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City Auditor

Certified Mail No: 70010360000207701028

August 13, 2002

Mr. Scott M. Sheplak, P.E.
Administrator – Title V Section
Florida Department of Environmental Protection
2600 Blairstone Road
Tallahassee, Florida 32399-2400

RECEIVED

AUG 16 2002

BUREAU OF AIR REGULATION

Re: Response to Request for Additional Information
Title V Renewal Application
File No. 0730003-003-AV
Arvah B. Hopkins Generating Station

Dear Mr. Sheplak:

In accordance with Rule 62-213.420, Florida Administrative Code (F.A.C.), this letter serves to formally respond to the Florida Department of Environmental Protection's (FDEP) Request for Additional Information dated July 24, 2002, regarding the above referenced Title V Air Operating Permit Renewal Application.

FDEP Request No. 1

The engineer's seal on the certification page is not a valid seal pursuant to CHAPTER 61G15-23, Florida Administrative Code (F.A.C.). Rule 61G15-23.001, F.A.C. requires that professional engineer seals be a minimum of 1 7/8 inches in diameter. The seal used on this application is the old 1 5/8 inches diameter style. Please provide replacement certification pages for all copies of the application that were submitted for this source.

City of Tallahassee Response

Replacement Professional Engineer certification pages bearing 1-7/8 inch diameter seals in accordance with Rule 61G15-23.001, F.A.C., have been previously submitted to the FDEP for the above referenced application. See July 26, 2002, letter from Robert E. McGarrah to Jonathan Holtom.

An All-America City

FDEP Request No. 2

In your application, you have requested that the permit be modified to allow the firing of liquid propane. Adding a previously unpermitted fuel could constitute a modification that would require a New Source Review and PSD applicability determination. We are unable to determine from the information provided in your application if the addition of this new fuel will result in modification. Please provide information regarding the original design of the boilers and their current ability to fire liquid propane. Also, include a Professional Engineer's certified analysis of the effects that combusting liquid propane will have on air pollutant emissions, with a comparison of past actual vs. future potential emissions.

City of Tallahassee Response

This response serves to supplement the July 26, 2002, letter from Robert E. McGarrah to Jonathan Holtom regarding the use of liquid propane as an igniter fuel source.

Liquid propane is designed to be used as an emergency igniter fuel source for Boiler No. 1 (EU-001) and Boiler No. 2 (EU-004) in the event that natural gas is unavailable. Two 1,000-gallon propane tanks and their appurtenant piping have been in place and connected to the igniter equipment since Boiler Nos. 1 and 2 (the "Units") were constructed in 1969 and 1975, respectively. See e.g., Construction Drawings previously submitted as Attachment B to the July 26, 2002, letter from Robert E. McGarrah to Jonathan Holtom. The Units pre-date the Prevention of Significant Deterioration (PSD) regulations. See FDEP Title V Air Operating Permit No. 0730003-001-AV.

The Units have been capable of accommodating the use of propane as an igniter fuel source since their construction as also evidenced in the manufacturer's operating instructions, which specifically reference the use of propane as an igniter fuel source. See Babcock & Wilcox Company, Boiler Division, Gas Lighter Operating Instructions (1967) attached hereto as Attachment A; See also Forney Engineering Company Technical Manual (1970) attached hereto as Attachment B.

Therefore, pursuant to Rule 62-212.400(2)(c), F.A.C., the use of propane as an emergency igniter fuel source does not constitute a modification that requires a New Source Review or PSD applicability determination.

Even if we were to assume, however, that this capability was not documented and did not exist at the time of construction, the use of propane as an igniter fuel source will not result in a significant net emissions increase pursuant to Rule 62-212.400(2)(e), F.A.C.

Propane gas would only be utilized as a substitute igniter fuel source when natural gas usage is curtailed. Propane, or liquefied petroleum gas, is a by-product of petroleum refining and natural gas production. Although its composition varies, propane is one of the primary constituents of natural gas and therefore possesses similar characteristics. See e.g. *Florida Gas Transmission May 7, 2002, through August 7, 2002, Gas Chromatograph for Perry Stream #2 attached hereto as Attachment C*; See also *Compilation of Air Pollutant Emission Factors: AP-42, Fifth Edition, Volume 1: Stationary Point and Area Sources, Section 1.4, Natural Gas Combustion (1995)*.

Like natural gas, propane is an approved clean fuel listed in the 1990 Clean Air Act and the National Policy Act of 1992. See e.g. *U.S. Environmental Protection Agency, Clean Fuels: An Overview, EPA 400-F-92-008, Fact Sheet OMS-6 (August 1994)*; *Florida Propane Gas, Safety, Education & Research Council, Frequently Asked Questions About Propane (March 2001)*; *Compilation of Air Pollutant Emission Factors Section 1.5.3.1, Criteria Pollutants (1995)*. The combustion processes that use liquid propane are very similar to those that use natural gas. See *Compilation of Air Pollutant Emission Factors Section 1.4, Natural Gas Combustion (1995)*.

According to various technical reports published by the U.S. Environmental Protection Agency and U.S. Department of Energy, emissions factors related to the external combustion of propane are essentially the same as that for natural gas. See *Compilation of Air Pollutant Emission Factors Table 1.5-1, Emission Factors for LPG Combustion*; See also *U.S. Department of Energy, Energy Information Administration, Electric Power Annual Report Volume II, Table A.3: Sulfur Dioxide, Nitrogen Oxide, and Carbon Dioxide Emissions Factors (1999)*. Based on these emissions factors, the use of propane is not expected to increase the future potential emissions from operation of the Units.

Therefore, even assuming that the capability of accommodating propane as an igniter fuel source in Boiler Nos. 1 and 2 was not documented and did not exist at the time of construction, the use of propane will not result in a significant net emissions increase and does not require a New Source Review or PSD applicability determination pursuant to Rule 62-212.400(2)(d), (e), F.A.C.

If you have any questions please do not hesitate to contact Jennette Curtis, Environmental Director, at (850) 891-8850, or myself at (850) 891-5534. Thank you again for your attention to this matter.

Sincerely,



Robert E. McGarrah
Manager - Power Production
Responsible Official

Attachments

cc: Jonathan Holtom, FDEP
Triveni Singh, COT
Gordon King, COT
Karl Bauer, COT
Jennette Curtis, COT
John Powell, COT

Attachment A

INSTRUCTIONS

for the

CARE AND OPERATION

of

BABCOCK & WILCOX EQUIPMENT

FURNISHED ON CONTRACT

334-0533

RB-533

for

CITY OF TALLAHASSEE

ARVAH B. HOPKINS GENERATING STATION

UNIT NO. 2

TALLAHASSEE, FLORIDA

THE BABCOCK & WILCOX COMPANY
POWER GENERATION DIVISION

BURNERS - OPERATING INSTRUCTIONS

GAS LIGHTERS

(580,000 - 10,000,000 Btu/hr)

5R-7A3
5R92-I
9-4-68

58-7A3
5R92-I
1/1-9-67

THE BABCOCK & WILCOX COMPANY
BOILER DIVISION

BURNER OPERATING INSTRUCTIONS

GAS LIGHTERS

(580,000 - 10,000,000 Btu/hr)

INDEX

SUBJECT	PAGE NO.
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4. Pre-operational Preparations	4
5. Operation	4
6. Maintenance	5
7. Drawings	6

THE BABCOCK & WILCOX COMPANY
BOILER DIVISION

BURNERS - OPERATING INSTRUCTIONS

GAS LIGHTERS

(580,000 - 10,000,000 Btu/hr)

GENERAL DESCRIPTION AND PURPOSE

The high capacity gas lighter is used to ignite the main fuel in large burners. Ignition is initiated by a high voltage spark in the combustion chamber of the lighter where part of the lighter fuel gas is mixed with air to form an ignitable mixture. Additional gas and air are added beyond the combustion chamber to extend the lighter flame into the path of the main burner fuel-air mixture. The assembly of the lighter is shown on drawing 75808C.

The lighter design incorporates a removable electrode and a dust blower. The removable electrode assembly is shown on drawing 2888B. The plenum chamber provided with 50-100 psi air supplies aspirating air to the angular jets through the electrode support sleeve to seal against furnace pressure while the electrode is removed for maintenance. The same plenum chamber also supplies air to the dust blower for cleaning the combustion chamber and electrode insulator, at the furnace end of the assembly, of dust accumulations. The high pressure air may be provided through permanent piping or through quick disconnect couplings and hose. The air is turned on only when needed to blow dust or remove electrode assembly.

A special characterized plug cock may be located at the inlet of each lighter to control gas flow to individual lighters and to balance gas flows between lighters controlled by one set of shut-off valves. This cock has a tapered port to make it less sensitive to movement at low gas flows. The cover is indexed in 45 degree increments from closed to open positions. The attached chart may be used as a guide in setting these cocks. These cocks must be removed if the lighter requirements are above the 100% open curve. If fuels other than those shown are used, allowances must be made to compensate for heating value and density. If the gas contains sulfur compounds which corrode brass and copper, this plug cock should be replaced with a steel or ferrous alloy valve.

The pressure connection located downstream from the characterized plug cock may be used with a pressure gage to determine relative gas pressure to the lighters if all cocks are oriented in the same direction and are open approximately the same amount.

The hermetically sealed ignition transformer is mounted near the lighter. To prevent it from overheating, it should be mounted with a bracket that will permit circulation of air around the transformer. The output of the transformer is 23 milliamps at 10,000 volts.

5R-7A3
5R92-I
3/1-9-67

THE BABCOCK & WILCOX COMPANY
BOILER DIVISION

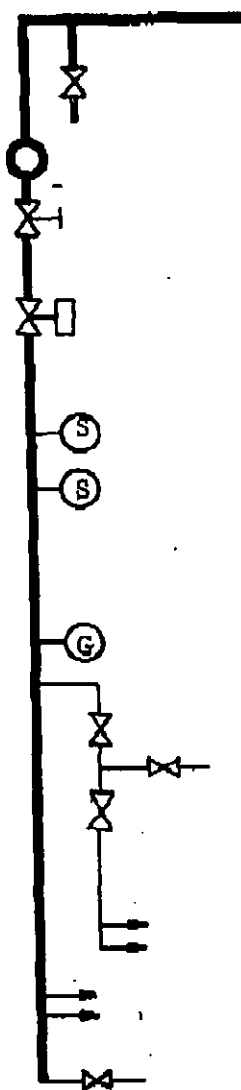
BURNERS - OPERATING INSTRUCTIONS

GAS LIGHTERS

(580,000 - 10,000,000 Btu/hr)

GAS PIPING AND VALVING

Certain desirable features should be incorporated into the piping and valving arrangement to the lighters.



Reliable gas supply.

Drip leg to collect and remove moisture.

Filter to protect valve seats.

Pressure regulator to maintain a constant gas pressure.

Safety shut-off valve to shut off gas supply in an emergency.

High and low pressure switches set to warn the operator of abnormal gas pressures. They may also be set to trip the safety shut-off valve if the pressure approaches pressures, as determined by tests, which causes the lighters not to light, lose ignition, or not to ignite the main fuel.

Pressure gage.

Double shut-off valves for each lighter or group of lighters to be operated together. Vent valve and vent between shut-off valves should be piped to atmosphere away from sparks or flames. When shut-off valves close, vent valve opens and vice-versa. The first valve must be slow opening and fast closing.

To lighter or group of lighters.

To additional lighters.

Vent to atmosphere away from sparks and flames. Vent may be used for setting pressure regulator, pressure switches, and for purging air from header for the first start-up.

THE BABCOCK & WILCOX COMPANY
BOILER DIVISION

5R-7A3
5R92-I
4/1-9-67

BURNERS - OPERATING INSTRUCTIONS

GAS LIGHTERS

(580,000 - 10,000,000 Btu/hr)

CONTROLS AND INTERLOCKS

The controls and interlocks may be either manual or automatic. If automatic, a means of flame detection is required. If manual, the operator must be able to observe the flames. In any event, the starting, operating and stopping logic must result in safe operation.

Starting permissives should require the forced-draft fan to be running, furnace purge completed to remove combustible gases, minimum or above minimum air flow maintained, and normal gas pressure established. Starting logic should also include a five second period to establish lighter ignition after gas is admitted to the lighter. If ignition is not established in the five second period, the double shut-off valves should close.

PREF-OPERATIONAL PREPARATIONS

Before attempting to operate the lighter, certain items must be inspected and, if required, adjusted.

Blow all debris from the gas lines ahead of the shut-off valves. Small particles of scale can damage valve seats.

Adjust the tension on the electrode by compressing the spring to one-half inch. This prevents electrode sagging and subsequent electrical shorting.

Set spark gap at one-eighth inch.

Check shut-off valves and vent valves for correct operation. They must not leak.

Check high voltage cable and connections for possible electrical shorts.

Purge air from gas manifolds.

Set gas supply pressure regulator.

Set characterized plug cocks for expected gas flows or heat input.

Set dust blower pipe to blow on insulator.

OPERATION

Instructions for the main burner give the correct sequence for purging the furnace of combustible gases, adjusting air flow, lighting the lighters, and lighting the main fuel. Total air flow to the furnace should be no less than 25% of rated air flow.

BR-7A3
BR92-I
5/1-9-67

THE BABCOCK & WILCOX COMPANY
BOILER DIVISION

BURNERS - OPERATING INSTRUCTIONS

GAS LIGHTERS

(580,000 - 10,000,000 Btu/hr)

OPERATION (Cont'd)

The lighter or group of lighters are lighted by simultaneously energizing the ignition transformers, opening the shut-off valves, and closing the vent valve. If ignition is not obtained within five seconds, close the shut-off valves, open the vent valves, and de-energize the ignition transformers. DO NOT ATTEMPT TO LIGHT THE LIGHTER AGAIN UNTIL A THREE MINUTE PURGE PERIOD HAS BEEN COMPLETED. Do not repeatedly attempt to light the lighter without correcting the faulty condition preventing ignition.

If the lighters are to be used for long periods, such as when they serve as pilots, the ignition transformers may be de-energized after stable ignition is obtained--that is, if the controls provide for this type of operation.

MAINTENANCE

The amount of maintenance required on the lighters depends almost entirely on the type of fuel burned in the main burners, load on the unit, and the amount of dust in the combustion air. Remove the electrode assembly from two or three lighters every week and inspect the insulators and spark gaps. This procedure should help establish definite requirement for cleaning the insulators and resetting the spark gaps to 1/8 inch.

THE BABCOCK & WILCOX COMPANY

BOILER DIVISION

5R-7A3

5R92-I

6/10-26-67

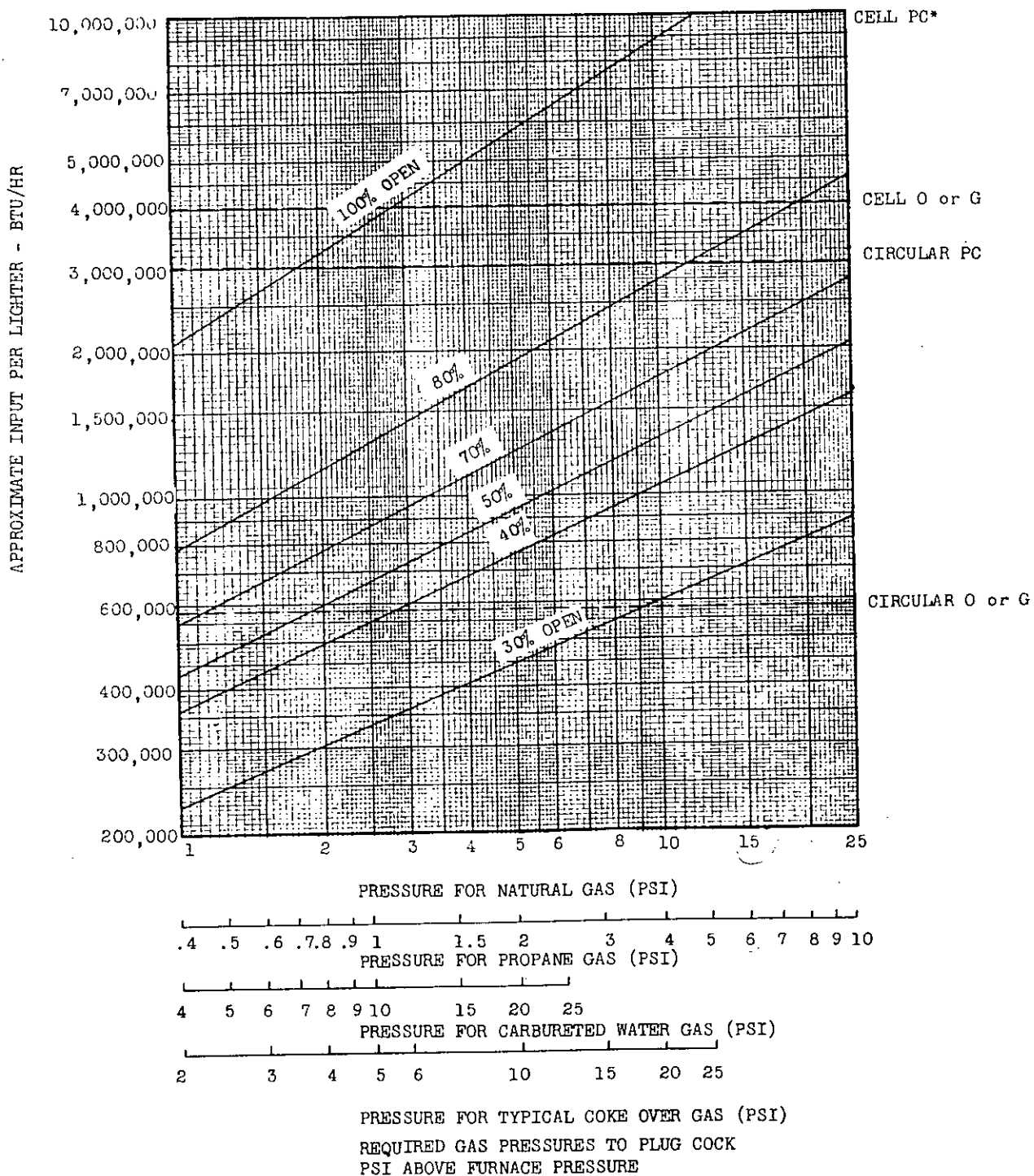
BURNERS - OPERATING INSTRUCTIONS

GAS LIGHTERS

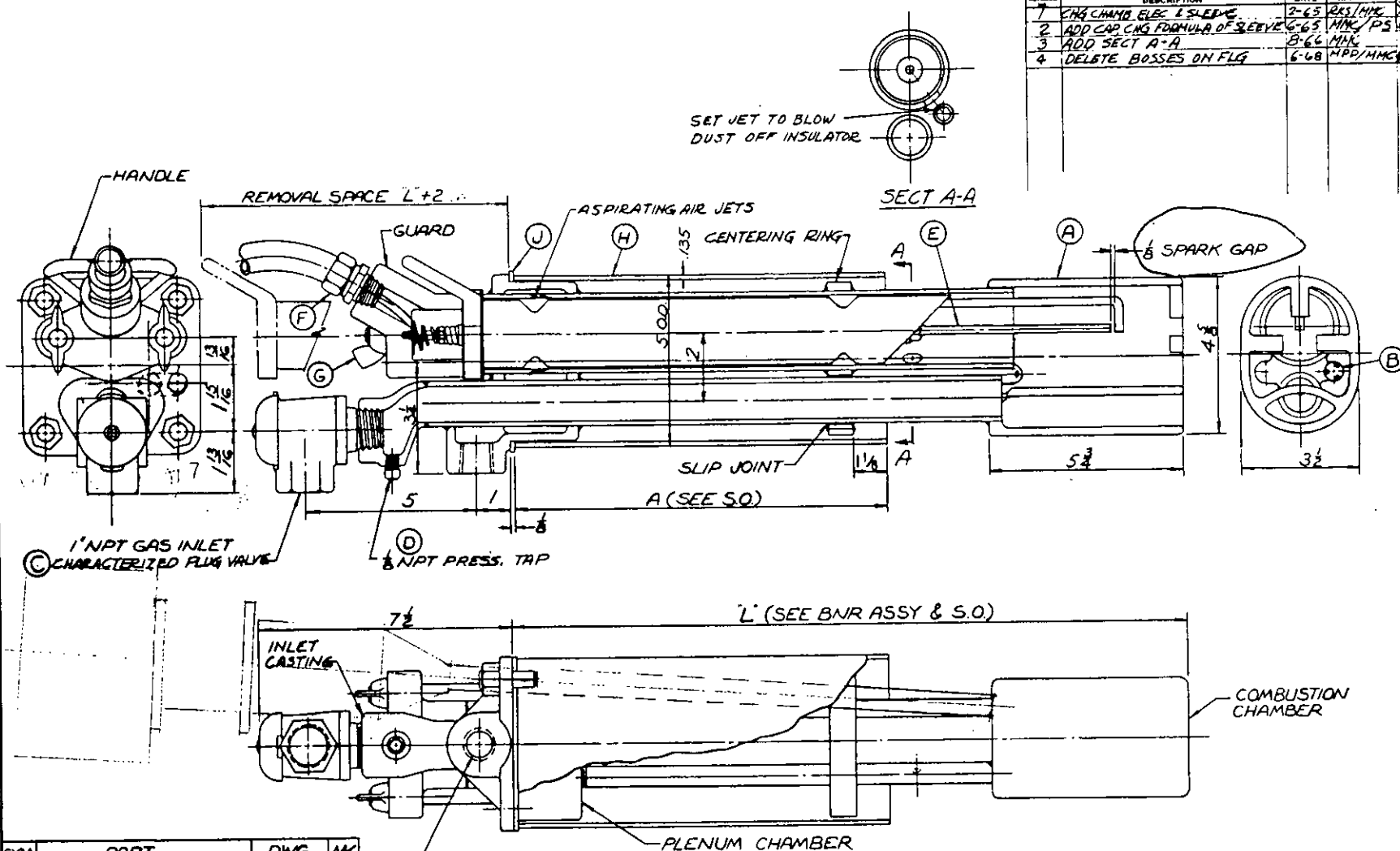
(580,000 - 10,000,000 Btu/hr)

CHARACTERISTICS OF REPUBLIC 5-2356-2

PLUG COCK AND LIGHTER



75808C



REVISIONS			
REVISION	DESCRIPTION	DATE	APPROVAL
1	CHG CHAMR ELBC & SLEEVE	2-65	RES/HMC
2	ADD CAP CHG FORMULA OF SLEEVE	6-65	HMC/PS
3	ADD SECT A-A	8-66	HMC
4	DELETE BOSSES ON FLG	6-68	MPD/HMC

SYM	PART	DWG	MK
A	GAS ELEMENT	820380	1
B	DUST BLOWER	37900D	2
C	REPUBLIC VALVE	5-2356-2	-
D	PIPE PLUG	-	-
E	ELECTRODE ASSY	2888B	-
F	ELECTRODE M-L-4 3/4	2176 A	1
G	ELECTRODE SLEEVE (2-15/16)	2191 B	1
H	SECONDARY LEAD	202948	-
I	WING NUT	-	-
J	SLEEVE	2301A	1
K	GASKET	12231A	1

3 NPT AIR INLET
IF UNIT HAS REGENERATIVE AIR HEATER, COMPRESSED AIR SHOULD BE USED PERIODICALLY TO CLEAN LIGHTER.

IF UNIT HAS PRESSURE FURNACE, COMPRESSED AIR SHOULD BE USED WHEN ELECTRODE IS REMOVED.

CONNECTION MAY BE TEMPORARY.

DESIGNED BY	M. HARTMAN
CHECKED BY	C. G. LUCAS
FORWARDED BY	G. ANGEWER
APPROVED BY	MARTIN
STD.	REF. DATE 1/25/68
SCALE	1"=1'-0"

ELECTRICALLY IGNITED
GAS FIRED LIGHTER
580,000-10,000,000 BTU Capacity

This drawing is the property of
THE BABCOCK & WILCOX COMPANY
POWER GENERATION DIVISION

75808 C 4

THE BABCOCK & WILCOX COMPANY
POWER GENERATION DIVISION

SR-7A3-SR92-I-7/7-5-68

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THE BABCOCK & WILCOX CO.

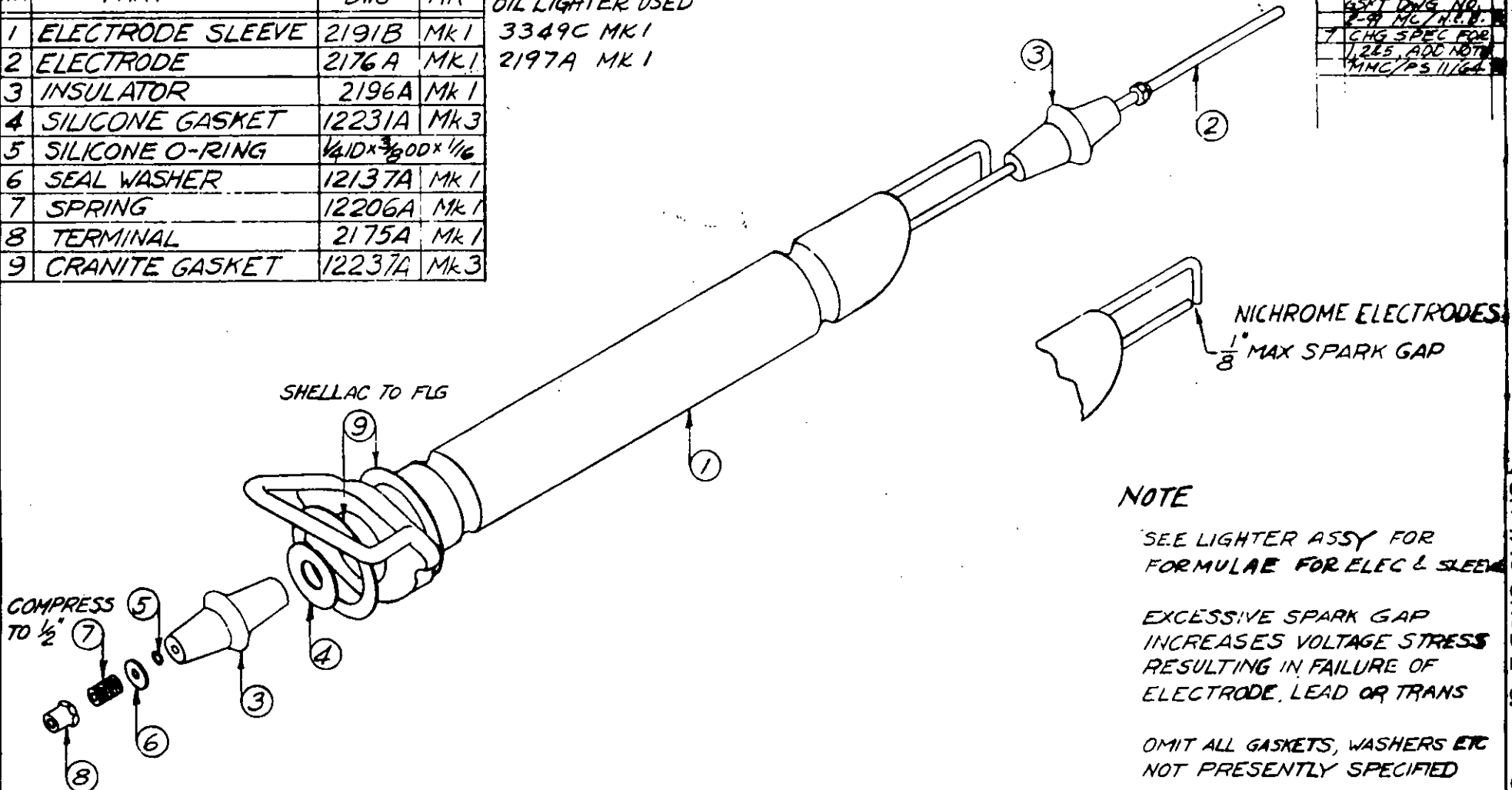
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88882

SYM	PART	DWG	MK
1	ELECTRODE SLEEVE	2191B	Mk 1
2	ELECTRODE	2176A	Mk 1
3	INSULATOR	2196A	Mk 1
4	SILICONE GASKET	12231A	Mk 3
5	SILICONE O-RING	1/4 ID x 3/8 OD x 1/16	
6	SEAL WASHER	12137A	Mk 1
7	SPRING	12206A	Mk 1
8	TERMINAL	2175A	Mk 1
9	CRANITE GASKET	12237A	Mk 3

PRIOR TO 1965
OIL LIGHTER USED
3349C MK 1
2197A MK 1

REV	DESCRIPTION	DATE
6	REDRAWN ADD GSKT DWG NO. 2-81 MC/H.E.B.	
7	CHG SPEC FOR 1225, ADD NOTE MMC/PS 11/64	



NOTE

SEE LIGHTER ASSY FOR
FORMULAE FOR ELEC & SLEEVE

EXCESSIVE SPARK GAP
INCREASES VOLTAGE STRESS
RESULTING IN FAILURE OF
ELECTRODE, LEAD OR TRANS

OMIT ALL GASKETS, WASHERS ETC
NOT PRESENTLY SPECIFIED

STANDARD
LOCKED DRAWER DRAWING

DATE BY MALEN	CHK'D BRANITT
DATE 10 22 53	APP'D LEACH

LIGHTER ELECTRODE ASSY

28881-7

SR-7A3-SR92-I-8/1-9-67

Attachment B

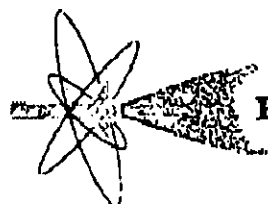
Technical Manual

REMOTE BURNER CONTROL SYSTEM
with
FORNEY-VERLOOP BURNERS

CITY OF TALLAHASSEE

Publication No. S-1192-C0255

May 1970



FORNEY ENGINEERING COMPANY
DALLAS, TEXAS

illuminate in sequence on the remote control panel as each condition is satisfied.

NOTE

There must be a main fuel trip condition present before purge can be initiated. This feature prevents a purge cycle from inadvertently being initiated while the furnace is in operation.

- a. Main fuel trip condition exists.
 - b. Induced and forced-draft fans running.
 - c. Primary air fan running.
 - d. Main gas trip valve closed.
 - e. Main oil trip valve closed.
 - f. Igniter trip valve closed.
 - g. All burner gas valves closed.
 - h. All burner oil valves closed.
 - i. Airflow greater than 25 percent.
3. Observe that ALL AIR REGISTERS OPEN light illuminates.
 4. PURGE IN PROGRESS light illuminates after all other purge permissive lights are illuminated.
 5. Observe that PURGE COMPLETE light illuminates after five minutes.
 6. Momentarily actuate purge switch to PRELIGHT START.

NOTE

First burner must be placed in service before 10 minutes have elapsed or the system is tripped back to the purge required status.

7. Observe that following lights are illuminated on the prelight section of the remote control panel.
 - a. PRIMARY AIR FAN RUNNING
 - b. AIR FLOW > 25%
 - c. IGNITER PRESSURE OK

BURNER AND IGNITER OPERATION

The burner and igniter lightoff operation is completely automatic when a burner lightoff is attempted from the remote control panel or from the respective local control station. Burners are interlocked to prevent placing a burner in service on one type fuel if it is already in service on the other type fuel. Burner and igniter operation on gas and oil is covered separately to avoid confusion.

- a. Duplicate lights are illuminated on both the remote control panel and respective local control station for same functions. When operating the system from the local control station, corresponding lights for the various functions are checked on the remote control panel, or vice versa, at the operators discretion.

NOTE

If a burner is in service on one type fuel and it is desired to fire the other type fuel, the burner must be shutdown and lightoff initiated on the other type fuel.

REMOTE GAS BURNER LIGHTOFF

Gas burners are placed in service from the remote control panel in the following manner.

NOTE

For initial operation, all the following steps are applicable. However, if any gas burners are in service, proceed to step 4 for selected burner.

1. Actuate GAS FUEL switch to RESET on the fuel safety panel.
2. Observe that lights indicate as follows on the fuel safety panel.
 - a. GAS FUEL TRIP light indicating primary cause of previous gas fuel trip extinguishes.
 - b. Red MAIN GAS OPEN trip valve position light illuminates and green MAIN GAS CLOSED trip valve position light extinguishes.
3. Observe that lights indicate as follows:
 - a. MAIN GAS PRESSURE OK light illuminates on remote control panel.
 - b. PERMISSION TO LIGHT GAS light illuminates on remote control panel.
 - c. READY TO LIGHT GAS light illuminates on the local control station.

NOTE

Gas burners should be placed in service without undue delay because the gas header vent valve remains open until the first burner is in service.

4. Actuate burner GAS service switch to ON.
5. Observe that burner lights indicate as follows:
 - a. Red AIR REGISTER OPEN light illuminates if not already illuminated and green AIR REGISTER CLOSED light extinguishes if not already extinguished.
 - b. RED IGNITER FLAME lights illuminate within eight seconds after lightoff is initiated on both remote control panel and local control station.
 - c. Red GAS VALVE OPEN light illuminates and green GAS VALVE CLOSED light extinguishes.
 - d. Red MAIN FLAME light illuminates within 30 seconds after lightoff is initiated on both remote control panel and local control station.
 - e. Red IGNITER FLAME lights extinguish after 30 seconds on both the remote control panel and local control station.

REMOTE GAS BURNER SHUTDOWN

Gas burners are shutdown from the remote control panel in the following manner.

1. Actuate GAS burner service switch to OFF.
2. Observe that lights indicate as follows.
 - a. Green GAS VALVE CLOSED light illuminates and red GAS VALVE OPEN light extinguishes.
 - b. Red MAIN FLAME lights extinguish on both remote control panel and local control station.
 - c. Green AIR REGISTER CLOSED light illuminates and red AIR REGISTER OPEN light extinguishes.

NOTE

When last burner in service on gas is shutdown, PERMISSION TO LIGHT GAS and MAIN GAS PRESSURE OK lights extinguish on the PRELIGHT section of the remote control panel. READY TO LIGHT GAS light extinguishes on the local control station.

EMERGENCY GAS FUEL TRIP

An emergency gas fuel trip can be accomplished in either of two ways as explained in the following steps.

1. Actuate GAS FUEL switch on FUEL SELECTION panel to TRIP.

NOTE

This trips all burners that are in service on gas. Any burners in service on oil remain in service.

2. Depress MAIN FUEL TRIP pushbutton switch.

NOTE

This trips all burners regardless of fuels being burned, resulting in a total boiler trip.

LOCAL GAS BURNER LIGHTOFF

Gas burners are placed in service from the respective local control station in the following manner.

NOTE

For initial operation, all the following steps are applicable. However, if any gas burners are in service, proceed to step 5 for selected burner.

1. At remote control panel actuate GAS service switch for selected burner to LOCAL.
2. Actuate GAS FUEL switch on FUEL SELECTION section of fuel safety panel to RESET.
3. Observe that lights indicate as follows on fuel safety panel.
 - a. GAS FUEL TRIP light indicating primary cause of previous gas fuel trip extinguishes.

- b. Red MAIN GAS trip valve OPEN light illuminates and green MAIN GAS trip valve CLOSED light extinguishes.
- 4. Observe that lights indicate as follows.
 - a. MAIN GAS PRESSURE OK light illuminates on remote control panel.
 - b. PERMISSION TO LIGHT GAS light illuminates on remote control panel.
 - c. READY TO LIGHT GAS light illuminates on local control station.

NOTE

Gas burners should be placed in service without undue delay because the gas header vent valve remains open until the first burner is in service.

- 5. Actuate GAS BURNER switch to ON at the local control panel.
- 6. Observe that burner lights indicate as follows:
 - a. Red AIR REGISTER OPEN light illuminates if not already illuminated and green AIR REGISTER CLOSED light extinguishes if not already extinguished on the remote control panel.
 - b. Red IGNITER FLAME lights illuminate on both remote control panel and local control station.
 - c. Red GAS VALVE OPEN light illuminates and green GAS VALVE CLOSED light extinguishes on the remote control panel.
 - d. Red MAIN FLAME lights illuminate on both remote control panel and local control station.
 - e. Red IGNITER FLAME lights on both remote control panel and local control station extinguish after 30 seconds.

LOCAL GAS BURNER SHUTDOWN

Gas burners are shutdown from the local control station in the following manner.

- 1. Actuate GAS BURNER switch to OFF.
- 2. Observe that lights indicate as follows.
 - a. Green GAS VALVE CLOSED light illuminates and red GAS VALVE OPEN light extinguishes on remote control panel.
 - b. Red MAIN FLAME lights extinguish on both remote control panel and local control station.
 - c. Green AIR REGISTER CLOSED light illuminates and red AIR REGISTER OPEN light extinguishes on remote control panel.

NOTE

When last burner in service on gas is shutdown, PERMISSION TO LIGHT GAS and MAIN GAS PRESSURE OK lights extinguish on the PRELIGHT section of the remote control panel; READY TO LIGHT GAS light extinguishes on the respective local control station.

REMOTE OIL BURNER LIGHTOFF

Oil burners are placed in service from the remote control panel in the following manner.

NOTE

For initial operation, all the following steps are applicable. However, if any oil burners are in service, proceed to step 3c for selected burner.

1. Actuate OIL FUEL switch to RESET on the fuel safety panel.
2. Observe that lights indicate as follows on the fuel safety panel.
 - a. OIL FUEL TRIP light indicating the primary cause of previous trip condition extinguishes.
 - b. Red OIL trip valve OPEN light illuminates and green OIL trip valve CLOSED light extinguishes.
3. Observe that lights indicate as follows on remote control panel and local control station.
 - a. OIL PRESSURE OK light illuminates on remote control panel.
 - b. OIL TEMPERATURE OK light illuminates on remote control panel.

NOTE

Oil recirculation cycle is automatically initiated when OIL FUEL switch is actuated to RESET, OIL TEMPERATURE OK light illuminates when oil temperature has increased sufficiently to be within operating range.

- c. PERMISSION TO LIGHT OIL light illuminates on remote control panel.
- d. READY TO LIGHT OIL light illuminates on local control station.

NOTE

Oil gun purge on all burners in service when boiler was tripped is automatically initiated when OIL FUEL switch is actuated to RESET after a MAIN FUEL TRIP.

4. Actuate burner OIL service switch to ON.
5. Observe that burner lights indicate as follows:
 - a. Red AIR REGISTER OPEN light illuminates if not already illuminated and green AIR REGISTER CLOSED light extinguishes if not already extinguished.
 - b. Red IGNITER FLAME lights illuminate on both remote control panel and local control station.
 - c. Red OIL VALVE OPEN light illuminates and green OIL VALVE CLOSED light extinguishes.
 - d. Red MAIN FLAME lights illuminate on both remote control panel and local control station.
 - e. Red IGNITER FLAME lights extinguish after 30 seconds on both remote control panel and local control station.

REMOTE OIL BURNER SHUTDOWN

Oil burners are shutdown from the remote control panel in the following manner.

1. Actuate OIL burner service switch to OFF.
2. Observe that lights indicate as follows:
 - a. Green OIL VALVE CLOSED light illuminates and red OIL VALVE OPEN light extinguishes.
 - b. Red MAIN FLAME lights extinguish on both remote control panel and local control station.
 - c. Green AIR REGISTER CLOSED light illuminates and red AIR REGISTER OPEN light extinguishes.
 - d. Red IGNITER FLAME lights illuminate on both remote control panel and local control station.
 - e. Red OIL GUN PURGE IN PROGRESS light illuminates for a period of two minutes on remote control panel.
 - f. Red IGNITER FLAME lights extinguish on both remote control panel and local control station.

NOTE

When last burner in service on oil is shutdown, oil gun purge is blocked, PERMISSION TO LIGHT OIL light extinguishes on remote control panel and READY TO LIGHT OIL light extinguishes on local control station, OIL PRESSURE OK and OIL TEMPERATURE OK lights extinguish on remote control panel.

EMERGENCY OIL FUEL TRIP

An emergency oil fuel trip can be accomplished in either of two ways, as explained in the following steps.

1. Actuate OIL FUEL switch on FUEL SELECTION panel to TRIP.

NOTE

This trips all burners in service on oil. Any burners in service on gas remain in service. Oil gun purge is blocked.

2. Depress MAIN FUEL TRIP pushbutton switch.

NOTE

This trips all burners regardless of fuels being burned, resulting in a total boiler trip.

LOCAL OIL BURNER LIGHTOFF

Oil burners are placed in service from the respective local control station in the following manner.

NOTE

For initial operation, all the following steps are applicable. However, if any oil burners are in service, proceed to step 4c for selected burner.

1. At remote control panel, actuate OIL service switch for selected burner to LOCAL.
2. Actuate OIL FUEL switch on FUEL SELECTION section of fuel safety panel to RESET.
3. Observe that lights indicate as follows on fuel safety panel.

Attachment C

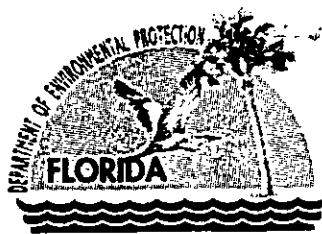
daily chromatograph

date requested: Aug 7 2002 7:40AM

The data contained herein is preliminary data and therefore should be used for contemporaneous operational purposes only and may be subject to change at month end. This data is provided to assist our customers in tracking their gas usage as closely as possible on a real-time basis. The information contained on this web page is not to be considered billable information. This data will be subject to additional verification and possible modification prior to billing.

Chromatograph Report For: 8031 - PERRY STREAM #2																
download																
Date	BTU	CO2	N2	Grav	Methan	Ethane	Propan	lbutan	Nbutan	lpenta	Npenta	C6	C7	H2	Helium	Oxygen
08/07/2002	1038	0.839	0.427	0.588	94.966	3.066	0.459	0.088	0.081	0.026	0.015	0.033	0	0	0	0
08/06/2002	1039	0.820	0.431	0.588	94.958	3.085	0.457	0.088	0.082	0.026	0.016	0.036	0	0	0	0
08/05/2002	1040	0.799	0.489	0.589	94.863	3.120	0.459	0.095	0.087	0.030	0.019	0.041	0	0	0	0
08/04/2002	1038	0.762	0.457	0.587	95.068	3.041	0.424	0.081	0.081	0.027	0.018	0.040	0	0	0	0
08/03/2002	1038	0.776	0.447	0.587	95.077	3.009	0.444	0.080	0.084	0.027	0.018	0.038	0	0	0	0
08/02/2002	1039	0.749	0.442	0.588	95.152	2.910	0.463	0.092	0.097	0.030	0.020	0.044	0	0	0	0
08/01/2002	1039	0.771	0.389	0.587	95.272	2.789	0.479	0.099	0.100	0.032	0.021	0.047	0	0	0	0
07/31/2002	1045	0.839	0.408	0.592	94.627	3.133	0.620	0.142	0.126	0.038	0.021	0.046	0	0	0	0
07/30/2002	1042	0.786	0.437	0.590	94.896	3.015	0.537	0.120	0.110	0.034	0.020	0.044	0	0	0	0
07/29/2002	1039	0.781	0.425	0.587	95.205	2.840	0.464	0.101	0.097	0.029	0.018	0.040	0	0	0	0
07/28/2002	1039	0.810	0.447	0.589	94.989	2.988	0.480	0.101	0.099	0.029	0.018	0.040	0	0	0	0
07/27/2002	1039	0.786	0.427	0.588	95.117	2.930	0.472	0.094	0.095	0.026	0.016	0.037	0	0	0	0
07/26/2002	1037	0.758	0.404	0.586	95.390	2.741	0.448	0.090	0.090	0.025	0.016	0.037	0	0	0	0
07/25/2002	1037	0.775	0.413	0.586	95.379	2.712	0.450	0.094	0.095	0.026	0.016	0.039	0	0	0	0
07/24/2002	1037	0.778	0.421	0.586	95.391	2.690	0.445	0.094	0.096	0.027	0.017	0.041	0	0	0	0
07/23/2002	1037	0.788	0.408	0.587	95.378	2.679	0.462	0.098	0.097	0.029	0.018	0.043	0	0	0	0
07/22/2002	1037	0.792	0.424	0.587	95.309	2.743	0.462	0.094	0.089	0.028	0.017	0.042	0	0	0	0
07/20/2002	1038	0.741	0.412	0.586	95.342	2.818	0.434	0.085	0.083	0.027	0.017	0.041	0	0	0	0
07/19/2002	1033	0.727	0.406	0.583	95.816	2.506	0.338	0.067	0.063	0.024	0.016	0.039	0	0	0	0
07/18/2002	1035	0.782	0.416	0.585	95.592	2.571	0.387	0.082	0.072	0.030	0.019	0.047	0	0	0	0
07/17/2002	1037	0.790	0.421	0.587	95.410	2.643	0.443	0.099	0.086	0.035	0.021	0.052	0	0	0	0
07/16/2002	1042	0.789	0.427	0.590	95.003	2.862	0.552	0.132	0.110	0.042	0.024	0.059	0	0	0	0
07/15/2002	1042	0.785	0.450	0.590	94.909	2.967	0.539	0.123	0.107	0.040	0.024	0.058	0	0	0	0
07/14/2002	1038	0.753	0.444	0.587	95.312	2.743	0.456	0.101	0.088	0.034	0.021	0.049	0	0	0	0
07/13/2002	1042	0.781	0.415	0.590	95.000	2.897	0.559	0.126	0.104	0.040	0.023	0.055	0	0	0	0
07/09/2002	1044	0.782	0.458	0.591	94.819	2.992	0.576	0.132	0.113	0.042	0.025	0.060	0	0	0	0
07/07/2002	1044	0.745	0.439	0.591	94.831	3.041	0.582	0.130	0.110	0.041	0.024	0.057	0	0	0	0
07/06/2002	1046	0.781	0.461	0.593	94.594	3.131	0.638	0.145	0.129	0.041	0.024	0.057	0	0	0	0
07/05/2002	1046	0.786	0.444	0.593	94.647	3.051	0.656	0.151	0.138	0.043	0.025	0.059	0	0	0	0
07/04/2002	1046	0.790	0.453	0.593	94.633	3.033	0.664	0.155	0.143	0.043	0.026	0.061	0	0	0	0
07/03/2002	1046	0.823	0.466	0.593	94.562	3.082	0.646	0.155	0.138	0.043	0.024	0.060	0	0	0	0
07/02/2002	1045	0.804	0.461	0.592	94.662	3.093	0.594	0.139	0.127	0.040	0.023	0.059	0	0	0	0
07/01/2002	1045	0.800	0.422	0.592	94.764	2.987	0.620	0.147	0.134	0.042	0.024	0.061	0	0	0	0
06/30/2002	1045	0.801	0.454	0.592	94.673	3.045	0.620	0.148	0.134	0.041	0.023	0.060	0	0	0	0
06/29/2002	1045	0.776	0.461	0.592	94.714	3.042	0.611	0.142	0.132	0.039	0.023	0.059	0	0	0	0
06/28/2002	1046	0.798	0.453	0.593	94.538	3.180	0.629	0.147	0.135	0.040	0.023	0.058	0	0	0	0
06/27/2002	1046	0.796	0.464	0.593	94.587	3.133	0.620	0.144	0.130	0.041	0.024	0.060	0	0	0	0
06/26/2002	1046	0.773	0.455	0.592	94.674	3.084	0.617	0.145	0.129	0.041	0.024	0.059	0	0	0	0
06/25/2002	1048	0.795	0.475	0.594	94.379	3.253	0.665	0.158	0.139	0.045	0.026	0.064	0	0	0	0
06/24/2002	1048	0.787	0.489	0.594	94.384	3.261	0.653	0.155	0.137	0.045	0.026	0.066	0	0	0	0
06/23/2002	1048	0.816	0.436	0.594	94.451	3.166	0.682	0.165	0.144	0.047	0.026	0.066	0	0	0	0
06/22/2002	1046	0.828	0.460	0.593	94.537	3.129	0.633	0.151	0.132	0.043	0.025	0.062	0	0	0	0
06/21/2002	1048	0.810	0.479	0.595	94.381	3.205	0.679	0.163	0.145	0.046	0.026	0.067	0	0	0	0
06/20/2002	1048	0.812	0.466	0.594	94.427	3.174	0.675	0.164	0.145	0.046	0.026	0.066	0	0	0	0
06/19/2002	1047	0.824	0.445	0.594	94.552	3.089	0.656	0.158	0.140	0.045	0.026	0.065	0	0	0	0
06/18/2002	1042	0.783	0.465	0.590	94.925	2.946	0.531	0.121	0.112	0.037	0.023	0.058	0	0	0	0

06/17/2002	1041	0.794	0.470	0.589	95.014	2.872	0.508	0.117	0.109	0.036	0.023	0.057	0	0	0	0
06/16/2002	1040	0.774	0.443	0.588	95.218	2.724	0.494	0.117	0.112	0.037	0.024	0.057	0	0	0	0
06/15/2002	1041	0.788	0.426	0.589	95.214	2.680	0.522	0.126	0.118	0.039	0.025	0.060	0	0	0	0
06/14/2002	1044	0.791	0.466	0.591	94.898	2.823	0.599	0.145	0.139	0.045	0.028	0.065	0	0	0	0
06/13/2002	1042	0.773	0.445	0.590	95.117	2.720	0.557	0.133	0.129	0.041	0.026	0.060	0	0	0	0
06/12/2002	1039	0.702	0.460	0.587	95.445	2.518	0.513	0.123	0.122	0.038	0.024	0.055	0	0	0	0
06/11/2002	1040	0.700	0.440	0.587	95.429	2.562	0.514	0.121	0.120	0.036	0.023	0.054	0	0	0	0
06/10/2002	1040	0.727	0.444	0.587	95.355	2.627	0.505	0.117	0.115	0.035	0.023	0.053	0	0	0	0
06/09/2002	1042	0.757	0.439	0.589	95.091	2.779	0.555	0.126	0.126	0.040	0.026	0.060	0	0	0	0
06/08/2002	1043	0.832	0.444	0.591	94.826	2.995	0.527	0.124	0.122	0.041	0.027	0.062	0	0	0	0
06/07/2002	1042	0.840	0.453	0.591	94.848	2.959	0.527	0.125	0.124	0.040	0.026	0.058	0	0	0	0
06/06/2002	1041	0.830	0.430	0.590	94.996	2.906	0.496	0.115	0.110	0.037	0.024	0.057	0	0	0	0
06/05/2002	1041	0.859	0.420	0.590	94.893	2.980	0.509	0.117	0.108	0.036	0.022	0.055	0	0	0	0
06/04/2002	1042	0.879	0.437	0.591	94.756	3.065	0.523	0.118	0.111	0.036	0.022	0.052	0	0	0	0
06/03/2002	1041	0.912	0.458	0.592	94.719	3.019	0.530	0.124	0.117	0.039	0.025	0.057	0	0	0	0
06/02/2002	1037	0.889	0.435	0.588	95.328	2.499	0.500	0.123	0.110	0.037	0.023	0.054	0	0	0	0
06/01/2002	1038	0.900	0.477	0.590	95.142	2.566	0.542	0.134	0.118	0.040	0.024	0.056	0	0	0	0
05/31/2002	1037	0.851	0.484	0.588	95.374	2.439	0.498	0.124	0.110	0.039	0.024	0.058	0	0	0	0
05/30/2002	1036	0.820	0.441	0.587	95.570	2.342	0.481	0.116	0.108	0.038	0.024	0.060	0	0	0	0
05/29/2002	1035	0.806	0.422	0.585	95.717	2.295	0.446	0.107	0.091	0.036	0.022	0.058	0	0	0	0
05/28/2002	1035	0.799	0.442	0.586	95.602	2.407	0.455	0.105	0.087	0.032	0.019	0.052	0	0	0	0
05/27/2002	1035	0.832	0.441	0.586	95.604	2.371	0.455	0.103	0.089	0.031	0.019	0.054	0	0	0	0
05/26/2002	1037	0.807	0.416	0.587	95.488	2.468	0.502	0.113	0.098	0.033	0.021	0.055	0	0	0	0
05/25/2002	1038	0.827	0.405	0.587	95.446	2.493	0.490	0.115	0.104	0.036	0.023	0.060	0	0	0	0
05/24/2002	1037	0.832	0.371	0.587	95.550	2.435	0.472	0.113	0.102	0.037	0.023	0.064	0	0	0	0
05/23/2002	1036	0.905	0.354	0.587	95.665	2.284	0.440	0.115	0.097	0.042	0.026	0.072	0	0	0	0
05/22/2002	1036	0.854	0.400	0.586	95.555	2.442	0.432	0.107	0.091	0.036	0.022	0.060	0	0	0	0
05/21/2002	1041	0.865	0.339	0.590	95.264	2.549	0.585	0.148	0.125	0.042	0.023	0.059	0	0	0	0
05/20/2002	1043	0.831	0.427	0.591	94.930	2.841	0.577	0.139	0.125	0.042	0.025	0.064	0	0	0	0
05/19/2002	1042	0.872	0.383	0.590	95.111	2.649	0.583	0.144	0.125	0.042	0.025	0.065	0	0	0	0
05/18/2002	1042	0.813	0.401	0.590	95.082	2.751	0.559	0.134	0.118	0.044	0.027	0.071	0	0	0	0
05/17/2002	1046	0.817	0.386	0.593	94.826	2.865	0.654	0.162	0.137	0.050	0.029	0.073	0	0	0	0
05/16/2002	1044	0.786	0.386	0.591	95.045	2.760	0.615	0.147	0.125	0.044	0.026	0.065	0	0	0	0
05/15/2002	1042	0.734	0.410	0.588	95.218	2.740	0.541	0.123	0.108	0.039	0.024	0.062	0	0	0	0
05/14/2002	1043	0.742	0.431	0.590	95.066	2.821	0.561	0.131	0.114	0.042	0.026	0.065	0	0	0	0
05/13/2002	1041	0.725	0.417	0.588	95.283	2.733	0.500	0.114	0.099	0.040	0.025	0.064	0	0	0	0
05/12/2002	1041	0.737	0.410	0.588	95.336	2.671	0.493	0.114	0.100	0.042	0.027	0.070	0	0	0	0
05/11/2002	1045	0.725	0.395	0.590	94.905	3.052	0.557	0.122	0.110	0.041	0.026	0.067	0	0	0	0
05/10/2002	1047	0.765	0.373	0.592	94.767	3.087	0.600	0.139	0.122	0.046	0.028	0.072	0	0	0	0
05/09/2002	1046	0.744	0.374	0.591	94.937	2.938	0.596	0.137	0.123	0.046	0.030	0.074	0	0	0	0
05/08/2002	1042	0.734	0.398	0.589	95.191	2.775	0.530	0.126	0.108	0.042	0.026	0.068	0	0	0	0
05/07/2002	1040	0.720	0.407	0.587	95.408	2.651	0.471	0.112	0.097	0.040	0.026	0.069	0	0	0	0



Jeb Bush
Governor

Department of Environmental Protection

Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

David B. Struhs
Secretary

July 24, 2002

CERTIFIED MAIL - RETURN RECEIPT REQUESTED

Mr. Robert E. McGarrah, Production Superintendent
City of Tallahassee, Electric Utility
2602 Jackson Bluff Road
Tallahassee, Florida 32304

Re: Request for Additional Information Regarding Title V Permit Renewal Application
File No.: 0730003-003-AV
Arvah B. Hopkins Generating Station

Dear Mr. McGarrah:

The Title V permit renewal application for the Arvah B. Hopkins Generating Station was received in a timely manner (July 1, 2002). However, in order to continue processing this application, the Department is requesting the additional information outlined below. Should your response to any of the listed items require new calculations, please submit the new calculations, assumptions, reference material and appropriate revised pages of the application form.

1. The engineer's seal on the certification page is not a valid seal pursuant to CHAPTER 61G15-23, Florida Administrative Code (F.A.C.). Rule 61G15-23.001, F.A.C. requires that professional engineer seals be a minimum of 1 7/8 inches in diameter. The seal used on this application is the old 1 5/8 inches diameter style. Please provide replacement certification pages for all copies of the application that were submitted for this source.
2. In your application, you have requested that the permit be modified to allow the firing of liquid propane. Adding a previously unpermitted fuel could constitute a modification that would require a New Source Review and PSD applicability determination. We are unable to determine from the information provided in your application if the addition of this new fuel will result in a modification. Please provide information regarding the original design of the boilers and their current ability to fire liquid propane. Also, include a Professional Engineer's certified analysis of the effects that combusting liquid propane will have on air pollutant emissions, with a comparison of past actual vs. future potential emissions.

The above comments require a written response to the Department within ninety days of receipt of this notice unless additional time is requested pursuant to Rule 62-213.420(1)(b)6., F.A.C. If you should have any questions, please contact Jonathan Holtom, P.E., at (850) 921-9531, or me at (850) 921-9532.

Sincerely,

Scott M. Sheplak, P.E.
Administrator
Title V Section

SMS/jh

CC: Mr. Karl Bauer, P.E., City of Tallahassee
Ms. Sandra Veazey, DEP, Northwest District Office
Mr. Gerry Neubauer, DEP, Northwest District Branch Office

"More Protection, Less Process"

PLACE STICKER AT TOP OF ENVELOPE TO THE RIGHT OF RETURN ADDRESS.

THIS SECTION ON DELIVERY

☐ Complete items 1, 2, and 3. Also complete item 4 if Restricted Delivery is desired.
☐ Print your name and address on the reverse so that we can return the card to you.
☐ Attach this card to the back of the mailpiece, or on the front if space permits.

1. Article Addressed to:

Mr. Robert E. McGarrah,
 Production Superintendent
 City of Tallahassee, Electric Utility
 2602 Jackson Bluff Road
 Tallahassee, Florida 32304

2. Article Number (Copy from service label)
 7000 0520 0020 9371 3261

A. Received by (Please Print Clearly) Angelia Hubbard B. Date of Delivery 07-25-2000
 C. Signature X Angelia Hubbard ☐ Agent ☐ Addressee
 D. Is delivery address different from item 1? ☐ Yes
 If YES, enter delivery address below: ☐ No

3. Service Type
☒ Certified Mail ☐ Express Mail
☐ Registered ☐ Return Receipt for Merchandise
☐ Insured Mail ☐ C.O.D.

4. Restricted Delivery? (Extra Fee) ☐ Yes

PS Form 3811, July 1999 Domestic Return Receipt 102595-00-M-0952

U.S. Postal Service
CERTIFIED MAIL RECEIPT
 (Domestic Mail Only; No Insurance Coverage Provided)

7000 0520 0020 9371 3261

Mr. Robert E. McGarrah

Postage	\$	Postmark Here
Certified Fee		
Return Receipt Fee (Endorsement Required)		
Restricted Delivery Fee (Endorsement Required)		
Total Postage & Fees	\$	

Recipient's Name (Please Print Clearly) (To be completed by mailer)
Mr. Robert E. McGarrah
 Street, Apt. No.; or PO Box No.
2602 Jackson Bluff Road
 City, State, ZIP+4
Tallahassee, Florida 32304

PS Form 3800, February 2000 See Reverse for Instructions