



State of Florida
DEPARTMENT OF ENVIRONMENTAL REGULATION

For Routing To Other Than The Addressee	
To _____	Location _____
To _____	Location _____
To _____	Location _____
From _____	Date _____

Interoffice Memorandum

TO: Buck Oven
 FROM: Clair Fancy 
 DATE: February 25, 1993
 SUBJ: OUC's Stanton #2: Concrete Batch Plant Evaluation for a PPS Certification Modification Request

1. For the operation of a Vince Hagan Company Model HSM-10250C-400 concrete batch plant with cement and fly ash storage silos. Emissions generated during pneumatic filling of the storage silos are controlled by two Vince Hagan Company Model ES-268B baghouses, one on each silo, with 268 square feet of cloth filtration area. A water spray ring is used to control emissions during truck loading.

2. Visible emissions from concrete batching plants; silos, hoppers and other storage or conveying equipment shall not exceed 5% opacity [Rule 17-296.414(1), Florida Administrative Code (F.A.C.)].

3. The initial and subsequent compliance tests for visible emissions on the particulate matter control equipment shall be conducted using DER Method 9 in accordance with Rule 17-297.420, F.A.C. The initial and subsequent compliance tests for visible emissions on the storage piles shall be conducted using EPA Method 22 in accordance with Rule 17-297.400(22), F.A.C., and 40 CFR 60, Appendix A. The Department's Central District office shall be notified in writing at least 15 days prior to the compliance test in accordance with Rule 17-297.340, F.A.C. The test reports shall be submitted to the Department's Central District office no later than 45 days after the last sampling run of each test is completed in accordance with Rule 17-297.570(2), F.A.C.

The visible emissions test observation period shall include the period during which the highest opacity can reasonably be expected to occur. For the storage silos this is expected to be the last 30 minutes of filling.

4. Testing of emissions must be accomplished while filling the cement and fly ash storage silos within $\pm 10\%$ of the permitted capacity of 27 tons per hour. A compliance test submitted at operating rates less than 90% of the permitted capacity will automatically constitute an amended permit at the lesser rate. Failure to submit the input rates and actual operating conditions may invalidate the test (Rule 17-4.070, F.A.C.).

IM cont.

OUC's Stanton #2: Concrete Batch Plant

February 25, 1993

Page 2

5. Permitted hours of operation are 8 hrs/day, 5 days/wk, and 52 wks/yr.

6. All reasonable precautions shall be taken to prevent and control generation of unconfined emissions of particulate matter in accordance with the provision in Rule 17-296.310(3), F.A.C. These provisions are applicable to any source, including, but not limited to, vehicular movement, transportation of materials, construction, alteration, demolition or wrecking, or industrial related activities such as loading, unloading, storing and handling. Reasonable precautions shall include the use of water sprinklers to prevent and control fugitive particulates from plant grounds and aggregate storage piles and the use of the water spray ring at the truck loadout.

CHF/BM-JH/rbm

cc: C. Collins, CD

2-3-93
Red D 2:00pm
via Preston
[J. Holton also copied]

YOUNG, VAN ASSENDERP, VARNADOE & BENTON, P. A.

ATTORNEYS AT LAW

REPLY TO:

R. BRUCE ANDERSON
RICHARD E. BENTON
TASHA O. BUFORD
DAVID L. COOK*
DAVID B. ERWIN
C. LAURENCE KEESEY
MARY A. MARNELL
G. DONALD THOMSON
KENZA VAN ASSENDERP
GEORGE L. VARNADOE
ROY C. YOUNG

Tallahassee

January 27, 1993

GALLIE'S HALL
225 SOUTH ADAMS STREET, SUITE 200.
POST OFFICE BOX 1833
TALLAHASSEE, FLORIDA 32302-1833
TELEPHONE (904) 222-7206
TELECOPIER (904) 561-6834

SUN BANK BUILDING
801 LAUREL OAK DRIVE
SUITE 300
POST OFFICE BOX 7907
NAPLES, FLORIDA 33941-7907
TELEPHONE (813) 597-2814
TELECOPIER (813) 597-1060

*BOARD CERTIFIED REAL ESTATE LAWYER

Hamilton S. Oven, P.E.
Department of Environmental Regulation
2600 Blair Stone Road
Tallahassee, Florida 32399

Re: Orlando Utilities Commission's Proposed
Modification of Site Certification to
Authorize Construction of a Temporary Concrete
Batch Plant; Curtis H. Stanton Power Plant,
Unit No. 1 - PA-81-14

Dear Buck:

Pursuant to Section 403.516(1)(b), Florida Statutes, and our meeting of January 7, 1993, I am submitting the enclosed modification of site certification request on behalf of the Orlando Utilities Commission (OUC). This modification is necessary to authorize construction of a temporary concrete batch plant at the Stanton Energy Center. The batch plant will provide concrete over a period of not more than thirty-six (36) months to be used for the construction of the previously certified Stanton Unit 2 power plant. The batch plant will be disassembled and removed from the site prior to commencement of operation of Stanton Unit 2.

The subject concrete batch plant is a "relocatable facility" as defined by Rule 17-212.200(59), F.A.C. The batch plant is currently permitted by the Florida DER (see DER Permit No. A009-201033, attached to the Proposed Agreement as Exhibit C) for operation at Crystal River, Citrus County, Florida. This plant was dismantled after completion of the project at Crystal River, and awaits reconstruction at OUC's Stanton Energy Center.

The proposed batch plant will be located on a three acre site that is within the area that was cleared and prepared for the construction of Stanton Unit 1 and its associated facilities. The batch plant will not be within, and will not affect, the portion of the Stanton Energy Center site that is designated for management of the red-cockaded woodpecker population.

Hamilton S. Oven, P.E.
Page 2
January 27, 1993

The attached modification request consists of a Proposed Agreement for Modification of Site Certification with the following attached exhibits:

- Exhibit A: an application to operate/construct an air pollution source;
- Exhibit B: a narrative description of the temporary batch plant operation; and
- Exhibit C: current DER permit and application dated April 4, 1991, filed by Florida Mining and Materials for the site at Crystal River.

The submission of this package is in accordance with the provisions of Rules 17-17.211 and 17-4.210, Florida Administrative Code.

Six copies of the modification request are being submitted to your office for the Department's use and review. This modification request is also being submitted simultaneously by me to all parties to the original Stanton Energy Center site certification proceeding and to any additional parties involved in the supplemental certification for Stanton Unit 2.

As we discussed with you and other DER representatives on January 7, 1993, OUC is requesting this modification pursuant to Section 403.516(1)(b), Florida Statutes. This statutory provision authorizes DER to modify the Stanton Energy Center site certification provided no original party objects within forty-five (45) days from their receipt of this proposed modification and provided that no member of the public with legal standing objects within thirty (30) days from the date DER provides public notice by publication in the Florida Administrative Weekly of this proposed modification of certification.


OUC requests that DER provide public notice of this request for modification of site certification pursuant to Rule 17-17.151(10), Florida Administrative Code. That notice will commence the period for public comment.

In accordance with Rule 17-17.293(1)(c), Florida Administrative Code, OUC's check for \$10,000, payable to DER, is enclosed. Those funds will reimburse DER and agency parties for expenses incurred in reviewing this modification.

Hamilton S. Oven, P.E.
Page 3
January 27, 1993

OUC is available to discuss any questions which may arise during the review process.


Sincerely,


C. Laurence Keeseey

CLK/kdh
Enclosure
cc: Parties to Original and
Supplemental Certification

I:\users\kdh\oven.clk

2:00 pm. meeting
1-2-93



ORLANDO UTILITIES COMMISSION

GREGORY A. DEMUTH
Director
Environmental Division

500 SOUTH ORANGE AVENUE . P. O. BOX 3193 . ORLANDO, FLORIDA 32802
(407) 423-9141 FAX NO. (407) 236-9616

In 1991, concrete batch plant
P.M. & M.L. Crystal River
Citrus Co

12-24-92 to Tanya Stewart to estab. a meeting
want to transfer to the Stanton Unit #2
There is currently no certification auth.
Mod. will be required

will require

- ① app
- ② mod. to cert.
- ③ will require a ✓ on sign. impact

request
12-7-92 letter to J. Turner
to withdraw the request to CIO
AD/09-201033
C. Collins - request latest VE test

control system? → baghouse = cement & fly ash silos & baghouses

Greg Demuth

To locate within the OUC Stanton site - just N of #2
the existing coal pile; vegetation - Bahia Grass
Zero-Discharge: lined pond to collect any run-off discharge

Temp. location
Emissions from the batch plant will be "0" by
the time Stanton 2 comes on line

Attendance List 1/7/92

OUC Temporary Batch Plant

Name	Representing	Ph #
Thomas Tart	Orlando utilities	(407) 423-9173
Frank Caldwell	Florida Mining & Metallurgy	407-384-5050
Bruce Mitchell	FDER/DARM/BAR	904-488-1344
Jonathan Holtom	FDER/DARM/BAR	904 488-8163
GREG DEMUTH	OUC	407-423-9141
LARRY KEESY	YOUNG VANASSENDER	(904) 222-7206
Michael Norbeck	Young Van Assender	(904) 222-7206
Preston Lewis	FDER/DARM/BAR	(904) 488-1344
Buck Owen	DER - Siting	(904) 487-0472
Richard Donelan	DER - OGC	(904) 488-9730
Kerza van Assender	YVVA/R2	904 222 7206

**BEFORE THE STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL PROTECTION**

RECEIVED

In Re: Orlando Utilities Commission)
Curtis H. Stanton Energy)
Center, Units 1 and 2)
Modification of Conditions)
of Certification)
Orange County, Florida)
_____)

OGC CASE NO. 98-2158
DEP FILE NO. PA 81-14D

AUG 10 1998

BUREAU OF
AIR REGULATION

**FINAL ORDER MODIFYING
CONDITIONS OF CERTIFICATION**

On December 14, 1982, the Governor and Cabinet, sitting as the Siting Board, issued a final order approving certification for the Orlando Utilities Commission (OUC) Curtis H. Stanton Energy Center Unit 1. On December 17, 1991, the Siting Board issued a final order approving certification of Unit 2 at the OUC Stanton Energy Center Unit 2. Those certification orders approved the construction and operation of two 465 MW (net) coal fired units and associated facilities in Orange County, Florida. The certification has been previously modified by Department order on July 28, 1986, July 29, 1996, and December 24, 1997.

On May 11, 1998, OUC filed a request to amend the conditions of certification pursuant to Section 403.516(1)(b), Florida Statutes. OUC requested that the conditions be modified to eliminate the operation of the ambient air monitoring station.

Copies of OUC's proposed modifications were made available for public review on June 12, 1998, on which date a Notice of Intent to Issue Proposed Modification of Power Plant Certification was also published in the Florida Administrative Weekly. The Department included in the Notice an intent to modify certain conditions to conform to requirements of the State Implementation Plan. On May 15 and May 22, 1998, all parties to the original proceeding were served by mail with copies of the intent to modify and supporting documentation. The notice specified that a hearing would be held if a party to the original certification hearing objected within 45 days from receipt of the proposed modifications or if any other person, whose interests would be substantially affected, objected in writing within 30 days after issuance of the public

notice. No written objection to the proposed modifications has been received by the Department. Accordingly, in the absence of any timely objection,

IT IS ORDERED:

The proposed changes to the Orlando Utility Commission Stanton Energy Center as described in its May 11, 1998, request for modification are APPROVED, provided that any ambient air quality data collected prior to June 30, 1998, shall be reported to the Department. Pursuant to Section 403.516(1)(b), F.S., the conditions of certification for the Orlando Utility Commission Stanton Energy Center Units 1 and 2 are **MODIFIED** as follows:

I. Air

The construction and operation of Units 1 and 2 at the Orlando Utilities Commission, Curtis H. Stanton Energy Center (CHSEC) steam electric power plant site shall be in accordance with all applicable provisions of Chapter 62, Florida Administrative Code, ~~except for opacity, NO_x, and SO₂, which shall be governed by 40 CFR Part 60 regarding startup, shutdown, and malfunction~~ including all requirements of the State of Florida State Implementation Plan and approved Title V permit program. In addition, the construction and operation of the units shall be in accordance with 40 CFR Part 60, especially for opacity, NO_x, and SO₂ during periods of startup, shutdown, and malfunction; the provisions of PSD permit FL-084; and the following conditions of certification:

A. Emission Limitations

1. -10. No change

11. Except as noted herein, the fuel to be fired in Stanton Units 1 and 2 and the auxiliary boiler shall be primarily "new oil" which has been refined from crude oil and has not been used. On-site generated lubricating oil and used fuel oil which meets the requirements of 40 CFR 266.40 may also be burned.

a. No change

b. Landfill gas from the Orange County Landfill may be burned in Unit No. 1 and Unit No. 2 to the extent quantities are available provided that all emission limits in Condition I.A.1 for Unit 1 and Condition I.A.2. for Unit 2 are met.

c. Natural gas as supplied by commercial pipeline may be burned in Unit No. 1 and Unit No. 2 to the extent quantities are available provided that all emission limits in Condition I.A.1 for Unit 1 and Condition I.A.2. for Unit 2 are met.

II/I. B. Air Monitoring Program

1. No change

2. No change

~~3. The permittee shall operate one continuous ambient monitoring device for sulfur dioxide in accordance with DER quality control procedures and EPA reference methods in 40 CFR, Part 53, and one ambient monitoring device for PM₁₀, and one continuous NO_x monitor. The monitoring devices shall be specifically located at a location approved by the Department. The frequency of operation of the particulate monitor shall be every six days commencing as specified by the Department. During construction and operation the existing meteorological station will be operated and data reported with the ambient data.~~

~~3.~~ 4. The permittee shall maintain --- No change

~~4.~~ 5. The permittee shall provide --- No change.

~~6. The ambient monitoring program shall begin at least one year prior to initial start up of Unit 2 and shall continue for at least one year of commercial operation. The Department and the permittee shall review the results of the monitoring program annually and determine the necessity for the continuation or modifications to the monitoring program.~~

Any party to this Notice has the right to seek judicial review of the Order pursuant to Section 120.68, Florida Statutes, by the filing of a Notice of Appeal pursuant to Rule 9.110, Florida Rules of Appellate Procedure, with the Clerk of the Department of Environmental Protection, M.S. 35, Office of General Counsel, 3900 Commonwealth Boulevard, Tallahassee, Florida 32399-3000, and by filing a copy of the Notice of Appeal accompanied by the applicable filing fee with the appropriate District Court of Appeal. The Notice of Appeal must be filed within 30 days from the date that this Final Order is filed with the Department of Environmental Protection.

DONE AND ENTERED this 4th day of ~~July~~^{August}, 1998 in Tallahassee,
Florida.

**STATE OF FLORIDA, DEPARTMENT
OF ENVIRONMENTAL PROTECTION**

Virginia B. Wetherell
VIRGINIA B. WETHERELL
SECRETARY
3900 Commonwealth Boulevard
Tallahassee, FL 32399-3000
Telephone: (850) 488-1554

FILING AND ACKNOWLEDGMENT FILED, on this date, pursuant to S.120.52 Florida Statutes,
with the designated Department Clerk, receipt of which is hereby acknowledged.

Heather Chapman 8/17/98
CLERK DATE

CERTIFICATE OF SERVICE

I HEREBY CERTIFY this 7th day of ~~July~~^{August} 1998, that a true and correct copy of the
foregoing Final Order Modifying Conditions of Certification has been sent by mail to the
following listed persons:

C. Laurence Keeseey
Young, van Assenderp & Varnadoe
801 Laurel Oak Drive
Suite 300
Naples, FL 34108

Aaron Dowling, Executive Director
East Central Florida Regional
Planning Council
1011 Wymore Road
Suite 105
Winter Park, FL 32789

Stephanie G. Kruer
General Counsel
Dept. of Community Affairs
2555 Shumard Oak Blvd.
Tallahassee, FL 32399-2100

Tom Wilks, Esq.
Assistant County Attorney
Orange County
201 S. Rosalind Avenue, 5th Floor
Orlando, FL 32801

Sheauching Yu, Esq.
Assistant General Counsel
Department of Transportation
Haydon Burns Building
605 Suwannee Street, M.S. 58
Tallahassee, FL 32399-0450

Robert V. Elias, Esq.
Florida Public Service Commission
Gerald Gunter Building
2540 Shumard Oak Blvd.
Tallahassee, FL 32399-0850

James V. Antista
General Counsel
Game and Fresh Water Fish Comm.
Bryant Bldg.
620 S. Meridian Street
Tallahassee, FL 32399-1600

Irby G. Pugh, Esq.
218 Annie St.
Orlando, FL 32806


Kathryn Menella, Esq.
Senior Assistant General Counsel
St. Johns River Florida Water
Management District
P.O. Box 1429
Palatka, FL 32178-1429

Douglas H. MacLaughlin, Esq.
South Florida Water Management
District
P.O. Box 24680
West Palm Beach, FL 33416-4680

Charles Lee
Senior Vice President
Florida Audubon Society
1331 Palmetto Avenue
Suite 110
Winter Park, FL 32789

Fred Bryant, Esq.
306 East College Avenue
Tallahassee, FL 32302

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL PROTECTION



Scott Goorland
Assistant General Counsel
Florida Bar No. 0066834

3900 Commonwealth Boulevard
Tallahassee, Florida 32399-3000
Telephone: (850) 488-9730



Certified Mail No. Z-372-114-527
Return Receipt Requested

November 13, 1997

RECEIVED

NOV 20 1997

BUREAU OF
AIR REGULATION

Mr. Hamilton S. Oven, P.E.
Administrator, Siting Coordination Office
Florida Department of Environmental Protection
Twin Towers Office Building
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

RE: Orlando Utilities Commission, Stanton Energy Center
PA 81-14, Module 8024 Modification

Dear Mr. Oven,

I am in receipt of the Department's October 10, 1997 letter regarding OUC's request for a modification to the Conditions of Certification for Stanton Energy Center Unit 1.

The numbering sequence in the responses below, matches that of the questions posed in the Department's letter to OUC.

1. The emissions associated with the burning of on-site generated used fuel oil are shown in Attachment I. The names and quantities of the criteria and non-criteria pollutants as well as the references used in estimating the emissions, are included in Attachment I. Please be advised that OUC is requesting that the Stanton Energy Center be permitted to burn 1,500,000 gal/yr of on-site generated on-spec used oil.
2. HAPs will be emitted due to the burning of on-site generated used fuel oil. AP-42, Table 1.11-5 provides emission factors for speciated organic compounds from waste oil combustion. The factors presented were for space heaters only, and no factors were provided for small boilers, as was the case with other pollutants. Consequently, the conservative assumption was made that all the TOC emissions were HAP emissions, and were at a used oil consumption rate of 1,500,000 gal/yr, 0.75 tpy.
3. A typical analysis of the on-site generated used fuel oil that will be burned in OUC Stanton Unit #1, is contained in Attachment II.
4. Lead emissions will not be at a level of PSD significance for the facility, taking into account that Unit #2 is allowed to burn on-site generated used fuel oil. The calculated Unit 1 lead emission rate is 825 lb/yr.

Mr. Hamilton S. Owen
November 13, 1997
Page 2

It is OUC's interpretation that the Conditions of Certification for the Stanton Energy Center currently permits the burning of "on specification used fuel oil" in the Unit #2 boiler without regard to its origin. Because of the environmental controls on both units at the Stanton plant, we believe the combustion of "on specification used fuel oil", without regard to origin, should also be permitted for Unit #1 .

Please contact me if I can provide any additional information to assist the Department in their evaluation of this modification request.

Sincerely,



Gregory A. DeMuth
Director
Environmental Division

GAD:lmb
Attachments

xc: A.A. Linero, P.E., Administrator, FDEP
Syed Arif, Review Engineer, FDEP
Robert F. Hicks, Senior Environmental Engineer, OUC

i:unlmod

500 South Orange Avenue
P.O. Box 3193
Orlando Florida 32802
Phone: 407.423.9100
Administrative Fax: 407.236.9616
Purchasing Fax: 407.423.9199
Website: <http://www.ouc.com>



Orlando Utilities Commission

The Reliable One

Certified Mail No. Z-372-115-301
Return Receipt Requested

January 21, 1998

Mr. Alvaro Linero, P. E.
Administrator Resource Review Section
Division of Air Resources Management
Florida Department of Environmental Protection
2600 Blair Stone Road - MS 5505
Tallahassee, FL 32399-2400

RE: Stanton Energy Center, Unit No. 2 (PA 81-14/SA1)

Dear Mr. Linero:

On December 18, 1997 the Orlando Utilities Commission (OUC) requested approval from the Department to conduct a "Test Burn Program" using a blend of petroleum coke and our normal coal at the Stanton Energy Center, Unit No. 2 (SEC-2). This test burn was scheduled to begin February 1, 1998 and to continue for approximately 30 days.

The OUC hereby withdraws the request for test burn approval. We will again request approval from the Department when and if the testing of petroleum coke is rescheduled.

Thank you for your consideration and please call me at 407/423-9141 if any further information is required.

RECEIVED

JAN 26 1998

**BUREAU OF
AIR REGULATION**

GAD:rc

xc: A. C. Frazier
F. F. Haddad
T. B. Tart
D. M. Scarlett
J. C. Aspuru
H. S. Oven, FDEP, Tallahassee
L. T. Kozlov, FDEP Central District Office

I:\air\tstburn2.wp

Very truly yours,

A handwritten signature in black ink, appearing to read 'Gregory A. DeMuth', is written over a circular stamp.

Gregory A. DeMuth, Director
Environmental Division

cc: S. Arif, BAR



Celebrating 75 years of innovative, friendly, dependable service.

Florida Department of
Environmental Protection

Memorandum

TO: Buck Oven, P.E. Administrator

THRU: Al Linero, P.E. Administrator *Al Linero 12/9*

FROM: Syed Arif, Review Engineer *Syed Arif*

DATE: December 9, 1997

SUBJECT: Orlando Utilities Commission, Stanton Energy Center
PA 81-14 & Pa 81-14SA, Module 8024 Modification

The Bureau of Air Regulation has reviewed the additional information submitted by the above referenced facility in response to our insufficiency letter of October 10, 1997. The Bureau finds the submittal sufficient and concurs with the Final Order Modifying Conditions of Certification as prepared by you. If there are any questions, please call me at 488-1344.

TO: Buck Oven, Siting Coordination Office

THRU: A. A. Linero, P.E. Administrator *aal* 10/10

FROM: Syed Arif, Review Engineer SA

DATE: October 10, 1997

SUBJECT: Orlando Utilities Commission (OUC), Stanton Energy Center, PA.81-14,
Module 8024 Modification

The following issues are raised regarding the above modification and in particular to request in subparagraph 4C Igniter Fuel Oil Consistency:

1. Please indicate the emissions associated with the burning of on-site generated used fuel oil. In responding to this query, indicate the names and quantity of the criteria and non-criteria pollutants that will be emitted, and any references used in estimating those emissions.
2. Please indicate if any HAP's will be emitted due to the burning of on-site generated used fuel oil. If so, quantify the HAP's emissions.
3. Please indicate the typical analyses of the on-site generated used fuel oil that will be burned in OUC Stanton Unit #1.
4. Please indicate if lead emissions will be PSD significance (1200 pounds or more) for the facility considering that Unit #2 is allowed to burn on-site generated used fuel oil.

The Bureau will review the above request after receiving responses for the above mentioned questions.

SA/a



Department of Environmental Protection

Lawton Chiles
Governor

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

Virginia B. Wetherell
Secretary

October 14, 1997

Mr. Gregory A. DeMuth, Director
Environmental Division
Orlando Utilities Commission
Post Office Box 3193
Orlando, Florida 32802-3193

RECEIVED
OCT 15 1997
BUREAU OF
AIR REGULATION

Re: Stanton Energy Center, PA 81-14

Dear Mr. DeMuth:

The The Bureau of Air Regulation of the Department of Environmental Protection has made a preliminary review of your request for modification of the Stanton Energy Center. Their comments are attached. You may wish to contact Mr. Arif directly at (850) 488-1344.

Sincerely,

Hamilton S. Oven
Hamilton S. Oven, P.E.
Administrator, Siting
Coordination Office

Attach:

cc: Syed Arif

Memorandum

Florida Department of
Environmental Protection

TO: Buck Oven, Siting Coordination Office

THRU: A. A. Linero, P.E. Administrator

FROM: Syed Arif, Review Engineer SA

DATE: October 10, 1997

SUBJECT: Orlando Utilities Commission (OUC), Stanton Energy Center, PA 81-14,
Module 8024 Modification

DEPARTMENT OF
ENVIRONMENTAL PROTECTION

OCT 14 1997

SITING COORDINATION

The following issues are raised regarding the above modification and in particular to request in subparagraph 4C Igniter Fuel Oil Consistency:

1. Please indicate the emissions associated with the burning of on-site generated used fuel oil. In responding to this query, indicate the names and quantity of the criteria and non-criteria pollutants that will be emitted, and any references used in estimating those emissions.
2. Please indicate if any HAP's will be emitted due to the burning of on-site generated used fuel oil. If so, quantify the HAP's emissions.
3. Please indicate the typical analyses of the on-site generated used fuel oil that will be burned in OUC Stanton Unit #1.
4. Please indicate if lead emissions will be PSD significance (1200 pounds or more) for the facility considering that Unit #2 is allowed to burn on-site generated used fuel oil.

The Bureau will review the above request after receiving responses for the above mentioned questions.

SA/a

Florida Department of
Environmental Protection

Memorandum

TO: Power Plant Siting Review Committee

FROM: Buck Oven, Siting Coordination Office *gH30*

DATE: September 24, 1997

SUBJECT: Orlando Utilities Commission, Stanton Energy Center, PA 81-14, Module 8024 Modification

Enclosed please find a copy of OUC's proposed modifications to the Stanton Energy Center. Please review and comment on their application and return your comments on the completeness and sufficiency of the submission as soon as practical but no later than October 15, 1997.

Encl:

RECEIVED
SEP 25 1997
BUREAU OF
AIR REGULATION



RECEIVED

SEP 25 1997

September 23, 1997

BUREAU OF
AIR REGULATION

Mr. Hamilton S. Oven, P. E., Administrator
Siting Coordination Office
Division of Air Resources Management
Florida Department of Environmental Protection
2600 Blair Stone Road, MS48
Tallahassee, FL 32399-2400

Re: Orlando Utilities Commission Request for Modification of
Conditions Of Certification for Stanton Energy Center

Dear Mr. Oven:

The Orlando Utilities Commission (OUC) hereby requests that the Department modify the Conditions of Certification attached to the Siting Board's certifications of the Stanton Energy Center Units 1 and 2, as described in the attached documents. This request is being submitted by OUC pursuant to Section 403.516.(1)(b), Florida Statutes, and the Department's Rule 62-17-211, Florida Administrative Code, which authorize an Agreement for Modification of Site Certification to be submitted to, and approved by the Department if no party to the certification hearing objects to the modification in writing within 45 days of their receipt of notice by mail of this request.

Simultaneously, with the submission of this request to the Department, OUC is sending copies of this letter, the proposed agreement and the supporting documents to all parties who participated in the final hearing and proceedings leading to the Siting Board's supplemental certification of Stanton Unit 2 on December 17, 1991. By copy of this letter and enclosures, OUC is notifying all parties that if there is an objection to the proposed Agreement for Modification of Site Certification, the objecting party must file its written objection and request for a formal hearing with the Department of Environmental Protection within 45 days of the party's receipt of this notice.

Hamilton S. Oven, P. E.

September 23, 1997

Page 2

OUC requests that the Department, upon agreement of the parties to this modification, issue a final order approving the requested revisions. Our request consists of four minor changes to the conditions of certification and two clarifications of the wording of existing conditions, which are fully described in the enclosed documents. In support of this request, Orlando Utilities Commission is submitting the following documents:

1. A narrative description of the four proposed changes and two clarifications of the conditions of certification (Attachment 1).

2. A "Proposed Agreement for Modification of Site Certification" (Attachment 2), which includes two (2) exhibits:

A. Exhibit 1 to the Proposed Agreement for Modification of Site Certification consists of revised pages of OUC's Application for Supplemental Site Certification for Stanton Energy Center Unit 2 to replace existing pages of the application. Pursuant to Rule 62-17.211(1), Florida Administrative Code, fourteen (14) copies of these changes to the original application are enclosed.

B. Exhibit 2 to the Proposed Agreement for Modification of Site Certification consists of pages containing the new, amended conditions of certification, as proposed.

3. Also enclosed for your convenience, are second versions of pages containing both the supplemental application revisions and the new conditions of certification (showing additional wording underlined, and deletions with strike-throughs), as Attachment 3 to this request.

I have enclosed fourteen copies of this request for the Department's use. As noted above, I have provided copies by U. S. mail to all of the other parties who participated in proceedings leading to the supplemental site certification of Stanton Energy Center Unit 2, as named in the Certificate of Service attached to the Proposed Agreement.

A check in the amount of \$10,000 is enclosed as the fee for review of this request for modification pursuant to paragraph 403.518(1) (c), Florida Statutes.

We believe the requested minor modifications to the supplemental site certification conditions are not controversial and will result in a net environmental benefit. However, if

H. S. Oven, P. E.
September 23, 1997
Page 3

any party to the supplemental site certification proceedings wishes to object to the proposed modifications, I have advised them to file their objections directly with the Department within 45 days of their receipt of the OUC's request for modification. If the Department receives a written objection requesting a formal hearing from any party, I request that you promptly send me a copy.

On behalf of Orlando Utilities Commission, I thank you for your consideration of this request and the Agreement enclosed. If you have any questions concerning this request, please contact me or Greg DeMuth at (407) 423-9141.

Sincerely



Thomas B. Tart
Vice President and
General Counsel

TBT:rc
Enclosures

cc: All Parties

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL PROTECTION

IN RE: ORLANDO UTILITIES)
COMMISSION, CURTIS H. STANTON)
ENERGY CENTER UNITS NO. 1 AND) DOAH Case No. 91-1813 EPP
NO. 2, SITE CERTIFICATION)
_____)

PROPOSED AGREEMENT FOR
MODIFICATION OF CERTIFICATION

The Orlando Utilities Commission ("OUC") hereby requests the concurrence and agreement of all parties who participated in the site certification hearings for the Curtis H. Stanton Energy Center Units No. 1 and No. 2, to OUC's proposed modifications of the Conditions of Certification for those Units pursuant to Section 403.516(1)(b), Florida Statutes, and Rule 62-17.211, Florida Administrative Code. The parties to the initial Unit No. 1, Site Certification (DOAH Case No. 81-1431) which was approved by the Siting Board's Certification Order entered on December 14, 1982, and parties to the Supplemental Certification of Unit No. 2 (DOAH Case No. 91-1813 EPP) approved by the Siting Board's Final Order entered December 17, 1991, are requested to consent to, or to not object to, the modifications and clarifications of the Conditions of Certification described in this agreement.

Following notice to the parties and to the public, and opportunity for review by the public, the Department of Environmental Protection is requested to issue an order modifying the Conditions of Certification for Units 1 and 2 at the Stanton

Energy Center, pursuant to the statute and rule provisions cited above.

This Proposed Agreement for Modification incorporates several changes to OUC's Application for Certification of Stanton Unit 1, and to the Supplemental Application for Certification of Stanton Unit 2 and to the Conditions of Certification attached to the Siting Board's Final Orders of December 14, 1982, and December 17, 1991, as more fully described in the following paragraphs and the attached Exhibits. In support of this request for modification, Orlando Utilities Commission states the following:

History of the Stanton Energy Center Site Certification

1. The Siting Board, in its Certification Order issued December 14, 1982, adopted and approved the recommended order of the Administrative Law Judge dated November 12, 1982, in DOAH Case No. 81-1431, certifying, pursuant to Chapter 403, Part II, Florida Statutes, the location, construction and operation of the Curtis H. Stanton Energy Center, Unit 1 and its associated facilities and directly associated transmission lines, subject to the Conditions of Certification attached thereto. The Certification Order further certified the Curtis H. Stanton Energy Center for an ultimate electrical generating capacity on site of approximately 2,000 megawatts.

2. On December 17, 1991, the Siting Board issued its Final Order Approving Supplemental Certification (DOAH Case No. 91-1813 EPP) authorizing the construction and operation of Stanton Energy Center Unit 2 and its directly associated facilities, subject to

the Supplemental Conditions of Certification attached as Exhibit A to the adopted Recommended Order of the Administrative Law Judge dated November 15, 1991.

3. On July 24, 1995, the Siting Board issued its Final Order Approving Modification of Certification which authorized, subject to the Stipulation of the Parties and the modified Conditions of Certification referenced in the Order, the construction of the Alafaya Trail Extension through portions of the Stanton Energy Center site.

Description of Requested Modifications and Clarifications

4. This Proposed Agreement for Modification of Site Certification incorporates and approves the five (5) changes to, and two (2) clarifications of, the Conditions of Certification as described in subparagraph 4.A.- G. below. Attached as Exhibit 1 are pages showing changes to OUC's Applications for Certification of Units 1 and 2. Attached as Exhibit 2 are the Conditions of Certification for Units 1 and 2 as they would be amended if this modification is agreed to and approved.

A. Use of Landfill Gas as Fuel

OUC is a charter member of EPA's Landfill Methane Outreach Program and is proposing to utilize landfill gas from the Orange County Landfill as a portion of the fuel to be fired in SEC Unit 1 and Unit 2 boilers.

The modification is to authorize construction of a below grade pipeline from the Orange County Landfill, which is adjacent to Stanton Energy Center, across the developed portion of the SEC site

to Unit 1 and 2 boilers; to install a condensate return line along the same route for return of condensate to the Orange County Landfill wastewater treatment system; and to install twelve gas "guns" in each of 12 existing burners for both Unit 1 and Unit 2. Construction of the pipeline will not cause any impact to wetlands and will not cross or affect red cockaded woodpecker habitat.

The landfill gas will replace or displace approximately 2 percent of the total heat input of both units, which are currently fired by coal. The Conditions of Certification will be modified to authorize burning of landfill gas in Units 1 and 2 in addition to coal.

There will be no increase in emissions as a result of this supplementary fuel. There will be a net carbon dioxide (CO₂) reduction as a result of the displacement of BTUs obtained from coal by those from landfill gas.

Currently, the landfill gas is vented directly to the atmosphere or partially flared with no heat recovery. The following Exhibits are attached in support of this modification:

Exhibit 3, letter dated July 18, 1997, from Richard DiGia of Biomass Energy Systems, covering specifications for the landfill gas utilization project at Stanton Energy Center (9 pages).

Exhibit 4, Babcock & Wilcox Drawing No. 522900E (Field Alteration DRB-XCL Burner).

Exhibit 5, map showing pipeline route between OUC Units and Orange County Landfill.

Changes to OUC's Supplemental Site Certification Application for Stanton Units 1 and 2 which address this modification are contained in Exhibit 1, attached to and incorporated by reference in this Proposed Agreement for Modification. The revised Supplemental Conditions of Certification for Stanton Units 1 and 2 that incorporate this change are contained in Exhibit 2, attached to and incorporated by reference in this Proposed Agreement for Modification.

B. Purchased Fly Ash Recycling

During March, 1997, OUC sought and obtained approval from the Florida Department of Environmental Protection for field testing of fluidized bed ash from the Cedar Bay Cogeneration Project at the Stanton Energy Center.

With the successful completion of the DEP authorized field testing of substituted dry fly ash from fluidized bed and spray drier units, Orlando Utilities Commission is proposing a modification for an expanded pollution prevention project wherein dry fly ash containing residual lime will be brought from other plants to the Stanton Energy Center site via existing rail lines. This ash will be used to displace fly ash from SEC Units 1 and 2, that is currently utilized for scrubber sludge fixation. OUC's fly ash has a lower residual lime content and currently requires lime to be added before it can be used for scrubber sludge fixation at the Stanton Energy Center. The SEC fly ash displaced by fly ash from other units will be marketed to the cement industry. Each ton of OUC fly ash utilized by the cement industry will eliminate the

creation and emission of approximately one ton of CO₂ that would otherwise be emitted during the production of cement in Florida.

The utilization of fly ash containing residual lime at SEC will significantly reduce the amount of lime currently used at SEC and the emissions associated with the lime, which must be purchased, off-loaded, and utilized during the scrubber sludge fixation process. To implement this project at SEC, a new smaller lime silo and a rail car unloading and conveying system will be constructed and operated by OUC. The new rail car unloading and lime storage system will be an enclosed pneumatic process with potential emissions controlled by two new baghouse dust collectors.

The following Exhibits are attached in support of this modification:

Exhibit 6, letter dated March 14, 1997, from Hamilton Oven, P.E. to Gregory DeMuth.

Exhibit 7, letter dated June 12, 1997, from Robert Jones to Greg DeMuth with Tables 1-1 and 1-2 attached (3 pages).

Exhibit 8, letter dated July 13, 1997, from Gernot Jobst to Greg DeMuth with attached drawings of Railcar and Unloading and Transfer System and of Lime Silo System (4 pages).

Exhibit 9, letter dated August 7, 1997, from Robert Jones to Greg DeMuth regarding lime substitute data (one page).

The changes to the OUC's Supplemental Site Certification Application that incorporate these requested changes are contained in Exhibit 1. The changes to the Supplement Site Certification Conditions for Stanton Unit 2 that incorporate these changes are

contained in Exhibit 2 attached to this requested Agreement for Modification.

C. Igniter Fuel Oil Consistency

Stanton Energy Center Unit 2 is permitted to burn No. 6 oil, on-site generated lubricating oil, and used fuel oil which meets the requirements of 40 CFR 266.40. The No. 6 fuel oil can contain up to 1.5% sulfur by weight.

Unit 1 is permitted to burn only "new oil", which results in an unnecessary inconsistency between the oils which can be burned at the two units which is inefficient and uneconomical.

Currently, there is one registered above ground fuel oil storage tank to provide the fuel oil needs for both the Unit 1 boiler and the Unit 2 boiler. OUC requests a modification of the Unit 1 conditions to authorize the use of same quality oil in Unit 1 as permitted for Unit 2. This will allow OUC to dispose of on-site, by burning in Unit 1, used fuel oil and lubricating oil that is now generated on-site, in the same manner as is authorized for Unit 2.

All other applicable conditions of certification related to record keeping, air emissions, pollution control equipment operation, start-up, shut-down and malfunctions will remain the same.

The proposed changes to the OUC's Application for Site Certification for Stanton Unit 1 addressing this modification are contained in Exhibit 1, attached to this Proposed Agreement for Modification. The wording of the modified Conditions of

Certification for Stanton Unit 1 related to this issue are contained in Exhibit 2, attached to this Proposed Agreement for Modification.

D. Modification of Conditions Resulting From Federal Delegation of Permitting Authority to the Florida Department of Environmental Protection

OUC is requesting a modification of Conditions of Certification for Stanton Unit 1 and to confirm that the Certification of both Units will be automatically modified to conform to federally issued permits upon the federal delegation of permitting authority and programs to the Florida Department of Environmental Protection. As suggested by the Florida DEP, a Condition of Certification will be added for both SEC Units 1 and 2 stating the following:

This certification shall be automatically modified to conform to any subsequent amendments, modifications, or renewals made by DEP under a federally delegated or approved program to any separately issued Prevention of Significant Deterioration (PSD) permit, Title V Air Permit, or National Pollutant Discharge Elimination System (NPDES) permit for the certified facility. OUC shall send each party to the original certification proceedings (at the party's last known address as shown in the record of such proceeding) notice of requests submitted by OUC for modifications or renewals of the above listed permits if the request involves a relief mechanism (e.g., mixing zone, variance, etc.) from state standards, a relaxation of conditions included in the permit due to state permitting requirements, or the inclusion of less restrictive air emission limitations in the air permits. DEP shall notify all parties to the certification proceeding of any intent to modify conditions under this section prior to taking final agency action.

This new Condition of Certification is contained in Exhibit 2.

E. Relocation of Fleet Maintenance Facility

OUC requests approval of OUC's vehicle maintenance facility from its current location to a building currently serving as a temporary warehouse. The new location of the fleet maintenance facility is shown on the attached Exhibit 10, a map of the Stanton Energy Center.

The floor drain system in the warehouse will convey any liquid to an oil/water separator, and then to the lined coal-pile run-off pond. Domestic wastewater will be directed to an on-site septic tank approved by the Orange County Health Department.

F. Clarification of Applicability of Federal New Source Performance Standard Regulations

This clarification is needed to emphasize the applicability of federal regulations found in 40 CFR Part 60 (Code of Federal Regulations) are applicable to the Units at the Stanton Energy Center at certain critical periods of plant operation. As a facility required to meet federal new source performance standards (NSPS) and best available control technology (BACT) Stanton Units 1 and 2 are subject to 40 CFR Part 60 during periods of unit start-up, shut-down and malfunction. These federal requirements reflect the complexities of unit emission control features during periods of start-up, shut-down and malfunction. This clarification is contained in the Conditions of Certification attached hereto as Exhibit 2.

G. Clarification of heat input reference number

The clarification of the heat input reference numbers for Stanton Units 1 and 2 is a technical adjustment to more correctly reflect the actual operation parameters of the constructed units,

rather than the predicted heat input estimated prior to construction and operation of the units.

The clarification or adjustments of the heat input reference numbers in the Conditions of Certification for the Stanton Energy Center that address this issue are contained in Exhibit 2 attached to this requested Agreement for Modification.

5. All proposed changes to OUC's Applications for Certification of Unit 1 and Supplemental Certification of Unit 2 are contained in Exhibit 1 to this Agreement for Modification of Site Certification, which is adopted and incorporated in this Agreement.

6. All requested and approved modifications or clarifications of the conditions of supplemental site certification are contained in Exhibit 2, which is adopted and incorporated in this Agreement by reference.

7. All existing conditions of certification applicable to Stanton Units 1 and 2 which are not specifically amended as described in Exhibit 2 shall remain in full force and effect.

Agreement of the Parties

8. All parties to the Supplemental Site Certification proceeding for Stanton Unit 2 (DOAH Case No. 91-1813 EPP) listed in the attached certificate of service agree to, or otherwise do not object to, this Proposed Agreement For Modification of Site Certification including the changes to OUC's applications contained in Exhibit 1, attached hereto, and the revised Conditions of Certification contained in Exhibit 2, attached hereto, and consent

to the Department of Environmental Protection's issuance of a Final Order of Modification pursuant to Section 403.516(1)(b), Florida Statutes.

Notice of Right to Respond

9. The parties to the Supplemental Site Certification proceeding for Stanton Unit 2 are hereby notified that they have the right to respond, or to object, in writing within forty-five (45) days to OUC's proposed modifications of the Conditions of Certifications described in this request for agreement. Pursuant to Rule 62-17.211(4)(a), Florida Administrative Code, failure to file a timely response shall be deemed acceptance of the proposed agreement. A failure to object to the proposed Agreement For Modification described herein may result in the Department of Environmental Protection issuing an order approving the modification requested by Orlando Utilities Commission. Parties to either of the Certification proceedings for units at the Stanton Energy Center who wish to object or respond to the modifications and to request the appointment of an administrative law judge to conduct a formal hearing on the modifications proposed by Orlando Utilities Commission must file, within 45 days of their receipt by mail of this proposed Agreement, a written statement of the reasons for their objection with the Department of Environmental Protection at the following address:

Ms. Cathy Carter, Agency Clerk
Office of the General Counsel
Department of Environmental Protection
3900 Commonwealth Boulevard
Tallahassee, Florida 32399-3000

Orlando Utilities Commission requests that any responding or objecting party send a copy of its written response to the undersigned attorney for OUC.

REQUEST FOR RELIEF

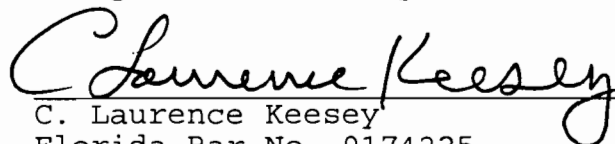
10. Orlando Utilities Commission requests that the Department of Environmental Protection give notice of this request for modification to the public, as provided by law.

11. Upon no objection being received by the Department from a member of the public pursuant to the publication of public notice of the filing of this request for modification, the Department of Environmental Protection is requested to issue its Final Order modifying the Conditions of Site Certification for the Stanton Energy Center as requested by OUC in the Proposed Agreement For Modification of Site Certification pursuant to Section 403.516(1)(b), Florida Statutes.

12. The Department of Environmental Protection is requested to grant such other relief as may be appropriate and necessary with regard to Conditions of Certification for the Orlando Utilities Commission's Stanton Energy Center, Units 1 and 2.

Respectfully submitted this 23rd day of September, 1997.

Young, van Assenderp & Varnadoe, P.A.



C. Laurence Keesey
Florida Bar No. 0174225
Young, van Assenderp & Varnadoe, P.A.
SunTrust Building
801 Laurel Oak Drive, Suite 300
Naples, Florida 34108
(941) 597-2814
Attorneys for Orlando Utilities Commission

CERTIFICATE OF SERVICE

I CERTIFY that a true and correct copy of the foregoing Proposed Agreement For Modification of Site Certification has been furnished to **Fred Bryant**, Esquire, 306 E. College Avenue, Tallahassee, Florida 32302; **Kathryn Menella**, Esquire., Sr. Asst. General Counsel, St. Johns River Water Mgmt. Dist., P.O. Box 1429, Palatka, Florida 32178-1429; **G. Stephen Pfeiffer**, Esquire, Department of Community Affairs, 2740 Centerview Drive, Tallahassee, Florida 32399-2100; **Aaron Dowling**, Executive Director, East Central Florida Regional Planning Council, 1011 Wymore Road, Suite 105, Winter Park, Florida 32789; **Tom Wilks**, Esquire, Orange County, 201 S. Rosalind Avenue, 5th Floor, Orlando, Florida 32801; **John Fumero**, Esquire, South Florida Water Management District, 3301 Gun Club Road, P.O. Box 24680, West Palm Beach, Florida 33416-4680; **Bob Elias**, Bureau Chief, Electric & Gas Division of Legal Services, Florida Public Service Commission, Gerald L. Gunter Building, 2540 Shumard Oak Boulevard, Tallahassee, Florida 32399-0850; **Hamilton S. Oven**, P.E., Siting Coordination Office, Division of Air Resources Management, Department of Environmental Protection, 2600 Blair Stone Road, MS-48, Tallahassee, Florida 32399-2400; **Charles Lee**, Senior Vice President, Florida Audubon Society, 460 Highway 435, Suite 200, Casselberry, Florida 32707; **Clay McGonalgill and Marrienne Trussell**, Assistants General Counsel, Department of Transportation, 605 Suwannee Street, MS-58, Tallahassee, Florida 32399-0458; **Perry Odom**, Esquire, General Counsel, Department of Environmental Protection, 3900 Commonwealth Boulevard, Tallahassee, Florida 32399; **Irby G. Pugh**, Esquire, 218 Annie Street, Orlando, Florida 32806; **Jim Antista**, General Counsel, Florida Game and Fresh Water Fish Commission, Farris Bryant Building, Room 108, 620 S. Meridian Street, Tallahassee, Florida 32399-1600; by Regular, U.S. Mail, Postage Prepaid, this 23rd day of September, 1997.


C. Laurence Keeseey

1*ouc\agree 9/19/97

EXHIBIT 1

3.0 THE PLANT

3.1 EXTERNAL APPEARANCE

The initial development phase of the Curtis H. Stanton Energy Center will include Unit 1, a 460 gross-415 net MW, coal, natural gas, or landfill gas fueled steam/electric generator. Unit 1 facilities will also include an electrostatic precipitator, sulfur dioxide removal equipment, and a chimney. Several other facilities will be constructed during initial development to serve ultimate development of 4 units at the site. These include the cooling tower makeup water supply storage pond, the coal pile runoff pond, the recycle basin, the active combustion waste area runoff pond, and the associated onsite facilities. The coal storage area and associated coal-handling facilities will be initially constructed for two units with expansion to four-unit capacity when Unit 3 is constructed.

Artist's renditions of the Stanton Energy Center with one unit and with four units have been prepared and are included as Figures 3.1-1 and 3.1-2.

3.1.1 Plant Profile

A general plant profile of the Unit 1 central generating facilities is shown in Figure 3.1-3. This profile is based on the elevations of the various facilities as viewed from the north looking south. All structures shown by the profile except the Administration and Plant Services Buildings will be totally enclosed with base walls of precast concrete and upper walls of steel panels with bonded coatings. The Administration and Plant Services Building will have a brick veneer exterior. The elevations and dimensions shown in Figure 3.1-3 are preliminary and may change as detailed engineering design proceeds.

3.1.2 Site Arrangement

Initial development of the Stanton Energy Center will consist of Unit 1 and associated facilities. As shown by Figure 3.1-4, certain facilities will be initially developed to accommodate ultimate site capacity of

3.2 FUEL

3.2.1 Fuel Types and Qualities

The fuel for the Stanton Energy Center will be coal or natural gas or landfill gas. Although coal supply contracts for Unit 1 have not been finalized, it is anticipated that bituminous coal from the Appalachian coal fields or the Illinois Basin will be used. It is also anticipated that the coal supplies for the Stanton Energy Center may change as future units are added. To provide the necessary design flexibility to accommodate the use of coals with a wide range of properties, three typical coals with differing properties were selected as design bases. The design-basis coal for the steam generator is a washed Illinois Basin coal; the design-basis coal for the particulate removal system is a washed Appalachian coal; and the design-basis coal for the flue gas desulfurization system is an unwashed Illinois Basin coal. Table 3.2-1 presents the typical and ranges of properties of these three coals. Designing these three major components to each handle a "worst case" design-basis coal will provide the overall system design flexibility to burn any coal with properties within the ranges illustrated in Table 3.2-1.

The importance of design flexibility in relation to coal supplies and their properties is illustrated by the following factors.

- (1) Specific coal supplies for Unit 1 are not known.
 - (a) Coal supply contract for Unit 1 initial supply has not been completed.
 - (b) Unit 1 coal supply may change with the renegotiation of coal supply contracts and the addition of future units.
- (2) Coal storage and handling areas and facilities for Unit 1 will be designed and constructed to provide for possible segregation of coal supplies for individual units. However, the flexibility of Unit 1 to burn a wide range of coals will reduce the probability that such segregation will be necessary.

Table 3.2-1a presents a typical analysis of the landfill gas quality that will be burned at the Stanton Energy Center

The steam generator will be started with No. 6 fuel oil. During periods of low load operation, No. 6 fuel oil will also be used for flame stabilization. The auxiliary boiler, emergency generator, emergency fire pumps, and mobile coal handling and solid waste disposal equipment will use No. 2 fuel oil; and other vehicles will use gasoline or diesel fuel.

TYPICAL LANDFILL GAS ANALYSIS

Methane			Mole %
Ethane			53.45
Propane			0.05
Iso-Butane			0.04
N-Butane			0.03
Iso-Pentane +			0.02
Carbon Dioxide			0.01
Nitrogen			42.0
Oxygen			1.0
Water			0.2
			3.2
Acrolein	Less than	1.0	- 5.0
Acrylonitrile	Less than	1.0	- 5.0
Benzen		.1	- 13.0
Carbon tetrachloride	Less than	.1	- 1.0
Chlorobenzene	Less than	.1	- 11.0
1,2-Dichlorethane	Less than	.1	- 40.0
1,1,1-Trichloroethane		.1	- 2.2
1,1-Dichloroethane		.1	- 12.0
1,1,2-Trichloroethane	Less than	.1	- 1.0
1,1,2,2-Tetrachloroethane	Less than	.1	- 1.0
Chloroethane		.1	- 12.0
2-Chloroethylvinyl ether	Less than	1.0	- 5.0
Chloroform	Less than	.1	- .1
1,1-Dichlorethene	Less than	.1	- 1.0
trans-1,2-Dichloroethane		.1	- 10.0
1,2-Dichloropropane	Less than	.1	- 1.0
1,3-Dichloropropane	Less than	.1	- 1.0
Ethylbenzene		.9	- 67.0
Methylene		.5	- 53.0
Chloromethane	Less than	.1	- 5.0
Bromomethane	Less than	.1	- 5.0
Bromoform	Less than	.1	- 1.0
Bromodichloromethane	Less than	.1	- 1.0
Fluorotrichloromethane		2.5	- 5.1
Dichlorodifluoromethane		2.5	- 81.0
Chlorodibromomethane	Less than	.1	- 1.0
Chlorodifluoromethane		1.0	- 17.0
Tetrachloroethane		.1	- 23.0
Toluene		.9	- 170.0
Trichloroethane		.1	- 5.5
Vinyl chloride		.1	- 26.0
Total xyleneisomers		2.1	- 144.0
Methyl ethyl ketone		1.0	- 39.0
Methyl isobutyl ketone		.5	- 10.0
Acetone	Less than	2.0	- 59.0

Table 3.2 - 1a

3.2.2 Fuel Quantities

Based on a heating value range of 11,000 to 13,500 Btu/lb, the maximum coal consumption rate will be 154 to 191 tons/hr. At a 64.6 per cent load factor during the early years of the plant life, the annual coal consumption for Unit 1 would be 900,000 to 1,100,000 tons per year. At lifetime capacity factor of 53.6 per cent, annual coal consumption for Unit 1 would be 750,000 to 910,000 tons per year.

The heating value for pipeline natural gas is 1040 Btu/ft³. At a 70% capacity factor, the annual gas consumption for Stanton 1 could be as much as 25 billion cubic feet.

The Orlando Utilities Commission has entered into an agreement with Orange County to burn all the landfill gas that is recovered from the County Landfill. The expected heating value of the landfill gas is 450 to 550 Btu/ft³. At this time, we anticipate approximately 2% of the total fuel for Stanton 1 will be landfill gas.

It is estimated that Unit 1 will experience 10 cold and 20 hot startups per year during the initial years of operation. This will require 80,000 gallons of No. 6 fuel oil per year. The unit may be used as a cycling unit during the later years of its life. Based on 200 startups per year (50 cold and 150 hot) the unit would consume 310,000 gallons of No. 6 fuel oil per year.

The auxiliary boiler will be required during cold and hot startup of Unit 1. Based on 10 cold and 20 hot startups per year, the annual fuel consumption will be 57,000 gallons per year. When Unit 2 begins operation, it is expected that the auxiliary boiler will be used only during rarely occurring conditions when one unit is down and the other unit is starting up.

3.2.3 Fuel Transportation

Coal will be transported to the plant site by unit trains with 70 to 100 cars of 100-tons capacity. Two to three trains per week will be required to supply the coal required for Unit 1. Train turnaround time will be approximately 6 days. The coal will be transported to the site from the Seaboard Coast Line Railroad (SCL) on a rail spur that connects to SCL south of Orlando, Florida and runs east parallel to the Bee Line Expressway and then north into the site. A description of the rail spur is given in Section 3.9.

Landfill gas will be delivered to the Stanton Energy Center via a pipeline from the Orange County Landfill. Figure 3.3.3.1 shows the route of the pipeline which parallels the existing roadway on land already impacted by previous construction activities.

Natural gas will be delivered to the Stanton Energy Center via a pipeline which will connect with the main gas transmission pipeline south of the Plant.

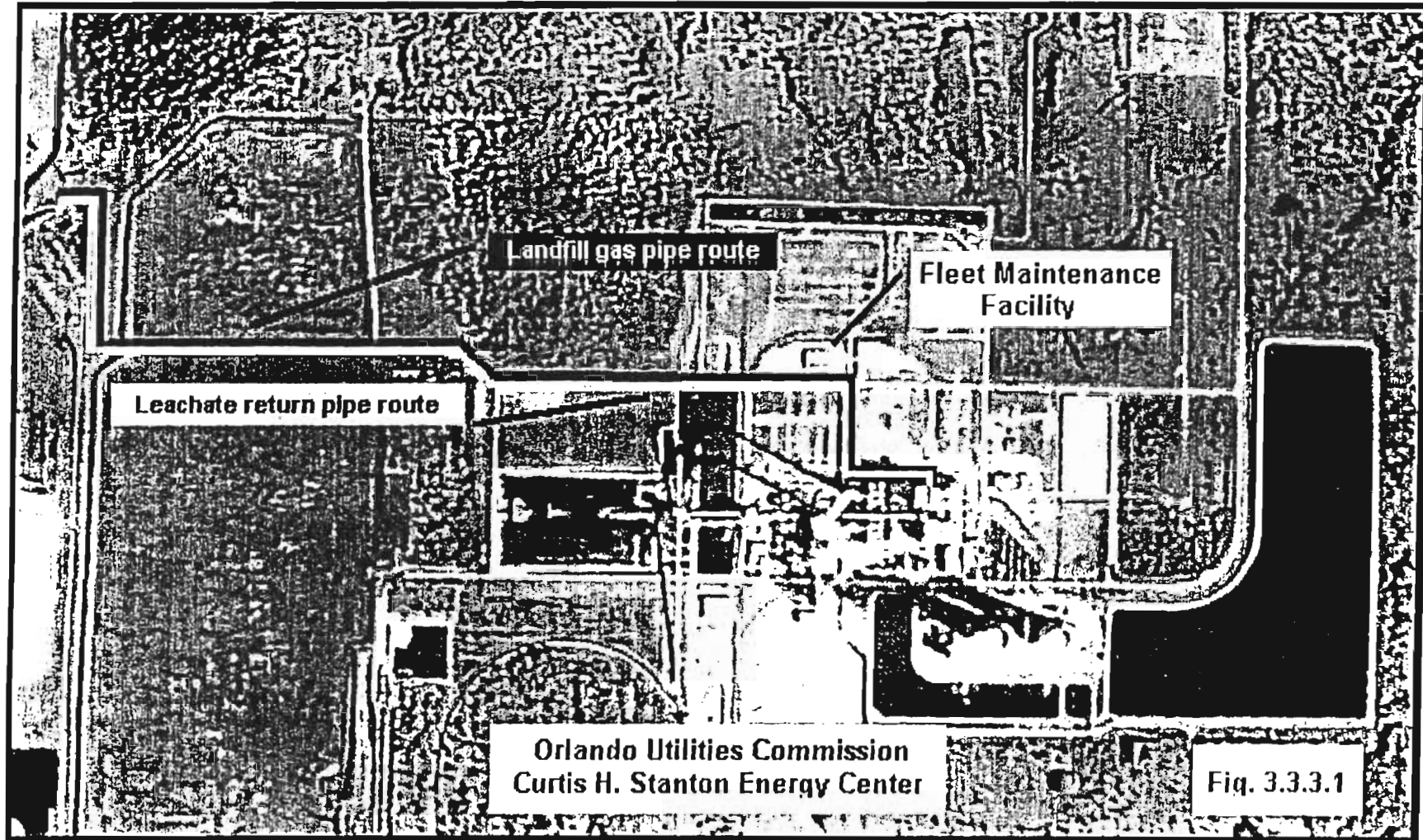
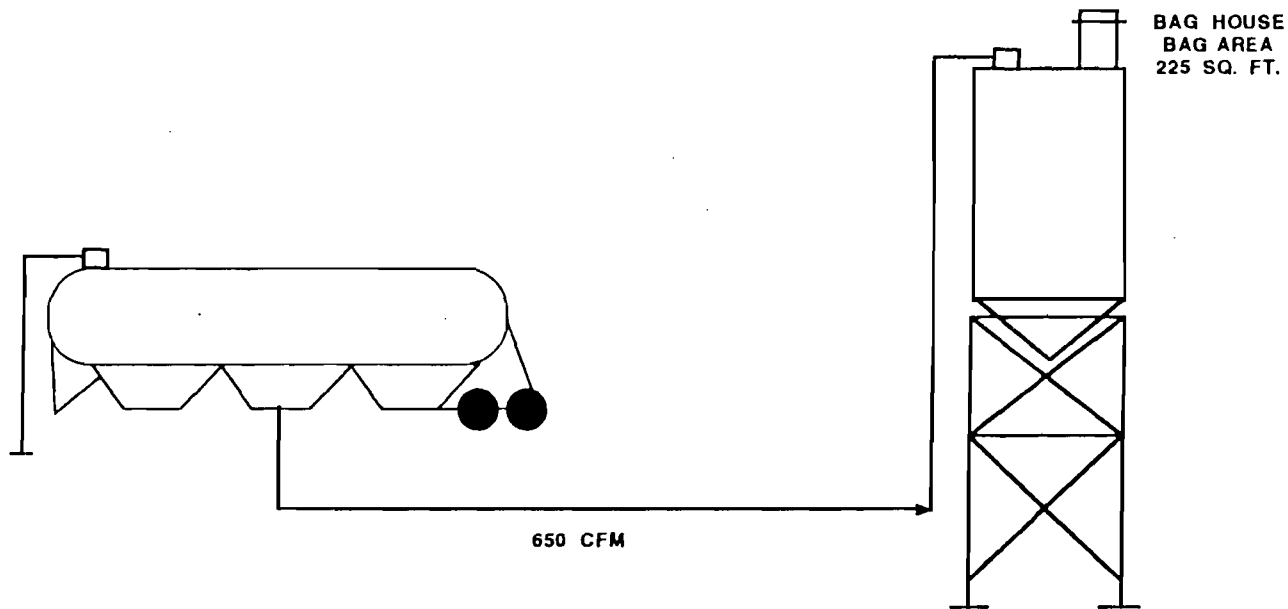


FIGURE 3.3.3.1

3.9.6 Lime/ Fluidized Bed Ash Handling and Storage

A new lime silo system will be constructed to serve as a standby or supplemental lime source in the event additional lime is required in the scrubber sludge fixating process. The existing lime silo as described in the original SCA will be modified to transport and store the flyash recycled from fluidized bed Units located off site. This fluidized bed ash is now the primary material used to stabilize the bottom ash and scrubber solids generated at the Stanton Energy Center. Since the lime will not be required on a regular basis, the capacity of the new silo will be reduced to 50(+/-) Tons. Silo operation will be similar to the existing lime silo operation where pneumatic trucks load the silo and silo discharge will be through screw conveyors to the mixers. The trucks will unload the lime with 650 (+/-) CFM of air to the silo where it will pass across a bag house with 225 (+/-) Sq Ft. of bag area. The Cloth to CFM ratio for the lime system is 5.25 to 1.0 . See drawing "NEW LIME SILO SYSTEM" attached.

The existing lime silo will be converted to a lime substitute (fluidized bed ash) silo which will be loaded from a new pneumatic railcar unloading and conveying system. Railcar unloading will be performed by pressurizing a pressure discharge (PD) railcar and discharging the lime substitute into a surge bin. Unloading will be accomplished by utilizing a 1200 (+/-) CFM @ 14.5 (+/-) PSIG blower to convey the lime substitute to the surge bin. Fugitive emissions at the surge bin will be controlled by another bag house with 225 (+/-) SqFt. of bag area. Conveyance of the lime substitute from the surge bin to the fly ash silo will be accomplished by two separate 1200 (+/-) CFM @ 14.5 (+/-) PSIG blowers (2400 CFM) which will pneumatically convey the lime substitute to the lime substitute silo (the existing lime silo). Prevention of fugitive emissions at the lime substitute silo will be accomplished through a new 450 (+/-) SqFt. bag area bag house. The Cloth to CFM ratio for the new lime substitute silo will be 4.63 to 1.0 . See "PROPOSED RAILCAR UNLOADING & TRANSFER SYSTEM" drawing attached.

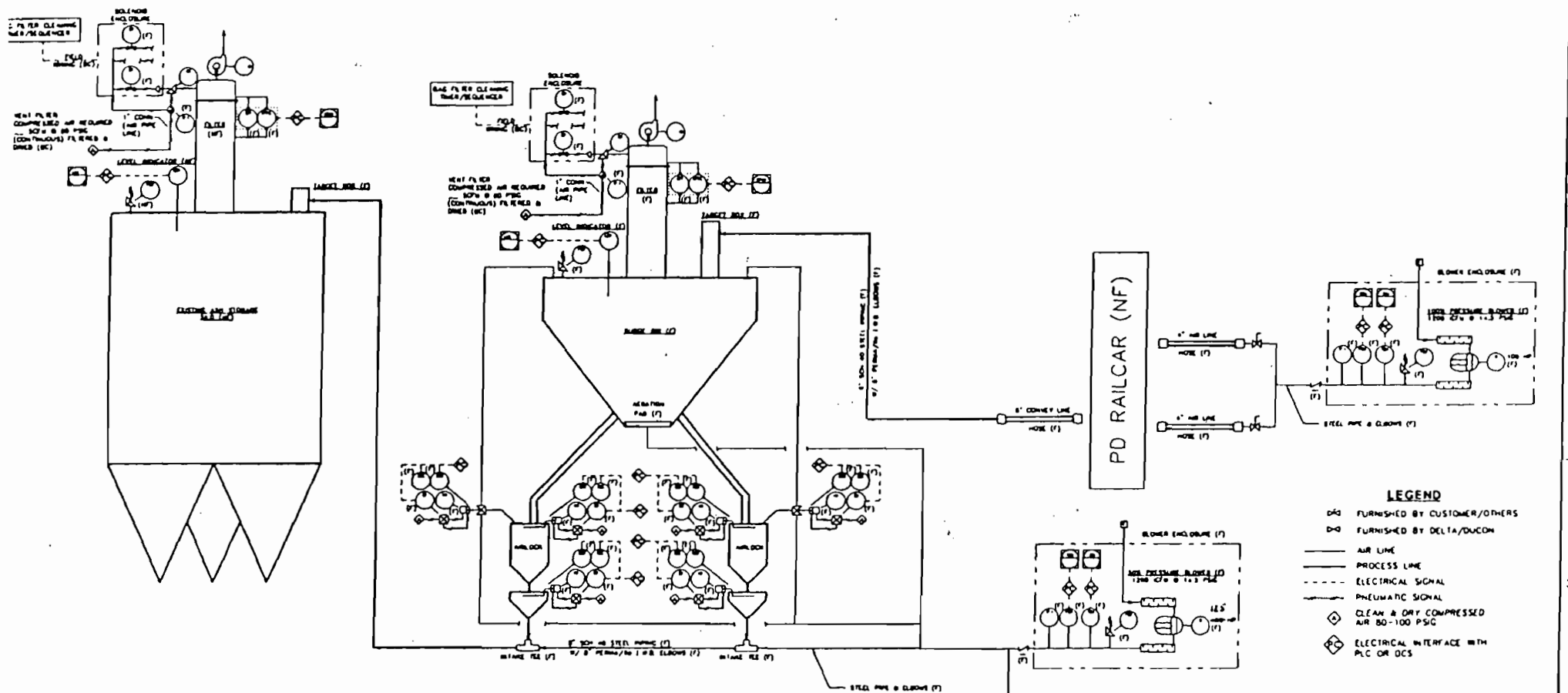


VFL TECHNOLOGY
CORPORATION

NEW LIME SILO SYSTEM
P & ID

7/11/97

NEW LIME SILO SYSTEM



NOTES:

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- 6) ALL HEAT TRACING, FREEZE PROTECTION AND INSULATION NOT FURNISHED BY DELTA/DUCON UNLESS NOTED OTHERWISE.
- 7) ALL MANUAL VALVES ARE NORMALLY CLOSED (NC) UNLESS NOTED (NO) INDICATING NORMALLY OPEN. ALL AUTOMATIC 2-WAY VALVES ARE NORMALLY CLOSED (NC) IN THE DE-ENERGIZED STATE UNLESS NOTED (NO) INDICATING NORMALLY OPEN. ENERGIZE TO CLOSE.

LEGEND

- (F) FURNISHED BY CUSTOMER/OTHERS
- (D) FURNISHED BY DELTA/DUCON
- AIR LINE
- PROCESS LINE
- - - ELECTRICAL SIGNAL
- - - PNEUMATIC SIGNAL
- ◇ CLEAN & DRY COMPRESSED AIR 80-100 PSC
- ◇ ELECTRICAL INTERFACE WITH PLC OR DCS

REV	DATE	DESCRIPTION	BY	CHKD

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 PNEUMATIC CONVEYING SYSTEMS & COMPONENTS
 48 LOTH AVENUE - WALLEYSBURG, PA. 17353-3070
 TEL. (810)-893-9700 • FAX. (810)-893-9724

PROPOSED RAILCAR UNLOADING & TRANSFER SYSTEM P & IO

CERTIFIED

SCALE	NTS	CONTRACT NO.	87-01-0028	REV.
FOR	PO No.	DESIGNED BY	RCC	DATE
BY	DATE	APPROVED BY		

343-D01

PROPOSED RAILCAR UNLOADING & TRANSFER SYSTEM

3.9.7 Radioactive Level Detection Systems

Radioactive devices will be used to monitor levels of bulk materials, liquids, and combustion wastes. Coal silos, main steam line moisture collection pots, and fly ash hoppers under the electrostatic precipitators are the principal system applications of these devices. The radioactive materials used in these devices are regulated by the Florida Department of Health and Rehabilitative Services. Completed applications for licenses for radioactive materials are included as Appendix 3.9A.

EXHIBIT 1

Changes to the Site Certification Application

Unit 2

3.0 The Plant and Directly Associated Facilities

The information presented in this chapter is provided only for the purposes of construction and operations of Stanton 2 as discussed and qualified in the Introduction.

3.1 Background

An artist's rendering of the Stanton Energy Center site with the proposed Stanton 2 added is shown on Figure 3.1-1. Stanton 2 will be a 465 MW gross, 440 MW net, primarily pulverized coal fueled steam/electric power plant. Other fuels that will be burned include landfill gas, natural gas, and fuel oil. This size is totally consistent with the original ultimate site certification. New Stanton 2 facilities will include sulfur dioxide removal equipment, electrostatic precipitator, chimney, cooling tower, and an expansion of the cooling tower blowdown treatment system. Other facilities previously constructed for Stanton 1 will also be used for Stanton 2. These include the onsite ponds and basins; materials handling and storage systems for coal, oil, limestone, lime, and combustion wastes; administration building; warehousing; and other common support facilities.

3.3 Fuel

3.3.1 Fuel Types and Qualities

The fuel for the Stanton Energy Center will be bituminous coal, natural gas, or landfill gas. Although coal supply contracts for Stanton 2 have not been finalized, a design basis coal has been developed for use on the project. Table 3.3-1 presents the typical and ranges of selected properties of the design basis coal. All other properties are expected to fall within the ranges provided for coal quality in Table 3.2-1 of the original SCA. These coal properties provide a "worst case" design basis that will provide OUC with system operating flexibility to burn any coal with properties in the ranges given.

Table 3.3-1a presents a typical analysis of the landfill gas quality that will be burned at the Stanton Energy Center.

The Stanton 2 steam generator will be started with No. 6 fuel oil. During periods of low load operation, No. 6 fuel oil will also be used for flame stabilization.

3.3.2 Fuel Quantities

With a heating value range of 11,000 to 13,350 Btu/lb, the maximum coal consumption rate will be 150 to 193 tons/in. At a 70 percent capacity factor, the annual coal consumption for Stanton 2 will be 975,000 to 1,190,000 tons per year.

The heating value for pipeline natural gas is 1040 Btu/ft³. At a 70% capacity factor, the annual gas consumption for Stanton 2 could be as much as 25 billion cubic feet.

The Orlando Utilities Commission has entered into an agreement with Orange County to burn all the landfill gas that is recovered from the County Landfill. The expected heating value of the landfill gas is 450 to 550 Btu/ft³. At this time, we anticipate approximately 2% of the total fuel for Stanton 2 will be landfill gas.

Estimates of No. 6 fuel oil usage for cold and hot startups with Stanton 2 are the same as those discussed for Stanton 1 in Subsection 3.2.2 of the original SCA.

3.3.3 Fuel Transportation

Coal will continue to be transported to the plant site by rail via CSX Transportation, Inc., as described in Subsection 3.2.3 of the original SCA. An additional two to three trains per week will be required to supply coal for Stanton 2. No. 6 fuel oil will continue to be received by trucks as has been the case for Stanton 1.

TYPICAL LANDFILL GAS ANALYSIS

				Mole %
Methane				53.45
Ethane				0.05
Propane				0.04
Iso-Butane				0.03
N-Butane				0.02
Iso-Pentane +				0.01
Carbon Dioxide				42.0
Nitrogen				1.0
Oxygen				0.2
Water				3.2
Acrolein	Less than	1.0	-	5.0
Acrylonitrile	Less than	1.0	-	5.0
Benzen		.1	-	13.0
Carbon tetrachloride	Less than	.1	-	1.0
Chlorobenzene	Less than	.1	-	11.0
1,2-Dichlorethane	Less than	.1	-	40.0
1,1,1-Trichloroethane		.1	-	2.2
1,1-Dichloroethane		.1	-	12.0
1,1,2-Trichloroethane	Less than	.1	-	1.0
1,1,2,2-Tetrachloroethane	Less than	.1	-	1.0
Chloroethane		.1	-	12.0
2-Chloroethylvinyl ether	Less than	1.0	-	5.0
Chloroform	Less than	.1	-	.1
1,1-Dichlorethene	Less than	.1	-	1.0
trans-1,2-Dichloroethane		.1	-	10.0
1,2-Dichloropropane	Less than	.1	-	1.0
1,3-Dichloropropane	Less than	.1	-	1.0
Ethylbenzene		.9	-	67.0
Methylene		.5	-	53.0
Chloromethane	Less than	.1	-	5.0
Bromomethane	Less than	.1	-	5.0
Bromoform	Less than	.1	-	1.0
Bromodichloromethane	Less than	.1	-	1.0
Fluorotrichloromethane		2.5	-	5.1
Dichlorodifluoromethane		2.5	-	81.0
Chlorodibromomethane	Less than	.1	-	1.0
Chlorodifluoromethane		1.0	-	17.0
Tetrachloroethane		.1	-	23.0
Toluene		.9	-	170.0
Trichloroethane		.1	-	5.5
Vinyl chloride		.1	-	26.0
Total xyleneisomers		2.1	-	144.0
Methyl ethyl ketone		1.0	-	39.0
Methyl isobutyl ketone		.5	-	10.0
Acetone	Less than	2.0	-	59.0

Table 3.2 - 1a

Landfill gas will be delivered to the Stanton Energy Center via a pipeline from the Orange County Landfill. Figure 3.3.3.1 shows the route of the pipeline which parallels the existing roadway on land already impacted by previous construction activities.

Natural gas will be delivered to the Stanton Energy Center via a pipeline which will connect with the main gas transmission pipeline south of the Plant.

3.3.4 Coal Handling and Storage

The coal handling system described in Subsection 3.2.4 of the original SCA will serve both Stanton 1 and 2. The existing system as constructed consists of unloading, stocking, reclaiming, and storage facilities. The system will be unchanged except for the addition of new silo fill conveyors and plant silos to serve Stanton 2. Figure 3.2-3 of the original SCA shows a perspective of these facilities.

3.3.5 Fuel Oil Storage and Handling

The No. 6 fuel oil required by Stanton 2 will be stored in the previously installed onsite tanks, described in Subsection 3.2.5 of the original SCA.

3.3.6 Alternate Fuel Types

As in the case of Unit 1, no special design features have been included in the design of Stanton 2 to allow burning of alternate fuels.

3.9 Materials Handling

The original SCA contains detailed discussions of the handling, storage, and/or disposal of various materials associated with the operation of Stanton Energy Center. These materials include fuel (coal, landfill gas, natural gas, and oil), limestone, lime, fluidized bed ash, combustion wastes (ash and scrubber sludge), and cooling tower blowdown solids. The facilities for handling the storage of these materials that were installed for Stanton 1 are also capable of serving Stanton 2. Although an addition to the Cooling Tower Blowdown Treatment System will be required for Stanton 2, the handling, storage, and disposal of cooling tower flowdown solids from Stanton 2 will be the same as for Stanton 1.

The addition of the alternate access road, which connects to the Bee Line Expressway south of the site, will provide an alternate site access for plant operating personnel and delivery of operating materials.

3.0 THE PLANT

3.1 EXTERNAL APPEARANCE

The initial development phase of the Curtis H. Stanton Energy Center will include Unit 1, a 460 gross-415 net MW, coal, natural gas, or landfill gas fueled steam/electric generator. Unit 1 facilities will also include an electrostatic precipitator, sulfur dioxide removal equipment, and a chimney. Several other facilities will be constructed during initial development to serve ultimate development of 4 units at the site. These include the cooling tower makeup water supply storage pond, the coal pile runoff pond, the recycle basin, the active combustion waste area runoff pond, and the associated onsite facilities. The coal storage area and associated coal-handling facilities will be initially constructed for two units with expansion to four-unit capacity when Unit 3 is constructed.

Artist's renditions of the Stanton Energy Center with one unit and with four units have been prepared and are included as Figures 3.1-1 and 3.1-2.

3.1.1 Plant Profile

A general plant profile of the Unit 1 central generating facilities is shown in Figure 3.1-3. This profile is based on the elevations of the various facilities as viewed from the north looking south. All structures shown by the profile except the Administration and Plant Services Buildings will be totally enclosed with base walls of precast concrete and upper walls of steel panels with bonded coatings. The Administration and Plant Services Building will have a brick veneer exterior. The elevations and dimensions shown in Figure 3.1-3 are preliminary and may change as detailed engineering design proceeds.

3.1.2 Site Arrangement

Initial development of the Stanton Energy Center will consist of Unit 1 and associated facilities. As shown by Figure 3.1-4, certain facilities will be initially developed to accommodate ultimate site capacity of

3.2 FUEL

3.2.1 Fuel Types and Qualities

The **primary** fuel for the Stanton Energy Center will be coal or natural gas or landfill gas. Although coal supply contracts for Unit 1 have not been finalized, it is anticipated that bituminous coal from the Appalachian coal fields or the Illinois Basin will be used. It is also anticipated that the coal supplies for the Stanton Energy Center may change as future units are added. To provide the necessary design flexibility to accommodate the use of coals with a wide range of properties, three typical coals with differing properties were selected as design bases. The design-basis coal for the steam generator is a washed Illinois Basin coal; the design-basis coal for the particulate removal system is a washed Appalachian coal; and the design-basis coal for the flue gas desulfurization system is an unwashed Illinois Basin coal. Table 3.2-1 presents the typical and ranges of properties of these three coals. Designing these three major components to each handle a "worst case" design-basis coal will provide the overall system design flexibility to burn any coal with properties within the ranges illustrated in Table 3.2-1.

The importance of design flexibility in relation to coal supplies and their properties is illustrated by the following factors.

- (1) Specific coal supplies for Unit 1 are not known.
 - (a) Coal supply contract for Unit 1 initial supply has not been completed.
 - (b) Unit 1 coal supply may change with the renegotiation of coal supply contracts and the addition of future units.
- (2) Coal storage and handling areas and facilities for Unit 1 will be designed and constructed to provide for possible segregation of coal supplies for individual units. However, the flexibility of Unit 1 to burn a wide range of coals will reduce the probability that such segregation will be necessary.

Table 3.2-1a presents a typical analysis of the landfill gas quality that will be burned at the Stanton Energy Center

The steam generator will be started with No. 6 fuel oil. During periods of low load operation, No. 6 fuel oil will also be used for flame stabilization. The auxiliary boiler, emergency generator, emergency fire pumps, and mobile coal handling and solid waste disposal equipment will use No. 2 fuel oil; and other vehicles will use gasoline or diesel fuel.

TYPICAL LANDFILL GAS ANALYSIS

				Mole %
Methane				53.45
Ethane				0.05
Propane				0.04
Iso-Butane				0.03
N-Butane				0.02
Iso-Pentane +				0.01
Carbon Dioxide				42.0
Nitrogen				1.0
Oxygen				0.2
Water				3.2
Acrolein	Less than	1.0	-	5.0
Acrylonitrile	Less than	1.0	-	5.0
Benzen		.1	-	13.0
Carbon tetrachloride	Less than	.1	-	1.0
Chlorobenzene	Less than	.1	-	11.0
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1,1,2-Trichloroethane	Less than	.1	-	1.0
1,1,2,2-Tetrachloroethane	Less than	.1	-	1.0
Chloroethane		.1	-	12.0
2-Chloroethylvinyl ether	Less than	1.0	-	5.0
Chloroform	Less than	.1	-	.1
1,1-Dichlorethene	Less than	.1	-	1.0
trans-1,2-Dichloroethane		.1	-	10.0
1,2-Dichloropropane	Less than	.1	-	1.0
1,3-Dichloropropane	Less than	.1	-	1.0
Ethylbenzene		.9	-	67.0
Methylene		.5	-	53.0
Chloromethane	Less than	.1	-	5.0
Bromomethane	Less than	.1	-	5.0
Bromoform	Less than	.1	-	1.0
Bromodichloromethane	Less than	.1	-	1.0
Fluorotrichloromethane		2.5	-	5.1
Dichlorodifluoromethane		2.5	-	81.0
Chlorodibromomethane	Less than	.1	-	1.0
Chlorodifluoromethane		1.0	-	17.0
Tetrachloroethane		.1	-	23.0
Toluene		.9	-	170.0
Trichloroethane		.1	-	5.5
Vinyl chloride		.1	-	26.0
Total xyleneisomers		2.1	-	144.0
Methyl ethyl ketone		1.0	-	39.0
Methyl isobutyl ketone		.5	-	10.0
Acetone	Less than	2.0	-	59.0

Table 3.2 - 1a

3.2.2 Fuel Quantities

Based on a heating value range of 11,000 to 13,500 Btu/lb, the maximum coal consumption rate will be 154 to 191 tons/hr. At a 64.6 per cent load factor during the early years of the plant life, the annual coal consumption for Unit 1 would be 900,000 to 1,100,000 tons per year. At lifetime capacity factor of 53.6 per cent, annual coal consumption for Unit 1 would be 750,000 to 910,000 tons per year.

The heating value for pipeline natural gas is 1040 Btu/ft³. At a 70% capacity factor, the annual gas consumption for Stanton 1 could be as much as 25 billion cubic feet.

The Orlando Utilities Commission has entered into an agreement with Orange County to burn all the landfill gas that is recovered from the County Landfill. The expected heating value of the landfill gas is 450 to 550 Btu/ft³. At this time, we anticipate approximately 2% of the total fuel for Stanton 1 will be landfill gas.

It is estimated that Unit 1 will experience 10 cold and 20 hot startups per year during the initial years of operation. This will require 80,000 gallons of No. 6 fuel oil per year. The unit may be used as a cycling unit during the later years of its life. Based on 200 startups per year (50 cold and 150 hot) the unit would consume 310,000 gallons of No. 6 fuel oil per year.

The auxiliary boiler will be required during cold and hot startup of Unit 1. Based on 10 cold and 20 hot startups per year, the annual fuel consumption will be 57,000 gallons per year. When Unit 2 begins operation, it is expected that the auxiliary boiler will be used only during rarely occurring conditions when one unit is down and the other unit is starting up.

3.2.3 Fuel Transportation

Coal will be transported to the plant site by unit trains with 70 to 100 cars of 100-tons capacity. Two to three trains per week will be required to supply the coal required for Unit 1. Train turnaround time will be approximately 6 days. The coal will be transported to the site from the Seaboard Coast Line Railroad (SCL) on a rail spur that connects to SCL south of Orlando, Florida and runs east parallel to the Bee Line Expressway and then north into the site. A description of the rail spur is given in Section 3.9.

Landfill gas will be delivered to the Stanton Energy Center via a pipeline from the Orange County Landfill. Figure 3.3.3.1 shows the route of the pipeline which parallels the existing roadway on land already impacted by previous construction activities.

Natural gas will be delivered to the Stanton Energy Center via a pipeline which will connect with the main gas transmission pipeline south of the Plant.

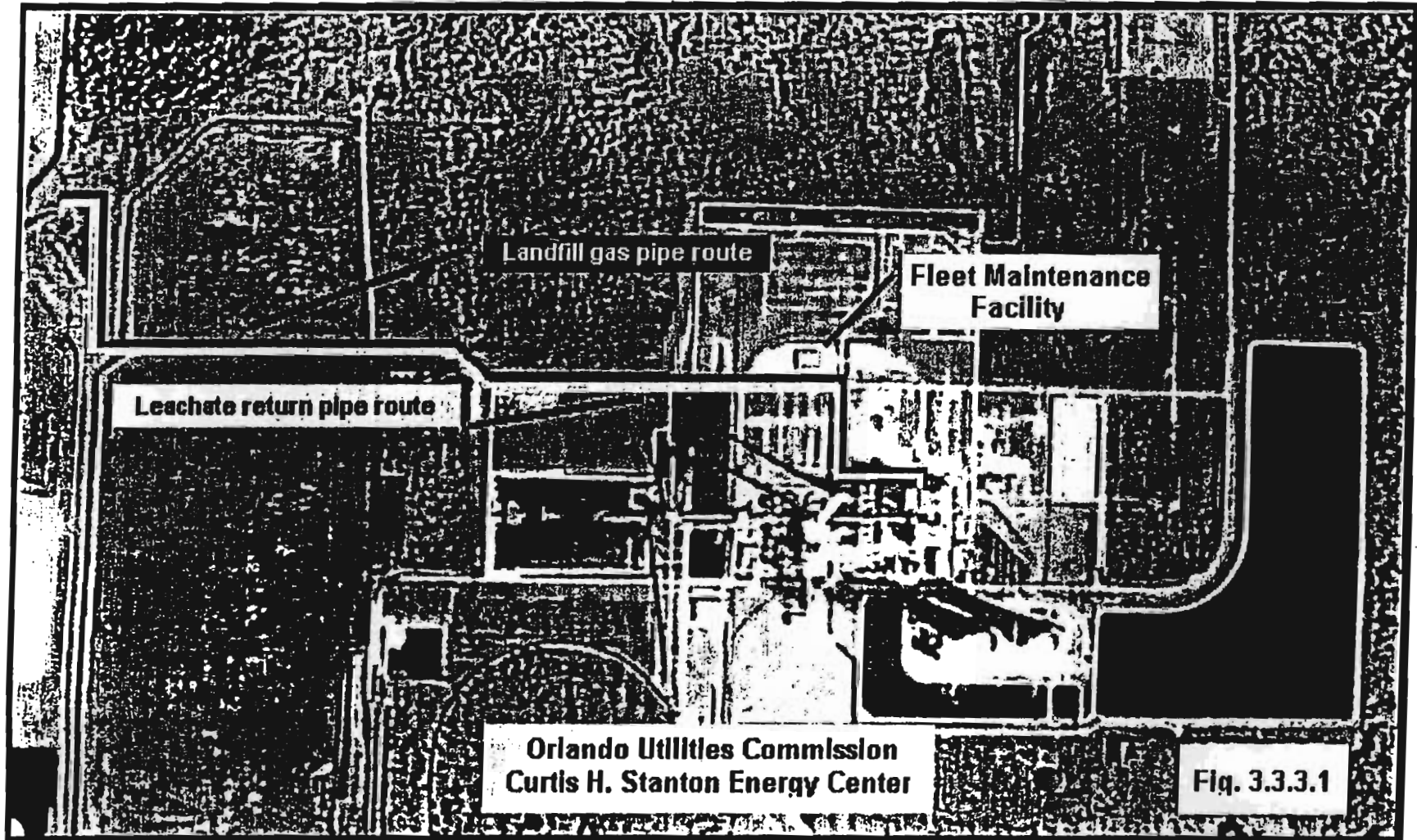


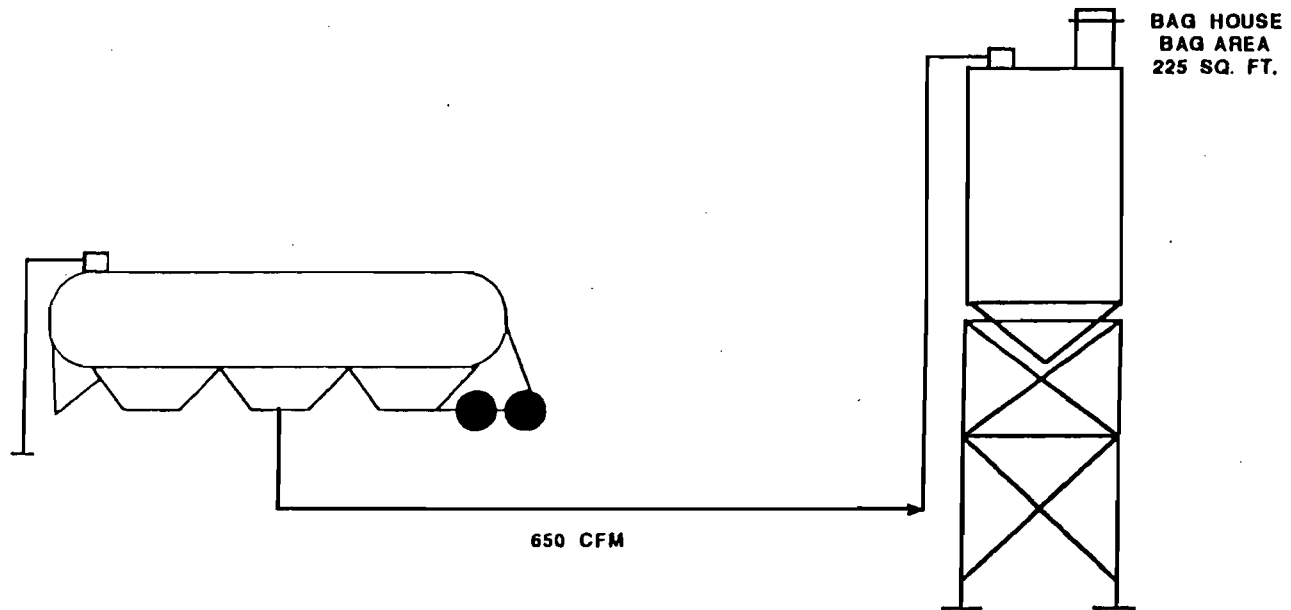
FIGURE 3.3.3.1


3.9.6 Lime/ Fluidized Bed Ash Handling and Storage

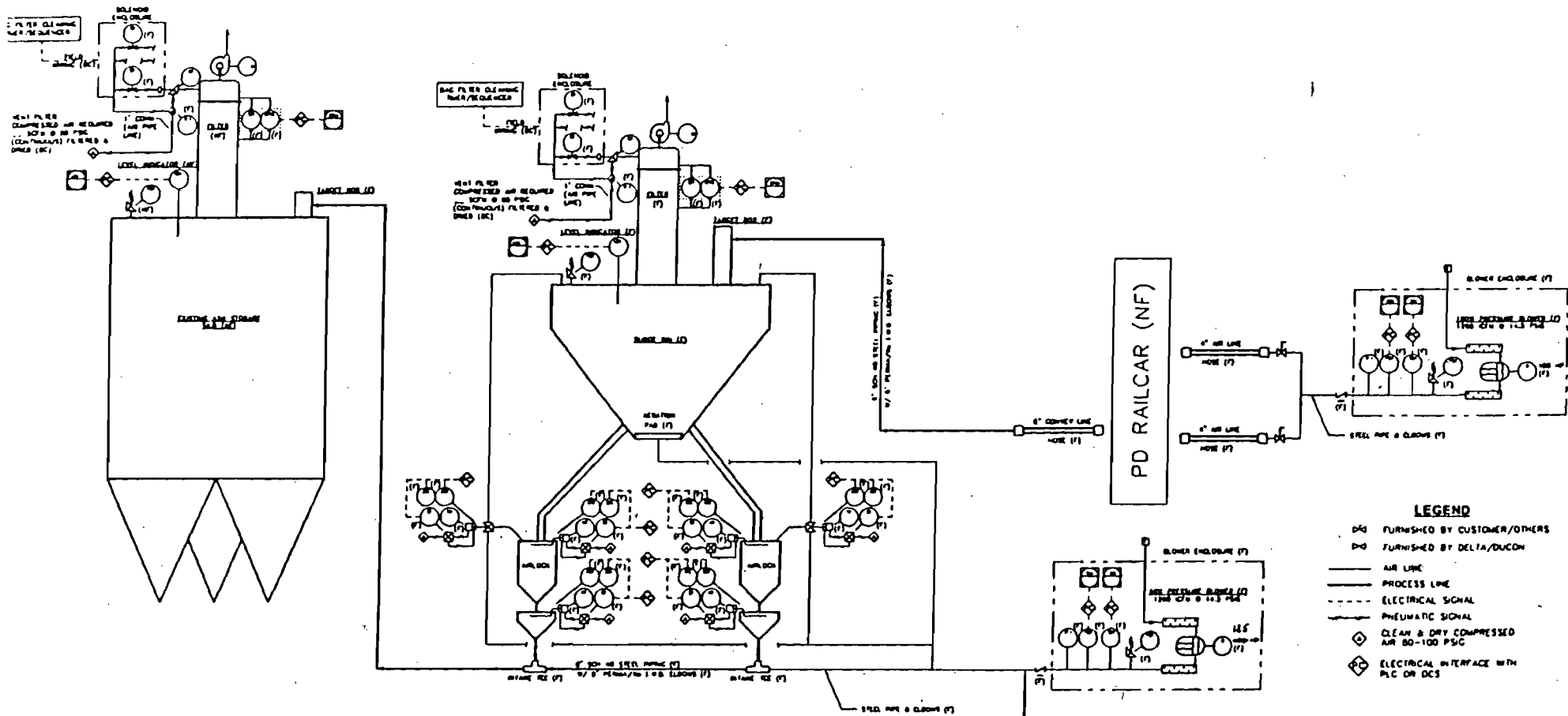
~~Pebble lime will be used as an additive to condition the scrubber sludge. The lime will be received by truck or by railcar dumping into an enclosed receiving hopper. A rail/truck unloading facility is served by the plant maintenance rail spur near the Coal Crusher Building as shown on Figure 3.1-4. The lime will be transported from the hopper to a storage silo by a pressurized pneumatic system. The silo will vent through a fabric bag filter system with a removal efficiency of at least 99 per cent. From the storage silo, the lime will be conveyed to a pulverizer and then to the sludge/ flyash mixers.~~

A new lime silo system will be constructed to serve as a standby or supplemental lime source in the event additional lime is required in the scrubber sludge fixating process. The existing lime silo as described in the original SCA will be modified to transport and store the flyash recycled from fluidized bed Units located off site. This fluidized bed ash is now the primary material used to stabilize the bottom ash and scrubber solids generated at the Stanton Energy Center. Since the lime will not be required on a regular basis, the capacity of the new silo will be reduced to 50(+/-) Tons. Silo operation will be similar to the existing lime silo operation where pneumatic trucks load the silo and silo discharge will be through screw conveyors to the mixers. The trucks will unload the lime with 650 (+/-) CFM of air to the silo where it will pass across a bag house with 225 (+/-) Sq Ft. of bag area. The Cloth to CFM ratio for the lime system is 5.25 to 1.0. See drawing "NEW LIME SILO SYSTEM" attached.

The existing lime silo will be converted to a lime substitute (fluidized bed ash) silo which will be loaded from a new pneumatic railcar unloading and conveying system. Railcar unloading will be performed by pressurizing a pressure discharge (PD) railcar and discharging the lime substitute into a surge bin. Unloading will be accomplished by utilizing a 1200 (+/-) CFM @ 14.5 (+/-) PSIG blower to convey the lime substitute to the surge bin. Fugitive emissions at the surge bin will be controlled by another bag house with 225 (+/-) SqFt. of bag area. Conveyance of the lime substitute from the surge bin to the fly ash silo will be accomplished by two separate 1200 (+/-) CFM @ 14.5 (+/-) PSIG blowers (2400 CFM) which will pneumatically convey the lime substitute to the lime substitute silo (the existing lime silo). Prevention of fugitive emissions at the lime substitute silo will be accomplished through a new 450 (+/-) SqFt. bag area bag house. The Cloth to CFM ratio for the new lime substitute silo will be 4.63 to 1.0. See "PROPOSED RAILCAR UNLOADING & TRANSFER SYSTEM" drawing attached.



	VFL TECHNOLOGY CORPORATION
NEW LIME SILO SYSTEM P & ID	
7/11/97	



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- 3) THIS DRAWING IS A SCHEMATIC AND IS NOT TO BE USED FOR CONSTRUCTION/INSTALLATION
- 4) ALL COMPRESSED AIR PIPING, AIR DRYERS, FILTERS, ISOLATION VALVES TO BE FURNISHED BY OTHERS (CUSTOMER)
- 5) ALL AIR AND WATER PIPING NOT FURNISHED BY DELTA/DUCON UNLESS OTHERWISE NOTED
- 6) ALL HEAT TRACING, FREEZE PROTECTION AND INSULATION NOT FURNISHED BY DELTA/DUCON UNLESS NOTED OTHERWISE
- 7) ALL MANUAL VALVES ARE NORMALLY CLOSED (NC) UNLESS NOTED (NO) INDICATING NORMALLY OPEN. ALL AUTOMATIC 2-WAY VALVES ARE NORMALLY CLOSED (NC) IN THE DE-ENERGIZED STATE UNLESS NOTED (NO) INDICATING NORMALLY OPEN. ENERGIZE TO CLOSE

LEGEND

- DO FURNISHED BY CUSTOMER/OTHERS
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- AIR LINE
- PROCESS LINE
- - - ELECTRICAL SIGNAL
- - - PNEUMATIC SIGNAL
- ◇ CLEAN & DRY COMPRESSED AIR 80-100 PSC
- ◇ ELECTRICAL INTERFACE WITH PLC OR DCS

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 For: _____
 P. O. No: _____
 Date: _____

REV	BY	DATE	DESCRIPTION
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PROPOSED RAILCAR UNLOADING & TRANSFER SYSTEM P & ID			
NAME	INTS	DATE	REV
OWNER	RCC	DATE	REV
DESIGN	DATE	REV	
APPROVED	DATE		
343-DO1			

PROPOSED RAILCAR UNLOADING & TRANSFER SYSTEM

3.9.7 Radioactive Level Detection Systems

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3.0 The Plant and Directly Associated Facilities

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3.3 Fuel

3.3.1 Fuel Types and Qualities

The primary fuel for the Stanton Energy Center will ~~continue to be bituminous coal, natural gas, or landfill gas.~~ Although coal supply contracts for Stanton 2 have not been finalized, a design basis coal has been developed for use on the project. Table 3.3-1 presents the typical and ranges of selected properties of the design basis coal. All other properties are expected to fall within the ranges provided for coal quality in Table 3.2-1 of the original SCA. These coal properties provide a "worst case" design basis that will provide OUC with system operating flexibility to burn any coal with properties in the ranges given.

Table 3.3-1a presents a typical analysis of the landfill gas quality that will be burned at the Stanton Energy Center.

The Stanton 2 steam generator will be started with No. 6 fuel oil. During periods of low load operation, No. 6 fuel oil will also be used for flame stabilization.

3.3.2 Fuel Quantities

With a heating value range of 11,000 to 13,350 Btu/lb, the maximum coal consumption rate will be 150 to 193 tons/in. At a 70 percent capacity factor, the annual coal consumption for Stanton 2 will be 975,000 to 1,190,000 tons per year.

The heating value for pipeline natural gas is 1040 Btu/ft³. At a 70% capacity factor, the annual gas consumption for Stanton 2 could be as much as 25 billion cubic feet.

The Orlando Utilities Commission has entered into an agreement with Orange County to burn all the landfill gas that is recovered from the County Landfill. The expected heating value of the landfill gas is 450 to 550 Btu/ft³. At this time, we anticipate approximately 2% of the total fuel for Stanton 2 will be landfill gas.

Estimates of No. 6 fuel oil usage for cold and hot startups with Stanton 2 are the same as those discussed for Stanton 1 in Subsection 3.2.2 of the original SCA.

3.3.3 Fuel Transportation

Coal will continue to be transported to the plant site by rail via CSX Transportation, Inc., as described in Subsection 3.2.3 of the original SCA. An additional two to three trains per week will be required to supply coal for Stanton 2. No. 6 fuel oil will continue to be received by trucks as has been the case for Stanton 1.

TYPICAL LANDFILL GAS ANALYSIS

				Mole %
Methane				53.45
Ethane				0.05
Propane				0.04
Iso-Butane				0.03
N-Butane				0.02
Iso-Pentane +				0.01
Carbon Dioxide				42.0
Nitrogen				1.0
Oxygen				0.2
Water				3.2
Acrolein				
Acrylonitrile	Less than	1.0	-	5.0
Benzen	Less than	1.0	-	5.0
Carbon tetrachloride		.1	-	13.0
Chlorobenzene	Less than	.1	-	1.0
1,2-Dichlorethane	Less than	.1	-	11.0
1,1,1-Trichloroethane	Less than	.1	-	40.0
1,1-Dichloroethane		.1	-	2.2
1,1,2-Trichloroethane		.1	-	12.0
1,1,2,2-Tetrachloroethane	Less than	.1	-	1.0
Chloroethane	Less than	.1	-	1.0
2-Chloroethylvinyl ether		.1	-	12.0
Chloroform	Less than	1.0	-	5.0
1,1-Dichlorethene	Less than	.1	-	.1
trans-1,2-Dichloroethane	Less than	.1	-	1.0
1,2-Dichloropropane		.1	-	10.0
1,3-Dichloropropane	Less than	.1	-	1.0
Ethylbenzene	Less than	.1	-	1.0
Methylene		.9	-	67.0
Chloromethane		.5	-	53.0
Bromomethane	Less than	.1	-	5.0
Bromoform	Less than	.1	-	5.0
Bromodichloromethane	Less than	.1	-	1.0
Fluorotrichloromethane	Less than	.1	-	1.0
Dichlorodifluoromethane		2.5	-	5.1
Chlorodibromomethane		2.5	-	81.0
Chlorodifluoromethane	Less than	.1	-	1.0
Tetrachloroethane		1.0	-	17.0
Toluene		.1	-	23.0
Trichloroethane		.9	-	170.0
Vinyl chloride		.1	-	5.5
Total xyleneisomers		.1	-	26.0
Methyl ethyl ketone		2.1	-	144.0
Methyl isobutyl ketone		1.0	-	39.0
Acetone		.5	-	10.0
	Less than	2.0	-	59.0

Table 3.2 - 1a

Landfill gas will be delivered to the Stanton Energy Center via a pipeline from the Orange County Landfill. Figure 3.3.3.1 shows the route of the pipeline which parallels the existing roadway on land already impacted by previous construction activities.

Natural gas will be delivered to the Stanton Energy Center via a pipeline a pipeline which will connect with the main gas transmission pipeline south of the Plant.

3.3.4 Coal Handling and Storage

The coal handling system described in Subsection 3.2.4 of the original SCA will serve both Stanton 1 and 2. The existing system as constructed consists of unloading, stocking, reclaiming, and storage facilities. The system will be unchanged except for the addition of new silo fill conveyors and plant silos to serve Stanton 2. Figure 3.2-3 of the original SCA shows a perspective of these facilities.

3.3.5 Fuel Oil Storage and Handling

The No. 6 fuel oil required by Stanton 2 will be stored in the previously installed onsite tanks, described in Subsection 3.2.5 of the original SCA.

3.3.6 Alternate Fuel Types

As in the case of Unit 1, no special design features have been included in the design of Stanton 2 to allow burning of alternate fuels.

3.9 Materials Handling

The original SCA contains detailed discussions of the handling, storage, and/or disposal of various materials associated with the operation of Stanton Energy Center. These materials include fuel (coal, landfill gas, natural gas, and oil), limestone, lime, fluidized bed ash, combustion wastes (ash and scrubber sludge), and cooling tower blowdown solids. The facilities for handling the storage of these materials that were installed for Stanton 1 are also capable of serving Stanton 2. Although an addition to the Cooling Tower Blowdown Treatment System will be required for Stanton 2, the handling, storage, and disposal of cooling tower flowdown solids from Stanton 2 will be the same as for Stanton 1.

The addition of the alternate access road, which connects to the Bee Line Expressway south of the site, will provide an alternate site access for plant operating personnel and delivery of operating materials.

EXHIBIT 2

CONDITIONS OF CERTIFICATION

I. Air

The construction and operation of Unit 1 at Orlando Utilities Commission. Curtis H. Stanton Energy Center (CHSEC) steam electric power plant site shall be in accordance with all applicable provisions or Chapters 17-2, 17-4, and 27-5, Florida Administrative Code. In addition to the foregoing, the permittee shall comply with the following conditions of certification:

A. Emission Limitations

1. The proposed steam generating station shall be constructed and operated in accordance with the capabilities and specifications of the application including the 474 gross megawatt generating capacity and the 4286 MMBtu/hr heat input rate for each steam generator. For the purpose of calculating mass stack emissions, based on a maximum heat input of 4136 million BTU per hour, stack emissions from CHSEC Unit 1 shall not exceed the following when burning coal:

a. SO₂ -1.2 lb. per million BTU heat input, maximum two hour average, and 1.14 lb/MMBtu maximum three hour average.

b. NO_x -0.60 lb. per million Btu heat input, 30 day rolling average.

c. Particulates -0.03 lb. per million BTU heat input, 124.1 lb. per hour

d. Visible emissions -20% (6-minute average, except one 6-minute period per hour of not more than 27% opacity

2. The height of the boiler exhaust stack for CHSEC Unit 1 shall not be less than 550 ft. above grade.

3. Particulate emissions from the coal, lime and limes to the handling facilities.

a. All conveyor transfer points will be enclosed to preclude PM emissions (except those directly associated with the emergency stockout and the limestone stockout for which enclosure is operationally infeasible). All coal and limestone conveyors not underground or within buildings will be enclosed (roof and sides) with steel grating or concrete floors (except the stacker/reclaimer which will have windscreen protection).

b. Inactive coal storage piles will be shaped, compacted and oriented to minimize wind erosion.

c. Water sprays or chemical wetting agents and stabilizers will be applied to storage piles, handling equipment, etc., during dry periods and as necessary to all facilities to maintain an opacity of less than or equal to 5 percent, except when adding, moving or removing coal from the coal pile, which would be allowed no more than 20%.

d. The limestone handling receiving hopper will be equipped with water spray dust control facilities. Limestone conveyors not underground or within buildings will be enclosed with open grating floors (except where concrete floors are provided over roads or other facilities). Limestone day silos and associated transfer points will be maintained at negative pressures during filling operations with the exhaust vented to a control system. Lime will be handled with a totally enclosed pneumatic system. Exhaust from the lime silos during filling will be vented to a collector system.

e. The fly ash handling system and the fluidized bed ash handling system (including transfer and silo storage) will be totally enclosed and vented (including pneumatic system exhaust) through fabric filters; and

f. The permittee must submit to the Department within thirty (30) days after it becomes available, copies of technical data pertaining to the selected particulate emission control for the coal, lime and limestone handling facilities. These data should include, but not be limited to, guaranteed efficiency and emission rates, and major design parameters such as air/cloth ratio and flow rate. The department may, upon review of these data, disapprove the use of any such device if the Department determines the selected control device to be inadequate to meet the emission limits specified in 4 below. Such disapproval shall be issued within 30 days of receipt of the technical data.

4. Particulate emissions from bag filter exhausts from the following facilities shall be limited to 0.02 gr/acf, coal, lime, limestone and fly ash handling systems excluding those facilities covered by 3.c above. A visible emission reading of 5% opacity or less may be used to establish compliance with this emission limit. A visible emission reading greater than 5% opacity will not create a presumption that the 0.02 gr/acf emission limit is being violated. However, a visible emission reading greater than 5% opacity will require the permittee to perform a stacktest, as set forth in Condition 1.C.

5. Compliance with opacity limits of the facilities listed in Condition I.A. will be determined by EPA reference method 9 (Appendix A, 40 CFR 60).

6. Construction shall reasonably conform to the plans and schedule given in the application.

7. The permittee shall report any delays in construction and completion of the project which would delay commercial operation by more than 30 days to the Department's St. Johns River District Office in Orlando.

8. Reasonable Precautions to prevent fugitive particulate emissions during construction, such as coating of roads and construction sites cased by contractors, regrassing or watering areas of disturbed soils, will be take by the permittee.

9. Coal shall not be burned in the unit unless both electrostatic precipitator and limestone Scrubber are operational properly except as provided under 40 CFR 60 Part 60 Subpart Da.

10. The Fuel oil to be fired in Unit No. 1 and the auxiliary boiler shall be "new oil", which means an oil which has been refined from crude oil and has not been used. On-site generated lubricating oil and used fuel oil which meets the requirements of 40 CFR 266.40 may also be burned.

A. The quality of the No. 2 fuel oil used by the auxiliary boiler shall not cause the allowable emission limits listed in the following table to be exceeded. Such emissions may be calculated in accordance with AP42.

<u>Allowable Emission Limits</u>	
<u>Pollutant</u>	<u>lb/MMBtu</u>
PM	0.015
SO ₂	0.51
NO _x	0.16
Visible emissions	Maximum 20% Opacity

B. Landfill gas from the Orange County Landfill may be burned in Unit No. 1 to the extent that quantities are available provided that all emission limits contained in Condition A-1 are met.

C. Natural gas as supplied by commercial pipeline may be burned in Unit No. 1 to the extent that quantities are available provided that all emission limits contained in Condition A-1 are met.

11. The flue gas scrubber shall be put into service during normal operation startup, and shutdown when No. 6 fuel oil is being burned. The No. 6 fuel oil shall not contain more than 1.5% sulfur by weight.

12. No fraction of flue gas shall be allowed to bypass the FGD system to reheat the gases exiting from the FGD system, if the bypass will cause overall SO₂ removal efficiency less than 90 percent

(or 70% for mass SO₂ emission rates less than or equal to 0.6 lb/MMBtu 30 day rolling average). The percentage and amount of flue gas bypassing the FGD system shall be documented and records kept for a minimum of two years available for FDER's inspection.

13. Samples of all fuel oil and coal fired in the boilers shall be taken and analyzed for sulfur content, ash content, and heating value. Accordingly, samples shall be taken on each fuel oil shipment received. Coal sulfur content shall be determined and recorded on a daily basis. When determining coal sulfur content for the purpose of establishing the percentage reduction in potential sulfur emissions, such determination shall be in accordance with EPA Reference Method 19. Records of all the analyses shall be kept for public inspection for a minimum of two years after the data is recorded.

14. Within 90 days of commencement of operations, the applicant will determine and submit to EPA and FDER the pH level in the scrubber effluent that correlates with 90% removal or the SO₂ in the flue gas (or 70% for mass SO₂ emission rates less than or equal to 0.6 lb/MMBtu). Moreover, the applicant is required to operate a continuous pH meter equipped with an upset alarm to ensure that the operator becomes aware when the pH level of the scrubber effluent falls below this level. The pH monitor can also act as a backup in the event of malfunction of the continuous SO₂ monitor. The value of the scrubber pH may be revised at a later date provided notification to EPA and FDER is made demonstrating the minimum percent removal will be achieved on a continuous basis. Further, if compliance data show that higher FGD performance is necessary to maintain the minimum removal efficiency limit, a different pH value will be determined and maintained.

15. The applicant will comply with all requirements and provisions of the New Source Performance Standard for electric utility steam generating units (40 CFR 60 Part Da).

16. As a requirement of this specific condition, the applicant will comply with all emissions limits and enforceable restrictions required by the State of Florida Department of Environmental Regulation which may be adopted by regulation and which are more restrictive, that is lower emissions limits or more strict operating requirements and equipment specifications than the requirements of specific conditions 1.A. 1-16 of these conditions.

B. Air Monitoring Program

1. A flue gas oxygen meter shall be installed for each unit to continuously monitor a representative sample of the flue gas. The oxygen monitor shall be used with automatic feedback or manual controls to continuously maintain air/fuel ratio parameters at an optimum. Performance tests shall be conducted and operating procedures established. The document "Use of Flue Gas Oxygen Meter as BACT for Combustion Controls" may be used as a guide. The permittee shall install and operate continuously monitoring devices for each main boiler exhaust for sulfur dioxide, nitrogen dioxide, and opacity. The monitoring devices shall meet the applicable requirements of Section 17-2.710, FAC, and 40 CFR 60.47a. The opacity monitor may be replaced in the duct work between the electrostatic precipitator and the FGD scrubber.

2. The permittee shall operate two continuous ambient monitoring devices for sulfur dioxide in accordance with DER quality control procedures and EPA reference methods in 40 CFR, Part 53, and two ambient monitoring devices for suspended particulates, and one continuous NO_x monitor. The monitoring devices shall be specifically located at a location approved by the Department. The frequency of operation of the particulate monitors shall be every six days commencing as specified by the Department. During construction and operation the existing meteorological station will be operated and data reported with the ambient data.

3. The permittee shall maintain a daily log of the amounts and types of fuel used and copies of fuel analyses containing information on sulfur content, ash content and heating values. These logs shall be kept for at least two years.

4. The permittee shall provide stack sampling facilities as required by Rule 17-2.700(4) FAC.

5. The ambient monitoring program shall begin at least one year prior to initial start up of Unit 1 and shall continue for at least one year of commercial operation. The Department and the permittee shall review the results of the monitoring program annually and determine the necessity for the continuation of or modifications to the monitoring program.

6. Prior to operation of the source, the permittee shall submit to the Department a plan or procedure that will allow the permittee to monitor emission control equipment efficiency and enable the permittee to return malfunctioning equipment to proper operation as expeditiously as possible.

C. Stack Testing

1. Within 60 calendar days after achieving the maximum capacity at which each unit will be operated, but no later than 180 operating days after initial startup, the permittee shall conduct performance tests for particulates SO₂, NO_x, and visible emissions during normal operations near ($\pm 10\%$) 4136 MMBtu/hr heat input and furnish the Department a written report of the results of such performance tests within 45 days of completion of the tests. The performance tests will be conducted in accordance with the provisions of 40 CFR 60.46a and 48a.

2. Performance tests shall be conducted and data reduced in accordance with methods and procedures outlined in Section 17-2.700 SAC.

3. Performance tests shall be conducted under such conditions as the Department shall specify based on representative performance of the facility. The permittee shall make available to the Department such records as may be necessary to determine the conditions of the performance tests.

4. The permittee shall provide 30 days notice of the performance tests or 10 working days for stack tests in order to afford the Department the opportunity to have an observer present.

5. Stack tests for particulates NO_x and SO₂ and visible emissions shall be performed annually in accordance with Conditions C.2, 3, and 4 above.

D. Reporting

1. For CSEC, stack monitoring, fuel usage and fuel analysis data shall be reported to the Department's St. Johns River District Office and to the Orange County Pollution Control Department on a quarterly basis commencing with the start of commercial operation in accordance with 40 CFR, Part 60, Section 60.7, and 60.49a and in accordance with Section 17-2.08, FAC.

2. Utilizing the SAROAD or other format approved in writing by the Department, ambient air monitoring data shall be reported to the Bureau of Air Quality Management of the Department quarterly. Commencing on the date of certification, such reports shall be due within 45 days following the quarterly reporting period. Reporting and monitoring shall be in conformance with 40 CFR Parts 53 and 58.

3. Beginning one month after certification, the permittee shall submit to the Department a monthly status report briefly outlining progress made on engineering design and purchase of major pieces of air pollution control equipment. All reports and information required to be submitted under this condition shall be submitted to the Administrator of Power Plant Siting, Department of Environmental Regulation, 2600 Blair Stone Road, Tallahassee, Florida, 32301.

II. Cooling Tower

A. Makeup Water Constituency

The CHSEC Shall utilize only treated sewage effluent, or stormwater runoff to the makeup water supply storage pond, as cooling tower makeup water. The effluent shall have received prior to use in the tower sufficient treatment from the source of cooling water, "a sewage treatment plant", but as a minimum, secondary treatment, as well as treatment described in Condition II.B. below. Use of waters other than treated sewage effluent or site storm water, i.e., higher quality potable waters, or lower quality less-than-secondarily-treated sewage effluent, will require notification of conditions agreed to by the St. Johns River Water Management District, Orange County and the Department, and must be approved by the Governor and Cabinet.

EXHIBIT 2

Amended Conditions of Certification

Unit 2

Part II

Conditions Recommended by
the
Department of Environmental Regulation

II/I. AIR

The construction and operation of Unit 2 at Orlando Utilities Commission, Curtis H. Stanton Energy Center (CHSEC) steam electric power plant site shall be in accordance with all applicable provisions of Chapters 17-2, 17-4, and 17-5, Florida Administrative Code except for NO_x, and SO₂ which shall be governed by 40 CFR Part 60 regarding startup, shutdown, and malfunction. In addition to the foregoing, the permittee shall comply with the following conditions of certification:

A. Emissions Limitations

1. The proposed steam generating station shall be constructed and operated in accordance with the capabilities and specifications of the application including the proposed 465 (gross) megawatt generating capacity and the 4286 MMBtu/hr heat input rate for each steam generator. Based on a maximum heat input of 4286 million Btu per hour, stack emissions from CHSEC Unit 2 shall not exceed the following when burning coal:

a. SO ₂ -lb/million Btu heat input		
30 - day rolling average		0.25
24 - hour emission rate		0.67
3 - hour mission rate		0.85

b. NO _x -lb/million Btu heat input		
30 day rolling average		0.17

c. PM/PM ₁₀ -lb/million Btu heat input		
	lb/MBtu	lb/hr
PM	0.02	85.7
PM ₁₀	0.02	85.7

d. CO - 0.15 lb/million Btu heat input, 643 lb/hour.

e. VOC - 0.015 lb/million Btu heat input, 64 lb/hour.

f. H₂SO₄ - 0.033 lb/million Btu heat input 140 lb/hour.

g. Be - 5.2 x 10⁻⁶ lb/million Btu heat input, 0.022 lb/hour.

h. Hg -1.1 x 10⁻⁵ lb/million Btu heat input, 0.046 lb/hour.

- I. Pb -1.5×10^{-4} lbs/million Btu heat input, 0.64 lb/hour.
 - j. Fluorides -4.2×10^{-4} lb/million Btu heat input, 1.8 lb/hour.
2. The height of the boiler exhaust stack for CHSEC Unit 2 shall not be less than 550 ft. above grade.
3. Particulate emissions from the coal, lime and limestone handling facilities:
 - a. All conveyors and conveyor transfer points will be enclosed to preclude PM emissions (except those directly associated with the coal stacker/reclaimer or emergency stockout, and the limestone stockout for which enclosure is operationally infeasible).
 - b. Inactive coal storage piles will be shaped, compacted and oriented to minimize wind erosion.
 - c. Water sprays or chemical wetting agents and sterilizers will be applied to storage piles, handling equipment, etc. during dry periods and as necessary to all facilities to maintain an opacity of less than or equal to 5 percent, except when adding, moving or removing coal from the coal pile, which would be allowed no more than 20%.
 - d. Limestone day silos and associated transfer points will be maintained at negative pressures during filling operations with the exhaust vented to a control system. Lime will be handled with a totally enclosed pneumatic system. Exhaust from the lime silos during filling will be vented to a collector system.
 - e. The fly ash handling system (including transfer and silo storage) will be totally enclosed and vented (including pneumatic system exhaust) through fabric filters; and
 - f. Any additional coal, lime, and limestone handling facilities for Stanton Unit 2 will be equipped with particulate control systems equivalent to those for Stanton Unit 1
4. Particulate emissions from bag filter exhausts from the following facilities shall be limited to 0.02 gr/acf: coal, lime, limestone and flyash handling systems excluding those facilities covered by II/I.A.3.c above. A visible emission reading of 5% opacity or less may be used to establish compliance with this emission limit. A visible emission

reading greater than 5% opacity will not create a presumption that the 0.02 cr/acf emission limit is being violated. However, a visible emission reading greater than 5% opacity will require the permittee to perform a stack test for particulate emissions, as set forth in Condition II/I.C.

5. Compliance with opacity limits of the facilities listed in Condition II/I.A. will be determined by EPA referenced method 9 (Appendix A, 40 CFR 60).
6. Construction shall reasonably conform to the plans and schedule given in the supplemental application.
7. The permittee shall report any delays in construction and completion of the project which would delay commercial operation by more than 90 days to the DER Central District office in Orlando.
8. Reasonable precautions to prevent fugitive particulate emissions during construction shall be to coat the roads and construction sites used by contractors, regrass or water areas of disturbed soils.
9. Coal shall not be burned in the unit unless the electrostatic precipitator and limestone scrubber and other air pollution control devices are operating as designed except as provided under 40 CFR Part 60, Subpart Da.
10. The fuel oil to be fired in Stanton Unit 2 and the auxiliary boiler shall be "new oil" which means an oil which has been refined from crude oil and has not been used. On-site generated lubricating oil and used fuel oil which meets the requirements of 40 CFR 266.40 may also be burned.

A. The quality of the No. 2 fuel oil used by the auxiliary boiler shall not cause the allowable emission limits listed in the following table to be exceeded. Such emissions may be calculated in accordance with AP42.

Allowable Emission Limits

<u>Pollutant</u>	<u>lb/MMBtu</u>
PM	0.015
SO ₂	0.51
NO _x	0.16
Visible emissions	Maximum 20% Opacity

B. Landfill gas from the Orange County Landfill may be burned in Unit No. 2 to the extent that quantities are available provided that all emission limits contained in Condition A-1 are met.

- C. Natural gas as supplied by commercial pipeline may be burned in Unit No. 1 to the extent that quantities are available provided that all emission limits contained in Condition A-1 are met.
11. The flue gas scrubber shall be put into service during normal operational startup, and shut down when No. 6 fuel oil is being burned. The No. 6 fuel oil shall not contain more than 1.5% sulfur by weight.
 12. No fraction of flue gas shall be allowed to bypass the FGD system to reheat the gases exiting from the FGD system, except that bypass shall be allowed during startup and shutdown.
 13. All fuel oil and coal shipments received shall have an analysis for sulfur content, ash content, and heating value either documented by the supplier or determined by analysis. Coal sulfur content shall be determined and recorded on a daily basis. Records of all the analysis shall be kept for public inspection for a minimum of two years after the data is recorded.
 14. Within 90 days of commencement of operations, the applicant will determine and submit to FDER the pH level range in the scrubber reaction tank that correlates with the specified limits for SO₂ in the flue gas. Moreover, the applicant is required to operate a continuous pH meter equipped with an upset alarm to ensure that the operator becomes aware when the pH level of the scrubber reaction tank falls out of this range. The pH monitor can also act as a backup in the event of malfunction of the continuous SO₂ monitor. The value of the scrubber pH may be revised at a later date provided notification to FDER is made demonstrating the emission limit is met. Further, if compliance data show that higher FGD performance is necessary to maintain the emission limit, a different pH value will be determined and maintained.
 15. The applicant will Ply with all requirements and provisions of the New Source Performance standard for electric utility steam generating units (40 CFR 60 Part Da).
 16. The Licensee shall submit to the Department at least 120 days prior to start of construction of the NO_x control system, copies of technical data pertaining to the selected NO_x control system. These data, if applicable to the technology chosen by the Licensee, should include but not be limited to design efficiency, guaranteed efficiency, emission rates, flow rates, reagent injection rates, or types of catalysts. The Department may, upon review of these data, disapprove the use of any such device or system if the Department determines the selected control device or system to be inadequate to meet the emission limits specified in l.b. above. Such disapproval shall be issued within 90 days of receipt of the technical data.

B. Air Monitoring Program

1. A flue gas oxygen meter shall be installed for Stanton Unit 2 to continuously monitor a representative sample of the flue gas. The oxygen monitor shall be used with automatic feedback or manual controls to continuously maintain air/fuel ratio parameters at an optimum. The flue gas manufacturing oxygen monitor shall be calibrated and operated according to established procedures as approved by DER. The document "Use of Flue Gas Oxygen Meter as BACT for Combustion Controls" may be used as a guide.
2. The permittee shall install and operate continuous monitoring devices for Stanton Unit 2 main boiler exhaust for sulfur dioxide, nitrogen oxides, oxygen, and opacity. The monitoring devices shall meet the applicable requirements of Section 17-2.710, FAC., and 40 CFR 60.47a. The opacity monitor may be placed in the duct work between the electrostatic precipitator and the FGD scrubber.
3. The permittee shall operate one continuous ambient monitoring device for sulfur dioxide in accordance with DER quality control procedures and EPA reference methods in 40 CFR, Part 53, and one ambient monitoring device for PM₁₀, and one continuous NO_x monitor. The monitoring devices shall be specifically located at a location approved by the Department. The frequency of operation of the particulate monitor shall be every six days commencing as specified by the Department. During construction and operation the existing meteorological station will be operated and data reported with the ambient data.
4. The permittee shall maintain a daily log of the amounts and types of fuel used. The log shall be kept for inspection for at least two years after the data is recorded. Fuel analysis data including sulfur content, ash content, and heating values shall be determined on an as received basis and kept for two years.
5. The permittee shall provide stack sampling facilities as required by Rule 17-2.700(4) F.A.C.
6. The ambient monitoring program shall begin at least one year prior to initial start up of Unit 2 and shall continue for at least one year of commercial operation. The Department and the permitter shall review the results of the monitoring program annually and determine the necessity for the continuation of or modifications to the monitoring program.

C. Stack Testing

1. Within 60 calendar days after achieving the maximum capacity at which Unit 2 will be operated, but no later than 180 operating days after initial startup, the permittee shall conduct performance tests for particulates, SO₂, NO_x, and visible emission during normal operations near (\pm 10%) 4286 MMBtu/hr heat Input and furnish the Department a written report of the results of such performance tests within 45 days of completion of the tests. The performance tests will be conducted in accordance with the provisions of 40 CFR 60.46a and 48a.
2. Compliance with emission limitation standards mentioned in specific Condition No. II/I.A. shall be demonstrated during the initial performance test using appropriate EPA Methods, as contained in 40 CFR Part 60 (Standards of Performance for New Stationary Sources), or 40 CFR Part 61 (National Emission Standards for Hazardous Air Pollutants), or any method as proposed by the Applicant and approved by the Department, in accordance with F.A.C. Rule 17-2.700.

<u>EPA Method</u>	<u>For Determination of</u>
1	Selection of sample site and velocity traverses.
2	Stack gas flow rate when converting concentrations to or from mass emission limits.
3	Gas analysis when needed for calculation of molecular weight or percent O ₂ .
4	Moisture content when converting stack velocity to dry volumetric flow rate for use in converting concentrations in dry gases to or from mass emission limits.
5	Particulate matter concentration and mass emissions.
201 or 201A	PM ₁₀ emissions.
6, 6C, or 19	Sulfur dioxide emissions from stationary sources.
7, 7C, or 19	Nitrogen oxide emissions from stationary source.
9	Visible emission determination of opacity.
-	At least three one hour runs to be conducted simultaneously with particulate testing for the emissions from dry scrubber/baghouse, and ash handling building baghouse.

- At least one lime truck unloading into the lime silo (from start to finish)

- 10 Carbon monoxide emissions from stationary sources.
- 12 or 101A Lead concentration from stationary sources.
- 13-A or 13B Fluoride emissions from stationary sources.
- 18, 25, or Volatile organic compounds concentration.
- 101A or 108 Mercury emissions.
- 104 Beryllium emission rate and associated moisture content:

- 3. The permittee shall provide 30 days written notice of the performance tests for continuous emission monitors or 10 working days written notice for stack tests in order to afford the Department the opportunity to have an observer present.
- 4. Stack tests for particulates, NO_x and SO₂ and visible emissions shall be performed annually.

D. Reporting

- 1. For Stanton Unit 2, a summary in the EPA format of stack continuous monitoring data, fuel usage and fuel analysis data shall be reported to the Department's Central District Office and to the Orange County Environmental Protection Department on a quarterly basis commencing with the start of commercial operation in accordance with 40 CFR, Part 60, Section 60.7, and 60.49a and in accordance with Section 17-2.710(2), F.A.C.
- 2. Utilizing the SAROAD or other format approved in writing by the Department, ambient air monitoring data shall be reported to the Bureau of Air Quality Management of the Department quarterly. Such reports shall be due within 45 days following the quarterly reporting period. Reporting and monitoring shall be in conformance with 40 CFR Parts 53 and 58.
- 3. Beginning one month after certification, the permittee shall submit to the Department a quarterly status report briefly outlining progress made on engineering design and purchase of major pieces of air pollution control equipment. All reports and information required to be submitted under this condition shall be submitted to the Siting Coordination Office, Department of Environmental Regulation, 2600 Blair Stone Road, Tallahassee Florida, 32301.

E. Malfunction or Shutdown

In the event of a prolonged (thirty days or more) equipment malfunction or shutdown of air pollution control equipment, operation may be allowed to resume to continue to take place under appropriate Department order, provided that the Licensee demonstrates such operation will be in compliance with all applicable ambient air quality standards and PSD increments. During such malfunction or shutdown, the operation of Stanton Unit 2 shall comply with all other requirements of this certification and all applicable state and federal emission standards not affected by the malfunction or shutdown which is the subject of the Department's order. Exceedances produced by operational conditions for more than two hours due to upsets in air pollution control systems as a result of start-up, shutdown, or malfunctions as defined by 40 CFR 60 need not be reported as specified in Condition I/XII. Identified operational malfunctions which do not stop operation but prevent compliance with emission limitations shall be reported to DER as specified in Condition I/XII.

F. Open Burning

Open burning in connection with initial land clearing shall be in accordance with Chapter 17-256, F.A.C., Chapter 51-2, F.A.C., Uniform Fire Code Section 33.101 Addendum, and any other applicable County regulation.

Any burning of construction generated material, after initial land clearing that is allowed to be burned in accordance with Chapter 17-256, F.A.C., shall be approved by the DER Central District Office in conjunction with the Division of Forestry and any other County regulations that may apply. Burning shall not occur unless approved by the jurisdictional agency or if the Department or the Division of Forestry has issued a ban on burning due to fire safety conditions or due to air pollution conditions.

G. Federal Annual Operating Permits and Fees

1. DER Responsibilities

The Department of Environmental Regulation shall implement the provisions of Title V of the 1990 Clean Air Act for Stanton 2 developing Conditions of Certification requiring submission of annual operating permit information and annual pollutant emission fees in accordance with Federal Law and Federal regulations.

2. DER Responsibilities

OUC shall submit the appropriate annual operating permit application information as well as the appropriate annual pollutant emission fees as required by Federal Law to the Department as specified in Condition 3 below.

3. Annual Operating "Permit" Application and Fee (Reserved)

II/II. WETLANDS RESOURCE MANAGEMENT

1. The proposed transmission line from the Stanton Energy Center to the Mud Lake transmission line and the proposed alternate access road to the Stanton Energy Center from the south shall be routed as shown in the supplemental application. Prior to construction, the permittee shall submit drawings on 8.5" by 11" paper, showing the final design, including plan views and cross-sections for each area of filling or clearing in wetlands. The drawings shall show the existing and proposed ground elevations and all existing and proposed structure locations, sizes and invert elevations.
2. All clearing and construction activities shall be confined to the limits of the clear zone necessary for the transmission line as shown on Figures 6.1-5 and 6.1-6 of the application drawings. Within 30 days of the completion of construction, the permittee shall arrange a site visit by DER District personnel from the Central District office in Orlando to verify that no wetland damage has occurred outside the transmission line clear zone. If wetland damage occurs outside the transmission line clear zone during construction, the permittee shall submit to the Bureau of Wetland Resource Management for review a plan to restore the wetland area which was damaged and to provide mitigation for the damage. The plan shall be implemented within 30 days of the Department approving the restoration and mitigation plan. This condition does not preclude the Department from taking enforcement action if unauthorized activities occur.
3. Prior to initiating construction, the permittee shall submit a map and aerial photographs showing the location of all staging areas for the transmission line and alternate access road to the Bureau of Wetland Resource Management for review and written approval. These areas shall be upland areas which are not currently providing redcockaded woodpecker nesting or foraging habitat. The staging areas shall not be used prior to receiving DER approval.
4. Drainage structures shall be placed in the transmission line row and under the alternate access road at the same locations where drainage structures currently exist under the CSX Railroad berm. The drainage structures shall provide at least the same efficiency as the corresponding drainage structure currently existing in the CSX Railroad berm.
5. The forested areas to be cleared shall be cleared using low-impact equipment so as to minimize soil disturbance. The root

CONDITIONS OF CERTIFICATION

I. Air

The construction and operation of Unit 1 at Orlando Utilities Commission. Curtis H. Stanton Energy Center (CHSEC) steam electric power plant site shall be in accordance with all applicable provisions of Chapters 17-2, 17-4, and 27-5, Florida Administrative Code. In addition to the foregoing, the permittee shall comply with the following conditions of certification:

A. Emission Limitations

1. The proposed steam generating station shall be constructed and operated in accordance with the capabilities and specifications of the application including the ~~proposed 460~~ 474 gross megawatt generating capacity and the ~~4136~~ 4286 MMBtu/hr heat input rate for each steam generator. For the purpose of calculating mass stack emissions, based on a maximum heat input of 4136 million BTU per hour, stack emissions from CHSEC Unit 1 shall not exceed the following when burning coal:

- a. SO₂ -1.2 lb. per million BTU heat input, maximum two hour average, and 1.14 lb/MMBtu maximum three hour average.
- b. NO_x -0.60 lb. per million Btu heat input, 30 day rolling average.
- c. Particulates -0.03 lb. per million BTU heat input, 124.1 lb. per hour
- d. Edible emissions -20% (6-minute average, except one 6-minute period per hour of not more than 27% opacity)

2. The height of the boiler exhaust stack for CHSEC Unit 1 shall not be less than 550 ft. above grade.

3. Particulate emissions from the coal, lime and limes to the handling facilities.

a. All conveyor transfer points will be enclosed to preclude PM emissions (except those directly associated with the emergency stockout and the limestone stockout for which enclosure is operationally infeasible). All coal and limestone conveyors not underground or within buildings will be enclosed (roof and sides) with steel grating or concrete floors (except the stacker/reclaimer which will have windscreen protection).

b. Inactive coal storage piles will be shaped, compacted and oriented to minimize wind erosion.

c. Water sprays or chemical wetting agents and stabilizers will be applied to storage piles, handling equipment, etc., during dry periods and as necessary to all facilities to maintain an opacity of less than or equal to 5 percent, except when adding, moving or removing coal from the coal pile, which would be allowed no more than 20%.

d. The limestone handling receiving hopper will be equipped with water spray dust control facilities. Limestone conveyors not underground or within buildings will be enclosed with open grating floors (except where concrete floors are provided over roads or other facilities). Limestone day silos and associated transfer points will be maintained at negative pressures during filling operations with the exhaust vented to a control system. Lime will be handled with a totally enclosed pneumatic system. Exhaust from the lime silos during filling will be vented to a collector system.

e. The fly ash handling system (including transfer and silo storage) will be totally enclosed and vented (including pneumatic system exhaust) through fabric filters; and

f. The permittee must submit to the Department within thirty (30) days after it becomes available, copies of technical data pertaining to the selected particulate emission control for the coal, lime and limestone handling facilities. These data should include, but not be limited to, guaranteed efficiency and emission rates, and major design parameters such as air/cloth ratio and flow rate. The department may, upon review of these data, disapprove the use of any such device if the Department determines the selected control device to be inadequate to meet the emission limits specified in 4 below. Such disapproval shall be issued within 30 days of receipt of the technical data.

4. Particulate emissions from bag filter exhausts from the following facilities shall be limited to 0.02 gr/acf, coal, lime, limestone and fly ash handling systems excluding those facilities covered by 3.c above. I, visible omission reading of 5% opacity or less may be used to establish compliance with this emission limit. A visible emission reading greater than 5% opacity will not create a presumption that the 0.02 gr/acf emission limit is being violated. However, a visible emission reading greater than 5% opacity will require the permittee to perform a stacktest, as set forth in Condition 1.C.

5. Compliance with opacity limits of the facilities listed in Condition I.A. will be determined by EPA reference method 9 (Appendix A, 40 CFR 60).

6. Construction shall reasonably conform to the plans and schedule given in the application.

7. The permittee shall report any delays in construction and completion of the project which would delay commercial operation by more than 30 days to the Department's St. Johns River District Office in Orlando.

8. Reasonable Precautions to prevent fugitive particulate emissions during construction, such as coating of roads and construction sites cased by contractors, regrassing or watering areas of disturbed soils, will be take by the permittee.

9. Coal shall not be burned in the unit unless both electrostatic precipitator and limestone Scrubber are operational properly except as provided under 40 CFR 60 Part 60 Subpart Da.

10. The Fuel oil to be fired in Unit No. 1 and the auxiliary boiler shall be "new oil", which means an oil which has been refined from crude oil and has not been used. On-site generated lubricating oil and used fuel oil which meets the requirements of 40 CFR 266.40 may also be burned. ~~The quality of the No. 2 fuel oil used by the auxiliary boiler shall not cause the allowable emission limits listed in the following table to be exceeded. Such emissions may be calculated in accordance with AP42.~~

A. The quality of the No. 2 fuel oil used by the auxiliary boiler shall not cause the allowable emission limits listed in the following table to be exceeded. Such emissions may be calculated in accordance with AP42.

Allowable Emission Limits

<u>Pollutant</u>	<u>lb/MMBtu</u>
PM	0.015
SO ₂	0.51
NO _x	0.16
Visible emissions	Maximum 20% Opacity

B. Landfill gas from the Orange County Landfill may be burned in Unit No. 1 to the extent that quantities are available provided that all emission limits contained in Condition A-1 are met.

C. Natural gas as supplied by commercial pipeline may be burned in Unit No. 1 to the extent that quantities are available provided that all emission limits contained in Condition A-1 are met.

11. The flue gas scrubber shall be put into service during normal operation startup, and shutdown when No. 6 fuel oil is being burned. The emission limits when burning No. 6 Fuel oil shall be 0.80 lb/MMBtu for SO₂ and 0.03 lb/MMBtu for particular matter, except during normal startup and shut down and malfunctions as provided in 40 CFR 60.46a.

12. No fraction of flue gas shall be allowed to bypass the FGD system to reheat the gases exiting from the FGD system, if the bypass will cause overall SO₂ removal efficiency less than 90 percent

(or 70% for mass SO₂ emission rates less than or equal to 0.6 lb/MMBtu 30 day rolling average). The percentage and amount of flue gas bypassing the FGD system shall be documented and records kept for a minimum of two years available for FDER's inspection.

13. Samples of all fuel oil and coal fired in the boilers shall be taken and analyzed for sulfur content, ash content, and heating value. Accordingly, samples shall be taken on each fuel oil shipment received. Coal sulfur content shall be determined and recorded on a daily basis. When determining coal sulfur content for the purpose of establishing the percentage reduction in potential sulfur emissions, such determination shall be in accordance with EPA Reference Method 19. Records of all the analyses shall be kept for public inspection for a minimum of two years after the data is recorded.

14. Within 90 days of commencement of operations, the applicant will determine and submit to EPA and FDER the pH level in the scrubber effluent that correlates with 90% removal or the SO₂ in the flue gas (or 70% for mass SO₂ emission rates less than or equal to 0.6 lb/MMBtu). Moreover, the applicant is required to operate a continuous pH meter equipped with an upset alarm to ensure that the operator becomes aware when the pH level of the scrubber effluent falls below this level. The pH monitor can also act as a backup in the event of malfunction of the continuous SO₂ monitor. The value of the scrubber pH may be revised at a later date provided notification to EPA and FDER is made demonstrating the minimum percent removal will be achieved on a continuous basis. Further, if compliance data show that higher FGD performance is necessary to maintain the minimum removal efficiency limit, a different pH value will be determined and maintained.

15. The applicant will comply with all requirements and provisions of the New Source Performance Standard for electric utility steam generating units (40 CFR 60 Part Da).

16. As a requirement of this specific condition, the applicant will comply with all emissions limits and enforceable restrictions required by the State of Florida Department of Environmental Regulation which may be adopted by regulation and which are more restrictive, that is lower emissions limits or more strict operating requirements and equipment specifications than the requirements of specific conditions 1.A. 1-16 of these conditions.

B. Air Monitoring Program

1. A flue gas oxygen meter shall be installed for each unit to continuously monitor a representative sample of the flue gas. The oxygen monitor shall be used with automatic feedback or manual controls to continuously maintain air/fuel ratio parameters at an optimum. Performance tests shall be conducted and operating procedures established. The document "Use of Flue Gas Oxygen Meter as BACT for Combustion Controls" may be used as a guide. The permittee shall install and operate continuously monitoring devices for each main boiler exhaust for sulfur dioxide, nitrogen dioxide, and opacity. The monitoring devices shall meet the applicable requirements of Section 17-2.710, FAC, and 40 CFR 60.47a. The opacity monitor may be replaced in the duct work between the electrostatic precipitator and the FGD scrubber.

2. The permittee shall operate two continuous ambient monitoring devices for sulfur dioxide in accordance with DER quality control procedures and EPA reference methods in 40 CFR, Part 53, and two ambient monitoring devices for suspended particulates, and one continuous NO_x monitor. The monitoring devices shall be specifically located at a location approved by the Department. The frequency of operation of the particulate monitors shall be every six days commencing as specified by the Department. During construction and operation the existing meteorological station will be operated and data reported with the ambient data.

3. The permittee shall maintain a daily log of the amounts and types of fuel used and copies of fuel analyses containing information on sulfur content, ash content and heating values. These logs shall be kept for at least two years.

4. The permittee shall provide stack sampling facilities as required by Rule 17-2.700(4) FAC.

5. The ambient monitoring program shall begin at least one year prior to initial start up of Unit 1 and shall continue for at least one year of commercial operation. The Department and the permittee shall review the results of the monitoring program annually and determine the necessity for the continuation of or modifications to the monitoring program.

6. Prior to operation of the source, the permittee shall submit to the Department a plan or procedure that will allow the permittee to monitor emission control equipment efficiency and enable the permittee to return malfunctioning equipment to proper operation as expeditiously as possible.

C. Stack Testing

1. Within 60 calendar days after achieving the maximum capacity at which each unit will be operated, but no later than 180 operating days after initial startup, the permittee shall conduct performance tests for particulates SO₂, NO_x, and visible emissions during normal operations near ($\pm 10\%$) 4136 MMBtu/hr heat input and furnish the Department a written report of the results of such performance tests within 45 days of completion of the tests. The performance tests will be conducted in accordance with the provisions of 40 CFR 60.46a and 48a.

2. Performance tests shall be conducted and data reduced in accordance with methods and procedures outlined in Section 17-2.700 SAC.

3. Performance tests shall be conducted under such conditions as the Department shall specify based on representative performance of the facility. The permittee shall make available to the Department such records as may be necessary to determine the conditions of the performance tests.

4. The permittee shall provide 30 days notice of the performance tests or 10 working days for stack tests in order to afford the Department the opportunity to have an observer present.

5. Stack tests for particulates NO_x and SO₂ and visible emissions shall be performed annually in accordance with Conditions C.2, 3, and 4 above.

D. Reporting

1. For CSEC, stack monitoring, fuel usage and fuel analysis data shall be reported to the Department's St. Johns River District Office and to the Orange County Pollution Control Department on a quarterly basis commencing with the start of commercial operation in accordance with 40 CFR, Part 60, Section 60.7, and 60.49a and in accordance with Section 17-2.08, FAC.

2. Utilizing the SAROAD or other format approved in writing by the Department, ambient air monitoring data shall be reported to the Bureau of Air Quality Management of the Department quarterly. Commencing on the date of certification, such reports shall be due within 45 days following the quarterly reporting period. Reporting and monitoring shall be in conformance with 40 CFR Parts 53 and 58.

3. Beginning one month after certification, the permittee shall submit to the Department a monthly status report briefly outlining progress made on engineering design and purchase of major pieces of air pollution control equipment. All reports and information required to be submitted under this condition shall be submitted to the Administrator of Power Plant Siting, Department of Environmental Regulation, 2600 Blair Stone Road, Tallahassee, Florida, 32301.

II. Cooling Tower

A. Makeup Water Constituency

The CHSEC Shall utilize only treated sewage effluent, or stormwater runoff to the makeup water supply storage pond, as cooling tower makeup water. The effluent shall have received prior to use in the tower sufficient treatment from the source of cooling water, "a sewage treatment plant", but as a minimum, secondary treatment, as well as treatment described in Condition II.B. below. Use of waters other than treated sewage effluent or site storm water, i.e., higher quality potable waters, or lower quality less-than-secondarily-treated sewage effluent, will require notification of conditions agreed to by the St. Johns River Water Management District, Orange County and the Department, and must be approved by the Governor and Cabinet.

Part II

Conditions Recommended by
the
Department of Environmental Regulation

II/I. AIR

The construction and operation of Unit 2 at Orlando Utilities Commission, Curtis H. Stanton Energy Center (CHSEC) steam electric power plant site shall be in accordance with all applicable provisions of Chapters 17-2, 17-4, and 17-5, Florida Administrative Code except for NO_x, and SO₂ which shall be governed by 40 CFR Part 60 regarding startup, shutdown, and malfunction. In addition to the foregoing, the permittee shall comply with the following conditions of certification:

A. Emissions Limitations

1. The proposed steam generating station shall be constructed and operated in accordance with the capabilities and specifications of the application including the proposed 465 (gross) megawatt generating capacity and the 4286 MMBtu/hr heat input rate for each steam generator. Based on a maximum heat input of 4286 million Btu per hour, stack emissions from CHSEC Unit 2 shall not exceed the following when burning coal:

a. SO₂ -lb/million Btu heat input

30 - day rolling average	0.25
24 - hour emission rate	0.67
3 - hour mission rate	0.85

b. NO_x -lb/million Btu heat input

30 day rolling average	0.17
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c. PM/PM₁₀ -lb/million Btu heat input

	lb/MBtu	lb/hr
PM	0.02	85.7
PM ₁₀	0.02	85.7

d. CO - 0.15 lb/million Btu heat input, 643 lb/hour.

e. VOC - 0.015 lb/million Btu heat input, 64 lb/hour.

f. H₂SO₄ - 0.033 lb/million Btu heat input 140 lb/hour.

g. Be - 5.2 x 10⁻⁶ lb/million Btu heat input, 0.022 lb/hour.

h. Hg -1.1 x 10⁻⁵ lb/million Btu heat input, 0.046 lb/hour.

- I. Pb -1.5×10^{-4} lbs/million Btu heat input, 0.64 lb/hour.
 - j. Fluorides -4.2×10^{-4} lb/million Btu heat input, 1.8 lb/hour.
2. The height of the boiler exhaust stack for CHSEC Unit 2 shall not be less than 550 ft. above grade.
3. Particulate emissions from the coal, lime and limestone handling facilities:
 - a. All conveyors and conveyor transfer points will be enclosed to preclude PM emissions (except those directly associated with the coal stacker/reclaimer or emergency stockout, and the limestone stockout for which enclosure is operationally infeasible).
 - b. Inactive coal storage piles will be shaped, compacted and oriented to minimize wind erosion.
 - c. Water sprays or chemical wetting agents and sterilizers will be applied to storage piles, handling equipment, etc. during dry periods and as necessary to all facilities to maintain an opacity of less than or equal to 5 percent, except when adding, moving or removing coal from the coal pile, which would be allowed no more than 20%.
 - d. Limestone day silos and associated transfer points will be maintained at negative pressures during filling operations with the exhaust vented to a control system. Lime will be handled with a totally enclosed pneumatic system. Exhaust from the lime silos during filling will be vented to a collector system.
 - e. The fly ash handling system (including transfer and silo storage) will be totally enclosed and vented (including pneumatic system exhaust) through fabric filters; and
 - f. Any additional coal, lime, and limestone handling facilities for Stanton Unit 2 will be equipped with particulate control systems equivalent to those for Stanton Unit 1
4. Particulate emissions from bag filter exhausts from the following facilities shall be limited to 0.02 gr/acf: coal, lime, limestone and flyash handling systems excluding those facilities covered by II/I.A.3.c above. A visible emission reading of 5% opacity or less may be used to establish compliance with this emission limit. A visible emission

reading greater than 5% opacity will not create a presumption that the 0.02 cr/acf emission limit is being violated. However, a visible emission reading greater than 5% opacity will require the permittee to perform a stack test for particulate emissions, as set forth in Condition II/I.C.

5. Compliance with opacity limits of the facilities listed in Condition II/I.A. will be determined by EPA referenced method 9 (Appendix A, 40 CFR 60).
6. Construction shall reasonably conform to the plans and schedule given in the supplemental application.
7. The permittee shall report any delays in construction and completion of the project which would delay commercial operation by more than 90 days to the DER Central District office in Orlando.
8. Reasonable precautions to prevent fugitive particulate emissions during construction shall be to coat the roads and construction sites used by contractors, regrass or water areas of disturbed soils.
9. Coal shall not be burned in the unit unless the electrostatic precipitator and limestone scrubber and other air pollution control devices are operating as designed except as provided under 40 CFR Part 60, Subpart Da.
10. The fuel oil to be fired in Stanton Unit 2 and the auxiliary boiler shall be "new oil" which means an oil which has been refined from crude oil and has not been used. On-site generated lubricating oil and used fuel oil which meets the requirements of 40 CFR 266.40 may also be burned. ~~The quality of the No. 2 fuel oil used by the auxiliary boiler shall not contain more than 0.5% sulfur by weight and cause the allowable emission limits listed in the following table to be exacted. Such emissions may be calculated in accordance with AP-42.~~

A. The quality of the No. 2 fuel oil used by the auxiliary boiler shall not cause the allowable emission limits listed in the following table to be exceeded. Such emissions may be calculated in accordance with AP42.

Allowable Emission Limits

<u>Pollutant</u>	<u>lb/MMBtu</u>
PM	0.015
SO ₂	0.51
NO _x	0.16
Visible emissions	Maximum 20% Opacity

B. Landfill gas from the Orange County Landfill may be burned in Unit No. 2 to the extent that quantities are available provided that all emission limits contained in Condition A-1 are met.

C. Natural gas as supplied by commercial pipeline may be burned in Unit No. 1 to the extent that quantities are available provided that all emission limits contained in Condition A-1 are met.

11. The flue gas scrubber shall be put into service during normal operational startup, and shut down when No. 6 fuel oil is being burned. The No. 6 fuel oil shall not contain more than 1.5% sulfur by weight.
12. No fraction of flue gas shall be allowed to bypass the FGD system to reheat the gases exiting from the FGD system, except that bypass shall be allowed during startup and shutdown.
13. All fuel oil and coal shipments received shall have an analysis for sulfur content, ash content, and heating value either documented by the supplier or determined by analysis. Coal sulfur content shall be determined and recorded on a daily basis. Records of all the analysis shall be kept for public inspection for a minimum of two years after the data is recorded.
14. Within 90 days of commencement of operations, the applicant will determine and submit to FDER the pH level range in the scrubber reaction tank that correlates with the specified limits for SO₂ in the flue gas. Moreover, the applicant is required to operate a continuous pH meter equipped with an upset alarm to ensure that the operator becomes aware when the pH level of the scrubber reaction tank falls out of this range. The pH monitor can also act as a backup in the event of malfunction of the continuous SO₂ monitor. The value of the scrubber pH may be revised at a later date provided notification to FDER is made demonstrating the emission limit is met. Further, if compliance data show that higher FGD performance is necessary to maintain the emission limit, a different pH value will be determined and maintained.
15. The applicant will comply with all requirements and provisions of the New Source Performance standard for electric utility steam generating units (40 CFR 60 Part Da).
16. The Licensee shall submit to the Department at least 120 days prior to start of construction of the NO_x control system, copies of technical data pertaining to the selected NO_x control system. These data, if applicable to the technology chosen by the Licensee, should include but not be limited to design efficiency, guaranteed efficiency, emission rates, flow rates, reagent injection rates, or types of catalysts. The Department may, upon review of these data, disapprove the use of any such device or system if the Department determines the selected control device or system to be inadequate to meet the emission limits specified in 1.b. above. Such disapproval shall be issued within 90 days of receipt of the technical data.

B. Air Monitoring Program

1. A flue gas oxygen meter shall be installed for Stanton Unit 2 to continuously monitor a representative sample of the flue gas. The oxygen monitor shall be used with automatic feedback or manual controls to continuously maintain air/fuel ratio parameters at an optimum. The flue gas manufacturing oxygen monitor shall be calibrated and operated according to established procedures as approved by DER. The document "Use of Flue Gas Oxygen Meter as BACT for Combustion Controls" may be used as a guide.
2. The permittee shall install and operate continuous monitoring devices for Stanton Unit 2 main boiler exhaust for sulfur dioxide, nitrogen oxides, oxygen, and opacity. The monitoring devices shall meet the applicable requirements of Section 17-2.710, FAC., and 40 CFR 60.47a. The opacity monitor may be placed in the duct work between the electrostatic precipitator and the FGD scrubber.
3. The permittee shall operate one continuous ambient monitoring device for sulfur dioxide in accordance with DER quality control procedures and EPA reference methods in 40 CFR, Part 53, and one ambient monitoring device for PM_{10} , and one continuous NO_x monitor. The monitoring devices shall be specifically located at a location approved by the Department. The frequency of operation of the particulate monitor shall be every six days commencing as specified by the Department. During construction and operation the existing meteorological station will be operated and data reported with the ambient data.
4. The permittee shall maintain a daily log of the amounts and types of fuel used. The log shall be kept for inspection for at least two years after the data is recorded. Fuel analysis data including sulfur content, ash content, and heating values shall be determined on an as received basis and kept for two years.
5. The permittee shall provide stack sampling facilities as required by Rule 17-2.700(4) F.A.C.
6. The ambient monitoring program shall begin at least one year prior to initial start up of Unit 2 and shall continue for at least one year of commercial operation. The Department and the permitter shall review the results of the monitoring program annually and determine the necessity for the continuation of or modifications to the monitoring program.

C. Stack Testing

1. Within 60 calendar days after achieving the maximum capacity at which Unit 2 will be operated, but no later than 180 operating days after initial startup, the permittee shall conduct performance tests for particulates, SO₂, NO_x, and visible emission during normal operations near ($\pm 10\%$) 4286 MMBtu/hr heat Input and furnish the Department a written report of the results of such performance tests within 45 days of completion of the tests. The performance tests will be conducted in accordance with the provisions of 40 CFR 60.46a and 48a.
2. Compliance with emission limitation standards mentioned in specific Condition No. II/I.A. shall be demonstrated during the initial performance test using appropriate EPA Methods, as contained in 40 CFR Part 60 (Standards of Performance for New Stationary Sources), or 40 CFR Part 61 (National Emission Standards for Hazardous Air Pollutants), or any method as proposed by the Applicant and approved by the Department, in accordance with F.A.C. Rule 17-2.700.

<u>EPA Method</u>	<u>For Determination of</u>
1	Selection of sample site and velocity traverses.
2	Stack gas flow rate when converting concentrations to or from mass emission limits.
3	Gas analysis when needed for calculation of molecular weight or percent O ₂ .
4	Moisture content when converting stack velocity to dry volumetric flow rate for use in converting concentrations in dry gases to or from mass emission limits.
5	Particulate matter concentration and mass emissions.
201 or 201A	PM ₁₀ emissions.
6, 6C, or 19	Sulfur dioxide emissions from stationary sources.
7, 7C, or 19	Nitrogen oxide emissions from stationary source.
9	Visible emission determination of opacity.
-	At least three one hour runs to be conducted simultaneously with particulate testing for the emissions from dry scrubber/baghouse, and ash handling building baghouse.

- At least one lime truck unloading into the lime silo (from start to finish)

- 10 Carbon monoxide emissions from stationary sources.
- 12 or 101A Lead concentration from stationary sources.
- 13-A or 13B Fluoride emissions from stationary sources.
- 18, 25, or Volatile organic compounds concentration.
- 101A or 108 Mercury emissions.
- 104 Beryllium emission rate and associated moisture content:

- 3. The permittee shall provide 30 days written notice of the performance tests for continuous emission monitors or 10 working days written notice for stack tests in order to afford the Department the opportunity to have an observer present.
- 4. Stack tests for particulates, NO_x and SO₂ and visible emissions shall be performed annually. ~~in accordance with Conditions C.2 and .3 above.~~

D. Reporting

- 1. For Stanton Unit 2, a summary in the EPA format of stack continuous monitoring data, fuel usage and fuel analysis data shall be reported to the Department's Central District Office and to the Orange County Environmental Protection Department on a quarterly basis commencing with the start of commercial operation in accordance with 40 CFR, Part 60, Section 60.7, and 60.49a and in accordance with Section 17-2.710(2), F.A.C.
- 2. Utilizing the SAROAD or other format approved in writing by the Department, ambient air monitoring data shall be reported to the Bureau of Air Quality Management of the Department quarterly. Such reports shall be due within 45 days following the quarterly reporting period. Reporting and monitoring shall be in conformance with 40 CFR Parts 53 and 58.
- 3. Beginning one month after certification, the permittee shall submit to the Department a quarterly status report briefly outlining progress made on engineering design and purchase of major pieces of air pollution control equipment. All reports and information required to be submitted under this condition shall be submitted to the Siting Coordination Office, Department of Environmental Regulation, 2600 Blair Stone Road, Tallahassee Florida, 32301.

E. Malfunction or Shutdown

In the event of a prolonged (thirty days or more) equipment malfunction or shutdown of air pollution control equipment, operation may be allowed to resume to continue to take place under appropriate Department order, provided that the Licensee demonstrates such operation will be in compliance with all applicable ambient air quality standards and PSD increments. During such malfunction or shutdown, the operation of Stanton Unit 2 shall comply with all other requirements of this certification and all applicable state and federal emission standards not affected by the malfunction or shutdown which is the subject of the Department's order. Exceedances produced by operational conditions for more than two hours due to upsets in air pollution control systems as a result of start-up, shutdown, or malfunctions as defined by 40 CFR 60 need not be reported as specified in Condition I/XII. Identified operational malfunctions which do not stop operation but prevent compliance with emission limitations shall be reported to DER as specified in Condition I/XII.

F. Open Burning

Open burning in connection with initial land clearing shall be in accordance with Chapter 17-256, F.A.C., Chapter 51-2, F.A.C., Uniform Fire Code Section 33.101 Addendum, and any other applicable County regulation.

Any burning of construction generated material, after initial land clearing that is allowed to be burned in accordance with Chapter 17-256, F.A.C., shall be approved by the DER Central District Office in conjunction with the Division of Forestry and any other County regulations that may apply. Burning shall not occur unless approved by the jurisdictional agency or if the Department or the Division of Forestry has issued a ban on burning due to fire safety conditions or due to air pollution conditions.

G. Federal Annual Operating Permits and Fees

1. DER Responsibilities

The Department of Environmental Regulation shall implement the provisions of Title V of the 1990 Clean Air Act for Stanton 2 developing Conditions of Certification requiring submission of annual operating permit information and annual pollutant emission fees in accordance with Federal Law and Federal regulations.

2. DER Responsibilities

OUC shall submit the appropriate annual operating permit application information as well as the appropriate annual pollutant emission fees as required by Federal Law to the Department as specified in Condition 3 below.

3. Annual Operating "Permit" Application and Fee (Reserved)

II/II. WETLANDS RESOURCE MANAGEMENT

1. The proposed transmission line from the Stanton Energy Center to the Mud Lake transmission line and the proposed alternate access road to the Stanton Energy Center from the south shall be routed as shown in the supplemental application. Prior to construction, the permittee shall submit drawings on 8.5" by 11" paper, showing the final design, including plan views and cross-sections for each area of filling or clearing in wetlands. The drawings shall show the existing and proposed ground elevations and all existing and proposed structure locations, sizes and invert elevations.
2. All clearing and construction activities shall be confined to the limits of the clear zone necessary for the transmission line as shown on Figures 6.1-5 and 6.1-6 of the application drawings. Within 30 days of the completion of construction, the permittee shall arrange a site visit by DER District personnel from the Central District office in Orlando to verify that no wetland damage has occurred outside the transmission line clear zone. If wetland damage occurs outside the transmission line clear zone during construction, the permittee shall submit to the Bureau of Wetland Resource Management for review a plan to restore the wetland area which was damaged and to provide mitigation for the damage. The plan shall be implemented with 30 days of the Department approving the restoration and mitigation plan. This condition does not preclude the Department from taking enforcement action if unauthorized activities occur.
3. Prior to initiating construction, the permittee shall submit a map and aerial photographs showing the location of all staging areas for the transmission line and alternate access road to the Bureau of Wetland Resource Management for review and written approval. These areas shall be upland areas which are not currently providing redcockaded woodpecker nesting or foraging habitat. The staging areas shall not be used prior to receiving DER approval.
4. Drainage structures shall be placed in the transmission line row and under the alternate access road at the same locations where drainage structures currently exist under the CSX Railroad berm. The drainage structures shall provide at least the same efficiency as the corresponding drainage structure currently existing in the CSX Railroad berm.
5. The forested areas to be cleared shall be cleared using low-impact equipment so as to minimize soil disturbance. The root

EXHIBIT 3

**Biomass Energy
Systems**



July 18, 1997

Mr. Greg DeMuth
Director, Environmental Affairs Division
Orlando Utilities Commission
500 South Orange Ave.
PO Box 3193
Orlando, FL 32802

RE: Landfill Gas Utilization Project

Dear Greg:

Enclosed is the revised information you requested about the specifications for the landfill gas utilization project at the Stanton Energy Center. Please call me at (313) 997-2100 if you need any additional information.

Sincerely,

Richard M. DiGia

Richard M. DiGia
BIOMASS ENERGY SYSTEMS
Vice President, Operations and Construction

cc: D. Graham, OUC w/o
D. Spencer, OUC w/o
G. Usitalo, BES w/o

ORANGE COUNTY LANDFILL GAS RECOVERY PROJECT
ORLANDO UTILITIES COMMISSION
STANTON ENERGY CENTER

PIPELINE

Route

~~Details to be provided by Barnes & Ferland.~~
~~Plan view to be shown on aerial photo provided by OUC~~

Gas Transmission

18" SDR 17.0 HDPE 3408 Pipe
Meets ASTM D2513
Maximum pressure: 19.75 PSIG
Delivery pressure: 10.5 PSIG
Working Pressure Rating: 100 PSIG

Condensate Handling

3 below grade condensate knockouts - HDPE
1 above grade demister knockout - HDPE or Epoxy coated carbon steel
Note: System designed to utilize line pressure to pump condensate back to blower station.

Condensate Transmission

3" SDR 11.0 HDPE 3408 Pipe
Meets ASTM D2513
Working Pressure Rating: 160 PSIG

Condensate Quality

~~Previously provided~~ *TYPICAL ANALYSIS ATTACHED*

Landfill Gas Quality

TYPICAL See enclosed analysis from ~~Orange County Landfill~~. *ATTACHED*

BURNERS

Number

12 burners per boiler
Expect to burn LFG in one boiler at a time

Description (previously supplied)

Letter dated January 31, 1997 from B&W Service Company
See enclosed Field Alteration DRB-XCL® Burner, Drawing No. 522900E
Rev. 01.

Levels

Sequencing

Under development by B&W.

Capacity

8,250 SCFM of LFG @ 500 btu/cf
11.880 MMCFD
5,940 MMBtu/D
24 hours per day
365 days per year

FUEL

Quantity Measurement

Insertion vortex meter.
Pressure and temperature compensated.
Local LED readout, chart recorder, remote download capable.

Quality Measurement

NDIR CH4 on-line continuous analysis
Local LED readout, chart recorder, remote download capable.
Remote readout available.

Aboveground Demister Knockout

98% removal efficiency to 10 microns.
94% removal efficiency to 6 microns.

Meter Calibration

Minimum one time per year.
May be requested by OUC more frequently.
(NOTE: NDIR CH4 meter will automatically rezero and be tested periodically by BES site personnel using portable IR instrumentation.)

PROJECT DATES (~~previously provided~~)

ATTACHED



RESEARCH & ANALYTICAL LABORATORIES, INC.

Analytical/Process Consultations



BIOMASS ENERGY SYSTEMS
HANES MILL ROAD
WINSTON-SALEM, NC
Attn: Bob Biskeborn

Date Sample Collected : 07/31/96
Date Sample Received : 07/31/96
Date Sample Analyzed : 07/31/96
Date of Report : 08/08/96
Analyses Performed by : VE -YJ -MJ -CR -JG

Lab Sample Number

276915

INLET FLARE KO

Parameter	Storet #	Results
BOD-5	(00310)	11,400 mg/l 1000 MG/L LIMITATION
COD-HIGH	(00340)	18,800 mg/l
TSS	(00530)	<5.0 mg/l
VSS	(00535)	<5.0 mg/l
TKN	(00625)	25.5 mg/l
NH-3-N	(00610)	20.5 mg/l
Oil & Grease	(00556)	81.6 mg/l
Oil & Grease-MINERAL		<5.0 mg/l
Cadmium, Tot	(01027)	<0.005 mg/l
Chromium, Tot	(01034)	<0.005 mg/l
Copper, Tot	(01042)	0.034 mg/l
Nickel, Tot	(01067)	0.007 mg/l
Lead, Tot	(01051)	0.012 mg/l
Zinc, Tot	(01092)	0.239 mg/l
Cyanide	(00720)	<0.005 mg/l
Silver, Tot	(01077)	<0.005 mg/l
pH		3.2 Std Units 5-10 STD. UNITS MG/L LIMITATION

Clients Sample Source : LEACHATE
Number :
Time Collected (Hrs) : 0955

TYPICAL LANDFILL GAS ANALYSIS

				Mole %
Methane				53.45
Ethane				0.05
Propane				0.04
Iso-Butane				0.03
N-Butane				0.02
Iso-Pentane +				0.01
Carbon Dioxide				42.0
Nitrogen				1.0
Oxygen				0.2
Water				3.2
Acrolein	Less than	1.0	-	5.0
Acrylonitrile	Less than	1.0	-	5.0
Benzen		.1	-	13.0
Carbon tetrachloride	Less than	.1	-	1.0
Chlorobenzene	Less than	.1	-	11.0
1,2-Dichlorethane	Less than	.1	-	40.0
1,1,1-Trichloroethane		.1	-	2.2
1,1-Dichloroethane		.1	-	12.0
1,1,2-Trichloroethane	Less than	.1	-	1.0
1,1,2,2-Tetrachloroethane	Less than	.1	-	1.0
Chloroethane		.1	-	12.0
2-Chloroethylvinyl ether	Less than	1.0	-	5.0
Chloroform	Less than	.1	-	.1
1,1-Dichlorethene	Less than	.1	-	1.0
trans-1,2-Dichloroethane		.1	-	10.0
1,2-Dichloropropane	Less than	.1	-	1.0
1,3-Dichloropropane	Less than	.1	-	1.0
Ethylbenzene		.9	-	67.0
Methylene		.5	-	53.0
Chloromethane	Less than	.1	-	5.0
Bromomethane	Less than	.1	-	5.0
Bromoform	Less than	.1	-	1.0
Bromodichloromethane	Less than	.1	-	1.0
Fluorotrichloromethane		2.5	-	5.1
Dichlorodifluoromethane		2.5	-	81.0
Chlorodibromomethane	Less than	.1	-	1.0
Chlorodifluoromethane		1.0	-	17.0
Tetrachloroethane		.1	-	23.0
Toluene		.9	-	170.0
Trichloroethane		.1	-	5.5
Vinyl chloride		.1	-	26.0
Total xyleneisomers		2.1	-	144.0
Methyl ethyl ketone		1.0	-	39.0
Methyl isobutyl ketone		.5	-	10.0
Acetone	Less than	2.0	-	59.0



B&W Service Company

a McDermott company

90 East Tuscarawas Avenue
P.O. Box 665
Barberton, OH 44203-0665
(330) 753-4511

January 31, 1997

Biomass Energy Systems
P.O. Box 8614
425 South Main Street, Suite 201
Ann Arbor, MI 48107

Attn: Gordon Usitalo

Subject: Orange County Landfill Gas Project
OUC Stanton Units 1&2
Boiler & Controls Modifications
B&W Reference: P28-2394

Gentlemen:

As you requested, B&W is please to provide the following quotations for the modifications to Units 1&2 at Stanton Energy Center to fire landfill gas. B&W's terminal point and carbon steel pipe routing is shown on attached sketch SK111196A. B&W's quotes are based on the following specification for landfill gas:

1. Landfill gas HHV between 450 Btu/ft³ and 550 Btu/ft³.
2. Pressure of landfill gas at B&W's terminal is 15 psig with 296,000 SCFH at 100°F and a specific gravity of 1.04.

B&W offers a firm price of _____ to provide engineering and material as noted on sketch GSB-SK111596C1-0 per burner for a total of twenty-four (24) burners plus the gas distribution system from the terminal point on sketch SK111396A to individual burners. The valving quoted is to meet NFPA 8502 "Standard for the Prevention of Furnace Explosions/Implosions in Multiple Burner Boilers", see sketch SK013097A-0. The NFPA recommendations are to insure safe operation of the boiler and variations from this would require Orlando Utilities's insurance carriers written consent. The gas piping and supports are designed per B31.1 and the Uniform Building Code. Price for installing twelve (12) assemblies on the lower row of burners front & rear wall of Unit 2 during the March 29, 1997 to April 28, 1997 outage is _____. This offer is based on the attached B&W Standard Terms & Conditions. The scope included in the firm price is:

1. Each of the twenty-four burners, twelve per boiler, would be modified for a gas element down the center of the coal nozzle as shown on sketch CSB-SK111596C1-0. The burners to be modified are the six burners on the lower row of the front and rear walls.
2. The burners would be fed from a common six inch header on each wall with a power operated valve for each header plus a power operated and manual shut-off valve for each burner, see sketch SK013097A-0.
3. One(1) manual and one(1) power operated vent valves are included for each set of six burners and main feed to each boiler. Also, flow orifice in the eight inch feed-line for each boiler, manual block valve and power operated open/close valve.
4. Piping as shown on sketch SK111396A including pipe supports but no new steel to support pipe. The pipe size is eight inches from receiving terminal to the respective boilers where the piping ties into six inch pipe. Vent and drain piping from the local connection will be in the installation price for the piping
5. Installation of items 6 through 12 on sketch GSB-SK111596C1-0 for unit 2 is based on 40 hour/week single shift schedule. A firm price to install burner modification on unit 1 and the piping and valves from the terminal point shown on sketch SK111496A to individual burner will be provided three (3) weeks after B&W receives approval of the pipe routing and header and valve locations.

The delivery schedule is based on the following:

- a. Ship items 6-12 of sketch GSB-111596C1-0 for Unit 2 by the end of March 1997.
 - b. Ship all piping and valves per sketch SK111396A plus the balance of Unit 1 material by July 18, 1997.
6. A site visit by a B&W Systems Integration engineer is necessary in order to start the engineering design work. 80 man-hours for a Systems Integration controls engineer plus Travel & Living expenses is included in the firm price to initiate this work. Engineering man-hours above the base will be charge at a T&M rate of _____ with graphic man-hours at _____

Note that material estimates for control hardware (Foxboro or Forney) for either unit are not included in the firm price scope bid at this time. B&W did check with Foxboro and determined that hardware was available for both the IA system and the Video Spec.

Electrical and boiler control scope will include changes to each boiler's Burner Management System and Combustion Control System for firing landfill gas. The effort to define the control system changes and provide firm price material and installation for units 1&2 is estimated at 600 man-hours for controls engineer, and 365 man-hour for graphic support, The tasks in this effort are listed below

TASK 1

Engineering hours to review the B&W proposal and any customer specifications. It is important that all required information is received by Systems Integration prior to the start of this task.

TASK 2

Provide a Piping and Instrument Diagram for the Land Fill gas system. The P&ID will be done in accordance with ISA Std. S5.1.2

TASK 3

Review the documentation for the electrical equipment supplied by B&W. Review and screen the plants comments on the documentation prior to sending to the vendors for revision.

TASK 4

Provide Specification forms for all instrumentation provided by B&W. Specification forms will be in ISA format, Std. S20-1981

TASK 5

Systems Integration will receive the plants's existing "as Operating" control logic diagrams for both the Combustion and Burner systems for each boiler and mark (redline) with the changes B&W recommends to add land fill gas firing.

TASK 6

Provide Installation engineering consisting of cable schedules, conduit and cable tray layout drawings, loop diagrams, etc. necessary for the plant electricians to install the new field hardware.

TASK 7

Provide instrument installation details for all field instruments provided by B&W. The drawings will clearly and accurately illustrate the requirements for mounting an instrument to a column, pipe, or rack.

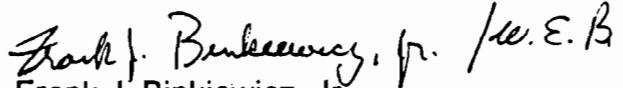
The deliverables from the control modification design engineering phase will be:

1. Firm price for control system hardware for each unit.
2. Firm price for implementing logic changes and operator interface screens. This may be done by either Foxboro or OUC personnel.
3. Firm price for field wiring and installation. B&W understands that Stanton Plant personnel may want to bid this work.
4. Firm price to provide the services of a Systems Integration field engineer to guide and direct the electrical installation work.

B&W recommends a two day site visit by a B&W Service Engineer to inspect Unit 2 installation and an estimated five days when the system is ready for start-up. The 1997 per diem rates for a B&W Service Engineer are attached.

Sincerely,

BABCOCK & WILCOX


Frank J. Binkiewicz, Jr.
District Sales Manager

FJB:web

cc: R. Kleisley - BT40
B. Becker - BT40

EXHIBIT 4

FIND NO.	QTY	DESCRIPTION	DWG NO	PART NO
1	1	REGULATING ROD SUPPORT	2208407C	2208407
2	1	CONICAL DIFFUSER	2141201C	2141201
3	1	ELBOW COVER PLATE	83202A	3057782
4	1	ROD & PORT SEAL	2208581C	2208581
5	1	PORT PIPE	2157121C	2157121
6	1	CONICAL DIFFUSER MOUNTING BRACKET	299350B	2174414
7	1	SUPPORT STRAP	2208567A	2208567
8	1	DRIVE BRACKET	2198073B	2198073
9	1	MOUNTING BRACKET ASSEMBLY	2161241B	2161241
10	1	MOUNTING BRACKET ASSEMBLY	293207B	2134074
11	1	SHOULDER SCREW	211808A	2192743
12	1	AIR CYLINDER 4" W/PROXIMITY SWITCHES	266278A	2147229
13	1	MOUNTING BRACKET T-J S-452-M		2135668
14	2	PROXIMITY SWITCH CABLE T-J 7552-6		2135674
15	2	NIP HEX RED CAJON B-8-HRN-6		6041159
16	2	VLV FLOW CONTROL 3/8" PNEUTROL F25BK		3087733
17	2	BOLT HEX W/NUT 1/2" X 1 3/4" LG A307		0490147
18	4	BOLT HEX W/NUT 1/2" X 2" LG A307		0490148
19	6	MSHR LOCK 1/2" STL		0493478
20	1	GAS ELEMENT	2212072B	2212072
21	3	PACKING RING GARLOCK SYNTHEPAK 8922 2 3/8" I.D. X 3" O.D. X 5/16" THK	213696A	4604229

ERECTION NOTES:

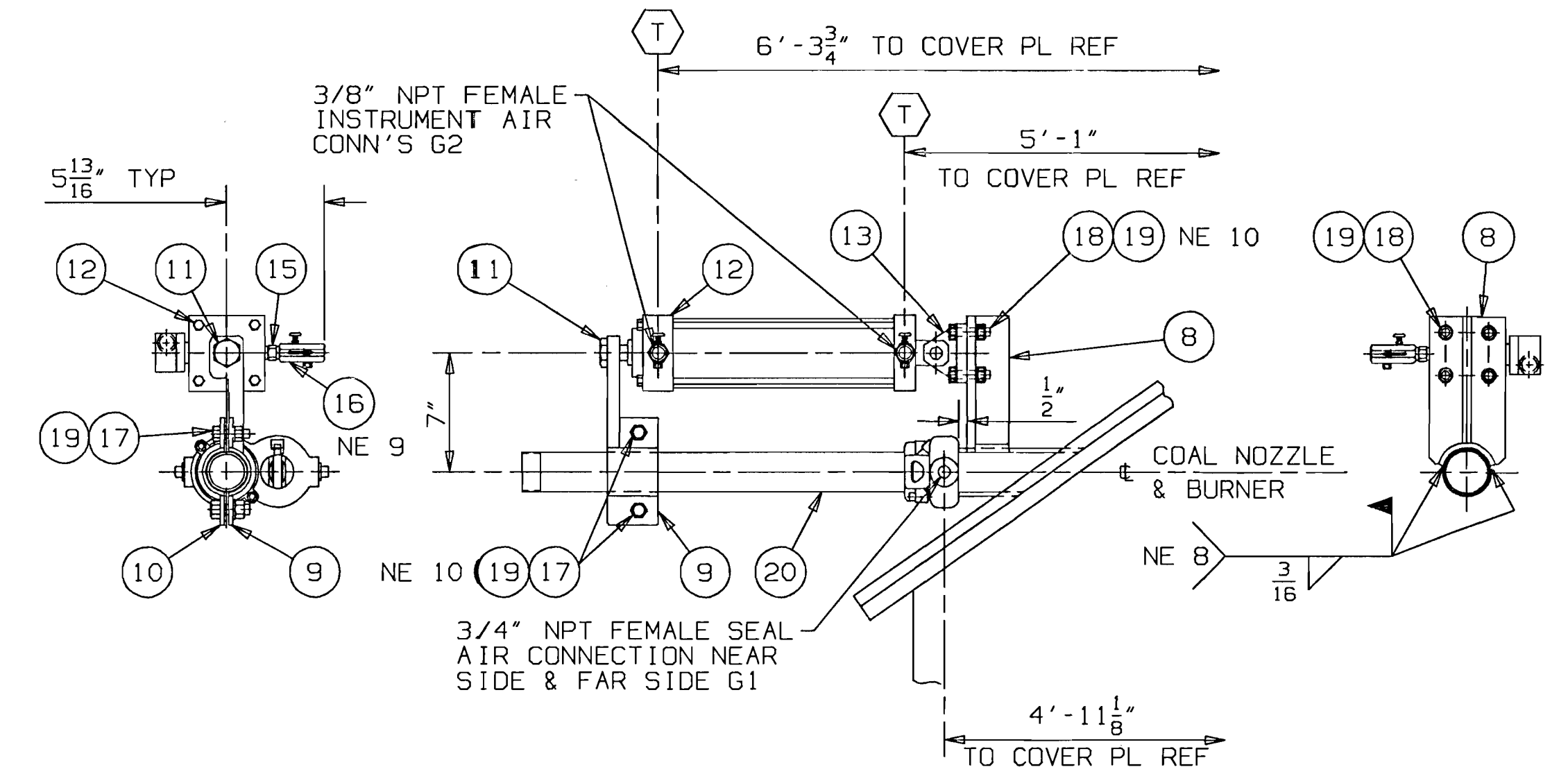
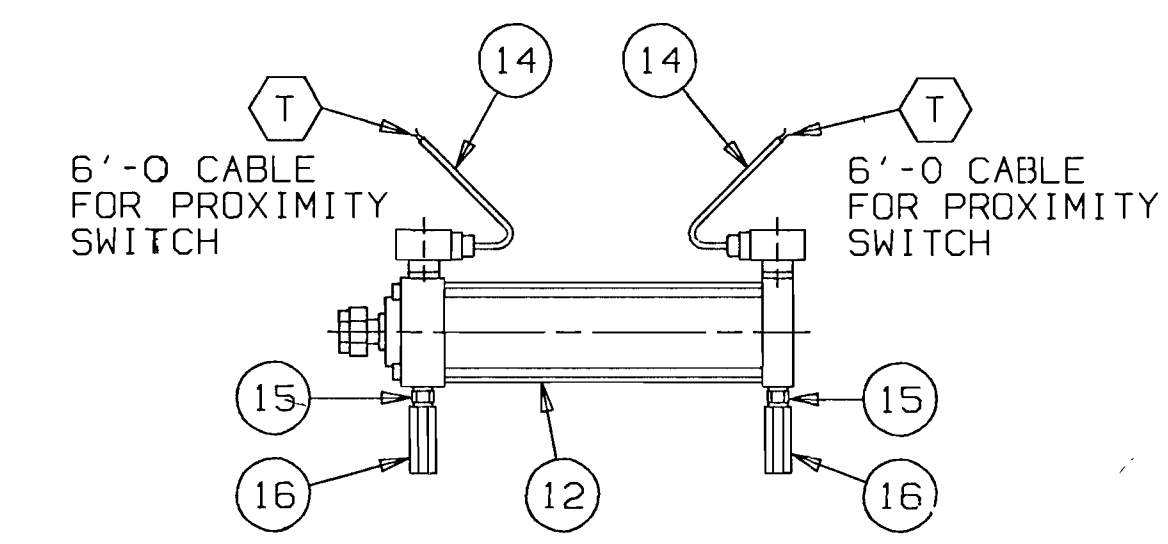
- NE1. UNLESS OTHERWISE NOTED: ALL NPP TO NPP WELDS SHALL CONFORM TO GOOD INDUSTRY PRACTICE.
- NE2. ERECTOR TO REMOVE AND DISCARD THE FOLLOWING EXISTING EQUIPMENT: COAL ELBOW COVER PLATE, CONICAL DIFFUSER AND THE FRONT DIFFUSER MOUNTING BRACKET.
- NE3. ERECTOR TO INSURE THAT THE CENTERLINE OF THE DIFFUSER IS IN LINE WITH THE CENTERLINE OF THE DEFLECTOR AND COAL ELBOW INLET.
- NE4. ERECTOR TO VERIFY POSITION OF THE DIFFUSER IN RELATIONSHIP TO THE OPENING OF THE COAL ELBOW.
- NE5. ASSEMBLY OF REGULATING ROD SUPPORT PIPE, PORT & SEAL AND ELBOW COVER PLATE:
 - A. TACK WELD THE REGULATING ROD SUPPORT PIPE FIND No. 1 TO THE ELBOW COVER PLATE FIND No. 3. THE REGULATING ROD SUPPORT PIPE IS TO BE CENTERED IN THE NOZZLE.
 - B. TACK WELD ROD & PORT SEAL, FIND No. 4 TO THE REGULATING ROD SUPPORT PIPE FIND No. 1.
 - C. TACK WELD ROD & PORT SEAL, FIND No. 4 TO THE PORT PIPE FIND No. 5.
 - D. USE A 2 3/8" OD PIPE TO ALIGN THESE PARTS. STROKE PIPE TO INSURE FREE MOVEMENT.
 - E. AFTER FINAL ALIGNMENT STRENGTH WELD.
- NE6. SUPPORT STRAP FIND No. 7 TO BE LOCATED ON THE BURNER VERTICAL CENTERLINE.
- NE7. TO INSTALL GAS ELEMENT:
 - A. REMOVE THE 3" OD PLATE FROM ROD & PORT SEAL, FIND No. 4
 - B. INSTALL 3 PACKING RINGS FIND No. 21
 - C. INSTALL GAS ELEMENT FIND No. 20
- NE8. ASSEMBLE DRIVE BRACKET (FIND No. 8), MOUNTING BRACKETS (FIND NO'S 9, 10 & 13) & AIR CYLINDER (FIND NO. 12) TO BURNER AND VERIFY ALIGNMENT BY CHECKING CONCENTRICITY OF HOLES AT EACH END OF STROKE & ASSURE UNRESTRICTED TRAVEL OF THE GAS ELEMENT. THEN WELD DRIVE BRACKET TO REGULATING ROD SUPPORT PIPE.
- NE9. ASSEMBLE FLOW CONTROL VALVES (FIND NO. 16) WITH ARROW POINTING AWAY FROM AIR CYLINDER TO CONTROL TRAVEL SPEED.
- NE10. TORQUE BOLTS FIND No. 17 & 18 TO 60 FT-LBS.

GENERAL NOTES:

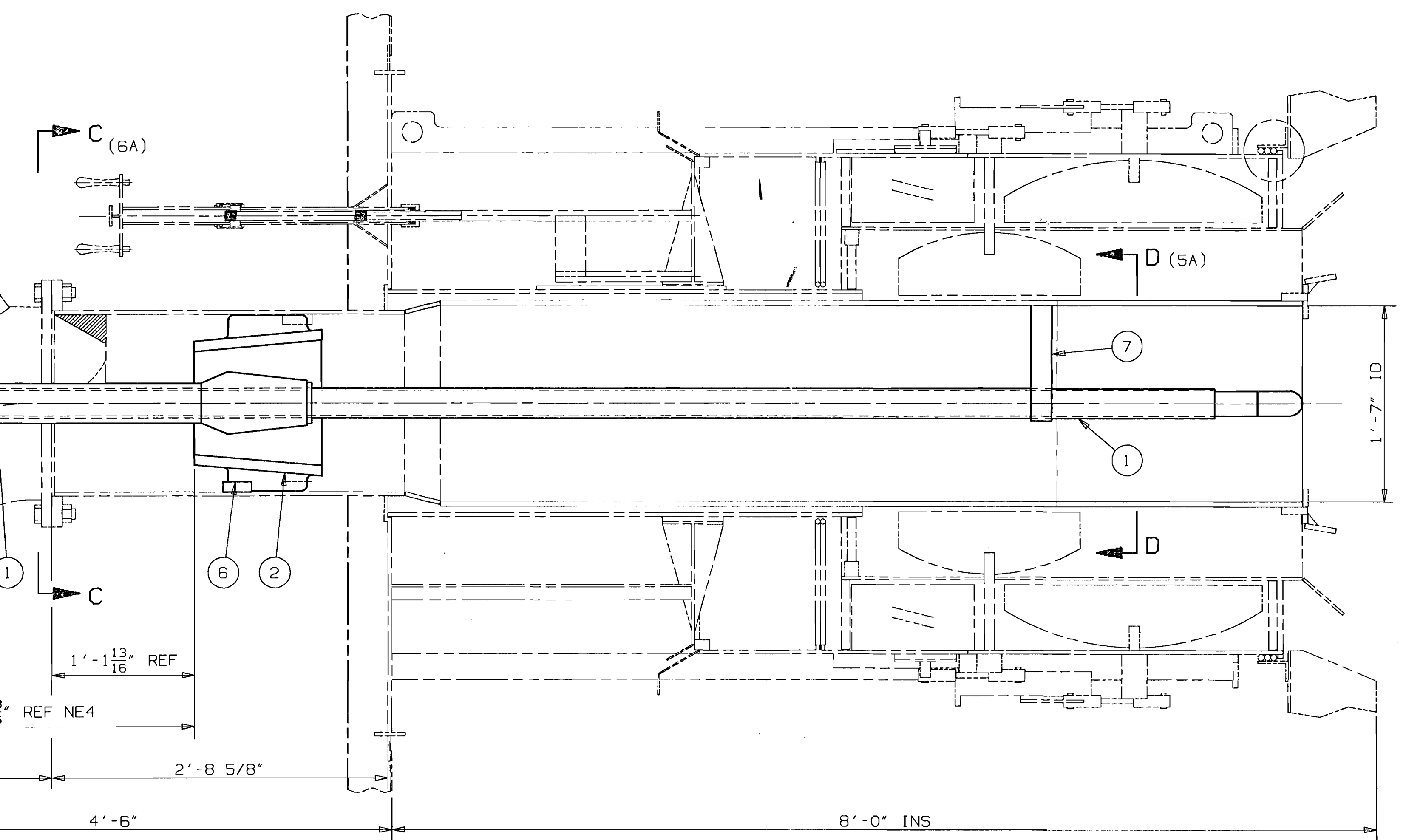
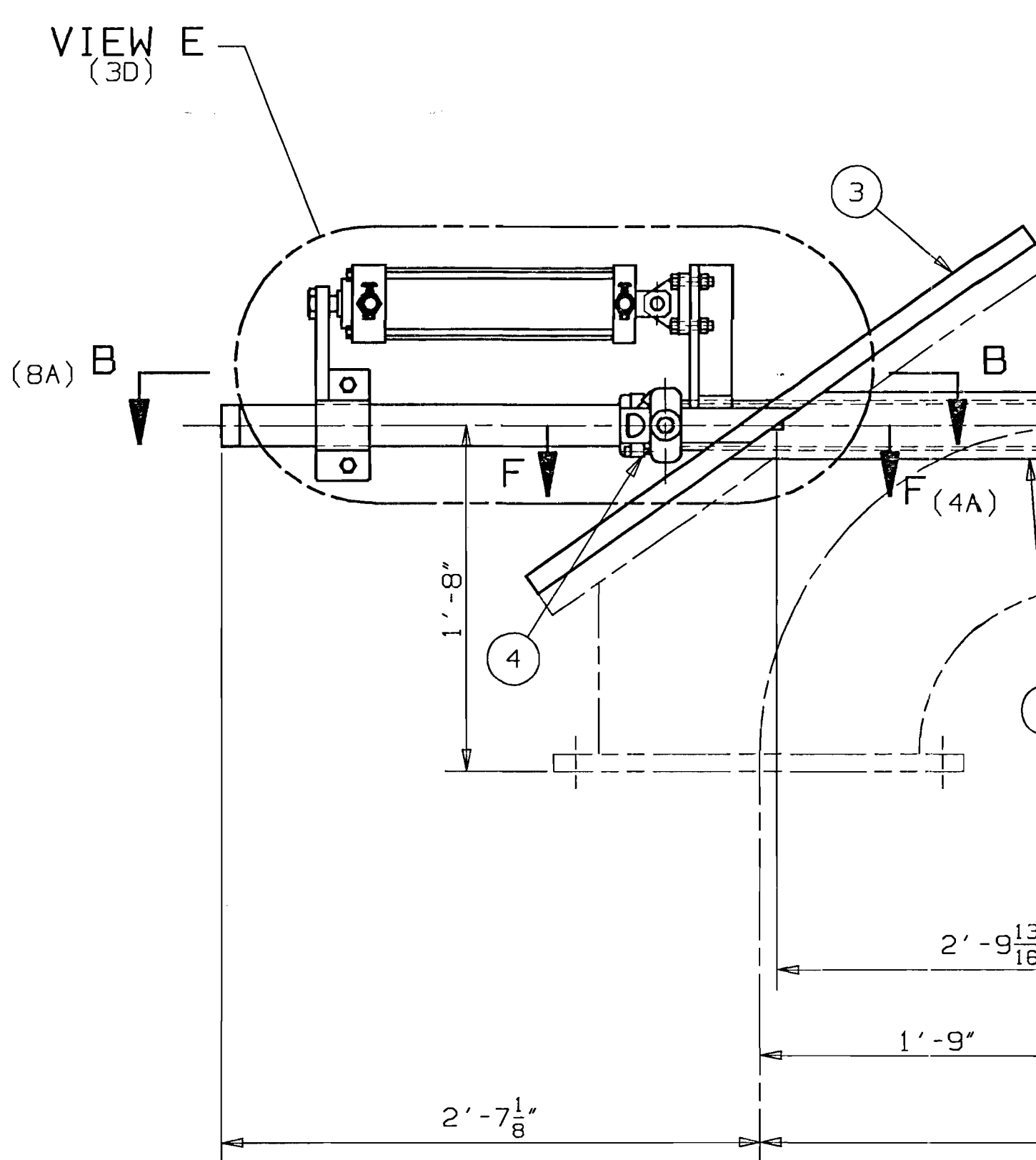
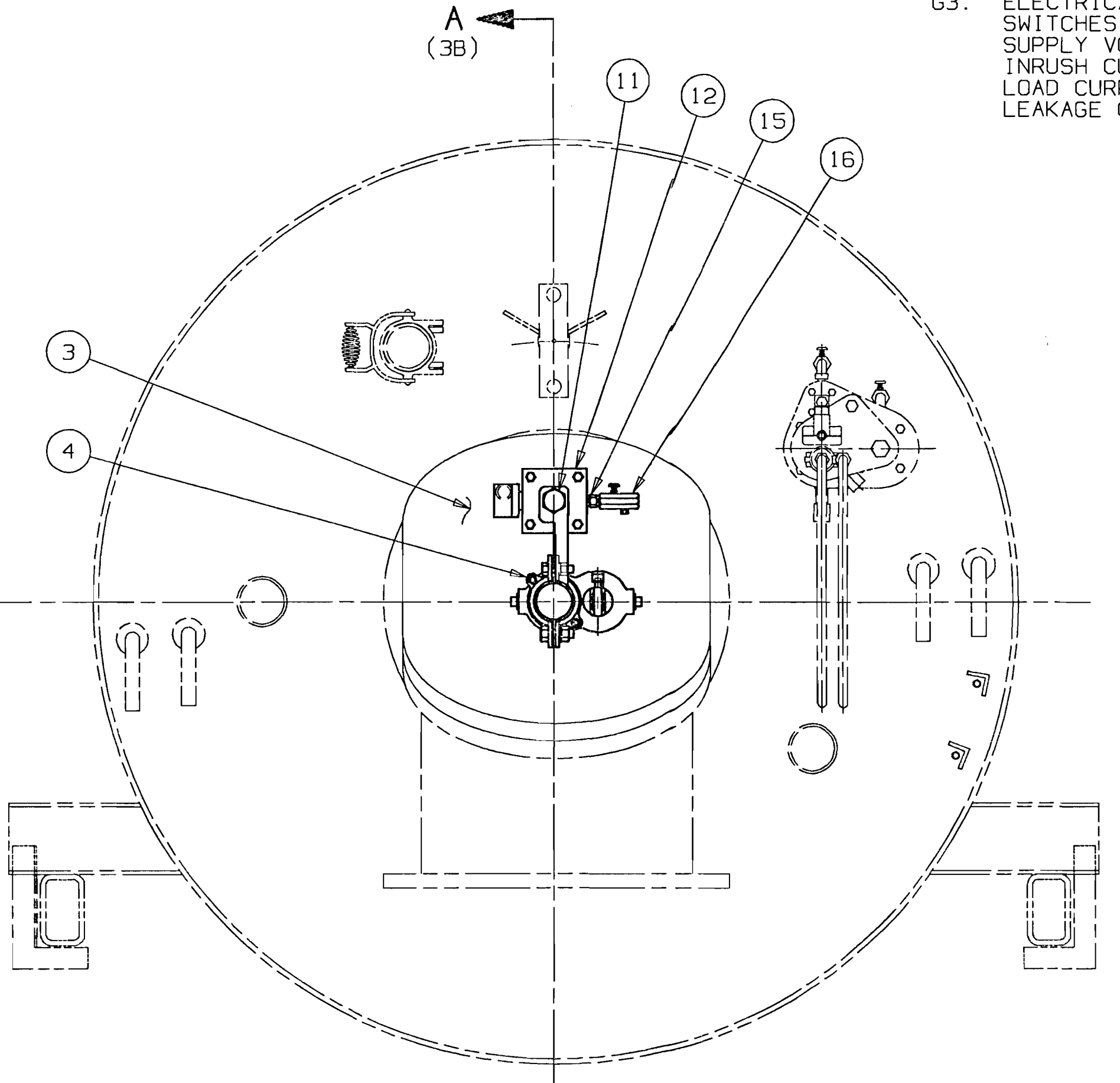
- G1. SEAL AIR REQUIREMENTS FOR ROD SEAL: 5 SCFM AT 2" H₂O ABOVE WINDBOX PRESSURE.
- G2. AIR REQUIREMENTS FOR IMPELLER DRIVE CYLINDER: 80-120 PSIG, .082 CF PER STROKE
- G3. ELECTRICAL REQUIREMENTS FOR CYLINDER MOUNTED PROXIMITY SWITCHES (TJ PS200) ON GAS ELEMENT DRIVE ARE:
 - SUPPLY VOLTAGE 20-220 VAC/VDC
 - INRUSH CURRENT 20-220 AMP MAX
 - LOAD CURRENT 3 AMP MAX
 - 500 MA
 - LEAKAGE CURRENT 1.7 MA

REVISIONS			
REV	DESCRIPTION	DATE	APPROVAL
1	RELOCATED VIEW B-B, SECT C-C & SECT D-D, ADDED VIEW E, SECT F-F, NOTES NE7, NE8, NE9, NE10, G1, G2, G3 AND FIND NO. 8 THRU 21.	3/28/97	LLW

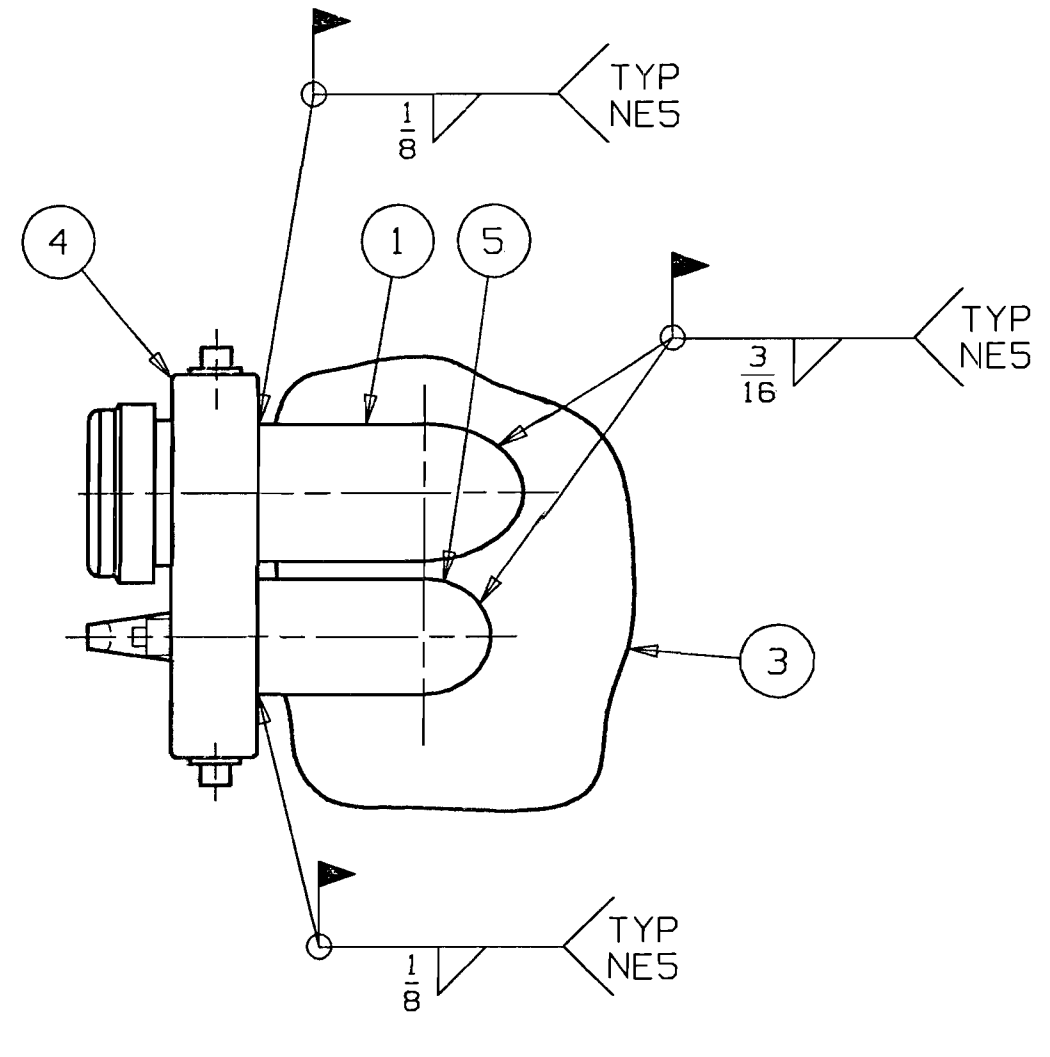
0950137
DAS-27



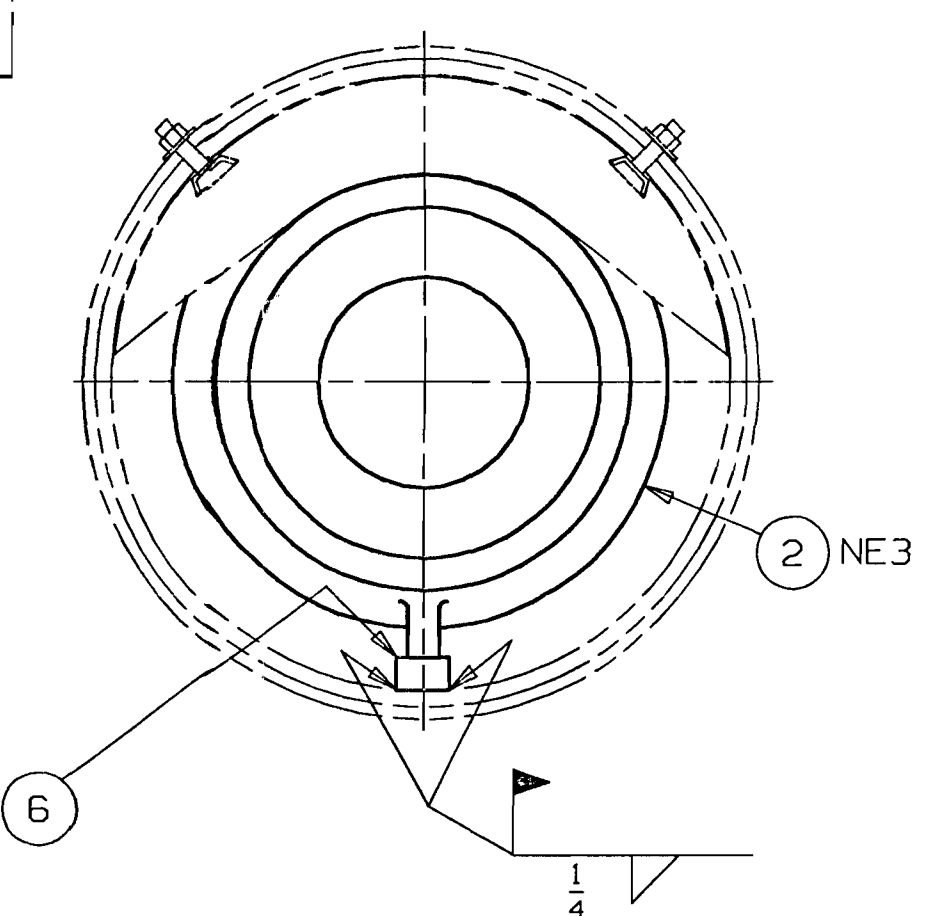
VIEW E (6C)



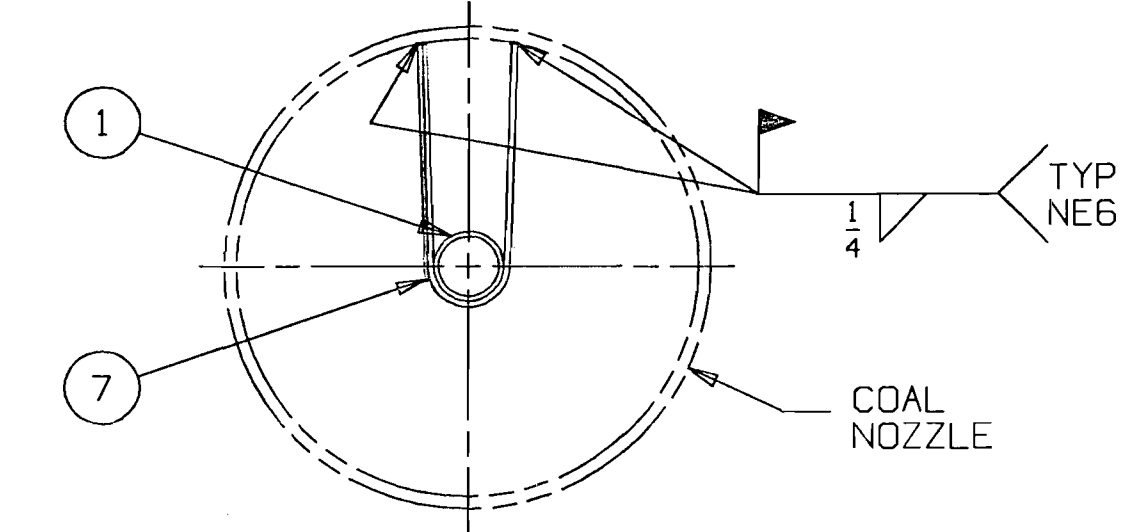
SECTION A-A (7D)



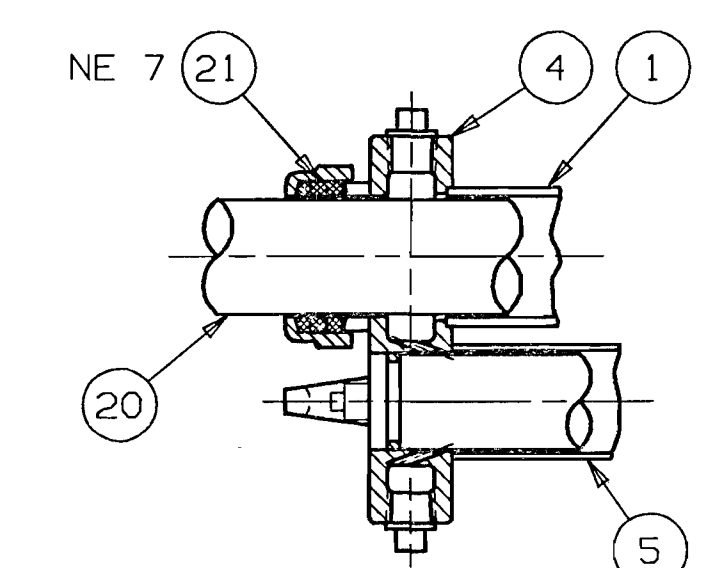
VIEW B-B (5C)



SECTION C-C (4C)



SECTION D-D (2C)

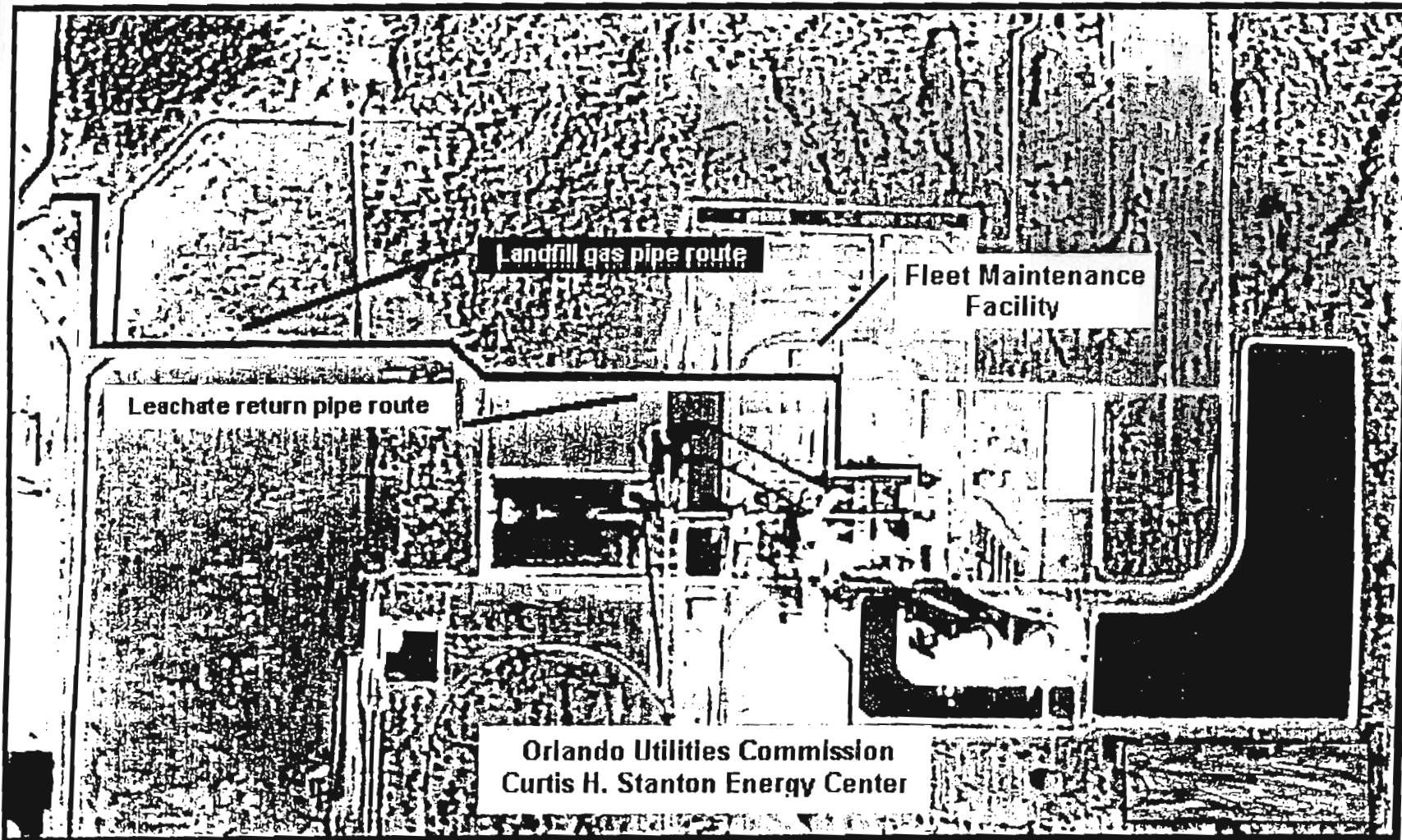


SECTION F-F (5C)

ORLANDO UTILITIES COMMISSION
STANTON ENERGY CENTER, UNIT 2

DWN	D SMITH	BABCOCK & WILCOX A McDermott Company <small>THIS DRAWING IS THE PROPERTY OF BABCOCK & WILCOX AND IS LOANED TO YOU FOR YOUR USE ONLY. IT IS NOT TO BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM.</small>	FIELD ALTERATION DRB-XCL® BURNER
CHK'D	DA SMITH		
APP'VD	LL WHITAKER		
DATE	03/06/97	CONTRACT NO.	586-1078-39
DRG. CONTRACT NO.	334-0621-39	SCALE	CC-SECT 1 1/2" = 1'-0"
INDOOR UNIT - BALANCED DRAFT		DWG. NO.	522900E 01

EXHIBIT 5



LANDFILL GAS PIPELINE ROUTE

EXHIBIT 6



Department of Environmental Protection

Lawton Chiles
Governor

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

Virginia B. Wetherell
Secretary

March 14, 1997

Mr. Gregory A. DeMuth, Director
Environmental Division
Orlando Utilities Commission
Post Office Box 3193
Orlando, Florida 32802-3193

RECEIVED
MAR 19 1997

Re: Stanton Energy Center, PA 81-14

Dear Mr. DeMuth:

The Department of Environmental Protection hereby approves the field testing of fluidized bed ash from the US Generating Company's Cedar Bay Cogeneration Project, and the spray drier/flyash mixture from the US Generating Company's Indiantown Cogeneration Project in accordance with the protocol attached to your letter of March 4, 1997.

Pursuant to our telephone conversation of March 13, 1997, I have reviewed the February 28, 1997 letter from the St. Johns River Water Management District (SJRWMD). The proposed new design of roadside swales incorporating a type of french drain system is regarded by the Department as being an amendment to your application. It does not require an amendment to the conditions of certification. The SJRWMD has determined that the amended design provides reasonable assurance that the system is consistent with the District's water quality treatment rules. OUC may proceed to construct the amended roadside swale design.

Sincerely,

Hamilton S. Oven

Hamilton S. Oven, P.E.
Administrator, Siting
Coordination Office

cc: Mary E. Brabham, P.E., SJRWMD

EXHIBIT 7



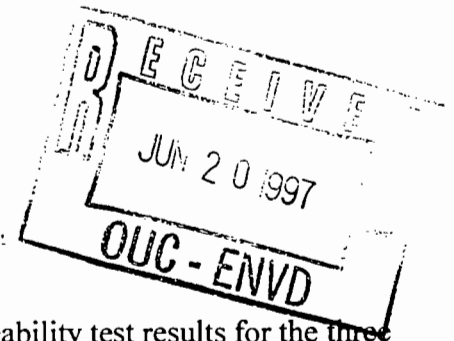
June 12, 1997

VIA FAX AND U.S. MAIL

Mr. Gregory A. DeMuth
Orlando Utilities Commission
Stanton Energy Center
Post Office Box 3193
Orlando, FL 32802

Subject: OUC Utilities
Stanton Energy Center
Lime Substitute Field Test

Dear Greg:



I am attaching a recap sheet showing the strength and permeability test results for the three mixes that were processed during the field testing utilizing the dry scrubber fly ash from the Indiantown, FL Cogeneration Plant. As you can see, the strengths were acceptable at the 28 day time frame, and the permeability of Mix #2 (50% OUC and 50% Indiantown fly ash, 0% lime) has achieved 9.59×10^{-7} cm/sec at 60 days. The other test mixes are still saturating at this time which indicates that the results will be similar to or better than Mix #2.

I am forwarding this for your use in requesting approval from FLDEP so that we can proceed with the necessary modifications to begin full scale use of the Indiantown fly ash as a lime substitute.

If you have any questions, please let me know.

Very truly yours,

Robert E. Jones
Manager of Operations

Attachments

REJMsp

- cc: D. Scarlett, VFL
- R. Patton, VFL
- J. Colussi, VFL
- C. Johnson, VFL
- N. Murrow, VFL
- FILE: C-1326

O.U.C. Indiantown Demonstration C-1533 Table 1-1 Production Information

Test Run	Production Design	Production Date	Filter Cake Solids	Lime Contents		Tested FA:Sludge Ratio	Wet Density (lbs./ft ³)	Dry Density (lbs./ft ³)	Solids Content	Stockpile Temperature	Residual Lime	
				Total Lime	% Quicklime						%	AT
ITA#1	1:1 Indiantown:FGD w/ 0.0% QL	10-Apr-97	58.48%	5.69%	0.00%	1.03:1	102.32	69.7	67.42%	91 F	5.81%	7d
ITA#2	1:1 50/50 Indian/OUC:FGD w/ 0.0% QL	12-Apr-97	56.15%	2.86%	0.00%	1.02:1	101.09	68.23	69.48%	88 F	2.68%	7d
ITA#3	1:1 Indiantown:FGD w/ 1.0% QL	12-Apr-97	56.15%	6.57%	0.88%	1.126:1	98.58	66.91	64.97%	93 F	6.21%	7d

O.U.C. Indiantown Demonstration C-1533 Table 1-2 Placement Information

Test Run	Production Design	Production Solids	PLACEMENT (In-Place Densities)				UCS (psi)			Permeability			
			Density (lbs./ft ³) Wet	Density (lbs./ft ³) Dry	Percent Compaction	Solids Content	28 Day @ 73F	60 Day @ 73F	90 Day @ 73F	k ₂₀ (cm/sec)	Age (days)	k ₂₀ (cm/sec)	Age (days)
ITA#1	1:1 Indiantown:FGD w/ 0.0%QL	67.42%	95.75	65.5	97.75%	69.38%	77	232	09-Jul	1.39E -05	34	Still Saturating	
ITA#2	1:1 50/50 Indiantown/OUC:FGD w/ 0.0%QL	69.48%	101.41	69.8	101.89%	68.83%	71	93	11-Jul	1.71E -05	32	9.59E -07	60
ITA#3	1:1 Indiantown:FGD w/ 1.0%QL	64.97%	99.04	66.4	98.64%	67.04%	69	244	11-Jul	8.85E -06	32	Still Saturating	

Notes: * - Permeability will be run at 28, 60 and 90 Days.

EXHIBIT 8

COPY



July 13, 1997

Mr. Greg Demuth
Environmental Engineer
Orlando Utilities Commission
500 South Orange Avenue
P.O. Box 3193
Orlando, FL 32802

Dear Mr. Demuth,

Please find attached two Process and Intended Design (P&ID) Drawings for the new lime silo and railcar unloading and conveying system which will allow VFL Technology Corporation (VFL) to implement its ash marketing and lime replacement plan. These drawing and the following system descriptions represent a summary of the design and operation criteria for the new systems.

The new lime silo system is intended to serve as a standby or supplemental lime source in the event additional lime is required in the scrubber sludge fixating process and to permit modification of the existing lime silo. Since the lime will not be required on a regular basis the capacity of the new silo will be reduced to 50 (+/-) Tons. Silo operation will be similar to the existing lime silo operation where pneumatic trucks load the silo and silo discharge will be through screw conveyors to the mixers. The trucks will unload the lime with 650 (+/-) CFM of air to the silo where it will pass across a bag house with 225 (+/-) SqFt. of Bag Area.

The existing lime silo will be converted to a lime substitute silo which will be loaded from a new pneumatic railcar unloading and conveying system. Railcar unloading will be performed by pressurizing a pressure discharge (PD) railcar and discharging the lime substitute into a surge bin. Unloading will be accomplished by utilizing a 1200 (+/-) CFM @ 14.5 (+/-) PSIG blower to convey the lime substitute to the surge bin. Fugitive emissions at the surge bin will be controlled by another bag house with 225 (+/-) SqFt. of bag area. Conveyance of the lime substitute from the surge bin to the fly ash silo will be accomplished by two separate 1200 (+/-) CFM @ 14.5 (+/-) PSIG blowers (2400 CFM) which will pneumatically convey the lime substitute to the lime substitute silo (the existing lime silo). Fugitive emissions at the lime substitute silo will be accomplished through a new 450 (+/-) SqFt. bag area bag house.



If you have any question regarding the new lime silo or the railcar unloading and conveying system specifications please contact be at your earliest convenience.

Sincerely,

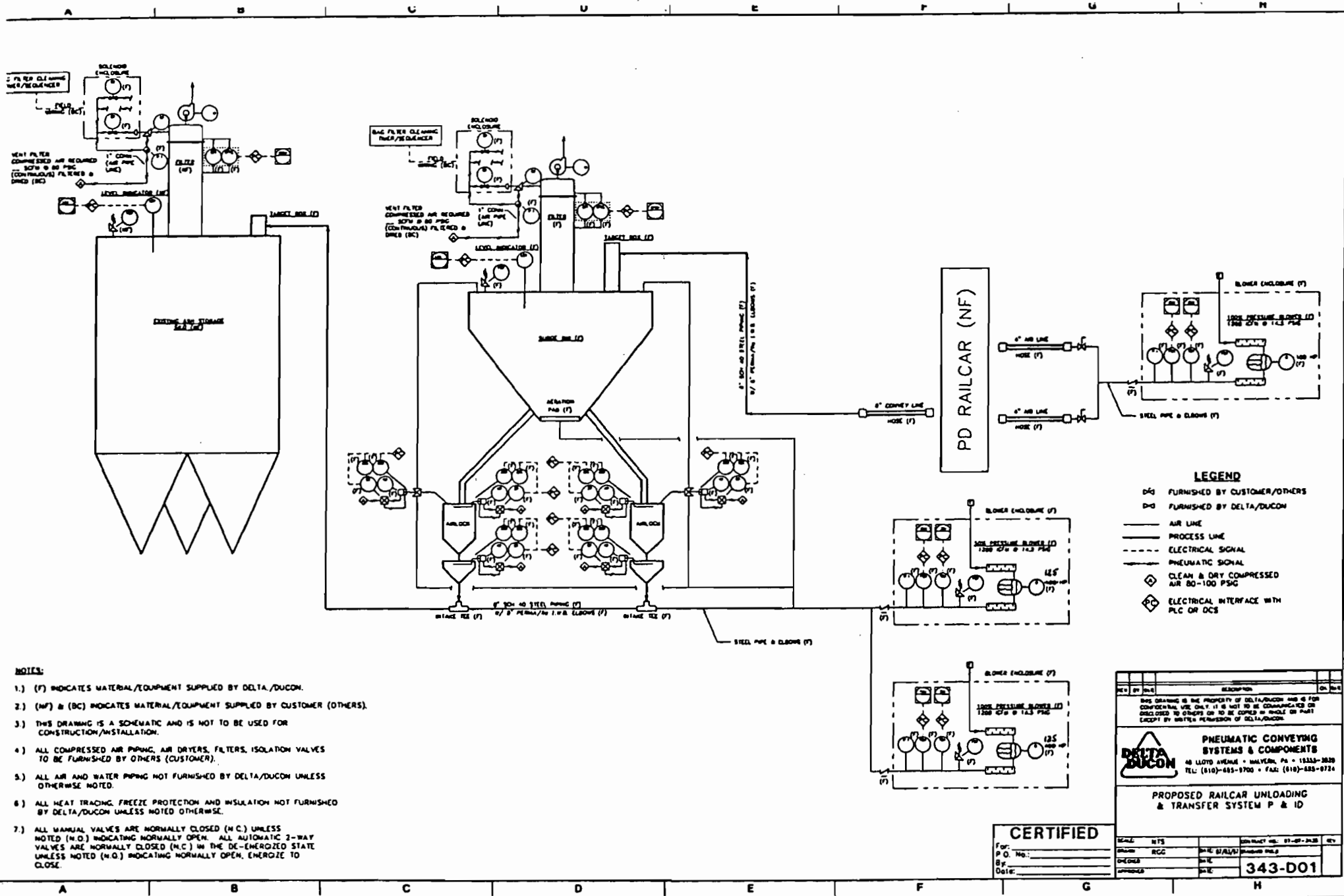
A handwritten signature in black ink, appearing to read 'Gernot Jobst', with a long horizontal line extending to the right.

Gernot Jobst

Assistant Project Manager

gj

cc: D. Scarlet
R. Patton
N. Murrow
B. Jones
F-C-1326
C- 1533



LEGEND

- D/C FURNISHED BY CUSTOMER/OTHERS
- D/D FURNISHED BY DELTA/DUCON
- AIR LINE
- PROCESS LINE
- - - ELECTRICAL SIGNAL
- · - · - PNEUMATIC SIGNAL
- ◇ CLEAN & DRY COMPRESSED AIR 80-100 PSIG
- ◇ ELECTRICAL INTERFACE WITH PLC OR DCS

- NOTES:**
- 1.) (F) INDICATES MATERIAL/EQUIPMENT SUPPLIED BY DELTA/DUCON.
 - 2.) (NF) & (DC) INDICATES MATERIAL/EQUIPMENT SUPPLIED BY CUSTOMER (OTHERS).
 - 3.) THIS DRAWING IS A SCHEMATIC AND IS NOT TO BE USED FOR CONSTRUCTION/INSTALLATION.
 - 4.) ALL COMPRESSED AIR PIPING, AIR DRYERS, FILTERS, ISOLATION VALVES TO BE FURNISHED BY OTHERS (CUSTOMER).
 - 5.) ALL AIR AND WATER PIPING NOT FURNISHED BY DELTA/DUCON UNLESS OTHERWISE NOTED.
 - 6.) ALL HEAT TRACING, FREEZE PROTECTION AND INSULATION NOT FURNISHED BY DELTA/DUCON UNLESS NOTED OTHERWISE.
 - 7.) ALL MANUAL VALVES ARE NORMALLY CLOSED (N.C.) UNLESS NOTED (N.O.) INDICATING NORMALLY OPEN. ALL AUTOMATIC 3-WAY VALVES ARE NORMALLY CLOSED (N.C.) IN THE DE-ENERGIZED STATE UNLESS NOTED (N.O.) INDICATING NORMALLY OPEN. ENERGIZE TO CLOSE.

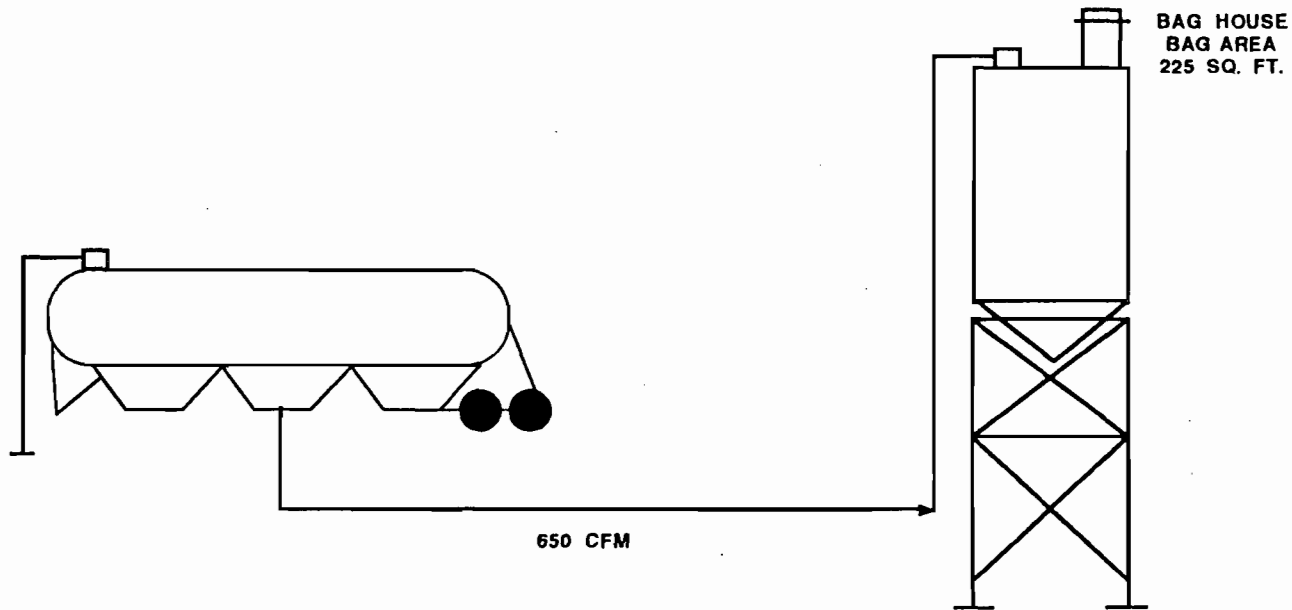
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DELTA DUCON
 PNEUMATIC CONVEYING SYSTEMS & COMPONENTS
 48 LLOYD AVENUE • WATKINS, PA • 15382-2620
 TEL: (810)-683-1700 • FAX: (810)-683-0724

PROPOSED RAILCAR UNLOADING & TRANSFER SYSTEM P & ID

CERTIFIED
 For: _____
 P.O. No.: _____
 By: _____
 Date: _____

SCALE:	NTS	DATE:	REV:
DRAWN:	RCC	DATE: 5/14/01	DESIGNED BY: _____
CHECKED:	_____	DATE: _____	APPROVED BY: _____
CONTRACT NO. 07-07-2428			REV: _____
343-D01			_____



VFL TECHNOLOGY
CORPORATION

NEW LIME SILO SYSTEM
P & ID

7/11/97

EXHIBIT 9

VFL TECHNOLOGY CORPORATION**BEST AVAILABLE COPY**

16 Hagerty Boulevard
West Chester, PA 19382-7594
610-918-1100
FAX 610-918-7222



August 7, 1997

Mr. Greg DeMuth
Orlando Utilities Commission
Post Office Box 3193
Orlando, FL 32802

Subject: Stanton Energy Center
Lime Substitute Data
VFL Project No. C-1533

Dear Greg:

Per your request, I am providing responses to your questions on the lime substitute proposals:

- 1) VFL is projecting using between 75,000 and 80,000 tons per year of the lime substitute;
- 2) We are projecting a savings of 8,500 - 9,000 tons of lime;
- 3) If the LOI can be maintained below 5.0, VFL can sell an additional 50,000 - 60,000 tons of Unit #2 ash. If the LOI is consistently <6.0, we would be looking at 25,000 tons;
- 4) Cloth to CFM ratios are as follows:

a) Rail Surge Tank	4.63/1.0
b) Silo	5.25/1.0

If you require any additional data, please let me know.

Very truly yours,

Robert E. Jones
Manager of Operations

REJ/lsp

cc: D. Scarlett, OUC
R. Patton, VFL
N. Murrow, VFL @ OUC
G. Jobst, VFL
FILE: C-1533

rejdmsub ouc