

# GENERAL ARRANGEMENT DRAWINGS

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## 9.0 GENERAL ARRANGEMENT DRAWINGS

### 9.1 SITE PLOT PLAN

92127-EM-001B IGCC Unit Overall Plot Plan

### 9.2 GASIFICATION STRUCTURE ARRANGEMENT

92127-SK-011 Gasifier Planning Study

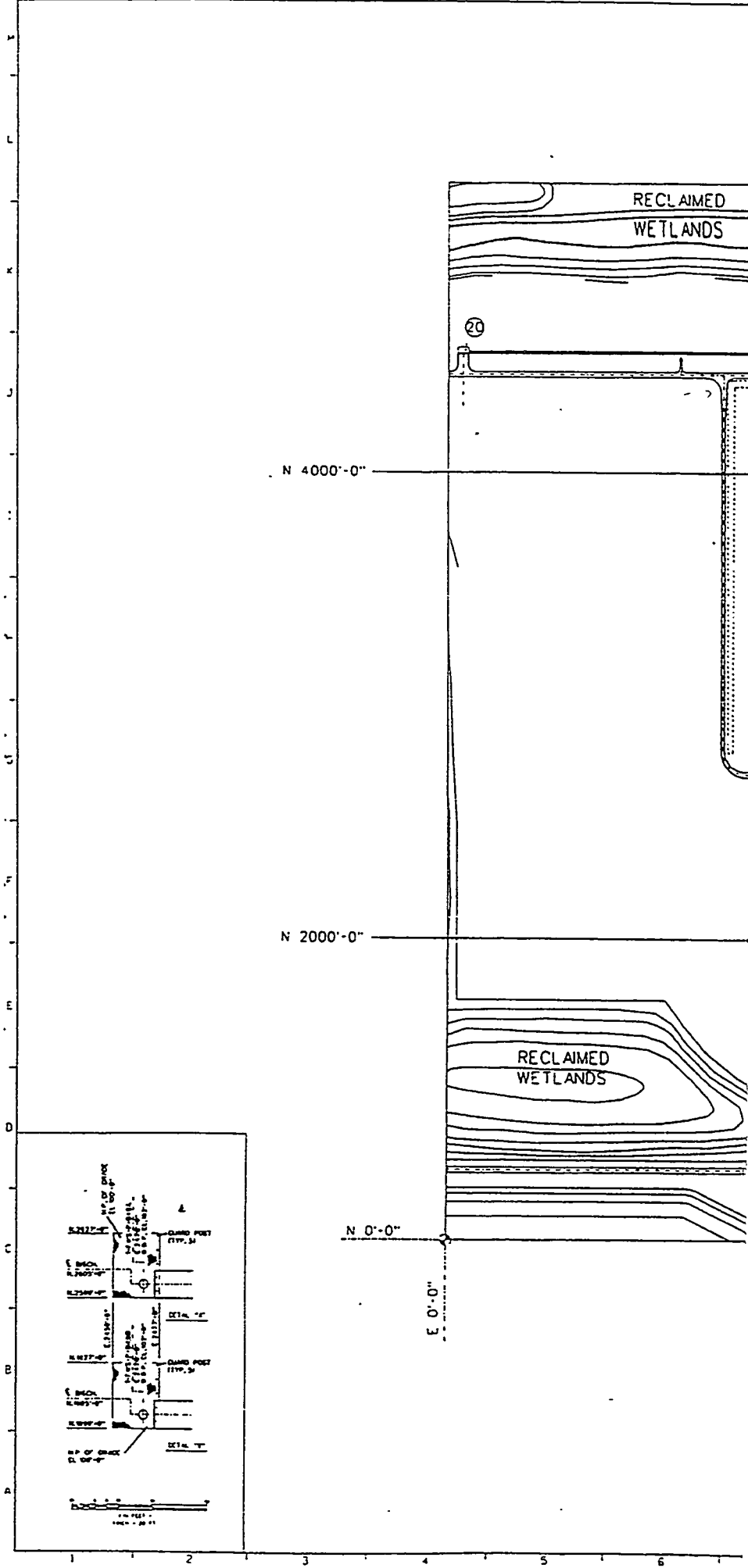
### 9.3 POWER BLOCK ARRANGEMENT DRAWINGS

92127-EM-161A Area Plot Plan - Power Block

M010 Equipment Arrangement (sheet 1)  
Equipment Arrangement (sheet 2)  
Sections and Elevations

### 9.4 AIR SEPARATION UNIT PLOT PLAN

92127-EY-241A Facility Arrangement



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N 2000'-0"

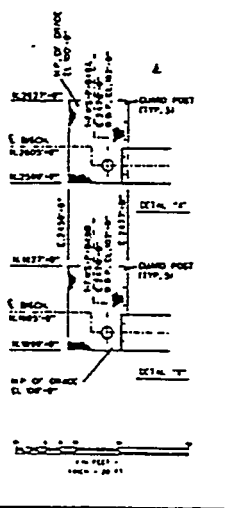
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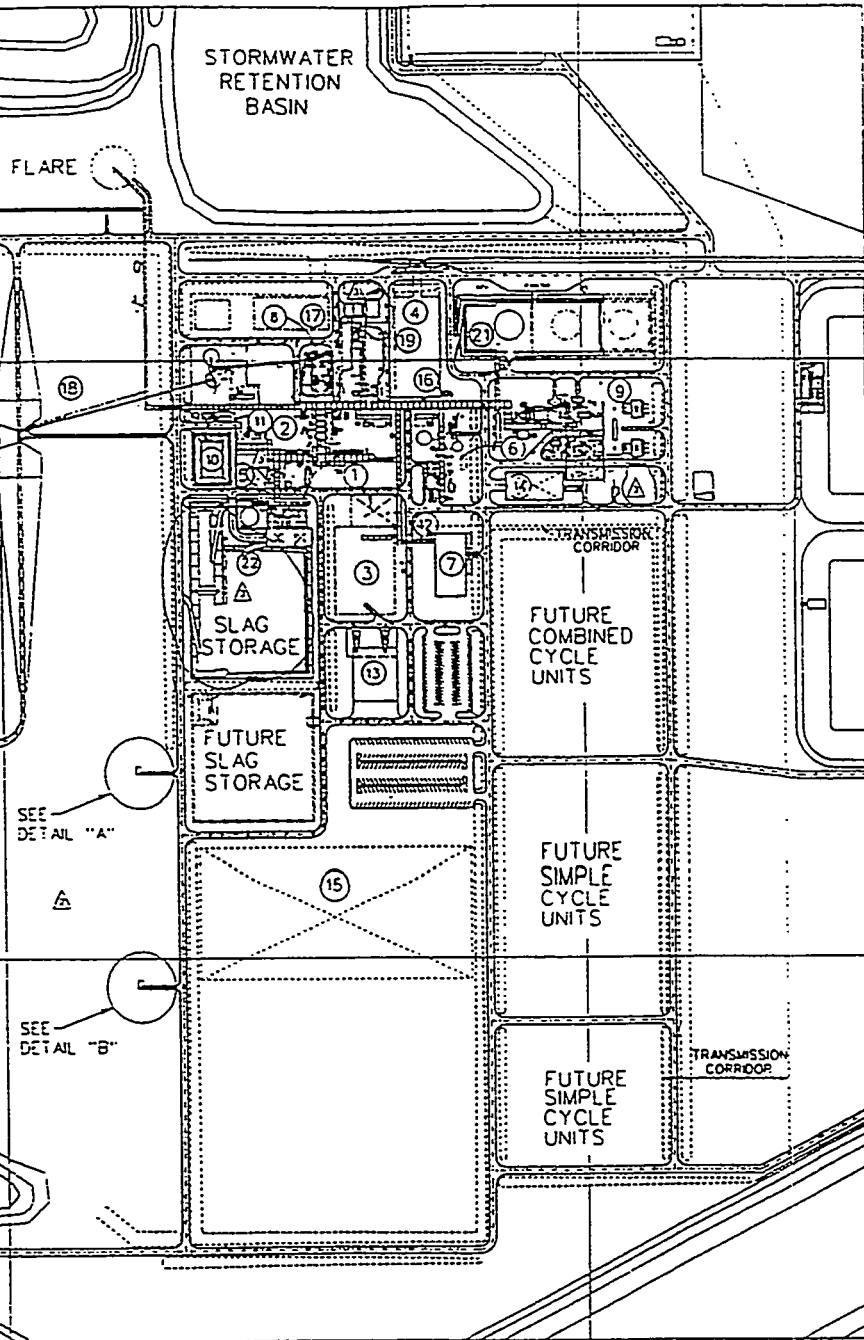
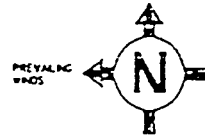
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**NOTES**

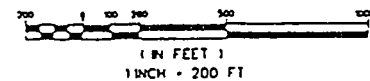
- 1. BECTEL COORDINATE NAD 83 0'-0" , E.O'-0" EQUALS FLORIDA STATE PLANE COORDINATES NAD 83 0.000, E.854.000 .
- 2. KP FINISHED GRADE EL. 100'-0" EQUALS TRUE PLANT EL. 143'-6" MSL.

**LEGEND**

- LIGHT DUTY PAVING
- HEAVY DUTY PAVING
- GRAVEL
- SAFETY SHOWER/EYEWASH 30'-0" NOSE RADIUS INDICATED AT EACH STATION
- SERVICE WATER
- PLANT AIR
- LOW PRESSURE STEAM
- LOW PRESSURE NITROGEN
- POND WATER
- BARRIERS
- ASPHALT

**PLOT AREA KEY**

- 1. GASIFICATION
- 2. ACID GAS REMOVAL
- 3. AIR SEPARATION UNIT
- 4. SULFURIC ACID
- 5. HOT GAS CLEAN-UP
- 6. MAKE-UP WATER TREATING
- 7. CONTROL AND GENERAL SERVICES BUILDING
- 8. COAL GRINDING
- 9. CONSTRUCTION POWER FACILITIES
- 10. LW.T. FACILITY AND HOLDING BASIN
- 11. SANITARY WASTE TREATMENT
- 12. ASB BATTERY, PBS AND RTU
- 13. WAREHOUSE
- 14. MAINT. SHOP
- 15. CONSTR. LAYDOWN AND TEMP. CONSTR. PERSON PARKING
- 16. INSTR. AIR/PLANT AIR
- 17. FUTURE FUEL CELL
- 18. COAL UNLOADING
- 19. DYME CONCENTRATION
- 20. PROPANE UNLOADING
- 21. FUEL OIL STORAGE
- 22. SLAG HANDLING



NO.	DATE	REVISIONS	BY	CHKD	DESIGN	ENGR	INCH	APPR
1	3/21/95	REVISED TO REFLECT CHANGES PER DCN #55, ISS. THROUGH E-100 & C-100	WV	WV	JPS	WV	JPS	WV
2	3-20-95	REVISED AS NOTED	WV	WV	JPS	WV	JPS	WV
3	3-2-95	REVISED AS NOTED	WV	WV	JPS	WV	JPS	WV
4	11-18-94	ISSUE FOR CONSTRUCTION	WV	JPS	WV	WV	JPS	WV

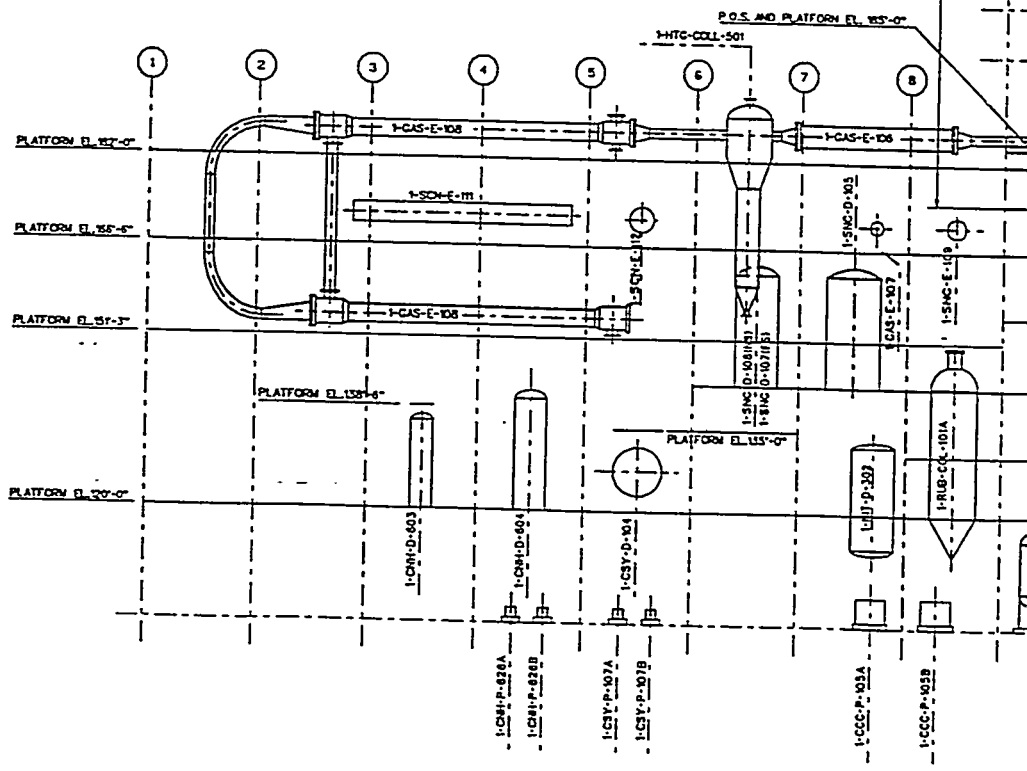
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JOB NO.  
22269

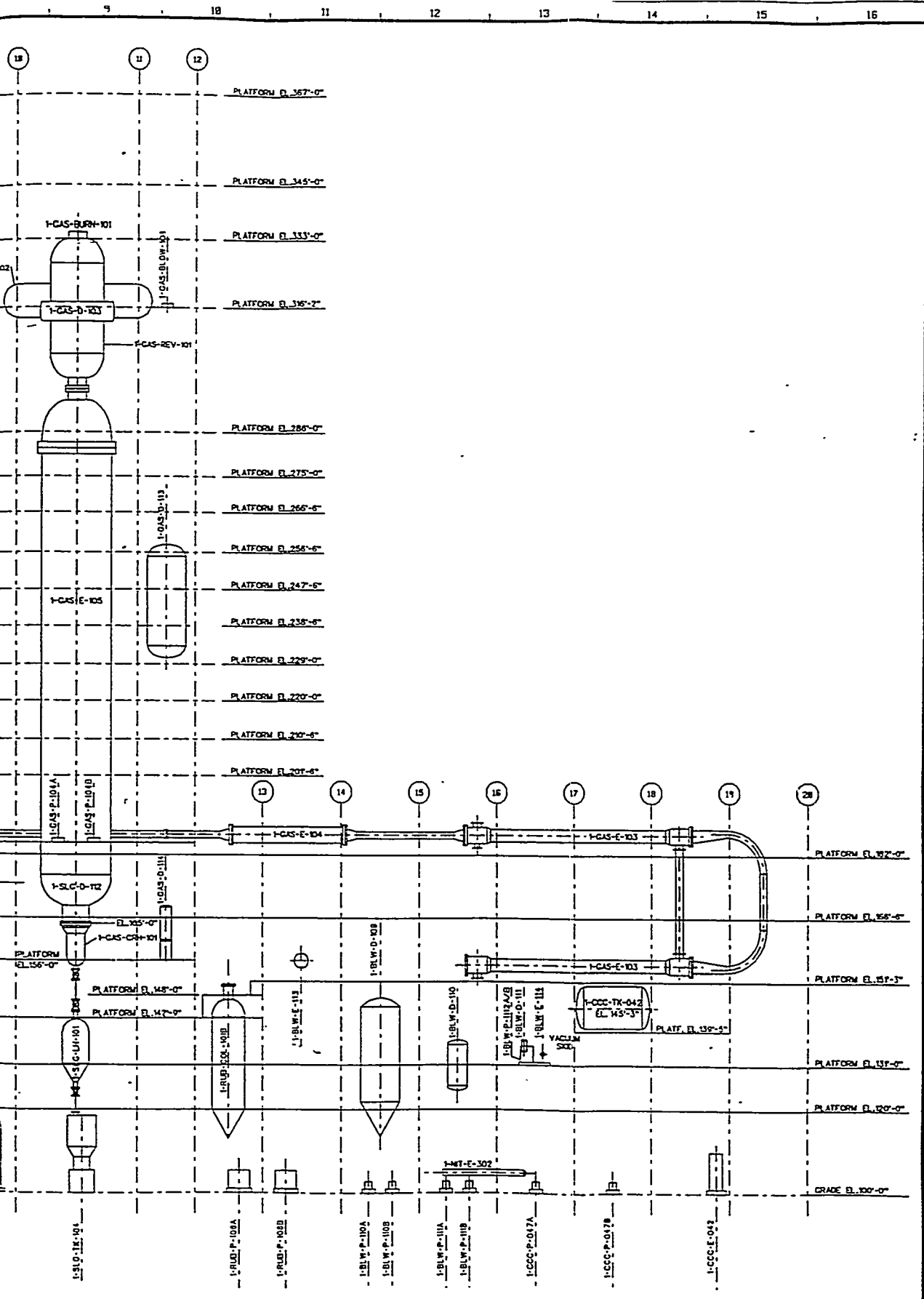
**TAMPA ELECTRIC**  
A TECO ENERGY COMPANY

POLK POWER STATION UNIT # 1  
I.G.C.C. UNIT  
OVERALL PLOT PLAN

DESIGNED	DATE	DRAWING NO.	REV.
CHECKED	DATE	92127-EM-B01B	3
APPROVED	DATE		

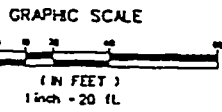
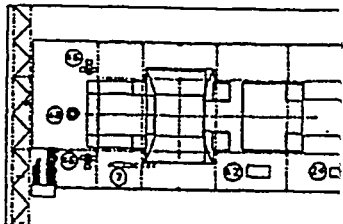
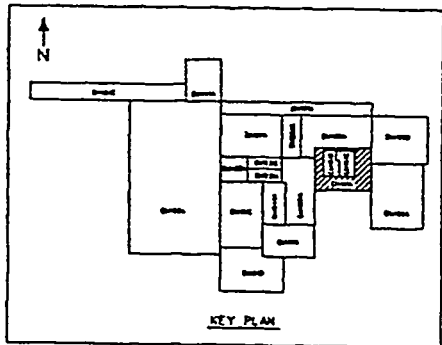
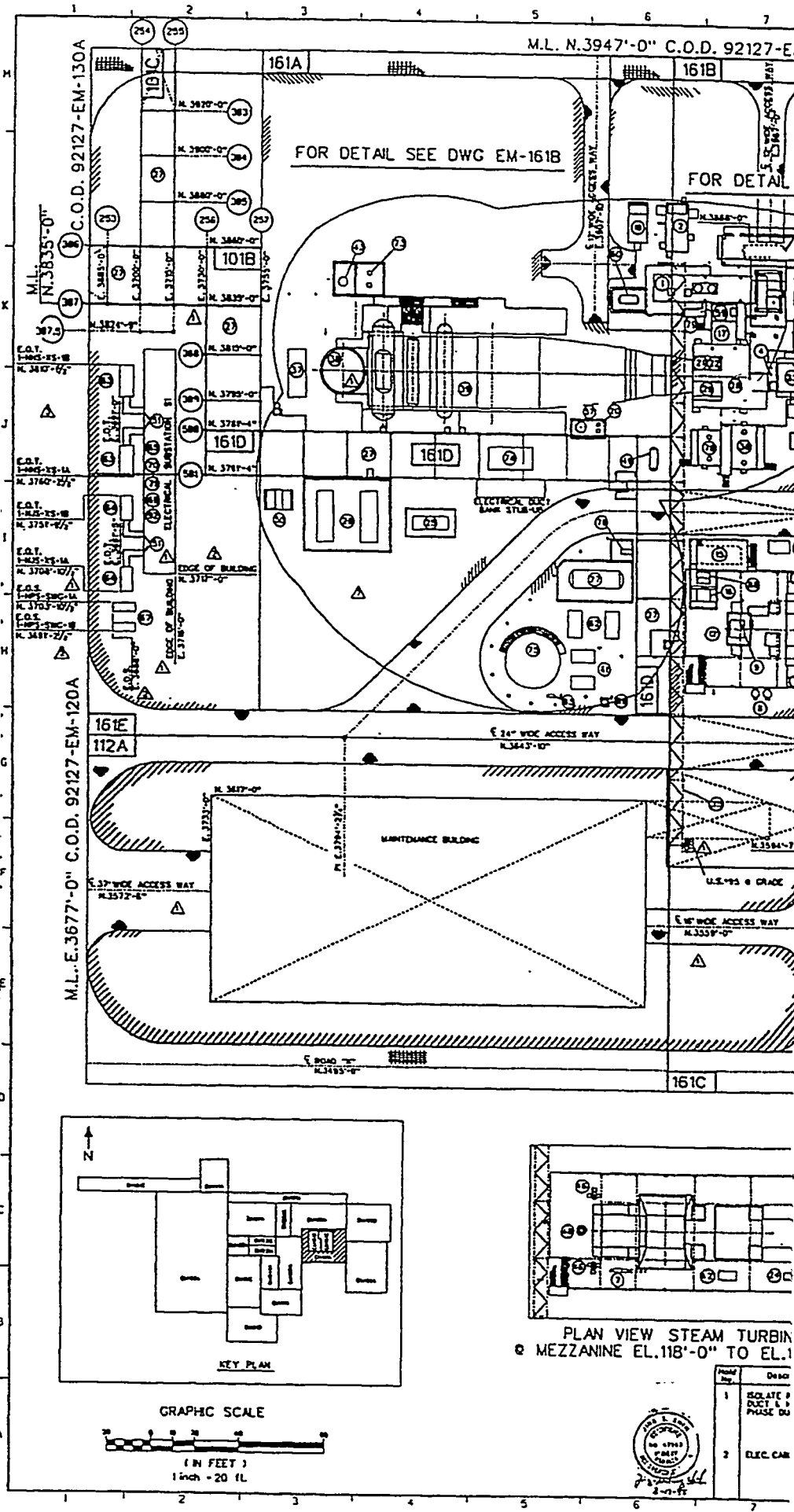
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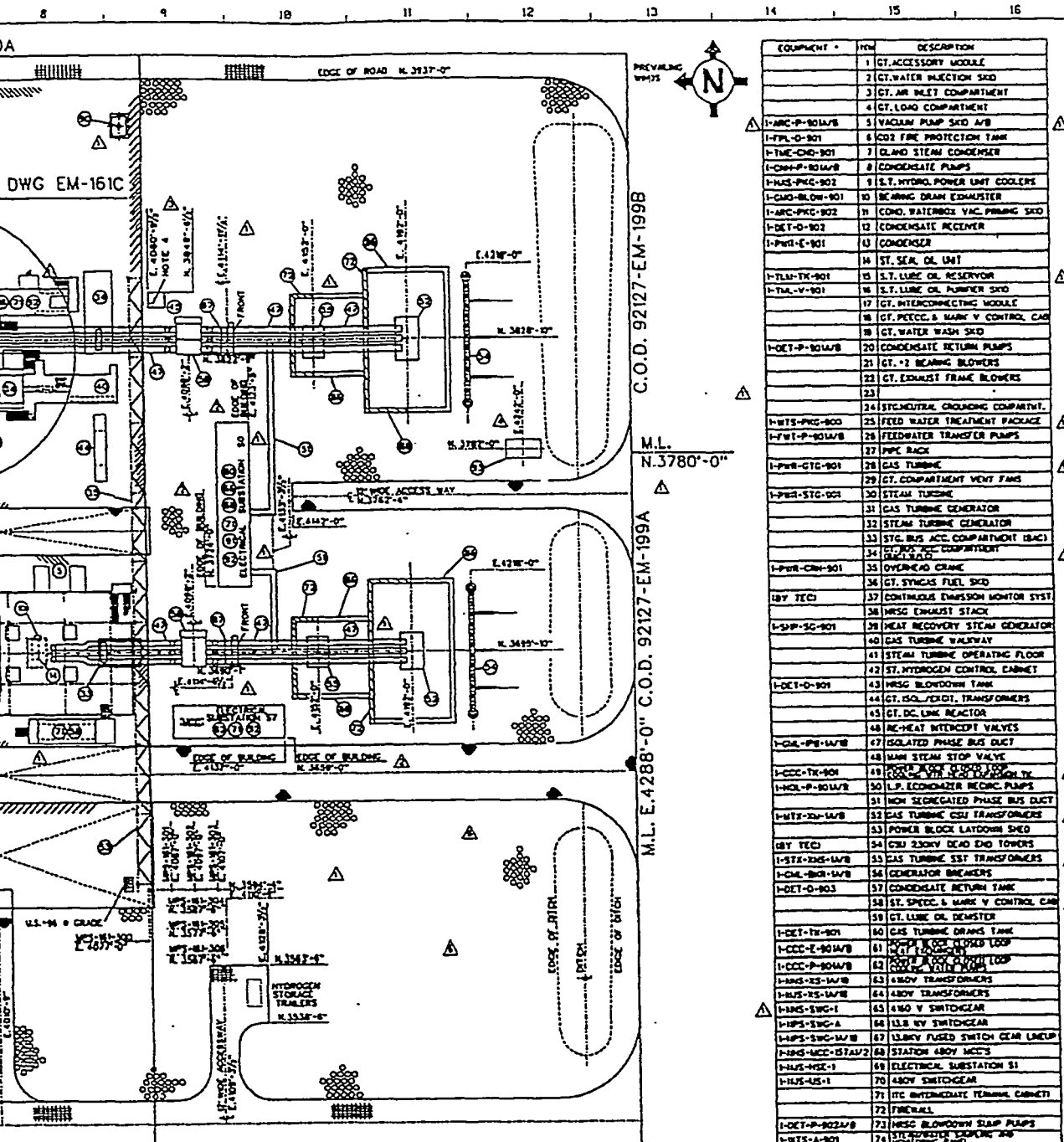


SCALE: 1/2" = 1'-0"

		BECHTEL JOB NO. 22269		POLK POWER STATION UNIT # 1 GASIFICATION UNIT SECTION STRUCTURE LOOKING NORTH	
		TAMPA ELECTRIC A TECO ENERGY COMPANY		DRAWN: MORTON DATE: _____ CHECKED: COOK DATE: _____ DESIGNED: _____ DATE: _____ APPROVED: _____ DATE: _____	
DRG FOR INFORMATION ONLY		BY: [Signature]		DRAWING NO. 92127-SK-B11	
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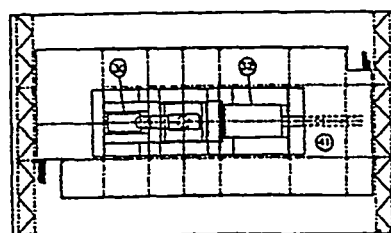


NO.	DESC.
1	ISOLATE & RECT. & PHASE DU
2	ELEC. CAB.



EQUIPMENT #	REV	DESCRIPTION
		1 CT. ACCESSORY MODULE
		2 CT. WATER INJECTION SKD
		3 CT. AIR BLET COMPARTMENT
		4 CT. LOAD COMPARTMENT
I-ARC-P-801A/B		5 VACUUM PUMP SKD A/B
I-TPL-D-801		6 CO2 FIRE PROTECTION TANK
I-TMC-CHD-801		7 ISLAND STEAM CONDENSER
I-CHM-P-801A/B		8 CONDENSATE PUMPS
I-HAS-PHC-802		9 S.T. HYDROL. POWER UNIT COOLERS
I-CHD-BLOW-901		10 BEARING DRAIN EXHAUSTER
I-ARC-PHC-802		11 COND. WATERBOS VAC. PUMPING SKD
I-DET-D-802		12 CONDENSATE RECEIVER
I-PHC-E-901		13 CONDENSER
		14 ST. SEAR. OIL UNIT
I-TLU-TX-901		15 S.T. LUBE OIL RESERVOIR
I-TLA-V-901		16 S.T. LUBE OIL PUMPER SKD
		17 CT. INTERCONNECTING MODULE
		18 CT. PECCO. & MARK V CONTROL CAB
		19 CT. WATER WASH SKD
I-DET-P-801A/B		20 CONDENSATE RETURN PUMPS
		21 CT. #2 BEARING BLOWERS
		22 CT. EXHAUST FRAME BLOWERS
		23
		24 STEMMUTUAL GROUNDING COMPARTM.
I-WTS-PRO-800		25 FEED WATER TREATMENT PACKAGE
I-FWT-P-801A/B		26 FEEDWATER TRANSFER PUMPS
		27 PWC RACK
I-PWR-GTG-901		28 GAS TURBINE
		29 CT. COMPARTMENT VENT FANS
I-PWR-STG-901		30 STEAM TURBINE
		31 GAS TURBINE GENERATOR
		32 STEAM TURBINE GENERATOR
		33 STG. BUS ACC. COMPARTMENT (EAC)
		34 STG. BUS ACC. COMPARTMENT
I-PWR-CHM-901		35 OVERHEAD CRANE
		36 CT. SYNCHAS FUEL SKD
IBY TECI		37 CONTINUOUS EMISSION MONITOR SYST
		38 HRSG EXHAUST STACK
I-SHP-SC-901		39 HEAT RECOVERY STEAM GENERATOR
		40 GAS TURBINE WALKWAY
		41 STEAM TURBINE OPERATING FLOOR
		42 ST. HYDROGEN CONTROL CABINET
I-DET-D-901		43 HRSG BLOWDOWN TANK
		44 CT. ISO./GND/DT. TRANSFORMERS
		45 CT. DC LINK REACTOR
		46 HE-HEAT INTERCEPT VALVES
I-CHL-PE-1A/B		47 ISOLATED PHASE BUS DUCT
		48 MAIN STEAM STOP VALVE
I-CCD-TX-901		49 COND. WATER TREATMENT PACKAGE
I-HOL-P-801A/B		50 L.P. ECONOMIZER REDUC. PUMPS
		51 NON SEGREGATED PHASE BUS DUCT
I-WTS-XM-1A/B		52 GAS TURBINE CSU TRANSFORMERS
IBY TECI		53 POWER BLOCK LAYOUT SHEET
I-STA-XMS-1A/B		54 CSU 230KV DEAD END TOWERS
I-CHL-BCR-1A/B		55 GAS TURBINE SST TRANSFORMERS
		56 GENERATOR BREAKERS
I-DET-D-803		57 CONDENSATE RETURN TANK
		58 ST. SPEC. & MARK V CONTROL CAB
		59 CT. LUBE OIL EXHAUSTER
I-DET-TX-901		60 GAS TURBINE DRAINS TANK
I-CCC-E-901A/B		61 300V AC BUS DUCT LOOP
I-CCC-P-901A/B		62 300V AC BUS DUCT LOOP
I-IND-TS-1A/B		63 480V TRANSFORMERS
I-BUS-TS-1A/B		64 480V TRANSFORMERS
I-BUS-SWG-1		65 480 V SWITCHGEAR
I-BUS-SWG-A		66 115 KV SWITCHGEAR
I-BUS-SWG-W/B		67 115KV FUSED SWITCH GEAR LINEUP
I-BUS-MCC-ESTAU/2		68 STATION ABOVE MCC'S
I-BUS-MSE-1		69 ELECTRICAL SUBSTATION S1
I-BUS-US-1		70 480V SWITCHGEAR
		71 ITC INTERMEDIATE TERMINAL CABINET
		72 FIRE RAIL
I-DET-P-802A/B		73 HRSG BLOWDOWN SLIP PUMPS
I-WTS-A-901		74 315 KW DIESEL ENGINE AND STORAGE TANK
I-CHM-TX-901		75 CONDENSATE STORAGE TANK
I-HOS-TX-901		76 CT. NITROGEN SKD
I-HOS-FL-901		77 CLEAN AND DIRTY L.O. TANK
I-HOS-P-901		78 LUBE OIL TRANSFER PUMP
		79 CT. AIR PROCESS SKD
I-HAS-MSE-0		80 ELECTRICAL SUBSTATION S0
I-HAS-PHC-901		81 S.T. HYDROL. POWER UNIT COOLERS
I-HAS-MSE-7		82 ELECTRICAL SUBSTATION S7
I-CHM-P-802		83 CONDENSATE MAKE-UP PUMP
		84 CT. GEN. COLLECTOR COMPARTMENT
		85 CT. GEN. TERMINAL ENCLOSURE
I-EM-2A-1A/B		86 TRANCE SLIP W/CRUSHED STONE
I-TAL-FLT-901		87 LINE POTENTIAL TRANSFORMERS
I-CWS-FLT-901		88 115KV W/CRUSHED STONE
I-WOW-P-901		89 WATER WASH SKD
		90 RTU BLOCK DUTY WATER
		91 RTU (REDUOTE TERMINAL UNIT)
		92 DCS W/0 CABINET
		93 DELUGE VALVE HOUSE #3

DRAWING LIMITS N.3485'-0"



NOTE:  
 1. FOR GENERAL NOTES SEE DWG. 92127-DH-008.  
 2. REFER TO DRAWING 92127-DH-008 & 910 FOR DETAILS.  
 3. TOP OF CRANE RAIL  
 MAIN HOOK MAX. LIFT  
 STEAM TURBINE SHAFT  
 OPERATING FLOOR  
 MEZZANINE  
 GRADE (BPPG)  
 ELEVATION  
 87'-4"  
 87'-0"  
 85'-4"  
 83'-0"  
 86'-0"  
 100'-0"

▲ 4. DC LINK REACTOR ELECTRICAL CONNECTION  
 1. E.O.T. - EDGE OF TRANSFORMER  
 2. E.S. - EDGE OF SWITCHGEAR

Rev./Revision	Date	By	Check	Appr.	Description
1	8-22-94	AK	DRS	WCK	ISSUED FOR CONSTRUCTION
2	9/14/94	AK	DRS	WCK	REVISED AS NOTED INCORPORATES OCT-36
3	7/2/95	AK	DRS	WCK	REVISED AS NOTED INCORPORATES OCT-36
4	5/20/95	AK	DRS	WCK	REVISED AS NOTED INCORPORATES OCT-36
5	5/3/95	AK	DRS	WCK	REVISED AS NOTED INCORPORATES OCT-36

BECHTEL  
 JOB NO. 22269

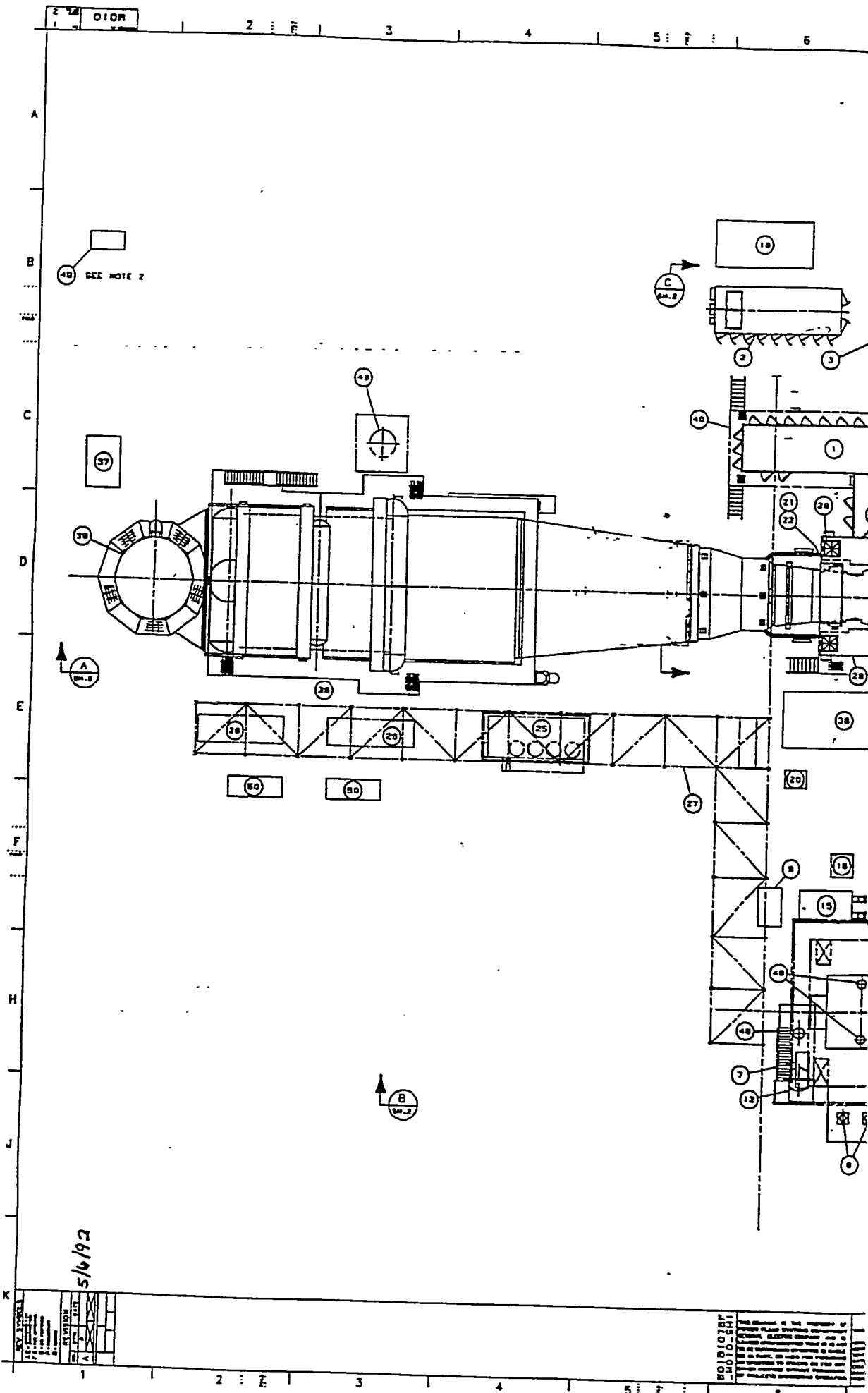
TAMPA ELECTRIC  
 A TECO ENERGY COMPANY

POLK POWER STATION UNIT # 1  
 EQUIPMENT LOCATION PLAN  
 POWER BLOCK

DESIGNED	DATE	DRAWING NO.	REL.
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APPROVED	DATE		



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5/6/92

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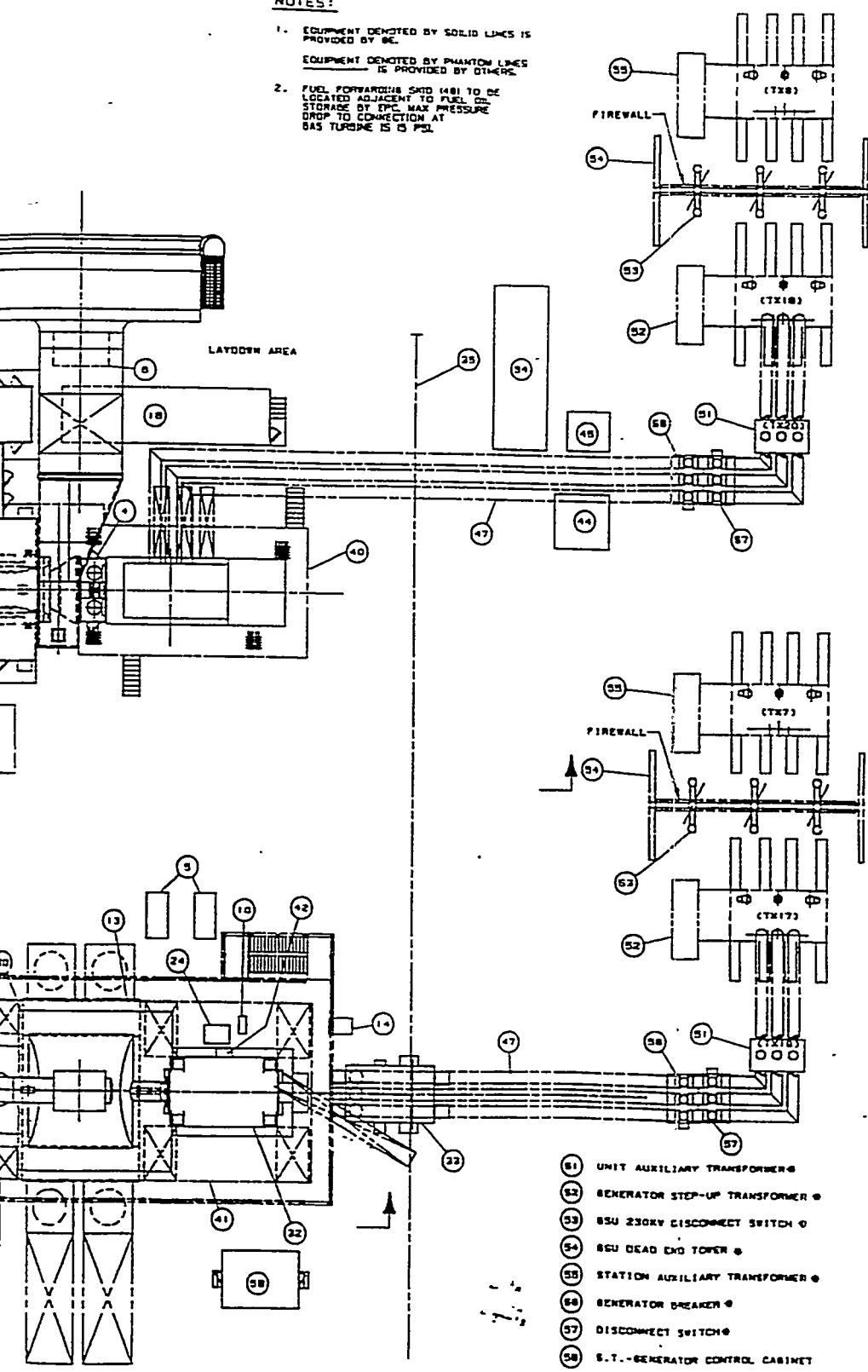
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**NOTES:**

1. EQUIPMENT DENOTED BY SOLID LINES IS PROVIDED BY GE.
- EQUIPMENT DENOTED BY PHANTOM LINES IS PROVIDED BY OTHERS.
2. FUEL FORWARDING SKID (48) TO BE LOCATED ADJACENT TO FUEL STORAGE BY EPC. MAX PRESSURE DROP TO CONNECTION AT GAS TURBINE IS 15 PSI.

**LEGEND**

- 1 ACCESSORY MODULE
- 2 WATER INJECTION SKID
- 3 S.T. AIR INLET COMPARTMENT
- 4 S.T. LOAD COMPARTMENT
- 5 VACUUM PUMPS
- 6 CO<sub>2</sub> SKID
- 7 BLAND SEAL CONDENSER
- 8 CONDENSATE PUMPS
- 9 HYDRAULIC POWER UNIT
- 10 S.T. BEARING DRAIN ENLARGEMENT EXHAUST
- 12 CONDENSATE RECEIVER TANK
- 13 CONDENSER
- 14 S/T SEAL OIL UNIT
- 15 S.T. LUBE OIL STORAGE TANK
- 16 S.T. LUBE OIL CONDITIONER
- 17 S.T. INTERCONNECTION MODULE
- 18 P.E.C.C. & MARK V CONTROL CAB
- 19 WATER WASH SKID
- 20 CONDENSATE RETURN UNIT
- 21 #2 BEARING BLOWERS
- 22 EXHAUST FRAME BLOWERS
- 23 STACK CLOSURE DAMPER
- 24 S.T. GENERATOR NEUTRAL GROUNDING COMPARTMENT
- 25 CHEMICAL INJECTION SKID
- 26 FEEDWATER TRANSFER PUMPS
- 27 PIPE RACK
- 28 GAS TURBINE COMPARTMENT
- 29 S.T. COMPARTMENT VENT FANS
- 30 STEAM TURBINE
- 31 S.T. GENERATOR
- 32 S.T. GENERATOR
- 33 S.T. GENERATOR EXCITATION COMPARTMENT
- 34 ST GENERATOR SAC/REC
- 35 OVERHEAD CRANE
- 36 SYN GAS FUEL SKID
- 37 CONTINUOUS EMISSION MONITORING SYSTEM (C.E.M.S.)
- 38 HRSG EXHAUST STACK
- 39 HEAT RECOVERY STEAM GENERATOR (H.R.S.G.)
- 40 S.T. WALKWAY
- 41 S.T. OPERATING PLATFORM
- 42 S.T. HYDROGEN CONTROL CABINET
- 43 HRSG BLOWDOWN TANK
- 44 ISOLATION AND EXCITATION TRANSFORMER
- 45 DC LINE REACTOR
- 46 INTERCEPT VALVE
- 47 ISOLATED PHASE BUS DUCT
- 48 MAIN STW. STOP VALVE
- 49 FUEL FORWARDING SKID
- 50 L.P. ECONOMIZER RECIRC. PUMPS



- 51 UNIT AUXILIARY TRANSFORMER
- 52 GENERATOR STEP-UP TRANSFORMER
- 53 BSU 230KV DISCONNECT SWITCH
- 54 BSU DEAD END TOWER
- 55 STATION AUXILIARY TRANSFORMER
- 56 GENERATOR BREAKER
- 57 DISCONNECT SWITCH
- 58 S.T. GENERATOR CONTROL CABINET



NOTICE TO PURCHASER

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DATE	DESCRIPTION	BY	CHKD
3/22	1'-0"		

PRELIMINARY 3/3/62

**EQUIPMENT ARRANGEMENT**

STAB 1077

GE POWER STATION - UNIT NO. 1

TAMPA ELECTRIC COMPANY

16CC PROJECT

BY OTHERS

**GENERAL ELECTRIC**

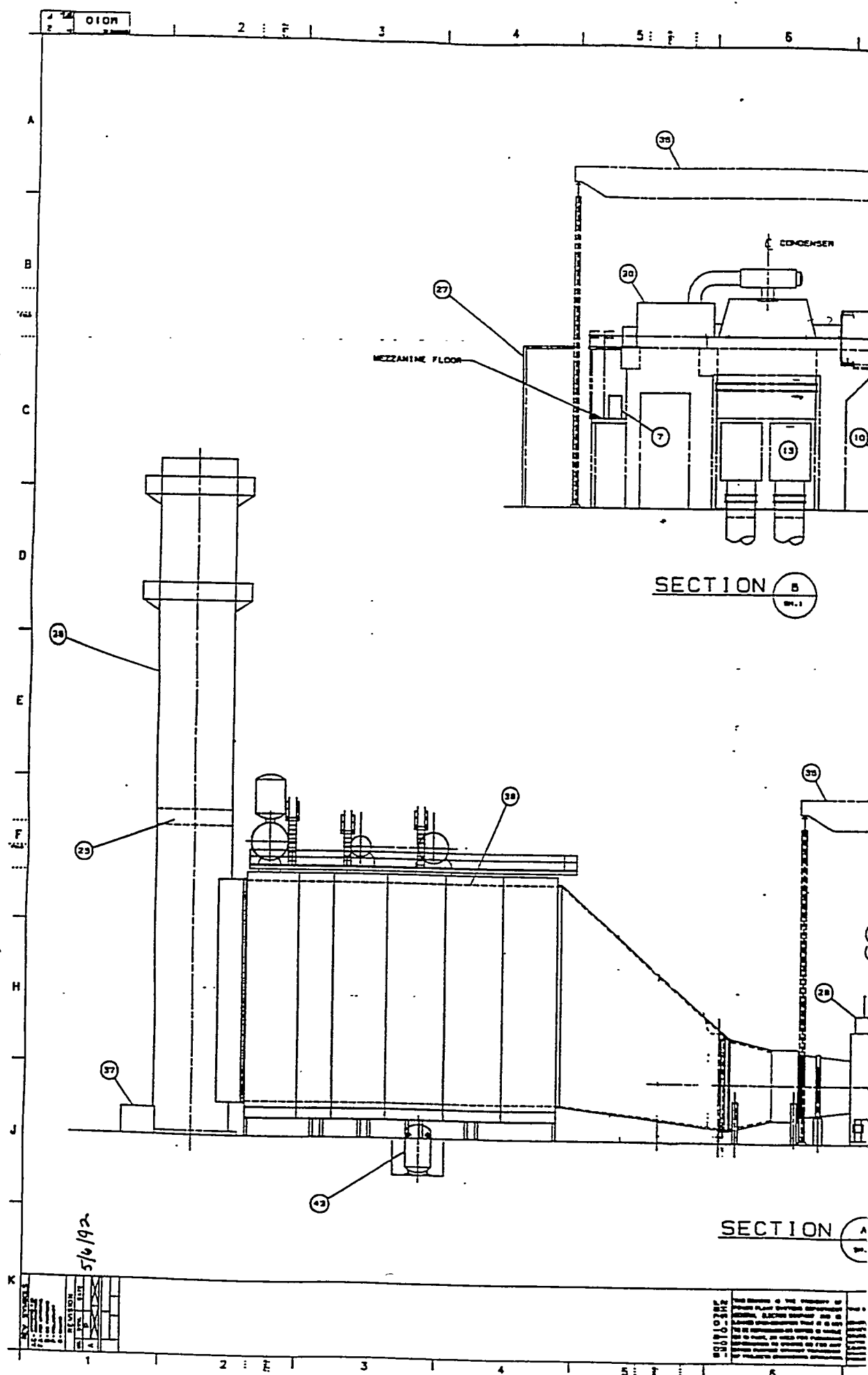
POWER PLANT ENGINEERING

POWER PLANT SYSTEMS DEPARTMENT

01010787

MO10

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SECTION

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MEZZANINE FLOOR

CONDENSER

SECTION B  
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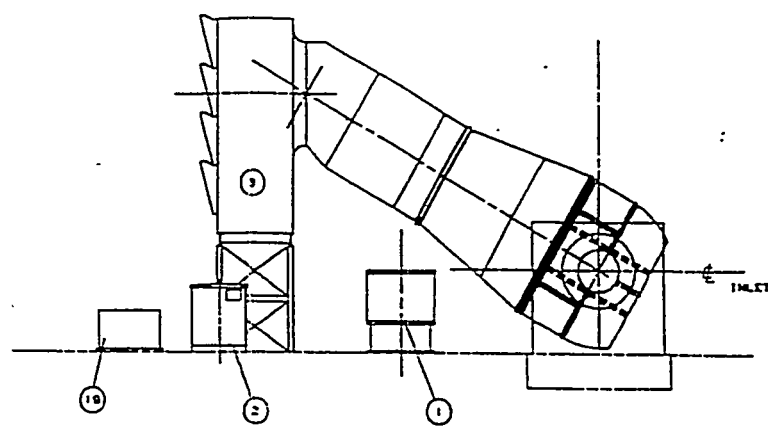
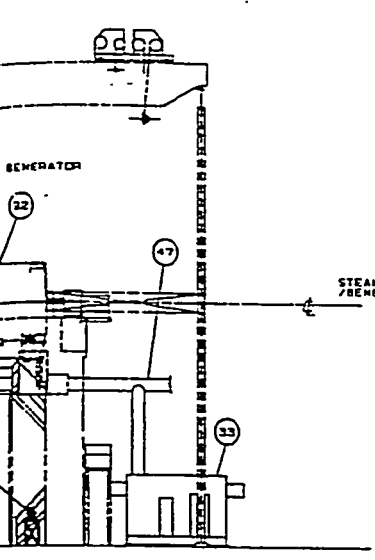
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5/6/92

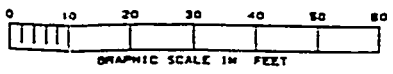
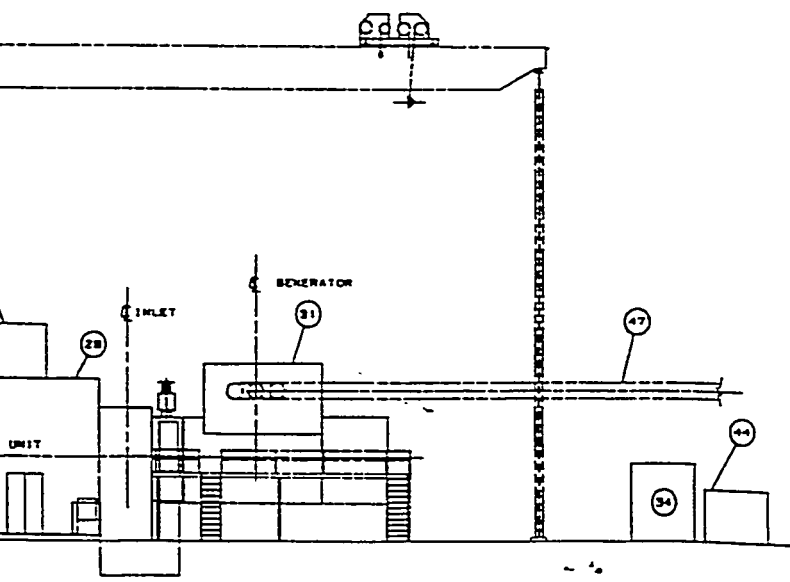
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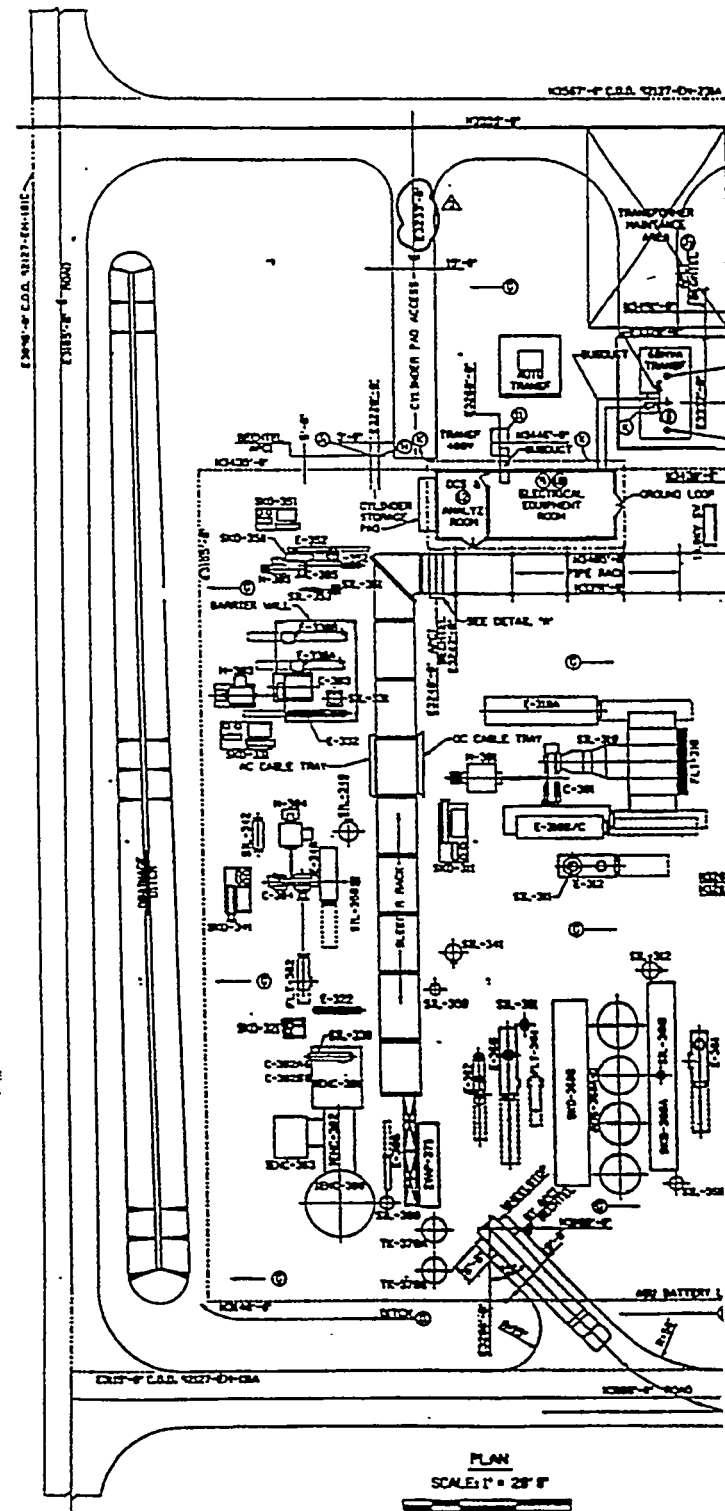
SECTION C  
M-1



NOTICE TO PURCHASER				<b>PRELIMINARY</b> EQUIPMENT ARRANGEMENT SECTIONS & ELEVATIONS		<b>GENERAL ELECTRIC</b> POWER PLANT ENGINEERING POWER PLANT SYSTEMS DEPARTMENT	
THIS DRAWING IS A PRELIMINARY DESIGN AND IS SUBJECT TO CHANGE WITHOUT NOTICE. IT IS NOT TO BE USED FOR CONSTRUCTION OR FOR ANY OTHER PURPOSE.				1"=0' <i>REF</i>		POLK POWER STATION - UNIT NO. 1 TAMPA ELECTRIC COMPANY ISCC PROJECT	
DRAWN BY: DWJ CHECKED BY:				DATE:		SHEET NO. 2 OF 2 MO10 P A	

A B C D E F

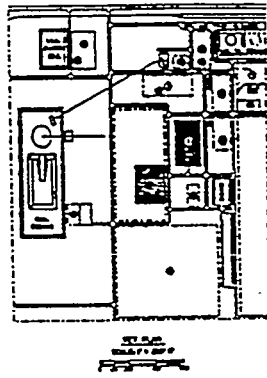
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PLAN  
SCALE: 1" = 2' 0"

<p> <input type="checkbox"/> Work May Proceed.          Review and Resubmit. Work May Proceed.          Subject to Incorporation of Changes          Indicated.  <input type="checkbox"/> Review and Resubmit. Work May Not Proceed.          Review Not Required. Work May Proceed.       </p>	<p>         DATE RECEIVED <u>6-12-95</u>          IMPORTANT! Permissives to proceed shall not          constitute acceptance or approval of design details,          calculations, drawings, test methods or materials          developed or submitted by the supplier and shall not          release supplier from full compliance with contractual          obligations.       </p>	<p>         SWG: <u>g/h</u>          DATE: <u>6/12/95</u>          MICHEL       </p>
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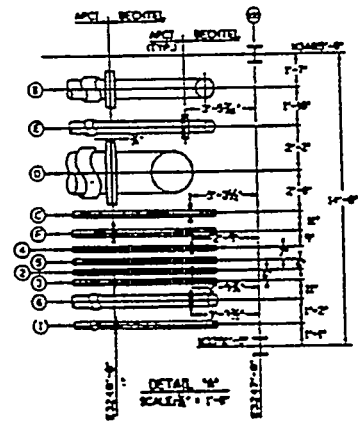
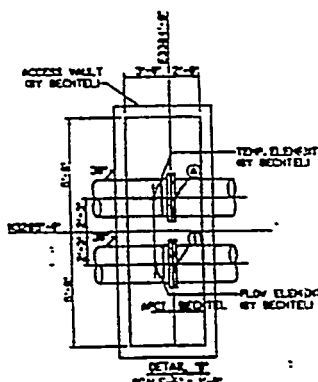


**KEY PLAN LEGEND**

- 1. GASIFICATION AND SLAG HANDLING
- 2. ACID GAS REMOVAL
- 3. AIR SEPARATION UNIT
- 4. SLPX RECEIPT
- 5. HOT GAS CLEAN-UP
- 6. MAKE-UP WATER TREATING
- 7. CONTROL AND GENERAL SERVICES BUILDING
- 8. COAL CRANING
- 9. CONSTRUCTION POWER FACILITIES
- 10. LMT. FACILITY AND HOLDING BACK
- 11. SANITARY WASTE TREATMENT
- 12. SLPX SAFTORY, PEL, AND STU
- 13. WAREHOUSE
- 14. MAINTENANCE SHOP
- 15. CONSTRUCTION LAYOUT AND TEMPORARY CONSTRUCTION PERSONNEL PARKING
- 16. MOBILE EQUIPMENT MAINTENANCE SHOP
- 17. SLPX GAS TREATMENT
- 18. ASU MATERIAL LAYOUT AND FABRICATION AREA

**EQUIPMENT LIST**

- |                  |                            |                 |  |
|------------------|----------------------------|-----------------|--|
| 1-ASU-C-01       | NAN AIR COMPRESSOR         | 1-ASU-EL-104    | N.P. CAN VENT SELDCOR                      |
| 1-ASU-P-301      | NAN AIR COMPRESSOR MOTOR   | 1-ASU-DG-101    | N.P. CAN COMPRESSOR LUBE OIL SKID          |
| 1-ASU-I-302A/B/C | NAN INTERCOOLERS           | 1-ASU-EL-101    | N.P. CAN COMPRESSOR DISCHARGE VENT SELDCOR |
| 1-ASU-I-303      | NAN AIR INLET FILTER       | 1-ASU-EL-102    | N.P. CAN COMPRESSOR SECTION SELDCOR        |
| 1-ASU-EL-302     | NAN AIR INLET SELDCOR      | 1-ASU-C-302     | N.P. CAN COMPRESSOR RECYCLE COOLER         |
| 1-ASU-EL-301     | NAN DISCHARGE SELDCOR      | 1-ASU-EL-301    | N.P. CAN COMPRESSOR DISCHARGE SELDCOR      |
| 1-ASU-EL-302     | NAN AFTERCOOLER            | 1-ASU-AC-302A/B | AIR ASSUMER VESSELS                        |
| 1-ASU-EL-301     | NAN DISCHARGE VENT SELDCOR | 1-ASU-ED-302A/B | ASSUMER YAWE SKIDS                         |
| 1-ASU-EL-301     | NAN LUBE OIL SKID          | 1-ASU-E-301     | ASSUMER AIR AFTERCOOLER                    |
| 1-ASU-C-301      | OPEN COMPRESSOR            | 1-ASU-RT-301    | ASSUMER AIR AFTERFILTR                     |
| 1-ASU-C-302      | OPEN COMPRESSOR            | 1-ASU-E-302     | ASSUMER REGENERATION HEATER                |
| 1-ASU-C-303      | OPEN COMPRESSOR            | 1-ASU-RT-302    | REGENERATION CAN AFTERFILTR                |
| 1-ASU-C-304      | OPEN COMPRESSOR            | 1-ASU-E-301     | CAN REGENERATION AFTERCOOLER               |
| 1-ASU-C-305      | OPEN COMPRESSOR            | 1-ASU-EL-301    | AIR BY-PASS SELDCOR                        |
| 1-ASU-C-306      | OPEN COMPRESSOR            | 1-ASU-EL-302    | AIR ASSUMER VENT SELDCOR                   |
| 1-ASU-C-307      | OPEN COMPRESSOR            | 1-ASU-EL-303    | DEFLECT VENT SELDCOR                       |
| 1-ASU-C-308      | OPEN COMPRESSOR            | 1-ASU-EL-304    | COLUMN CAN                                 |
| 1-ASU-C-309      | OPEN COMPRESSOR            | 1-ASU-DC-308    | HEAT EXCHANGER ENCLOSURE                   |
| 1-ASU-C-310      | OPEN COMPRESSOR            | 1-ASU-DC-302    | CROSSOVER                                  |
| 1-ASU-C-311      | OPEN COMPRESSOR            | 1-ASU-DC-303    | SUBCOOLER ENCLOSURE                        |
| 1-ASU-C-312      | OPEN COMPRESSOR            | 1-ASU-E-305     | DISPOSAL VAPORIZER                         |
| 1-ASU-C-313      | OPEN COMPRESSOR            | 1-ASU-C-302A/B  | ASU COMPRESSORS                            |
| 1-ASU-C-314      | OPEN COMPRESSOR            | 1-ASU-E-302     | COMPANER AFTERCOOLER                       |
| 1-ASU-C-315      | OPEN COMPRESSOR            | 1-ASU-DG-301    | COMPANER LUBE OIL SKID                     |
| 1-ASU-C-316      | OPEN COMPRESSOR            | 1-ASU-TX-378A/B | LIN BACK-UP TANKS                          |
| 1-ASU-C-317      | OPEN COMPRESSOR            | 1-ASU-EM-371    | LIN BACK-UP VAPORIZER                      |



**ASU PIPING/UTILITY INTERFACE SCHEDULE**

ITEM	DESCRIPTION	SIZE & COIL TYPE	MATERIAL & SCHEDULE	ROP ELEV.	P & B LINE NUMBER
1	COOLING WATER SUPPLY	36" 150# WF	FCO STL, ASME B16.41A	147'-0"	W-001-301-01-01
2	SERVICE WATER	24" 150# WF	FCO STL, ASME B16.41A	147'-0"	W-001-301-01-02
3	LOW PRESSURE CONDENSATE	24" 150# WF	FCO STL, ASME B16.41A	147'-0"	W-001-301-01-03
4	BACK-UP INSTRUMENT AIR	24" 150# WF	FCO STL, ASME B16.41A	147'-0"	W-001-301-01-04
5	INLET UTILITY AIR	24" 150# WF	FCO STL, ASME B16.41A	147'-0"	W-001-301-01-05
6	STEAM	6" 150# WF	FCO STL, ASME B16.41A	147'-0"	W-001-301-01-06
7	FIELD-CON/INTERCOM ELEV. BY BEUTEL				
8	ELECTRIC POWER 4.8E BY-301 & 302				
9	ELECTRIC POWER 4.8E BY-303				
10	ELECTRIC POWER 4.8E BY-304				
11	ELECTRIC POWER 4.8E BY-305				
12	ELECTRIC POWER 4.8E BY-306				
13	ELECTRIC POWER 4.8E BY-307				
14	ELECTRIC POWER 4.8E BY-308				
15	ELECTRIC POWER 4.8E BY-309				
16	ELECTRIC POWER 4.8E BY-310				
17	ELECTRIC POWER 4.8E BY-311				
18	ELECTRIC POWER 4.8E BY-312				
19	ELECTRIC POWER 4.8E BY-313				
20	ELECTRIC POWER 4.8E BY-314				
21	ELECTRIC POWER 4.8E BY-315				
22	ELECTRIC POWER 4.8E BY-316				
23	ELECTRIC POWER 4.8E BY-317				
24	ELECTRIC POWER 4.8E BY-318				
25	ELECTRIC POWER 4.8E BY-319				
26	ELECTRIC POWER 4.8E BY-320				

ITEM	DESCRIPTION	SIZE & COIL TYPE	MATERIAL & SCHEDULE	ROP ELEV.	P & B LINE NUMBER
A	COOLING WATER RETURN	36" 150# WF	FCO STL, ASME B16.41A	147'-0"	W-001-301-01-07
B	N.P. COIL PUMP	12" 150# WF	FCO STL, ASME B16.41A	147'-0"	W-001-301-01-08
C	L.P. COIL PUMP	6" 150# WF	FCO STL, ASME B16.41A	147'-0"	W-001-301-01-09
D	DEFLECT CAN PUMP	24" 150# WF	FCO STL, ASME B16.41A	147'-0"	W-001-301-01-10
E	N.P. CAN PUMP	6" 150# WF	FCO STL, ASME B16.41A	147'-0"	W-001-301-01-11
F	MES COIL PUMP	6" 150# WF	FCO STL, ASME B16.41A	147'-0"	W-001-301-01-12
G	STEAM WATER SURFACE DRAIN TO DETON				
H	PROCESS CONDENSATE DRAIN				
I	STEAM CONDENSATE RETURN				
J	EQUIPMENT DRAIN (CLEAN WATER)				
K	EQUIPMENT DRAIN (OILY WATER)				
L	GROUNDING LOOP TO BEUTEL STATION GROUND GRID				

NOTES:  
HIGH POINT OF FINISH GRADE ELEV. 188'-0" EQUALS PLANT ELEV. 147'-6"

V.P. - 22269-V-004-HAC 306/1  
EQUIP. NO.

**PRODUCTS**  
ALLIANT POWER, TAMPA

**TAMPA ELECTRIC**  
A TFCO COMPANY

NO. 1	DATE	BY	CHKD.

POLK POWER STATION UNIT 7  
FACILITY ARRANGEMENT  
AIR SEPARATION UNIT  
TAMPA ELECTRIC - POLK COUNTY, FL

42127-EY-241A 3  
3-7836-6279E 1

## EQUIPMENT LIST



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## 10.0 EQUIPMENT LIST

The equipment list for the Polk Power Station is included on the following pages.



TAMPA ELECTRIC COMPANY POLK POWER STATION FINAL PUBLIC DESIGN REPORT

TAG	EQUIPMENT NAME
UTILITIES	
AUXILIARY BOILER	
1-ABM-B -001	AUXILARY BOILER PACKAGE
1-ABF-DN -001	AUXILIARY BOILER DEAERATOR
1-ABA-FN -001	AUXILIARY BOILER COMBUSTION AIR FAN
1-ABF-P -001A/B	AUXILIARY BOILER FEEDWATER TRANSFER PUMP
GASIFICATION CLOSED LOOP COOLING WATER	
1-CCC-E -042	CLOSED LOOP EXCHANGER (GASIF.)
1-CCC-P -047A/B	CLOSED LOOP CIRCULATING PUMP (GASIF.)
1-CCC-TK -042	CLOSED LOOP EXPANSION TANK (GASIF.)
OPEN LOOP COOLING WATER	
1-CWS-CRN-041	TRAVELING WATER SCREEN GANTRY
1-CWS-FLT-009	GASIFICATION POND COOLING WATER FILTER
1-CWS-P -043A/B	CONDENSER COOLING WATER PUMPS
1-CWS-P -042A/B	OPEN LOOP COOLING WATER PUMPS
1-CWS-P -044A/B	TRAVELING SCREEN SPRAY PUMP
1-CWS-SCR-001A/B	TRAVELING WATER WASH SCREENS
1-CWS-SCR-003	TRAVELING WATER WASH SCREEN
FUEL OIL	
1-FOY-P -091A/B	FUEL OIL TRUCK UNLOADING PUMPS
1-FOY-P -092A/B	AUX. BOILER/THERMAL OXIDIZER FUEL OIL PUMPS
1-FOY-PKG-091	FUEL OIL TANK TRUCK UNLOADING STATION
1-FOY-TK -091	FUEL OIL STORAGE TANK
FIREWATER	
1-FPP-P -031A/B/C	FIREWATER PUMPS
1-FPP-P -032	FIRE WATER JOCKEY PUMP
1-FPP-TK -033A/B	DIESEL TANK FOR FIREWATER PUMPS
WELL WATER	
1-FWS-P -040A/B	WELLWATER PUMPS
1-FWS-P -041A/B	RESERVOIR MAKEUP WELLWATER PUMPS
PILOT GAS SYSTEM (PROPANE)	
1-PRO-E -001	PROPANE VAPORIZER
FLARE	
1-RSY-D -042	HOT GAS FLARE QUENCH DRUM
1-RSY-D -041	FLARE KNOCKOUT DRUM
1-RSY-FLR-041	ELEVATED FLARE
1-RSY-P -041A/B	FLARE KNOCKOUT DRUM PUMPS
1-RSY-P -042A/B	FLARE KNOCKOUT DRUM PUMPS
GASIFICATION	
BLACK WATER	
1-BLW-D -109	VACUUM FLASH DRUM
1-BLW-D -110	VACUUM FLASH KNOCKOUT DRUM
1-BLW-D -111	VACUUM PUMP KNOCKOUT DRUM
1-BLW-E -113	VACUUM FLASH OH CONDENSER
1-BLW-E -114	VACUUM PUMP HEAT EXCHANGER
1-BLW-P -110A/B	SETTLER FEED PUMPS
1-BLW-P -111A/B	VACUUM FLASH CONDENSATE PUMPS

TAMPA ELECTRIC COMPANY POLK POWER STATION FINAL PUBLIC DESIGN REPORT

1-BLW-P -112A/B	SOUR GAS VACUUM PUMPS
1-BLW-TK -102	GRAVITY SETTLER
SYNGAS CONDENSATE	
1-CSY-E -116	AMMONIA STRIPPER PREHEATER
1-CSY-P -107A/B	CONDENSATE RETURN PUMP
1-CSY-P -108A/B	STRIPPED CONDENSATE PUMPS
1-CSY-D -104	PROCESS CONDENSATE DRUM
BURNER COOLING WATER	
1-CWB-D -117	BURNER COOLING WATER KNOCKOUT DRUM
1-CWB-E -101	BURNER COOLING WATER COOLER
1-CWB-P -102A/B	BURNER COOLING WATER PUMP
1-CWB-TK -101	BURNER COOLING WATER TANK
FINES HANDLING	
1-FIN-BIN-102A/B	FINES DEWATERING BINS
1-FIN-CNV-104	FILTER CAKE CONVEYOR
1-FIN-D -117	FINES FILTER FILTRATE RECEIVER
1-FIN-FLT-101	FINES FILTER
1-FIN-MIX-102	FILTER FEED TANK AGITATOR
1-FIN-P -120A/B	FILTER FEED PUMPS
1-FIN-P -126	FINES FILTER FILTRATE PUMP
1-FIN-P -127	FINES FILTER VACUUM PUMP
1-FIN-P -131A/B	FINES SUMP PUMPS
1-FIN-SUMP-104	FINES SUMP
1-FIN-TK -105	FILTER FEED TANK
GASIFIER AND GAS COOLING	
1-GAS-BLOW-101	PREHEAT AIR BLOWER
1-GAS-BURN-102	PREHEAT BURNER
1-GAS-BURN-101	PROCESS BURNER
1-GAS-CRH-101	SLAG CRUSHER
1-GAS-D -102	HP STEAM DRUM
1-GAS-D -103	MP STEAM DRUM
1-GAS-D -113	SOOT BLOWING DRUM
1-GAS-D -114	SYNGAS COOLER BLOWDOWN DRUM
1-GAS-E -103	RAW GAS/NITROGEN EXCHANGER
1-GAS-E -104	CONVECTIVE SYNGAS COOLER
1-GAS-E -105	RADIANT SYNGAS COOLER
1-GAS-E -106	CONVECTIVE SYNGAS COOLER
1-GAS-E -107	CLEAN GAS PREHEATER
1-GAS-E -108	RAW GAS/CLEAN GAS EXCHANGER
1-GAS-E -109	RAW GAS CONNECTING DUCT I
1-GAS-E -110	RAW GAS CONNECTING DUCT II
1-GAS-E -111	TRANSFER LINE OUTLET
1-GAS-E -112	TRANSFER LINE INLET
1-GAS-E -113	CSC INLET CONE (RGCGE-SIDE)
1-GAS-E -114	TRANSFER PIPE
1-GAS-E -115	TRANSFER PIPE
1-GAS-E -116	CSC INLET CONE (RGNE-SIDE)
1-GAS-E -117	TRANSFER LINE INLET RGCGE-SIDE

TAMPA ELECTRIC COMPANY POLK POWER STATION FINAL PUBLIC DESIGN REPORT

1-GAS-E -118	TRANSFER LINE OUTLET RGNE-SIDE
1-GAS-E -119	RAW GAS CONNECTING DUCT I
1-GAS-E -120	RAW GAS CONNECTING DUCT II
1-GAS-E -121	SEAL WATER COOLER
1-GAS-EL -102	RSC MANLIFT
1-GAS-EL -101	GASIFIER FREIGHT ELEVATOR
1-GAS-LFT-101	GASIFIER LIFT REMOVAL WINCH
1-GAS-P -103A/B	SYNGAS COOLER CIRCULATING PUMP
1-GAS-P -104A/B	TRANSFER LINE CIRCULATING PUMP
1-GAS-P -130A/B	GASIFICATION SUMP PUMPS
1-GAS-REF-101	GASIFIER REFRACTORY
1-GAS-REV-101	GASIFIER
1-GAS-SUMP-103	GASIFICATION SUMP
GREY WATER	
1-GRW-P -114A/B	LOW PRESSURE GREY WATER PUMPS
1-GRW-P -115A/B	HIGH PRESSURE GREY WATER PUMPS
1-GRW-P -128A/B	GREY WATER FORWARDING PUMPS
1-GRW-TK -103	GREY WATER TANK
1-GRW-TK -108	GREY WATER STORAGE TANK
SYNGAS SCRUBBING	
1-RUB-COL-101A/B	SYNGAS SCRUBBER
1-RUB-NOZ-101A/B	START-UP ASPIRATOR
1-RUB-NOZ-102A/B	NOZZLE SCRUBBER
1-RUB-P -105A/B	SYNGAS SCRUBBER CIRCULATING PUMP
1-RUB-P -106A/B	SYNGAS SCRUBBER CIRCULATING PUMP
SLAG HANDLING	
1-SLG-BIN-101A/B	SLAG DEWATERING BINS
1-SLG-D -112	LOCKHOPPER FLUSH DRUM
1-SLG-DIV-101A/B	SLAG DIVERTER
1-SLG-E -115	LOCKHOPPER FLUSH WATER COOLER
1-SLG-LH -101	LOCKHOPPER
1-SLG-P -116A/B	LOCKHOPPER CIRCULATING PUMP
1-SLG-P -126A/B	FINES FILTER FILTRATE PUMP
1-SLG-P -127A/B	FINES FILTER VACUUM PUMP
1-SLG-P -129A/B	SLAG DEWATERING SUMP PUMPS
1-SLG-SUMP-102	SLAG DEWATERING SUMP
SLURRY PUMPING	
1-SLR-P -101A/B	SLURRY FEED PUMP
SYNGAS COOLING	
1-SNC-D -105	CLEAN GAS PREHEATER KNOCKOUT DRUM
1-SNC-D -107	EVAPORATOR CONDENSATE KO DRUM
1-SNC-D -108	TRIM COOLER KNOCKOUT DRUM
1-SNC-E -109	CLEAN GAS PREHEATER
1-SNC-E -111	STEAM TURBINE CONDENSATE HEATER
1-SNC-E -112	TRIM COOLER
SLAG PILE RUNOFF HANDLING	
1-SRW-P -190A/B	SLAG PILE AREA RUNOFF RETENTION BASIN PUMPS
1-SRW-P -191	SLAG PILE LEACHATE SUMP PUMP

TAMPA ELECTRIC COMPANY POLK POWER STATION FINAL PUBLIC DESIGN REPORT

1-SRW-SUMP-190	SLAG PILE AREA RUNOFF RETENTION BASIN
1-SRW-SUMP-191	SLAG PILE LEACHATE SUMP
AMMONIA STRIPPING	
1-STP-E -110	AMMONIA STRIPPER REBOILER
1-STP-D -115	AMMONIA STRIPPER REBOILER CONDENSATE POT
1-STP-COL-102	AMMONIA STRIPPER
1-STP-E -117	AMMONIA STRIPPER REFLUX COOLER
1-STP-P -109A/B	AMMONIA STRIPPER REFLUX PUMPS
FLOCCULANT INJECTION	
1-WTL-P -132A/B	FLOCCULANT PUMPS
1-WTL-PKG-101	FLOCCULANT INJECTION PACKAGE
1-WTL-MIX-104	ANIONIC FLOCCULANT TANK MIXER
1-WTL-MIX-103	CATIONIC FLOCCULANT TANK MIXER
1-WTL-TK -109	CATIONIC INJECTION TANK
1-WTL-TK -110	ANIONIC INJECTION TANK
ACID GAS REMOVAL	
1-USY-COL-201	WATER WASH COLUMN
1-USY-COL-202	ACID GAS ABSORBER
1-AMR-COL-203	AMINE STRIPPER
1-TSY-D -201	CLEAN GAS KNOCKOUT DRUM
1-CNH-D -202	AMINE STRIPPER REBOILER POT
1-ACG-D -203	AMINE STRIPPER REFLUX DRUM
1-AML-E -201A/B	LEAN AMINE COOLER
1-AMR-E -202	LEAN/RICH AMINE EXCHANGER
1-ACG-E -203	REFLUX CONDENSER
1-STP-E -204	STRIPPER REBOILER
1-PCW-E -205	WASH WATER COOLER
1-AMR-FLT-202	RICH AMINE CARTRIDGE FILTER
1-AMR-FLT-203	RICH AMINE CARBON FILTER
1-AMR-FLT-204	RICH AMINE CARBON AFTER FILTER
1-AML-FLT-205	AMINE SUMP FILTER
1-PCW-FLT-206	WASH WATER MAKEUP FILTER
1-PCW-P -201A/B	CIRCULATION WASH PUMP
1-AML-P -202A/B	LEAN AMINE PUMPS
1-AML-P -203A/B	AMINE STRIPPER BOTTOMS PUMPS
1-AML-P -204	AMINE SOLVENT SUMP PUMP
1-SRH-P -205A/B	AMINE REFLUX PUMPS
1-AML-P -206	AMINE SUMP PUMP
1-AML-SUMP-201	AMINE SUMP
1-AML-TK -201	AMINE STORAGE TANK
AIR SEPARATION UNIT	
1-ASU-ADS-360	AIR ADSORBER SYSTEM
1-ASU-C -301	MAIN AIR COMPRESSOR
1-ASU-C -303	GOX COMPRESSOR
1-ASU-C -304	DILUENT GAN COMPRESSOR
1-ASU-C -305	HP GAN COMPRESSOR
1-ASU-COL-381	HP COLUMN
1-ASU-COL-382	LP COLUMN

TAMPA ELECTRIC COMPANY POLK POWER STATION FINAL PUBLIC DESIGN REPORT

1-ASU-P -311A/B	MAC LUBE OIL PUMPS
1-ASU-P -331A/B	GOX COMPRESSOR LUBE OIL PUMPS
1-ASU-P -341A/B	DILUENT GAN COMPRESSOR LUBE OIL PUMPS
1-ASU-P -351A/B	HP GAN COMPRESSOR LUBE OIL PUMPS
1-ASU-RESV-311	MAC LUBE OIL RESERVOIR
1-ASU-RESV-331	GOX COMPRESSOR LUBE OIL RESERVOIR
1-ASU-RESV-341	DILUENT GAN COMPRESSOR LUBE OIL RESERVOIR
1-ASU-RESV-351	HP GAN COMPRESSOR LUBE OIL RESERVOIR
1-ASU-SIL-310	MAC INLET SILENCER
1-ASU-SIL-311	MAC DISCHARGE SILENCER
1-ASU-SIL-312	MAC DISCHARGE VENT SILENCER
1-ASU-SIL-330	GOX COMPRESSOR SUCTION VENT SILENCER
1-ASU-SIL-331	GOX COMPRESSOR DISCHARGE VENT SILENCER
1-ASU-SIL-340	DILUENT GAN COMPRESSOR DISCHARGE VENT SILENCER
1-ASU-SIL-350	PURE GAN VENT SILENCER
1-ASU-SIL-351	HP GAN VENT SILENCER
1-ASU-SKD-306	ASU ADSORBER SKID
1-ASU-SKD-311	MAC LUBE OIL SKID
1-ASU-SKD-331	GOX LUBE OIL SKID
1-ASU-SKD-341	DILUENT GAN LUBE OIL SKID
1-ASU-SKD-351	HP GAN LUBE OIL SKID
1-ASU-SKD-360	ASU ADSORBER SKID
1-ASU-SP -312	MAC AFTERCOOLER SEPARATOR
1-ASU-TK-360	GAN RINSE BOTTLE
1-ASU-TK-370	LIN BACKUP TANK
	OTHER ASU EQUIPMENT
HOT GAS CLEAN-UP (HGCU)	
1-HTG-ADS-501	ABSORBER
1-HTG-BIN-502	REGENERATOR SORBENT BIN
1-HTG-BIN-503	SORBENT MAKE-UP SILO
1-HTG-BIN-504	SODIUM BICARBONATE STORAGE SILO
1-HTG-BLOW-501	FINES SEPARATOR BAGHOUSE FAN
1-HTG-BLOW-502	SODIUM BICARBONATE MILL/CLASSIFIER BAGHOUSE FAN
1-HTG-C -501	RECYCLE GAS COMPRESSOR
1-HTG-C -502	PURGE RE-COMPRESSION SYSTEM RECEIVER COMPRESSOR
1-HTG-CH-501	START-UP HEATER
1-HTG-COLL-501	PRIMARY CYCLONE WITH INTEGRAL KQ DRUM
1-HTG-COLL-503	SECONDARY CYCLONE
1-HTG-CRN-501A	SKIP HOIST A
1-HTG-CRN-501B	SKIP HOIST B
1-HTG-E-501	REGENERATOR GAS GAS HEAT EXCHANGER
1-HTG-FDR-501	SODIUM BICARBONATE ROTARY FEEDER
1-HTG-FDR-502	REGENERATOR OUTLET ROTARY FEEDER
1-HTG-FDR-503	SODIUM BICARBONATE SCREW FEEDER
1-HTG-FLT-501	BARRIER FILTER
1-HTG-FLT-502	FINES SEPARATOR BAGHOUSE
1-HTG-FLT-503	SODIUM BICARBONATE STORAGE SILO BAGHOUSE
1-HTG-FLT-504	SODIUM BICARBONATE MILL/CLASSIFIER BAGHOUSE BIN

TAMPA ELECTRIC COMPANY POLK POWER STATION FINAL PUBLIC DESIGN REPORT

1-HTG-GDR-501	SODIUM BICARBONATE MILL/CLASSIFIER
1-HTG-GDR-502	SODIUM BICARBONATE MILL/CLASSIFIER
1-HTG-LH-501	ABSORBER INLET LOCKHOPPER
1-HTG-LH-502	ABSORBER OUTLET LOCKHOPPER
1-HTG-LH-503	REGENERATOR OUTLET LOCKHOPPER
1-HTG-LH-506	BARRIER FILTER LOCKHOPPER
1-HTG-LH-507	SECONDARY CYCLONE LOCKHOPPER
1-HTG-LH-508	SODIUM BICARBONATE CHARGE LOCKHOPPER
1-HTG-LH-509	SODIUM BICARBONATE RUN LOCKHOPPER
1-HTG-PWRS-501	HYDRAULIC POWER UNIT FOR VALVES
1-HTG-REV-501	REGENERATOR
1-HTG-SG-501	STEAM GENERATOR
1-HTG-SP-501A	REGENERATOR FINES SEPARATOR A
1-HTG-SP-501B	REGENERATOR FINES SEPARATOR B
1-HTG-TC-501A	FINES SEPARATOR A OVERFLOW TELESCOPING CHUTE
1-HTG-TC-501B	FINES SEPARATOR B OVERFLOW TELESCOPING CHUTE
1-HTG-TC-502A	SKIP HOIST A TELESCOPING CHUTE
1-HTG-TC-502B	SKIP HOIST B TELESCOPING CHUTE
1-HTG-TC-503	BARRIER FILTER LOCKHOPPER TELESCOPING CHUTE
1-HTG-TC-504A	FINES SEPARATOR A UNDERFLOW TELESCOPING CHUTE
1-HTG-TC-504B	FINES SEPARATOR B UNDERFLOW TELESCOPING CHUTE
1-HTG-TC-505	PURGE RECOMPRESSION TELESCOPING CHUTE
1-HTG-TK-501	PURGE RE-COMPRESSION SYSTEM RECEIVER TANK
1-HTG-TK-502	ELECTRICALLY HEATED BLOWBACK NITROGEN RECEIVER
CAUSTIC STORAGE AND PUMPING	
1-CAU-TK -606	CAUSTIC STORAGE TANK
1-CAU-P -622A/B	DEGASIFIER CAUSTIC METERING PUMPS
CONDENSATE COLLECTION	
1-CNH-D -603	LOW PRESSURE FLASH DRUM
1-CNH-D -604	ATMOSPHERIC FLASH DRUM
1-CNH-P -626A/B	CONDENSATE TRANSFER PUMPS
POTABLE WATER	
1-DWS-ACC-601	POTABLE WATER ACCUMULATOR
1-DWS-FLT-604A/B	POTABLE WATER ACTIVATED CARBON FILTERS
1-DWS-P -607A/B	POTABLE WATER PUMPS
1-DWS-TK -602	POTABLE WATER STORAGE TANK
INSTRUMENT AIR/PLANT AIR	
1-IAS-C -601A/B	PLANT AND INSTRUMENT AIR COMPRESSOR PACKAGE
1-IAS-D -605	INSTRUMENT AIR RECEIVER
1-SAS-D -605	AIR RECEIVER
1-IAS-DRY-601	INSTRUMENT AIR DRYER PACKAGE
STORMWATER COLLECTION AND TREATMENT	
1-SRW-FLTM-684	WASTEWATER FILTER CARRIAGE DRIVE
1-SRW-FLT-684	WASTEWATER FILTER
1-SRW-P -007A/B	PROCESS UNIT AREA RUNOFF DIVERSION BOX PUMPS
1-SRW-P -019	LABORATORY WASTES LIFT STATION PUMP
1-SRW-P -683A/B	WASTEWATER TRANSFER PUMPS
1-SRW-P -685A/B	IWT EFFLUENT PUMPS

TAMPA ELECTRIC COMPANY POLK POWER STATION FINAL PUBLIC DESIGN REPORT

1-SRW-P -686	WASTEWATER FILTER BACKWASH PUMP
1-SRW-P -687	WASHWATER PUMP
1-SRW-SUMP-007	PROCESS UNIT AREA RUNOFF DIVERSION BOX
1-SRW-SUMP-016	BRINE SOLIDS LANDFILL LEACHATE SUMP
1-SRW-SUMP-019	LABORATORY WASTES LIFT STATION
1-SRW-SUMP-683	WASTEWATER EQUALIZATION BASIN
1-SRW-SUMP-685	CLEARWELL
1-SRW-TK -020	CHEMICAL CLEANING WASTE TANK
SANITARY WASTE	
1-TSW-BLOW-650A/B	VENDOR PACKAGE AIR BLOWERS
1-TSW-FLT-650A/B	SAND FILTER (VENDOR PACKAGE)
1-TSW-P -001A/B	CONTROL ROOM SANITARY SUMP PUMP
1-PBS-P -651A/B	CHOPPER/LIFT PUMP
1-TSW-P -652	VENDOR PACKAGE AIR PUMP
1-TSW-PKG-650	SANITARY WASTEWATER TREATMENT PACKAGE
1-TSW-SUMP-001	CONTROL ROOM SANITARY SUMP
1-PBS-SUMP-650	LIFT STATION SUMP WITH BAR SCREEN
1-TSW-TK -650A/B/C	AERATION/CLARIF./SLUDGE THICKENING/DIGESTION TANKS
DEMINERALIZED WATER	
1-WDD-BLOW-602A/B	DECARBONATOR BLOWERS
1-WDD-D -602	DECARBONATOR/ SURGE TANK
1-WDD-FLT-602A/B	ACTIVATED CARBON FILTERS
1-WDD-FLT-603A/B	RO CARTRIDGE FILTERS
1-WDD-FLT-606	RO CLEAN IN-PLACE CARTRIDGE FILTER
1-WDD-MIX-602	SCALE INHIBITOR MIXER
1-WDD-P -608A/B/C	RO FEED PUMPS
1-WDD-P -609A/B/C	DEMINERALIZER FEED PUMPS
1-WDD-P -610A/B	DEMINERALIZED WATER TRANSFER PUMPS
1-WDD-P -618A/B	SCALE INHIBITOR METERING PUMPS
1-WDD-P -619	RO CLEAN IN-PLACE PUMP
1-WDD-PKG-600	BOILER FEEDWATER TREATMENT SYSTEM
1-WDD-RO -601A/B	REVERSE OSMOSIS TRAINS
1-WDD-SUMP-601	WELLWATER TREATMENT CHEMICAL STORAGE AREA SUMP
1-WDD-TK -603	DEMINERALIZED WATER STORAGE TANK
1-WDD-TK -608	SCALE INHIBITOR STORAGE TANK
1-WDD-TK -610	RO CLEAN IN-PLACE TANK
OILY WATER SYSTEM	
1-WOW-CLR-698	DAF SKIMMER/SCRAPER
1-WOW-P -002	SPCC TANK PUMP
1-WOW-P -697A/B	DAF RECYCLE PUMPS
1-WOW-P -699	DAF POLYMER FEED PUMP
1-WOW-SP -693	OILY WASTEWATER OIL/WATER SEPARATOR
1-WOW-SP -694	DISSOLVED AIR FLOTATION UNIT
1-WOW-TK -002	SPILL PREVENTION CONTROL COUNTERMEASURE TANK
1-WOW-TK -696	SKIMMED OIL TANK
1-WOW-TK -697	DAF AIR SATURATION TANK
1-WOW-TK -698	DAF CLARIFIER TANK
SERVICE WATER	

TAMPA ELECTRIC COMPANY POLK POWER STATION FINAL PUBLIC DESIGN REPORT

1-WSR-P -123	SERVICE WATER BOOSTER PUMP
1-WSR-P -606A/B	SERVICE WATER PUMPS
1-WSR-TK -601	SERVICE WATER STORAGE TANK
WATER TREATMENT SULFURIC ACID STORAGE AND PUMPING	
1-WTA-P -613A/B	RO SULFURIC ACID METERING PUMPS
1-WTA-P -623A/B	DEGASIFIER SULFURIC ACID METERING PUMPS
1-WTA-P -625	NEUTRALIZING SULFURIC ACID METERING PUMP
1-WTA-TK -605	SULFURIC ACID STORAGE TANK
WELL WATER TREATMENT	
1-WTF-BLOW-601A/B	H2S DEGASIFIER BLOWERS
1-WTF-D -601	H2S DEGASIFIER WITH SURGE CAPACITY
1-WTF-FLT-601A/B	WELL WATER FILTERS
1-WTF-P -602A/B	FILTER FEED PUMP
HYPOCHLORITE STORAGE AND PUMPING	
1-WTH-P -044A/B	OPEN LOOP HYPOCHLORITE METERING PUMP
1-WTH-P -045A/B	CONDENSER HYPOCHLORITE METERING PUMP
1-WTH-P -603A/B	SERVICE WATER HYPOCHLORITE METERING PUMPS
1-WTH-P -605A/B	POTABLE WATER HYPOCHLORITE METERING PUMPS
1-WTH-P -621	SANITARY SYSTEM HYPOCHLORITE METERING PUMP
1-WTH-P -687	WASTEWATER FILTER HYPOCHLORITE METERING PUMP
1-WTH-TK -041	COOLING WATER HYPOCHLORITE STORAGE TANK
1-WTH-TK -604	WELLWATER TREATMENT HYPOCHLORITE STORAGE TANK
1-WTH-TK -609	WASTEWATER TREATMENT HYPOCHLORITE STORAGE TANK
BRINE CONCENTRATION	
1-BRC-C -701	EVAPORATOR VAPOR COMPRESSOR
1-BRC-D -701	EVAPORATOR CONDENSATE KO DRUM
1-BRC-D -702	EVAPORATOR CONDENSATE DRIER VAPOR SCRUBBER
1-BRC-D -703	VACUUM PUMP KNOCKOUT DRUM
1-BRN-DRY-701	ROTARY DRUM DRYER
1-BRC-DSU-701	DESUPERHEATER
1-BRN-E -701	GREY WATER PREHEATER
1-BRC-E -702	BACKUP CONDENSER
1-BRN-E -703	FORCED CIRCULATION EVAPORATOR HEATER
1-BRC-E -704	FORCED CIRCULATION EVAPORATOR CONDENSER
1-BRC-E -705	SCRUBBER CIRCULATION COOLER
1-BRC-E -706	VACUUM PUMP HEAT EXCHANGER
1-BRN-EV -701	GREY WATER EVAPORATOR
1-BRN-EV -702	FORCED CIRCULATION EVAPORATOR
1-BRN-P -701A/B	BRINE RECIRCULATION PUMPS
1-BRC-P -702A/B	EVAPORATOR CONDENSATE PUMPS
1-BRC-P -710A/B	SOUR GAS VACUUM PUMP
1-BRN-TK -702	BRINE STORAGE TANK
1-BRC-TK -703	EVAPORATOR CONDENSATE STORAGE TANK
1-BRN-TK -704	CONCENTRATED BRINE STORAGE TANK
COAL HANDLING/SLURRY PREPARATION	
1-CYH-BIN-801	TRUCK HOPPER AND GRATING
1-FCS-BIN-801	COAL STORAGE BIN
1-CYC-BIN-802A/B	COAL STORAGE SILOS



TAMPA ELECTRIC COMPANY POLK POWER STATION FINAL PUBLIC DESIGN REPORT

1-DSS-PKG-801	DUST SUPPRESSION SYSTEM (TRUCK HOPPER)
1-AMM-PKG-801A/B	COAL AMMONIA INJECTION PACKAGE
1-CYH-S -801	MAGNETIC SEPARATOR
1-FCS-SCR-801A/B	TROMMEL SCREENS
1-SLR-SCR-802A-D	SLURRY VIBRATING SCREEN
1-CYH-SUMP-801	UNLOADING AREA SUMP
1-SLR-SUMP-801	GRINDING SUMP
1-CYH-SUMP-802	RECLAIM AREA SUMP
1-SLA-TK -801	SLURRY ADDITIVE TANK
1-SLR-TK -802A/B	MILL DISCHARGE TANK
1-SLW-TK -803	RECYCLE WATER TANK
1-SLR-TK -804A/B	SLURRY RUN TANK
1-SLW-TK -805	FLUSH WATER TANK
1-SLW-TK -806	PURGE WATER TANK
POWER GENERATION	
1-WTS-A -901	STEAM/WATER SAMPLING AND MONITORING PANEL
1-PWR-CRN-901	DOUBLE GIRDER ELEC. OVHD. TRAVELING CRANE
1-DET-D -901	HRSG BLOWDOWN TANK
1-DET-D -902	CONDENSATE RECEIVER
1-DET-D -903	CONDENSATE RETURN UNIT
1-SLP-DES-901	LOW PRESSURE ATTEMPERATOR
1-PWR-E -901	CONDENSER
1-ABM-E -901	ELECTRIC SUPERHEATER PACKAGE
1-CCC-E -901A/B	POWER BLOCK CLOSED LOOP HEAT EXCHANGER
1-CWS-FLT-901	POWER BLOCK OPEN LOOP COOLING WATER FILTER
1-PWR-GTG-901	GAS TURBINE
1-WTS-MIX-903	PHOSPHATE MIXER
1-WOW-P -901	POWER BLOCK OILY WATER SUMP PUMP
1-LOS-P -901	LUBE OIL TRANSFER PUMP
1-CNH-P -901A/B	CONDENSATE PUMP
1-ARC-P -901A/B	CONDENSER VACUUM PUMPS
1-DET-P -901A/B	CONDENSATE RETURN PUMPS
1-HOL-P -901A/B	LOW PRESSURE ECONOMIZER RECIRC. PUMPS
1-CCC-P -901A/B	POWER BLOCK CLOSED LOOP COOLING WATER PUMPS
1-FWT-P -901A/B	FEEDWATER TRANSFER PUMPS
1-WTS-P -901A/B	HYDRAZINE METERING PUMPS
1-WTS-P -901A/B	AMMONIA STRIPPER REBOILER CONDENSATE POT PUMPS
1-CNH-P -902	CONDENSATE MAKE-UP PUMP
1-DET-P-902	CONDENSATE RETURN UNIT SUMP PUMP
1-WOW-P -902	BLOWDOWN SUMP PUMP
1-DET-P -902A/B	HRSG BLOWDOWN SUMP PUMPS
1-HOL-P -902A/B	LOW PRESSURE BFW PUMPS
1-WTS-P -902A/B	AMMONIA METERING PUMPS
1-ARC-P -902A/B	CONDENSER WATERBOX AIR REMOVAL VACUUM PUMPS
1-HOL-P-902A/B	LOW PRESSURE BFW PUMPS
1-WTS-P -903A/B/C	PHOSPHATE METERING PUMPS
1-HAS-PKG-901	GAS TURBINE GENERATOR HYDRAULIC POWER UNIT
1-HAS-PKG-902	STEAM TURBINE GENERATOR HYDRAULIC POWER UNIT

TAMPA ELECTRIC COMPANY POLK POWER STATION FINAL PUBLIC DESIGN REPORT

1-SHP-SG -901	HEAT RECOVERY STEAM GENERATOR
1-PWR-STG-901	STEAM TURBINE
1-WOW-SUMP-901	POWER BLOCK OILY WATER SUMP
1-DET-SUMP-901	HRSG BLOWDOWN/NEUTRALIZATION SUMP
1-DET-SUMP-902	CONDENSATE RETURN UNIT SUMP
1-LOS-TK -901	CLEAN AND DIRTY LUBE OIL TANK
1-WTS-TK -901	HYDRAZINE STORAGE TANK
1-CNH-TK -901	CONDENSATE STORAGE TANK
1-DET-TK -901	GAS TURBINE DRAINS TANK
1-CCC-TK -901	POWER BLOCK CLOSED LOOP COOLING WATER HEAD EXP. TANK
1-WTS-TK -902	AMMONIA STORAGE TANK
1-WTS-TK -903	PHOSPHATE STORAGE TANK
1-TML-V -901	STG LUBE OIL CONDITIONER

## MISCELLANEOUS DRAWINGS

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## 11.0 MISCELLANEOUS DRAWINGS

### 11.1 PROJECT SCHEDULE

### 11.2 ELECTRICAL ONE-LINE DIAGRAM

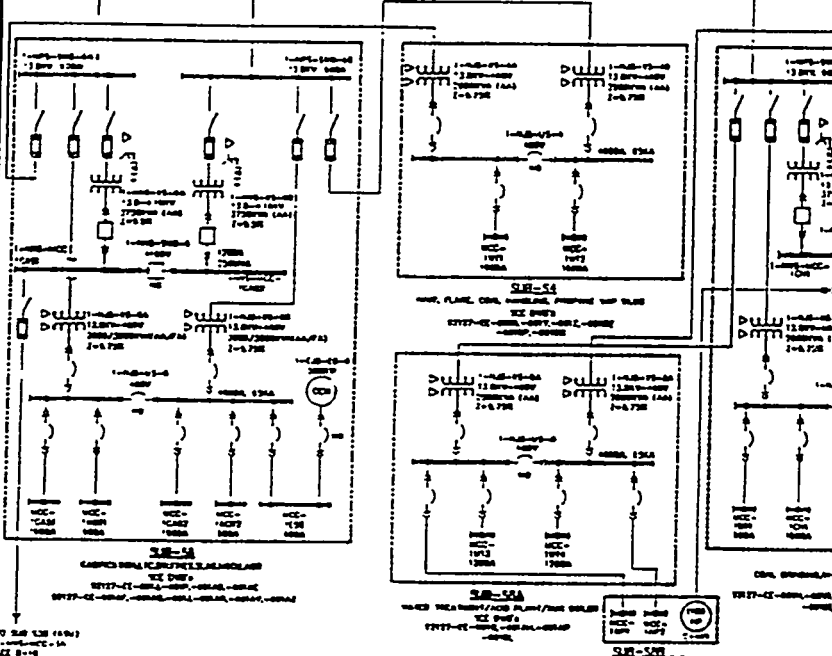
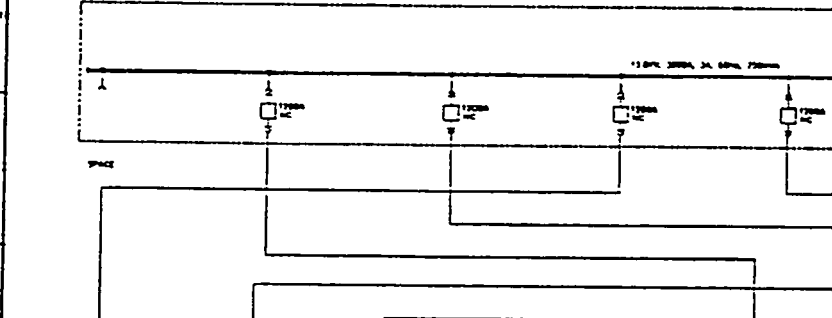
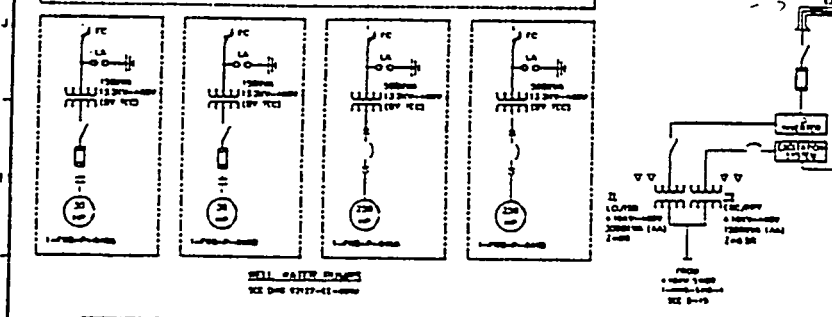
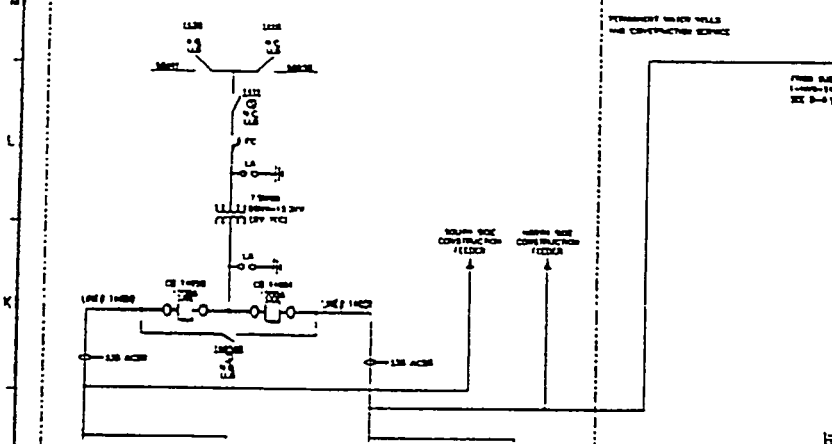
### 11.3 PROCESS FLOW DIAGRAMS

92127-PFD-1-1B Overall Process Flow Diagram (Sheet 1 of 2)

92127-PFD-1-1C Overall Process Flow Diagram (Sheet 2 of 2)







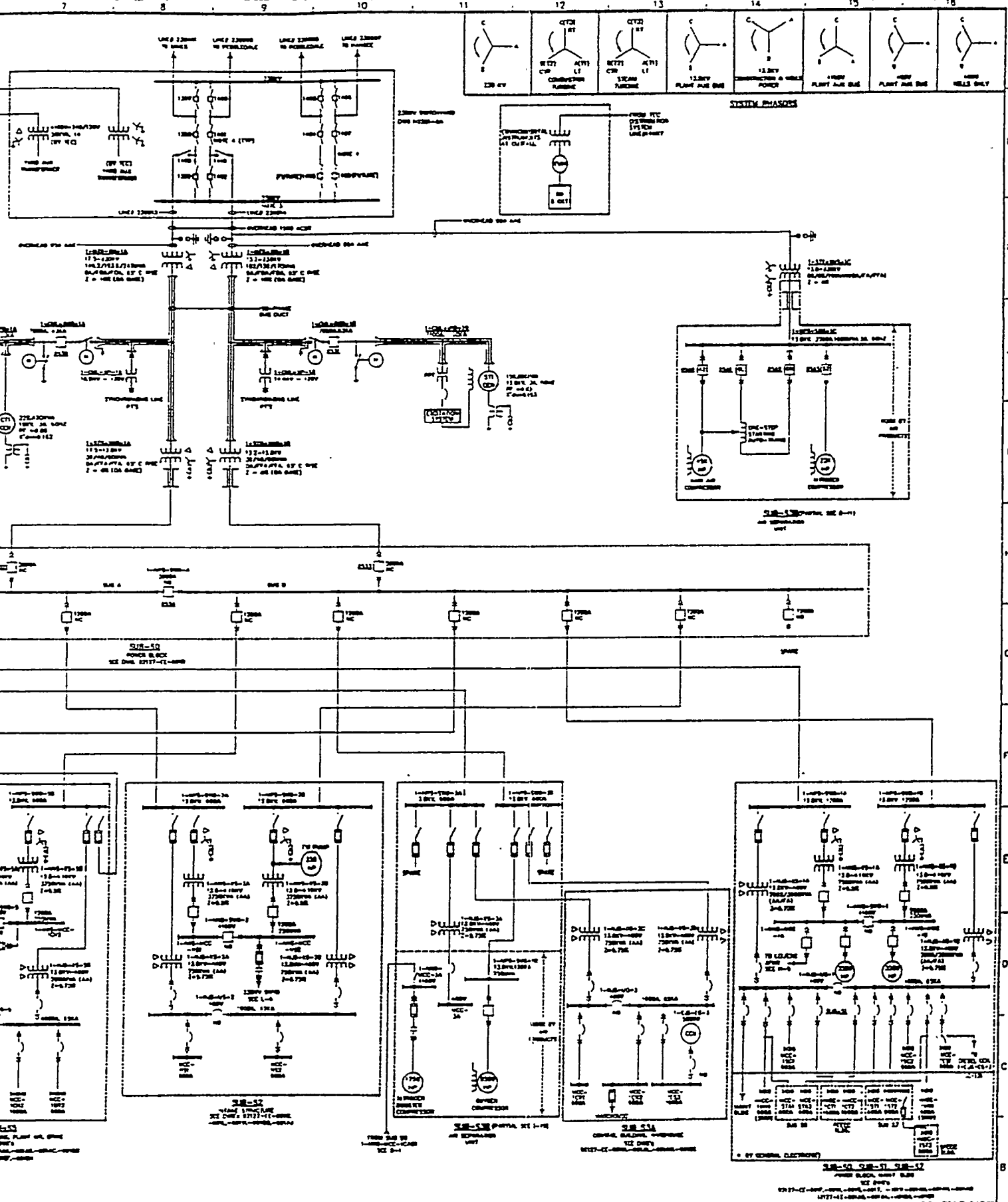
**NOTES**

1. DOUBLE-CHECK 120V AND 240V CIRCUITS HAVE FAULT PROTECTOR SCHEM.
2. DOUBLE-CHECK AND CHECK WITH SUB CONTRACTOR SCHEM.
3. USE VSD.
4. INSURE CONTACTS ARE CLEANED EVERY 30 DAYS OR 1000 CYCLES.
5. SWITCH CONTACTS ARE AS FOLLOWS: 120V - 240V AND 120V.
6. ALL 120V WCC'S HAVE A 120V CONTACT BLADE OF 1/16".

**REVISION NOTES**

REV. 1. CORRECTED WIRING SCHEM, ADDED 120V AND 240V SCHEM, ADDED 120V AND 240V SCHEM, ADDED 120V AND 240V SCHEM, ADDED 120V AND 240V SCHEM.

DATE: 12/15/72  
BY: [Signature]



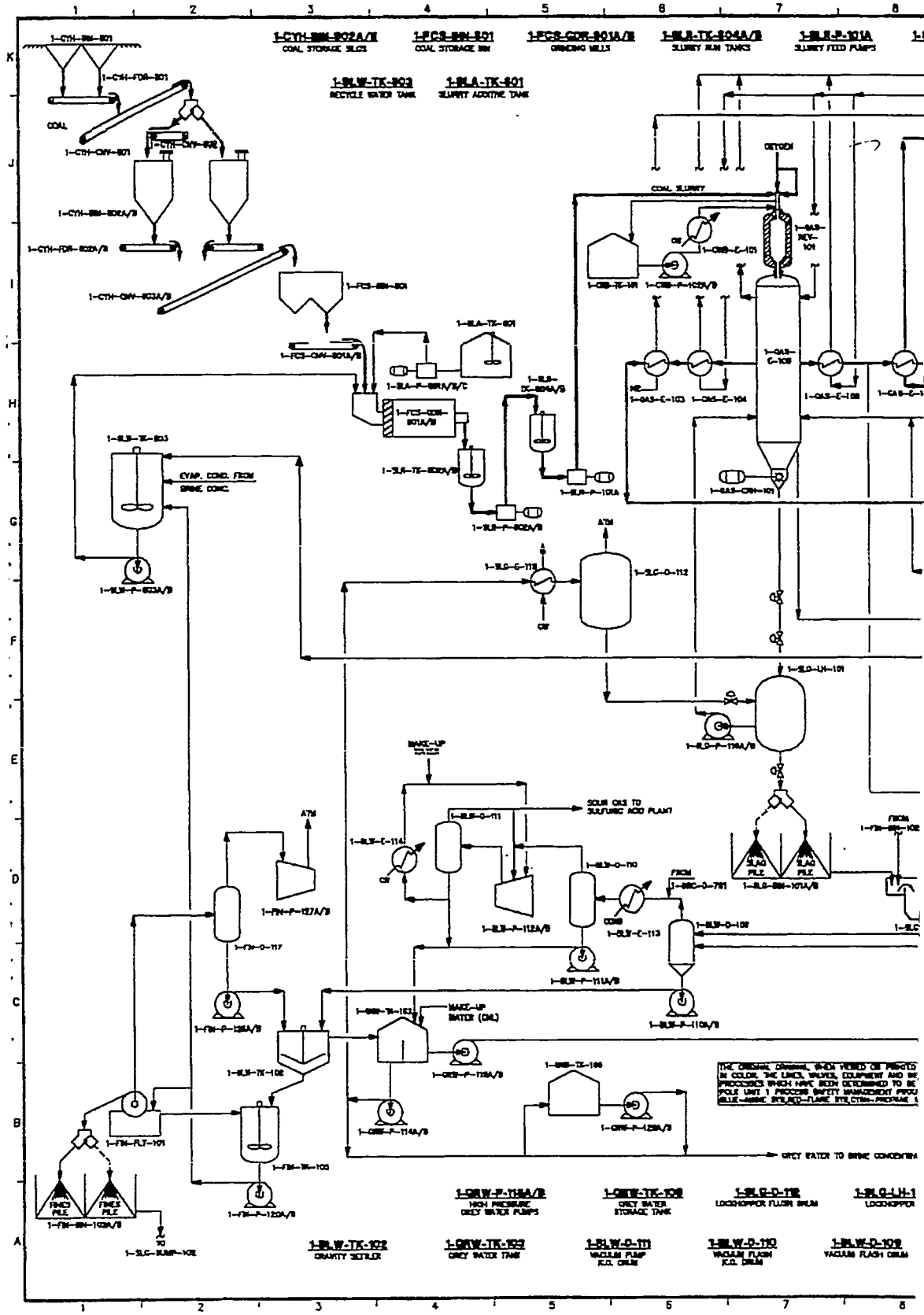
NO.	DATE	REVISION	BY	CHKD	APP'D
1	7/20/64	SEE REVISED WORK			
2	8/11/64	NEED FOR CONSTRUCTION			

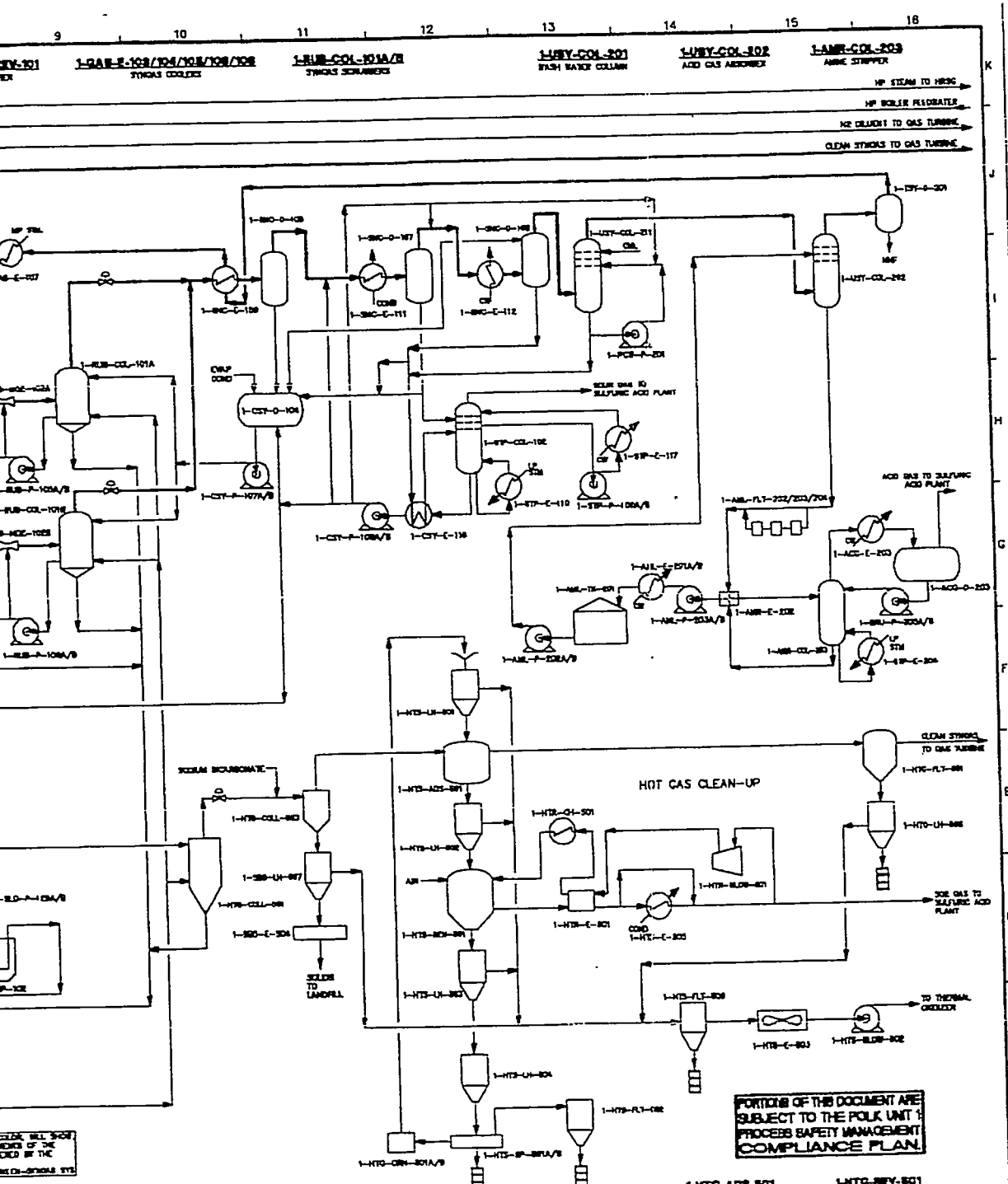
  

BECHTEL JOB NO. 22269	TAMPA ELECTRIC A TECO ENERGY COMPANY	<b>POLK POWER STATION UNIT # 1</b> <b>ELECTRICAL</b> <b>OVERALL</b> <b>ONE LINE DIAGRAM</b>
DRAWN BY [DATE 8-6-64] CHECKED BY [DATE 8-6-64] APPROVED BY [DATE 8-6-64]	DRAWING NO. 92127-EE-001A	SHEET NO. 7

7 8 9 10 11 12 13 14 15 16  
 A B C D E F G H J K L M  
 PAT. APPL. FOR REGISTERED TRADEMARK. SEE SUBSTATION 910





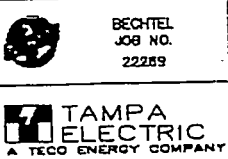


PORTIONS OF THIS DOCUMENT ARE SUBJECT TO THE POLK UNIT 1 PROCESS SAFETY MANAGEMENT COMPLIANCE PLAN.

1-HTS-COLL-801 PRIMARY CYCLONE  
1-HTS-COLL-802 SECONDARY CYCLONE

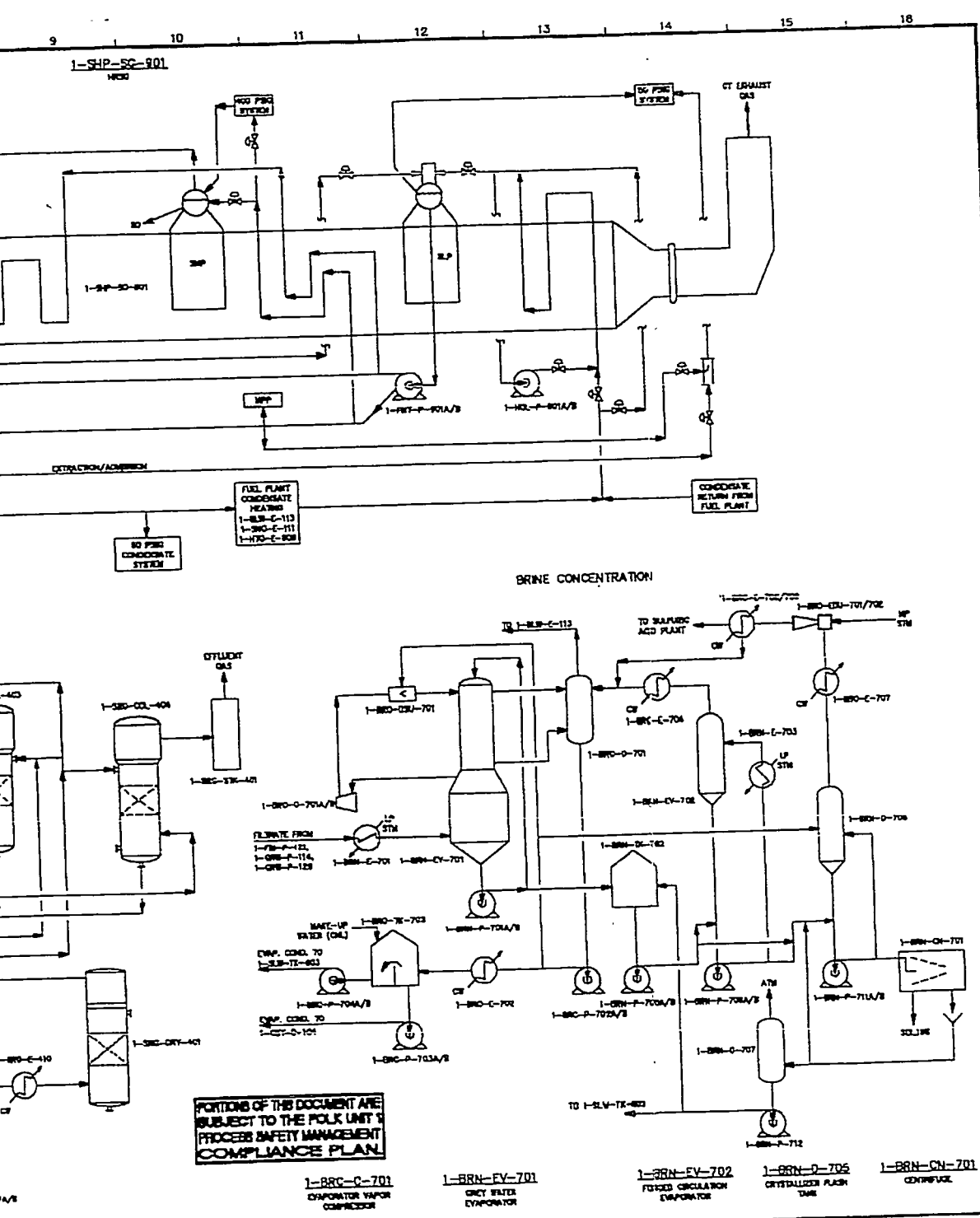
1-HTS-ABS-801 ABSORBER  
1-HTS-STR-801 STRIPPER

DA/25/88	REVISED PROCESS SAFETY MANUAL	ENG			DAC
01/25/89	REVISED 1-HTS-C-808	SM/AC	SYC	JB	
08/27/84	REVISED FLAG HANDLING AND FIRES FLEED AREAS	SM/AC	SYC	JB	
02/15/84	RE-DESIGNED FOR INFORMATION	SM/AC	SYC		
07/22/83	DESIGNED FOR INFORMATION	SM/AC	SYC		
NL	DATE	REVISION	BY	CHKD	APPROV



POLK POWER STATION # 1 PROCESS FLOW DIAGRAM OVERALL PROCESS FLOW DIAGRAM (SHEET 1 OF 2)			
DESIGNED	DATE	DRAWING NO.	REV
CHECKED	DATE	92127-PFD-1-18	E
APPROVED	DATE		





PORTIONS OF THIS DOCUMENT ARE SUBJECT TO THE POLK UNIT 1 PROCESS SAFETY MANAGEMENT COMPLIANCE PLAN.

- 1-BRC-C-701 EXPONATOR VAPOR COMPRESSOR
- 1-BRN-FV-701 ONLY WATER EVAPORATOR
- 1-BRN-FV-702 FORCED CIRCULATION EVAPORATOR
- 1-BRN-D-705 CRYSTALLIZER PLUGH TANK
- 1-BRN-CN-701 CONDENSER

DATE	BY	REVISION	DESCRIPTION
04/28/84	REWORKED	PROCES SAFETY MANUAL	
11/23/84	REWORKED	HEAT EXCHANGER PLANT	
04/27/84	REWORKED	WALK SHEETS AND RE-REWORKED SULFURIC ACID PLANT	
04/18/84	RE-ISSUED	FOR INFORMATION	
07/12/83	ISSUED	FOR INFORMATION	

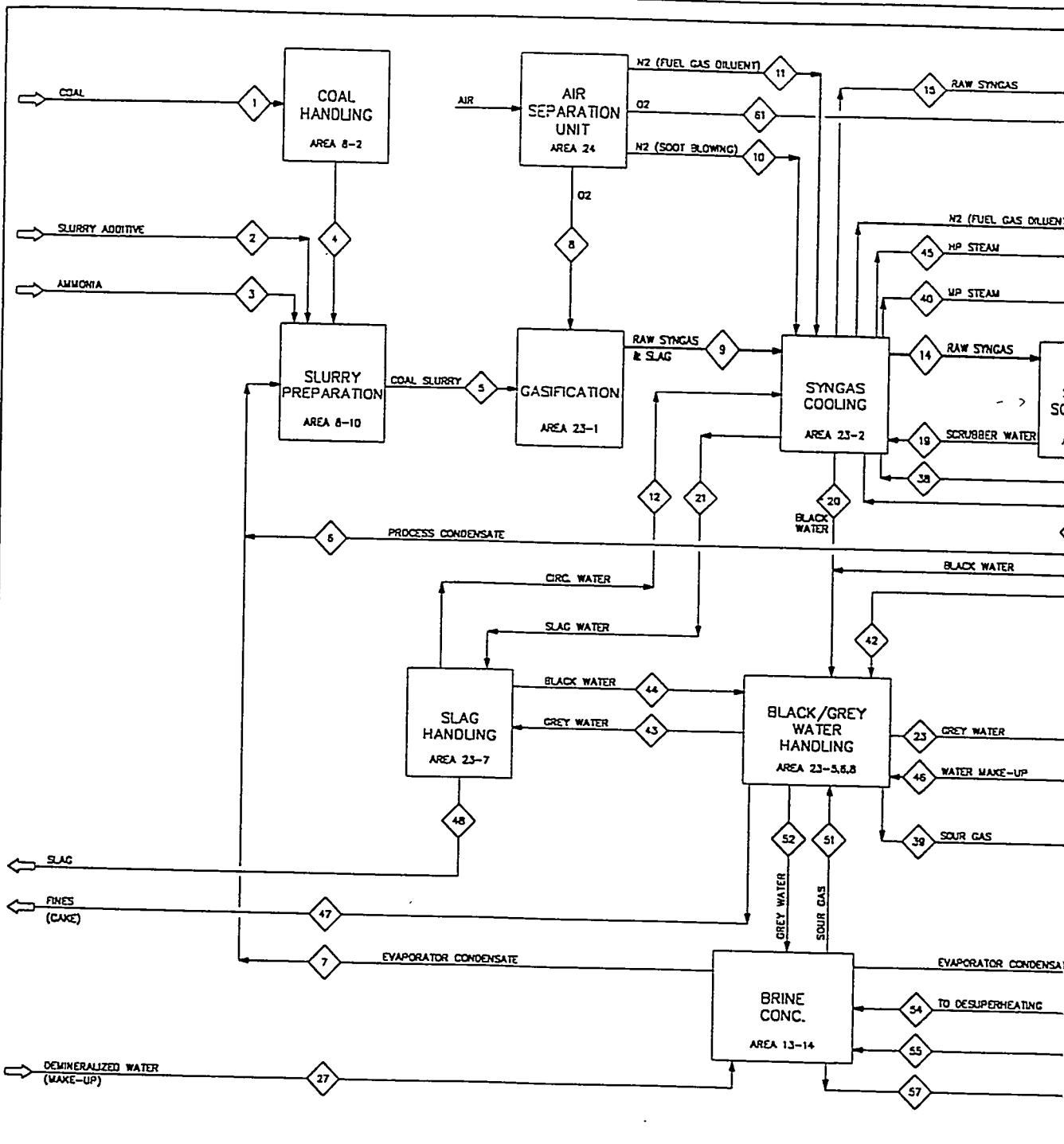
POLK POWER STATION UNIT # 1  
 PROCESS FLOW DIAGRAM  
 OVERALL PROCESS FLOW DIAGRAM  
 (SHEET 2 OF 2)

SECHTEL  
 JOB NO.  
 22269

TAMPA ELECTRIC  
 A TECO ENERGY COMPANY

DESIGNED	DATE	DRAWING NO.	REV
CHECKED	DATE	92127-PFD-1-1C	E
APPROVED	DATE		

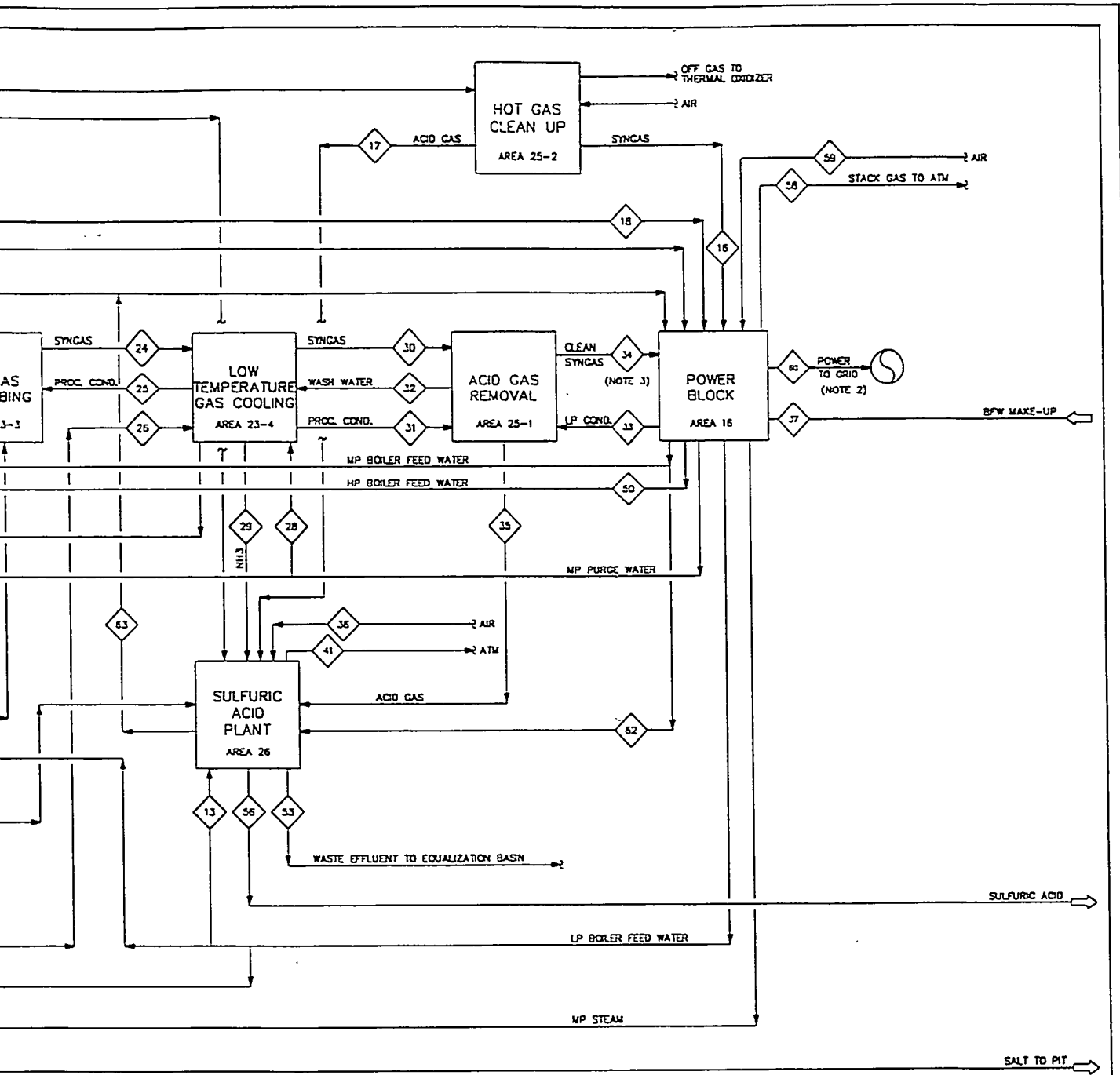
TAMP/AFD.DWG 15 06/10/83



STREAM NO (LB/HR)	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
CASE 1	166169	TRACE	TRACE	166169	239838	10809	62859	164474	404300	24148	501964	57386	649	418022	0
CASE 2	166169	TRACE	TRACE	166169	239838	9728	53940	164474	404300	24148	501964	57386	649	373022	45000
STREAM NO (LB/HR)	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
CASE 1	44594	62236	428441	62858	3522	12948	8227	289	368291	21402	21460	712	344337	22608	31744
CASE 2	40133	66228	385597	56593	2755	14640	7839	260	329662	19262	19314	640	309903	20348	28921
STREAM NO (LB/HR)	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45
CASE 1	44824	29215	489145	13751	7413	22286	489145	1758	54095	1788	1147	180	12178	231	3911901
CASE 2	44824	29215	489145	21381	7413	22286	489145	2609	54095	1788	1388	180	12251	231	3922344

FILE: HIRE-MASS-ESTRIPPER.DWG DATE: 01-08-1994 10:40 TVE

NOTES:  
 1. CASE DESIGNATION:  
 CASE 1: 100% COLD GAS CLEAN UP (COCP)  
 CASE 2: 90% COCP + 10% HCCU  
 2. POWER TO GRID REPRESENTS NET POWER PRODUCTION WITH AMBIENT TEMP @ 90F  
 3. STREAM 34 GOES BACK TO SYNGAS COOLING FOR HEATING PRIOR TO GOING TO POWER BLOCK.

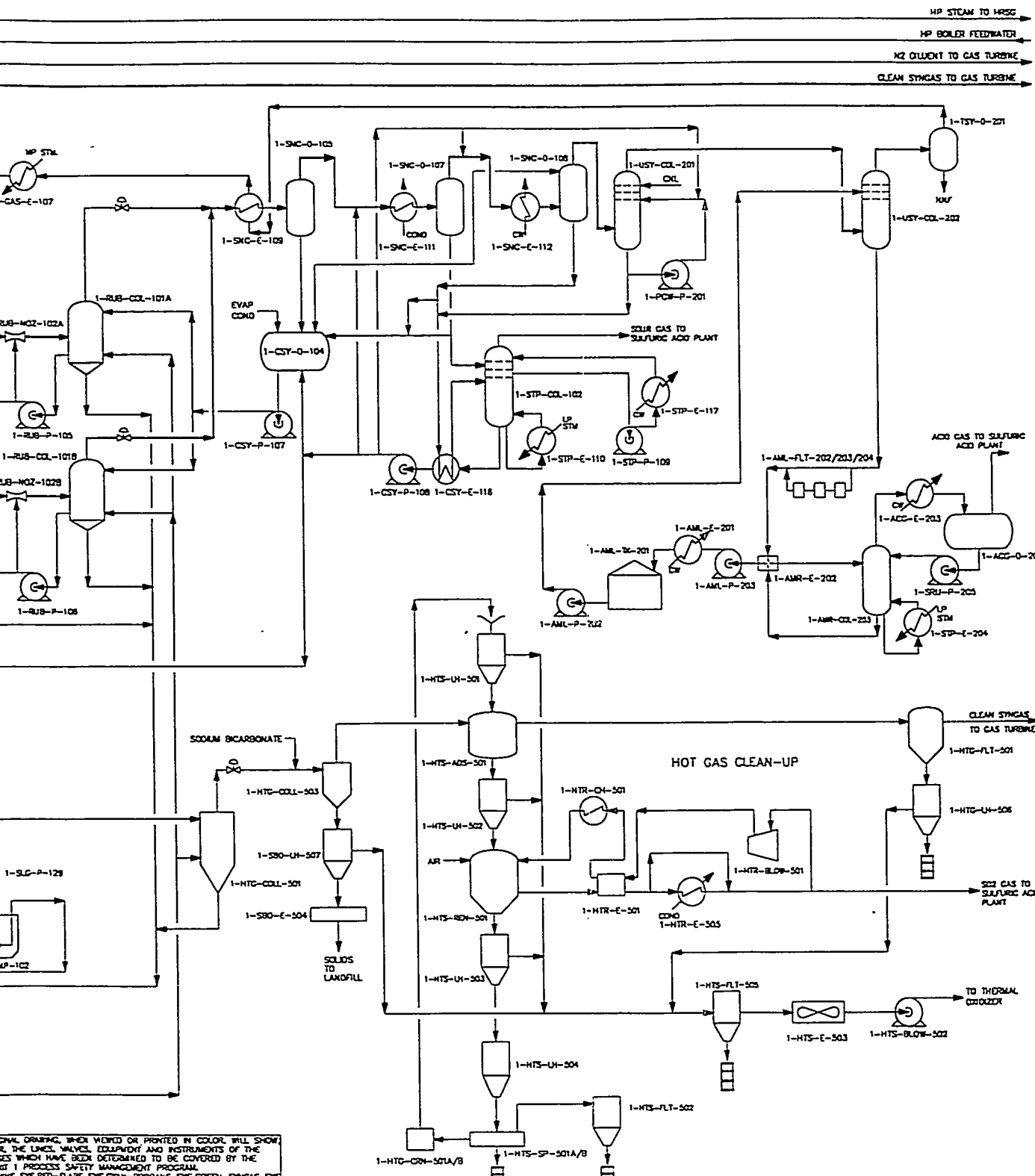


63	29	28	35	36	41	52
0	0	501964	70091	73840	64062	
44877	5319	501964	70091	73840	64062	
25349	36491	150	36491	44287	5560	
34128	36491	150	36491	44373	5560	
3065500	250 MW	2812	22850	22850		
3065500	250 MW	2775	21450	21450		

TECO		BECHTEL JOB NO. 22269		TAMPA ELECTRIC COMPANY POLK POWER STATION UNIT # 1 OVERALL BLOCK FLOW DIAGRAM	
DATE	BY	DATE	BY	DRAWING NO.	REV.
00				92127-PFD-1-1A	002



1-REV-101 ASPIRATOR  
 1-GAS-E-103/104/105/106/108 SYNGAS COOLERS  
 1-RUB-COL-101A/B SYNGAS SCRUBBERS  
 1-USY-COL-201 WASH WATER COLUMN  
 1-USY-COL-202 ACID GAS ABSORBER  
 1-AMR-COL-203 AMINE STRIPPER



ORIGINAL DRAWING, WHEN VIEWED OR PRINTED IN COLOR, WILL SHOW ALL THE LINES, WAVES, EQUIPMENT AND INSTRUMENTS OF THE SYSTEMS WHICH HAVE BEEN DETERMINED TO BE COVERED BY THE UNIT 1 PROCESS SAFETY MANAGEMENT PROGRAM. THIS SYSTEM-FLARE SYS, CYAN-PROPANE SYS, GREEN-SYNGAS SYS

1-HTG-COL-501 PRIMARY CYCLONE  
 1-HTG-COL-503 SECONDARY CYCLONE  
 1-HTG-AOS-501 ABSORBER  
 1-HTG-REV-501 REGENERATOR

△									
△									
△									
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NO.	DATE	REVISIONS	BY	CHKD	DESIGN SUPR	ENGR	FIELD OFFR	APPR	DOE

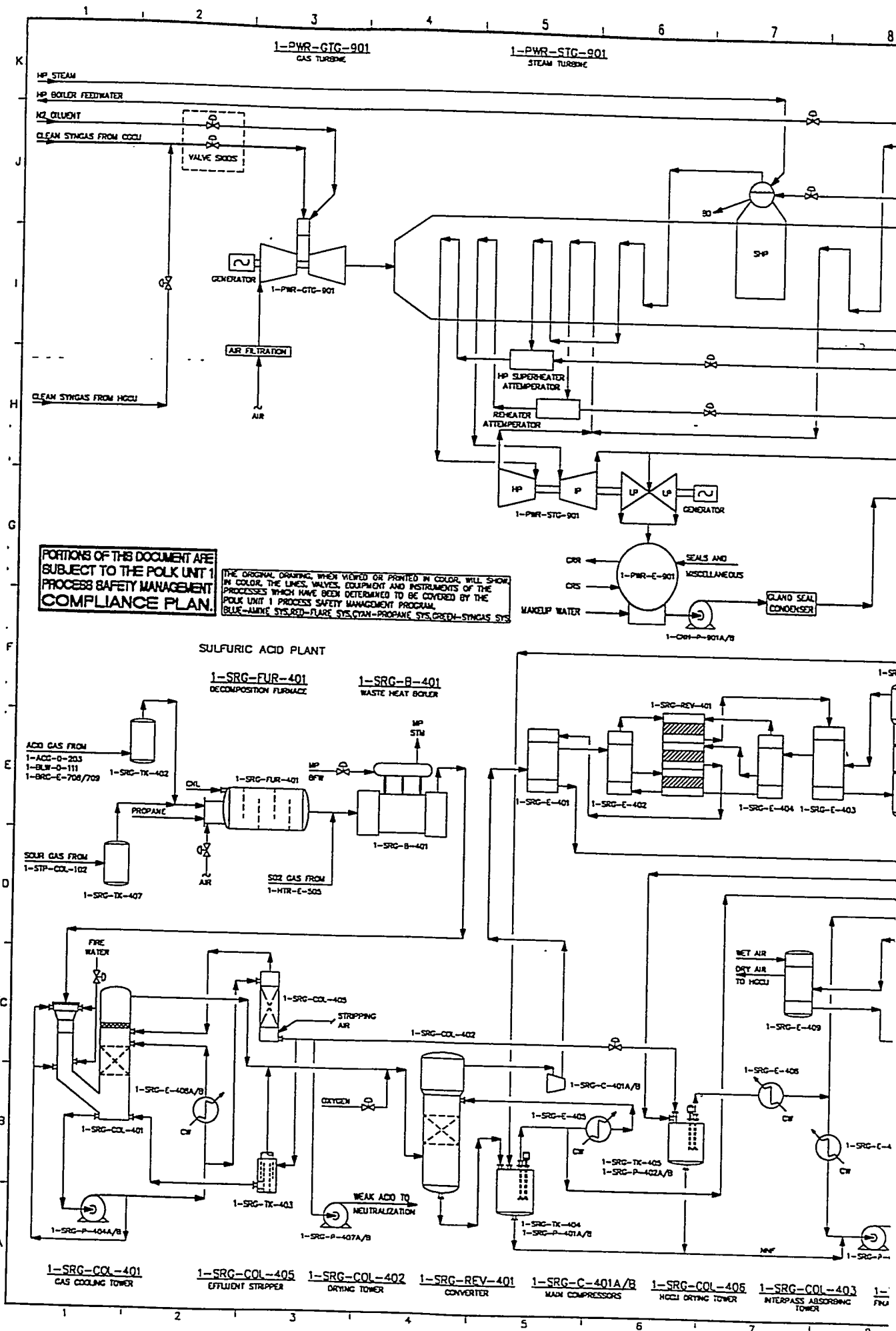
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 BECHTEL JOB NO. 22269

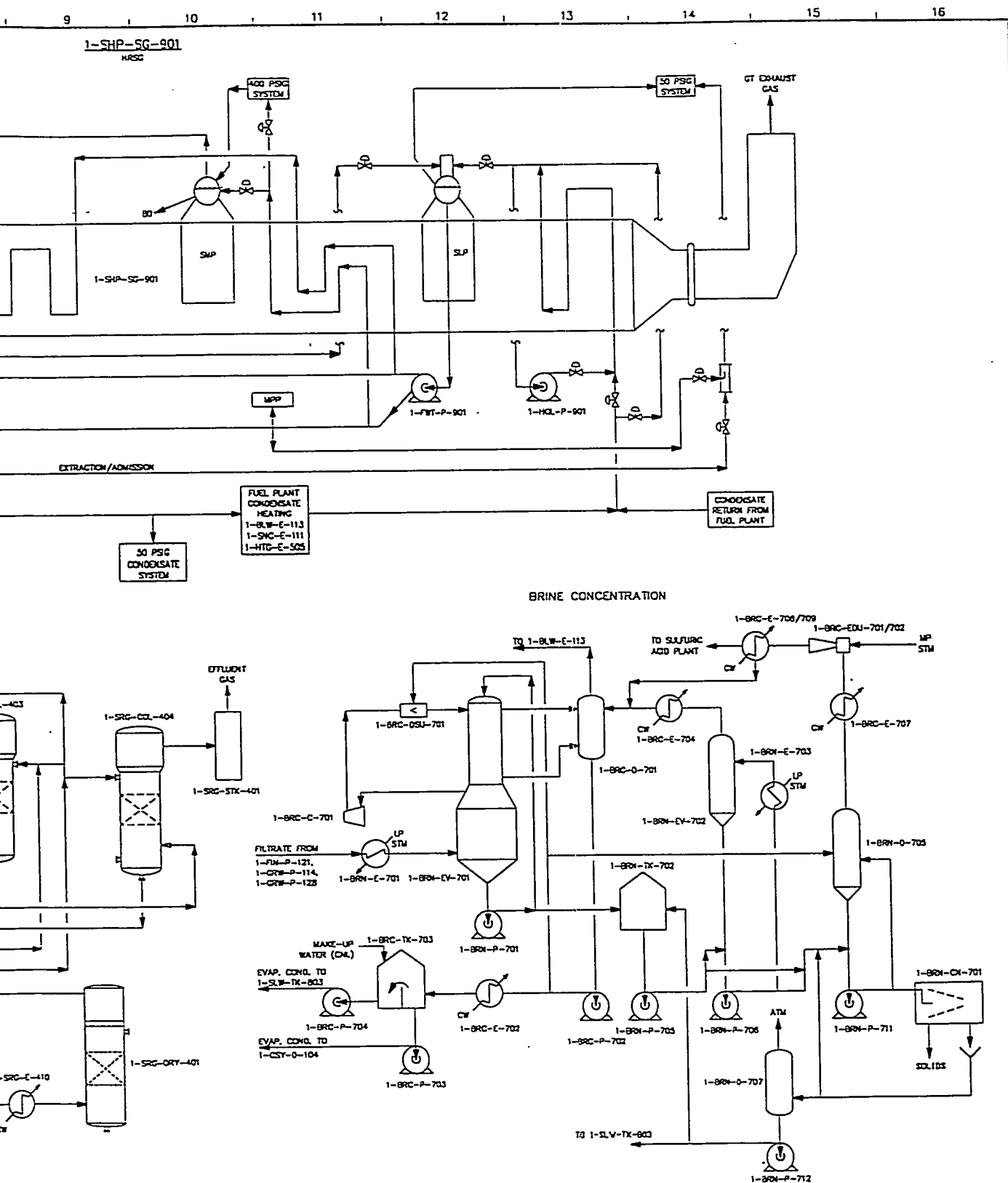
**TAMPA ELECTRIC**  
 A TECO ENERGY COMPANY

POLK POWER STATION # 1  
 PROCESS FLOW DIAGRAM  
 OVERALL PROCESS FLOW DIAGRAM  
 (SHEET 1 OF 2)

DRAWN	DATE	DRAWING NO.	REV.
DESIGNED	DATE	92127-PFD-1-1B	DOE
CHECKED	DATE		
APPROVED	DATE		

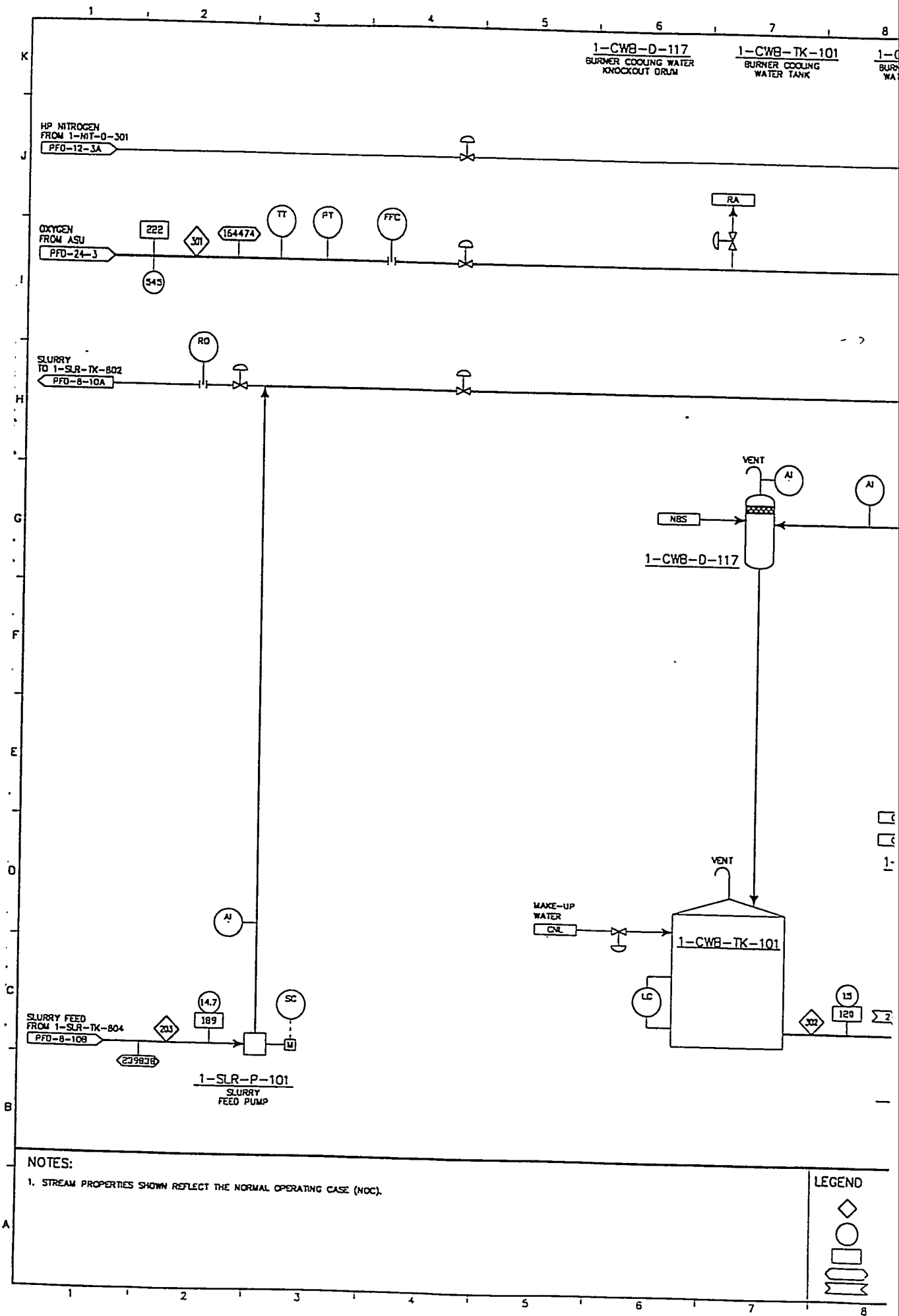






- 1-BRC-C-701  
EVAPORATOR VAPOR  
COMPRESSOR
- 1-BRN-EV-701  
GREY WATER  
EVAPORATOR
- 1-BRN-EV-702  
FORCED CIRCULATION  
EVAPORATOR
- 1-BRN-D-705  
CRYSTALLIZER FLASH  
TANK
- 1-BRN-CN-701  
CENTRIFUGE

<span style="margin-left: 20px;">BECHTEL</span> JOB NO. 22269										POLK POWER STATION UNIT # 1 PROCESS FLOW DIAGRAM OVERALL PROCESS FLOW DIAGRAM (SHEET 2 OF 2)									
<span style="margin-left: 20px;">TAMPA ELECTRIC</span> A TECO ENERGY COMPANY										DRAWN [ ] [DATE] [ ] DESIGNER [ ] [DATE] [ ] CHECKED [ ] [DATE] [ ] APPROVED [ ] [DATE] [ ]		DRAWING NO. 92127-PFD-1-1C		REV. 00E					
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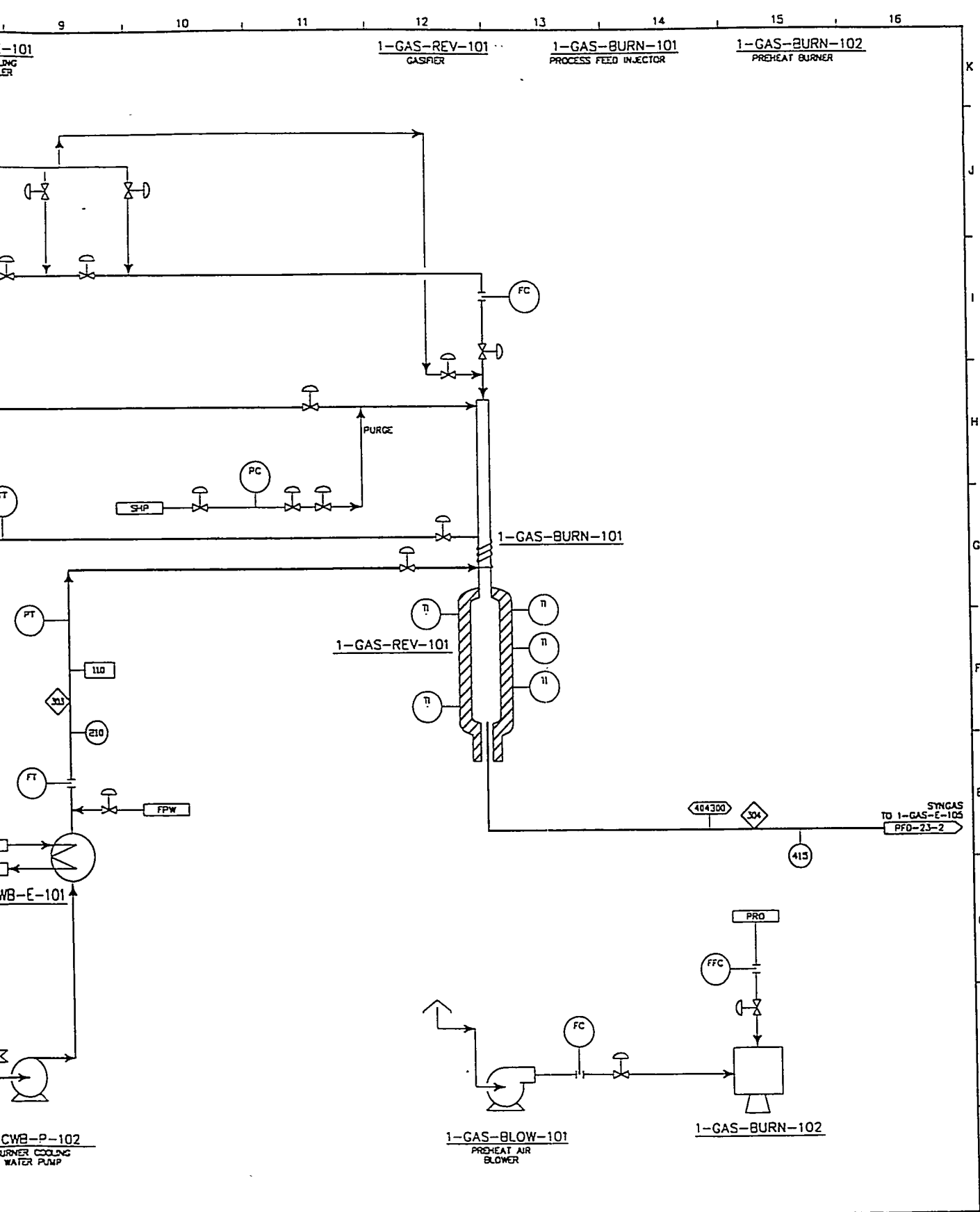


**NOTES:**

1. STREAM PROPERTIES SHOWN REFLECT THE NORMAL OPERATING CASE (NOC).

**LEGEND**





REVISION NO.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
DATE																
REVISIONS																
BY																
CHKD																
DESIGN																
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ENGR																
PRELIM																
APPRO																
CHKD																
DATE																

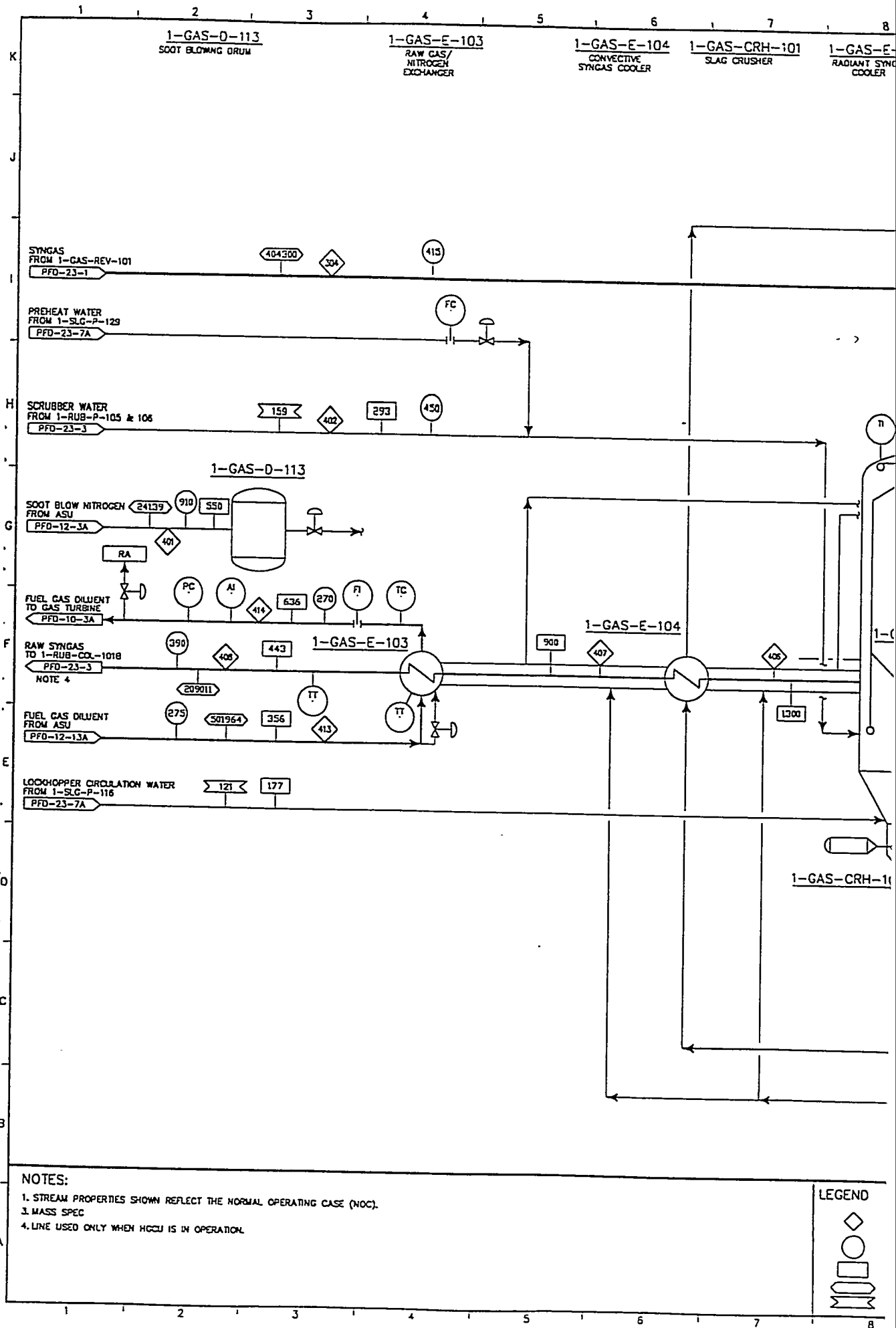
BECHTEL  
JOB NO.  
.22269

POLK POWER STATION UNIT # 1  
PROCESS FLOW DIAGRAM  
GASIFICATION

DRAWN	DATE	DRAWING NO.	REV.
DESIGNER	DATE	92127-PFD-23-1	DOE
CHECKED	DATE		
APPROVED	DATE		

TAMPA ELECTRIC  
A TECO ENERGY COMPANY

TAMPA-PFD.0WG 16 06/15/93

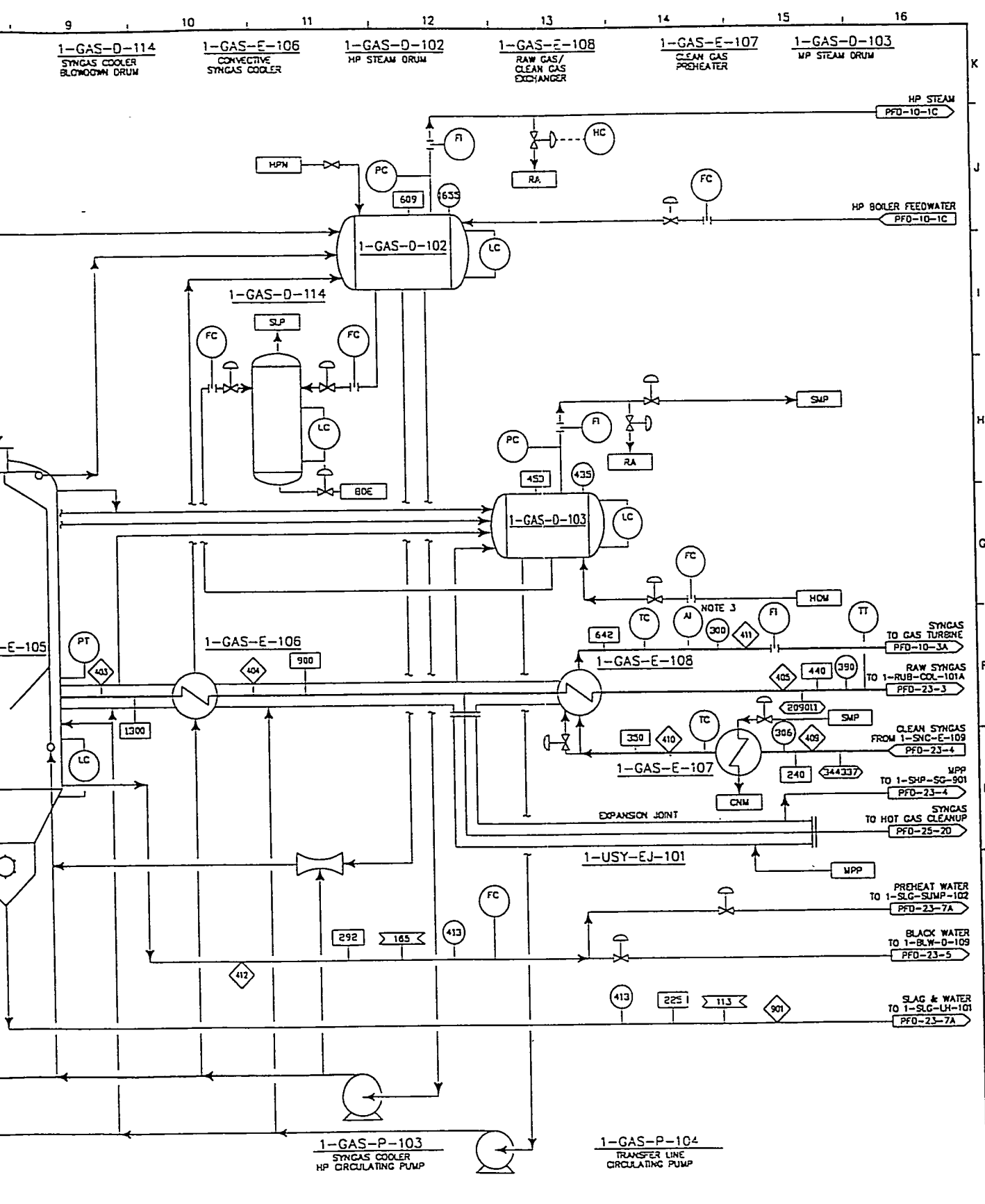


**NOTES:**


1. STREAM PROPERTIES SHOWN REFLECT THE NORMAL OPERATING CASE (NOC).
3. MASS SPEC
4. LINE USED ONLY WHEN HCCU IS IN OPERATION.


**LEGEND**





STREAM No.	△																			
PRESSURE, PSIA	△																			
TEMPERATURE, °F	△																			
FLDV, G/HR	△																			
FLOW, GPM	△																			
NO.	DATE	REVISIONS	BY	CHKD	DESIGN	ENGR	PROJ	APPR												

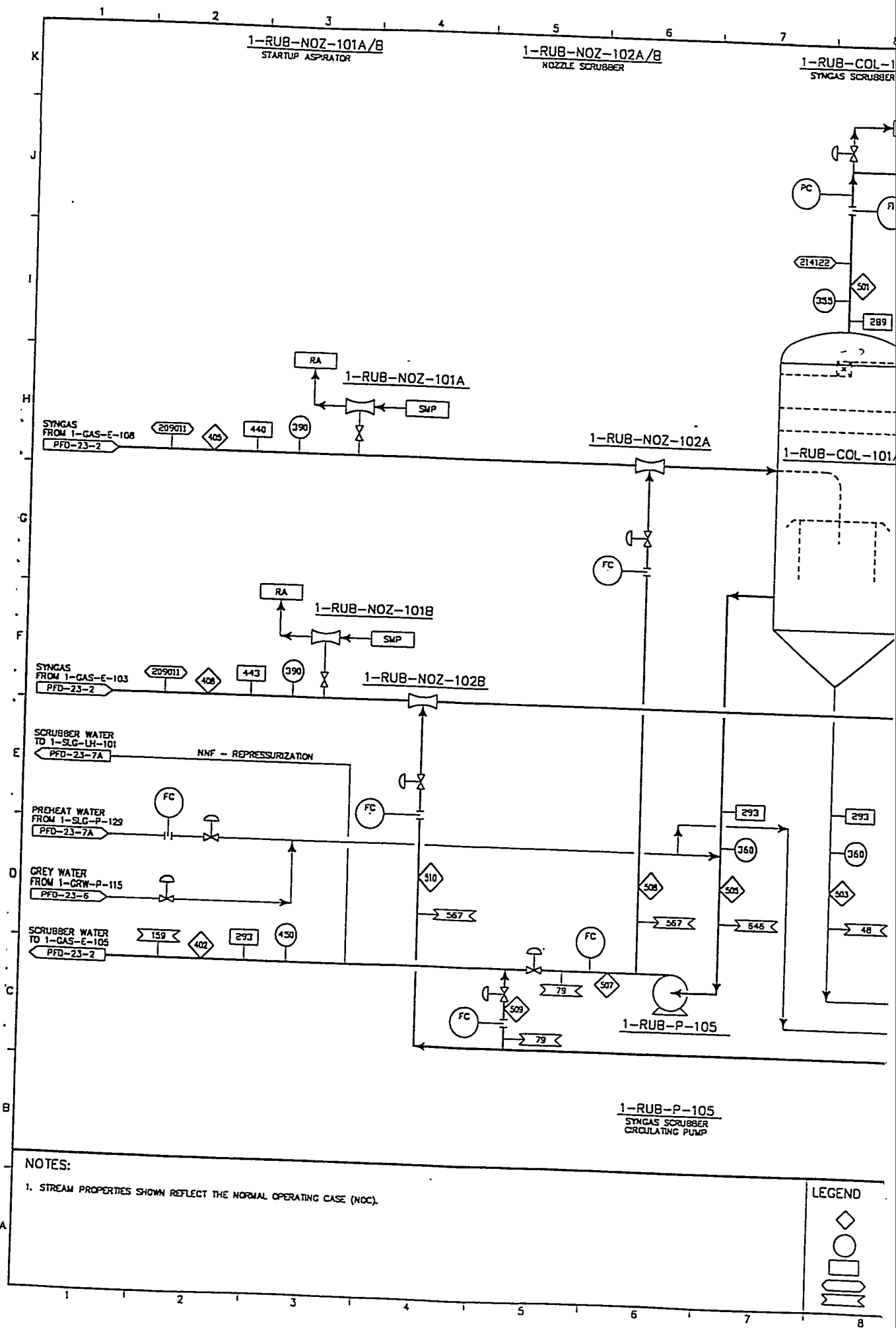

 BECHTEL  
 JOB NO.  
 22259


 TAMPA  
 ELECTRIC  
 A TECO ENERGY COMPANY

POLK POWER STATION UNIT # 1  
 PROCESS FLOW DIAGRAM  
 HIGH TEMPERATURE COOLING

DRAWN	DATE	DRAWING NO.	REV.
DESIGNED	DATE		
CHECKED	DATE	92127-PFD-23-2	00E
APPROVED	DATE		

TAMPABCR.DWG 16 06/15/93

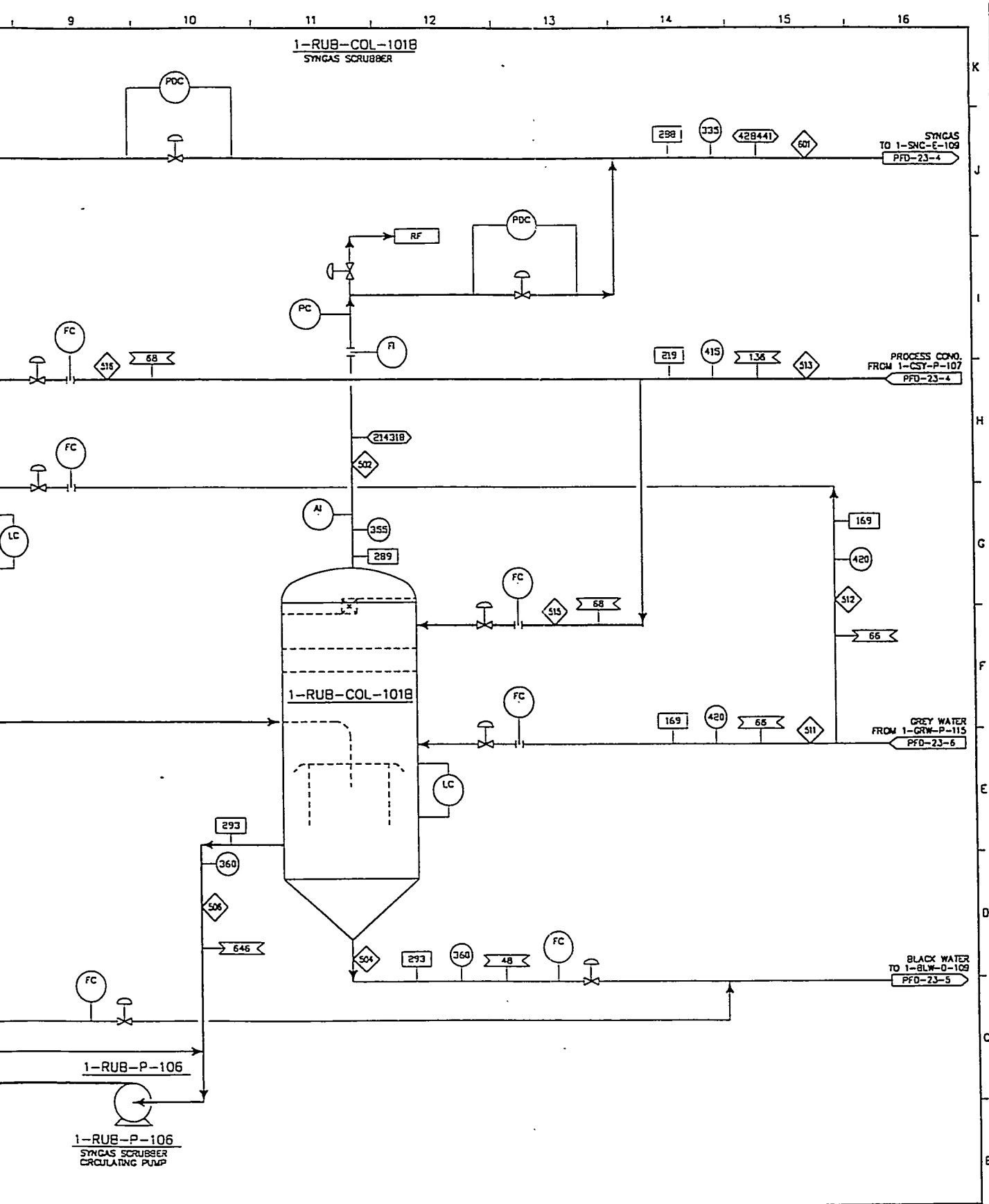


**NOTES:**


1. STREAM PROPERTIES SHOWN REFLECT THE NORMAL OPERATING CASE (NOC).


**LEGEND**





STREAM No.									
PRESSURE, PSIA									
TEMPERATURE, °F									
FLOW, GPM									
NO.	DATE	REVISIONS	BY	CHKD	DESIGN SUPR	ENGR	PRJL DWR	APPR	


  
 BECHTEL  
 JOB NO.  
 22269


  
**TAMPA ELECTRIC**  
 A TECO ENERGY COMPANY

**FOLK POWER STATION UNIT # 1**  
**PROCESS FLOW DIAGRAM**  
**SYNGAS SCRUBBING**

DRAWN	DATE	DRAWING NO.	REV.
DESIGNER	DATE	92127-PFD-23-3	DOE
CHECKED	DATE		
APPROVED	DATE		

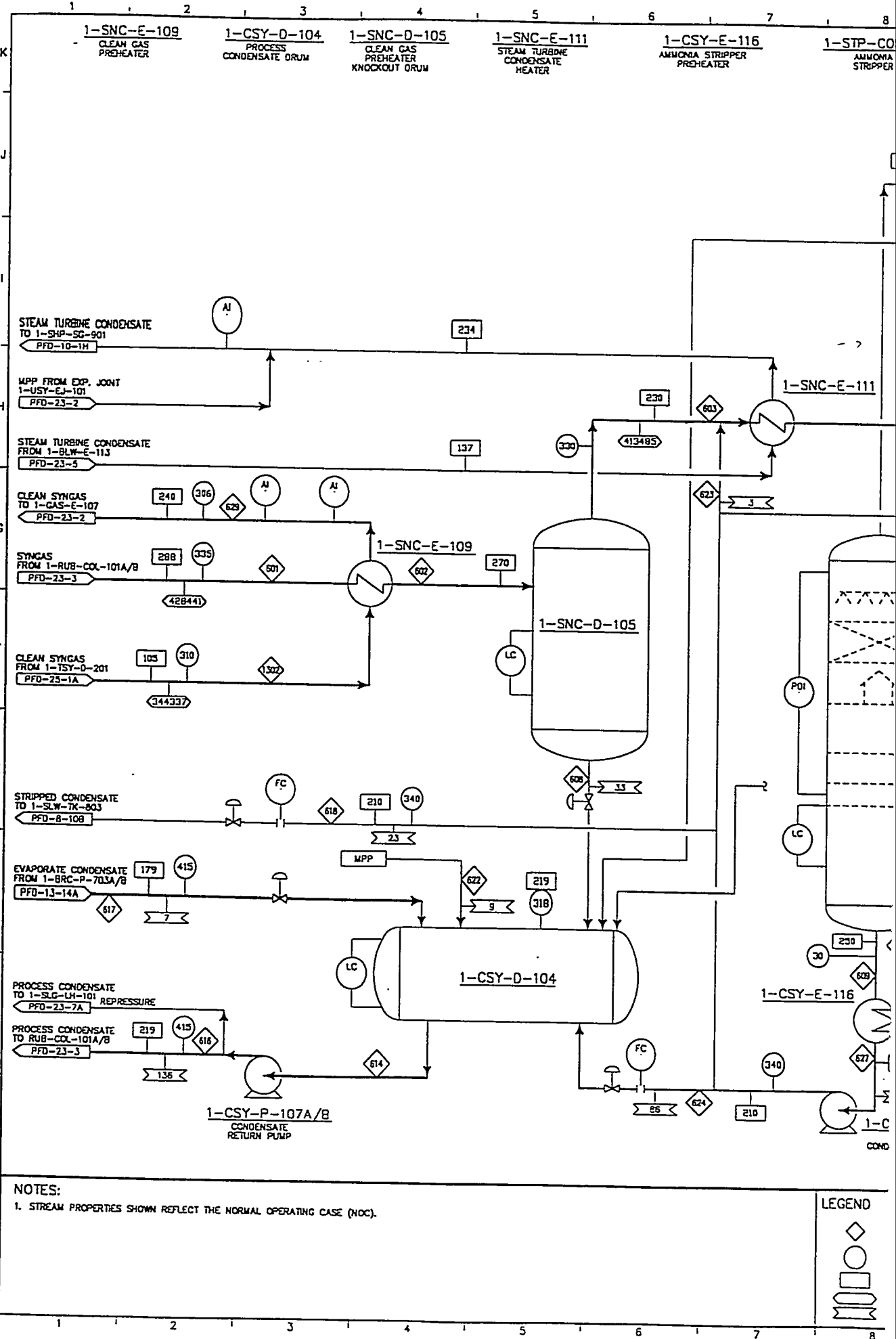
TAMPAPFD.DWG 16 06/15/93



H:\ASBUILT\DRAWINGS\BECHTEL\OTHER\DOE\700E234 Wed Apr 23 14:18:13 1997 Plotted By: Paul Gregg @ As-Built

FILE: H126-DKAS00(25703)7PFD234.DWG DATE: 12-08-1994 11:08 TVB

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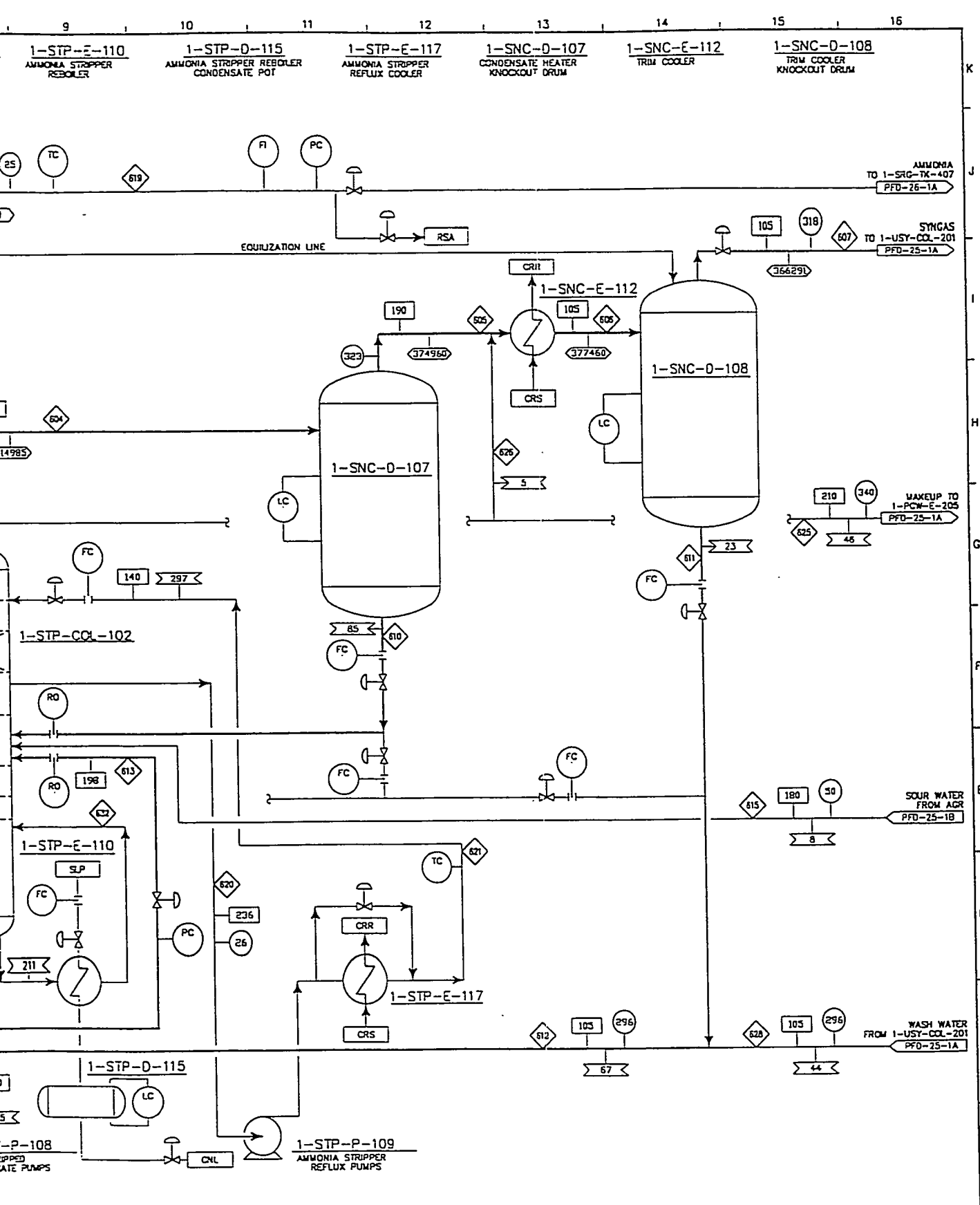


**NOTES:**


1. STREAM PROPERTIES SHOWN REFLECT THE NORMAL OPERATING CASE (NOC).


**LEGEND**





STREAM NO.																				
OPERATING PRESSURE, PSIA																				
OPERATING TEMPERATURE, °F																				
DESIGN FLOW, GPM																				
ACTUAL FLOW, GPM																				
NO.	DATE	REVISIONS	BY	CHECKED	DESIGN	ENGR	PROJ	APPR												

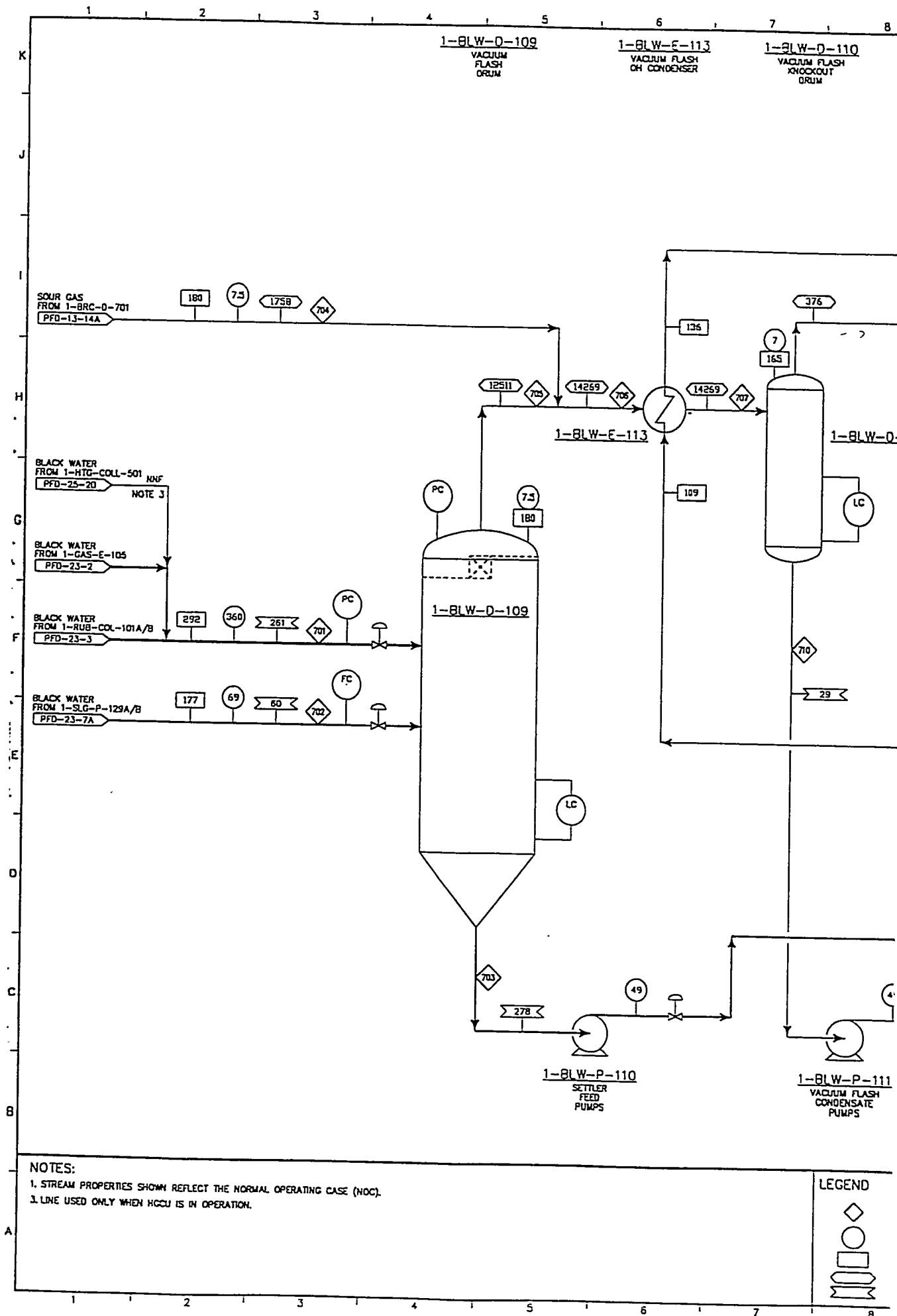

  
 BECHTEL  
 JOB NO.  
 22269


  
 TAMPA ELECTRIC  
 A TECO ENERGY COMPANY

**POLK POWER STATION UNIT # 1**  
**PROCESS FLOW DIAGRAM**  
**LOW TEMPERATURE GAS COOLING**

DESIGNER	DATE	DRAWING NO. 92127-PFD-23-4	REV. DOE
CHECKED	DATE		
APPROVED	DATE		

TAMPAPFD.DWG 16 06/15/93

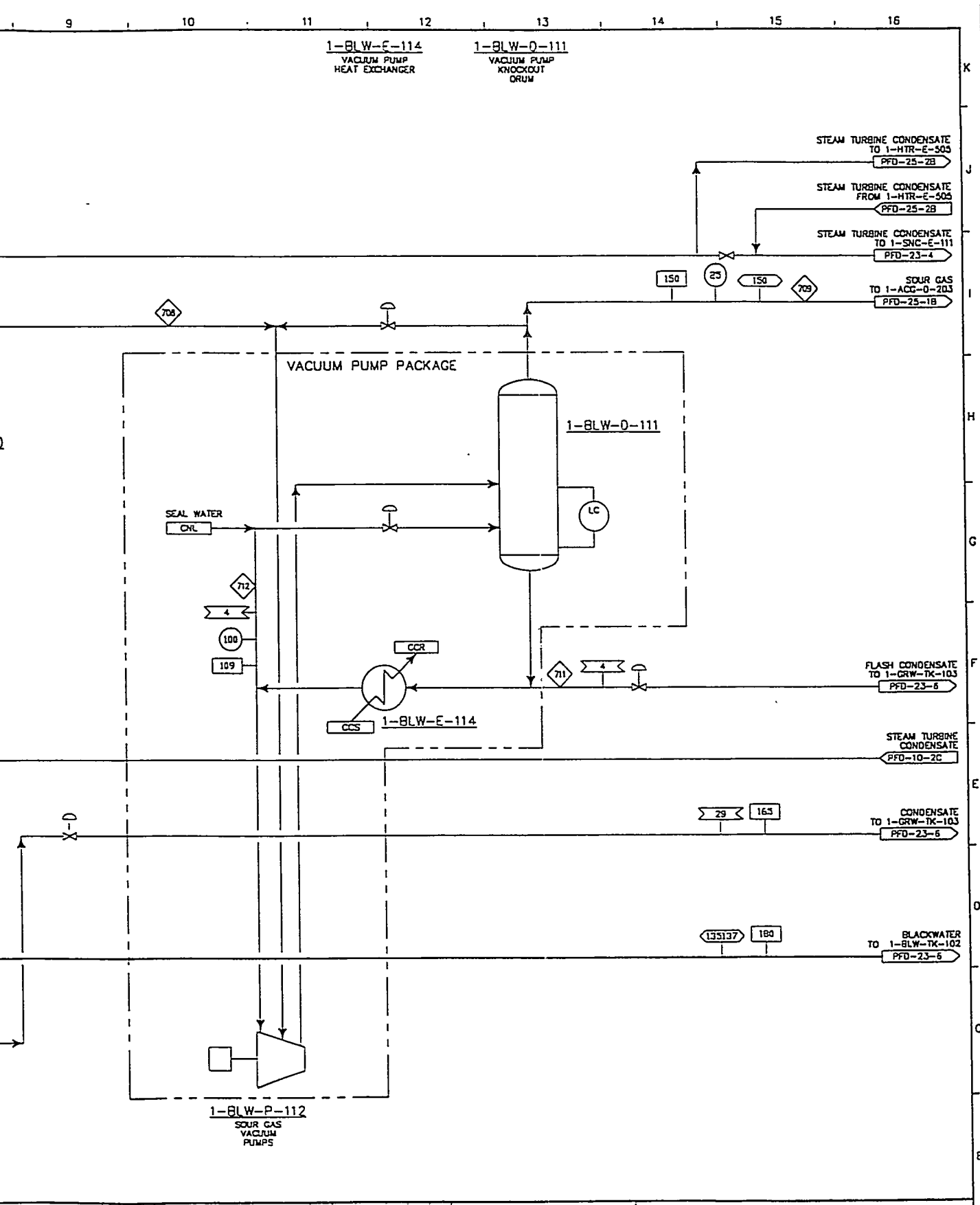


**NOTES:**



1. STREAM PROPERTIES SHOWN REFLECT THE NORMAL OPERATING CASE (NOC).
3. LINE USED ONLY WHEN HCCU IS IN OPERATION.

**LEGEND**





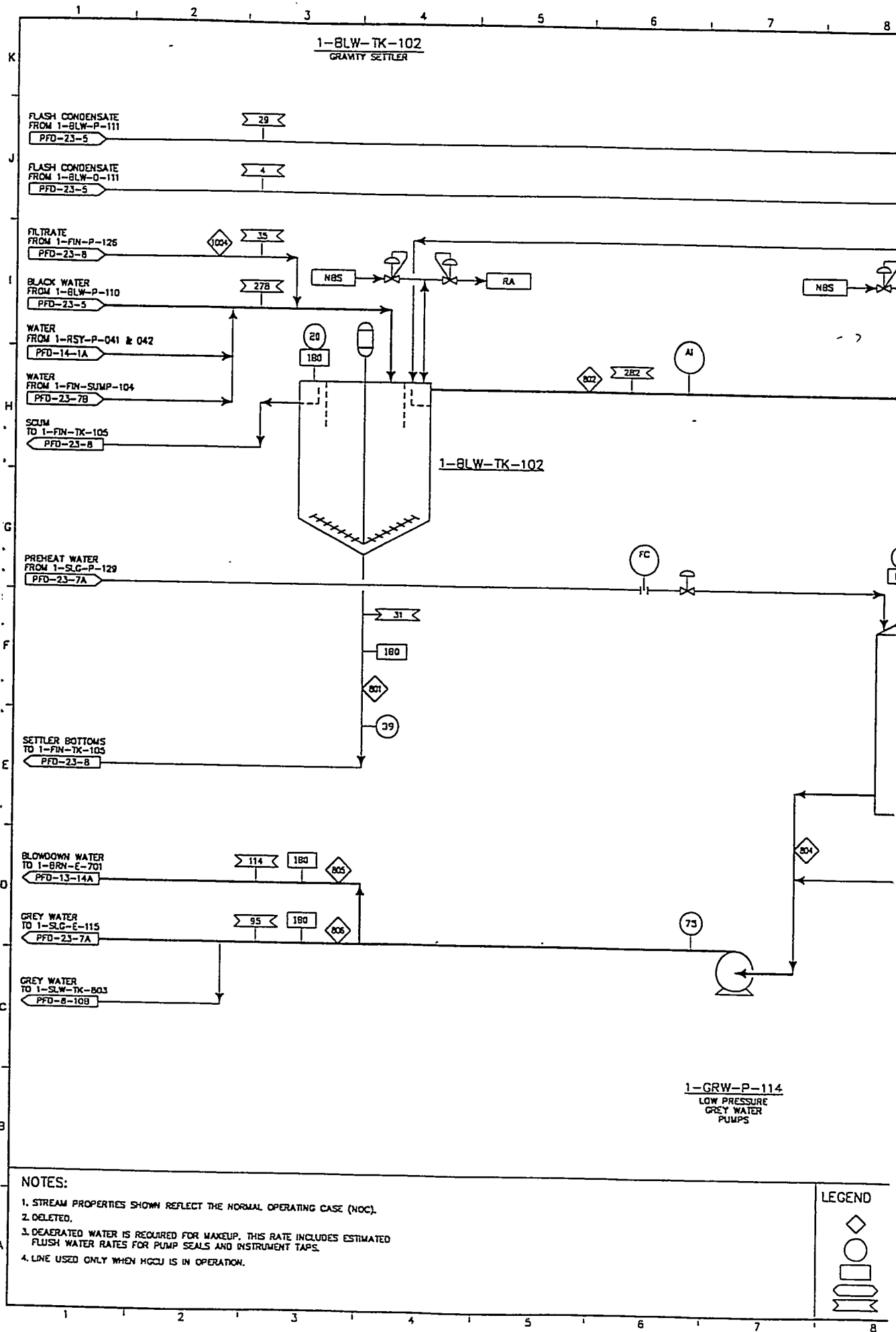
STREAM NO.	△																			
PRESSURE, PSIA	△																			
TEMPERATURE, °F	△																			
LDV, M³/H	△																			
LDV, GPM	△																			
NO.	DATE	REVISED	BY	CHKD	DESIGN	INSTR	PROJ	APPR												


 BECHTEL  
 JOB NO. 22259  

 TAMPA ELECTRIC  
 A TECO ENERGY COMPANY

POLK POWER STATION UNIT # 1  
 PROCESS FLOW DIAGRAM  
 BLACK WATER FLASH SYSTEM

DRAWN	DATE	DRAWING NO.	REV.
DESIGNER	DATE		
CHECKED	DATE	92127-PFD-23-5	DOE
APPROVED	DATE		

TAMPAPFD.OWG 16 06/15/93



1-BLW-TK-102  
GRAVITY SETTLER

FLASH CONDENSATE FROM 1-BLW-P-111  
PFD-23-5

FLASH CONDENSATE FROM 1-BLW-O-111  
PFD-23-5

FILTRATE FROM 1-FIN-P-126  
PFD-23-8

BLACK WATER FROM 1-BLW-P-110  
PFD-23-5

WATER FROM 1-RSY-P-041 & 042  
PFD-14-1A

WATER FROM 1-FIN-SUMP-104  
PFD-23-7B

SCUM TO 1-FIN-TK-105  
PFD-23-8

PREHEAT WATER FROM 1-SLG-P-129  
PFD-23-7A

SETTLER BOTTOMS TO 1-FIN-TK-105  
PFD-23-8

BLOWDOWN WATER TO 1-BRN-E-701  
PFD-13-14A

GREY WATER TO 1-SLG-E-115  
PFD-23-7A

GREY WATER TO 1-SLW-TK-803  
PFD-8-10B

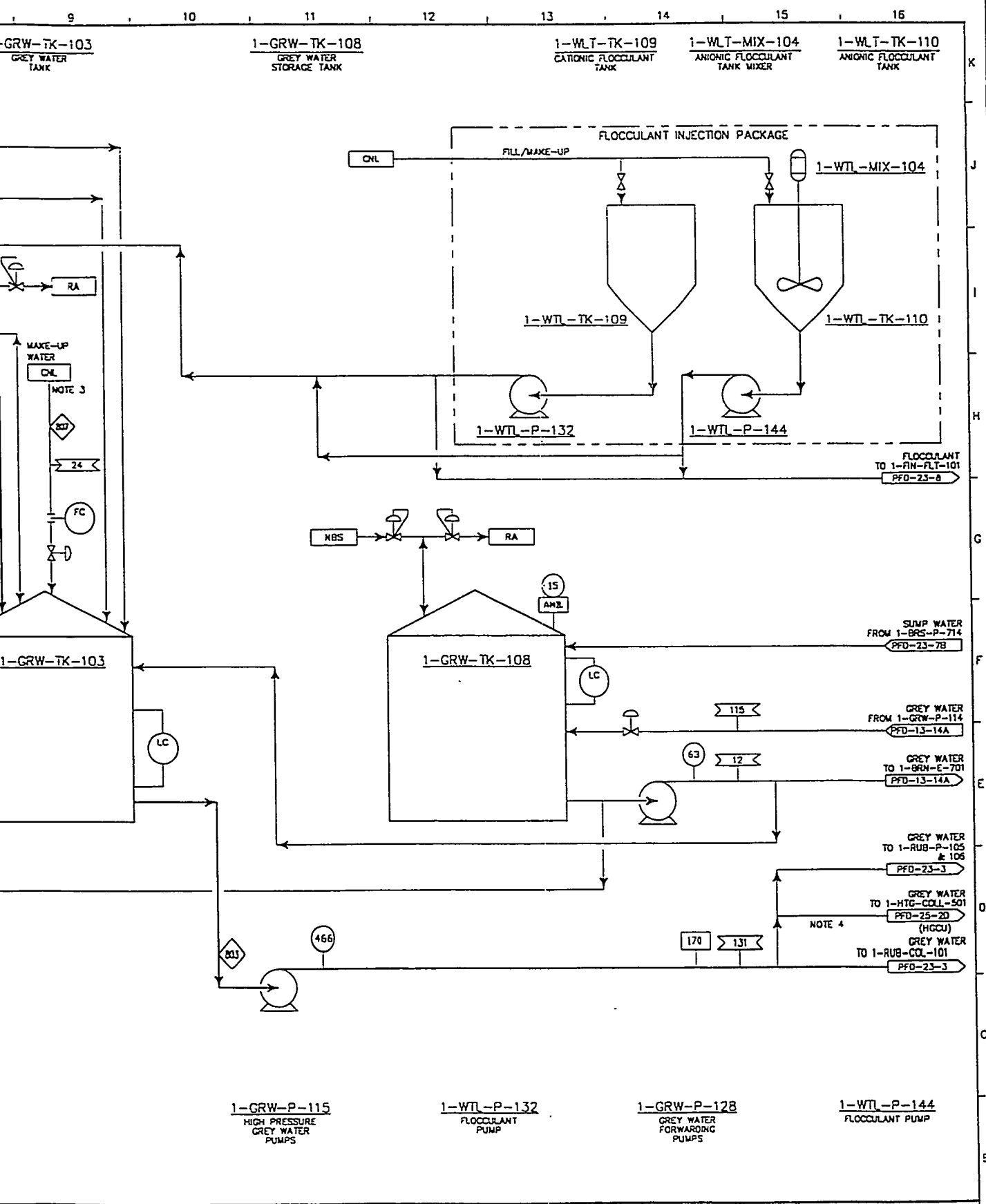
1-GRW-P-114  
LOW PRESSURE GREY WATER PUMPS

NOTES:


1. STREAM PROPERTIES SHOWN REFLECT THE NORMAL OPERATING CASE (NOC).
2. DELETED.
3. DEAERATED WATER IS REQUIRED FOR MAKEUP. THIS RATE INCLUDES ESTIMATED FLUSH WATER RATES FOR PUMP SEALS AND INSTRUMENT TAPS.
4. LINE USED ONLY WHEN HGCU IS IN OPERATION.


LEGEND





STRENGTH	△																			
PRESSURE PSIA	△																			
TEMPERATURE °F	△																			
FLOW, M³/H	△																			
FLOW, GPM	△																			
NO.	DATE	REVISIONS	BY	CHKD	DESIGN	SUPR	ENGR	PROJ	APPR											

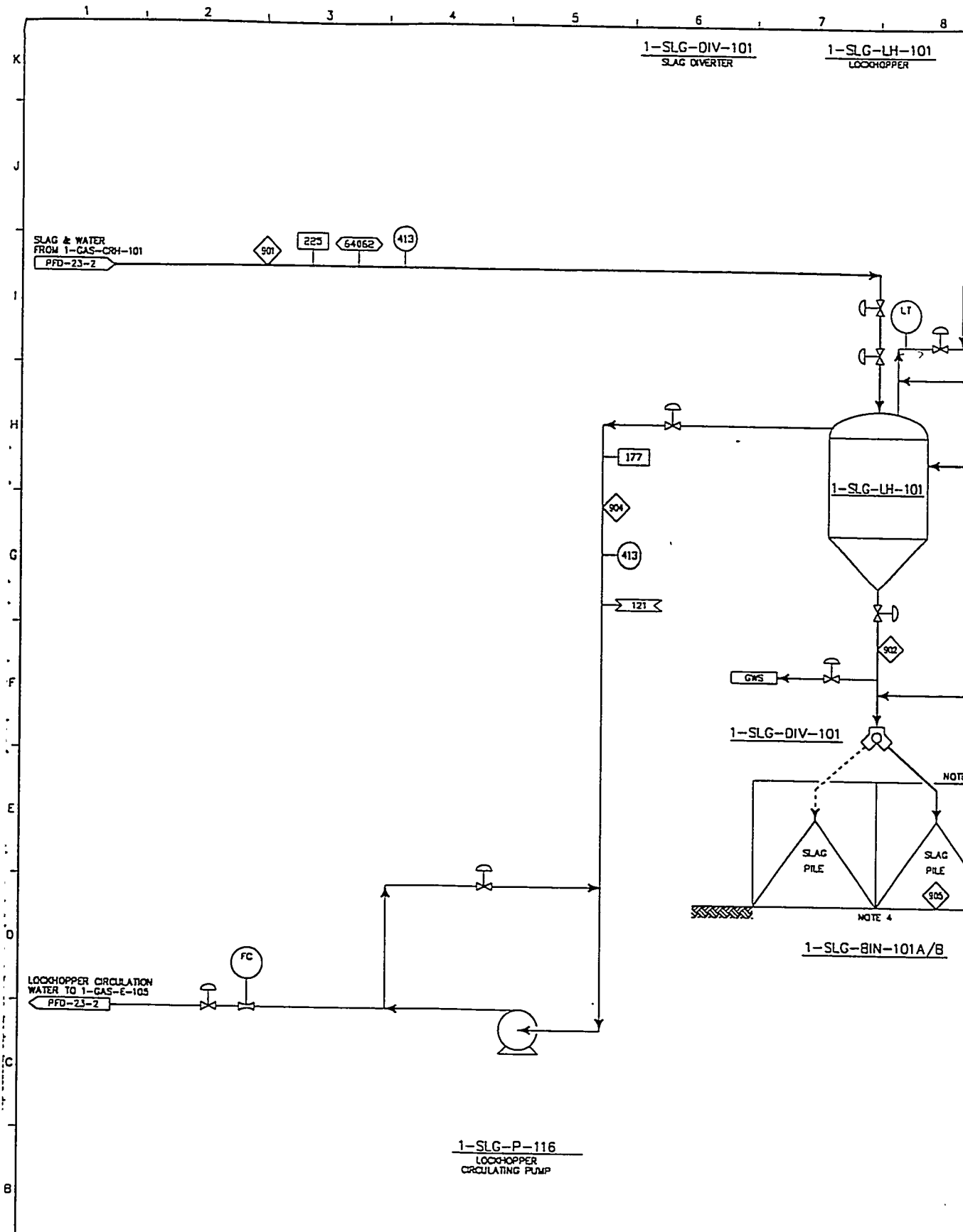

**BECHTEL**  
 JOB NO. 22269


**TAMPA ELECTRIC**  
 A TECO ENERGY COMPANY

**POLK POWER STATION UNIT # 1**  
**PROCESS FLOW DIAGRAM**  
**GREY WATER HANDLING SYSTEM**

DRAWN	DATE	DRAWING NO.	REV.
DESIGNER	DATE	92127-PFD-23-6	DOE
CHECKED	DATE		
APPROVED	DATE		

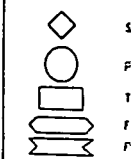
TAMPAPFD.0WG 16 06/15/93



**NOTES:**

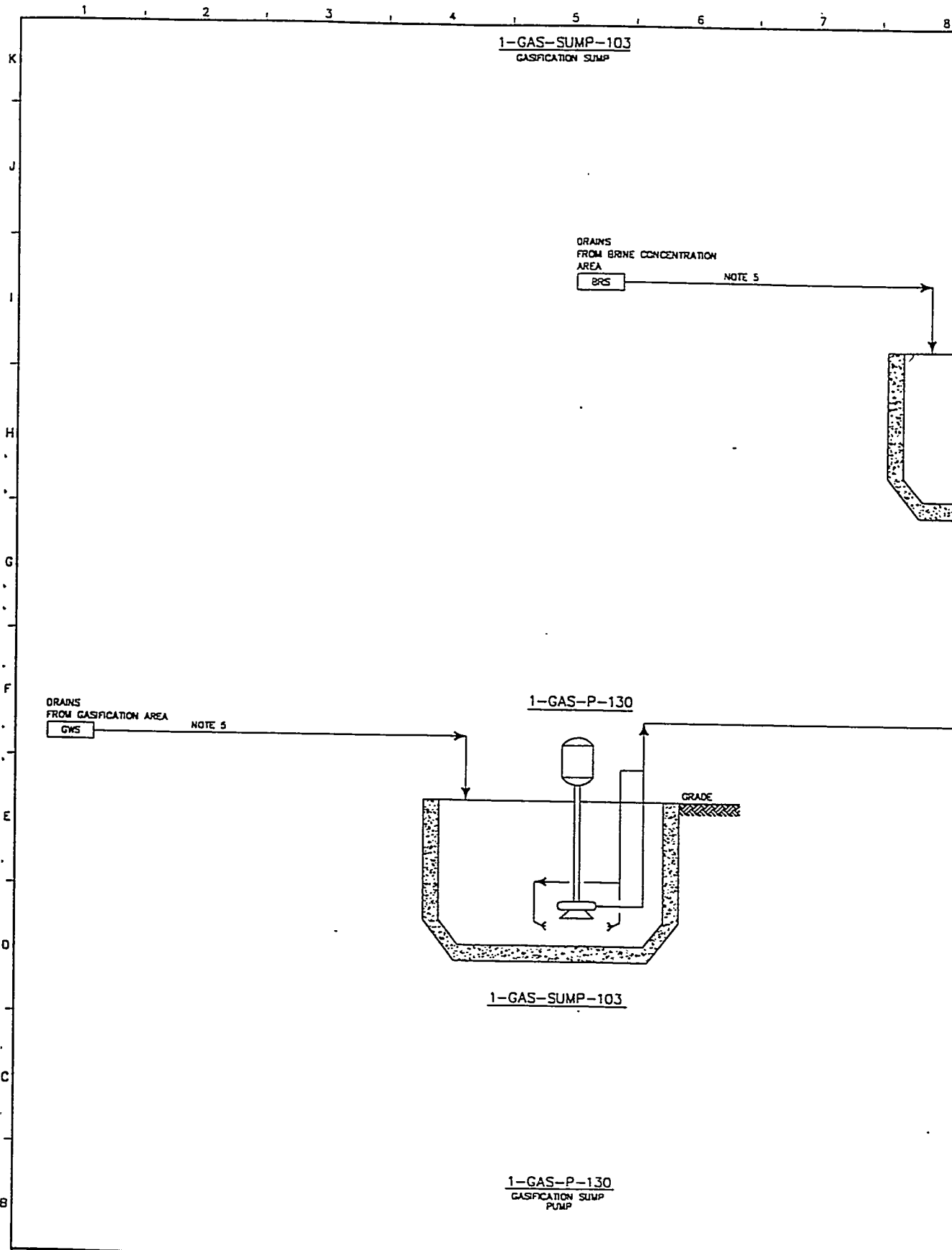
1. STREAM PROPERTIES SHOWN REFLECT THE NORMAL OPERATING CASE (NOC).
3. BINS AND SUMPS TO BE COVERED TO PREVENT RAIN INFILTRATION.
4. TWO BINS - ONE IN SERVICE AND ONE BEING CLEANED-OUT BY FRONT END LOADER.
5. BINS ARE GRAVITY DRAINED VIA TRENCH INTO SUMP.
6. FINES PILE WATER RUNOFF GRAVITY DRAINED VIA TRENCH INTO SUMP.

**LEGEND**





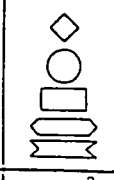


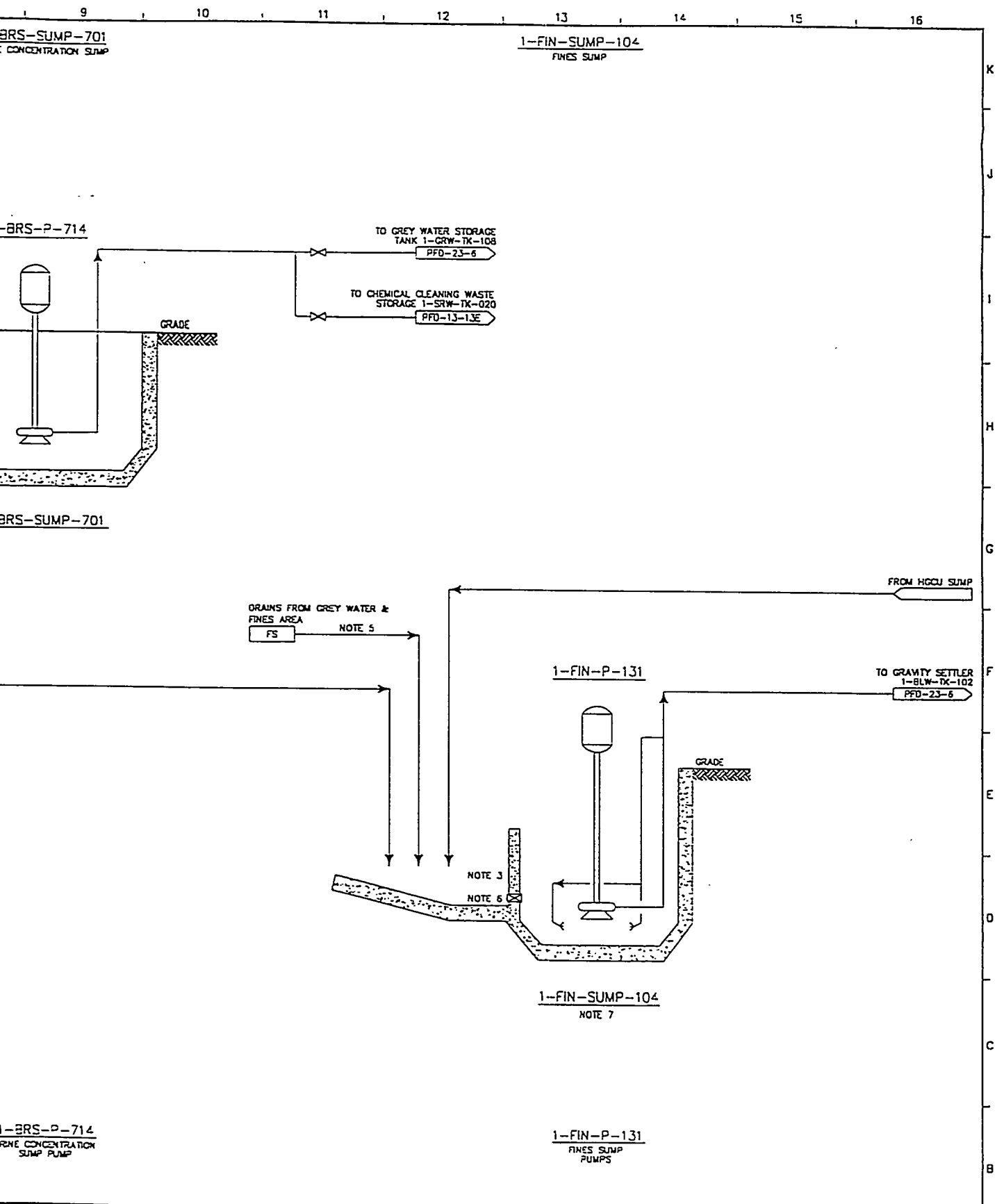


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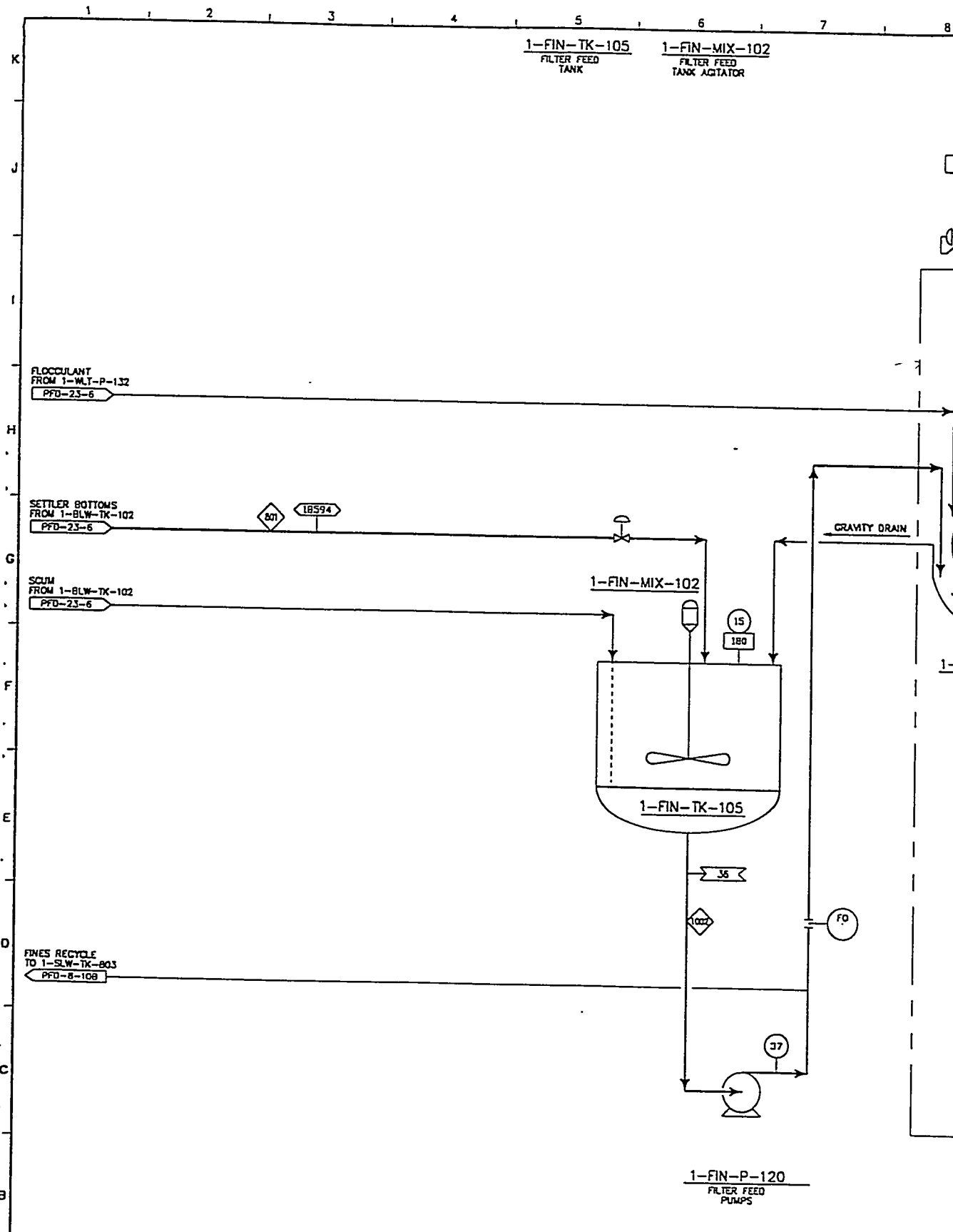
1. STREAM PROPERTIES SHOWN REFLECT THE NORMAL OPERATING CASE (NOC).
2. DELETED.
3. PIT AREA TO ALLOW PERIODIC CLEANING BY WHEEL LOADER.
4. DELETED.
5. DRAINS GRAVITY DRAIN VIA TRENCHES.
6. DRAIN VALVE.
7. SUMPS ARE TO BE COVERED TO PREVENT RAIN INFILTRATION.

**LEGEND**





<table border="1"> <tr> <td>FORM NO.</td> <td>△</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>PRESSURE, PSIA</td> <td>△</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>TEMPERATURE, °F</td> <td>△</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>LV, 8/8R</td> <td>△</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> <tr> <td>LV, 6/8</td> <td>△</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </table>										FORM NO.	△									PRESSURE, PSIA	△									TEMPERATURE, °F	△									LV, 8/8R	△									LV, 6/8	△									<p>BECHTEL JOB NO. 22269</p>		<p>POLK POWER STATION UNIT # 1 PROCESS FLOW DIAGRAM SLAG HANDLING SYSTEM</p>			
FORM NO.	△																																																																
PRESSURE, PSIA	△																																																																
TEMPERATURE, °F	△																																																																
LV, 8/8R	△																																																																
LV, 6/8	△																																																																
<table border="1"> <tr> <td>NO.</td> <td>DATE</td> <td>REVISIONS</td> <td>BY</td> <td>CHKD</td> <td>DESIGN</td> <td>ENGR</td> <td>PRELIM</td> <td>APPROV</td> <td></td> </tr> <tr> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> </tr> </table>										NO.	DATE	REVISIONS	BY	CHKD	DESIGN	ENGR	PRELIM	APPROV												<p>TAMPA ELECTRIC A TECO ENERGY COMPANY</p>		<table border="1"> <tr> <td>DRAWN</td> <td>DATE</td> <td rowspan="4">DRAWING NO. 92127-PFD-23-7B</td> <td rowspan="4">REV. DOE</td> </tr> <tr> <td>DESIGNER</td> <td>DATE</td> </tr> <tr> <td>CHECKED</td> <td>DATE</td> </tr> <tr> <td>APPROVED</td> <td>DATE</td> </tr> </table>		DRAWN	DATE	DRAWING NO. 92127-PFD-23-7B	REV. DOE	DESIGNER	DATE	CHECKED	DATE	APPROVED	DATE																						
NO.	DATE	REVISIONS	BY	CHKD	DESIGN	ENGR	PRELIM	APPROV																																																									
DRAWN	DATE	DRAWING NO. 92127-PFD-23-7B	REV. DOE																																																														
DESIGNER	DATE																																																																
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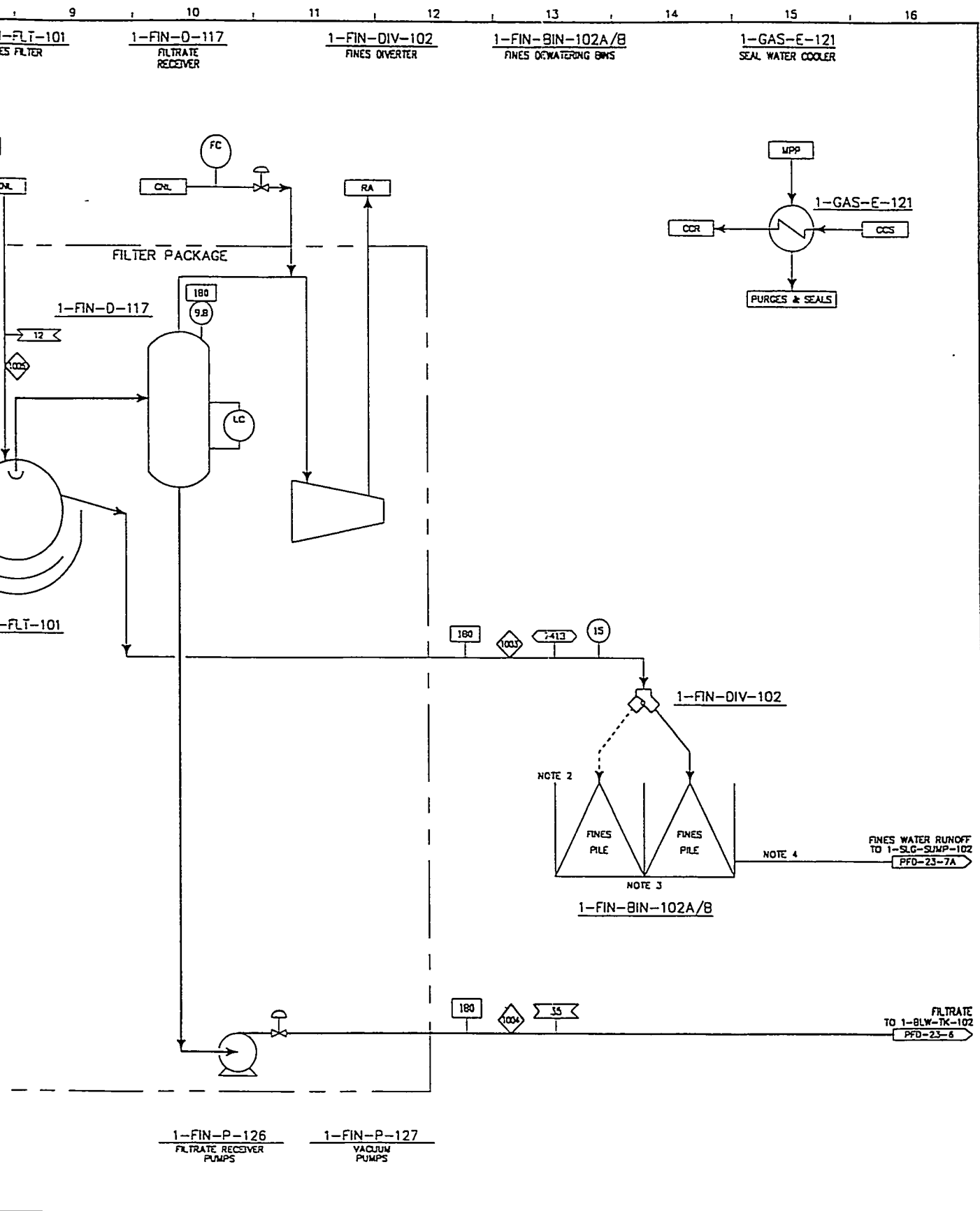


**NOTES:**

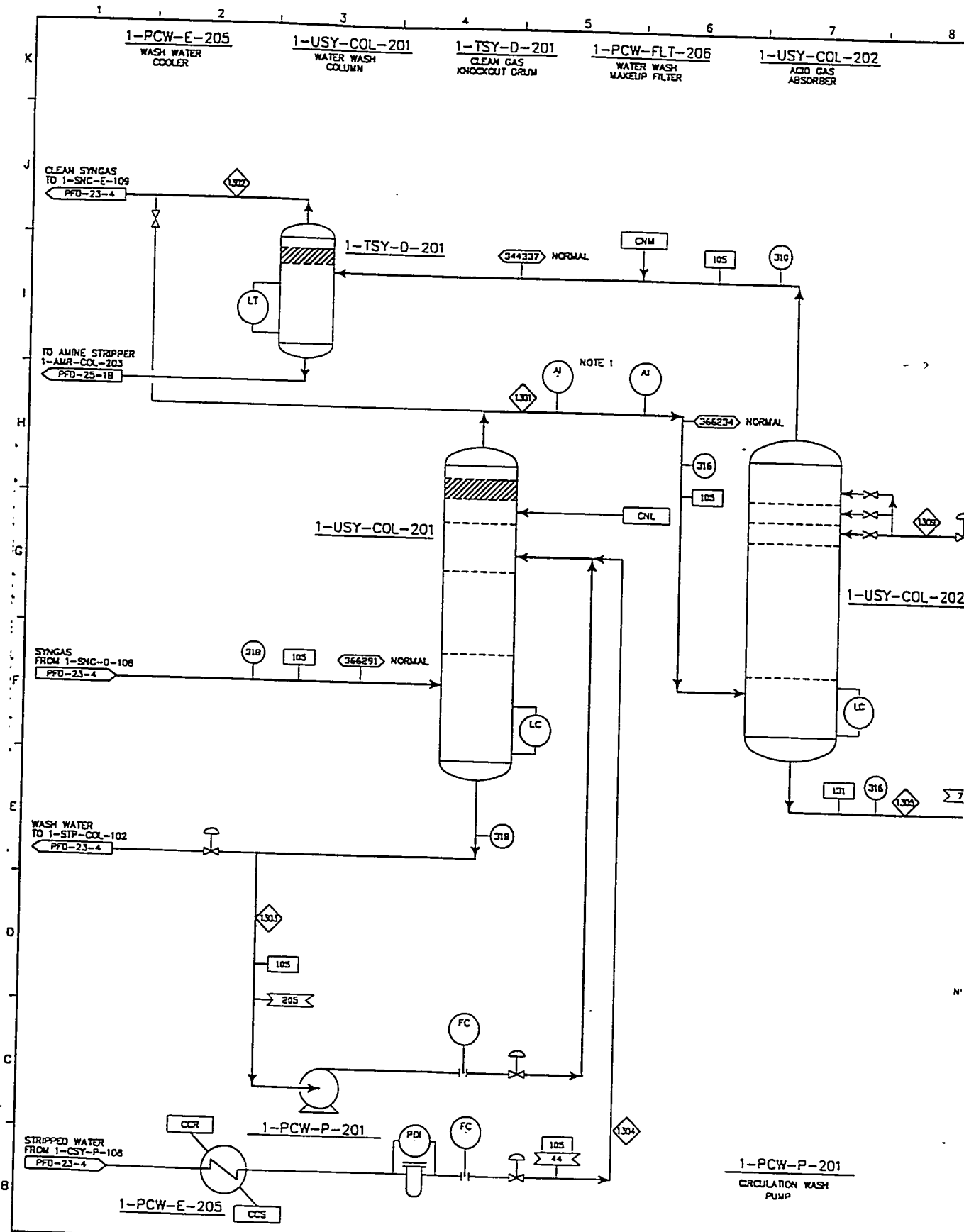
1. STREAM PROPERTIES SHOWN REFLECT THE NORMAL OPERATING CASE (NOC).
2. BINS TO BE COVERED TO PREVENT RAIN INFILTRATION.
3. DEWATERED FINES TO BE REMOVED BY FRONT END LOADER OR TRUCK.
4. RUN-OFF WATER IS GRAVITY DRAINED VIA TRENCH.

**LEGEND**





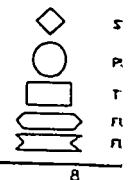
BECHTEL JOB NO. 22259			POLK POWER STATION UNIT # 1 PROCESS FLOW DIAGRAM FINES HANDLING		
TAMPA ELECTRIC A TECO ENERGY COMPANY			DRAWN: [ ] DATE: [ ] DESIGNED: [ ] DATE: [ ] CHECKED: [ ] DATE: [ ] APPROVED: [ ] DATE: [ ]		DRAWING NO. 92127-PF0-23-8
REVISIONS NO. DATE DESCRIPTION BY D-REV DESIGNED SUPV D-MOD PREL APPR D-CHK			REV. DOE		TAMPAPFD.OWG 16 06/15/93



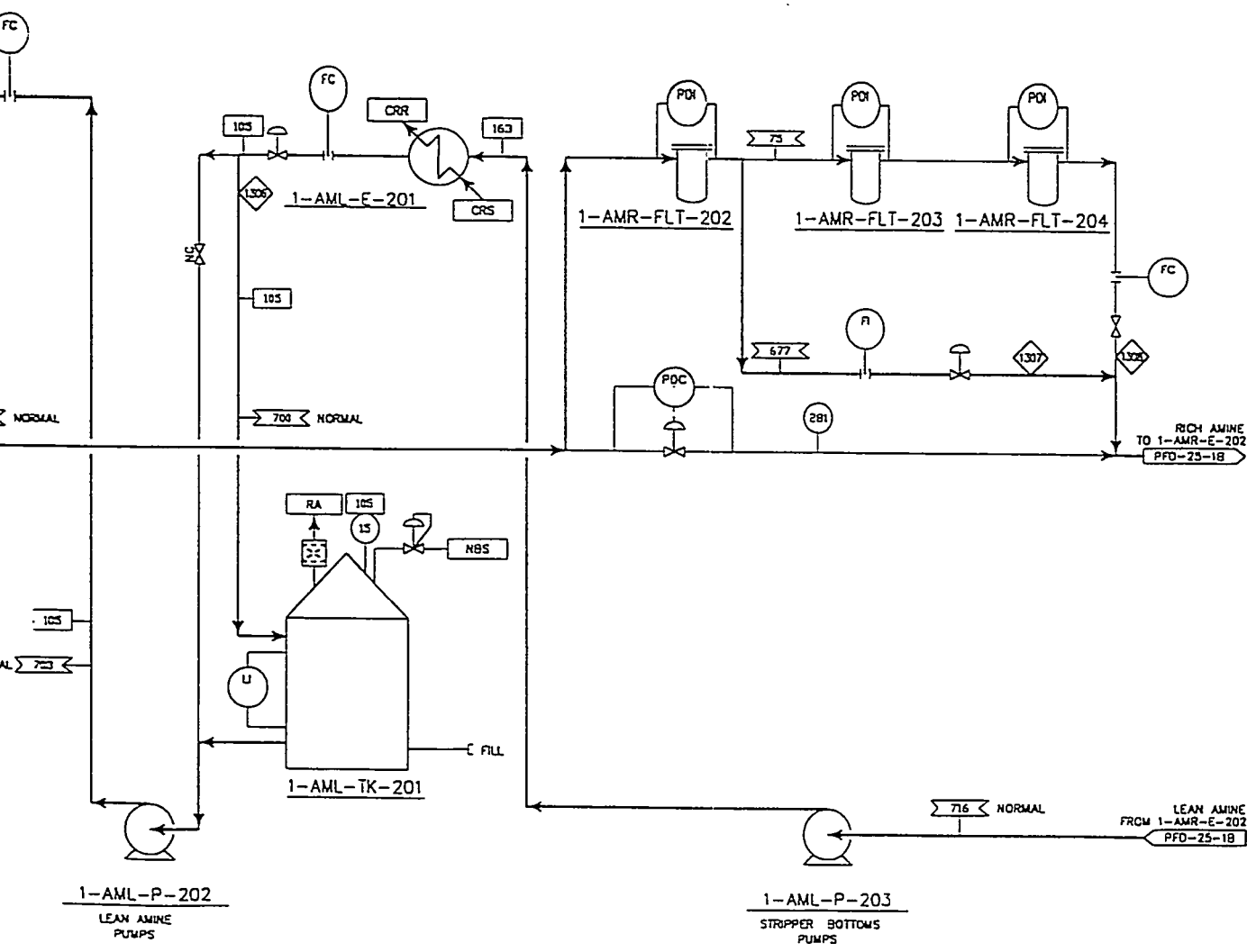
**NOTES:**

1. DUAL STREAM MASS SPEC.
3. STREAM PROPERTIES SHOWN REFLECT THE NORMAL OPERATING CASE (NOC).

**LEGEND**



1-AML-E-201 LEAN AMINE COOLER  
 1-AML-TK-201 AMINE STORAGE TANK  
 1-AMR-FLT-202 RICH AMINE CARTRIDGE FILTER  
 1-AMR-FLT-203 RICH AMINE CARBON FILTER  
 1-AMR-FLT-204 RICH AMINE CARBON AFTER FILTER



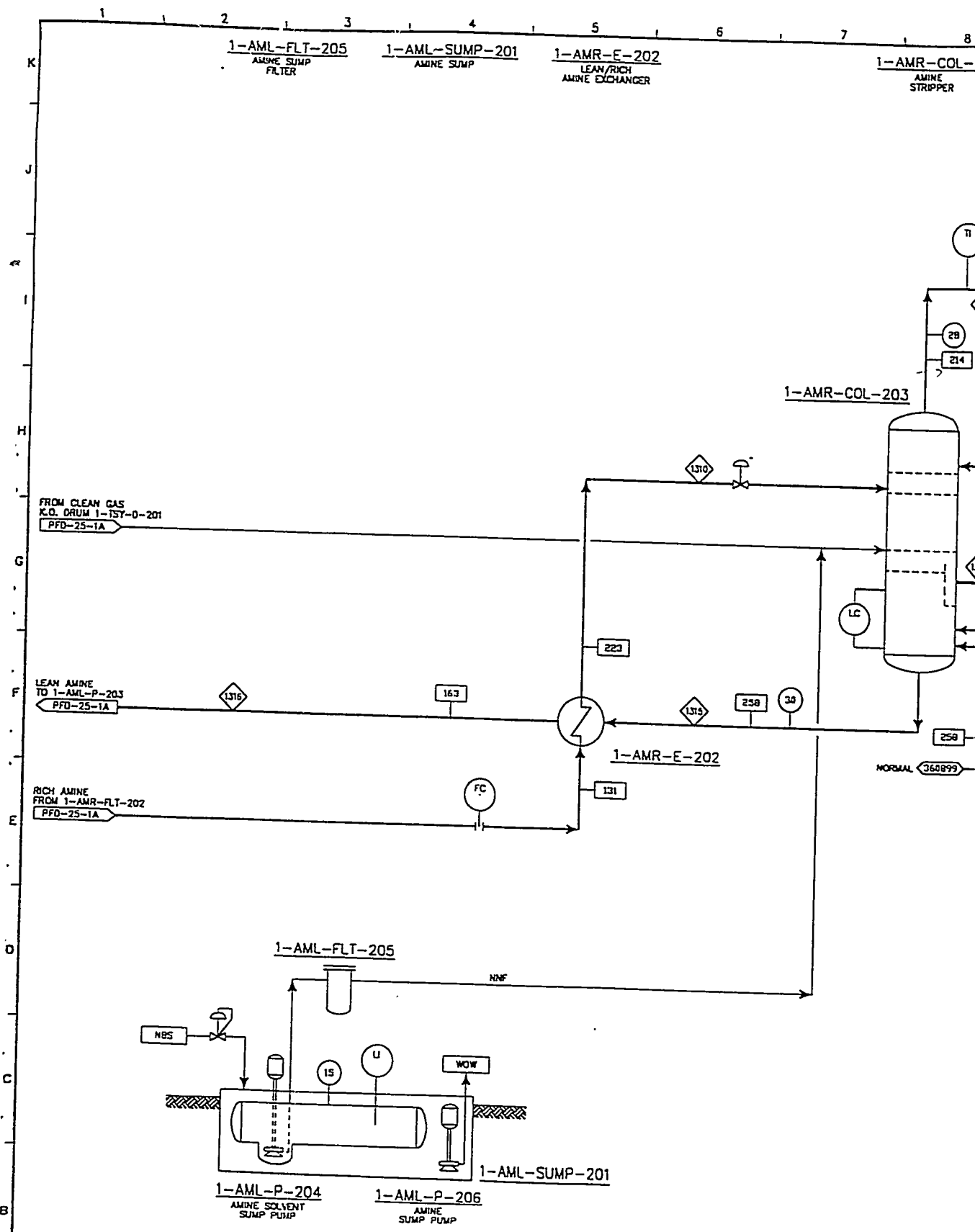
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**BECHTEL**  
 JOB NO. 22269

**TAMPA ELECTRIC**  
 A TECO ENERGY COMPANY

POLK POWER STATION UNIT # 1  
 PROCESS FLOW DIAGRAM  
 ACID GAS REMOVAL SECTION

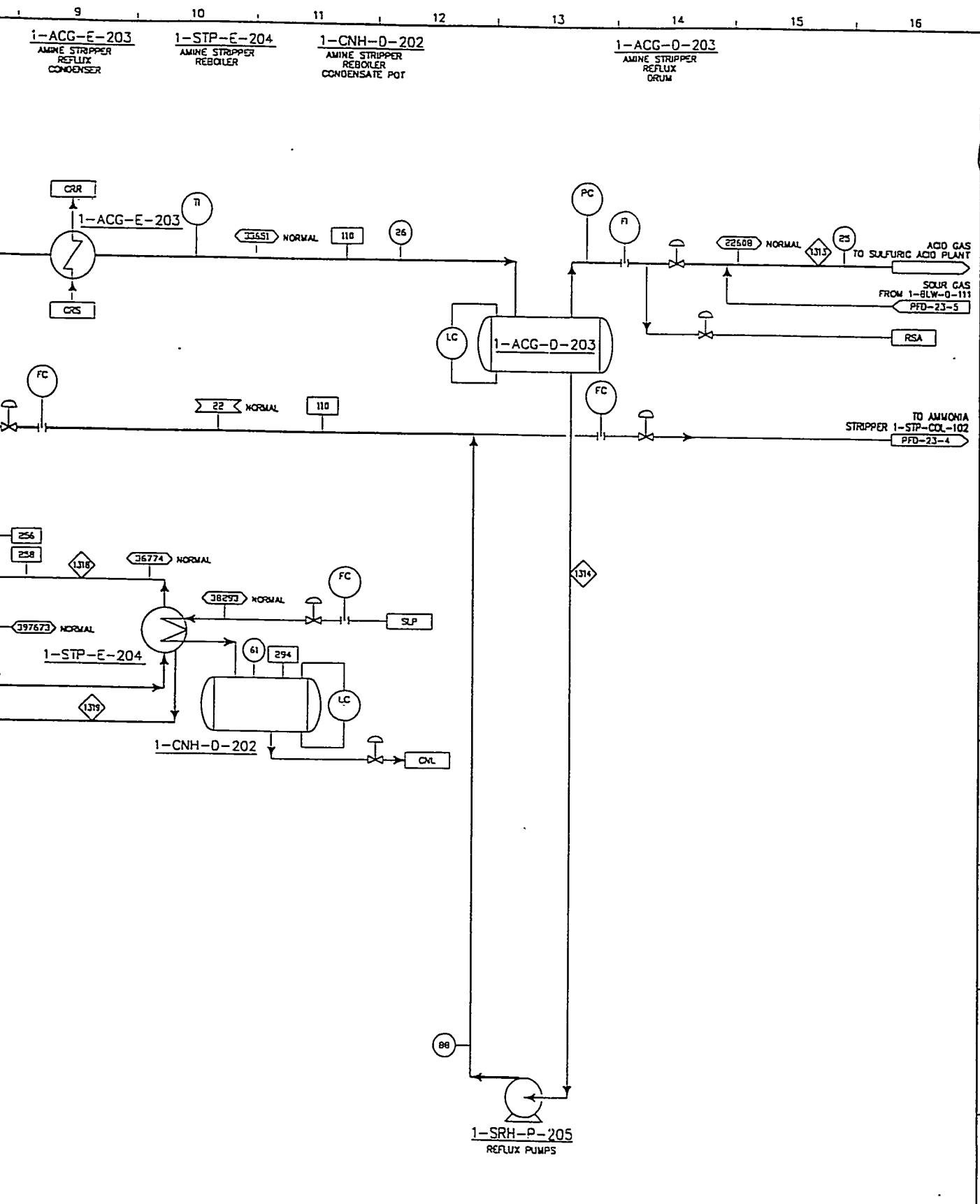
DRAWN	DATE	DRAWING NO.	REV.
DESIGNED	DATE	92127-PFD-25-1A	DCO
CHECKED	DATE		
APPROVED	DATE		



NOTES:  
1. STREAM PROPERTIES SHOWN REFLECT THE NORMAL OPERATING CASE (NOC).

LEGEND

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DRAWN DESIGNED CHECKED APPROVED	DATE DATE DATE DATE	DRAWING NO. 92127-PFD-25-18	REV. DOE		BECHTEL JOB NO. 22269		POLK POWER STATION UNIT # 1 PROCESS FLOW DIAGRAM ACID GAS REMOVAL SECTION								
							TAMPA ELECTRIC A TECO ENERGY COMPANY								
					BY	CHKD	DESIGN	ENGR	PREL	APPR	NO.	NO.	NO.	NO.	NO.
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