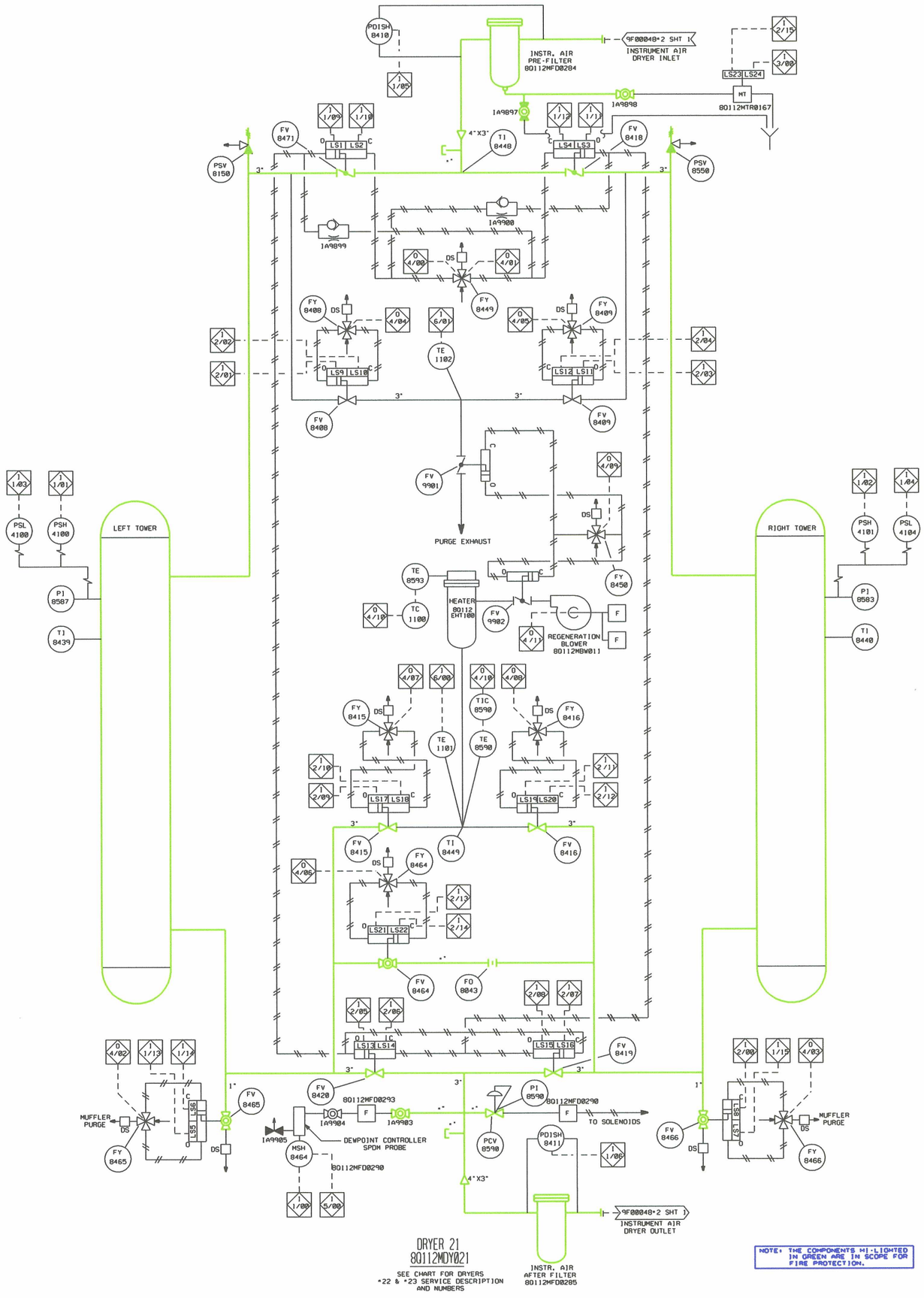

SERVICE DESCRIPTION	VENDOR I.D.	DRYER 21 80112MDY021	DRYER 22 80112MDY022	DRYER 23 80112MDY023
CONTROL PANEL		80112ZLP0211	80112ZLP0212	80112ZLP0213
SLC 5/05 PROGRAM CONTROLLER		N21AFCK8590	N21AFCK8591	N21AFCK8592
HAND CONTROL SWITCH		N21AHS8400	N21AHS8401	N21AHS8402
DEW POINT INDICATOR		N21AMSH8464	N21AMSH8465	N21AMSH8466
PREFILTER	F3	80112MFD0284	80112MFD0286	80112MFD0288
PREFILTER DIFF. PRESS. INDICATING SWITCH	DP1 DPS1	N21APDISHB410	N21APDISHB412	N21APDISHB414
PREFILTER MOIST. TRAP		80112MTR0167	80112MTR0168	80112MTR0169
PREFILTER MOIST. DRAIN OPEN POSITION SWITCH	LS23	N21AZSO8491	N21AZSO8495	N21AZSO8499
PREFILTER MOIST. DRAIN CLOSED POSITION SWITCH	LS24	N21AZSC8491	N21AZSC8495	N21AZSC8499
PREFILTER MOIST. MANUAL DRAIN	V17	80112TIA9897	80112TIA9906	80112TIA9915
PREFILTER MOIST. DRAIN ISO. VALVE	V18	80112TIA9898	80112TIA9907	80112TIA9916
DRYER INLET TEMP.	T4	N21ATI8448	N21ATI8450	N21ATI8452
LEFT TOWER INLET VALVE	V1	N21AFV8471	N21AFV8425	N21AFV8433
LEFT TOWER INLET VALVE OPEN POSITION SWITCH	LS1	N21AZSO8471	N21AZSO8425	N21AZSO8433
LEFT TOWER INLET VALVE CLOSED POSITION SWITCH	LS2	N21AZSC8471	N21AZSC8425	N21AZSC8433
RIGHT TOWER INLET VALVE	V2	N21AFV8418	N21AFV8426	N21AFV8434
RIGHT TOWER INLET VALVE OPEN POSITION SWITCH	LS3	N21AZSO8418	N21AZSO8426	N21AZSO8434
RIGHT TOWER INLET VALVE CLOSED POSITION SWITCH	LS4	N21AZSC8418	N21AZSC8426	N21AZSC8434
LEFT TOWER PRESS. RELIEF VALVE	PRV1	N21APSV8150	N21APSV8152	N21APSV8154
RIGHT TOWER PRESS. RELIEF VALVE	PRV2	N21APSV8550	N21APSV8153	N21APSV8155
LEFT TOWER TIME DELAY VALVE	FCV1	80112TIA9899	80112TIA9908	80112TIA9917
RIGHT TOWER TIME DELAY VALVE	FCV2	80112TIA9900	80112TIA9909	80112TIA9918
TOWER INLET/OUTLET SWITCHING SOLENOID	SV1	N21AFY8449	N21AFY8454	N21AFY8489
LEFT TOWER PURGE OUTLET SOLENOID VALVE	SV4	N21AFY8408	N21AFY8421	N21AFY8429
LEFT TOWER PURGE OUTLET VALVE	V5	N21AFV8408	N21AFV8421	N21AFV8429
LEFT TOWER PURGE OUTLET VALVE OPEN POSITION SWITCH	LS9	N21AZSO8408	N21AZSO8421	N21AZSO8429
LEFT TOWER PURGE OUTLET VALVE CLOSED POSITION SWITCH	LS10	N21AZSC8408	N21AZSC8421	N21AZSC8429
RIGHT TOWER PURGE OUTLET SOLENOID VALVE	SV5	N21AFY8409	N21AFY8422	N21AFY8430
RIGHT TOWER PURGE OUTLET VALVE	V6	N21AFV8409	N21AFV8422	N21AFV8430
RIGHT TOWER PURGE OUTLET VALVE OPEN POSITION SWITCH	LS11	N21AZSO8409	N21AZSO8422	N21AZSO8430
RIGHT TOWER PURGE OUTLET VALVE CLOSED POSITION SWITCH	LS12	N21AZSC8409	N21AZSC8422	N21AZSC8430
MAIN PURGE EXHAUST ISOLATION VALVE	V12	N21AFV9901	N21AFV9910	N21AFV9919
MAIN PURGE EXHAUST SUPPLY ISOLATION VALVE	V13	N21AFV9902	N21AFV9911	N21AFV9920
MAIN PURGE SUPPLY/EXHAUST CONTROL SOLENOID VALVE	SV9	N21AFY8450	N21AFY8455	N21AFY8460
REGENERATION HEATER	HX	80112EHT100	80112EHT101	80112EHT102
TEMPERATURE CONTROLLER		N21ATC1100	N21ATC1103	N21ATC1106
REGENERATION HEATER OUTLET TEMPERATURE	T3	N21ATI8449	N21ATI8451	N21ATI8453
REGENERATION BLOWER	B	80112MBW011	80112MBW012	80112MBW013
LEFT TOWER PURGE INLET VALVE	V9	N21AFV8415	N21AFV8423	N21AFV8431
LEFT TOWER PURGE INLET VALVE OPEN POSITION SWITCH	LS17	N21AZSO8415	N21AZSO8423	N21AZSO8431
LEFT TOWER PURGE INLET VALVE CLOSED POSITION SWITCH	LS18	N21AZSC8415	N21AZSC8423	N21AZSC8431

SERVICE DESCRIPTION	VENDOR I.D.	DRYER 21 80112MDY021	DRYER 22 80112MDY022	DRYER 23 80112MDY023
LEFT TOWER PURGE INLET VALVE CONTROL SOLENOID	SV7	N21AFY8415	N21AFY8423	N21AFY8431
RIGHT TOWER PURGE INLET VALVE	V10	N21AFV8416	N21AFV8424	N21AFV8432
RIGHT TOWER PURGE INLET VALVE OPEN POSITION SWITCH	LS19	N21AZSO8416	N21AZSO8424	N21AZSO8432
RIGHT TOWER PURGE INLET VALVE CLOSED POSITION SWITCH	LS20	N21AZSC8416	N21AZSC8424	N21AZSC8432
RIGHT TOWER PURGE INLET VALVE CONTROL SOLENOID	SV8	N21AFY8416	N21AFY8424	N21AFY8432
REPRESSURIZATION VALVE	V11	N21AFV8464	N21AFV8467	N21AFV8470
REPRESSURIZATION VALVE OPEN POSITION SWITCH	LS21	N21AZSO8464	N21AZSO8467	N21AZSO8470
REPRESSURIZATION VALVE CLOSED POSITION SWITCH	LS22	N21AZSC8464	N21AZSC8467	N21AZSC8470
DEPRESSURIZATION VALVE CONTROL SOLENOID	SV6	N21AFY8464	N21AFY8467	N21AFY8470
DEPRESSURIZATION ORIFICE	OU1	N21AFO8043	N21AFO8044	N21AFO8045
LEFT TOWER OUTLET VALVE	V7	N21AFV8420	N21AFV8428	N21AFV8436
LEFT TOWER OUTLET VALVE OPEN POSITION SWITCH	LS13	N21AZSO8420	N21AZSO8428	N21AZSO8436
LEFT TOWER OUTLET VALVE CLOSED POSITION SWITCH	LS14	N21AZSC8420	N21AZSC8428	N21AZSC8436
RIGHT TOWER OUTLET VALVE	V8	N21AFV8419	N21AFV8427	N21AFV8435
RIGHT TOWER OUTLET VALVE OPEN POSITION SWITCH	LS15	N21AZSO8419	N21AZSO8427	N21AZSO8435
RIGHT TOWER OUTLET VALVE CLOSED POSITION SWITCH	LS16	N21AZSC8419	N21AZSC8427	N21AZSC8435
LEFT TOWER DEPRESSURIZATION VALVE	V3	N21AFV8465	N21AFV8468	N21AFV8462
LEFT TOWER DEPRESSURIZATION VALVE CONTROL SOLENOID	SV2	N21AFY8465	N21AFY8468	N21AFY8462
LEFT TOWER DEPRESSURIZATION VALVE OPEN POSITION SWITCH	LS5	N21AZSO8465	N21AZSO8468	N21AZSO8462
LEFT TOWER DEPRESSURIZATION VALVE CLOSED POSITION SWITCH	LS6	N21AZSC8465	N21AZSC8468	N21AZSC8462
RIGHT TOWER DEPRESSURIZATION VALVE	V4	N21AFV8466	N21AFV8469	N21AFV8472
RIGHT TOWER DEPRESSURIZATION VALVE CONTROL SOLENOID	SV3	N21AFY8466	N21AFY8469	N21AFY8472
RIGHT TOWER DEPRESSURIZATION VALVE OPEN POSITION SWITCH	LS7	N21AZSO8466	N21AZSO8469	N21AZSO8472
RIGHT TOWER DEPRESSURIZATION VALVE CLOSED POSITION SWITCH	LS8	N21AZSC8466	N21AZSC8469	N21AZSC8472
LEFT TOWER TEMPERATURE	T1	N21ATI8439	N21ATI8442	N21ATI8445
RIGHT TOWER TEMPERATURE	T2	N21ATI8440	N21ATI8443	N21ATI8446
LEFT TOWER PRESSURE	P1	N21API8587	N21API8588	N21API8589
RIGHT TOWER PRESSURE	P2	N21API8583	N21API8584	N21API8585
LEFT TOWER FAIL TO SHIFT PRESSURE SWITCH	PS1	N21APSH4100	N21APSH4103	N21APSH4106
LEFT TOWER SYSTEM PRESSURE LOW SWITCH	PS3	N21APSL4100	N21APSL4101	N21APSL4102
RIGHT TOWER FAIL TO SHIFT PRESSURE SWITCH	PS2	N21APSH4101	N21APSH4104	N21APSH4107
RIGHT TOWER SYSTEM PRESSURE LOW SWITCH	PS4	N21APSL4104	N21APSL4105	N21APSL4108
HEATER OUTLET TEMP. ELEMENT	RTD1	N21ATE1101	N21ATE1104	N21ATE1107
PURGE OUTLET TEMP. ELEMENT	RTD2	N21ATE1102	N21ATE1105	N21ATE1108
AFTERFILTER	F4	80112MFD0285	80112MFD0287	80112MFD0289
AFTERFILTER DIFF. PRESS. INDICATING SWITCH	DP2 DPS2	N21APDISHB411	N21APDISHB413	N21APDISHB415
PILOT AIR FILTER	F1	80112MFD0290	80112MFD0291	80112MFD0292
DEWPOINT CONTROLLER ISOLATION VALVE	V14	80112TIA9903	80112TIA9912	80112TIA9921
DEWPOINT PROBE FILTER	F2	80112MFD0293	80112MFD0294	80112MFD0295
DEWPOINT PROBE INLET VALVE	V15	80112TIA9904	80112TIA9913	80112TIA9922
DEWPOINT PROBE OUTLET VALVE	V16	80112TIA9905	80112TIA9914	80112TIA9923
TEMP. INDICATING CONTROLLER	TIC	N21ATIC8590	N21ATIC8591	N21ATIC8592
PRESS. CONTROL VALVE	R1	N21APCV8590	N21APCV8591	N21APCV8592
PRESSURE INDICATOR	P3	N21API8590	N21API8591	N21API8592
TEMP. THERMOCOUPLE	TIC	N21ATE8590	N21ATE8591	N21ATE8592
THERMOCOUPLE THERMOSTAT	TH1	N21ATE8593	N21ATE8594	N21ATE8595

REFERENCE DRAWINGS:
B02439--0006605
B02439--0006705
B02439--0006805
B02439--0006905

NOTES:
1. ALL SLC POINTS GO TO THE MASTER CONTROL COMPUTER
2. ALL INSTRUMENTS AND EQUIPMENT ON THIS P&ID ARE PROVIDED BY VENDOR AS A PACKAGED UNIT.

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LR BOUNDARY DRAWING NO.	REV.
LR-STP-IA-8Q119F00048#2-2	0

NO.	ISSUE DATE	REVISION	ORIG	CKR	RE	DV	SE
1		REVISED AND ISSUED PER DCP 00-81-12	KS				
0	7/22/96	THIS DWG & 8Q119F00048 •2 SHT 1 SUPERCEDE 8Q119F00048 •2 & INCORPORATE MCN'S	SIGNATURES ON FILE				
		8827559, 8827537, 8827542 AND MDCN 8827513 WRITTEN AGAINST DWG 8Q119F00048 •2 AND					
		AS-BUILT CHANGES.					

NO.	ISSUE DATE	REVISION	ORIG	CKR	RE	DV	SE

SOUTH TEXAS PROJECT NUCLEAR OPERATING COMPANY

PIPING AND INSTRUMENTATION DIAGRAM
INSTRUMENT AIR
DRYERS 21, 22 & 23

PRIORITY	CADD FILE NO.	FSUG. NO.	STI. NO.	SCALE	DWG. NO.	SHT.	REV.
1	F0211.011	D070928		NONE	8Q119F00048•2	2	1

ESEED.DGN

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