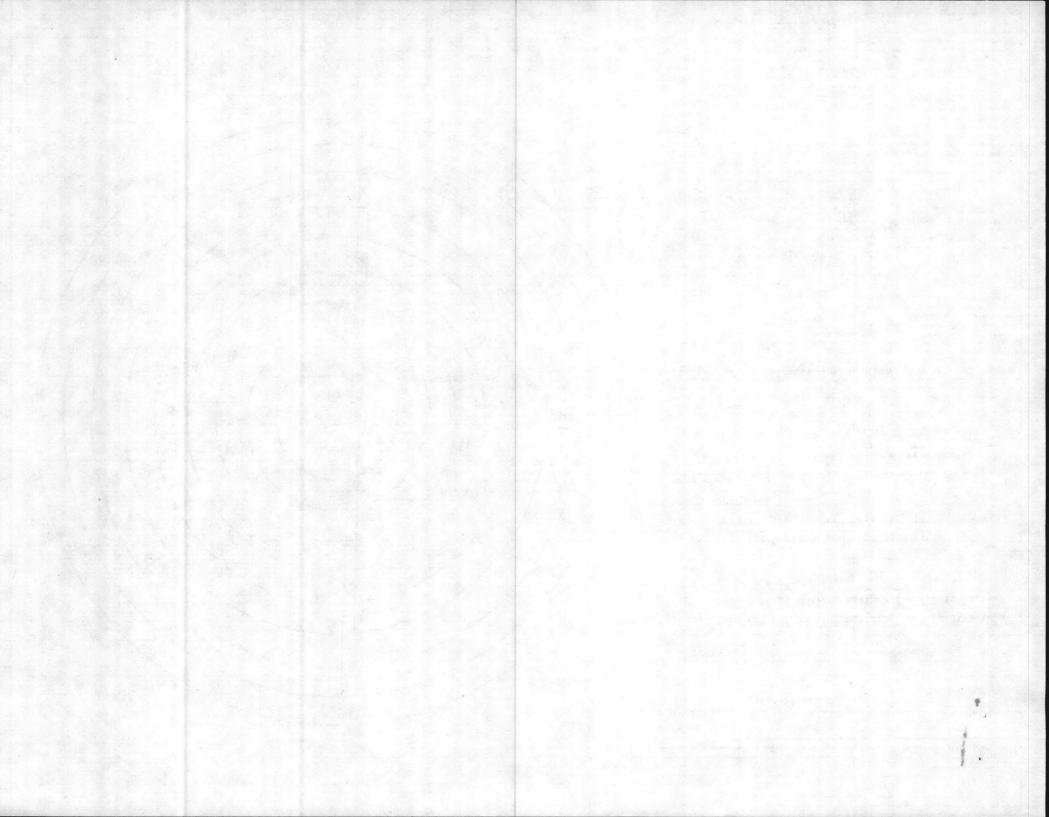
Location Harlem Drive, Montford Point (Give Street Address)

#### INSTRUCTIONS:

- Show all surrounding buildings and roads within 1000 feet of subject equipment which is located at center of circles.
- Indicate location and type of building by the use of small numbered circles with the description below.
- 3. Show roads as lines representing the road edges.
  Indicate street names and highway numbers.
- Show wooded or cleared areas by approximate boundary lines and the words "woods", "cleared", "cornfield", etc.
- 5. Indicate direction of north by arrow.

CODE	DESCRIPTION		Carlot II. Carlo Carlo	
0	Barracks	(17)	Training Bui	.r
2	A Commence of the second second	(18)	Elevated Water	
( Q)	Administrati	Lon	Tank	
0		(21)	Washroom	
(1) (6) (6) (7)		(22)	Field Bakery	
6				
0	Warehouse			
<b>®</b>				
9				
0				
(13)	Recreation			
ESTABLE	III Thillieth			

X Indicates location of equipment,



7.K

## UNITED STATES MARINE CORPS Marine Corps Base Camp Lejeune, North Carolina 28542

FAC: KPM: mkc 6280 2 Jun 1981

From: Commanding General

To: Base Maintenance Officer Via: Staff Judge Advocate

Subj: Permits for construction and/or operation of air pollution abatement facilities and/or emission sources

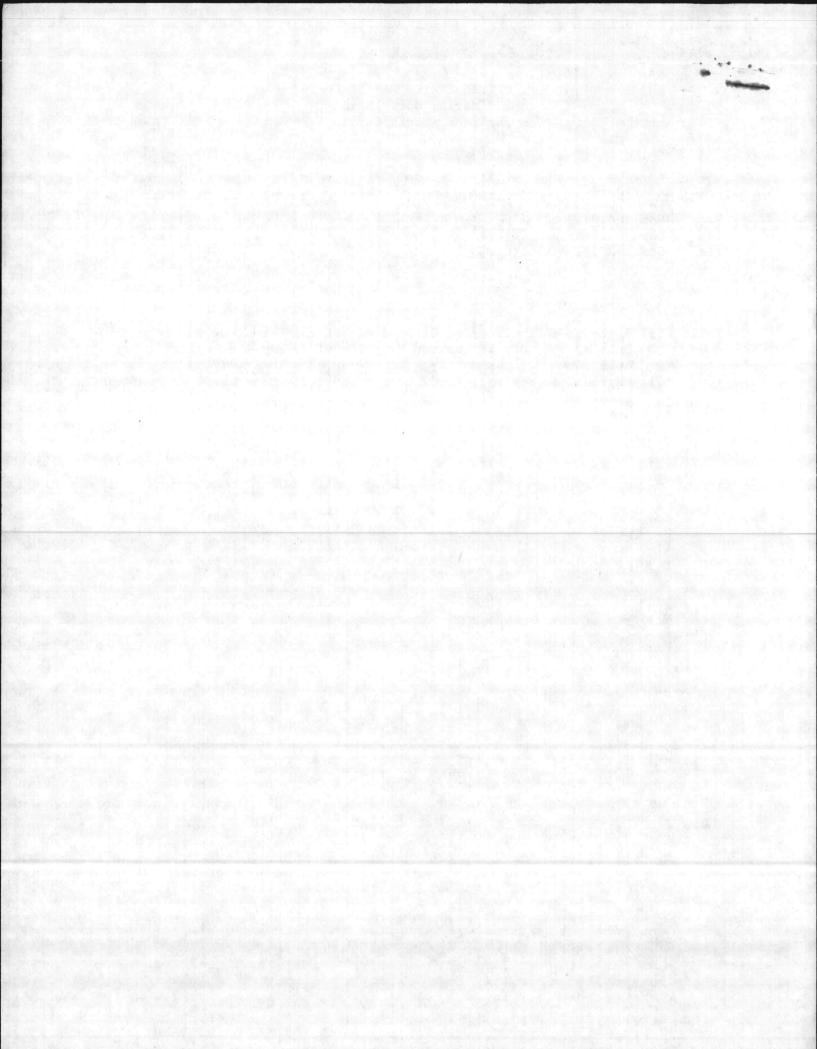
Encl: (1) Regional Supervisor, N. C. Dept of Natural Resources & Community Development, Div of Environ Mgmt 1tr of 27 May 1981 w/Permit No. 4642

(2) Regional Supervisor, N. C. Dept of Natural Resources & Community Development, Div of Environ Mgmt 1tr of 27 May 1981 w/Permit No. 4643

1. Enclosures (1) and (2) are forwarded for appropriate action.

K. P. MILLICE, JE

By direction





### North Carolina Department of Natural Resources & Community Development

James B. Hunt, Jr., Governor

Howard N. Lee, Secretary

DIVISION OF ENVIRONMENTAL MANAGEMENT

May 22, 1981

Mr. D.B. Barker
Major General, U.S. Marine Corps
Commanding
Marine Corps Base
Camp Lejeune, North Carolina 28542

Pormit
As-4151

Subject:

Permit No. 4644

Marine Corps Base

Camp Lejeune, North Carolina

Dear General Barker:

In accordance with your application received May 1, 1986, we are forwarding herewith Permit No. 4644 to Marine Corps Base, Camp Lejeune, North Carolina for the construction and/or operation of air pollution abatement facilities and/or emission sources.

If any parts, requirements, or limitations contained in this permit are unacceptable to you, you have the right to an adjudicatory hearing before a hearing officer upon written demand to the Director within thirty (30) days following receipt of this permit, identifying the specific issues to be contended. Unless such demand is made, this permit shall be final and binding.

This permit shall be effective from the date of issuance until April 1, 1986, is nontransferable to future owners and operators, and shall be subject to the conditions and limitations as specified therein.

Sincerely,

Charles Wakild / Regional Supervisor

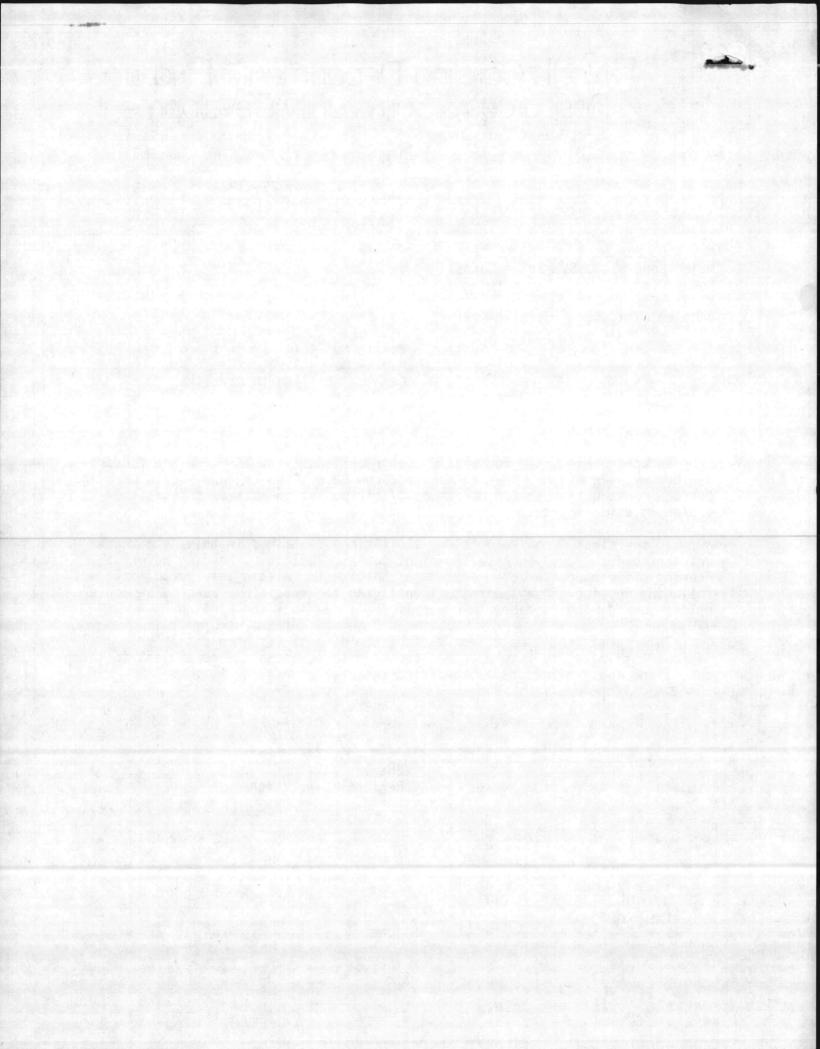
Enclosure

cc: Stan Taylor

Robert Jamieson

Wilmington Regional Office

Central Files



#### NORTH CAROLINA

#### ENVIRONMENTAL MANAGEMENT COMMISSION

#### DEPARTMENT OF NATURAL RESOURCES & COMMUNITY DEVELOPMENT

Raleigh

#### PERMIT

For the Discharge of Air Contaminants Into the Atmosphere

In accordance with the provisions of Article 21B of Chapter 143, General Statutes of North Carolina as amended, and other applicable Laws, Rules and Regulations,

#### PERMISSION IS HEREBY GRANTED TO

Marine Corps Base Camp Lejeune, North Carolina

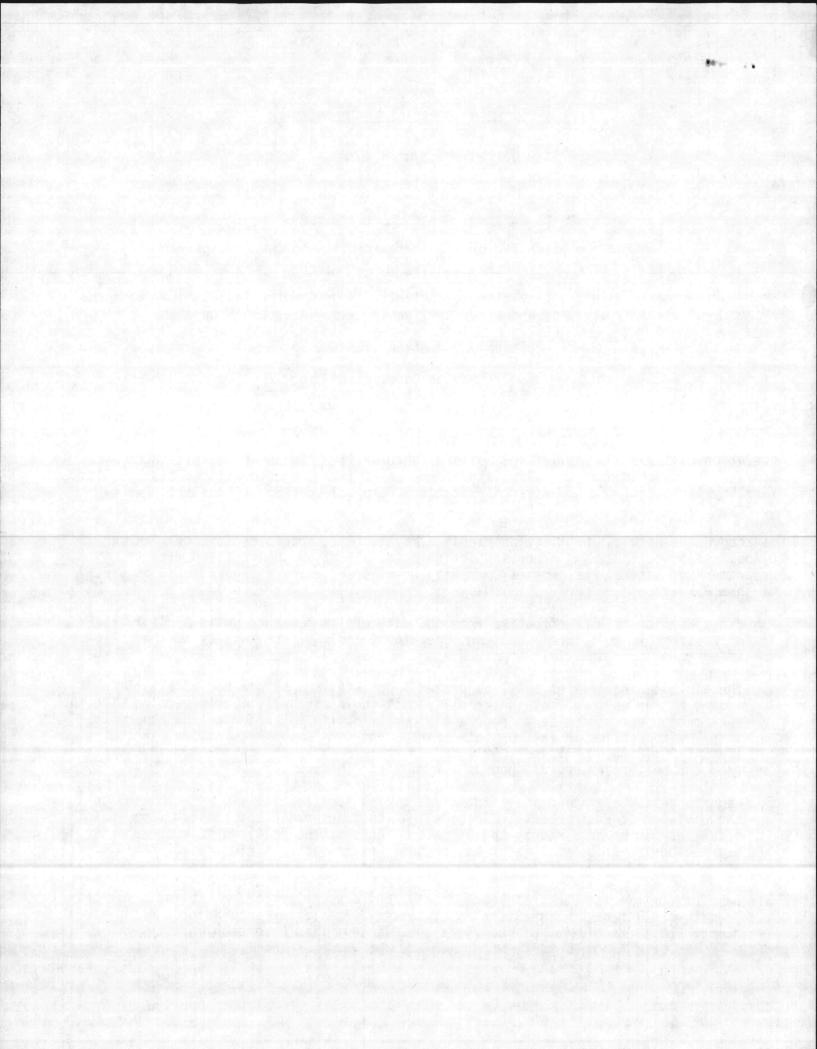
#### FOR THE

operation of three No. 6 oil-fired boilers (48.0 million BTU per hour heat input each) and for the discharge of the associated stack gases into the outdoor atmosphere at its facility located at the New River Air Station, Camp Lejeune, North Carolina, Onslow County,

in accordance with the application received May 1, 1981, and in conformity with the plans, specifications, and other supporting data, all of which are filed with the Department of Natural Resources & Community Development and are incorporated as part of this Permit.

This Permit shall be effective from the date of its issuance until April 1, 1986, is nontransferable to future owners and operators, and shall be subject to the following specified conditions and limitations:

- 1. The air cleaning devices shall be properly operated and maintained at all times in such a manner as to effect an overall reduction in air pollution in keeping with the application and otherwise to reduce air contamination to the extent necessary to comply with applicable Environmental Management Commission Regulations, including 15 NCAC 2D .0503, .0516, and .0521, and in no case shall the sulfur dioxide emissions from the boilers exceed 2.3 pounds per million BTU input.
- 2. Reports on the operation and maintenance of the facilities shall be submitted to the Division of Environmental Management at such intervals and in such form and detail as may be required by the Division. Information required in such reports may include, but is not limited to, process weight rates, firing rates, hours of operation, and preventive maintenance schedules.
- 3. Camp Lejeune Marine Base, at least ninety (90) days prior to the expiration of this Permit, shall request its extension by letter. The letter should include the permit number and a description of modifications, if any, that have been made.



- 4. This permit is subject to revocation or modification upon a determination that information contained in the application or presented in support thereof is uncorrect, conditions under which the permit renewal was granted have changed, or violations of conditions contained in the permit have occurred.
- 5. A violation of any term or condition of this Permit shall subject the Permittee to enforcement procedures contained in North Carolina General Statutes 143-215.114, including assessment of civil penalties.

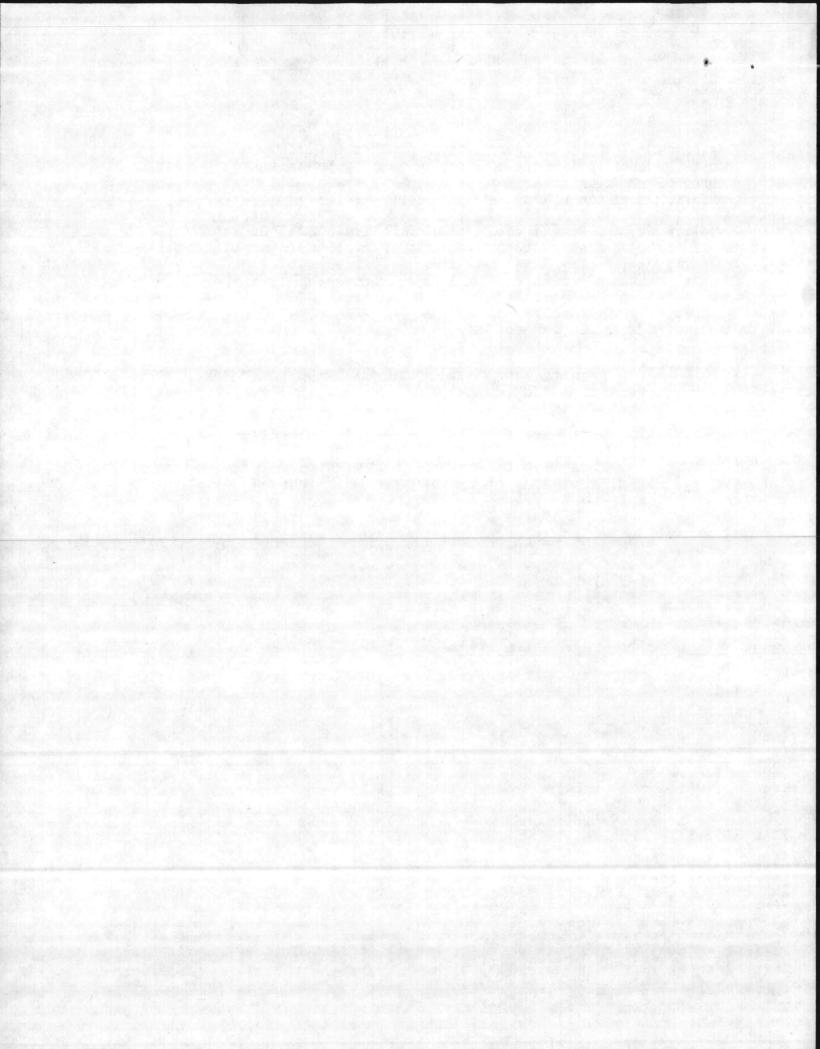
Permit issued this the 22nd day of May

NORTH CAROLINA ENVIRONMENTAL MANAGEMENT COMMISSION

Charles Wakild, Regional Supervisor Division of Environmental Management

By Authority of the Environmental Management Commission

Permit No. 4644



#### NORTH CAROLINA

#### ENVIRONMENTAL MANAGEMENT COMMISSION

RALEIGH

WILMINGTON REGIONAL OFFICE DEM.

APPLICATION FOR -

A "PERMIT"

TO CONSTRUCT AND OPERATE AIR

POLLUTION ABATEMENT FACILITIES AND/OR EMISSION SOURCES

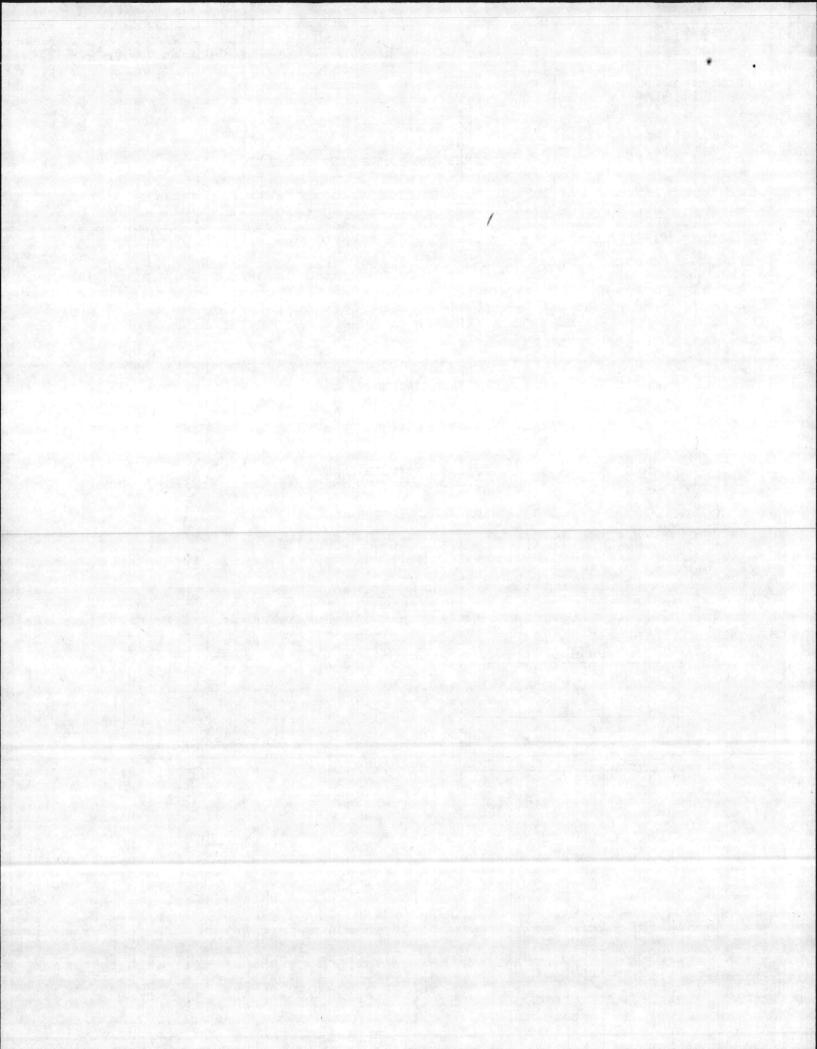
Filed By: Major General D. B. Barker (Name)

Marine Coros Base

(Address)

Camp Lejeune, North Carolina

AQ-22

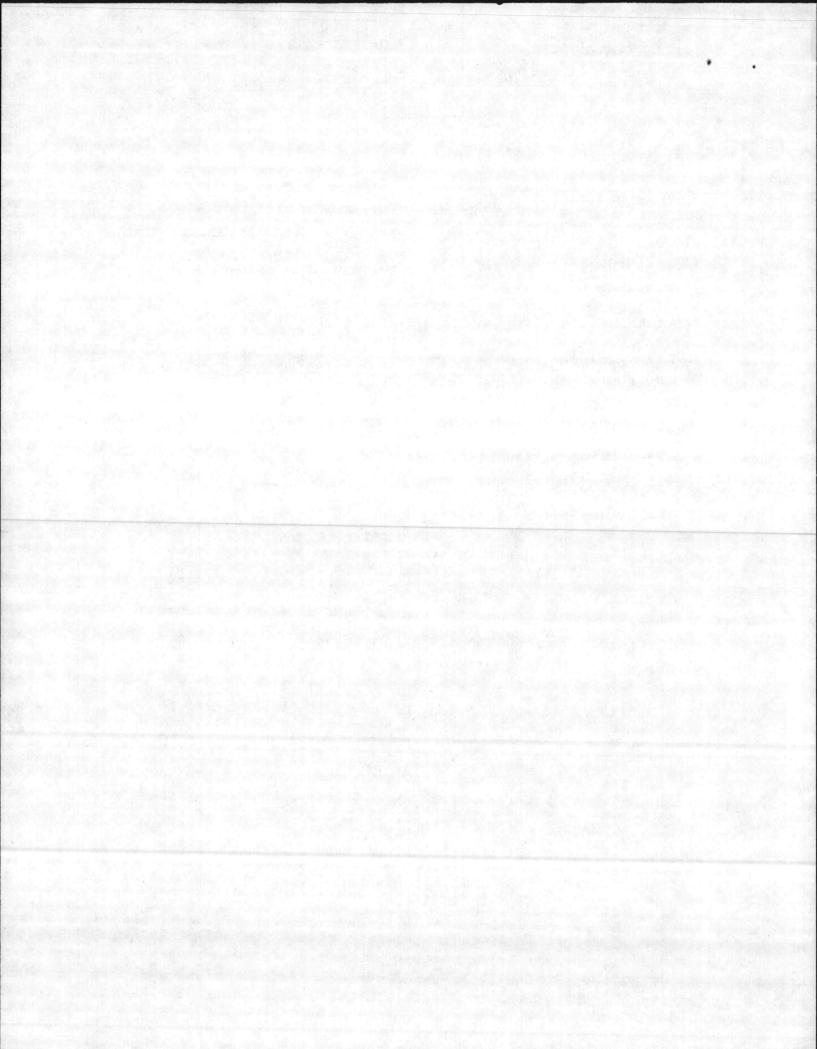


#### APPLICATION INSTRUCTIONS

### THIS APPLICATION IS SUBJECT TO REJECTION UNLESS ALL REQUIRED

#### INFORMATION IS SUBMITTED

- 1. ATTACH DETAILED ENGINEERING DRAWINGS OF SOURCE(S), PROCESS(ES) AND COLLECTION DEVICE(S) AS
  REQUESTED IN EACH SECTION. IF MULTIPLE SOURCES OR DEVICES, USE ADDENDUM SHEETS AS NECESSARY.
- Submit application, detailed engineering drawings, specifications and other supporting data and documents in TRIPLICATE.
- 3. Attach additional sheets as necessary to complete any portion of the application.
- 4. The application MUST BE SIGNED by the RESPONSIBLE INDIVIDUAL of the company that is to PURCHASE AND OPERATE the facilities for which a Permit is applied.
- 5. ALL APPLICANTS MUST COMPLETE THE FIRST PAGE AND SECTIONS I AND VI.
- If an Incinerator, Fuel Burning Source, Wet Collection Device or Dry Collection Device is to be "installed and operated, CGMPLETE SECTIONS II, III, IV or V respectively.
- 7. All applications should be mailed to: ENVIRONMENTAL MANAGEMENT COMMISSION
  AIR QUALITY SECTION
  P. O. Box 27687
  Raleigh, North Carolina 27611



## APPLICATION FOR A "PERMIT" To Construct and Operate Air Pollution Abatement Facilities and/or Emission Sources Three Copies to be Submitted Fourth Copy Should be Retained by Applicant

24 September 1980 In accordance with the provisions of Article 21 of Chapter 143, General Statutes of North Carolina as amended, application Marine Corps Base, Camp Lejeune, North Carolina (Name of Company, Establishment, Town, Etc.) (Include Division or Plant Name in Addition to Parent at Jacksonville, North Carolina
(Street and City or Town Address of Plant or Facility) in the County of Onslow Company if Applicable) for issuance of a "Permit" to construct and operate air pollution abatement facilities and/or emissions sources at above location as specified in the accompanying drawings, specifications, and other pertinent data: Nature of Operation Conducted at the Above Facility: Military Operation 2. Description of Process(es) Whose Emission(s) is/are to be Controlled by the Facility or Source(s) Which is/are to be Constructed or Altered. (Complete Section I) Boiler, No. 6 fuel oil Boiler No. 16 Bldg No. AS-4151 3. Furnish Type and Narrative Description of Proposed Control Device(s). (Complete Appropriate Supplemental Data Sheets for Control Device to be Installed and/or Operated. Include Make and Model Number of Control Device(s) and Number of Identical Units). No. 6 oil fired, no control device. 4. Contaminant Weight Rate of Emissions (1b/hr): Control Efficiency (%): Emitted: Without Control Device With Control Device Without Control Device With Control Device SO<sub>x</sub> and Particulate 114.63 1b/hr N/A N/A N/A 5. Name and Address of Engineering Firm that Prepared Plans: 6. Ultimate Disposition of Collected Pollutants: 7. Date on Which Facilities are to be Completed and in Operation: None October \_\_\_\_, 19<u>80</u> Indicate Period of Time for Which Facilities are Estimated to be Adequate: 20 Years 9. Estimate Cost of Air Pollution Control Device \$ 0 10. Hours Facility is Operated Per Year: 8,760 Name: Major General D. B. Barker, USMC Mailing Address: Marine Corps Base (Responsible Individual of Company Purchasing/
Operating Facility...PLEASE PRINT)

Camp Lejeune Camp Lejeune North Carolina 28542

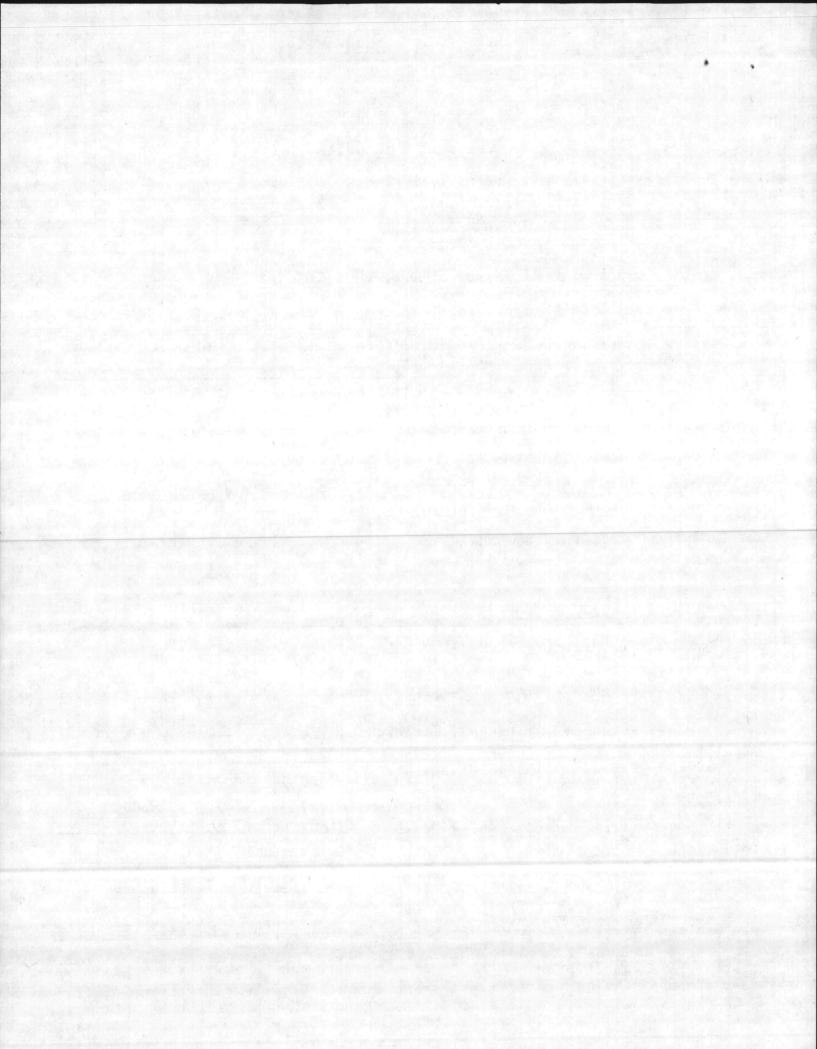
D. B. BARKER, MAJOR GENERAL, USMC

Commanding General

451-5024

Telephone Number:

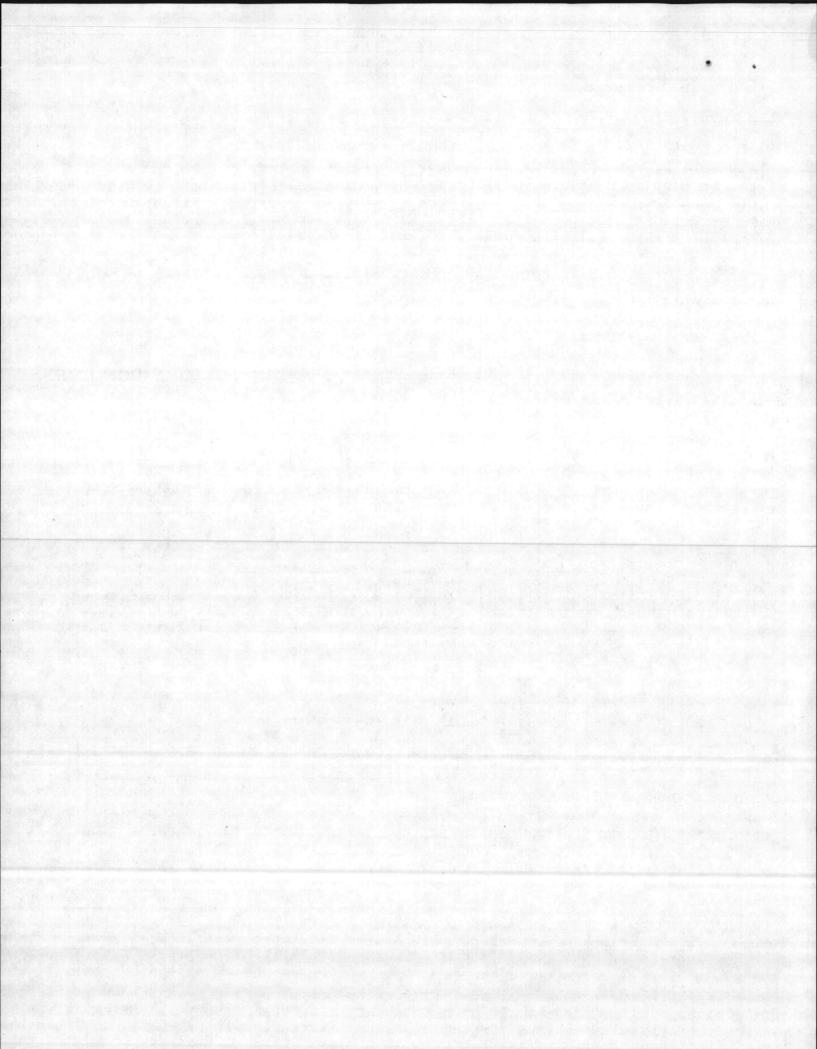
Signature and Title:



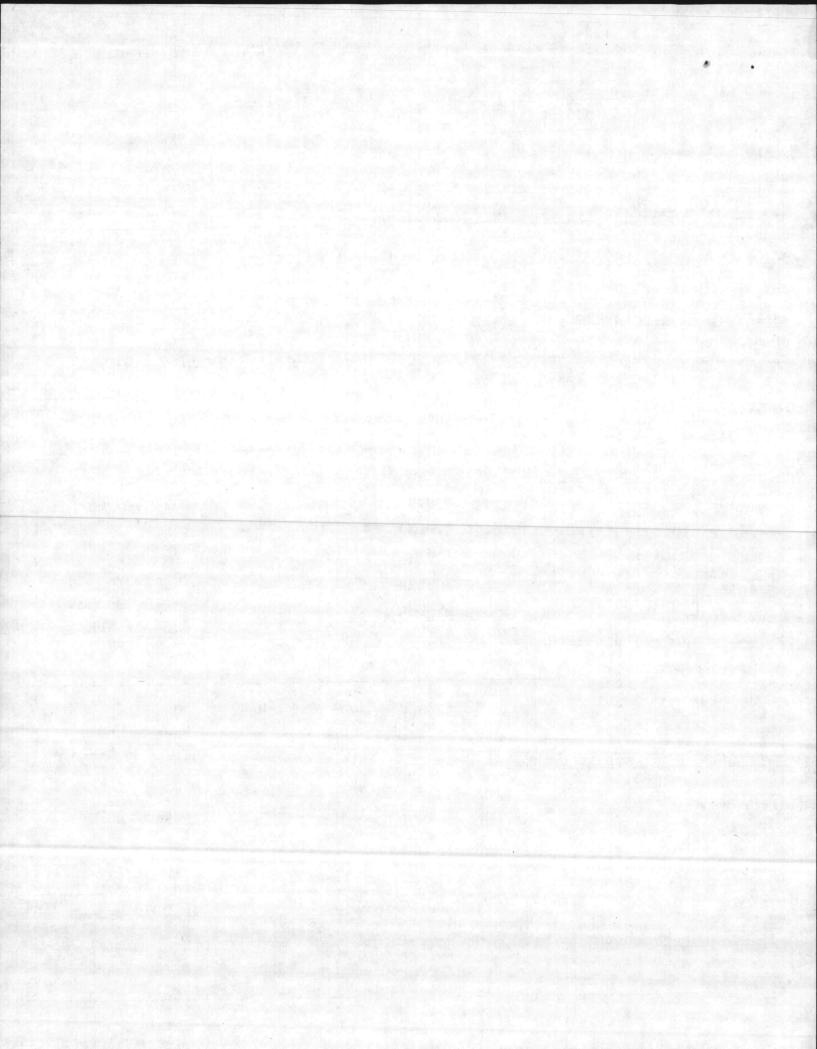
#### I. GENERAL DATA FOR PROCESSES

\*Attach detailed process engineering drawings, equipment drawings and flow diagrams for the process(es) or source(s) being constructed or altered.

Name of Process: Heating and Steam Plant
Total Weight of Materials Entering this Process: 327 gals XX/hrxxxxxxxxx
Volume and Temperature of Air Flow Entering Control Device:CFM @°F  Volume and Temperature of Effluent at Discharge Point to Atmosphere:CFM @°F  Pollutant(s) to be Controlled:
Height of Process Stack or Vent Above Ground Level 43 ft. Inside area of Stack 2.9 ft <sup>2</sup> .
Particulate Emission Rate (Before Control) 8.044   1b/hr
Particle Size Distribution: 0-5µ ½, 5-10µ ½, 10-20µ ½, 20-30µ ½, 30-40µ ½, 40-50µ ½,>50µ ½
Gaseous Emission(s): Name (Chemical Formula) µg/m³, PPM or 1b/hr
106.59
II. SUPPLEMENTARY DATA FOR INCINERATORS (Including Conical Incinerators)
Circle Type of Waste or Indicate Composition: Type 0 Type I Type II Type III Type IV
Combustible: Mon-Combustible: Moisture: Heat Value:BTU/1b
Total Waste Generated Per Day: 1b. Hours Incinerator will be Operated: hrs/day
Design Capacity for Above Waste:lbs/hr Manufacturer and Model Number; Approximate Cost:
Primary Chamber Volume: ft.3 Secondary Chamber Volume: ft.3
Air Requirements: Total Excess Air.
Conical Incinerator for: Overfire Air Supply, Underfire Air Supply, DomeTemperature Set Point Flame Port Temperature: °F Secondary Chamber Temperature: °F
Is there a Continuous Exhaust Gas Temperature Recorder? YesNo Stack:
Inside Areaft. <sup>2</sup> Heightft. Gas Velocityft/sec Temperature°F Fan Capacitycfm Stack Lined?
Is there a Wet Scrubber?
Yes No Flow Rate of H <sub>2</sub> O into Scrubbergal/min Temperature Before Scrubber°F
Aux. Fuel: 0il Gas Other Burner Rating: Primary Chamber Secondary Chamber Stack
BTU/hrBTU/hrBTU/hr
Primary Burner: Is there a Preheat Timer? Yes No Preheating Time:min.
Secondary Burner or Afterburner: Is there a Timer? Yes No Length of Time Burner is Operatedmin.
Is the Timer Reset by Charging Door? Yes No Other Mode of Burner Control
Type of Feed: Manual Automatic If Automatic, Describe
Distance from Incinerator to Nearest Structure(s) in which People Live and/or Workft.
Signature:



	MAKE DATA FOR FUEL BURNING SCURCES
*Attach detailed dimensioned a wing or sketch sho	wing internal features of dryers, wood or coal fired boilers, and
Type of Fuel Burning Source Boiler	Stack Height Above Ground Level 43 ft. Inside Area of Stack 8.9 ft2
Make and Model Number Ser. 10735	Volume of Furnaceft3
Specify Actual Amount of Each Fuel Used in Above Source	(s):
Coal 1b/hr; Oil Grade _ 6 Amount 327 gal/hr	146,900 , at BTU/gal and lb/gal or lb/hr
Wood lb/hr; Natural Gas SCF/hr, at	BTU/SCF; Other
	(Specify type, amount and heating value)
Specify Maximum Rating for Each Fuel Burning Source:	
Coal Oil 327 Wood Natural Gas	
Maximum Sulfur Content of Fuel 2.05 % Specify St.	andby Fuel None Maximum % Sulfur
Type of Solid Fuel Burning Equipment Used: Hand Fired _	Spreader Stoker Underfeed Stoker Chain Grate
할머니 아이들이 그리는 그는 그는 대회에서 나는 아이들에 되었다. 그리고 있는데 그리고 있는데 없는데 없는데 이번에 가장 하게 되었다.	Pulverizer Cyclone Furnace Other (Specify)
Ash Content of Fuel: Specify Me	thod and Schedule of Tube Cleaning, if Applicable.
Coal % Wood % Other % Lancing	Tube Blowing Schedule
Emission Control Equipment (Describe in Detail in Section	ns IV and V)
Collection Device: Wet $\_$ Dry $\_$ Steam Injurant on Boiler (Natural $\_$ Induced $X$ ) Total Number of Fuel Burning Sources Within Property Bound	ection Air Injection Is Collected Flyash Rainjected? cfm atof ndaries: 3
	Units Excluding that Itemized Above: (Total Like Units) 2
Coal 1b/hr Wood 1b/hr 011 654 gal/hr Natura	11 Gas SCF/hr
IV. SUPPLEMENTA	RY DATA FOR WET COLLECTION DEVICES
*Attach detailed engineering drawings of the control	device and particle size versus removal efficiency curves.
Liquid Scrubbing Medium and Additives:	
Total Liquid Injection Rate (Include Recirculated and Mak	e-up Rates) gal/min or gal/1000 ft <sup>3</sup>
Operating Pressure Drop Across Device in H2O	
ANSWER FOLLOWING QUESTIONS FOR SPECIFIC DEVICE:	
VENTURI SCURBBER: Inlet Areain2 Throat Area	_ in <sup>2</sup> Throat Velocity ft/sec
GRAVITY SPRAY CHAMBER: Number of Nozzles Liquid	
WET CYCLONE:	PACKED TOWER OR PLATE TOWER:
	Cross-Sectional Areaft <sup>2</sup> Type of Plate
Inlet Area in Number of Nozzles	Lengthft Depth of Packingft
Cutlet Areain <sup>2</sup>	Number of Plates Type of Packing
OTHER WET COLLECTION DEVICES: GIVE COMPLETE DESCRIPTION I	NCLUDING DESIGN PARAMETERS AND DETAILED ENGINEERING DRAWINGS.
Signature:	Title:

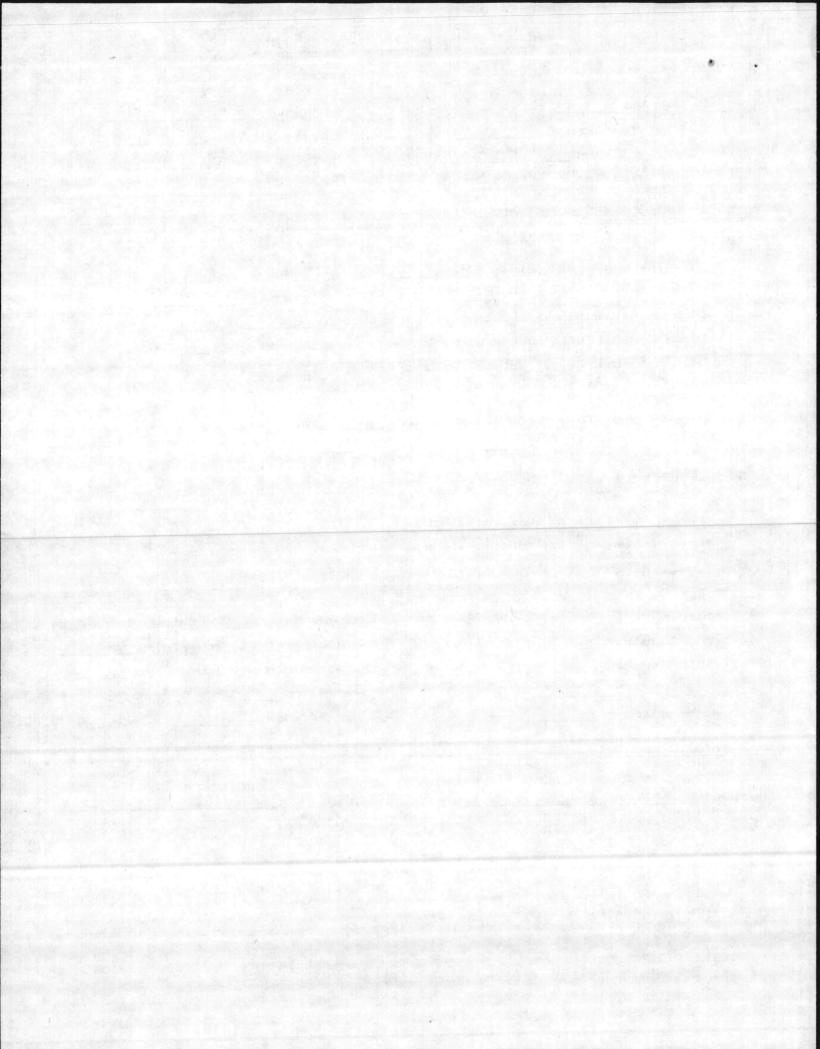


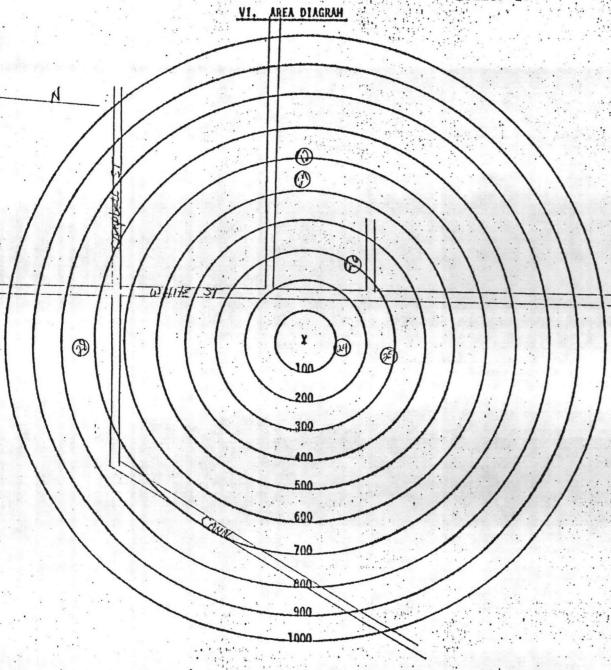
### V. SUPPLEMENTARY DATA FOR DRY COLLECTIC. DEVICES

BAGHOUSES: Cloth Areaft <sup>2</sup>	Bag Material	
Number of Compartments	Pressure - Drop Total	in H
Method of Cleaning	Air-to-Cloth Ratio	
Time Between Cleaning mins, hrs		
ELECTROSTATIC PRECIPITATORS:		
GENERAL:		
Effective Area of Grounded Collector Plates _	ft <sup>2</sup>	
Number of Compartments or Chambers		
Electrical Field Gradient at the Discharge or		
	Grounded Collecting Electrodes KV/in	
Fields of Treatment Potential Appli	ed to Emitting Wires ky	
Distance Between Emitting Wires and Collecting Number of Isolatable Bus Sections  TWO STAGE TYPE:  Distance Between First Stage Emitting Electrod Potential Applied to Second Stage Emitting Plates  Distance Between Second Stage Emitting Plates	Corona Power Watts/1000 cfm  as and Field Receiver Electrodes (Ground)  tes KV	<b>i</b> n
CYCLONES/MULTICYCLONES:		
Simple Cyclone	Multicyclone	
Diameterin	Diameterin	
Inlet Dimensions	Inlet Dimensions of Individual Cycl	one
Outlet Dimensions	Outlet Dimensions of Individual Cyc	lone
Pressure Drop in H <sub>2</sub> O	Pressure Drop in	H <sub>2</sub> 0
Number of Cyclones	Number of Cyclones	
THER DRY COLLECTION DEVICES: GIVE COMPLETE DETAILED EN	GINEERING DESCRIPTION AND DRAWINGS.	
and the second of the second o		

- 4 -

1





Owner Marine Corps Base, Camp Lejeune, N.C.

Location White St., New River Air Station
(Give Street Address)

#### INSTRUCTIONS:

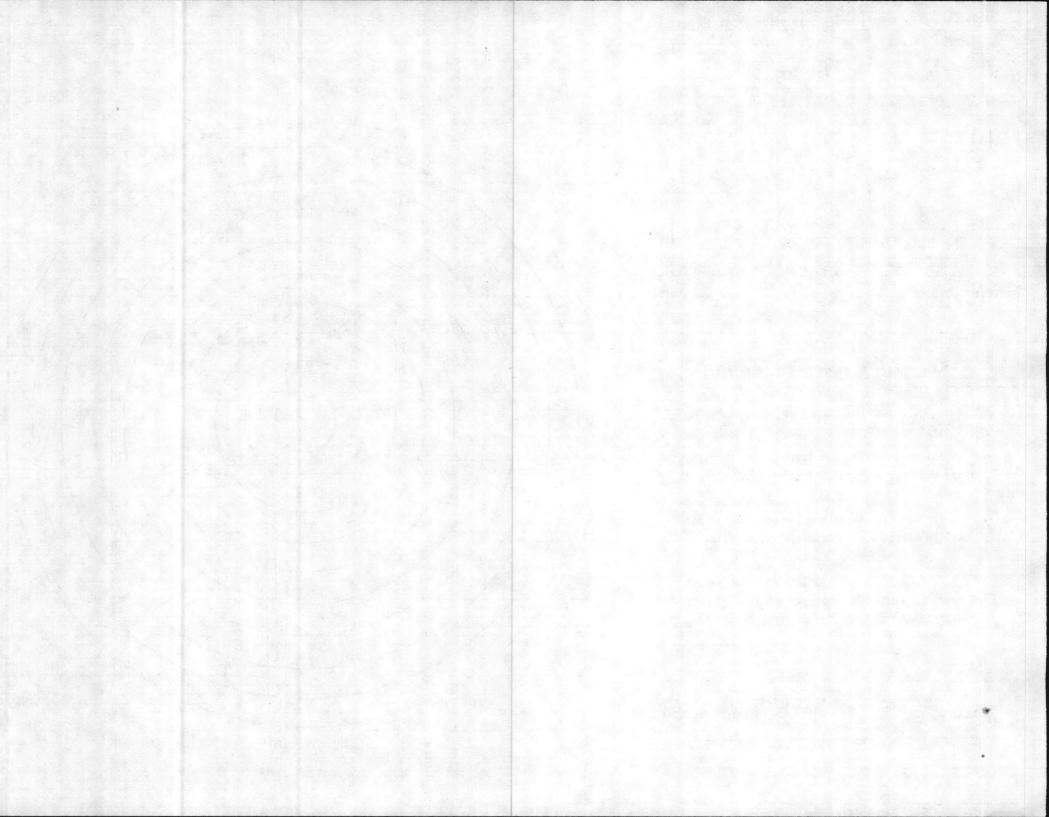
- Show all surrounding buildings and roads within 1000 feet of subject equipment which is located at center of circles.
- Indicate location and type of building by the use of small numbered circles with the description below.
- Show roads as lines representing the road edges.Indicate street names and highway numbers.
- Show wooded or cleared areas by approximate boundary lines and the words "woods", "cleared", "cornfield", etc.
- 5. Indicate direction of north by arrow.

CODE	DESCRIPTION
000000	12 Sewage Lift Statio. 21 Shed 25 Avionics Shop 26 Engine Test Shop 27 Maintenance Hanger 28 Fuel Tanks
(a) (b) (c) (d)	

EXAMPLE

- D Church
- ( Residence ..

X Indicates location of equipment.



#### NORTH CAROLINA

#### ENVIRONMENTAL MANAGEMENT COMMISSION

RALEIGH

APPLICATION FOR

A "PERMIT"

WILMINGTON REGIGNAL GEFICE

DEW

TO CONSTRUCT AND OPERATE AIR

POLLUTION ABATEMENT FACILITIES AND/OR EMISSION SOURCES

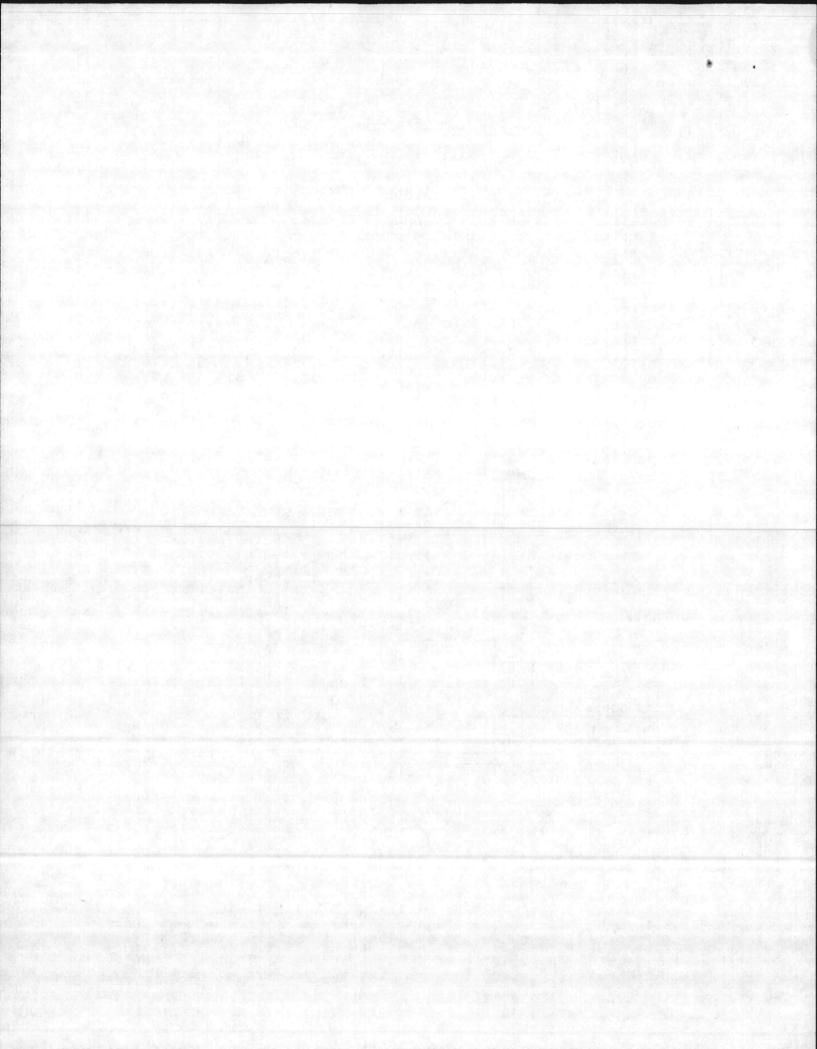
Filed Sy: Major General D. B. Barker (Name)

Marine Corps Base

(Address)

Camp Lejeune. North Carolina

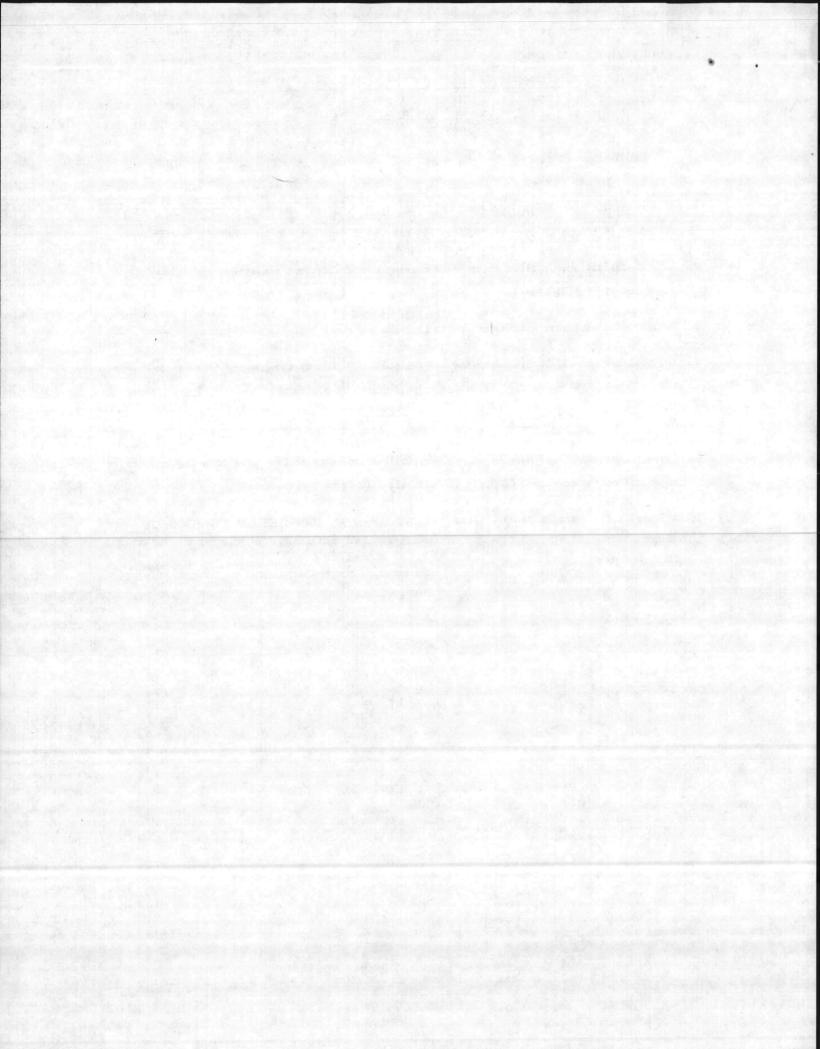
AQ-22



#### APPLICATION INSTRUCTIONS

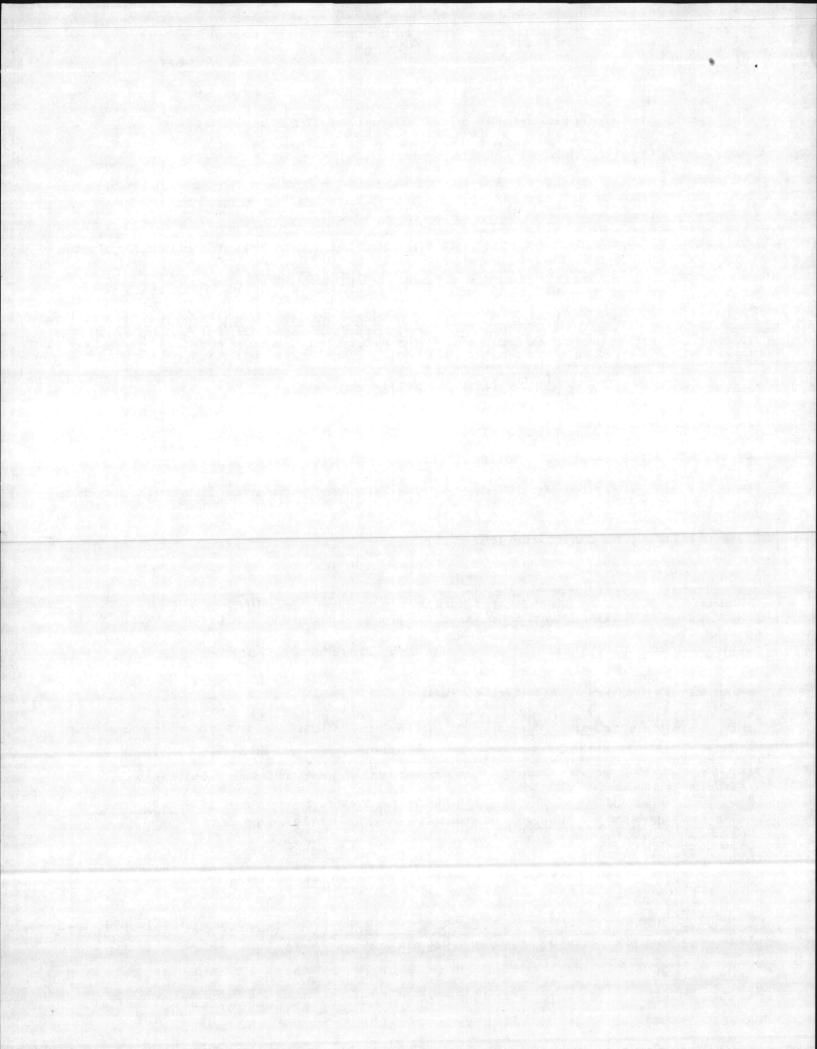
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# APPLICATION FOR A "PERMIT" To Construct and Operate Air Pollution Abatement Facilities and/or Emission Sources Three Copies to be Submitted Fourth Copy Should be Retained by Applicant

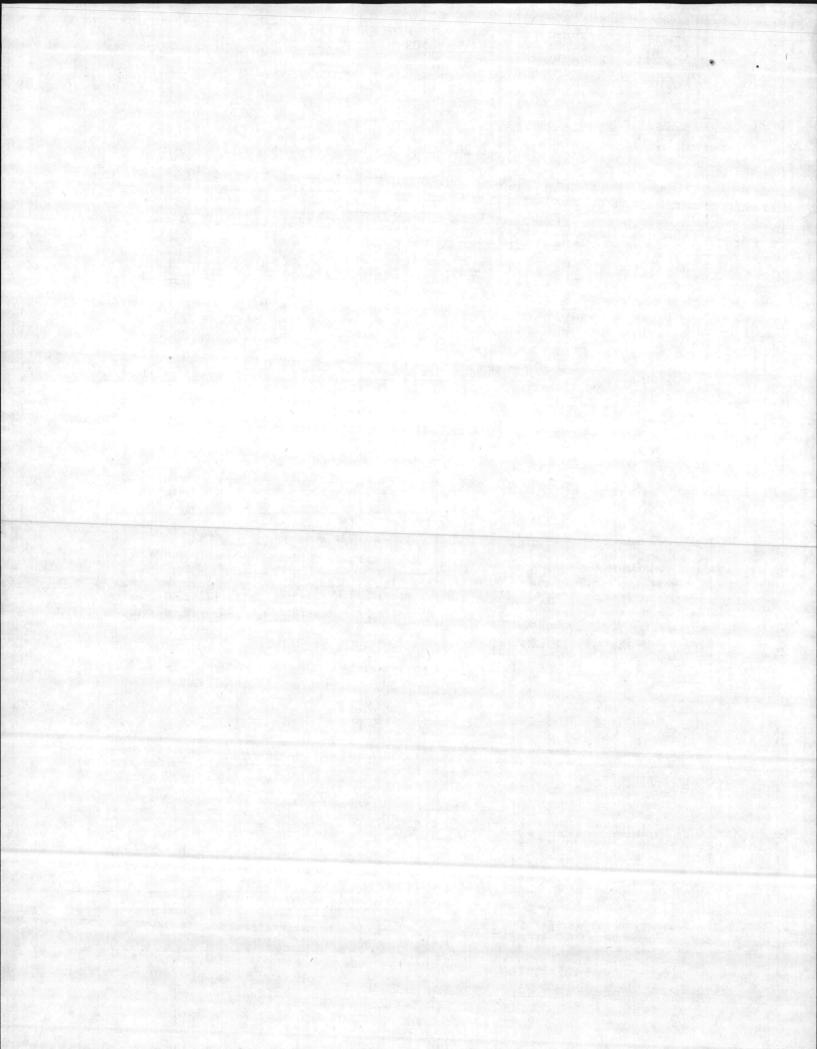
		Oa	te: 24 September 1	1980
is hereby made by	Marine Corps Base	e 21 of Chapter 143, General  2, Camp Lejeune, Nor  shment, Town, Etc.) (Include	th Carolina	
Company if Applicab for issuance of a "I location as specific	ermit" to construct and	Onslow at Jam (Street operate air pollution abate rawings, specifications, and	ment facilities and/or emis	Plant or Facility) sions sources at above
. Nature of Operat	tion Conducted at the Abo	ove Facility: Military	y Operation	
2. Description of I Constructed or I	Process(es) Whose Emission Altered. (Complete Section	on(s) is/are to be Controlle	d by the Facility or Source	(s) Which is/are to be
Boiler, No.		Boiler No. 17 Bldg No. AS-4151		
<ol> <li>Furnish Type and Control Device ( Identical Units)</li> </ol>	Narrative Description of the Des	of Proposed Control Device(sperated. Include Make and M	).(Complete Appropriate Sup odel Number of Control Devi	plemental Data Sheets for ce(s) and Number of
No. 6 oil f	ired; no control d	evice.		
Contaminant .		Emissions (lb/hr): te With Control Device	Gontrol Efficient	
SO <sub>x</sub> and Particulate	114.63	N/A	N/A	N/A
. Name and Address	of Engineering Firm tha	t Prepared Plans:		
5. Ultimate Disposi	tion of Collected Pollut	ants: 7. Date on Which October	Facilities are to be Comple	eted and in Operation:
3. Indicate Period are Estimated to	of Time for Which Facili be Adequate: 20 Year	ties 9. Estimate Cost	of Air Pollution Control D	evice \$ 0
<sub>lame:</sub> Major Ge	eneral D. B. Barke	10. Hours Facil r. USMC Mailing Address:	ity is Operated Per Yea Marine Corps Base	
(Responsible )	Individual of Company Pur illity <u>PLEASE PRINT</u> )	chasing/	Camp Lejeune	
			Morth Carolina 2	8542
Signature and Title:		Barker	Telephone Number	er: 451-5024
	Commanding Gene	AJOR GENERAL, USMC		



#### I. GENERAL DATA FOR PROCESSES

\*Attach detailed process engineering drawings, equipment drawings and flow diagrams for the process(es) or source(s) being constructed or altered.

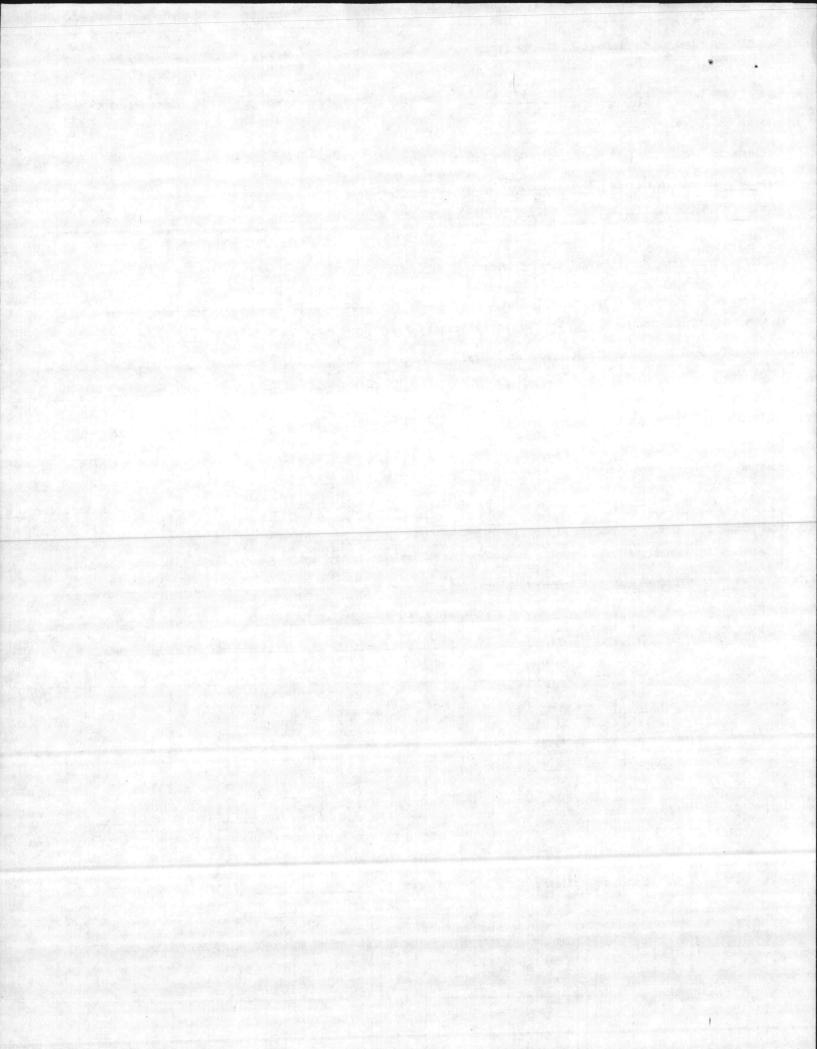
Maine of Process: Heating and Steam Plant	
Total Weight of Materials Entering this Process: 327 gals #4/hr or ton/hr	
Volume and Temperature of Air Flow Entering Control Device: CFM @ °F  Volume and Temperature of Effluent at Discharge Point to Atmosphere: CFM @ °F  Pollutant(s) to be Controlled:	
Height of Process Stack or Vent Above Ground Level $43$ ft. Inside area of Stack $8.9$ ft <sup>2</sup> .	
Particulate Emission Rate (Before Control) 8.044 lb/hr	
Particle Size Distribution: 0-5µ %, 5-10µ %, 10-20µ %, 20-30µ %, 30-40µ %, 40-50µ	,>50µ <u> </u>
Gaseous Emission(s): Name (Chemical Formula) µg/m³, PPM or 1b/hr	All and the second
SO <sub>x</sub> 106.59	
II SUDDI EMENTADY DATA SOD INCLUSTRATORS (Including Conicel I	
II. SUPPLEMENTARY DATA FOR INCINERATORS (Including Conical 1	ncinerators)
Circle Type of Waste or Indicate Composition: Type 0 Type I Type II Type III Type IV	
Combustible:% Non-Combustible:% Moisture:% Heat Value:BTU/lb	
Total Waste Generated Per Day: lb. Hours Incinerator will be Operated: h	rs/day
Design Capacity for Above Waste: lbs/hr Manufacturer and Model Number; Approximate Cos	t:
	•
Primary Chamber Volume:ft.3 Secondary Chamber Volume:ft.3	
Air Requirements: Total Excess Air.	on the
Conical Incinerator for: Overfire Air Supply, Underfire Air Supply, DomeTempera Flame Port Temperature: °F Secondary Chamber Temperature: °F	
Is there a Continuous Exhaust Gas Temperature Recorder? Yes No	
Stack: Inside Areaft. <sup>2</sup> Heightft. Gas Velocityft/sec Temperature°F Fan Capacitycfm St	ack Lined?
Is there a Wet Scrubber?	
Yes No Flow Rate of H <sub>2</sub> O into Scrubbergal/min Temperature Before Scrubber°F	
Aux. Fuel: 0il Gas Other Burner Rating: Primary Chamber Secondary Chamber	Stack
BTU/hrBTU/hr	BTU/hr
Primary Burner: Is there a Preheat Timer? YesNo Preheating Time:min.	
Secondary Burner or Afterburner: Is there a Timer? Yes No Length of Time Burner is Operate	dmin.
Is the Timer Reset by Charging Door? Yes No Other Mode of Burner Control	
Type of Feed: Manual Automatic If Automatic, Describe	
Distance from Incinerator to Nearest Structure(s) in which People Live and/or Workft.	
Signature:	



#### TITE SUPPLEMENTARY DATA FOR FUEL BURNING SCURCES

Attich detailed dimensioned drawing or sketch showing internal features of dryers, wood or coal fired boilers, and recovery boilers. Type of Fuel Burning Source Boiler Stack Height Above Ground Level 43 ft. Inside Area of Stack 8.9 ft2 Trane Murray Co. Make and Model Number Ser. 10735 Volume of Furnace ft3 Specify Actual Amount of Each Fuel Used in Above Source (s): Coal \_\_\_\_ 1b/hr; Oil Grade 6 Amount 327 gal/hr, at \_\_\_\_ BTU/gal and \_\_\_\_ 1b/gal or \_\_\_\_ 1b/hr Wood \_\_\_\_ lb/hr; Natural Gas \_\_\_\_ SCF/hr, at \_\_\_\_ 8TU/SCF; Other \_\_ (Specify type, amount and heating value) Specify Maximum Rating for Each Fuel Burning Source: Coal \_\_\_\_ Oil 327 Wood \_\_\_ Natural Gas \_\_\_\_ Other Maximum Sulfur Content of Fuel 2.05 % Specify Standby Fuel None Maximum % Sulfur Type of Solid Fuel Burning Equipment Used: Hand Fired \_\_\_ Spreader Stoker \_\_ Underfeed Stoker \_\_ Chain Grate \_\_ Traveling Grate \_\_\_ Pulverizer \_\_\_ Cyclone Furnace \_\_\_ Other (Specify) \_ Ash Content of Fuel: Specify Method and Schedule of Tube Cleaning, if Applicable: Emission Control Equipment (Describe in Detail in Sections IV and V) Collection Device: Wet \_\_\_ Dry \_\_ Steam Injection \_\_\_\_ Air Injection \_\_\_ Is Collected Flyash Reinjected? Induced X ) \_\_\_\_cfm at \_ Draft on Boiler (Natural Total Mumber of Fuel Burning Sources Within Property Boundaries: Maximum Capacity Rating, by Type, for All Fuel Burning Units Excluding that Itemized Above: (Total Like Units) 2 Coal \_\_\_\_ lb/hr Wood \_\_\_\_ lb/hr Oil 654 gal/hr Natural Gas \_\_\_ SCF/hr IV. SUPPLEMENTARY DATA FOR WET COLLECTION DEVICES \*Attach detailed engineering drawings of the control device and particle size versus removal efficiency curves. Liquid Scrubbing Medium and Additives: Total Liquid-Injection Rate (Include Recirculated and Make-up Rates) \_\_\_\_\_gal/min or gal/1000 ft3 Operating Pressure Drop Across Device \_\_\_\_ in H<sub>2</sub>O ANSWER FOLLCHING QUESTIONS FOR SPECIFIC DEVICE: VENTURI SCURBBER: Inlet Area \_\_\_ in2 Throat Area \_\_\_ in2 Throat Velocity \_\_\_ ft/sec GRAVITY SPRAY CHAMBER: Number of Nozzles \_\_\_\_ Liquid Droplet Size \_\_\_\_ u Co-Current \_\_\_\_ Countercurrent WET CYCLONE: PACKED TOWER OR PLATE TOWER: Body Diameter \_\_\_\_ in Length \_\_\_\_\_ in Cross-Sectional Area \_\_\_\_\_ft2 Type of Plate Inlet Area \_\_\_\_\_ in<sup>2</sup> Number of Nozzles \_\_\_\_ Length \_\_\_\_ ft Depth of Packing \_\_\_\_\_ft Outlet Area in<sup>2</sup> Number of Plates Type of Packing OTHER WET COLLECTION DEVICES: GIVE COMPLETE DESCRIPTION INCLUDING DESIGN PARAMETERS AND DETAILED ENGINEERING DRAWINGS. Signature: Title:

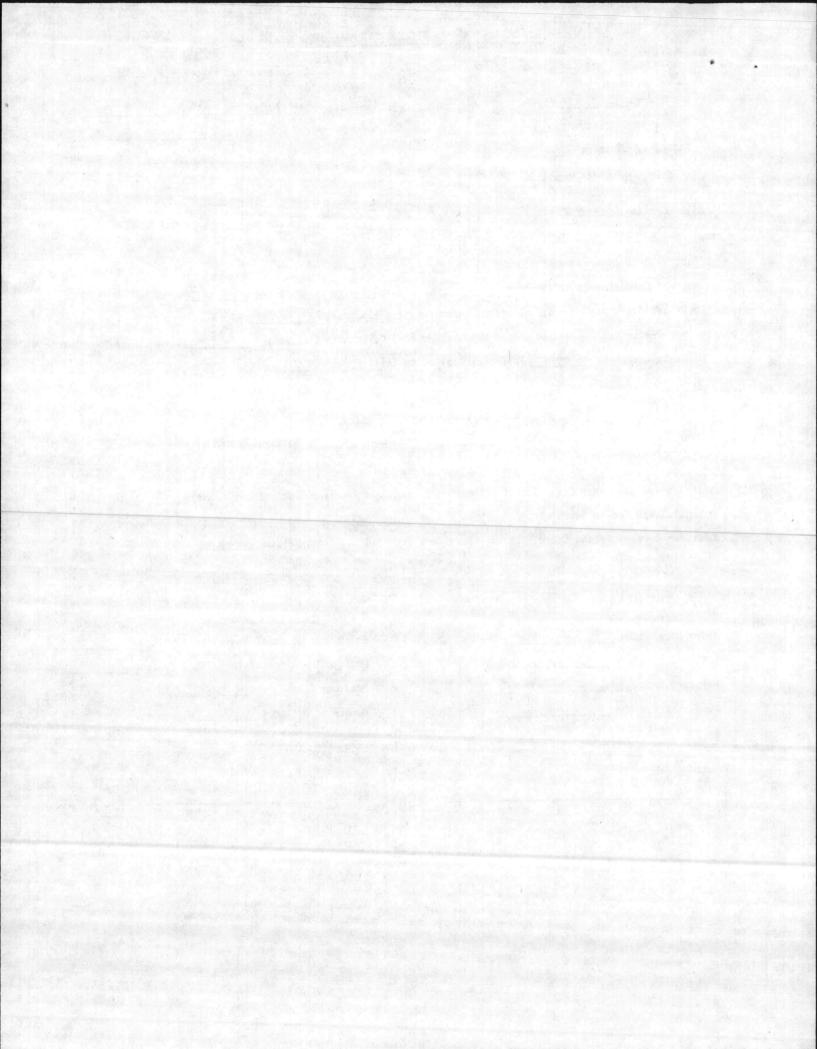
- 3 -

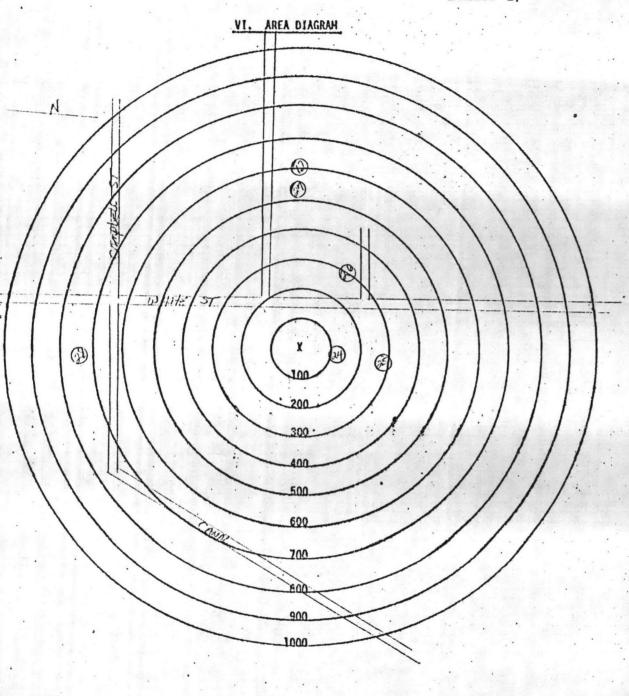


### V. SUPPLEMENTARY DATA FOR DRY COLLECTIC. LEVICES

AGHOUSES:	Cloth Areaft <sup>2</sup>	Bag Material
	Number of Compartments	Pressure - Drop Totalfi
	Method of Cleaning	Air-to-Cloth Ratiof
	Time Between Cleaning mins, hrs	
ECTROSTAT	TIC PRECIPITATORS:	
GENERAL:		
Ef	ffective Area of Grounded Collector Plates	ft <sup>2</sup>
		Number of Cells per Compartment
	actrical Field Gradient at the Discharge o	
		Grounded Collecting Electrodes KV/in
Fi	elds of Treatment Potential App	lied to Emitting Wires KV
	TAGE TYPE: stance Between Emitting Wires and Collectin	on Plates
	mber of Isolatable Bus Sections	
		_ corona rowerwatts/1000 cfm
TWO STAGE	[18] [18] [18] [18] [18] [18] [18] [18]	
		odes and Field Receiver Electrodes (Ground)in
	tential Applied to Second Stage Emitting Pl	[2] 14 [2] 15 [2] 15 [2] 15 [2] 15 [2] 15 [2] 15 [2] 15 [2] 15 [2] 15 [2] 15 [2] 15 [2] 15 [2] 15 [2] 15 [2] 1
. Dis	stance Between Second Stage Emitting Plates	and Grounded Collection Platesin
LONES/MUL	TICYCLONES:	
ple Cyclo		Multicyclone
	meter in	Biameterin
	et Dimensions	Inlet Dimensions of Individual Cyclone
	let Dimensions	Outlet Dimensions of Individual Cyclone
	ssure Drop in H2O	Pressure Drop in H <sub>2</sub> O
Numi	ber of Cyclones	Number of Cyclones
	LLECTION DEVICES: GIVE COMPLETE DETAILED E	THE THE PARK OF TH
R DRI COL		THE LIBERT OF THE VIEW OF THE AND THE PROPERTY OF THE PROPERTY

- 4 -





Owner Marine Corps Base, Camp Lejeune, N.C.

Location White St., New River Air Station
(Give Street Address)

#### INSTRUCTIONS:

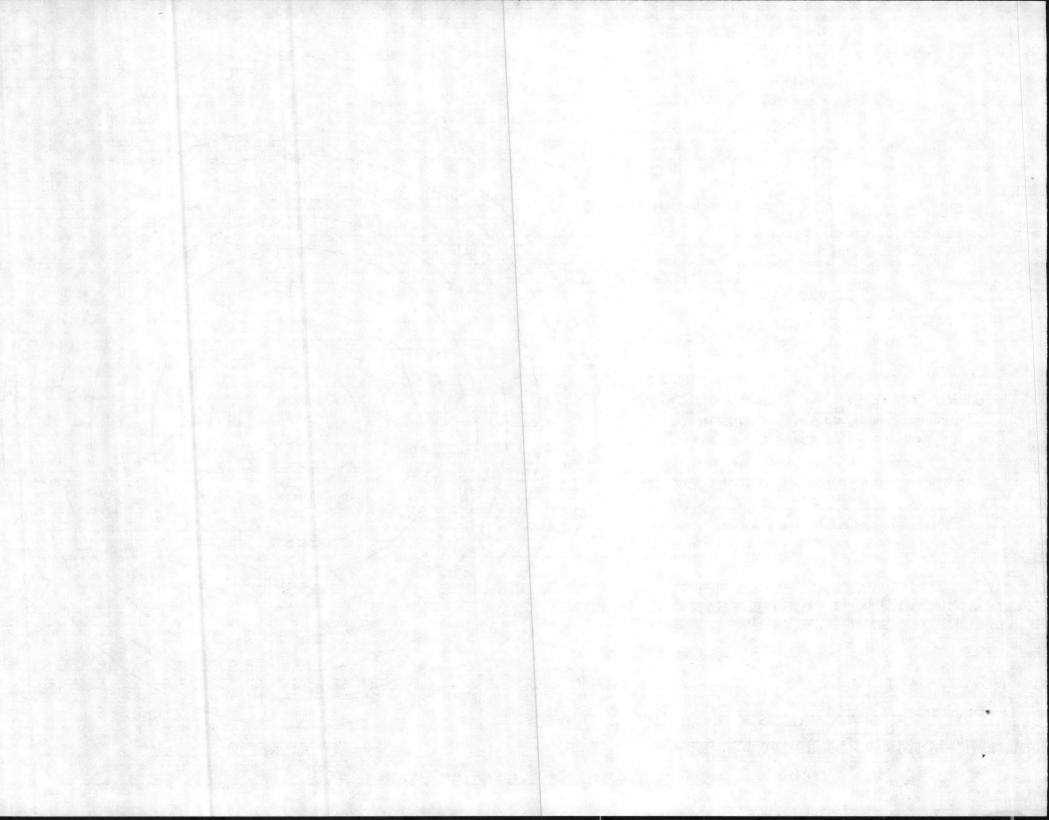
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   Indicate street names and highway numbers.
- Show wooded or cleared areas by approximate boundary lines and the words "woods", "cleared", "cornfield", etc.
- 5. Indicate direction of north by arrow.

CODE	DESCRIPTION	
000000	(1) (1) (2) (3) (3) (3) (3) (3) (3) (3) (3) (3) (3	Sewage Lift Station Shed Avionics Shop Engine Test Shop Maintenance Hanger Fuel Tanks
6 7 8 9		

X Indicates location of equipment.

Church Residence

EXAMPLE



#### NORTH CAROLINA

#### ENVIRONMENTAL MANAGEMENT COMMISSION

RALEIGH

APPLICATION FOR

A "PERMIT"

TO CONSTRUCT AND OPERATE AIR

POLLUTION ABATEMENT FACILITIES AND/OR EMISSION SOURCES

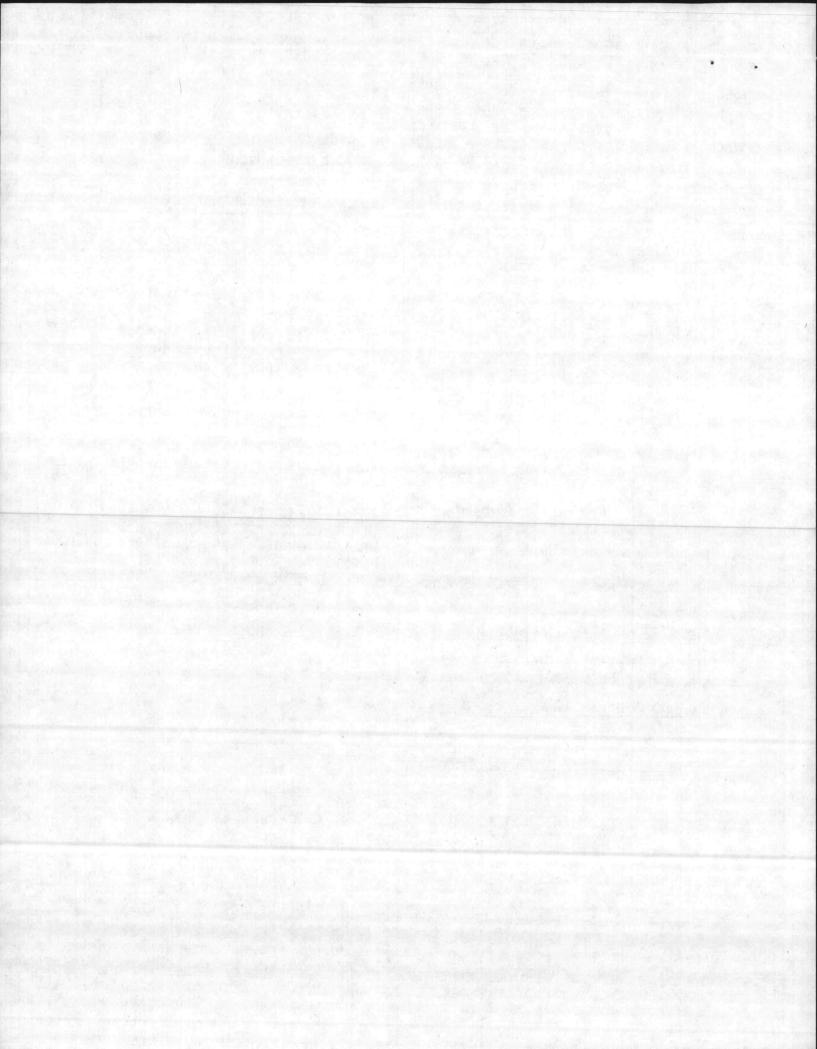
Filed By: Major General D. B. Barker (Name)

Marine Corps Base

(Address)

Camp Lejeune, North Carolina

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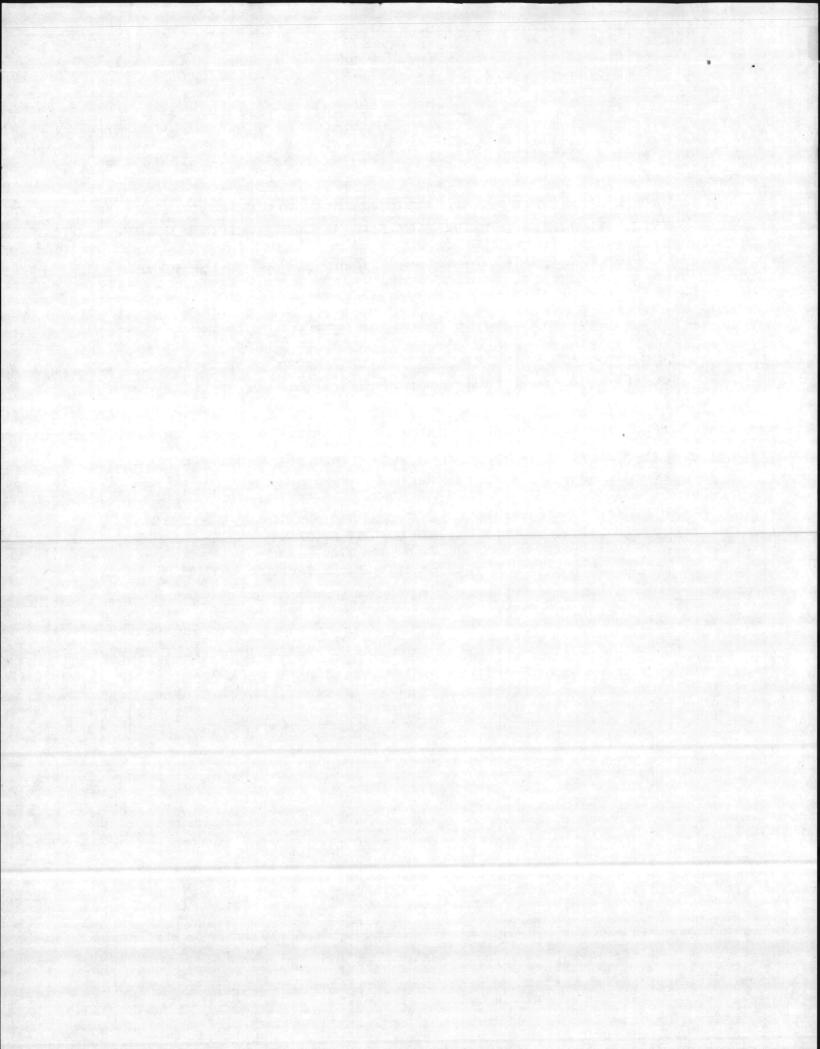


#### APPLICATION INSTRUCTIONS

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- 1. ATTACH DETAILED ENGINEERING DRAWINGS OF SOURCE(S), PROCESS(ES) AND COLLECTION DEVICE(S) AS REQUESTED IN EACH SECTION. IF MULTIPLE SOURCES OR DEVICES, USE ADDENDUM SHEETS AS NECESSARY.
- Submit application, detailed engineering drawings, specifications and other supporting data and documents in TRIPLICATE.
- 3. Attach additional sheets as necessary to complete any portion of the application.
- 4. The application MUST BE SIGNED by the RESPONSIBLE INDIVIDUAL of the company that is to PURCHASE AND OPERATE the facilities for which a Permit is applied.
- 5. ALL APPLICANTS MUST COMPLETE THE FIRST PAGE AND SECTIONS I AND VI.
- If an Incinerator, Fuel Burning Source, Wet Collection Device or Dry Collection Device is to be "installed and operated, COMPLETE SECTIONS II, III, IV or V respectively.
- 7. All applications should be mailed to: ENVIRONMENTAL MANAGEMENT COMMISSION
  AIR QUALITY SECTION
  P. O. Box 27687
  Raleigh, North Carolina 27611



# APPLICATION FOR A "PERMIT" To Construct and Operate Air Pollution Abatement Facilities and/or Emission Sources Three Copies to be Submitted Fourth Copy Should be Retained by Applicant

Date: 24 September 1980 In accordance with the provisions of Article 21 of Chapter 143, General Statutes of North Carolina as amended, application is hereby made by Marine Corps Base, Camp Lejeune, North Carolina (Name of Company, Establishment, Town, Etc.) (Include Division or Plant Name in Addition to Parent in the County of Onslow at Jacksonville, North Carolina

Company if Applicable)

for issuance of a "Permit" to construct and operate air pollution abatement facilities and/or emissions sources at above location as specified in the accompanying drawings, specifications, and other pertinent data: 1. Nature of Operation Conducted at the Above Facility: Military Operation Description of Process(es) Whose Emission(s) is/are to be Controlled by the Facility or Source(s) Which is/are to be Constructed or Altered. (Complete Section I) Boiler, No. 6 Fuel Oil Boiler No. 18 Bldg No. AS-4151 3. Furnish Type and Narrative Description of Proposed Control Device(s).(Complete Appropriate Supplemental Data Sheets for Control Device to be Installed and/or Operated. Include Make and Model Number of Control Device(s) and Number of Identical Units). No. 6 oil fired, No control device. 4. Contaminant Weight Rate of Emissions (1b/hr): Control Efficiency (%): Emitted: Without Control Device With Control Device Without Control Device With Control Device  $SO_{x}$ and Particultes 114.63 1b/hr N/A N/A N/A 5. Name and Address of Engineering Firm that Prepared Plans: 6. Ultimate Disposition of Collected Pollutants: 7. Date on Which Facilities are to be Completed and in Operation: October None , 19 80 Indicate Period of Time for Which Facilities 9. Estimate Cost of Air Pollution Control Device \$ 0 are Estimated to be Adequate: 20 Years 10. Hours Facility is Operated Per Year: 8,760 Major General D. B. Barker, USMC Mailing Address: \_ Marine Corps Base (Responsible Individual of Company Purchasing) Operating Facility ... PLEASE PRINT) Camp Lejeune North Carolina 28542

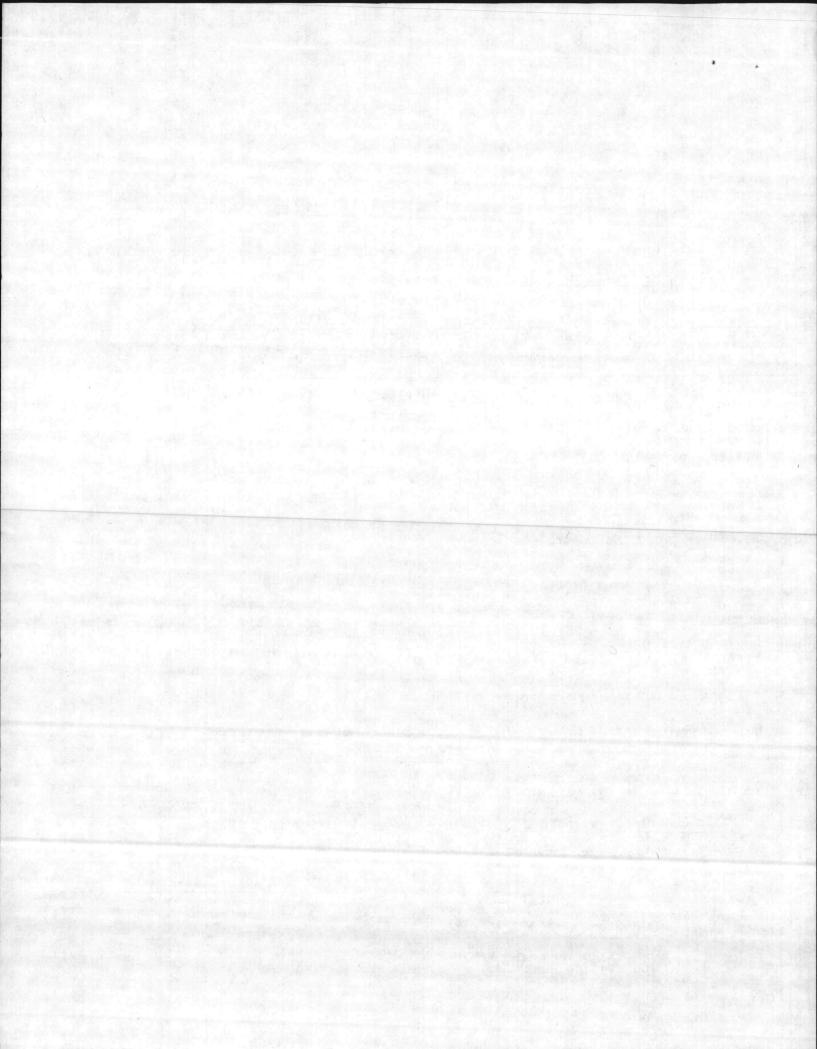
D. B. BARKER, MAJOR GENERAL USMC

Commanding General

451-5024

Telephone Number:

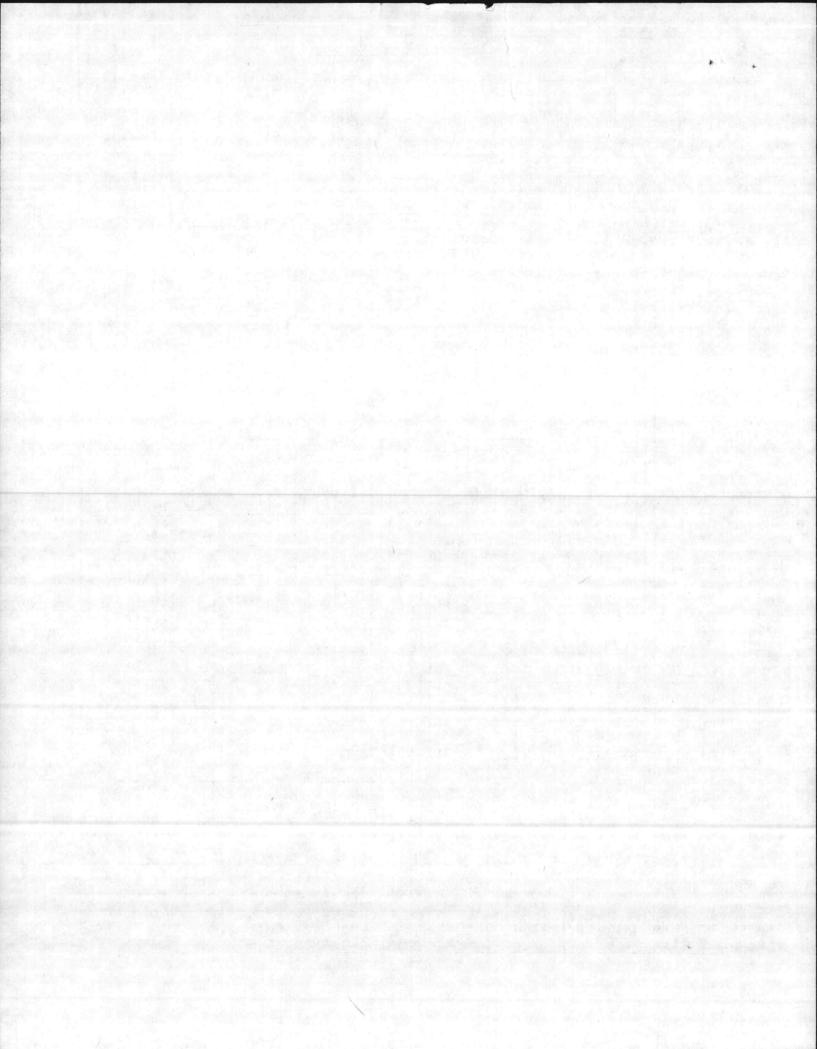
Signature and Title:



#### I. GENERAL DATA FOR PROCESSES

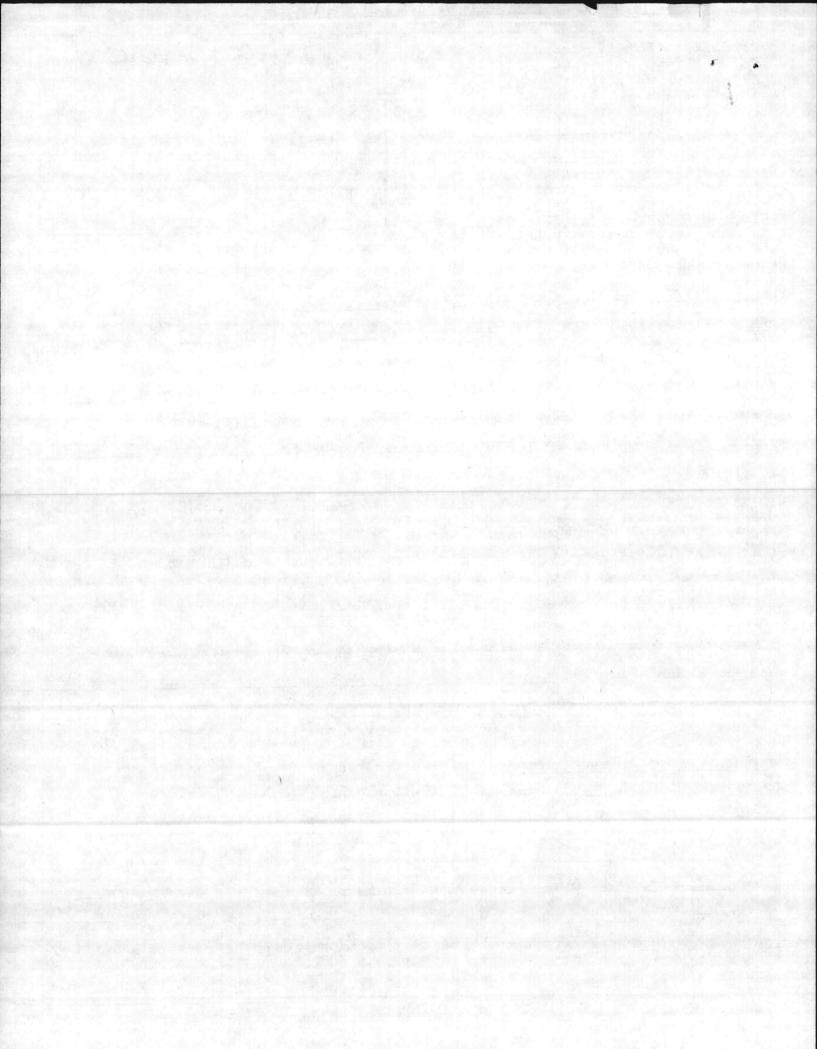
\*Attach detailed process engineering drawings, equipment drawings and flow diagrams for the process(es) or source(s) being constructed or altered.

Name of Process: Heating and Steam Plant
Total Weight of Materials Entering this Process: 327 galsxx/hr xxxxxxx
Volume and Temperature of Air Flow Entering Control Device: CFM @ °F  Volume and Temperature of Effluent at Discharge Point to Atmosphere: CFM @ °F  Pollutant(s) to be Controlled:  Height of Process Stack or Vent Above Ground Level 43 ft. Inside area of Stack 8.9 ft².  Particulate Emission Rate (Before Control) 8.044 lb/hr
Particle Size Distribution: 0-5µ %, 5-10µ %, 10-20µ %, 20-30µ %, 30-40µ %, 40-50µ %, >50µ %
Gaseous Emission(s): Name (Chemical Formula) µg/m³, PPM or 1b/hr SO <sub>X</sub>
II. SUPPLEMENTARY DATA FOR INCINERATORS (Including Conical Incinerators)
Circle Type of Waste or Indicate Composition: Type O Type I Type II Type III Type IV
Combustible: % Non-Combustible: % Moisture: % Heat Value: BTU/1b
Total Waste Generated Per Day: 1b. Hours Incinerator will be Operated: hrs/day
Design Capacity for Above Waste:lbs/hr Manufacturer and Model Number; Approximate Cost:
Primary Chamber Volume:ft.3 Secondary Chamber Volume:ft.3
Air Requirements: Total Excess Air
Is there a Wet Scrubber?
Yes No Flow Rate of H <sub>2</sub> O into Scrubbergal/min Temperature Before Scrubber°F
Aux. Fuel: 0il Gas Other BTU/hr BTU/hr         BTU/hr BTU/hr         BTU/hr BTU/hr
Primary Burner: Is there a Preheat Timer? Yes No Preheating Time: min.
Secondary Burner or Afterburner: Is there a Timer? Yes No Length of Time Burner is Operatedmin.
Is the Timer Reset by Charging Door? Yes No Other Mode of Burner Control
Type of Feed: Manual Automatic If Automatic, Describe
Distance from Incinerator to Nearest Structure(s) in which People Live and/or Workft.
Signature: Title:



#### III. SUPPLEMENTARY DATA FOR FUEL BURNING SOURCES

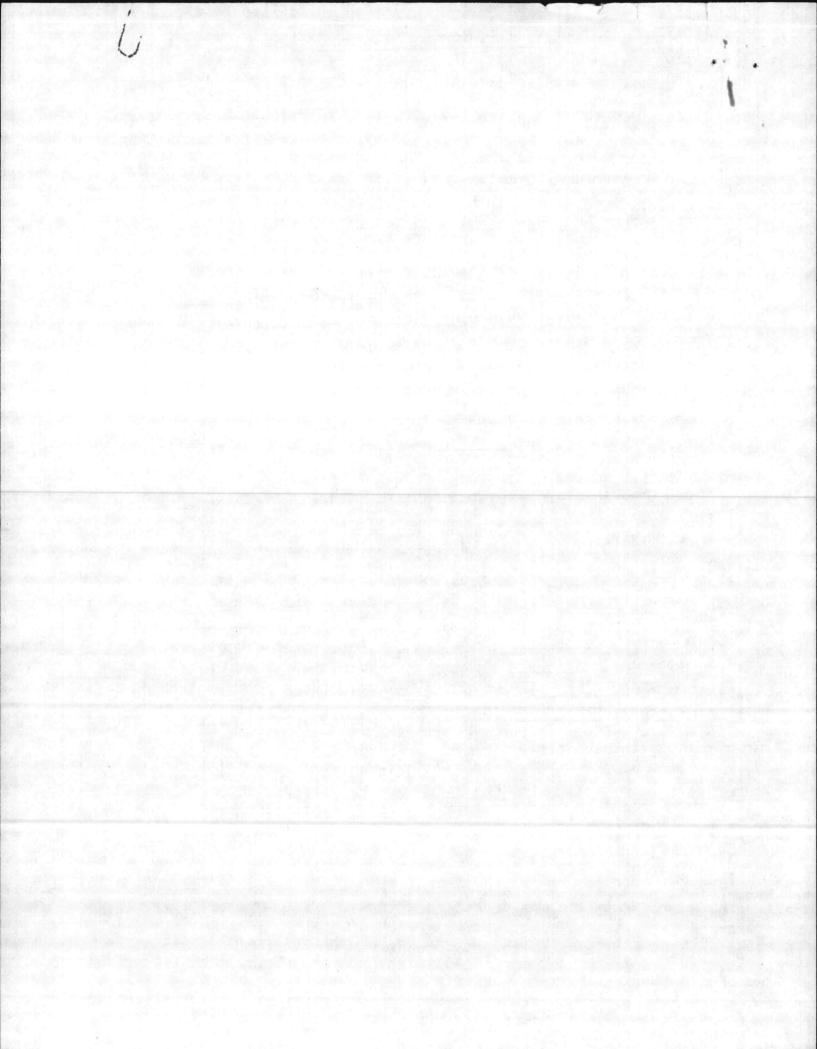
*Attach detailed dimensioned drawing or sketch showing internal features of dryers, wood or coal fired boilers, and recovery boilers.
Type of Fuel Burning Source Boiler Stack Height Above Ground Level 43 ft. Inside Area of Stack 8.9 ft
Make and Model Number Ser 10736 Volume of Furnace ft3
Specify Actual Amount of Each Fuel Used in Above Source (s):
Coal 1b/hr; 011 Grade 6 Amount 327 gal/hr, at BTU/gal and 1b/gal or 1b/hr
Wood lb/hr; Natural Gas SCF/hr, at BTU/SCF; Other
(Specify type, amount and heating value)
Specify Maximum Rating for Each Fuel Burning Source:
Coal 011327 Wood Natural Gas Other
Maximum Sulfur Content of Fuel 2.05% Specify Standby Fuel None Maximum % Sulfur
Type of Solid Fuel Burning Equipment Used: Hand Fired Spreader Stoker Underfeed Stoker Chain Grate
그 그는 그는 그는 그 그래요. 그래요. 그리고
Traveling Grate Pulverizer Cyclone Furnace Other (Specify)
Ash Content of Fuel: Specify Method and Schedule of Tube Cleaning, if Applicable:
Coal % Wood _ % Other _ % Lancing Tube Blowing Schedule
Emission Control Equipment (Describe in Detail in Sections IV and V)
Collection Device: Wet Dry Steam Injection Air Injection Is Collected Flyash Reinjected? Draft on Boiler (Natural Induced $X$ ) cfm at OF Total Number of Fuel Burning Sources Within Property Boundaries: 3
Maximum Capacity Rating, by Type, for All Fuel Burning Units Excluding that Itemized Above: (Total Like Units) 2
Coal lb/hr Wood lb/hr Oil 654 gal/hr Natural Gas SCF/hr
IV. SUPPLEMENTARY DATA FOR WET COLLECTION DEVICES
그리고 그는 그리고 있는데 그리고 있는데 그리고 있는데 가장이 되었다면 가장이 되었다. 그는 그리고 있는데 그리고 있는데 그리고 있는데 그리고 있는데 그리고 있다면 되었다. 그리고 있는데 그리고 있는데 그리고 있는데 그리고 있다면 되었다.
*Attach detailed engineering drawings of the control device and particle size versus removal efficiency curves.
Liquid Scrubbing Medium and Additives:
Total Liquid-Injection Rate (Include Recirculated and Make-up Rates)gal/min or gal/1000 ft3
Operating Pressure Drop Across Device in H2O
ANSWER FOLLOWING QUESTIONS FOR SPECIFIC DEVICE:
VENTURI SCURBBER: Inlet Area in2 Throat Area in2 Throat Velocity ft/sec
GRAVITY SPRAY CHAMSER: Number of Nozzles Liquid Droplet Size u Co-Current Countercurrent
WET CYCLOME: PACKED TOWER OR PLATE TOWER:
Body Diameter in Length in Cross-Sectional Area ft <sup>2</sup> Type of Plate
Inlet Area in Number of Nozzles Length ft Depth of Packing f
Outlet Area in <sup>2</sup> Number of Plates Type of Packing
OTHER WET COLLECTION DEVICES: GIVE COMPLETE DESCRIPTION INCLUDING DESIGN PARAMETERS AND DETAILED ENGINEERING DRAWINGS.
Signature: Title:

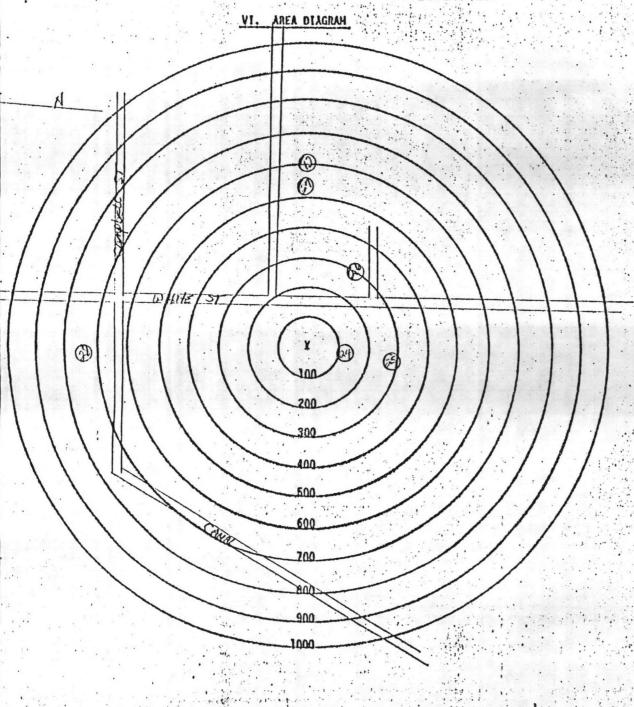


### V. SUPPLEMENTARY DATA FOR DRY COLLECTIO. DEVICES

	h Area ft	t <sup>2</sup>	Bag Material		
Numb	er of Compartments _	villar a medical visit		p Total	
Meth	od of Cleaning			Ratio	
Time	Between Cleaning	mins, hrs			
LECTROSTATIC PR	ECIPITATORS:				
GENERAL:					
Effecti	ve Area of Grounded (	Collector Plates	ft <sup>2</sup>		
			Number of Cells per Compartme		
			Emitting Electrodes		
			Grounded Collecting Electrode		
Fields o	of Treatment	Potential Appl	ied to Emitting Wires	KV KV	
SINGLE STAGE T					
		ires and Collecting	Platesin.		
			Corona Power Watts/	(1000 af	
			TOTAL TOWER	1000 61111	
TWO STAGE TYPE					
			es and Field Receiver Electro	des (Ground)	_ in
	Applied to Second				
bistance	perweeu second stad	e Emitting Plates	and Grounded Collection Plate	sfn	- 4
CLGNES/MULTICYC	LONES:				
mple Cyclone			Multicyclone		
			Diameter		
	mensions		Inlet Dimensions	of Individual Cyclone	P. J. Ma.
	mensions		Outlet Dimensions	of Individual Cyclon	e
	Drop		Pressure Drop	in H <sub>2</sub>	0
Number of	Cyclones,		Number of Cyclone:	<u> </u>	
			N 10 10 10 10 10 10 10 10 10 10 10 10 10	Market State of the second	

- 4 -





Owner Marine Corps Base, Camp Lejeune, N.C.

Location White St. New River Air Station ? (Give Street Address)

#### INSTRUCTIONS:

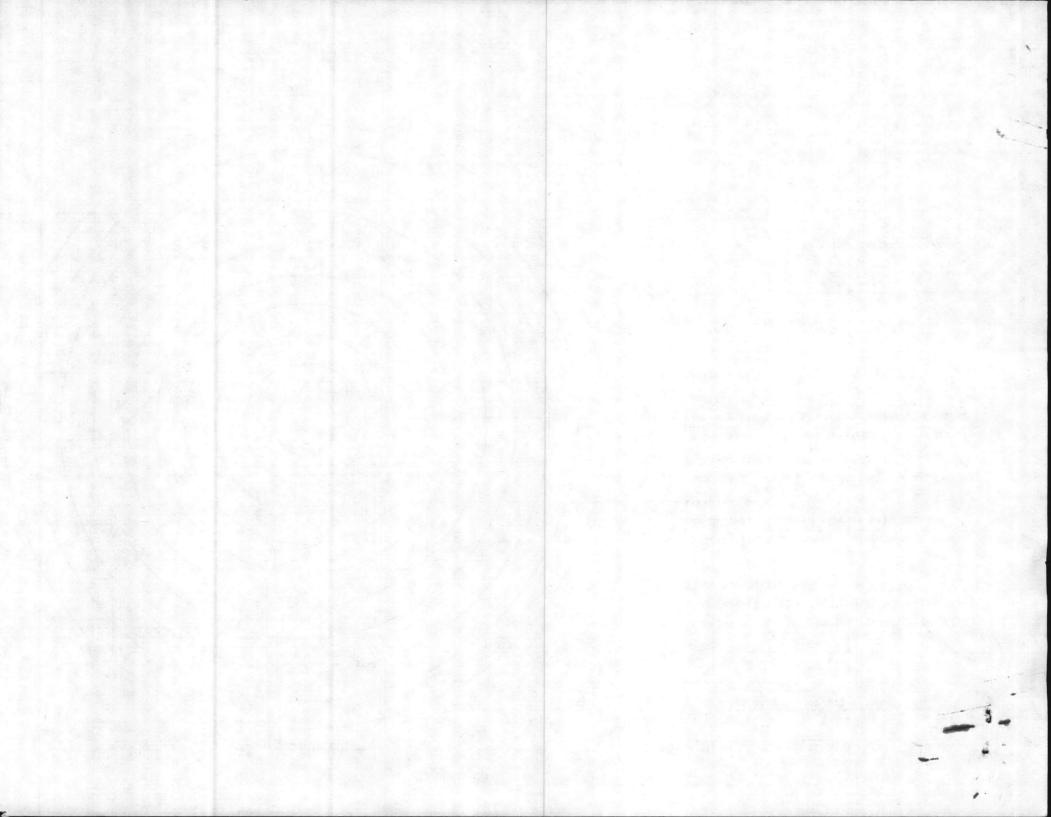
- 1. Show all surrounding buildings and roads within 1000 feet of subject equipment which is located at center of circles.
- Indicate location and type of building by the use of small numbered circles with the description below.
- Show roads as lines representing the road edges.
   Indicate street names and highway numbers,
- Show wooded or cleared areas by approximate boundary lines and the words "woods", "cleared", "cornfield", etc.
- 5. Indicate direction of north by arrow.

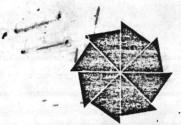
COD	E DESCRIPTION
000000	(12) Sewage Lift Static (24) Shed (25) Avionics Shop (26) Engine Test Shop (27) Maintenance Hanger (28) Fuel Tanks
0	
(8)	
9	
0	

EXAMPLE

- 1 Church
- (2) Residence

X Indicates location of equipment.





## North Carolina Department of Natural Resources & Community Development

James B. Hunt, Jr., Governor

Joseph W. Grimsley, Secretary

#### DIVISION OF ENVIRONMENTAL MANAGEMENT

July 30, 1982

Mr. K. P. Millice, Jr.
Colonel, U.S. Marine Corps
Assistant Chief of Staff, Facilities
Marine Corps Base
Camp Lejeune, North Carolina 28542

Subject:

Permit No. 3769R4

Marine Corps Base

Camp Lejeune, North Carolina

Dear Colonel Millice:

In accordance with your application received June 23, 1982, we are forwarding herewith Permit No. 3769R4 to Marine Corps Base, Camp Lejeune, North Carolina for the construction and/or operation of air pollution abatement facilities and/or emission sources.

If any parts, requirements, or limitations contained in this permit are unacceptable to you, you have the right to an adjudicatory hearing before a hearing officer upon written demand to the Director within thirty (30) days following receipt of this permit, identifying the specific issues to be contended. Unless such demand is made, this permit shall be final and binding.

This permit shall be effective from the date of issuance until July 1, 1985, is nontransferable to future owners and operators, and shall be subject to the conditions and limitations as specified therein.

Sincerely

Charles Wakild

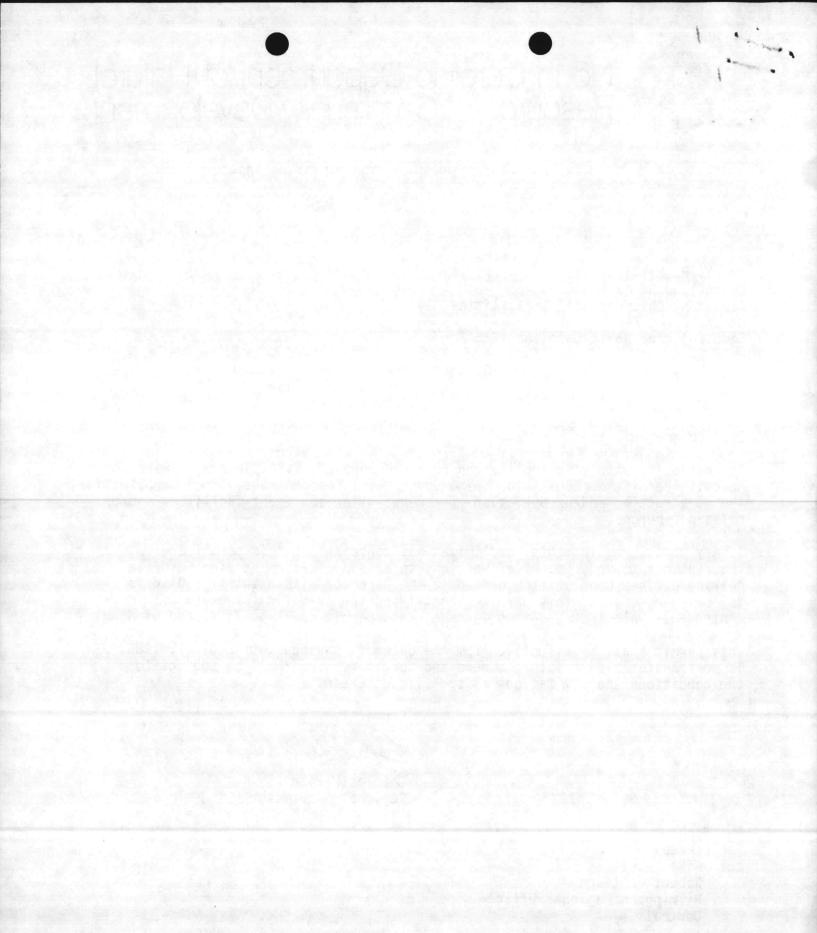
Regional Supervisor

CW:WC:cb Enclosures

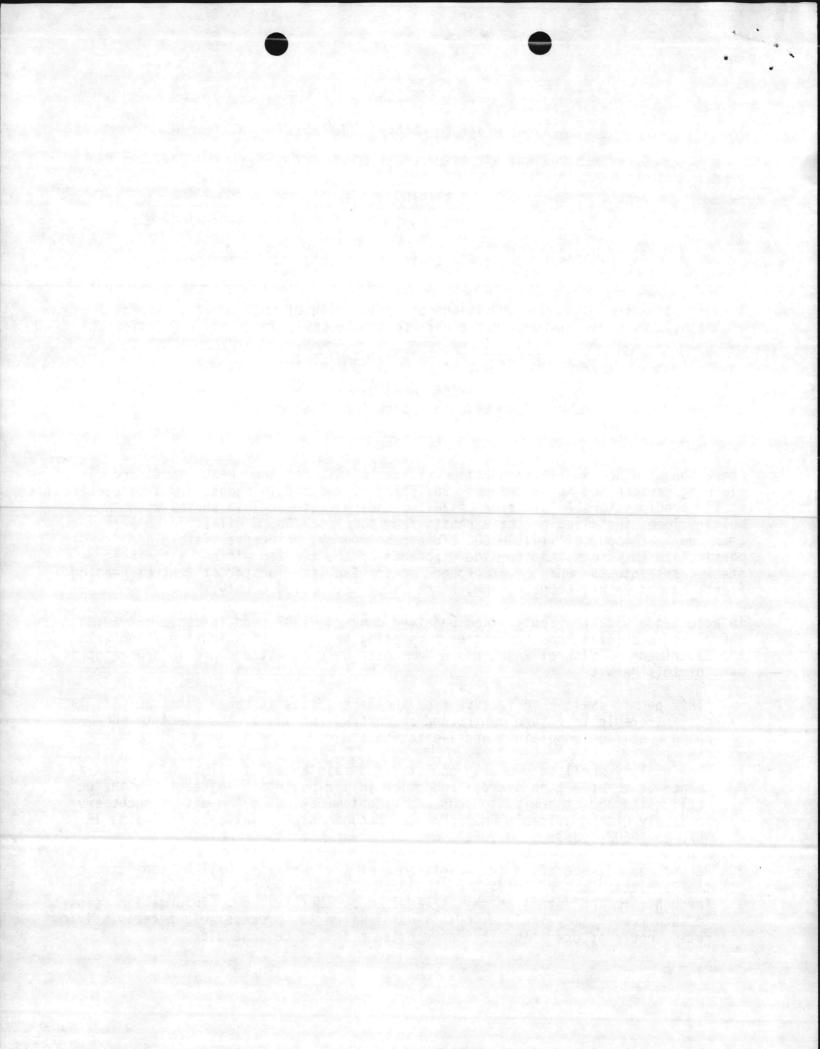
cc: Mike Sewell

Robert Jamieson Wilmington Regional Office

Central Files



NORTH CAROLINA ENVIRONMENTAL MANAGEMENT COMMISSION DEPARTMENT OF NATURAL RESOURCES & COMMUNITY DEVELOPMENT Raleigh PERMIT For the Discharge of Air Contaminants Into the Atmosphere In accordance with the provisions of Article 21B of Chapter 143, General Statutes of North Carolina as amended, and other applicable Laws, Rules and Regulations, PERMISSION IS HEREBY GRANTED TO Marine Corps Base Camp Lejeune, North Carolina FOR THE operation of a No. 6 oil fired boiler (121 x 10<sup>6</sup> BTU per hour heat input) and air cleaning devices and appurtenances consisting of two single stage, dry type electrostatic precipitators (plate area of 36,540 square feet each) in series with two multicyclones installed on the exhausts from four coal/No. 6 oil-fired boilers (maximum heat input of 114,500,000 BTU per hour each) to remove visible and particulate emissions, and for the discharge of the treated air and associated stack gases into the outdoor atmosphere at its facility located at Central Heating Plant, Hadnot Point, Camp Lejeune, North Carolina, Onslow County, in accordance with the application received June 23, 1982, and in conformity with the plans, specifications, and other supporting data, all of which are filed with the Department of Natural Resources & Community Development and are incorporated as part of this Permit. This permit shall be effective from the date of its issuance until July 1, 1985, is nontransferable to future owners and operators, and shall be subject to the following specified conditions and limitations: The facility shall be properly operated and maintained at all times in such a manner as to effect an overall reduction in air pollution in keeping with the application and otherwise to reduce air contamination to the extent necessary to comply with applicable Environmental Management Regulations, including 15 NCAC 2D .0503, .0516, and .0521. Reports on the operation and maintenance of the facility shall be submitted by 2. the Permittee to the Division of Environmental Management at such intervals and in such form and detail as may be required by the Division. Information required in such reports may include, but is not limited to, process weight rates, firing rates, hours of operation, and preventive maintenance schedules.



- 3. When particulate and/or visible emissions, due to a malfunction of the process or control equipment, are or may be in excess of Environmental Management Regulations, the Regional Supervisor, Wilmington Region (919) 256-4161, of the Division of Environmental Management shall be notified as promptly as possible but in no case later than 12 hours following the start of such malfunction. Such notice shall specify the nature and cause of the malfunction, the time when such malfunction was first observed, the expected duration, and an estimate of the rate of emission. The term malfunction shall not be construed to include start-up or shut-down periods when these emissions exceed Environmental Management Regulations when the duration of such period is less than one hour. Furthermore, any period of duration one hour or greater when these emissions exceed Environmental Management Regulations shall be construed as a malfunction. This malfunction reporting requirement does not allow the operation of the facility in excess of Environmental Management Regulations.
- 4. The Permittee at least ninety (90) days prior to the expiration of this Permit shall request its extension by letter. The letter should include the permit number and a description of modifications, if any, that have been made.
- 5. This Permit is subject to revocation or modification upon a determination that information contained in the application or presented in support thereof is incorrect, conditions under which this Permit was granted have changed, or violations of conditions contained in this Permit have occurred.
- 6. A violation of any term or condition of this Permit shall subject the Permittee to enforcement procedures contained in North Carolina General Statutes 143-215.114, including assessment of civil penalties.

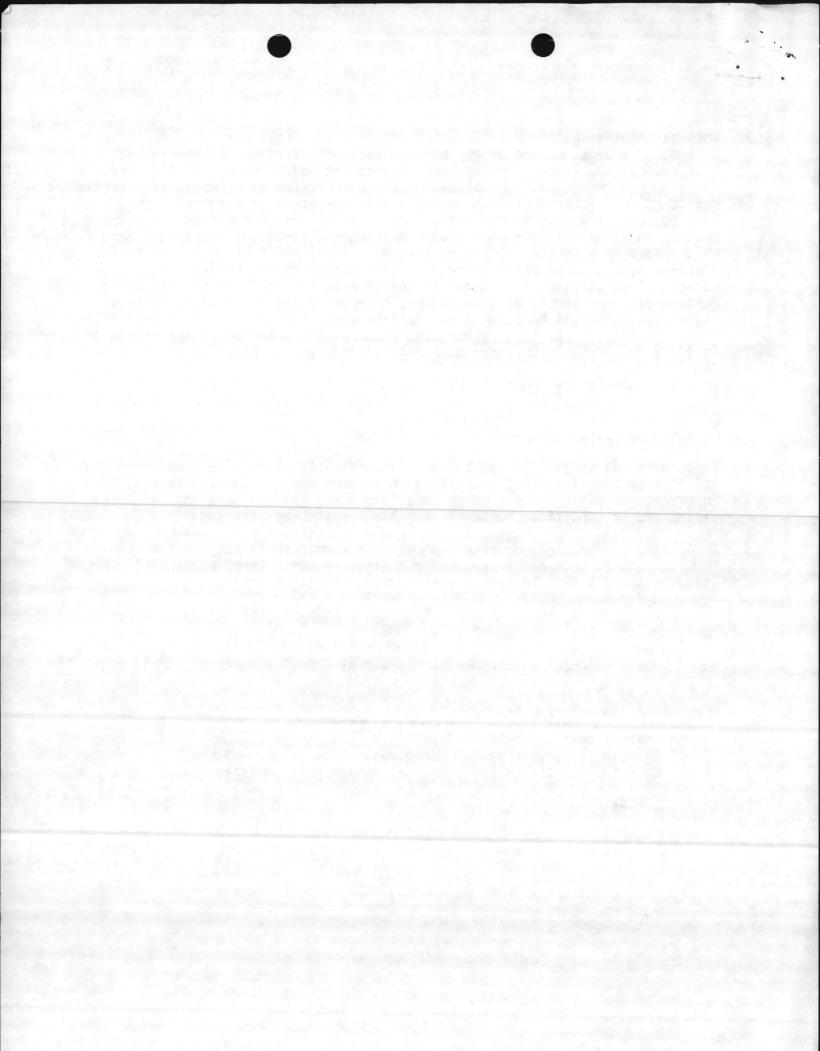
Permit issued this the 30th day of July, 1982.

NORTH CAROLINA ENVIRONMENTAL MANAGEMENT COMMISSION

Charles Wakild, Regional Supervisor Division of Environmental Management

By Authority of the Environmental Management Commission

Permit No. 3769R4





# MARINE CORPS BASE

CAMP LEJEUNE, NORTH CAROLINA 28542

send to recent

RECEIVED MAIN/FEC/rn 11370 18 JUN 1982

JUN 22 1982

Director
Division of Environmental Management
Department of Natural and Economic Resource & OPERATIONS
P. 0. Box 27687
Raleigh, NC 27611

Dear Sir:

In accordance with North Carolina Administrative Code, Title 15, Chapter 2, Subchapter 2H, Section .0603, application is hereby made for renewal of Permit Number 3769R3, covering operation of a Number 6 oil-fired boiler (121 x 10° BTU per hour heat input) and air cleaning devices and appurtenances consisting of two single stage, dry type electrostatic precipitators (plate area of 36,540 square feet each) in series with two multicyclones installed on the exhausts from four coal/Number 6 oil-fired boilers (maximum heat input of 114,500,000 BTU per hour each) to remove visible and particulate emissions, and for the discharge of the treated air and associated stack gases into the outdoor atmosphere at its facility located at Central Heating Plant, Hadnot Point, Camp Lejeune, North Carolina, Onslow County.

No modifications or alterations have been made to the permitted plant subsequent to the issuance of the original permit. Repair work that has been made to plant equipment includes replacement of the nonreturn valve (Boiler Number 5), replacement of electrical switchgear, straightening of precipitator electrodes, and replacement of various steam meters.

If you have any further questions on this matter, please contact Mr. Julian Wooten, Base Maintenance Division, telephone (919) 451-5003.

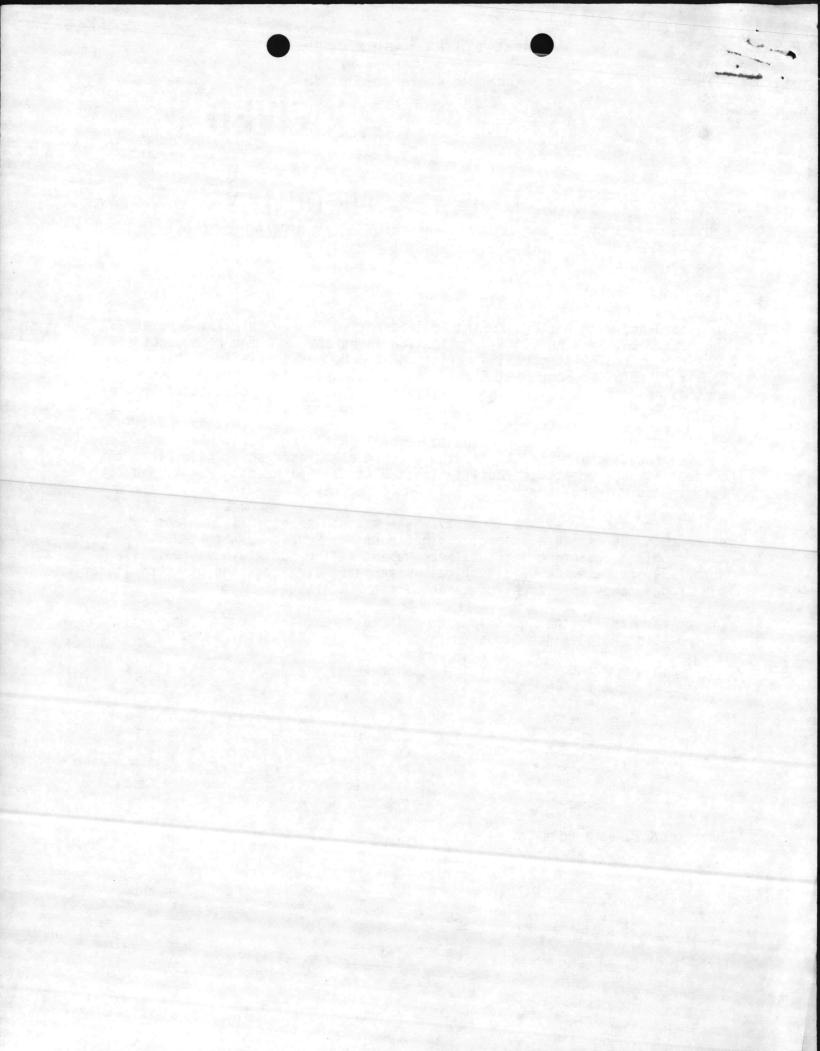
Sincerely, K.P. Mullie

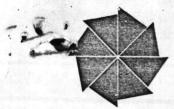
K. P. MILLICE, JR.

Colonel

Assistant Chief of Staff, Facilities By direction of the Commanding General

Copy to: Dept of Nat Res & Comm Dev





## North Carolina Department of Natural Resources & Community Development

James B. Hunt, Jr., Governor

Howard N. Lee, Secretary

DIVISION OF ENVIRONMENTAL MANAGEMENT

July 31, 1981

D.B. Barker Major General, U.S. Marine Corps Commanding Marine Corps Base Camp Lejeune, North Carolina 28542

Subject:

Permit No. 3769R3

Marine Corps Base

Camp Lejeune, North Carolina

Dear General Barker:

In accordance with your application received June 22, 1981, we are forwarding herewith Permit No. 3769R3 to Marine Corps Base, Camp Lejeune, North Carolina for the construction and/or operation of air pollution abatement facilities and/or emission sources.

If any parts, requirements, or limitations contained in this permit are unacceptable to you, you have the right to an adjudicatory hearing before a hearing officer upon written demand to the Director within thirty (30) days following receipt of this permit, identifying the specific issues to be contended. Unless such demand is made, this permit shall be final and binding.

This permit shall be effective from the date of issuance until October 1, 1982, is nontransferable to future owners and operators, and shall be subject to the conditions and limitations as specified therein.

Sincerely

Charles Wakild

Regional Supervisor

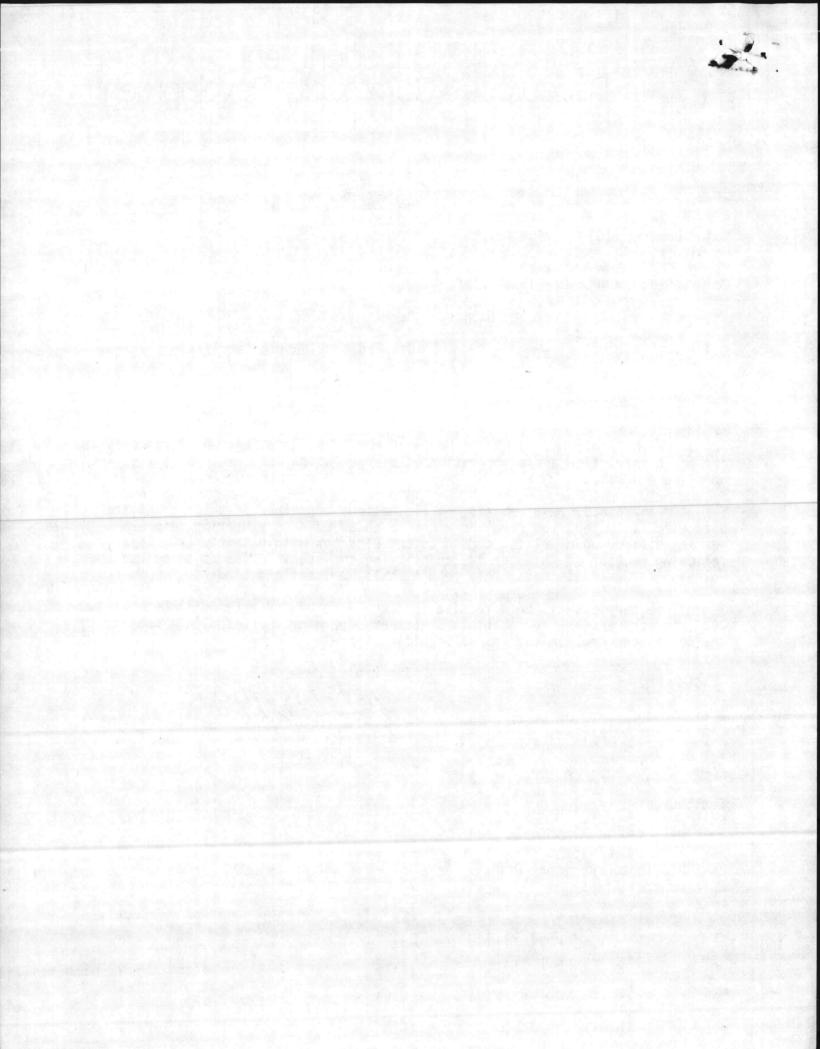
Enclosures

cc: Mike Sewell

Robert Jamieson

Wilmington Regional Office

Central Files



#### NORTH CAROLINA

#### ENVIRONMENTAL MANAGEMENT COMMISSION

#### DEPARTMENT OF NATURAL RESOURCES & COMMUNITY DEVELOPMENT

Raleigh

#### PERMIT

For the Discharge of Air Contaminants Into the Atmosphere

In accordance with the provisions of Article 21B of Chapter 143, General Statutes of North Carolina as amended, and other applicable Laws, Rules and Regulations,

#### PERMISSION IS HEREBY GRANTED TO

Marine Corps Base Camp Lejeune, North Carolina

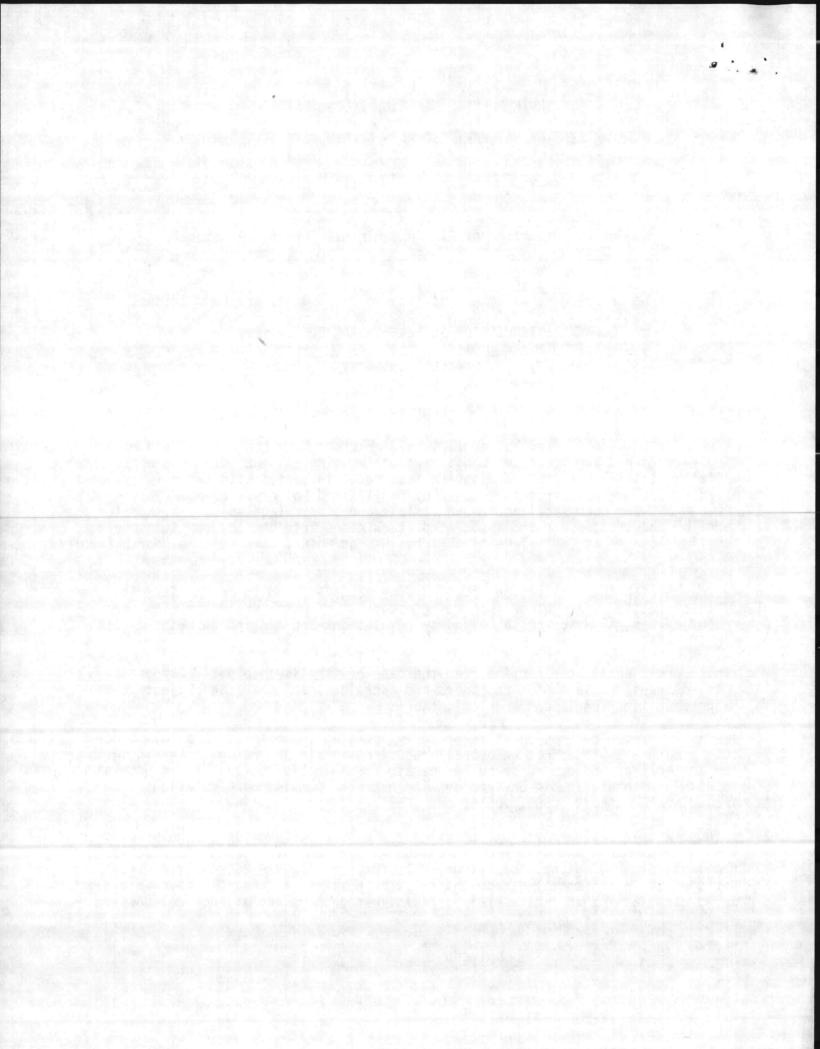
#### FOR THE

operation of a No. 6 oil fired boiler (121 x  $10^6$  BTU per hour heat input) and air cleaning devices and appurtenances consisting of two single stage, dry type electrostatic precipitators (plate area of 36,540 square feet each) in series with two multicyclones installed on the exhausts from four coal/No. 6 oil-fired boilers (maximum heat input of 114,500,000 BTU per hour each) to remove visible and particulate emissions, and for the discharge of the treated air and associated stack gases into the outdoor atmosphere at its facility located at Central Heating Plant, Hadnot Point, Camp Lejeune, North Carolina, Onslow County,

in accordance with the application received June 22, 1981, and in conformity with the plans, specifications, and other supporting data, all of which are filed with the Department of Natural Resources & Community Development and are incorporated as part of this Permit.

This Permit shall be effective from the date of its issuance until October 1, 1982, is nontransferable to future owners and operators, and shall be subject to the following specified conditions and limitations:

- 1. The air cleaning devices shall be properly operated and maintained at all times in such a manner as to effect an overall reduction in air pollution in keeping with the application and otherwise to reduce air contamination to the extent necessary to comply with applicable Environmental Management Commission Regulations, including 15 NCAC 2D .0503, .0516, and .0521.
- 2. When particulate and/or visible emissions, due to a malfunction of the process or control equipment, are or may be in excess of Environmental Management Commission Regulations, the Regional Supervisor, Wilmington Region 919-256-4161, of the Division of Environmental Management shall be notified as promptly as possible but in no case later than twelve (12) hours following the start of such malfunction.



Such notice shall specify the nature and cause of the malfunction, the time when such malfunction was first observed, the expected duration, and an estimate of the rate of emission. The term malfunction shall not be construed to include start-up or shut-down periods when particulate, visible, or odorous emissions exceed Environmental Management Commission Regulations when the duration of such period is less than one hour. Furthermore, any period of duration one hour or greater when particulate, visible, or odorous emissions exceed Environmental Management Commission Regulations shall be construed as a malfunction.

- 3. Reports on the operation and maintenance of the facilities shall be submitted to the Division of Environmental Management at such intervals and in such form and detail as may be required by the Division. Information required in such reports may include, but is not limited to, process weight rates, firing rates, hours of operation, and preventive maintenance schedules.
- 4. Marine Corps Base, Camp Lejeune, at least ninety (90) days prior to the expiration of this Permit, shall request its extension by letter. The letter should include the permit number and a description of modifications, if any, that have been made.
- 5. This permit is subject to revocation or modification upon a determination that information contained in the application or presented in support thereof is incorrect, conditions under which the permit renewal was granted have changed, or violations of conditions contained in the permit have occurred.
- 6. A violation of any term or condition of this Permit shall subject the Permittee to enforcement procedures contained in North Carolina General Statutes 143-215.114, including assessment of civil penalties.

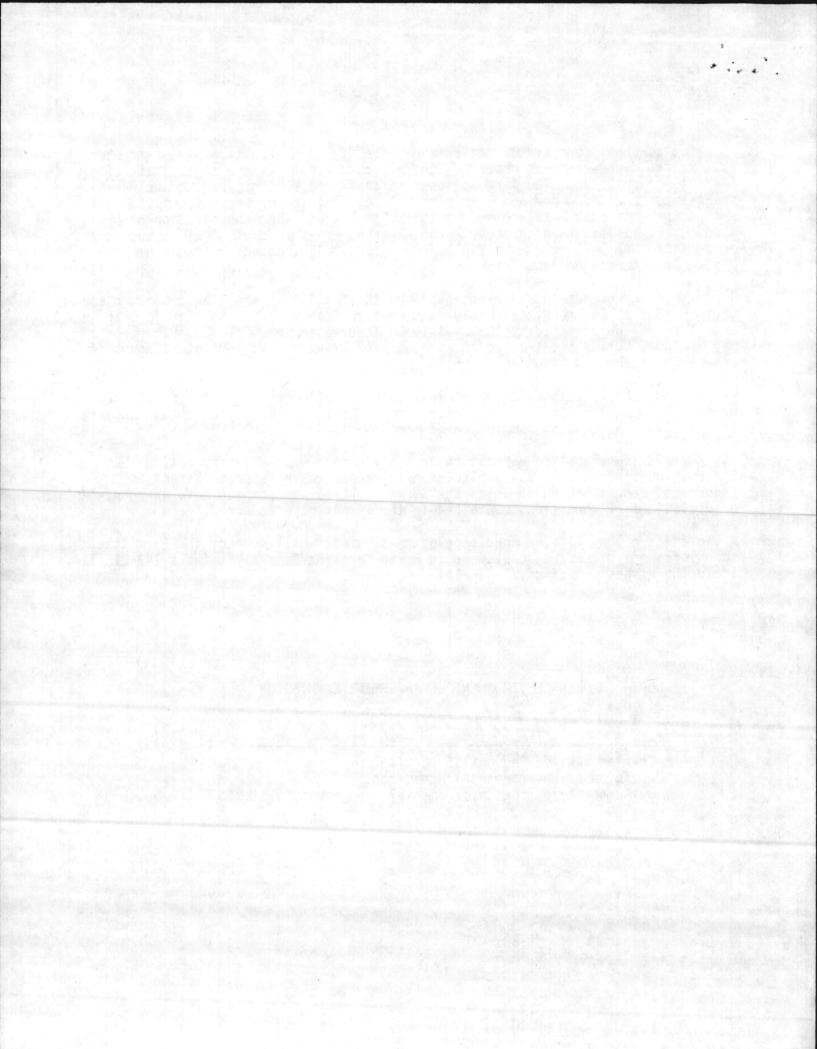
Permit issued this the 31st day of July, 1981.

NORTH CAROLINA ENVIRONMENTAL MANAGEMENT COMMISSION

Charles Wakild, Regional Supervisor Division of Environmental Management

By Authority of the Environmental Management Commission

Permit No. 3769R3



#### UNITED STATES MARINE CORPS MARINE CORPS BASE CAMP LEJEUNE, NORTH CAROLINA 28542

IN REPLY REPER TO MAIN/TH/rn 13700 1 7 JUN 1981

Mr. Charles Wakild Regional Supervisor Department of Natural Resources and Community Development Division of Environmental Management 7225 Wrightsville Avenue Wilmington, NC 28403

Dear Mr. Wakild:

In accordance with North Carolina Administrative Code, Title 15, Chapter 2, Subchapter 2H, Section .0603, application is hereby made for renewal of Permit No. 3822, covering the operation of a No. 6 oil-fired boiler (121  $\times$  106 BTU per hour heat input) and appurtenances, and for the discharge of the associated stack gases in the Hadnot Point area of Camp Lejeune.

No modifications or alterations have been made to the permitted boiler subsequent to the issuance of the original permit. Repair work that has been made in the boiler room includes replacement of a stop-check valve, expansion loop, and header stop valve in the steam discharge line between the boiler and the plant steam header, which in no way alters the operating parameters of the boiler.

If you have any further question on this matter, please contact Mr. Danny Sharpe, Base Maintenance Department, telephone (919) 451-5003.

Sincerely,

D. B. BARKER

Major General, U. S. Marine Corps

Commanding General

Bill, ackholedge receipt.

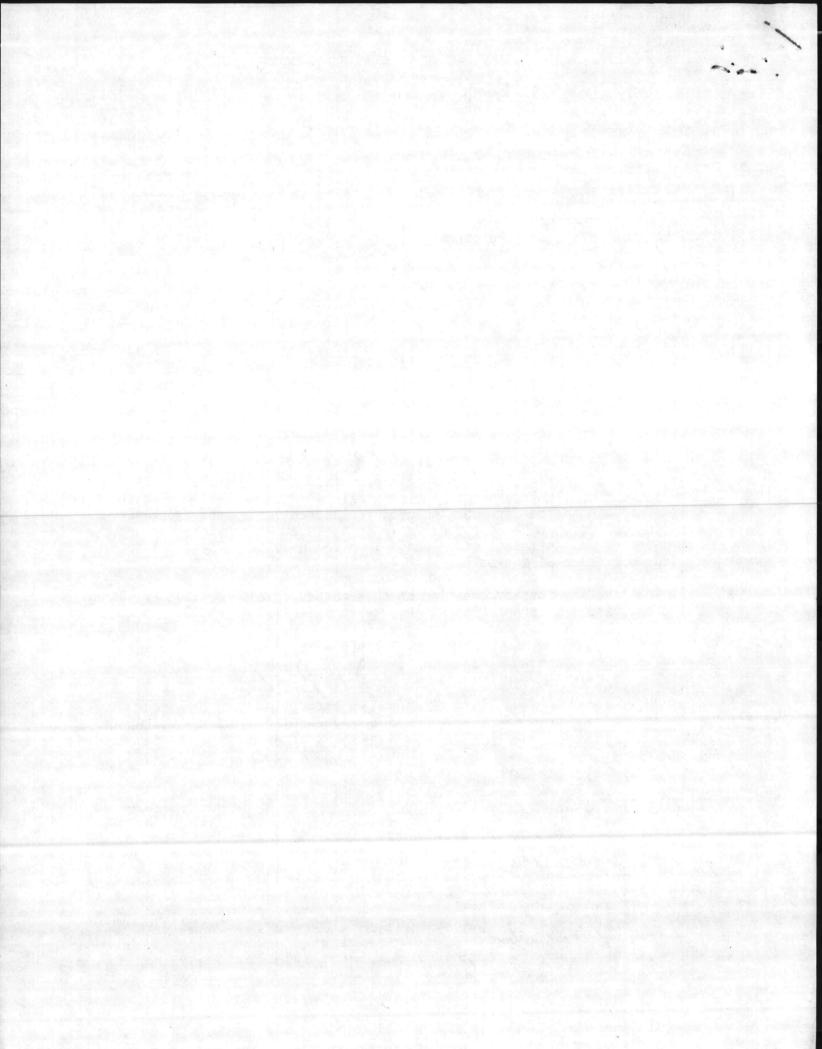
Combine with permit for 4 coal bailers and specify location; i.e., Central Heting

Bland, Fr \_\_ St., Hednot

Frint, Camp Ly. , Onslow Co.

1931

WILMINGTON AFFICNAL DEFICE DEM





#### NITED STATES MARINE CORPS MARINE CORPS BASE CAMP LEJEUNE, NORTH CAROLINA 28542

IN REPLY REPER TO

MAIN/FEC/rn RECEIVED 11370
18 JUN 1982

JUN 22 1982

Director AIR QUALITY Division of Environmental Management Department of Natural and Economic Resource ERMITS & OPERATIONS P. O. Box 27687 Raleigh, NC 27611

Dear Sir:

In accordance with North Carolina Administrative Code, Title 15, Chapter 2, Subchapter 2H, Section .0603, application is hereby made for renewal of Permit Number 3769R3, covering operation of a Number 6 oil-fired boiler (121 x 10<sup>b</sup> BTU per hour heat input) and air cleaning devices and appurtenances consisting of two single stage, dry type electrostatic precipitators (plate area of 36,540 square feet each) in series with two multicyclones installed on the exhausts from four coal/Number 6 oil-fired boilers (maximum heat input of 114,500,000 BTU per hour each) to remove visible and particulate emissions, and for the discharge of the treated air and associated stack gases into the outdoor atmosphere at its facility located at Central Heating Plant, Hadnot Point, Camp Lejeune, North Carolina, Onslow County.

No modifications or alterations have been made to the permitted plant subsequent to the issuance of the original permit. Repair work that has been made to plant equipment includes replacement of the nonreturn valve (Boiler Number 5), replacement of electrical switchgear, straightening of precipitator electrodes, and replacement of various steam meters.

If you have any further questions on this matter, please contact Mr. Julian Wooten, Base Maintenance Division, telephone (919) 451-5003.

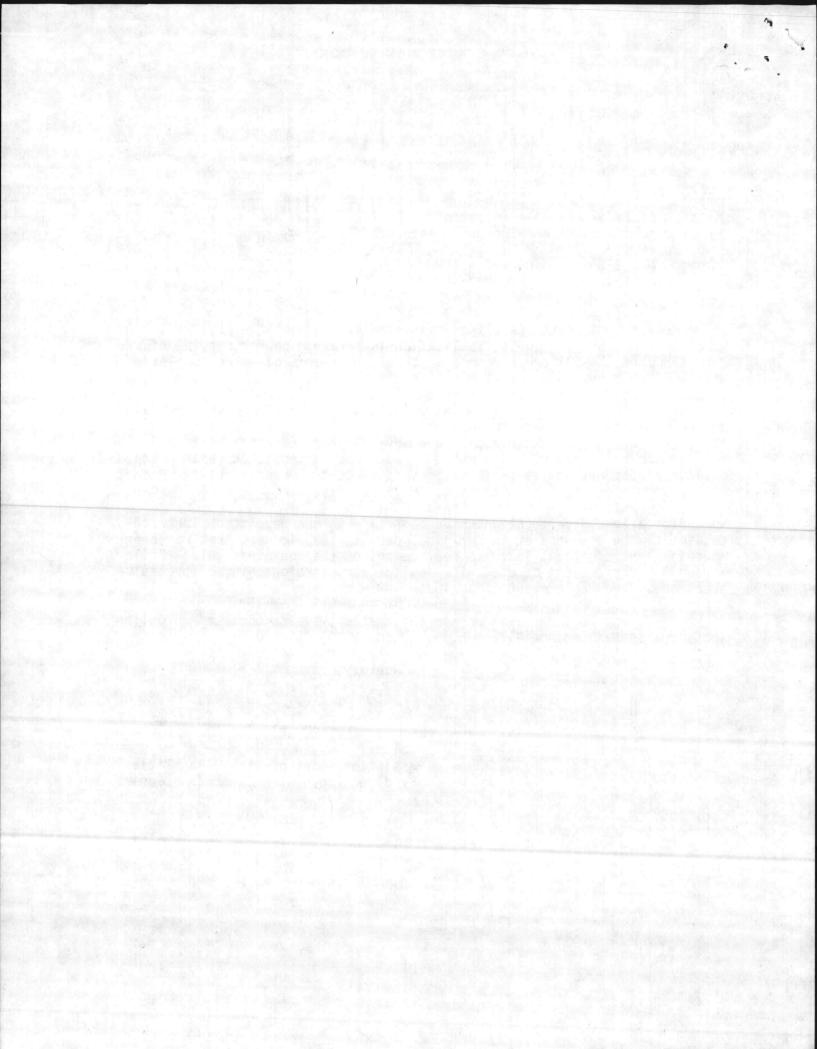
> Sincerely, K.P. Millie J

K. P. MILLICE, JR.

Colonel

Assistant Chief of Staff, Facilities By direction of the Commanding General

Copy to: Dept of Nat Res & Comm Dev



#### ENVIRONMENTAL MANAGEMENT COMMISSION

#### DEPARTMENT OF NATURAL RESOURCES & COMMUNITY DEVELOPMENT

Raleigh

#### PERMIT

For the Discharge of Air Contaminants Into the Atmosphere

In accordance with the provisions of Article 21B of Chapter 143, General Statutes of North Carolina as amended, and other applicable Laws, Rules and Regulations,

#### PERMISSION IS HEREBY GRANTED TO

Marine Corps Base Camp Lejeune, North Carolina

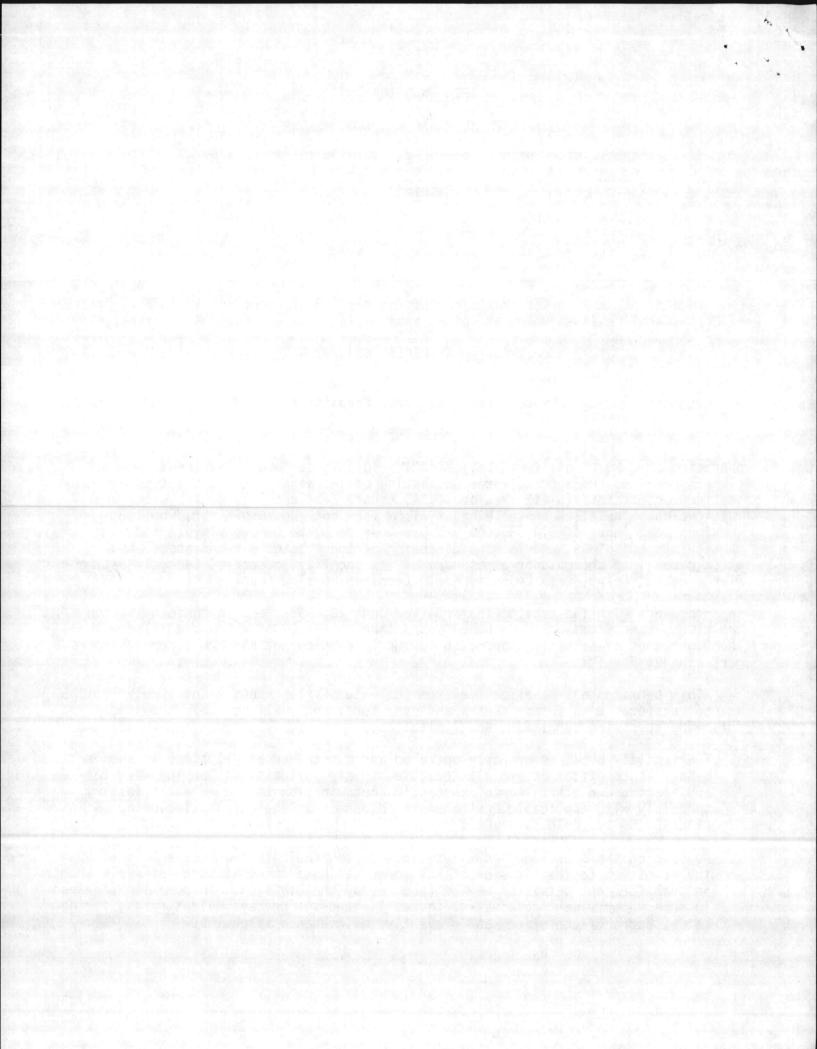
#### FOR THE

operation of a No. 6 oil fired boiler (121 x  $10^6$  BTU per hour heat input) and air cleaning devices and appurtenances consisting of two single stage, dry type electrostatic precipitators (plate area of 36,540 square feet each) in series with two multicyclones installed on the exhausts from four coal/No. 6 oil-fired boilers (maximum heat input of 114,500,000 BTU per hour each) to remove visible and particulate emissions, and for the discharge of the treated air and associated stack gases into the outdoor atmosphere at its facility located at Central Heating Plant, Hadnot Point, Camp Lejeune, North Carolina, Onslow County,

in accordance with the application received June 23, 1982, and in conformity with the plans, specifications, and other supporting data, all of which are filed with the Department of Natural Resources & Community Development and are incorporated as part of this Permit.

This permit shall be effective from the date of its issuance until July 1, 1985, is nontransferable to future owners and operators, and shall be subject to the following specified conditions and limitations:

- 1. The facility shall be properly operated and maintained at all times in such a manner as to effect an overall reduction in air pollution in keeping with the application and otherwise to reduce air contamination to the extent necessary to comply with applicable Environmental Management Regulations, including 15 NCAC 2D .0503, .0516, and .0521.
- 2. Reports on the operation and maintenance of the facility shall be submitted by the Permittee to the Division of Environmental Management at such intervals and in such form and detail as may be required by the Division. Information required in such reports may include, but is not limited to, process weight rates, firing rates, hours of operation, and preventive maintenance schedules.



- 3. When particulate and/or visible emissions, due to a malfunction of the process or control equipment, are or may be in excess of Environmental Management Regulations, the Regional Supervisor, Wilmington Region (919) 256-4161, of the Division of Environmental Management shall be notified as promptly as possible but in no case later than 12 hours following the start of such malfunction. Such notice shall specify the nature and cause of the malfunction, the time when such malfunction was first observed, the expected duration, and an estimate of the rate of emission. The term malfunction shall not be construed to include start-up or shut-down periods when these emissions exceed Environmental Management Regulations when the duration of such period is less than one hour. Furthermore, any period of duration one hour or greater when these emissions exceed Environmental Management Regulations shall be construed as a malfunction. This malfunction reporting requirement does not allow the operation of the facility in excess of Environmental Management Regulations.
- 4. The Permittee at least ninety (90) days prior to the expiration of this Permit shall request its extension by letter. The letter should include the permit number and a description of modifications, if any, that have been made.
- 5. This Permit is subject to revocation or modification upon a determination that information contained in the application or presented in support thereof is incorrect, conditions under which this Permit was granted have changed, or violations of conditions contained in this Permit have occurred.
- 6. A violation of any term or condition of this Permit shall subject the Permittee to enforcement procedures contained in North Carolina General Statutes 143-215.114, including assessment of civil penalties.

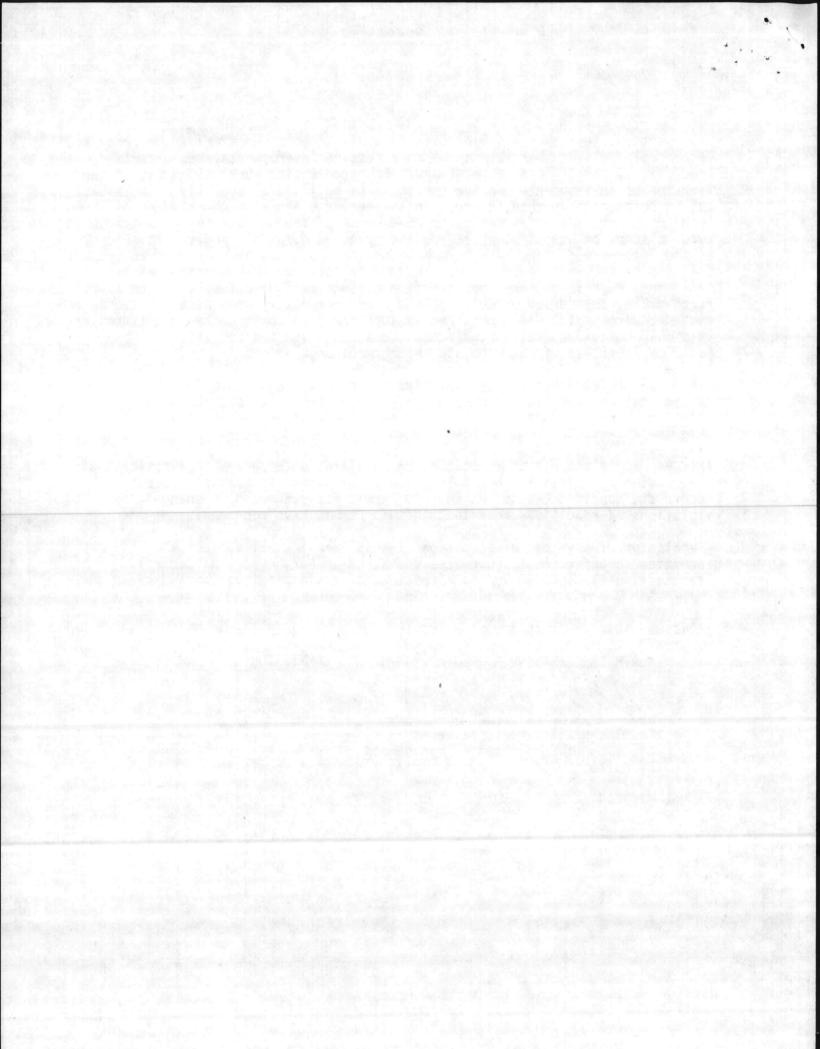
Permit issued this the 30th day of July, 1982.

NORTH CAROLINA ENVIRONMENTAL MANAGEMENT COMMISSION

Charles Wakild, Regional Supervisor Division of Environmental Management

By Authority of the Environmental Management Commission

Permit No. 3769R4



#### DIVISION OF ENVIRONMENTAL MANAGEMENT

July 30, 1982

Mr. K. P. Millice, Jr. Colonel, U.S. Marine Corps Assistant Chief of Staff, Facilities Marine Corps Base Camp Lejeune, North Carolina 28542

Subject:

Permit No. 3769R4 Marine Corps Base

Camp Lejeune, North Carolina

Dear Colonel Millice:

In accordance with your application received June 23, 1982, we are forwarding herewith Permit No. 3769R4 to Marine Corps Base, Camp Lejeune, North Carolina for the construction and/or operation of air pollution abatement facilities and/or emission sources.

If any parts, requirements, or limitations contained in this permit are unacceptable to you, you have the right to an adjudicatory hearing before a hearing officer upon written demand to the Director within thirty (30) days following receipt of this permit, identifying the specific issues to be contended. Unless such demand is made, this permit shall be final and binding.

This permit shall be effective from the date of issuance until July 1, 1985, is nontransferable to future owners and operators, and shall be subject to the conditions and limitations as specified therein.

Sincerely,

Charles Wakild Regional Supervisor

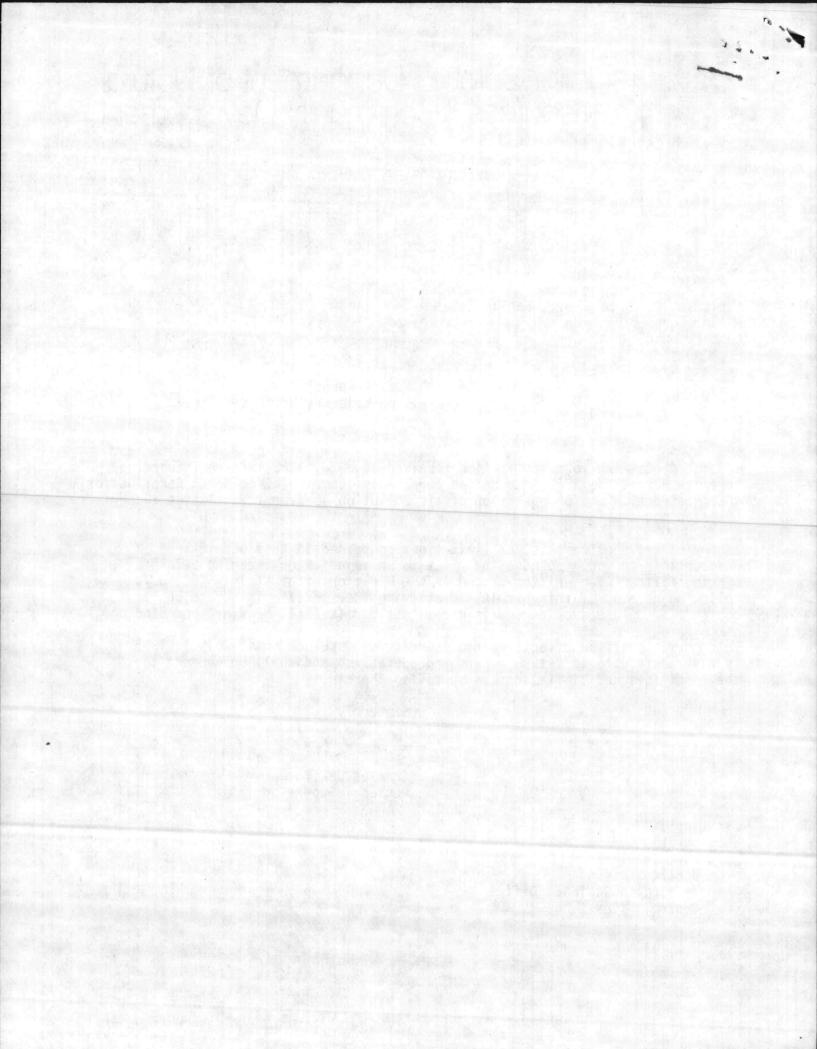
CW:WC:cb Enclosures

cc: Mike Sewell

Robert Jamieson

Wilmington Regional Office

Central Files





## North Carolina Department of Natural Resources & Community Development

James B. Hunt, Jr., Governor

Howard N. Lee, Secretary

DIVISION OF ENVIRONMENTAL MANAGEMENT

February 3, 1981

Mr. D. B. Barker Major General, U.S. Marine Corps Commanding Marine Corps Base Camp Lejeune, North Carolina 28542

Dear Mr. Barker:

Subject: Permit No. 3769R2

Marine Corps Base

Camp Lejeune, North Carolina

In accordance with your application received December 12, 1980, we are forwarding herewith Permit No. 3769R2 to Marine Corps Base, Camp Lejeune, North Carolina for the construction and/or operation of air pollution abatement facilities and/or emission sources.

If any parts, requirements, or limitations contained in this permit are unacceptable to you, you have the right to an adjudicatory hearing before a hearing officer upon written demand to the Director within thirty (30) days following receipt of this permit, identifying the specific issues to be contended. Unless such demand is made, this permit shall be final and binding.

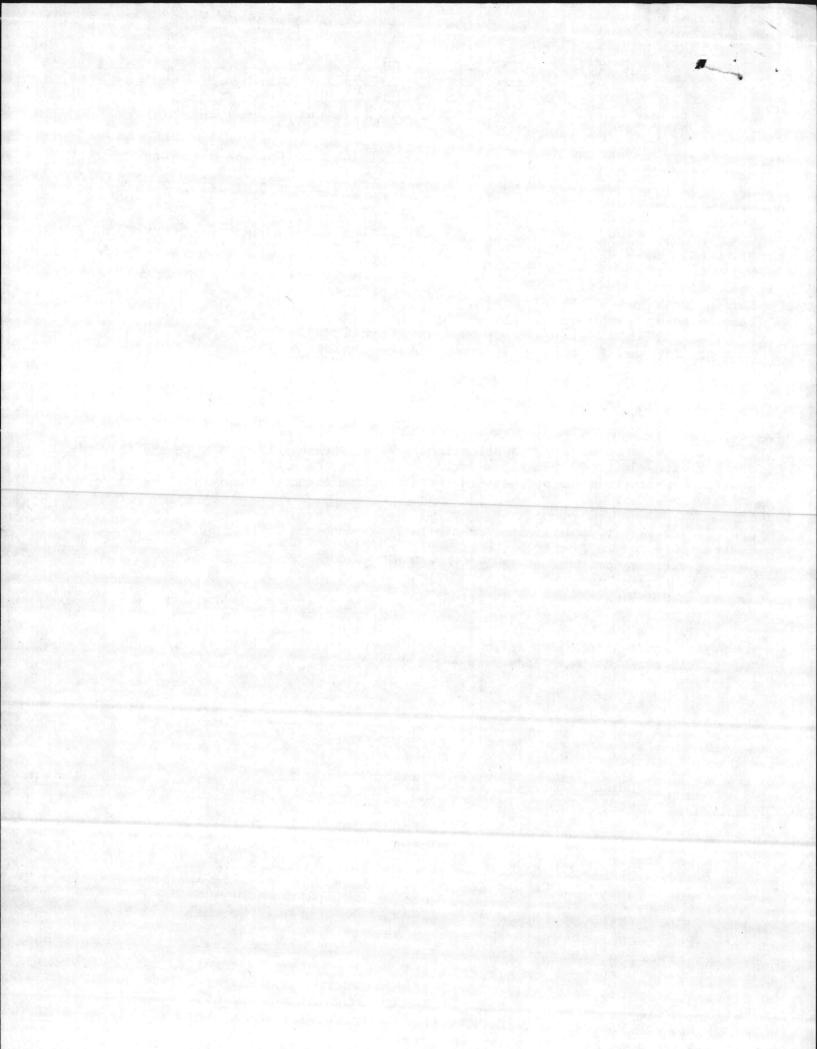
This permit shall be effective from the date of issuance until October 1, 1982, is nontransferable to future owners and operators, and shall be subject to the conditions and limitations as specified therein.

Sincerely yours,

for Robert F. Helms Acting Director

Enclosures

cc: A. C. Turnage, Jr. Chuck Wakild Regional Office Manager



#### ENVIRONMENTAL MANAGEMENT COMMISSION

#### DEPARTMENT OF NATURAL RESOURCES & COMMUNITY DEVELOPMENT

Raleigh

#### PERMIT

For the Discharge of Air Contaminants Into the Atmosphere

In accordance with the provisions of Article 21B of Chapter 143, General Statutes of North Carolina as amended, and other applicable Laws, Rules and Regulations,

#### PERMISSION IS HEREBY GRANTED TO

Marine Corps Base Camp Lejeune, North Carolina

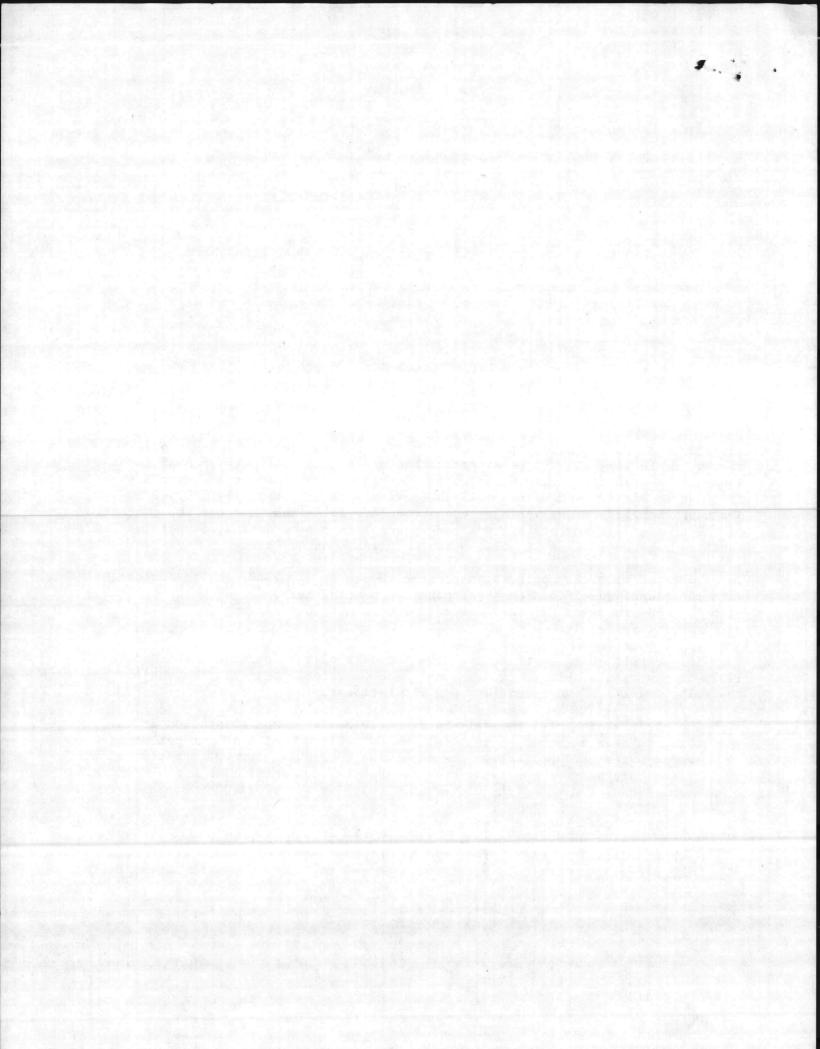
#### FOR THE

construction and operation of air cleaning devices and appurtenances consisting of two single stage, dry type electrostatic precipitators (plate area of 36,540 square feet each) in series with two multicyclones installed on the exhausts from four coal/No. 6 oil-fired boilers (maximum heat input of 114,500,000 BTU per hour each) to remove visible and particulate emissions, and for the discharge of the treated air and associated stack gases into the outdoor atmosphere at its facility located at Camp Lejeune, North Carolina, Onslow County,

in accordance with the application received December 12, 1980, and in conformity with the plans, specifications, and other supporting data, all of which are filed with the Department of Natural Resources & Community Development and are incorporated as part of this Permit.

This Permit shall be effective from the date of its issuance until October 1, 1982, is nontransferable to future owners and operators, and shall be subject to the following specified conditions and limitations:

- 1. The air cleaning devices shall be properly operated and maintained at all times in such a manner as to effect an overall reduction in air pollution in keeping with the application and otherwise to reduce air contamination to the extent necessary to comply with applicable Environmental Management Commission Regulations, including 15 NCAC 2D .0503, .0516, and .0521.
- 2. Reports on the operation and maintenance of the facilities shall be submitted to the Division of Environmental Management at such intervals and in such form and detail as may be required by the Division. Information required in such reports may include, but is not limited to, process weight rates, firing rates, hours of operation, and preventive maintenance schedules.



Permit No. 3769R2 Page 2

- 3. When particulate and/or visible emissions, due to a malfunction, of the process or control equipment, are or may be in excess of the amount which would be emitted during normal operation, the Division of Environmental Management shall be notified as promptly as possible but in no case later than twelve (12) hours following the start of such malfunction. Such notice shall specify the nature and cause of the malfunction, the time when such malfunction was first observed, the expected duration, and an estimate of the rate of emission. The term malfunction shall not be construed to include start-up or shut-down periods.
- 4. A violation of any term or condition of this Permit shall subject the Permittee to enforcement procedures contained in North Carolina General Statutes 143-215.114, including assessment of civil penalties.
- 5. Coal shall not be burned in the boilers unless the air cleaning devices are in operation.

Permit issued this the 3rd day of February, 1981.

NORTH CAROLINA ENVIRONMENTAL MANAGEMENT COMMISSION

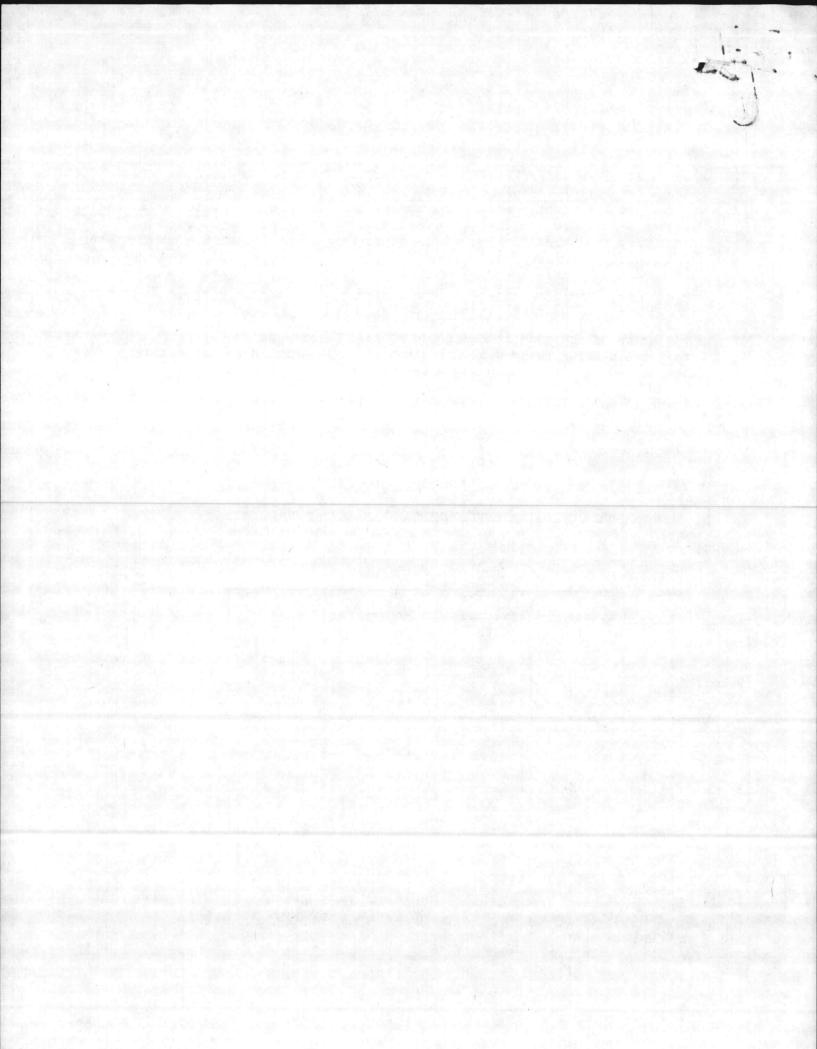
for Robert F. Helms, Acting Director

Division of Environmental Management

By Authority of the Environmental Management

Commission

Permit No. 3769R2



W-650



## North Carolina Department of Natural Resources & Community Development

James B. Hunt, Jr., Governor

Howard N. Lee, Secretary
DIVISION OF ENVIRONMENTAL MANAGEMENT

May 20, 1981

Mr. D.B. Barker Major General, U.S. Marine Corps Commanding Marine Corps Base Camp Lejeune, North Carolina 28542

Subject:

Permit No. 4640 Marine Corps Base Camp Lejeune, North Carolina

Dear General Barker:

In accordance with your application received May 1, 1981, we are forwarding herewith Permit No. 4640 to Marine Corps Base, Camp Lejeune, North Carolina for the construction and/or operation of air pollution abatement facilities and/or emission sources.

If any parts, requirements, or limitations contained in this permit are unacceptable to you, you have the right to an adjudicatory hearing before a hearing officer upon written demand to the Director within thirty (30) days following receipt of this permit, identifying the specific issues to be contended. Unless such demand is made, this permit shall be final and binding.

This permit shall be effective from the date of issuance until April 1, 1986, is nontransferable to future owners and operators, and shall be subject to the conditions and limitations as specified therein.

Sincerely,

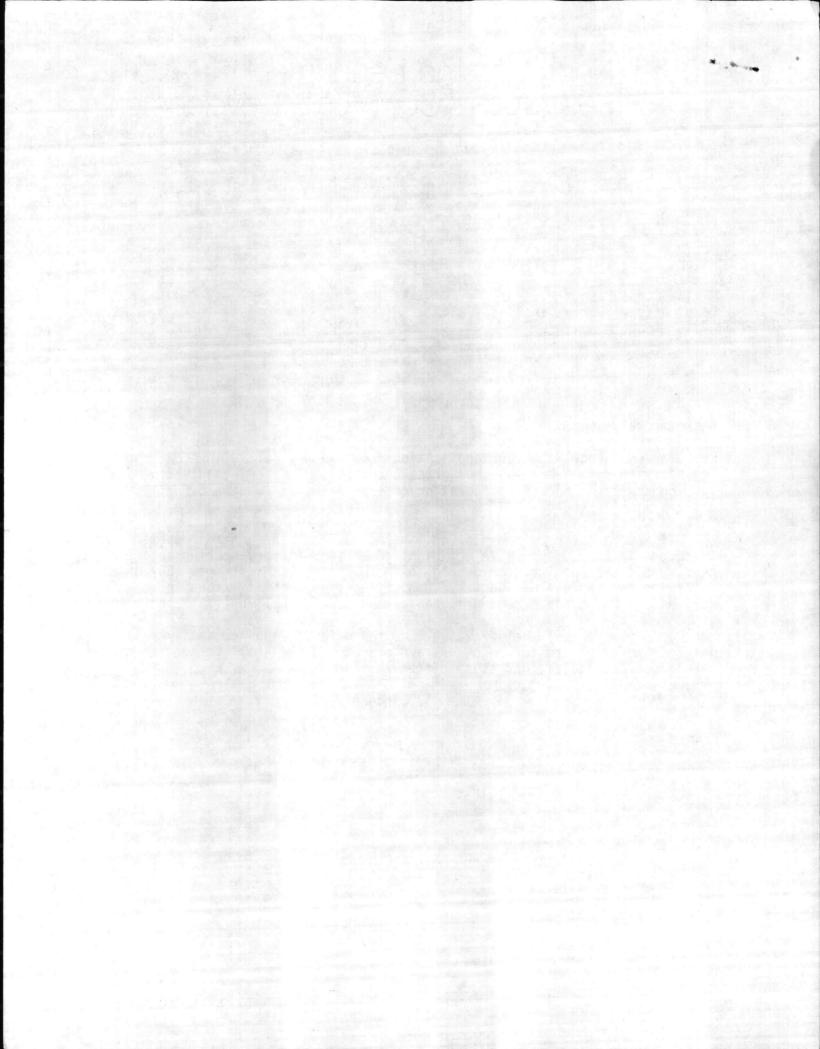
Charles Wakild Regional Supervisor

Enclosure

cc: Stan Taylor Robert Jamieson

Wilmington Regional Office

Central Files



#### ENVIRONMENTAL MANAGEMENT COMMISSION

#### DEPARTMENT OF NATURAL RESOURCES & COMMUNITY DEVELOPMENT

Raleigh

#### PERMIT

For the Discharge of Air Contaminants Into the Atmosphere

In accordance with the provisions of Article 21B of Chapter 143, General Statutes of North Carolina as amended, and other applicable Laws, Rules and Regulations,

#### PERMISSION IS HEREBY GRANTED TO

Marine Corps Base Camp Lejeune, North Carolina

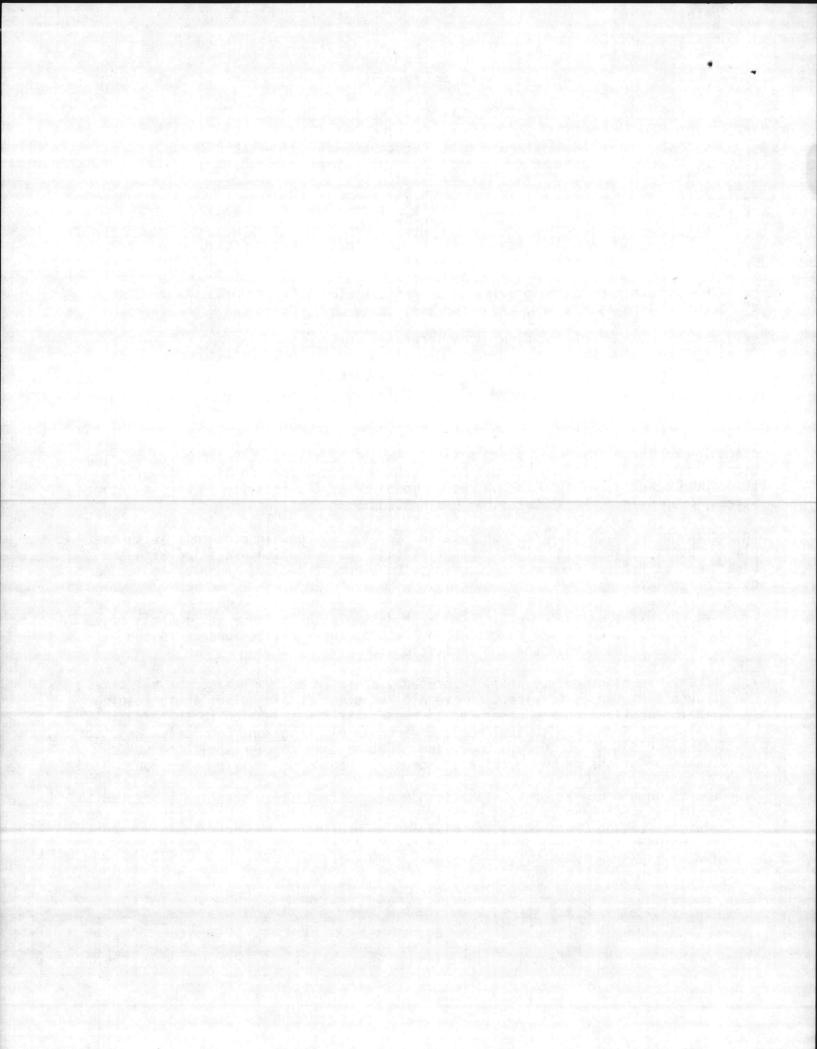
#### FOR THE

operation of three No. 6 oil-fired boilers, two (47.7 million BTU per hour heat input each) and one (23.7 million BTU per hour heat input) and for the discharge of the associated stack gases into the outdoor atmosphere at its facility located at 7th Street, Camp Geiger, North Carolina, Onslow County,

in accordance with the application received May 1, 1981 and in conformity with the plans, specifications, and other supporting data, all of which are filed with the Department of Natural Resources & Community Development and are incorporated as part of this Permit.

This Permit shall be effective from the date of its issuance until April 1, 1986, is nontransferable to future owners and operators, and shall be subject to the following specified conditions and limitations:

- 1. The air cleaning devices shall be properly operated and maintained at all times in such a manner as to effect an overall reduction in air pollution in keeping with the application and otherwise to reduce air contamination to the extent necessary to comply with applicable Environmental Management Commission Regulations, including 15 NCAC 2D .0503, .0516, and .0521, and in no case shall the sulfur dioxide emissions from the boilers exceed 2.3 pounds per million BTU input.
- 2. Reports on the operation and maintenance of the facilities shall be submitted to the Division of Environmental Management at such intervals and in such form and detail as may be required by the Division. Information required in such reports may include, but is not limited to, process weight rates, firing rates, hours of operation, and preventive maintenance schedules.



- 3. Camp Lejeune Marine Base, at least ninety (90) days prior to the expiration of this Permit, shall request its extension by letter. The letter should include the permit number and a description of modifications, if any, that have been made.
- 4. This Permit is subject to revocation or modification upon a determination that information contained in the application or presented in support thereof is incorrect, conditions under which the permit renewal was granted have changed, or violations of conditions contained in the permit have occurred.
- 5. A violation of any term or condition of this Permit shall subject the Permittee to enforcement procedures contained in North Carolina General Statutes 143-215.114, including assessment of civil penalties.

Permit issued this the 20th day of May

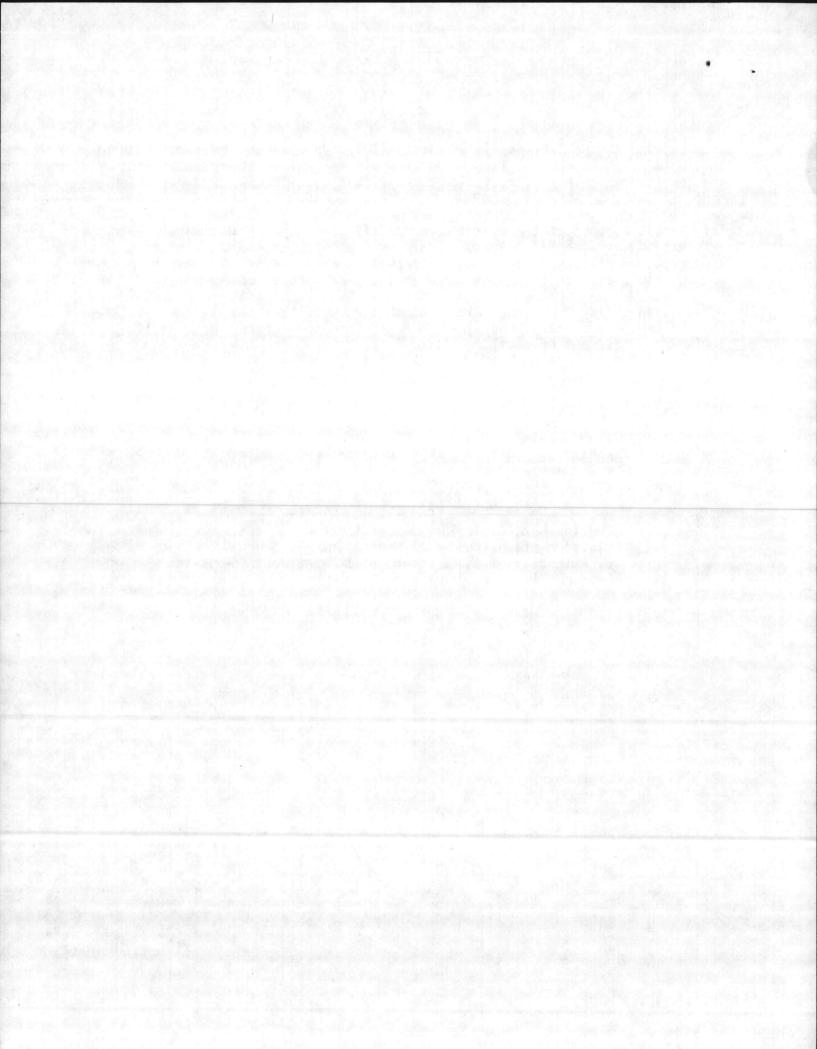
NORTH CAROLINA ENVIRONMENTAL MANAGEMENT COMMISSION

Charles Wakild, Regional Supervisor

Division of Environmental Management

By Authority of the Environmental Management Commission

Permit No. 4640



#### ENVIRONMENTAL MANAGEMENT COMMISSION

RALEIGH

WIEDLINGTON REGIDNAL O

APPLICATION FOR

A "PERMIT"

TO CONSTRUCT AND OPERATE AIR

POLLUTION ABATEMENT FACILITIES AND/OR EMISSION SOURCES

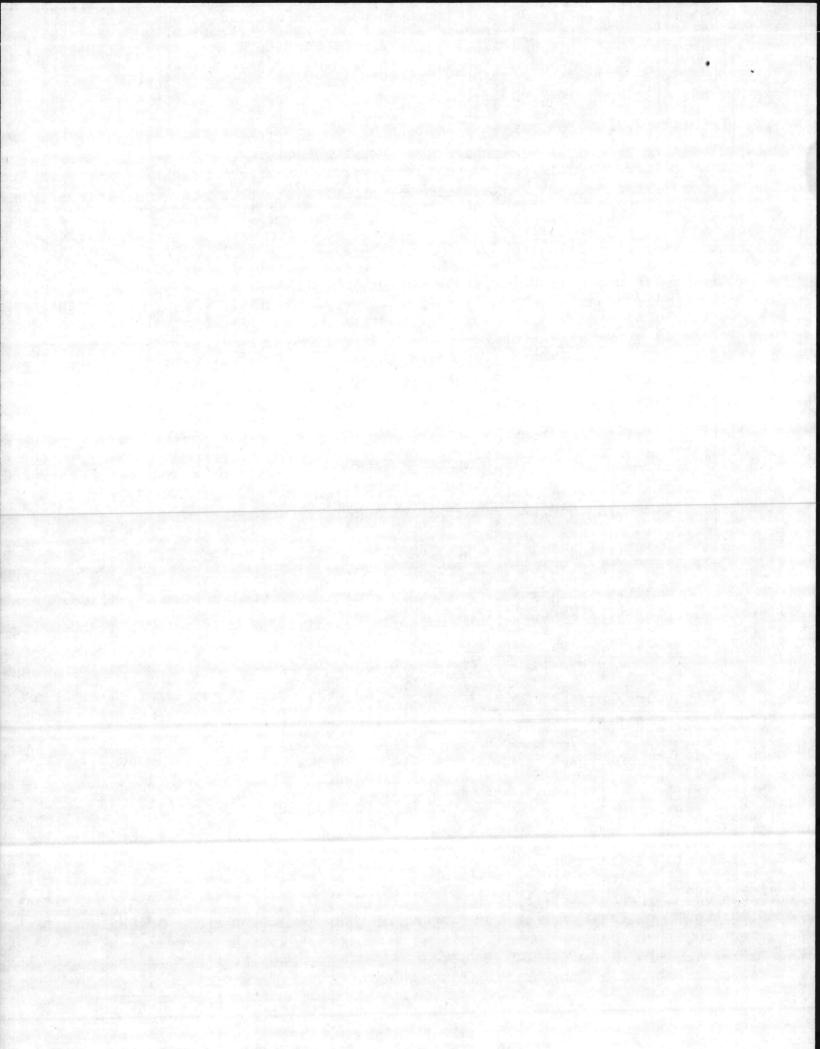
Filed By: Major General D. B. Barker (Name)

Marine Corps Base

(Address)

Camp Lejeune, North Carolina

AQ-22

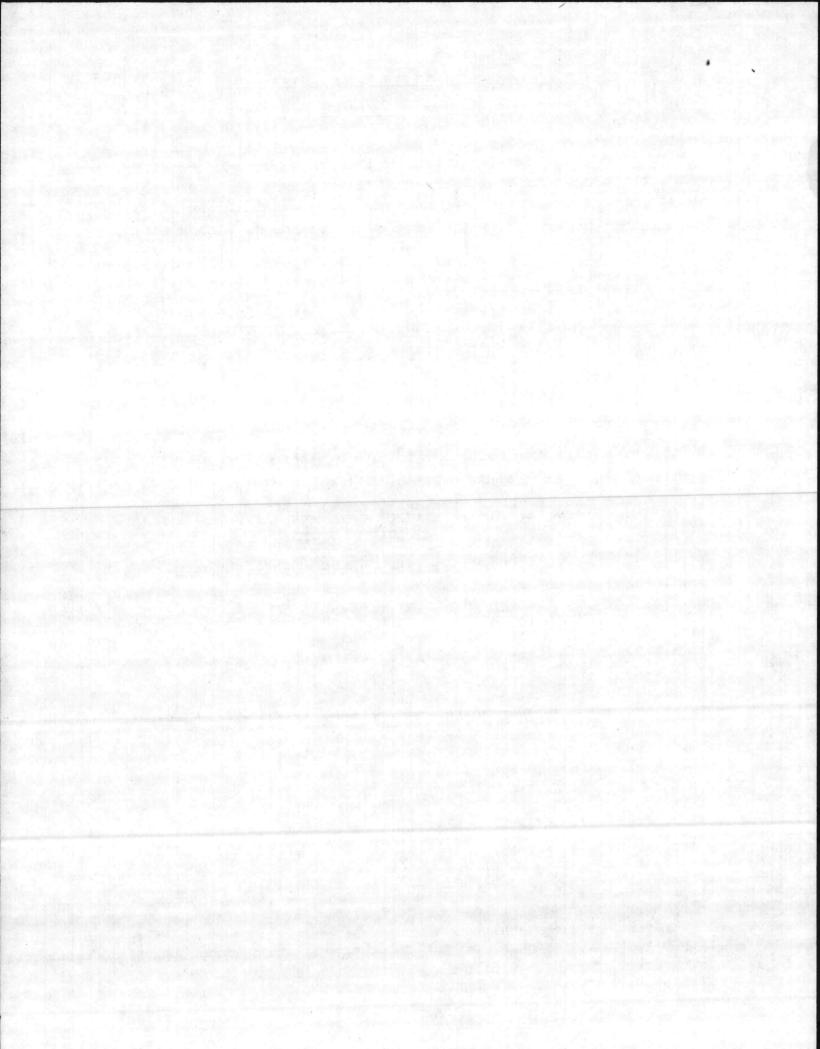


#### APPLICATION INSTRUCTIONS

#### THIS APPLICATION IS SUBJECT TO REJECTION UNLESS ALL REQUIRED

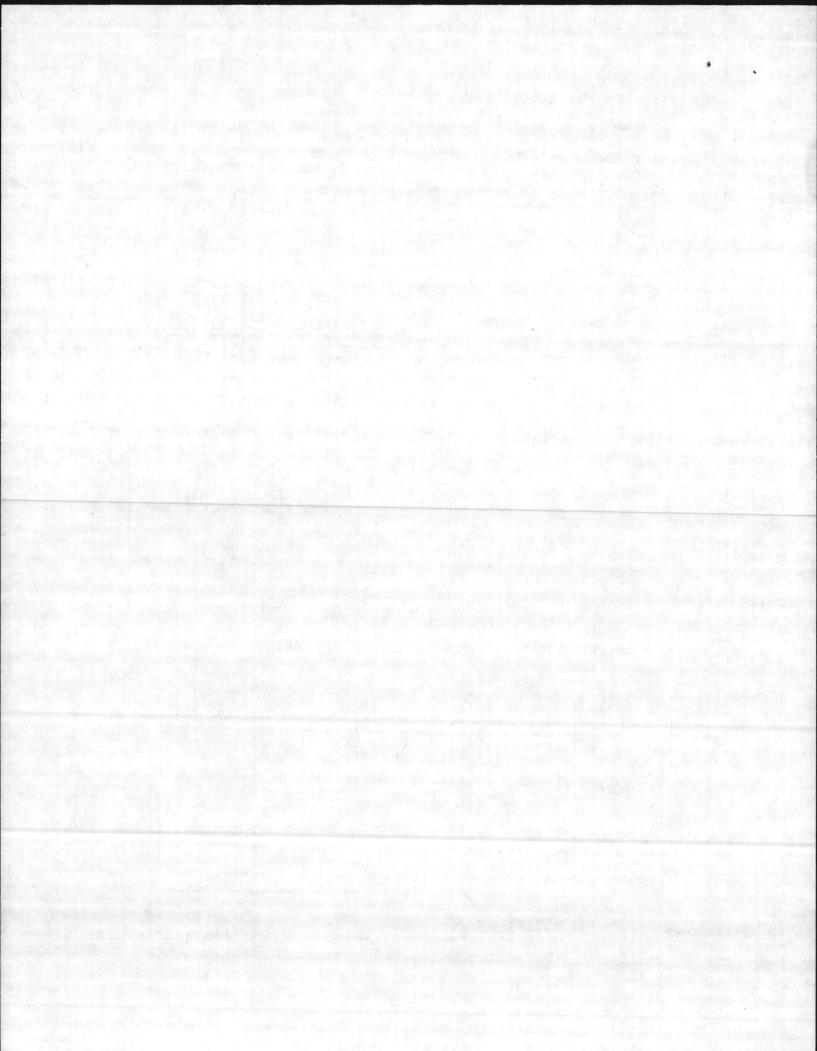
#### INFORMATION IS SUBMITTED

- ATTACH DETAILED ENGINEERING DRAWINGS OF SOURCE(S), PROCESS(ES) AND COLLECTION DEVICE(S) AS
  REQUESTED IN EACH SECTION. IF MULTIPLE SOURCES OR DEVICES, USE ADDENDUM SHEETS AS NECESSARY.
- Submit application, detailed engineering drawings, specifications and other supporting data and documents in TRIPLICATE.
- 3. Attach additional sheets as necessary to complete any portion of the application.
- 4. The application MUST BE SIGNED by the RESPONSIBLE INDIVIDUAL of the company that is to PURCHASE AND OPERATE the facilities for which a Permit is applied.
- 5. ALL APPLICANTS MUST COMPLETE THE FIRST PAGE AND SECTIONS I AND VI.
- If an Incinerator, Fuel Burning Source, Wet Collection Device or Dry Collection Device is to be installed and operated, COMPLETE SECTIONS II, III, IV or V respectively.
- 7. All applications should be mailed to: ENVIRONMENTAL MANAGEMENT COMMISSION
  AIR QUALITY SECTION
  P. O. Box 27687
  Raleigh, North Carolina 27611



# APPLICATION FOR A "PERMIT" To Construct and Operate Air Pollution Abatement Facilities and/or Emission Sources Three Copies to be Submitted Fourth Copy Should be Retained by Applicant

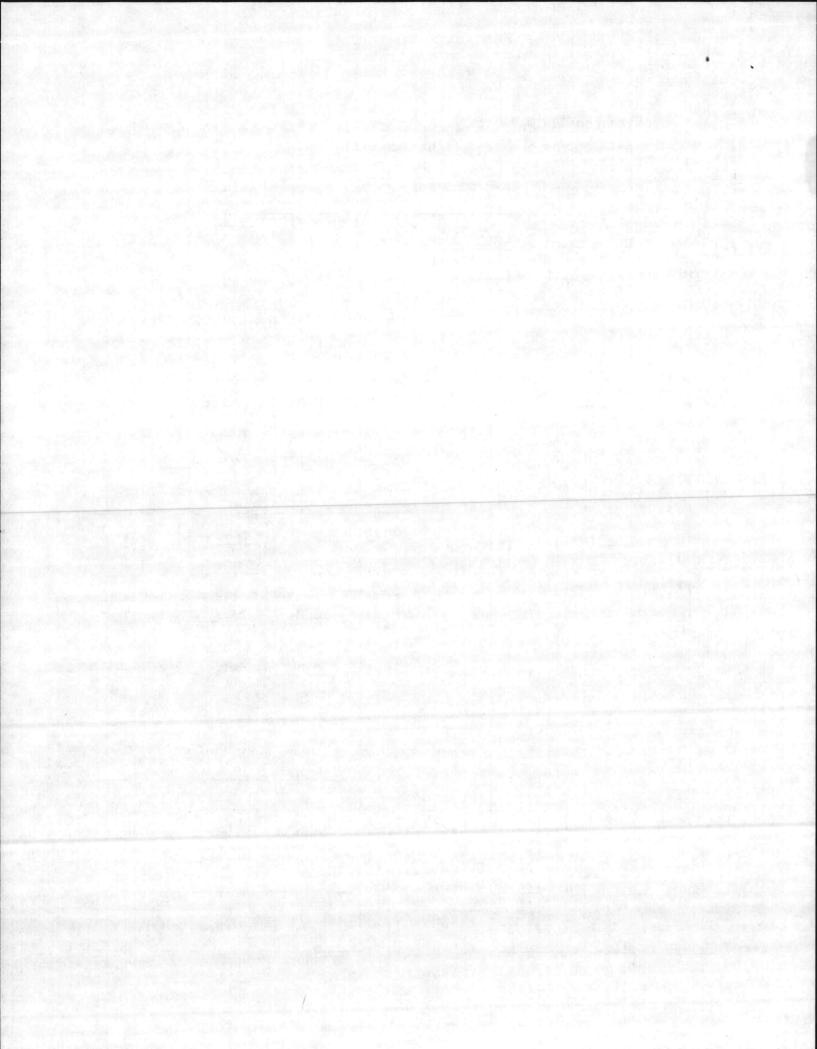
	Date: 24 September 1980
	accordance with the provisions of Article 21 of Chapter 143, General Statutes of North Carolina as amended, application hereby made by Marine Corps Base, Camp Lejeune, North Carolina
cr	(Name of Company, Establishment, Town, Etc.) (Include Division or Plant Name in Addition to Parent  in the County of Onslow at Jacksonville North Carolina  pany if Applicable)  issuance of a "Permit" to construct and operate air pollution abatement facilities and/or emissions sources at above action as specified in the accompanying drawings, specifications, and other pertinent data:
	Nature of Operation Conducted at the Above Facility: Military Operations
2.	Description of Process(es) Whose Emission(s) is/are to be Controlled by the Facility or Source(s) Which is/are to be Constructed or Altered. (Complete Section I)
	Boiler, No. 6 Fuel Oil Boiler No. 83 Bldg No. G-650
3.	Furnish Type and Narrative Description of Proposed Control Device(s).(Complete Appropriate Supplemental Data Sheets for Control Device to be Installed and/or Operated. Include Make and Model Number of Control Device(s) and Number of Identical Units).
	No. 6 01 fired, no control device.  Contaminant Weight Rate of Emissions (1b/hr): Control Efficiency (%):
	SOx and 113.93 lb/hr N/A N/A N/A Particulates
· .	Name and Address of Engineering Firm that Prepared Plans:
· ·	Ultimate Disposition of Collected Pollutants: 7. Date on Which Facilities are to be Completed and in Operation:  October , 19 80
3.	Indicate Period of Time for Which Facilities 9. Estimate Cost of Air Pollution Control Device \$ 0 are Estimated to be Adequate: 20 Years  10. Hours Facility is Operated Per Year: 8760
lam	(Responsible Individual of Company Purchasing)  Mailing Address: Marine Corps Base
	Operating FacilityPLEASE PRINT)  Tamp Lejeune  North Carolina 28542
iig	D. B. BARKER, MAJOR GENERAL, USMC  Telephone Number: 451-5024
	Commanding General



#### I. GENERAL DATA FOR PROCESSES

\*Attach detailed process engineering drawings, equipment drawings and flow diagrams for the process(es) or source(s) being constructed or altered.

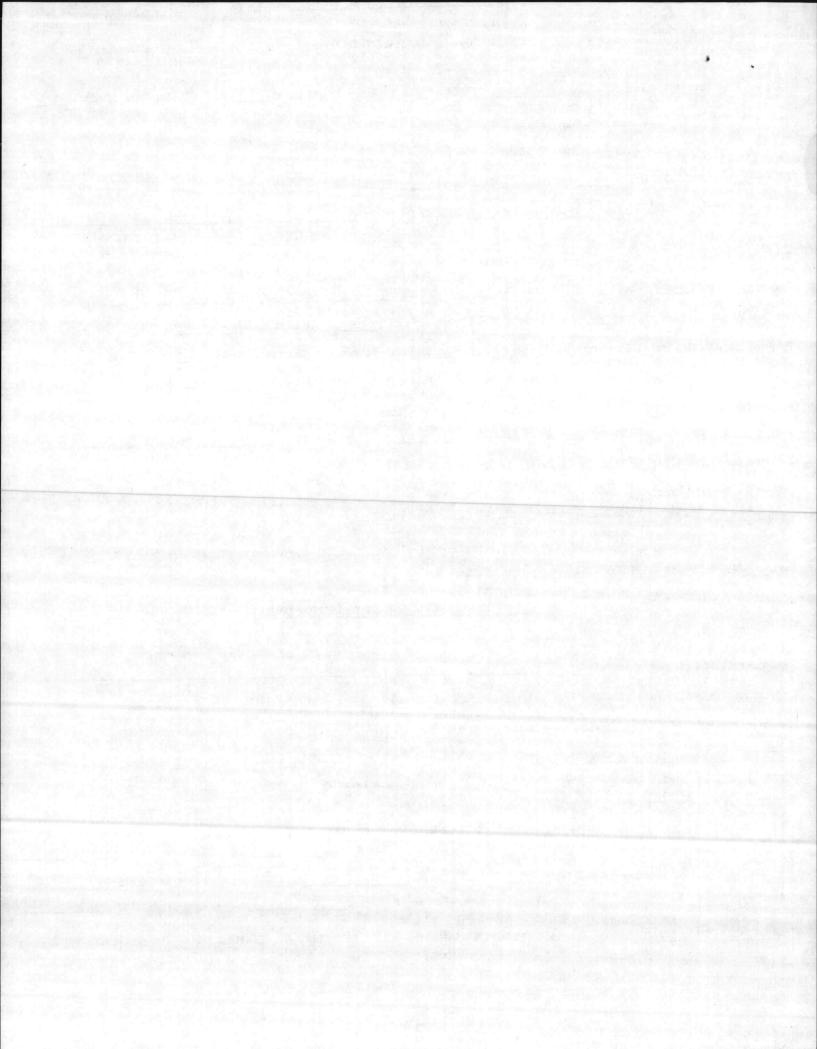
ame of Process: Heating and Steam Plant	
otal Weight of Materials Entering this Process: 325 gal/haxxxxxxxxxx	
olume and Temperature of Air Flow Entering Control Device: CFM @ °F  Volume and Temperature of Effluent at Discharge Point to Atmosphere: CFM @ °F	
eight of Process Stack or Vent Above Ground Level 41.5 ft. Inside area of Stack 9.62 ft <sup>2</sup> .	
articulate Emission Rate (Before Control) 8.0 1b/hr	
article Size Distribution: 0-5µ %, 5-10µ %, 10-20µ %, 20-30µ %, 30-40µ %, 40-50µ %,>50µ	<u>.</u>
aseous Emission(s): Name (Chemical Formula) ug/m³, PPM or lb/hr	
SO <sub>x</sub> 105.93	
II SURGE EMENTARY DATA FOR INCINERATORS (Including Conice) Includes	
II. SUPPLEMENTARY DATA FOR INCINERATORS (Including Conical Incinerato	rs)
ircle Type of Waste or Indicate Composition: Type O Type I Type II Type III Type IV	
.Combustible: Moisture: Heat Value:BTU/1b .	
otal Waste Generated Per Day: 1b. Hours Incinerator will be Operated: hrs/day	
Design Capacity for Above Waste: lbs/hr Manufacturer and Model Number; Approximate Cost:	
Primary Chamber Volume:ft.3 Secondary Chamber Volume:ft.3	
Air Requirements: Total Excess Air % Draft: Natural Induced Other  Overfire Air:cfm	
Conical Incinerator for: Overfire Air Supply, Underfire Air Supply, DomeTemperature Set  Flame Port Temperature:°F  Secondary Chamber Temperature:°F	Point
Is there a Continuous Exhaust Gas Temperature Recorder? YesNo	
Inside Areaft. <sup>2</sup> Heightft. Gas Velocityft/sec Temperature°F Fan Capacitycfm Stack Lined?	407 1
Is there a Wet Scrubber?	
Yes No Flow Rate of H <sub>2</sub> O into Scrubbergal/min Temperature Before Scrubber°F	
Aux. Fuel: Oil Gas Other Burner Rating: Primary Chamber Secondary Chamber Stack	
BTU/hr BTU/hr BTU/hr	'hr
Primary Burner: Is there a Preheat Timer? Yes No Preheating Time:min.	
Secondary Burner or Afterburner: Is there a Timer? Yes No Length of Time Burner is Operatedmin	1.
Is the Timer Reset by Charging Door? Yes No Other Mode of Burner Control	
Type of Feed: Manual Automatic If Automatic, Describe	5 4 3 Toler
Distance from Incinerator to Nearest Structure(s) in which People Live and/or Workft.	
Signature:	1159



"Attach detailed dimensioned dr\_ing or sketch showing internal features of unyers, wood or coal fired boilers, and recovery boilers. Type of Fuel Burning Source Boiler Stack Height Above Ground Leve 41'5" ft. Inside Area of Stack 9.62 ft2 Make and Model Number NB110232 Value \_\_\_ Volume of Furnace ft3 Specify Actual Amount of Each Fuel Used in Above Source (s): CGal \_\_\_\_ 1b/hr; 0il Grade 6 Amount 325 gal/hr, at \_\_\_\_ 146,900 BTU/gal and \_\_\_\_ lb/gal or \_\_\_ lb/hr Wood \_\_\_\_ lb/hr; Natural Gas \_\_\_\_ SCF/hr, at \_\_\_\_ BTU/SCF; Other \_\_\_ (Specify type, amount and heating value) Specify Maximum Rating for Each Fuel Burning Source: Coal \_\_\_\_\_Oil 325 g/hr Natural Gas \_\_\_\_ Other \_\_\_\_ Maximum Sulfur Content of Fuel 2.05% Specify Standby Fuel none Maximum % Sulfur Type of Solid Fuel Burning Equipment Used: Hand Fired \_\_\_ Spreader Stoker \_\_ Underfeed Stoker \_\_ Chain Grate Traveling Grate \_\_ Pulverizer \_\_ Cyclone Furnace \_\_ Other (Specify) \_\_\_\_ Ash Content of Fuel: Specify Method and Schedule of Tube Cleaning, if Applicable: Coal \_\_\_ % Wood \_\_ % Other \_\_ % Lancing \_\_\_ Tube Blowing \_\_\_ Schedule \_\_ Emission Control Equipment (Describe in Detail in Sections IV and V) Collection Device: Wet Steam Injection \_\_\_\_ Air Injection \_\_\_ Is Collected Flyash Reinjected? Draft on Soiler (Natural Induced X ) cfm at Total Number of Fuel Burning Sources Within Property Boundaries: 3 Maximum Capacity Rating, by Type, for All Fuel Burning Units Excluding that Itemized Above: (Total Like Units) 2 Coal \_\_\_ 1b/hr Wood \_\_\_ 1b/hr Oi1486 gal/hr Natural Gas \_\_\_ SCF/hr IV. SUPPLEMENTARY DATA FOR WET COLLECTION DEVICES \*Attach detailed engineering drawings of the control device and particle size versus removal efficiency curves. Liquid Scrubbing Medium and Additives: Total Liquid Injection Rate (Include Recirculated and Make-up Rates) \_\_\_\_\_gal/min or gal/1000 ft3 Operating Pressure Drop Across Device \_\_\_\_ in H2O ANSWER FOLLOWING QUESTIONS FOR SPECIFIC DEVICE: VENTURI SCURBBER: Inlet Area \_\_\_ in2 Throat Area \_\_\_ in2 Throat Velocity \_\_\_ ft/sec GRAVITY SPRAY CHAMSER: Number of Nozzles \_\_\_\_ Liquid Droplet Size \_\_\_ u Co-Eurrent \_\_\_ Countercurrent WET CYCLONE: PACKED TOWER OR PLATE TOWER: Body Diameter \_\_\_\_ in Length \_\_\_\_\_ in Cross-Sectional Area \_\_\_\_\_ft2 Type of Plate Inlet Area \_\_\_\_\_ in<sup>2</sup> Number of Nozzles \_\_\_\_\_ Length \_\_\_\_\_ft Depth of Packing \_\_\_\_ Outlet Area \_\_\_\_\_in2 Number of Plates Type of Packing OTHER WET COLLECTION DEVICES: GIVE COMPLETE DESCRIPTION INCLUDING DESIGN PARAMETERS AND DETAILED ENGINEERING DRAWINGS.

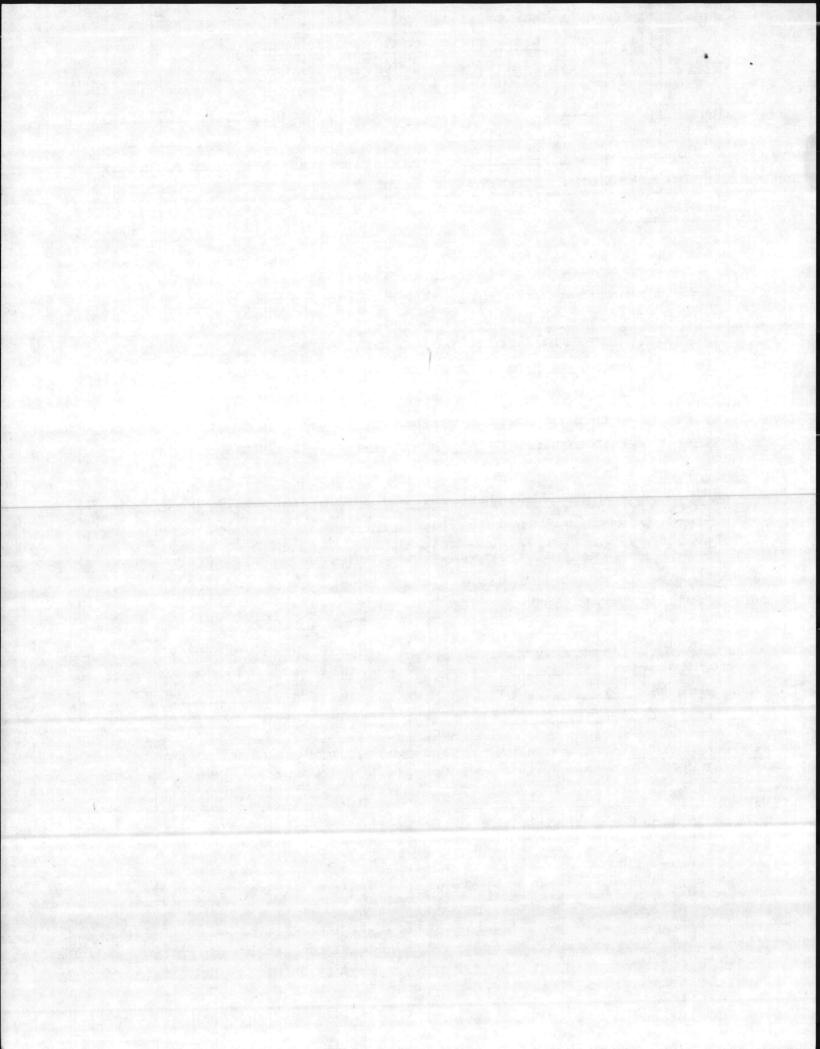
Title:

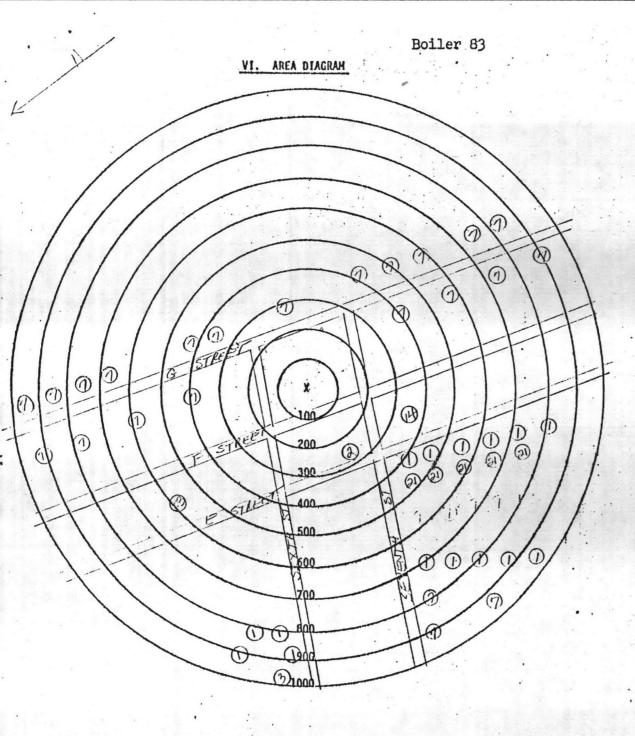
Signature:



### V. SUPPLEMENTARY DATA FOR DRY COLLECTION DEVICES

-0100262	: Cloth Areaft <sup>2</sup>	Bag Material	
	Number of Compartments		
	Method of Cleaning	Air-to-Cloth Ratio	
	Time Between Cleaning mins, hrs		
ECTROSTA	TIC PRECIPITATORS:		
GENERAL	•		
Ε	ffective Area of Grounded Collector Plat	tes ft <sup>2</sup>	
N	umber of Compartments or Chambers	Number of Cells per Compartment	
		ge or Emitting ElectrodesKV/in	- 100
		the Grounded Collecting Electrodes KV/in	
	ields of Treatment Potential		
	STAGE TYPE:		
	istance Between Emitting Wires and Colle	eting Plates	
		Corona Power Watts/1000 cfm	
		COTONA FOWER Watts/IGGO cfm	
	SE TYPE:		
		ctrodes and Field Receiver Electrodes (Ground)	in
	tential Applied to Second Stage Emitting	14 전 15 전 15 전 15 전 15 전 17 전 17 전 17 전 17	
Di	stance Between Second Stage Emitting Pla	ates and Grounded Collection Platesin	
UM\Z3MO.	LTICYCLONES:		
le Cycl	one	Multicyclone	
Di	ameter in	Diameterin	
In	let Dimensions	Inlet Dimensions of Individual Cyclone	
Ou:	tlat Dimensions	Outlet Dimensions of Individual Cyclone	
Pre	essure Drop in H <sub>2</sub> O	Pressure Drop in H <sub>2</sub> O	
	mber of Cyclones	Mumber of Cyclones	
R DRY CO	DLLECTION DEVICES: GIVE COMPLETE DETAIL	ED ENGINEERING DESCRIPTION AND DRAWINGS.	





Owner Marine Corps Base, Camp Lejeune, N.C.

Location Seventh Street, Camp Geiger (Give Street Address)

#### INSTRUCTIONS:

- Show all surrounding buildings and roads within 1000 feet of subject equipment which is located at center of circles.
- Indicate location and type of building by the use of small numbered circles with the description below.
- Show roads as lines representing the road edges. Indicate street names and highway numbers.
- Show wooded or cleared areas by approximate boundary lines and the words "woods", "cleared", "cornfield", etc.
- 5. Indicate direction of north by arrow.

CODE	DESCRIPTION
0	Barracks
2	Mess Hall
② ③ ④	Administration
(5)	
6 () (8) (9)	
0	Warehouse
(8)	
9	
0	
(14)	Dispensary
EXAMPLE	① Church
27	@ Residence Washroom NCO Club

X Indicates location of equipment.

		•
		•

#### NORTH CAROLINA

#### ENVIRONMENTAL MANAGEMENT COMMISSION

RALEIGH

Wilmington Regional Office DEM

APPLICATION FOR

A "PERMIT"

TO CONSTRUCT AND OPERATE AIR

POLLUTION ABATEMENT FACILITIES AND/OR EMISSION SOURCES

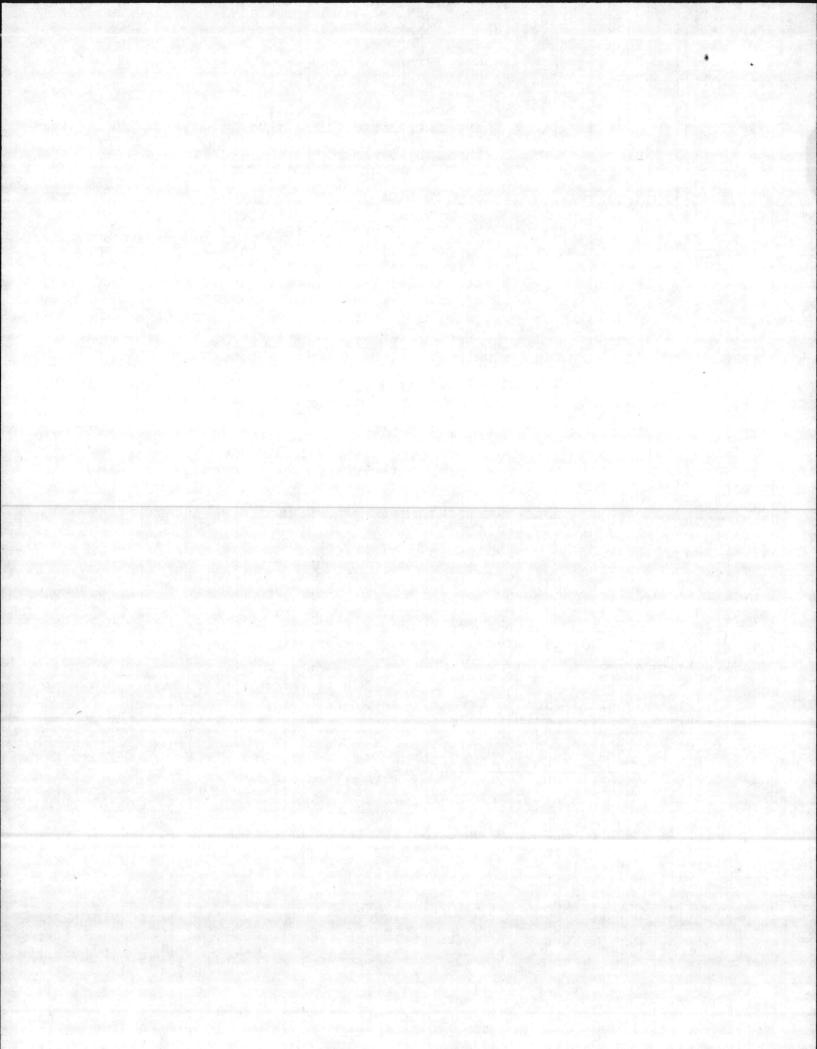
Filed By: Major General D. B. Barker (Name)

Marine Corps Base

(Address)

Camo Lejeune. North Carolina

A0-22

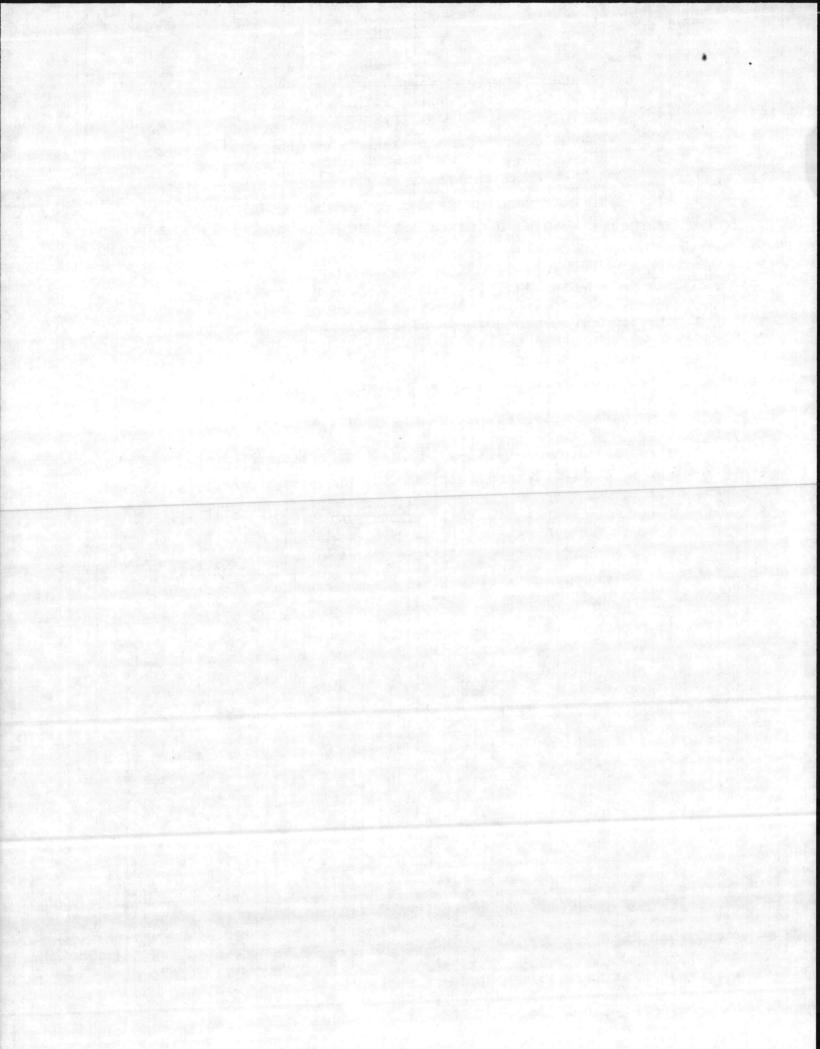


#### APPLICATION INSTRUCTIONS

#### THIS APPLICATION IS SUBJECT TO REJECTION UNLESS ALL REQUIRED

#### INFORMATION IS SUBMITTED

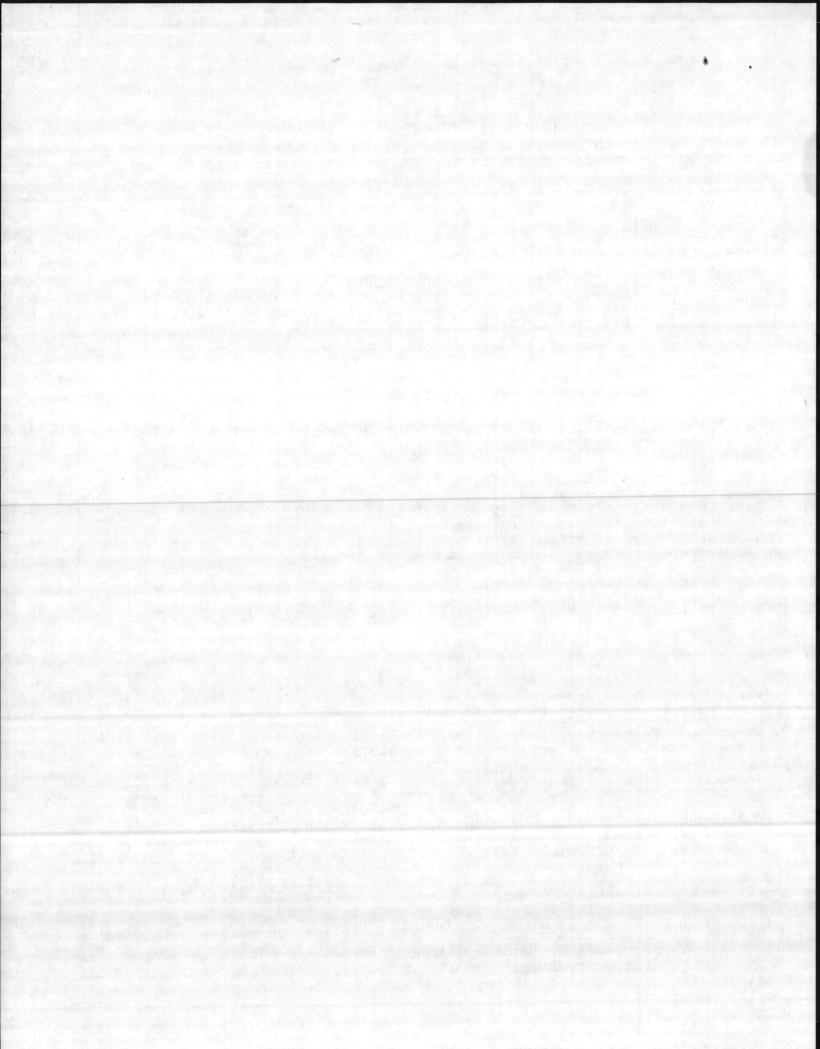
- 1. ATTACH DETAILED ENGINEERING DRAWINGS OF SOURCE(S), PROCESS(ES) AND COLLECTION DEVICE(S) AS
  REQUESTED IN EACH SECTION. IF MULTIPLE SOURCES OR DEVICES, USE ADDENDUM SHEETS AS NECESSARY.
- 2. Submit application, detailed engineering drawings, specifications and other supporting data and documents in TRIPLICATE.
- 3. Attach additional sheets as necessary to complete any portion of the application.
- 4. The application MUST BE SIGNED by the RESPONSIBLE INDIVIOUAL of the company that is to PURCHASE AND OPERATE the facilities for which a Permit is applied.
- 5. ALL APPLICANTS MUST COMPLETE THE FIRST PAGE AND SECTIONS I AND VI.
- If an Incinerator, Fuel Burning Source, Wet Collection Device or Dry Collection Device is to be installed and operated, COMPLETE SECTIONS II, III, IV or V respectively.
- 7. All applications should be mailed to: ENVIRONMENTAL MANAGEMENT COMMISSION AIR QUALITY SECTION
  P. O. Box 27687
  Raleigh, North Carolina 27611



# APPLICATION FOR A "PERMIT" To Construct and Operate Air Pollution Abatement Facilities and/or Emission Sources Three Copies to be Submitted Fourth Copy Should be Retained by Applicant

Date: 24 September 1980

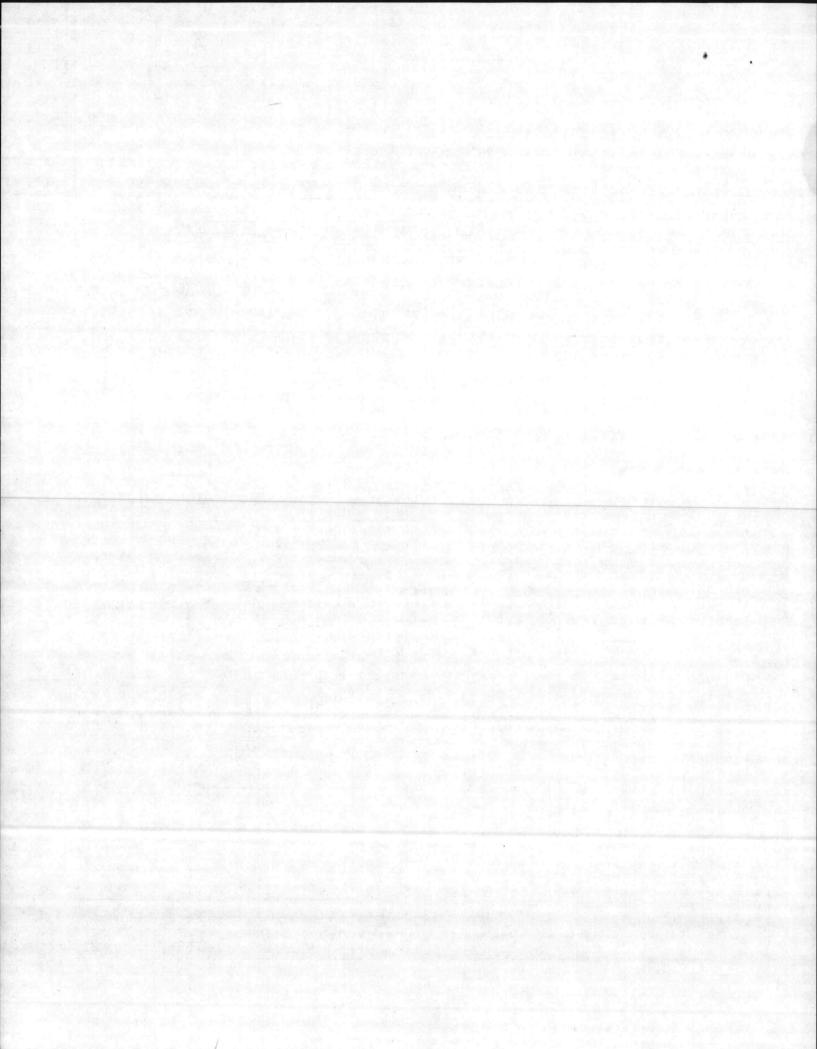
In accordance with the provisions of Article 21 of Chapt	er 143, General Statutes of North Carolina as amended, application
is hereby made by <u>Marine Corps Base, Camp</u> (Name of Company, Establishment, Town,	Lejeune, North Carolina Etc.) (Include Division or Plant Name in Addition to Parent
in the County of Onslow  Company if Applicable)  for issuance of a "Permit" to construct and operate air location as specified in the accompanying drawings, spec	at
1. Nature of Operation Conducted at the Above Facility:	
<ol> <li>Description of Process(es) Whose Emission(s) is/are Constructed or Altered. (Complete Section I)</li> </ol>	to be Controlled by the Facility or Source(s) Which is/are to be
Boiler, No. 6 Fuel Oil Boiler N Bldg No.	(FINE NOTE OF A CONTROL OF A
<ol> <li>Furnish Type and Narrative Description of Proposed C Control Device to be Installed and/or Operated. Inc Identical Units).</li> </ol>	ontrol Device(s).(Complete Appropriate Supplemental Data Sheets for lude Make and Model Number of Control Device(s) and Number of
No. 6 Oil Fired, No control device.	
4. Contaminant Weight Rate of Emissions (1b. Emitted: Without Control Device With Co.	/hr): Control Efficiency (%): ntrol Device Without Control Device With Control Device
SO <sub>X</sub> and 113.93 lb/hr N/A Particulant	H/A N/A
5. Name and Address of Engineering Firm that Prepared P	lans:
6. Ultimate Disposition of Collected Pollutants: 7.	Date on Which Facilities are to be Completed and in Operation:  October , 19 80
are Estimated to be Adequate: 20 Years	Estimate Cost of Air Pollution Control Device \$ 0
Name: Major General D. B. Barker, USMCMa (Responsible Individual of Company Purchasing/ Operating FacilityPLEASE PRINT)	그는 그 그는 그는 그를 가는 것이 없는 것이 되었다.
operating facility <u>recase raining</u>	Camp Lejeune
>77	North Carolina 28542
Signature and Title: D. B. BARKER, MAJOR GENER	RAL, USMC
Commanding General	



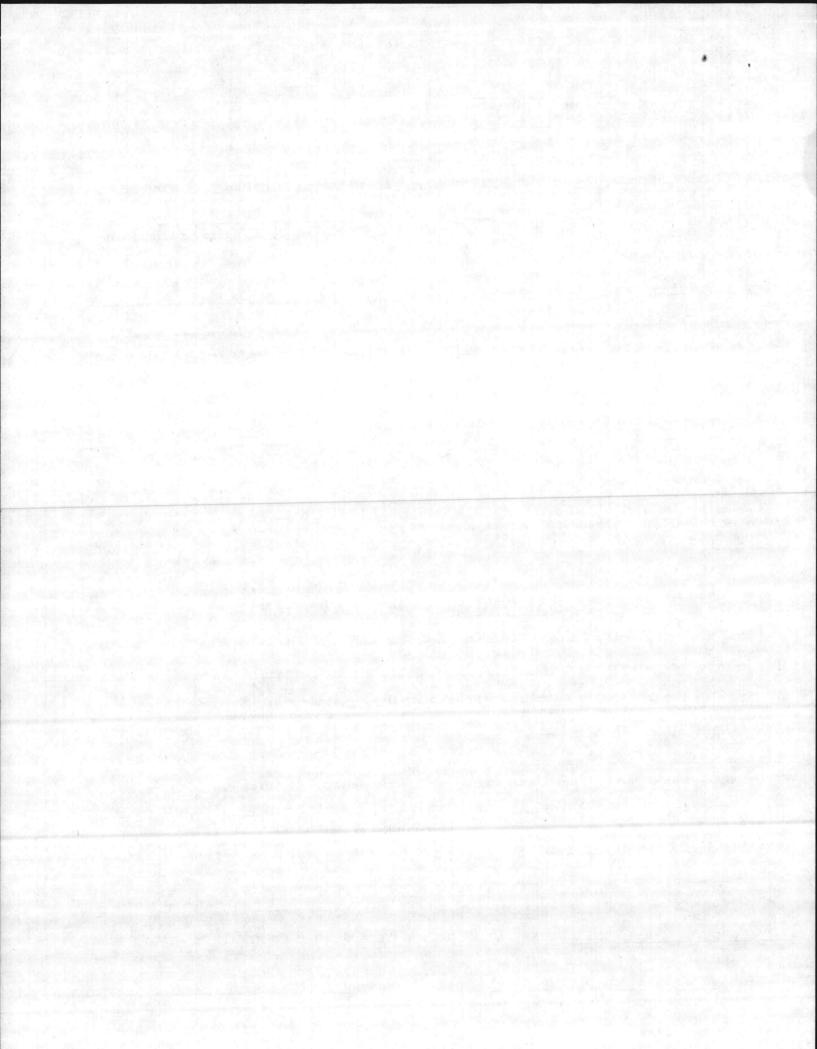
#### I. GENERAL DATA FOR PROCESSES

\*Attach detailed process engineering drawings, equipment drawings and flow diagrams for the process(es) or source(s) being constructed or altered.

Name of Process: Heating and Steam Plant	
Total Weight of Materials Entering this Process: 325 galxxb/	hr xx txxxx
Volume and Temperature of Air Flow Entering Control Device:  Volume and Temperature of Effluent at Discharge Point to Atmosp Pollstant(s) to be Controlled:	phere:°F
Height of Process Stack or Vent Above Ground Level 33'7"	ft. Inside area of Stack 9.62 ft <sup>2</sup> .
Particulate Emission Rate (Before Control) 8 1b/	hr
Particle Size Distribution: 0-5µ %, 5-10µ %, 10-20µ	z, 20-30µ z, 30-40µ z, 40-50µ z,>50µ z
Gaseous Emission(s): Name (Chemical Formula) yg/m³	PPM er lb/hr
SO <sub>X</sub>	105.93
II. SUPPLEMENTARY	DATA FOR INCINERATORS (Including Conical Incinerators)
Circle Type of Waste or Indicate Composition: Type 0 Type	I Type II Type III Type IV
Combustible:% Non-Combustible:% Moisture:	
Total Waste Generated Per Day:1b.	Hours Incinerator will be Operated:hrs/day
Design Capacity for Above Waste: lbs/hr	Manufacturer and Model Number; Approximate Cost:
Primary Chamber Volume:ft.3	Secondary Chamber Volume: ft.3
Air Requirements: Total Excess Air _ % Draft: Natural _ Overfire Air: _ cfm	e Air: cfm
Conical Incinerator for: Overfire Air Supply, Unc Flame Port Temperature: °F Secondary	derfire Air Supply, DomeTemperature Set Point Chamber Temperature: °F
Is there a Continuous Exhaust Gas Temperature Records	er? YesNo
Inside Areaft. <sup>2</sup> Heightft. Gas Velocityft/sec	Temperature°F Fan Capacitycfm Stack Lined?
Is there a Wet Scrubber?	
Yes No Flow Rate of H <sub>2</sub> O into Scrubbergal/mi	n Temperature Before Scrubber°F
Aux. Fuel: Oil Gas Other Burner Rat	ing: Primary Chamber Secondary Chamber Stack
	BTU/hr BTU/hr BTU/hr
Primary Burner: Is there a Preheat Timer? Yes No	Preheating Time:min.
Secondary Burner or Afterburner: Is there a Timer? Yes	No Length of Time Burner is Operatedmin.
Is the Timer Reset by Charging Door? Yes No	Other Mode of Burner Control
Type of Feed: Manual Automatic If Automatic,	, Describe
Distance from Incinerator to Nearest Structure(s) in	which People live and/or Work
The second secon	Title:

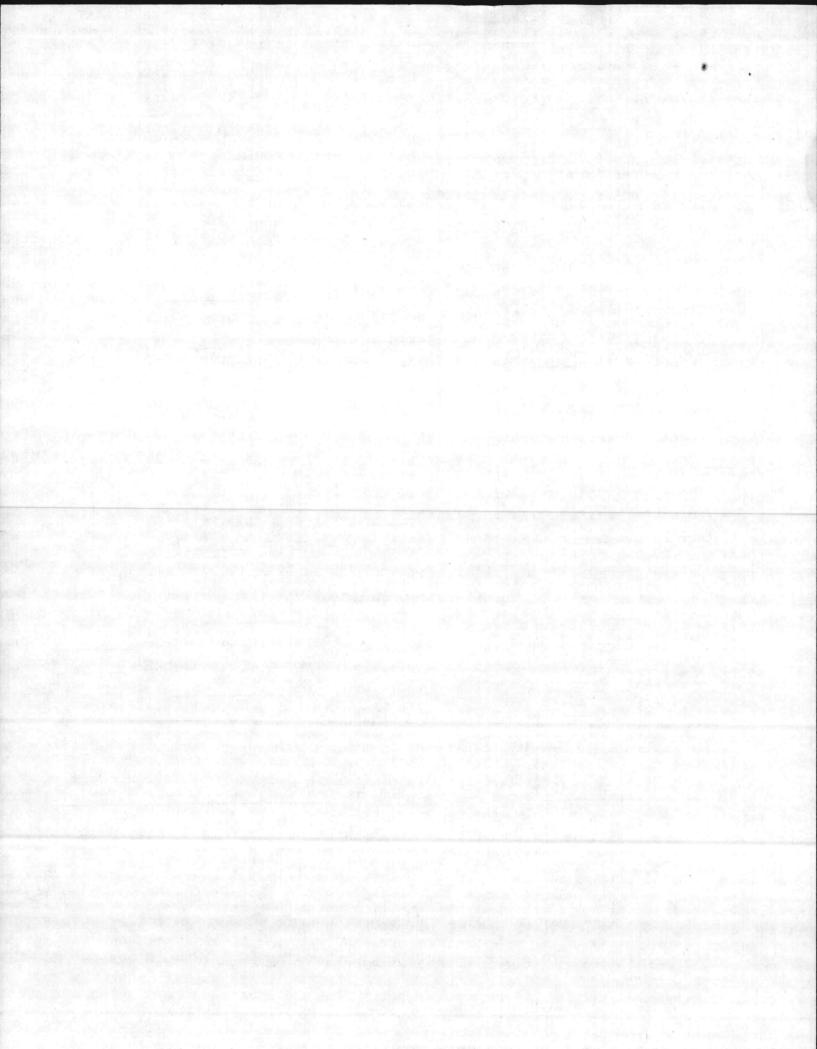


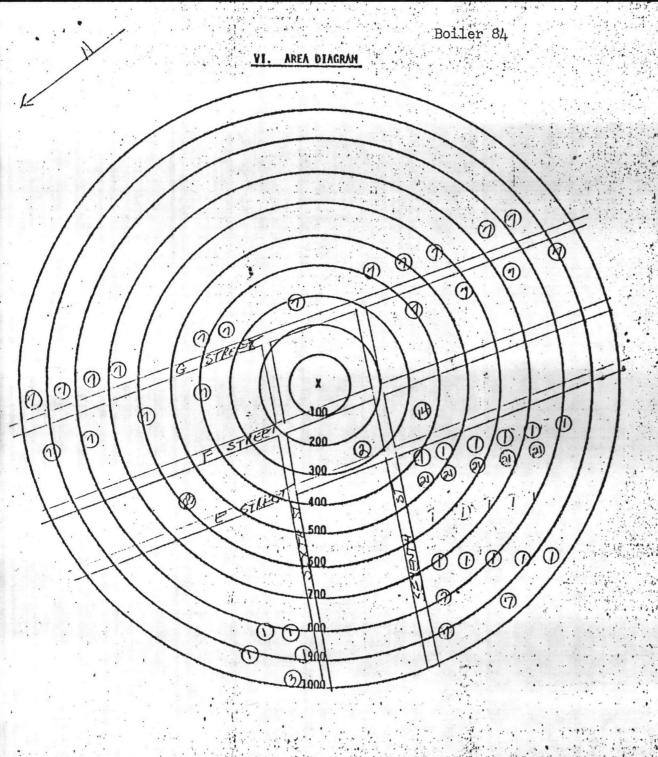
\*Attach detailed dimensioned dr\_ing or sketch showing internal features of argers, wood or coal fired boilers, and recovery boilers. Type of Fuel Burning Source Boiler Stack Height Above Ground Level 33 17"ft. Inside Area of Stack 9.62 ft2 Combustion Engineering Inc. Make and Model Number NB110232 \_\_\_\_ Volume of Furnace ft3 Specify Actual Amount of Each Fuel Used in Above Source (s): Coal \_\_\_\_ 1b/hr; Oil Grade 6 Amount 325 gal/hr, at \_\_\_\_ 146,900 \_\_\_\_ 1b/gal or \_\_\_\_ 1b/hr Wood \_\_\_\_ 1b/hr; Natural Gas \_\_\_\_ SCF/hr, at \_\_\_\_ BTU/SCF; Other \_\_ (Specify type, amount and heating value) Specify Maximum Rating for Each Fuel Burning Source: Coal \_\_\_\_ Oil 325 Wood \_\_\_ Natural Gas \_\_\_ Other Maximum Sulfur Content of Fuel 2.05% Specify Standby Fuel None Maximum % Sulfur \_\_\_ Type of Solid Fuel Burning Equipment Used: Hand Fired \_\_\_ Spreader Stoker \_\_ Underfeed Stoker \_\_ Chain Grate \_\_ Traveling Grate \_\_\_ Pulverizer \_\_\_ Cyclone Furnace \_\_\_ Other (Specify) \_\_\_\_ Ash Content of Fuel: Specify Method and Schedule of Tube Cleaning, if Applicable: Coal \_\_ % Wood \_\_ % Other \_\_ % Lancing \_\_ Tube Blowing \_\_ Schedule \_\_ Emission Control Equipment (Describe in Detail in Sections IV and V) Collection Device: Wet \_\_\_ Dry \_\_\_ Steam Injection \_\_\_\_ Air Injection \_\_\_ Is Collected Flyash Reinjected? Oraft on Boiler (Natural Induced X ) cfm at Total Number of Fuel Burning Sources Within Property Boundaries: Maximum Capacity Rating, by Type, for All Fuel Burning Units Excluding that Itemized Above: (Total Like Units) 2 Coal \_\_\_\_ lb/hr Wood \_\_\_ lb/hr Oil486 gal/hr Natural Gas \_\_\_ SCF/hr IV. SUPPLEMENTARY DATA FOR WET COLLECTION DEVICES \*Attach detailed engineering drawings of the control device and particle size versus removal efficiency curves. Liquid Scrubbing Medium and Additives: Total Liquid-Injection Rate (Include Recirculated and Make-up Rates) \_\_\_\_\_ gal/min or gal/1000 ft3 Operating Pressure Drop Across Device \_\_\_\_ in H<sub>2</sub>O ANSWER FOLLOWING QUESTIONS FOR SPECIFIC DEVICE: VENTURI SCURBBER: Inlet Area \_\_\_ in2 Throat Area \_\_\_ in2 Throat Velocity \_\_\_ ft/sec GRAVITY SPRAY CHAMBER: Number of Nozzles \_\_\_ Liquid Droplet Size \_\_\_ u Co-Current \_\_\_ Countercurrent WET CYCLONE: PACKED TOWER OR PLATE TOWER: Body Diameter \_\_\_\_\_in Length \_\_\_\_\_\_in Cross-Sectional Area \_\_\_\_\_ft<sup>2</sup> Type of Plate Inlet Area \_\_\_\_\_ in<sup>2</sup> Number of Nozzles \_\_\_\_\_ Length \_\_\_\_ ft Depth of Packing \_\_\_\_ Outlet Area \_\_\_\_\_in2 Number of Plates Type of Packing OTHER WET COLLECTION DEVICES: GIVE COMPLETE DESCRIPTION INCLUDING DESIGN PARAMETERS AND DETAILED ENGINEERING DRAWINGS. Signature: Title:



### V. SUPPLEMENTARY DATA FOR DRY COLLECTI EVICES

BAGHOUSES:	Cloth Areaft <sup>2</sup>	Bag Material	
	Number of Compartments	Pressure - Drop Total	in H
	Method of Cleaning	Air-to-Cloth Ratio	A Company of the Comp
	Time Between Cleaning mins, hrs		
LECTROSTAT	TIC PRECIPITATORS:		
GENERAL:			
Ef	fective Area of Grounded Collector Plates	ft <sup>2</sup>	
	영화는 그런 나는 사람들은 전에 가지 하면 것이 되었습니다. 그리고 얼마나 얼마를 하게 되었습니다.	Number of Cells per Compartment	
	ectrical Field Gradiant at the Discharge	- 'CHENNELS IN SANTONIAN BURNELS IN SANTONIAN IN SANTONIAN CONTROL OF THE SANTONIAN CONTROL OF	
	- NO. Y. C. L.	e Grounded Collecting Electrodes XV/in	a diss
	elds of Treatment Potential App		
SINGLE S	TAGE TYPE:		
	stance Between Emitting Wires and Collecti	ing Plates	
	mber of Isolatable Bus Sections		
			and the second
TWO STAGE			78
	tential Applied to Second Stage Emitting P	odes and Field Receiver Electrodes (Ground)	in
		s and Grounded Collection Platesin	
		and drounded correction Placesin	
	TICYCLONES:		
mple Cyclo	meterin	Multicyclone	
		Diameterin	
	et Dimensions	Inlet Dimensions of Individual Cyclone	
	let Dimensions	Outlet Dimensions of Individual Cyclone	
	ssure Drop in H <sub>2</sub> O	Pressure Drop in H <sub>2</sub> O	
NUM	ber of Cyclones	Number of Cyclones	
ER DRY CO	LLECTION DEVICES: GIVE COMPLETE DETAILED	ENGINEERING DESCRIPTION AND DRAWINGS.	•
nature:		Iitle:	





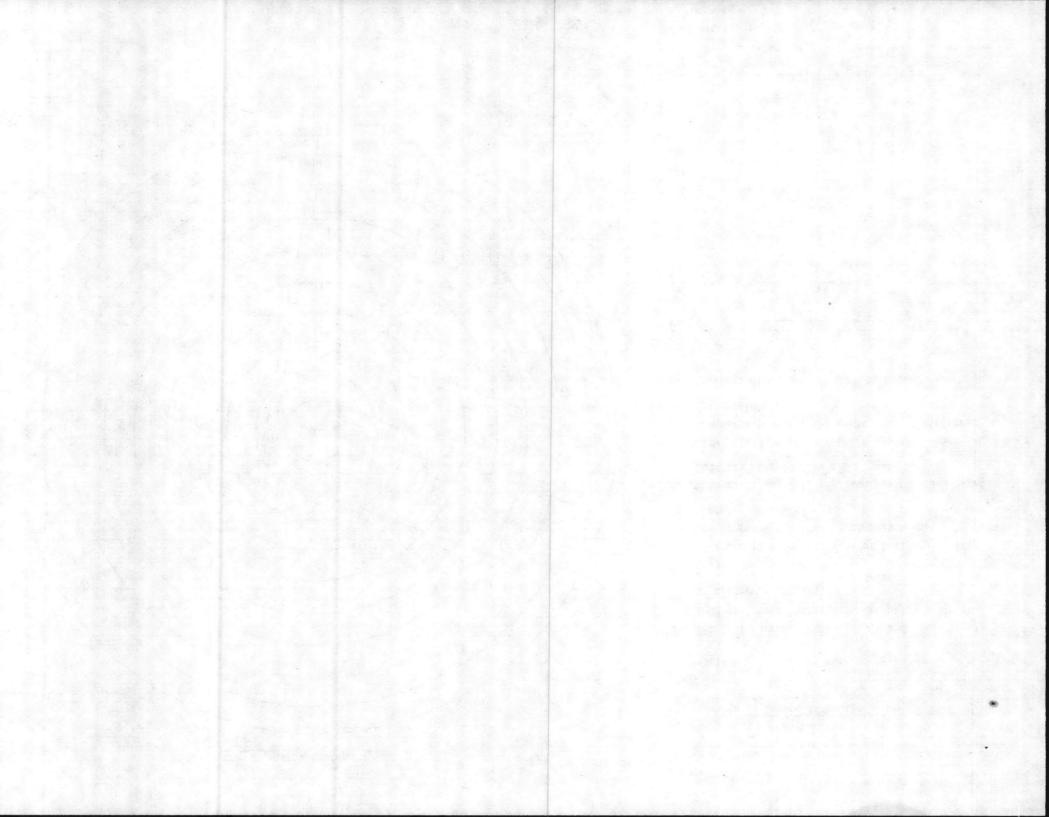
Owner Marine Corps Base, Camp Lejeune, N.C.

Location Seventh Street, Camp Geiger
[Give Street Address]

#### INSTRUCTIONS:

- Show all surrounding buildings and roads within 1000 feet of subject equipment which is located at center of circles.
- Indicate location and type of building by the use of small numbered circles with the description below.
- Show roads as lines representing the road edges.
   Indicate street names and highway numbers.
- Show wooded or cleared areas by approximate boundary lines and the words "woods", "cleared", "cornfield", etc.
- 5. Indicate direction of north by arrow.

CODE	DESCRIPTION
0	Barracks
2	Mess Hall
1	Administration
.0	
(5)	Commence of the Commence of th
6	And the second s
0	Warehouse
(1)	
9	
0	
(14)	Dispensary
EXAH	PLE D Church
A. Su	(2) Residence
(21)	Washroom
(22)	NCO Club
X I	ndicates location of equipment.



#### NORTH CAROLINA

#### ENVIRONMENTAL MANAGEMENT COMMISSION

RALEIGH

WITHIUM BELLINGER OF LOS

APPLICATION FOR

A "PERMIT"

TO CONSTRUCT AND OPERATE AIR

POLLUTION ABATEMENT FACILITIES AND/OR EMISSION SOURCES

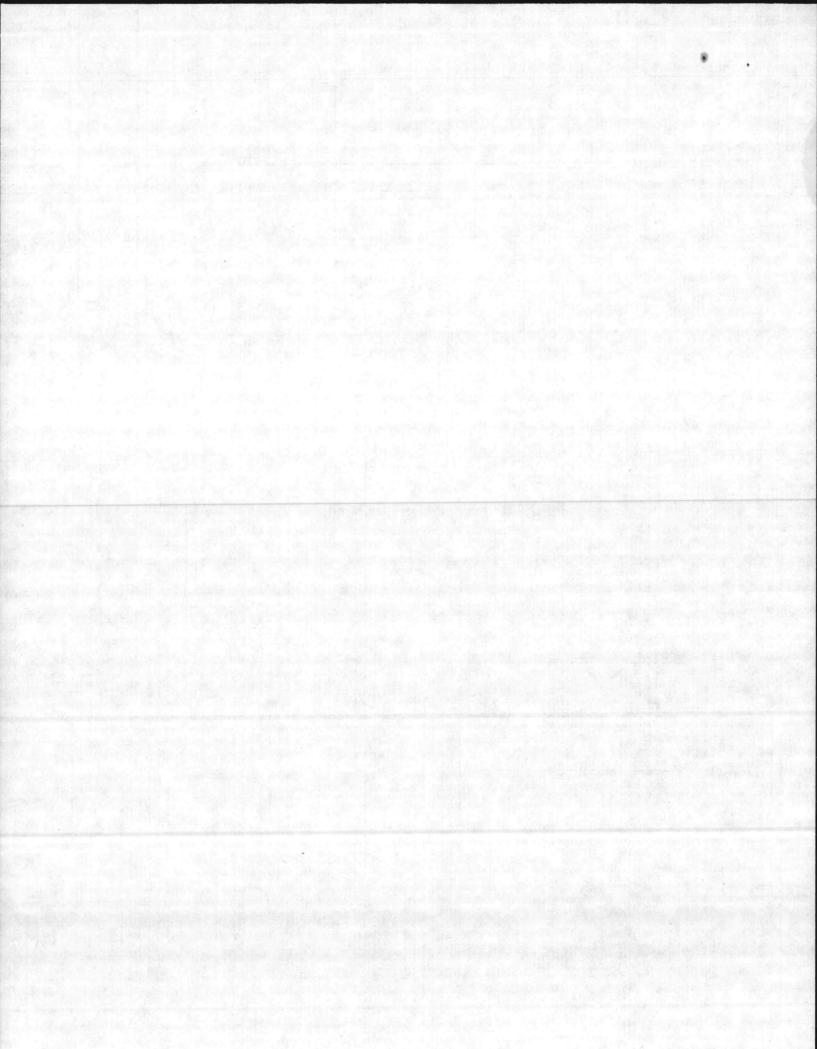
Filed By: Majer General D. B. Barker (Name)

Marine Corps Base

(Address)

Camp Lejeune, North Carolina

AQ-22

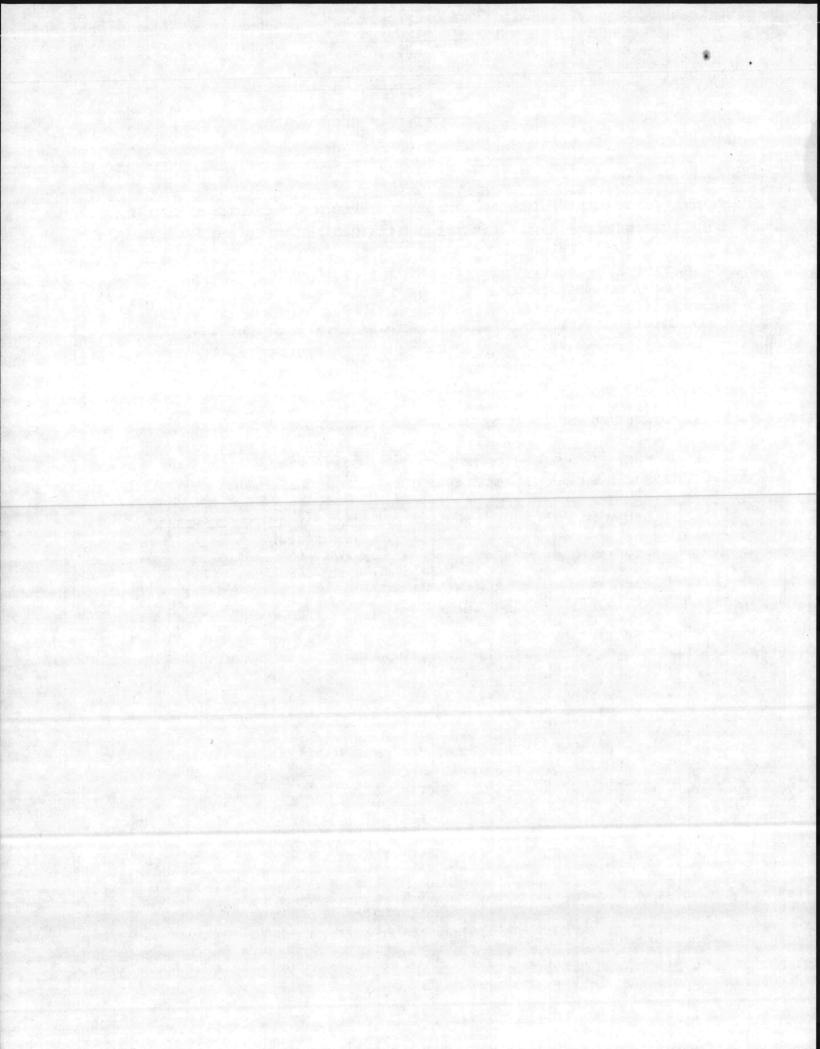


#### APPLICATION INSTRUCTIONS

#### THIS APPLICATION IS SUBJECT TO REJECTION UNLESS ALL REQUIRED

#### INFORMATION IS SUBMITTED

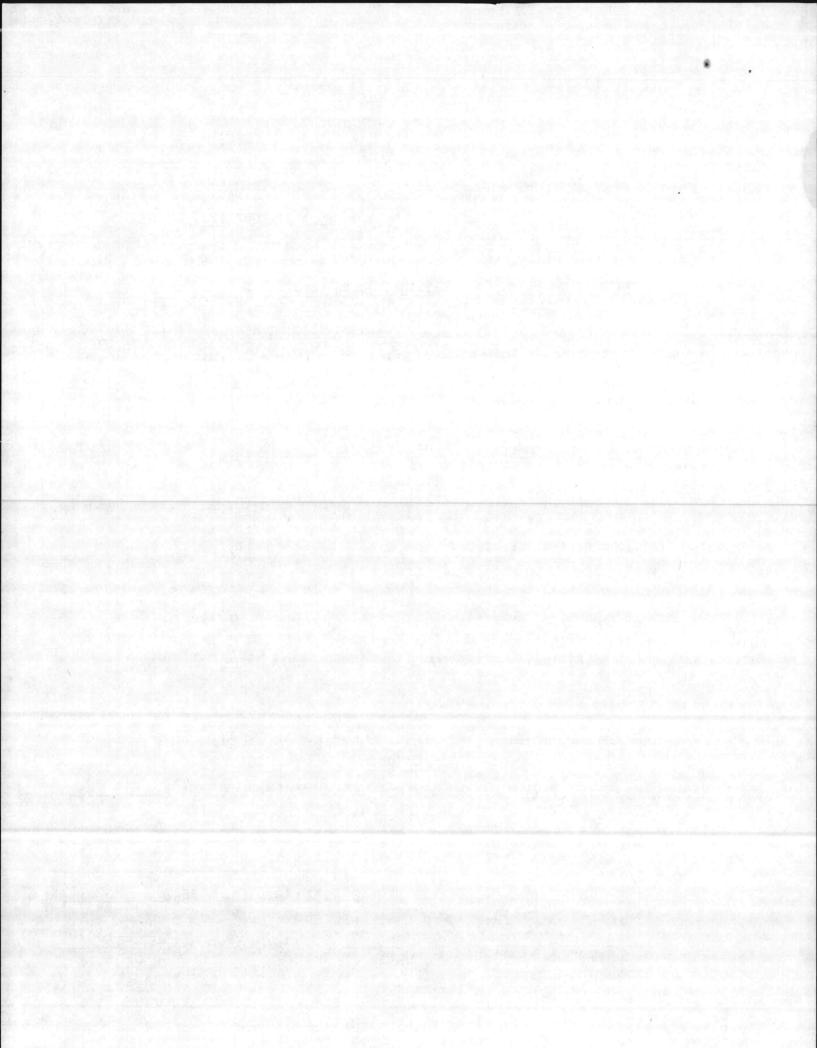
- ATTACH DETAILED ENGINEERING DRAWINGS OF SOURCE(S), PROCESS(ES) AND COLLECTION DEVICE(S) AS
  REQUESTED IN EACH SECTION. IF MULTIPLE SOURCES OR DEVICES, USE ADDENDUM SHEETS AS NECESSARY.
- Submit application, detailed engineering drawings, specifications and other supporting data and documents in TRIPLICATE.
- 3. Attach additional sheets as necessary to complete any portion of the application.
- The application MUST BE SIGNED by the RESPONSIBLE INDIVIDUAL of the company that is to PURCHASE AND OPERATE the facilities for which a Permit is applied.
- 5. ALL APPLICANTS MUST COMPLETE THE FIRST PAGE AND SECTIONS I AND VI.
- If an Incinerator, Fuel Burning Source, Wet Collection Device or Dry Collection Device is to be "installed and operated, COMPLETE SECTIONS II, III, IV or V respectively.
- 7. All applications should be mailed to: 'ENVIRONMENTAL MANAGEMENT COMMISSION AIR QUALITY SECTION
  P. O. Box 27687
  Raleigh, North Carolina 27611



## APPLICATION FOR A "PERMIT" To Construct and Operate Air Pollution Abatement Facilities and/or Emission Sources Three Copies to be Submitted Fourth Copy Should be Retained by Applicant

Date: 24 September 1980

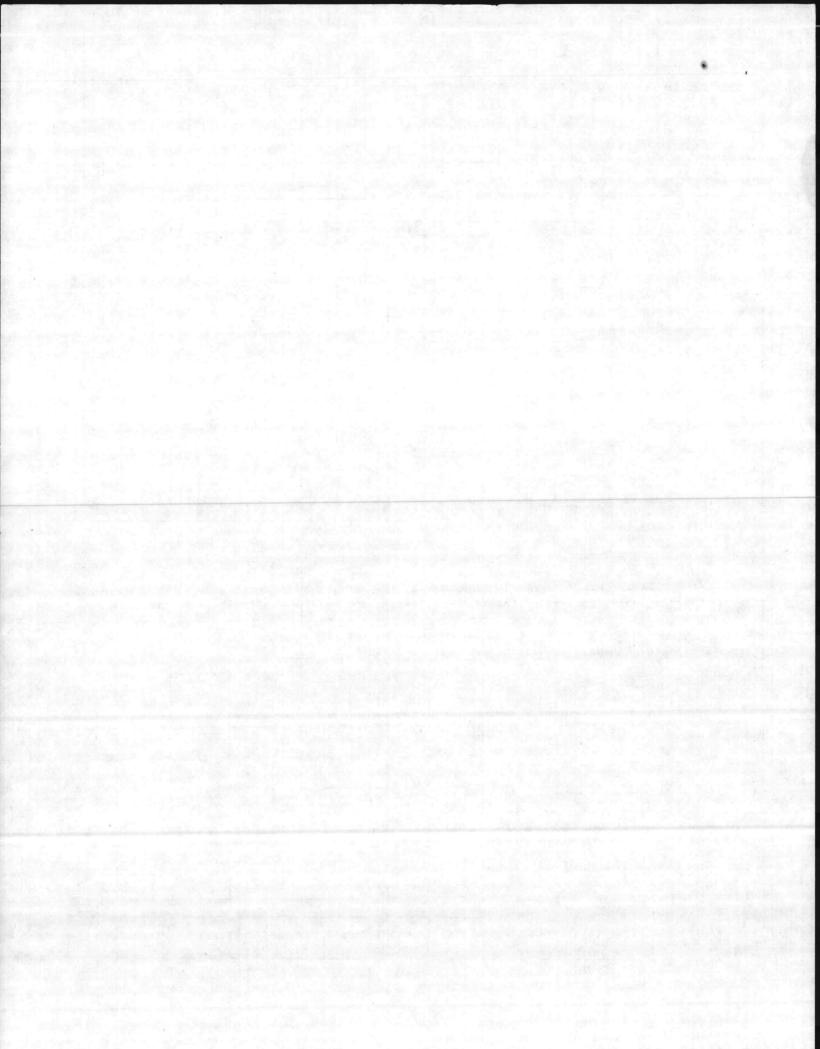
In	accordance with the provisions of Article 21 of Chapter 143, General Statutes of North Carolina as amended, application
is	hereby made byMarine Corps Base, Camp Lejeune, North Carolina
	(Name of Company, Establishment, Town, Etc.) (Include Division or Plant Name in Addition to Parent
	01
Соп	in the County of Onslow at Jacksonville, North Carolina (Street and City or Town Address of Plant or Facility)
for	issuance of a "Permit" to construct and operate air pollution abatement facilities and/or emissions sources at above ation as specified in the accompanying drawings, specifications, and other pertinent data:
1.	Nature of Operation Conducted at the Above Facility: Military Operation
2.	Description of Process(es) Whose Emission(s) is/are to be Controlled by the Facility or Source(s) Which is/are to be Constructed or Altered. (Complete Section I)  Boiler, No. 6 Fuel Oil  Boiler No. 85  Bldg No. G-650
3.	Furnish Type and Narrative Description of Proposed Control Device(s). (Complete Appropriate Supplemental Data Sheets for Control Device to be Installed and/or Operated. Include Make and Model Number of Control Device(s) and Number of Identical Units).
	No. 6 oil fired, No control device.
١.	Contaminant Weight Rate of Emissions (1b/hr):  Emitted: Without Control Device With Control Device Without Control Device With Control Device
	SO <sub>X</sub> and Particulant 56.44 lb/hr N/A N/A N/A
	Particulant 56.44 lb/hr N/A N/A N/A
5.	Name and Address of Engineering Firm that Prepared Plans:
5.	Ultimate Disposition of Collected Pollutants: 7. Date on Which Facilities are to be Completed and in Operation:
3.	Indicate Period of Time for Which Facilities 9. Estimate Cost of Air Pollution Control Device \$ 0 are Estimated to be Adequate: 20 Years
	10 Hours Facility is Operated Per Year: _ 8,760
iam	e: Major General D. B. Barker, USM@ailing Address: Marine Corps Base
	(Rasponsible Individual of Company Purchasing/ Operating FacilityPLEASE PRINT)  Camp Lejeune
	Mouth Coupling 20540
	North Carolina 28542
	$\lambda \mathcal{D} \mathcal{D}_{\alpha}$
ig	nature and Title:
	D. B. BARKER, MAJOR GENERAL, USMC
	Commanding General .



#### I. GENERAL DATA FOR PROCESSES

\*Attach detailed process engineering drawings, equipment drawings and flow diagrams for the process(es) or source(s) being constructed or altered.

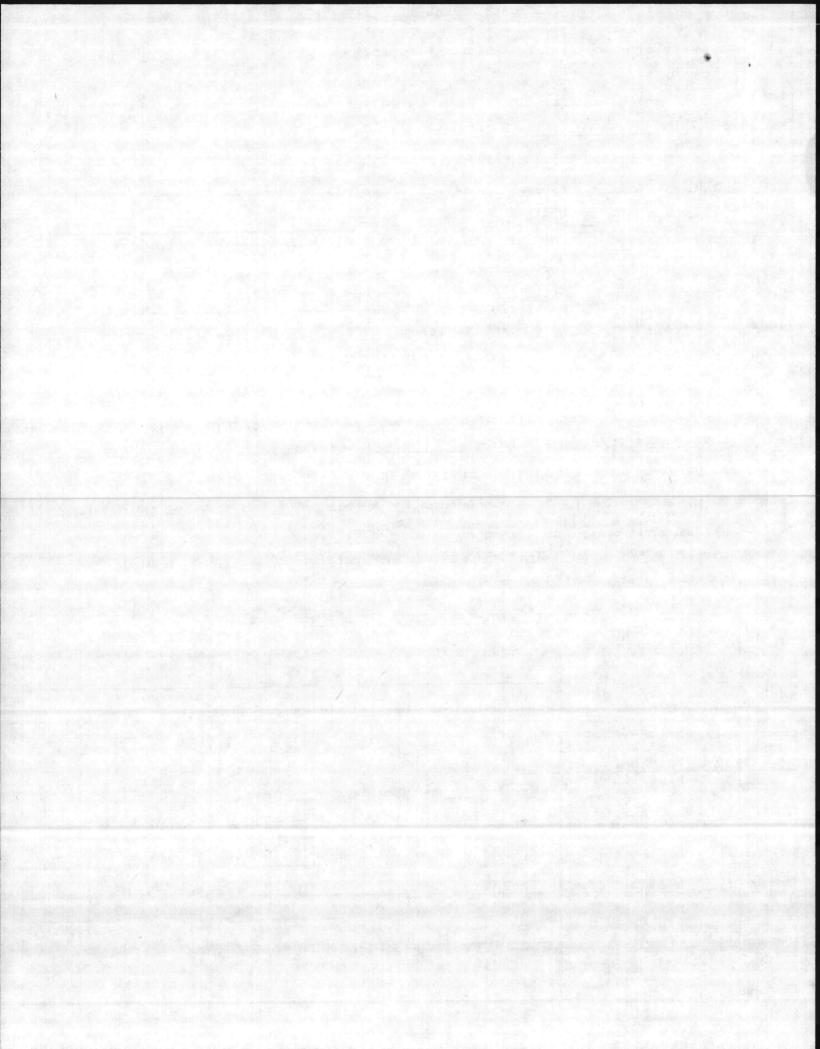
	#####################################
Name of Process: Heating and Steam Plant	
Total Weight of Materials Entering this Process: 161 Gal XX	
Volume and Temperature of Air Flow Entering Control Device:	CFM @°F
Pollutant(s) to be Controlled: Height of Process Stack or Vent Above Ground Level 41'7"	ft. Inside area of Stack 4.35 ft <sup>2</sup> .
Particulate Emission Rate (Before Control) 3.96 1b	
Particle Size Distribution: 0-5µ 💢, 5-10µ 🛣, 10-20µ	3, 20-30µ 3, 30-40µ 3, 40-50µ 3,>50µ 3
Gaseous Emission(s): Name (Chemical Formula) µg/m SOx	3, ppm <u>or 1b/hr</u> 52.48
II. SUPPLEMENTARY	DATA FOR INCINERATORS (Including Conical Incinerators)
Circle Type of Waste or Indicate Composition: Type 0 Type	I Type II Type III Type IV
Combustible: % Non-Combustible: % Moisture	[2] (1) (1) (1) (1) (1) (1) (1) (1) (1) (1)
Total Waste Generated Per Day: 1b.	Hours Incinerator will be Operated:hrs/day
Design Capacity for Above Waste: lbs/hr	Manufacturer and Model Number; Approximate Cost:
Air Requirements: Total Excess Air % Draft: Natural _	Secondary Chamber Volume:ft.3  Induced Other
Overfire Air:cfm Underfire Is there an Electronically Controlled, Exhaust Gas	e Air:cfm Temperature Modulated, Damper Installed on the
Comical Incinerator for: Overfire Air Supply, Un Flame Port Temperature: °F Secondary	derfire Air Supply, DomeTemperature Set Point Chamber Temperature: °F
Is there a Continuous Exhaust Gas Temperature Record	
Inside Areaft. <sup>2</sup> Heightft. Gas Velocityft/se	c Temperature°F Fan Capacitycfm Stack Lined?
Is there a Wet Scrubber?	
Yes No Flow Rate of H <sub>2</sub> O into Scrubber gal/m	in Temperature Before Scrubber°F
Aux. Fuel: Oil Gas Other Burner Ra	ting: Primary Chamber Secondary Chamber Stack
	8TU/hr BTU/hr 8TU/hr
Primary Burner: Is there a Preheat Timer? Yes No	Preheating Time:min.
Secondary Burner or Afterburner: Is there a Timer? Yes	No Length of Time Burner is Operatedmin.
Is the Timer Reset by Charging Door? Yes No	Other Mode of Burner Control
Type of Feed: Manual Automatic If Automatic	., Describe
Distance from Incinerator to Nearest Structure(s) in	which People Live and/or Work ft.
	Mitle:



#### III. SUPPLEMENTARY DATA FOR FUEL BURNING SOURCES

Attach detailed dimensioned drawing or sketch showing internal features of dryers, wood or coal fired boilers, and recovery boilers. Type of Fuel Burning Source Boiler E. Keeler Company Stack Height Above Ground Leve 41'7" ft. Inside Area of Stack 4.35 ft2 Make and Model Number 15132 Volume of Furnace ft3 Specify Actual Amount of Each Fuel Used in Above Source (s): Coal \_\_\_\_ 1b/hr; Oil Grade 6 Amount 161 gal/hr, at \_\_\_\_ 8TU/gal and \_\_\_\_ 1b/gal or \_\_\_\_ 1b/hr Wood \_\_\_\_\_ 1b/hr; Natural Gas \_\_\_\_\_ SCF/hr, at \_\_\_\_\_ BTU/SCF; Other \_\_\_ (Specify type, amount and heating value) Specify Maximum Rating for Each Fuel Burning Source: Coal \_\_\_\_ Oil 161 Wood \_\_\_ Natural Gas \_\_\_ Other \_\_\_ Maximum Sulfur Content of Fuel 2.05 % Specify Standby Fuel None Maximum % Sulfur Type of Solid Fuel Burning Equipment Used: Hand Fired \_\_\_ Spreader Stoker \_\_ Underfeed Stoker \_\_ Chain Grate \_\_ Traveling Grate \_\_\_ Pulverizer \_\_\_ Cyclone Furnace \_\_\_ Other (Specify) \_\_\_ Ash Content of Fuel: Specify Method and Schedule of Tube Cleaning, if Applicable: Coal \_\_ % Wood \_\_ % Other \_\_ % Lancing \_\_ Jube Blowing \_\_ Schedule \_\_ Emission Control Equipment (Describe in Detail in Sections IV and V) Collection Device: Wet \_\_\_ Dry \_\_\_ Steam Injection \_\_\_ Air Injection \_\_\_ Is Collected Flyash Reinjected? Induced X ) \_\_\_\_cfm at \_\_\_OF Draft on Boiler (Natural Total Number of Fuel Burning Sources Within Property Boundaries: Maximum Capacity Rating, by Type, for All Fuel Burning Units Excluding that Itemized Above: (Total Like Units) Coal \_\_\_ lb/hr Wood \_\_\_ lb/hr Oil650 gal/hr Natural Gas \_\_\_ SCF/hr IV. SUPPLEMENTARY DATA FOR WET COLLECTION DEVICES \*Attach detailed engineering drawings of the control device and particle size versus removal efficiency curves. Liquid Scrubbing Medium and Additives: Total Liquid Injection Rate (Include Recirculated and Make-up Rates) \_\_\_\_\_ gal/min or gal/1000 ft3 Operating Pressure Drop Across Device \_\_\_\_\_in H2O ANSWER FOLLOWING QUESTIONS FOR SPECIFIC DEVICE: VENTURI SCURBBER: Inlet Area \_\_\_\_ in2 Throat Area \_\_\_\_ in2 Throat Velocity \_\_\_\_ ft/sec GRAVITY SPRAY CHAMSER: Number of Nozzles \_\_\_ Liquid Oroplet Size \_\_\_ u Co-Current \_\_\_ Countercurrent \_\_\_ WET CYCLONE: PACKED TOWER OR PLATE TOWER: Body Diameter \_\_\_\_ in Length \_\_\_\_\_ in Cross-Sectional Area \_\_\_\_\_ft2 Type of Plate \_\_\_\_ Inlet Area \_\_\_\_\_in<sup>2</sup> Number of Nozzles \_\_\_\_ Length ft Depth of Packing Outlet Area in2 Number of Plates Type of Packing OTHER WET COLLECTION DEVICES: GIVE COMPLETE DESCRIPTION INCLUDING DESIGN PARAMETERS AND DETAILED ENGINEERING DRAWINGS. Signature: Title:

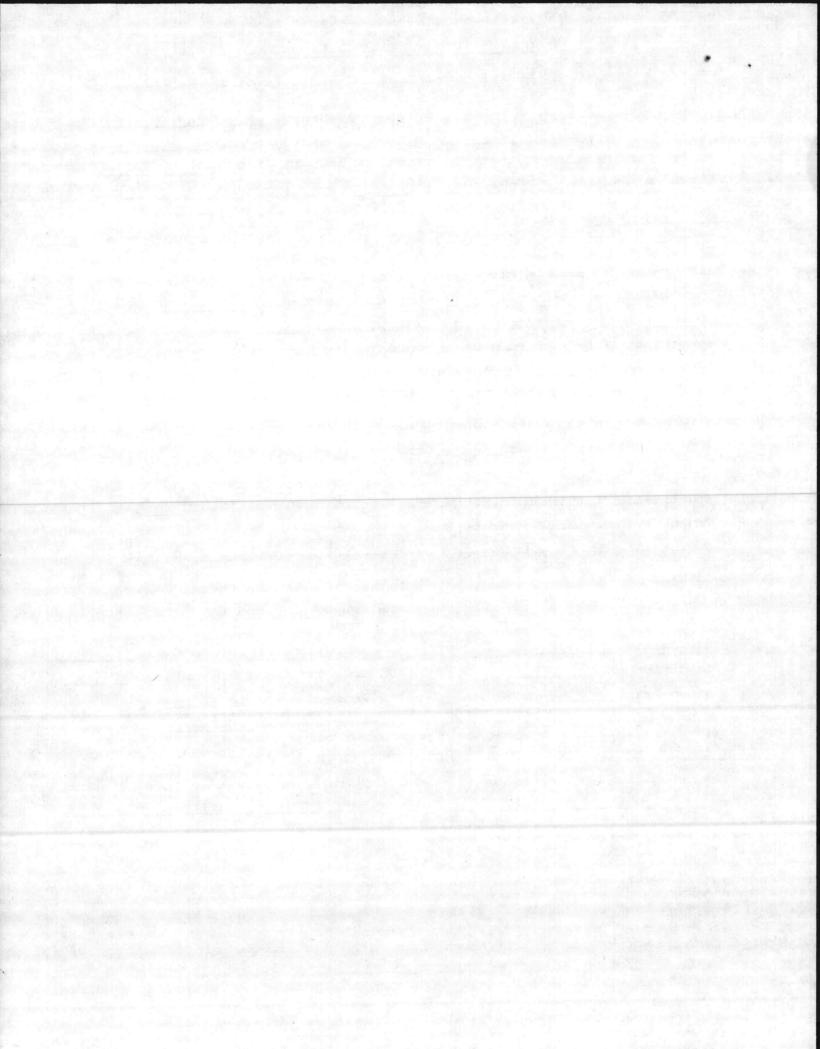
- 4



### V. SUPPLEMENTARY DATA FOR DRY COLLECTION DEVICES

	Attach detailed engineering drawings of the co	introl device and particle size versus removal efficiency curve
8AGHOU:	SES: Cloth Areaft2	. Bag Material
	Number of Compartments	Pressure - Drop Totalin Hg
	Method of Cleaning	Air-to-Cloth Ratioft/mi
	Time Between Cleaning mins, hrs	TE/MI
ELECTRO	STATIC PRECIPITATORS:	
GENE	RAL:	
	Effective Area of Grounded Collector Plates	ft <sup>2</sup>
		Number of Cells per Compartment
	Electrical Field Gradient at the Discharge o	or Emitting Electrodes
	Average Electrical Field Gradient at the the	Grounded Collecting Electrodes KV/in
	Fields of Treatment Potential App	lied to Emitting Wines
		to bilitering wires ky
SINGL	E STAGE TYPE:	
	Distance Between Emitting Wires and Collectin	. [20] 기업 전환 - 10 - 10 - 10 - 10 - 10 - 10 - 10 - 1
	Number of Isolatable Bus Sections	_ Corona Power Watts/1000 cfm
TWO S	TAGE TYPE:	
	Distance Between First Stage Emitting Electro	odes and Field Receiver Electrodes (Ground)in
	Potential Applied to Second Stage Emitting Pl	lates KV
		and Grounded Collection Platesin
CLONES	/MULTICYCLONES:	
	yclone	
	Diameterin	Multicyclone Diameterin
•	Inlet Dimensions	Inlet Dimensions of Individual Cyclone
	Outlet Dimensions	
	Pressure Orop in H <sub>2</sub> O	Outlet Dimensions of Individual Cyclone Pressure Drop in H <sub>2</sub> O
	Number of Cyclones	
		Humber of Cyclones
HER DRY	COLLECTION DEVICES: GIVE COMPLETE DETAILED E	ENGINEERING DESCRIPTION AND DRAWINGS.
gnature		Tièle:

- 4 .



Owner Marine Corps Base, Camp Lejeune, N.C.

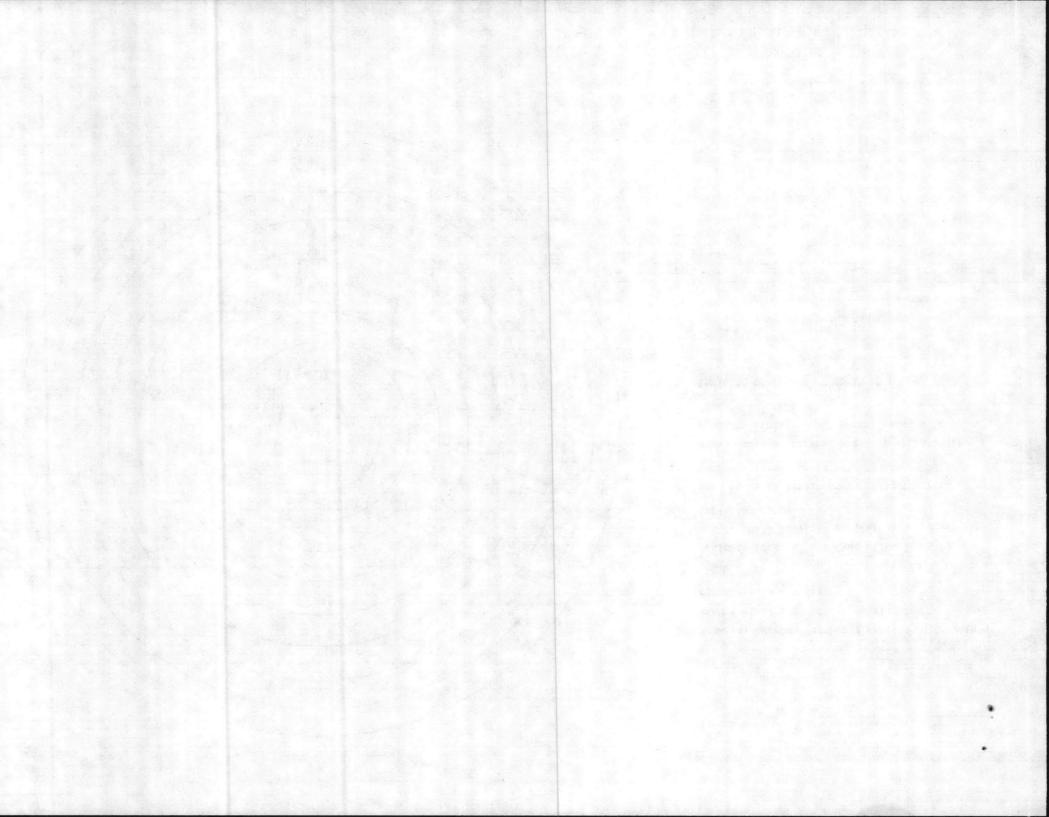
Location Seventh Street, Camp Geiger (Give Street Address)

#### INSTRUCTIONS

- Show all surrounding buildings and roads within 1000 feet of subject equipment which is located at center of circles.
- Indicate location and type of building by the use of small numbered circles with the description below.
- Show roads as lines representing the road edges.
   Indicate street names and highway numbers.
- Show wooded or cleared areas by approximate boundary lines and the words "woods", "cleared", "cornfield", etc.
- 5. Indicate direction of north by arrow.

	and the state of the state of the state of
CODE	DESCRIPTION
0	Barracks
②	Mess Hall
<b>③</b>	Administration
0	
(5)	
<b>6</b>	i de di Alexanderia
0	Warehouse
(8)	
9	
0	
(L)	Dispensary
EXMPLE	(D) Church
20	(2) Residence Washroom
23	NGO Club

X Indicates location of equipment.





## UNITED STATES MARINE CORPS MARINE CORPS BASE ' CAMP LEJEUNE, NORTH CAROLINA 28542

IN REPLY REFER TO

FAC: KPM: mkc 6280 26 May 1981

FIRST ENDORSEMENT on Regional Supervisor, NC Dept of Natural Resources & Community Development, Div of Environ Mgmt 1tr of 20 May 1981

From: Commanding General

To: Base Maintenance Officer Via: Staff Judge Advocate

Subj: Permit No. 4640, MCBCL for construction and/or operation of air

pollution abatement facilities and/or emission sources

1. Forwarded for appropriate action.

K. P. MILLICE,

By direction

