



MISSISSIPPI POWER & LIGHT COMPANY

Helping Build Mississippi

P. O. BOX 1640, JACKSON, MISSISSIPPI 39205

February 10, 1981

NUCLEAR PRODUCTION DEPARTMENT

U.S. Nuclear Regulatory Commission
Office of Nuclear Reactor Regulation
Washington, D.C. 20555

Attention: Mr. Joseph A. Martore, Project Manager

Dear Sir:

SUBJECT: Grand Gulf Nuclear Station
Units 1 and 2
Docket Nos. 50-416 and 50-417
File 0260/0277/L-860.0/L-952.0
Transmittal of Information
Required for Control Room
Human Factors Assessment
AECM-81/62

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SERVICES UNIT

1201 FEB 12 PM 12 2

We provide the following enclosures and attachments in response to your letter to Mississippi Power & Light (MP&L), MAEC-80/236 dated December 4, 1980.

Regarding assistance requested for the upcoming Human Factors Branch Site Visit the following information is provided:

- 1. Admittance for several people to the control room;

Status - Control Room/Site passes will be available per the NRC's arrival. In order to ensure admittance for the NRC people the following information is requested.

- a. Number of NRC Reviewers
- b. Reviewer's Name
- c. Reviewer's Badge Number

- 2. Two qualified control room operators;

Status - Two control room operators will be available to assist the NRC during the visit.

- 3. Permission to use video, audio, and photographic equipment in the control room;

Status - Security clearances/passes will be available at the security gate per the NRC's request.

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Office of Nuclear Reactor Regulation

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4. Access to copies of selected emergency procedures;
Status - The emergency procedures have previously been submitted per AECM-81/44, dated January 27, 1981, and AECM-81/56, dated January 30, 1981.
5. A briefing and debriefing with the plant manager;
Status - Will be arranged.

As requested, the following additional data is provided.

1. Photographs
Status - Slides and photographs of the Main Control Room have been included as Enclosures 1 and 2, respectively. An index of slides and photographs is included as Attachment 1.
2. Control Room Drawings;
Status - Control Room drawings have been included as Enclosures 3 and 4, respectively. An index of drawings is included as Attachment 2.
3. Contact's name and phone number;
Status - Tommy Errington
Technical Engineering Section
(601) 437-5260, Ext. 113
4. An arrangement for three operators to assist the review team, to perform control/display arrangement review;
Status - The required number of operators will be available to perform this function.
5. An arrangement for a shift complement of operators to assist in procedure walk throughs;
Status - The required number of operators will be available to perform this function.
6. An arrangement for security clearances;
Status - Security clearances/passes will be available at the security gate per the NRC's request.

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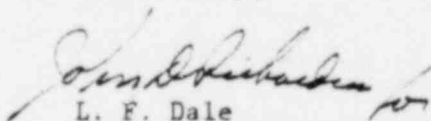
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7. List of abbreviations used on Panel/System/Subsystem;

Status - List of abbreviations presently used on the panels is included as Attachment 3. A revision is presented as Attachment 4.

Yours truly,



L. F. Dale
Nuclear Project Manager

JGC/JDR:lm

Attachments: 1) Index to Control Room Slides and Photographs
2) Index to Control Room Drawings
3) Abbreviations - Panel
4) Revised Abbreviations - Panel

Enclosures: 1) Control Room Slides
2) Control Room Photographs
3) Control Room Drawings
4) Back Panel Drawings

cc: Mr. N. L. Stampley (w/o)
Mr. G. B. Taylor (w/o)
Mr. R. B. McGehee (w/o)
Mr. T. B. Conner (w/o)

Mr. Victor Stello, Jr., Director (w/o)
Division of Inspection & Enforcement
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

INDEX OF PHOTOGRAPHS AND SLIDES

<u>Photograph Number</u>	<u>Slide Number</u>	<u>Description</u>
1	1	View from Technical Support Center
2	2	Panorama Shot L(1)
3	3	Panorama Shot C(2)
4	4	Panorama Shot R(13)
5	5	Panorama Shot R(4)
6	6	Panorama Shot RR(5)
7	7	Overview, Panels H13-P55, H13-P856, H13-P862, H13-P854
8	8	Panel H13-P855 (Right Half)
9	9	Panel H13-P855 (Left Half)
10	10	Panel H13-P856
11	11	Panel H13-P862
12	12	Panel H13-P854 (Top Half)
13	13	Panel H13-P854 (Bottom Half)
14	14	Overview, Panel H13-P866
15	15	Panel H13-P866 (Top - Monitors)
16	16	Panel H13-P866 (Bottom - Keyboard)
17	17	Overview, Panel H13-P860
18	18	Panel H13-P680 - 1A, 1B, 1D, 2A, 2B, 2D
19	19	Panel H13-P680 - 1C, 2C
20	20	Panel H13-P680 - 3A, 3B, 3D
21	21	Panel H13-P680 - 3C
22	22	Panel H13-P680 - 4A, 4B, 4D
23	23	Panel H13-P680 - 4C
24	24	Panel H13-P680 - 5A, 5B
25	25	Panel H13-P680 - 5C1, 5C2
26	26	Panel H13-P680 - 6D, 6E
27	27	Panel H13-P680 -6C
28	28	Panel H13-P680 - 7A, 7B
29	29	Panel H13-P680 - 7C1
30	30	Panel H13-P680 - 7C2
31	31	Panel H13-P680 - 8A, 8B, 8D
32	32	Panel H13-P680 - 8C
33	33	Panel H13-P680 - 9A, 9B, 9D
34	34	Panel H13-P680 - 9C
35	35	Panel H13-P680 - 10A, 10B, 10D, 11A, 11B, 11D
36	36	Panel H13-P680 - 10C, 11C
37	37	Overview, Panel H13-P807
38	38	Panel H13-P807 - 1A, 1B
39	39	Panel H13-P807 - 1C
40	40	Panel H13-P807 - 2A, 2B
41	41	Panel H13-P807 - 2C
42	42	Panel H13-P807 - 3A, 3B
43	43	Panel H13-P807 - 3C
44	44	Panel H13-P807 - 4A, 4B
45	45	Panel H13-P807 - 4C
46	46	Panel H13-P807 - 5A, 5B
47	47	Panel H13-P807 - 5C
48	48	Overview, Panel H13-P870

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<u>Photograph Number</u>	<u>Slide Number</u>	<u>Description</u>
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50	50	Panel H13-P870 - 1C
51	51	Panel H13-P870 - 2A, 2B
52	52	Panel H13-P870 - 2C
53	53	Panel H13-P870 - 3A, 3B
54	54	Panel H13-P870 - 3C
55	55	Panel H13-P870 - 4A, 4B
56	56	Panel H13-P870 - 4C
57	57	Panel H13-P870 - 5A, 5B
58	58	Panel H13-P870 - 5C
59	59	Panel H13-P870 - 6A, 6B
60	60	Panel H13-P870 - 6C
61	61	Panel H13-P870 - 7A, 7B
62	62	Panel H13-P870 - 7C
63	63	Panel H13-P870 - 8A, 8B
64	64	Panel H13-P870 - 8C
65	65	Panel H13-P870 - 9A, 9B
66	66	Panel H13-P870 - 9C
67	67	Panel H13-P870 - 10A, 10B
68	68	Panel H13-P870 - 10C
69	69	Overview, Panel H13-P601, P864
70	70	Panel H13-P601 - 16A, 16B
71	71	Panel H13-P601 - 16C
72	72	Panel H13-P601 - 21A, 21B
73	73	Panel H13-P601 - 21C
74	74	Panel H13-P601 - 20A, 20B
75	75	Panel H13-P601 - 20C
76	76	Panel H13-P601 - 17A, 17B, 18A, 18B
77	77	Panel H13-P601 - 17C
78	78	Panel H13-P601 - 18C
79	79	Panel H13-P601 - 19A, 19B
80	80	Panel H13-P601 - 19C
81	81	Panel H13-P601 - 22A, 22B
82	82	Panel H13-P601 - 22C
		(Photo Backwards)
83	83	Panel H13-P864 - 1A, 1B
84	84	Panel H13-P864 - 1C
85	85	Panel H13-P864 - 2A, 2B
86	86	Panel H13-P864 - 2C

INDEX OF DRAWINGS

1a. Control Room Panel Drawings

1) Bechtel Drawings

<u>Drawing Number</u>	<u>Description</u>
A-0001	Units 1 & 2 Index Sheet
A-0122	Units 1 & 2 Control Building - Control RM Reflected Ceiling Plan
A-0123	Units 1 & 2 Control Building - Viewing Gallery Reflected Ceiling Plan
E-0268	Lighting & Communication Plan Control Building Elev. 166'0" Units 1 & 2
E-0630	Lighting & Communication Plan Control Building Elev. 177'0" Units 1 & 2
E-0657 Sheet 1-20, 23, 31, 33, 33A, 34, 38, 38A, 39, 40, 41, 42, 42A, 43, 44	Lighting, Communications Notes, Symbols & Details
J-0400	Control Room Panel Location
J-0401	Upper Cable Spreading Room Panel Location
J-0415	Monitoring Console SH13-P866
J-0419	Control Room Vent Vertical Board SH13-P855
J-0420	Plant Control Vertical Board SH13-P854
J-0428	Fire Protection Vertical Board SH13-P862
J-0434	Auxiliary Electrical Control Bench Board SH13-P807 Left Hand Section
J-0435	Auxiliary Electrical Control Bench Board SH13-P807 Right Hand Section
J-0437	Seismic Instrumentation Cabinet SH13-P856
J-0454, Sheets A, B, C D, E	Panel Arrangement Plant Control Vertical Board SH13-P854
J-0460, Sheets A, B, C, D	Panel Arrangement Control Room Vent Vertical Board SH13-P855
J-0473, A-H, J-N, P, Q	Panel Arrangement Auxiliary Electrical Control Bench Board SH13-P807-1B
J-1410	Operators Control Console 1H13-P680 Left Hand Section
J-1411	Operators Control Console 1H13-P680 Computer Interfaces

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1a. Control Room Panel Drawings (Cont'd)

1) Bechtel Drawings (Cont'd)

<u>Drawing Number</u>	<u>Description</u>
J-1412	Operators Control Console 1H13-P680 Center Section
J-1413	Operators Control Console 1H13-P680 Right Hand Section
J-1414	Diesel Generator Bench Board 1H13-P864
J-1424	Auxiliary Control Bench Board 1H13-P870 Left Hand Section
J-1425	Auxiliary Control Bench Board 1H13-P870 Center Section
J-1426	Auxiliary Control Bench Board 1H13-P870 Right Hand Section
J-1464 Sheets A-F	Panel Arrangement Diesel Generator Bench Board 1H13-P864-1B
J-1470 Sheets A-H, J-N, P-Z	Panel Arrangement Auxiliary Control Bench Board 1H13-P870-1B
J-1471 Sheets A-H, J-N, P-W	Panel Arrangement Reactor Core Cooling Bench Board 1H13-P601-16B
J-1472A Sheets A-H, J-N, P-X	Panel Arrangement Operators Control Console 1H13-P680-1A, 1B, 1D

2) GE Drawings

137D7497	Fire Protection VB H13-P862
169C8448	Engraver Annunciator H13-P862
169C8515	Engraving: Fire Protection VB H13-P862
204B6799	Engraving: Seismic Inst. VB H13-P856
828E322AA	Panel Arrangement: Reactor Core Cooling H13-P601
865E616	Security Monitor Console H13-P866

1b. Back Panel Drawings

1) Bechtel Drawings

<u>Drawing Number</u>	<u>Description</u>
E0657	Change Request/Notice
J-1416	Div. IV ESF Logic VB 1H13-P878
J-1417	Div. I ESF Logic VB 1H13-P871
J-1418	Div. II ESF Logic VB 1H13-P872
J-1421	HVAC Control VB 1H13-P842
J-1422	Generator & Transformer Protection VB 1H13-P801 Left Hand Section
J-1423	Generator ESF XFMR No. 12 & SER XFMR No. 11 Metering VB 1H13-P801 Right Hand Section
J-1427	Turbine Supervisory Recorder VB 1H13-P822
J-1429	BOP Process Instrument Rack 1H13-P843
J-1430	Area Radiation Monitor Cabinet 1H13-P844
J-1431	Div. III ESF Logic VB 1H13-P877
J-1474 Sheets A, B, C	Panel Arrangement HVAC Control Vertical Board 1H13-P842
J-1490	ESF Transformer No. 11 Protection VB 1H13-P808
J-1491	Protection VB 1H13-P810 Left Hand Section
J-1492	BOP Transformer No. 11A, 11B, 14 & 24 Protection VB 1H13-P810 Right Hand Section

2) GE Drawings

<u>Drawing Number</u>	<u>Description</u>
133D9780	Traversing in Core Probe Control Monitoring Instrument Panel H13-P607
133D9976	Jet Pump Instrument Panel H13-P619
133D9979	Control Rod Test Instrument Panel H13-P610
133D9995	Nuclear Steam Supply Shutoff Process Instrument Panel H3-P613
133D9999	Reactor Core Isolation Cooling Relay VB H13-P621
137D7213 Sheets 1, 2	Inboard Valve Relay VB H13-P622
137D7214 Sheets 1, 2	Outboard Valve Relay VB H13-P623

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1b. Back Panel Drawings (Cont'd)

2) GE Drawings (Cont'd)

<u>Drawing Number</u>	<u>Description</u>
137D7239	Process Radiation Monitoring Instrument Panel H13-P604
137D7299	Div. IV ESF Logic VB H13-P878
137D7437	ESF Transformer No. 1 Protection VB H13-P808
137D7438	ESF Transformer No. 21 Protection VB H13-P811
164C5796	Engraving: Jet Pump Instrument Panel H13-P619
164C5943	Engraving: Process Radiation Records VB H13-P600
164C5980	Engraving: Control Rod Test Instrument Panel H13-P610
164C5986	Engraving: NSSS Process Instrumentation Panel H13-P613
164C5990	Engraving: Reactor Core Isolation Cooling Relay VB H13-P621
164C5993	Engraving: Automatic Depressurization CH A Relay VB H13-P628
164C5994 Sheets 1, 2	Engraving: Automatic Depressurization CH B Relay VB H13-P631
164C5998 Sheets 1, 2, 3	Engraving: Div. II Leak Detection VB H13-P642
169C8092	Engraving: Traversing In-Core Prove Control & Monitoring Instrument Panel H13-P607
169C8200	Engraving: Inboard Valve Relay VB H13-P622
169C8201	Engraving: Outboard Valve Relay VB H13-P628
169C8231 Sheets 1, 2, 3	Engraving: Div. I Leak Detection VB H13-P632
169C8258	Engraving: Process Radiation Monitoring Instrument Panel H13-P604
169C8264	Engraving: Nuclear Steam Supply Shutoff Temperature Recorder VB H13-P614
169C8268	Engraving: Div. II RHR Relay VB H13-P618
169C8296	Engraving: RPS/NSSS Logic VB H13-P601

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1b. Back Panel Drawings (Cont'd)

2) GE Drawings (Cont'd)

<u>Drawing Number</u>	<u>Description</u>
169C8297	Engraving: RPS/NSSS Logic VB H13-P692
169C8298	Engraving: RPS/NSSS Logic VB H13-P698
169C8299	Engraving: RPS/NSSS Logic VB H13-P694
169C8312 Sheets 1, 2	Engraving: Div. I Low Pressure Spray & Residual Heat Removal Relay VB H13-P629
169C8335 Sheets 1, 2, 3	Engraving: Off-Gas Control VB H13-P845
169C8343	Engraving: Feedwater and Recirculation Instrument Panel H13-P612
169C8345	Engraving: High Pressure Core Spray Relay VB H13-P625
169C8448 Sheets 38, 39, 39A, 43, 44	Engraving: Annunciator H13-P844
169C8501 Sheets 1, 2	Engraving: Gen. & Trans. Protection VB H13-P801
169C8502	Engraving: ESF Transformer No. 11 Protection VB H13-P808
169C8503 Sheets 1, 2, 3	Engraving: Service Transformer No. 11 & 12 BOP H13-P810
169C8504	Engraving: ESF Transformer No. 21 Protection VB H13-P811
169C8506	Engraving: Turbine Supervisory Recorder VB H13-P822
169C8509	Engraving: Area Radiation Monitor Cabinet H13-P844
169C8516 Sheets 1, 2	Engraving: Div. I Engineered Safeguard Feature Relay VB H13-P871
169C8517 Sheets 1, 2	Engraving: Div. II Engineered Safeguard Feature Relay VB H13-P872
169C8522	Engraving: Div. IV Logic VB H13-P878
169C8524	Engraving: Div. III Logic VB H13-P877
169C8876 Sheets 1, 2	Engraving: Div. II MSIV Leakage Control Cabinet H13-P654
169C8892 Sheets 1, 2, 3 851E919AA	Engraving: Marker Plate H13-P655 Neutron/Process Rad. Div. I H13-P669

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1b. Back Panel Drawings (Cont'd)

2) GE Drawings (Cont'd)

<u>Drawing Number</u>	<u>Description</u>
851E920AA	Neutron/Process Rad. Div. II H13-P670
851E921AA	Neutron/Process Rad. Div. III H13-P671
851E922AA	Neutron/Process Rad. Div. IV H13-P672
865E278	Automatic Depressurization CH A Relay VB H13-P628
865E279	Automatic Depressurization CH B Relay VB H13-P631
865E280	Div. II Leak Detection H13-P642
865E292	Div. I Leak Detection H13-P632
865E515	Nuclear Steam Supply Shutoff Temperature Recorder VB H13-P614
865E516	Div. II RHR Relay VB H13-P618
865E517	Div. I Low Pressure Core Spray & Residual Heat Removal Relay VB H13-P629
865E520	RPS/NSSS Logic VB H13-P691
865E521	RPS/NSSS Logic VB H13-P692
865E522	RPS/NSSS Logic VB H13-P693
865E523	RPS/NSSS Logic VB H13-P694
865E538	Offgas Control VB H13-P845
865E540	Feedwater & Recirculation Instrument Panel H13-P612
865E542	High Pressure Core Spray Relay VB H13-P625
865E577 Sheets 1, 2, 3	Gen. & Trans. Protection VB H13-P801
865E579 Sheets 1, 2	Service Transformer No. 11 & 12 BOP H13-P810
865E581	Turbine Supervisory Recorder VB H13-P822
865E582	BOP Process Instrument Panel H13-P845
865E583	Area Radiation Monitor Cabinet H13-P844
865E592 Sheets 1, 2	Div. I Engineered Safeguard Feature 5 Relay VB H13-P871
865E593 Sheets 1, 2	Div. II Engineered Safeguard Feature 3 Relay VB H13-P872
865E603	Div. III ESF Logic VB H13-P877
865E897	Div. I MSIV Leakage Control Cabinet H13-P655

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1b. Back Panel Drawings (Cont'd)

3) Reference Drawings (GE)

<u>Drawing Number</u>	<u>Description</u>
FA1	Arrangement Rack 1 H13-P634
FA2	Arrangement Rack 2 H13-P634

2a. Control Room Floor Plan

See Bechtel Drawings J-0400 & J-0401 in Section 1a.(1).

2b. Reflected Ceiling Plan

See Bechtel Drawings A-0122 & A-0123 in Section 1.a.(1).

Present Panel Abbreviations

<u>Abbreviation</u>	<u>Meaning</u>
ADS	automatic depressurization system
AUTO	automatic
AUX	auxiliary
ASSOC	associated
ACT	active
ATWS	anticipated transient without scram
APRM	average power range monitor
ALM, AL	alarm
ACCUM	accumulator
ABS	absolute
ALTN	alternating/alternate
ACKN	acknowledge
AC	alternating current
AC, A/C	air conditioning
AVAIL	available
ACC	accident
AMPL	amplifier
ADMIN	administration
ANNUN	annunciator
BRKR, BRK	breaker
BRG	bearing
BLDG, BLD	building
BOP	balance of plant
BYP	bypass
BCV	bypass control valve
BSTR	booster
BTFL	butterfly
BLU	blue
BOT	bottom
BAL	balance
BSCV	bypass stop and control valve
BLR	boiler
BLWDN	blowdown
BKWSH	backwash
CALIB, CAL	calibrate
CNTMT, CNTMNT, CTMT	containment
CNDS, COND	condensate
COND	condenser
CRD	control rod drive
CST	condensate storage tank
CPRSR, COMP	compressor
CONT	control/controller
CPLG	coupling
COOL	cooling
COMP, CMPNT	component
CNDCT, CNDCTY	conductivity
COMB	combine
COM	common
CLR	cooler

Present Panel Abbreviations

<u>Abbreviation</u>	<u>Meaning</u>
CHK	check
CAV, CVTY	cavity
CL	closure
CHEM	chemical
CRSVR	crossover
CAB	cabinet
CU, CLNUP	clean-up
CHAR	charcoal
CPM	counts per minute
CFM	cubic foot per minute
CCW	component cooling water
COL	collector
CW	cooling water/circulating water
CGCS	combustible gas control system
CF	control fluid
CR	control room
CUR	current
CHN, CHAN, CH	channel
CIRC, CKT	circuit
CL2	chlorine
CONC	concentration
CONN	connection
CHG	change
COMB	combustible
CO2	carbon dioxide
CRT	cathode ray tube
CL	close
CV	control valve
CSG	casing
DC	direct current
DISCH, DISC	discharge
DIV, D	division
DW, DRWL, DRW	drywell
DIFF,	differential
P, DP	differential pressure
DG	diesel generator
DE	diesel engine
DRN, DR	drain
DIAPH	diaphragm
DET	detect/detection
DMNRLZR, DEMIN, DEM	demineralizer
DNSC	downscale
DISC	disconnect
DRTR	deaerator
DGTL	digital
DEV, DEVN	deviation
DSL	diesel
DOM	domestic

Present Panel Abbreviations

<u>Abbreviation</u>	<u>Meaning</u>
ESF	engineered safety features
EXH, EX	exhaust
EMERG	emergency
EQUIP, EQPT, EQ	equipment
EFFL, EFL	effluent
EVAL	evaluator
EXP	expansion
EHC	electro hydraulic control
ENCL	enclosure
ECC	eccentricity
EXTR	extraction
EXCTR	exciter
ELECT	electrical
EL	elevation
E	east
FAIL, FLR	failure
FCV	flow control valve
FW, FDW, FDWTR	feedwater
FH	fuel handling
FHA	fuel handling area
FLTR, F	filter
FR	front
FR	front right
FL	front left
FL	floor
FL	flow
FL	fluid
FPC	fuel pool cooling
FP	fuel pool
FPCC	fuel pool cooling and cleanup
F/D	filter/demineralizer
FM	from
FUNCTN	function
FUL	full
GR	gross
GOV	governor
GL	gland
GRN	green
GEN	generator
GP	group
GRAD	gradient
GPM	gallons per minute
HPCS	high pressure core spray
HX	heat exchanger
HI	high
HNDL, HDLG	handling
HP	high pressure

Present Panel Abbreviations

<u>Abbreviation</u>	<u>Meaning</u>
HD	head
HDR	header
HTR	heater
HYD	hydraulic
HPU	hydraulic power unit
HTG	heating
H2	hydrogen
HYDRO	hydrogen
HR	hour
HVAC	heating ventilation and air conditioning
INOP	inoperable
INBD, IB	inboard
INVERTER	inverter
ISOL, ISOLATIN, ISO	isolation
INITD	initiated
INIT	initiate
INJ	injection
IP	intermediate pressure
INACT	inactive
INFO	information
IRM	intermediate range monitor
INFL	influent
INTLK	interlock
INSTR	instrument
INDICTR, IND	indicator
JT	joint
KV	kilovolt
LPCS	low pressure core spray
LOSCONT	loss of continuity
LCL	local
LS	loss
LCS	leakage control system
LDS	leak detection system
LO, LW	low
LP	low pressure
LPRM	local power range monitor
LTD	limited demand
L	lube
LFMG	low frequency motor generator
LKG, LEAKG	leakage
LTC	load tap changer
LSS	load shedding and sequencing
LPSV	low pressure stop valve
LS	left side
L	left

Present Panel Abbreviations

<u>Abbreviation</u>	<u>Meaning</u>
LN	line
LC	load control
LIQ	liquid
MOV	motor operated valve
MAN, MN	manual
MN	main
MSIV	main steam isolation valve
MSLIV	main steam line isolation valve
MIN	minimum
MOT	motor
MON	monitor
MSL	main steam line
MO	motor operated
MG	motor generator
MSR	moisture separator reheater
MSCV	main stop and control valve
MAS	master
MCC	motor control center
MKUP	makeup
MW	megawatt
MSV	main stop valve
MECH	mechanical
MSS	main steam supply
NORM	normal
NS4, NSSSS	nuclear steam supply shutoff system
NEUT	neutral
NAR	narrow
N	north
NEG	negative
OO	out of
OVL, OL, OVRD	overload
OUTBD, OTBD, OB	outboard
OG	off gas
OVERSP	overspeed
OP, OPN	open
ORF	orifice
OPER	operate
O/A	outside air
PWRLOSS	power loss
POSN, POS	position
PRESS	pressure
PREP	preparation
PERM	permissive
PWR	power
PMP	pump

Present Panel Abbreviations

<u>Abbreviation</u>	<u>Meaning</u>
PROT	protective/protection
PW	primary water
PH	phase
PDISCH	pump discharge
PT	point
PRI	primary
PRCS	process
PSW	plant service water
PNL	panel
PRL	parallel
PSIG	pound per square inch
PCW	plant chilled water
RCIC	reactor core isolation cooling
RHR	residual heat removal
RPV	reactor pressure vessel
RX, REACT	reactor
REDUCT	reduction
RMT	remote
REG, RGLTR	regulator
RECIRC, RCIR, RECIR	recirculation/recirculate
RTN	return
RPS	reactor protection system
RAD, RADN	radiation
RADN	radiation
RDWST, RW	radwaste
RW	reactor water
RM	room
RFPT	reactor feed pump turbine
RFP	reactor feed pump
REF	reference
REC, RCRDR	recorder
RS	right side
RWCU	reactor water cleanup
RL	rear left
R	right
RR	rear right
REG, REGEN	regenerative
RDL	radial
RECOMB	recombiner
REDUN	redundant
RPM	revolution per minute
RHR	reheater
RE	rear
REC	receiving
RTRACT	retract
REL	release
RCV	receiving
SERV, SVCE, SRV, SVC	service
STG, ST	stage

Present Panel Abbreviations

<u>Abbreviation</u>	<u>Meaning</u>
STM, ST	steam
SLC	standby liquid control
STOR, STRG, ST	storage
SYNC	synchronized
SEL	select
SUPPR, SUPP	suppression
SUPLY	supply
SUPV	supervisory
SHUTDN	shutdown
SOV	solenoid operated valve
SYS	system
SW	switch
SP	spray
SIG	signal
SRV	safety relief valve
SUCT	suction
SUBST	substitute
ST	stop
SRM	source range monitor
SJAE	steam jet air ejector
SHT	sheet
SOL	solenoid
SCV	stop and control valve
SSCV	seal steam control valve
SS	seal steam
SP, SPD	speed
SEP	separator
SEQ	sequence
SMPL	sample
SSC	seal steam controller
SW	service water
SSW	standby service water
SGTS	standby gas treatment system
SFGD	safeguard
SPCU	suppression pool cleanup
SPMU	suppression pool makeup
SWP	sweep
STBY, STDBY	standby
SWGR	switchgear
SV	stop valve
XFMR	transformer
TK	tank
TURB	turbine
TEMP	temperature
TNL	tunnel
TREAT, TRMT	treatment
XFER, TRANSF, TRANS	transfer
THR	thrust
TOT	total
TRNG	turning
TERM	terminal

Present Panel Abbreviations

<u>Abbreviation</u>	<u>Meaning</u>
TVR	thyristor voltage regulator
THROT	throttle
TN	train
TBCW	turbine building cooling water
UPSC, UPSCL	upscale
U	unit
VENT	ventilation
VNT	vent
V, VLV, VAL	valve
V, VOLT	voltage/volt
VR	voltage regulator
VAC	vaccum
VSL	vessel
VIBR, VIB	vibration
VOL	volume
H2O	water
WTR	water
WITHDRWL	withdrawal
WSTE	waste
WDG	winding
WR	wear
W	west
WC	water column
XFER	transfer
XFMR	transformer
X	exchanger

- NOTE:
- 1) Does not necessarily include all abbreviations used on the backpanels/computer.
 - 2) Any possible combination of the above abbreviations is possible.

Example: CST
 Condensate Storage Tank
 CNDS STRG TK

Revised Panel Abbreviations

<u>Abbreviation</u>	<u>Meaning</u>
ABS	absolute
ABV	above
A/C	air conditioning
ACCUM	accumulator
ACKN	acknowledge
ACT	active/activated
ADJ	adjustment
ADS	automatic depressurization system
AFT	after
AFTCLR	aftercooler
AH UNIT	air handling unit
AIRB	airborne
ALM	alarm
ALT	alternate
AMPL	amplifier
ANAL	analyzer
ANNUN	annunciator
APRM	average power range monitor
ASSOC	associated
ATWS	anticipated transient without scram
AUTO	automatic
AUX	auxiliary
AVAIL	available
ACC	accident
BAL	balance
BCV	bypass control valve
BKW	backwash
BLDG	building
BLU	blue
BLW	below
BLWDN	blowdown
BOIL	boiler
BOP	balance of plant
BOT	bottom
BPC	bypass control
BRG	bearing
BRKR	breaker
BSCV	bypass stop and control valve
BST	booster
BTFL	butterfly
BTRY	battery
BTV	bleeder trip valve
BYP	bypass
CAB	cabinet
CAL	calibration/calibrate
CAV	cavity
CCW	component cooling water
CF	control fluid (*same as EHC)
CFM	cubic feet per minute

Revised Panel Abbreviations

<u>Abbreviation</u>	<u>Meaning</u>
CGCS	combustible gas control system
CHAN	channel
CHAR	charcoal
CHEM	chemical
CHEMWST	chemical waste
CHG	change
CHILL	chiller
CHK	check
CHLD	chilled
CHLOR	chlorination/chlorine
CHRG	charger/charging
CIRC	circulating/circulation
CKT	circuit
CLG	cooling
CLNR	cleaner
CLOSE	closed/closure
CLR	cooler
CMPTR	computer
CNDCT	conductivity
CNDS	condensate
CNDSR	condenser
COLL	collecting
COMB	combined
COMPR	compressor
CONC	concentration
COND	conditioner/condition
CONF	confirmed
CONN	connection
CONT	control
CONV	converter
CO ₂	carbon dioxide
COOL	coolant
CPLG	coupling
CRD	control rod drive
CRT	cathode ray tube
CSG	casing
CST	condensate storage tank
CTMT	containment
CTR	center
CU	clean up
CUR	current
CV	control valve
CW	cooling water
	differential
P	differential pressure
T	differential temperature
DD	diesel driven
DE	diesel engine
DEG	degrees
DESIC	desiccation
DET	detected/detection

Revised Panel Abbreviations

<u>Abbreviation</u>	<u>Meaning</u>
DEV	deviation
DEWPT	dew point
DG	diesel generator
DGTL	digital
DIAPH	diaphragm
DIFF	difference
DISC	disconnect
DISCH	discharge
DIV	division
DMIN	demineralizer
DMPR	damper
DNSC	downscale
DOM	domestic
DR	drain
DRTR	deaerator
DRWL	drywell
DRYR	dryer
DSL	diesel
DVC	device
E	east
ECC	eccentricity
EFL	effluent
EHC	electro-hydraulic control
ELEC	electric/electrical
EMERG	emergency
ENCL	enclosure
ENG	engine
ENT	enter
EQUIP	equipment
ESF	engineered safety feature
EVAL	evaluation
EVAP	evaporator
EXH	exhaust
EXP	expansion
EXTR	extraction
F	fahrenheit
FAIL	failure
FCV	flow control valve
FDR	feeder
FH	fuel handling
FL	front left
FLO	flow
FLTR	filter
FM	from
FO	fully open
FP	fuel pool
FPC	fuel pool cooling
FPCC	fuel pool cooling and cleanup
FR	front right, front

Revised Panel Abbreviations

<u>Abbreviation</u>	<u>Meaning</u>
FT	foot/feet
FUNC	function/functional
FW	feedwater
FREQ	frequency
GD	guard
GEN	generator
GL	gland
GND	ground
GOV	governor
GR	gross
GRAD	gradient
GRN	green
HD	head
HDR	header
HEPA	high efficiency particulate air
HI	high
HP	high pressure
HPCS	high pressure core spray
HPU	hydraulic power unit
HTG	heating
HTR	heater
HTWL	hotwell
HVAC	heating, ventilation, air conditioning
HX	heat exchanger
HYD	hydraulic
HYPCHL	hyperchloride/hyperchlorinated
H ₂	hydrogen
ICNDSR	intercondenser
INACT	inactive
INBD	inboard
INC	incomplete
INCM	incoming
INDIC	indicator
INDIV	individual
INFL	influent
INFO	information
INIT	initiate/initiated/initial
INJ	injection
INL	inlet
INOP	inoperable/inoperative
INPT	input
INSTR	instrument/instrumentation
INTK	intake
INTLK	interlock
INTRPT	interrupt
INVRTR	inverter
IP	intermediate pressure

Revised Panel Abbreviations

<u>Abbreviation</u>	<u>Meaning</u>
IRM	intermediate range monitor
ISOL	insolation/isolator
JT	joint
JKY	jockey
KV	kilovolt
L	left, lube
LC	load center
LCS	leakage control system
LDS	leak detection system
LEAK	leakage
LFMG	low frequency motor generator
LIQ	liquid
LO	low
LOSCNT	loss of continuity
LP	low pressure
LPCS	low pressure core spray
LPRM	local power range monitor
LPSV	low pressure stop valve
LS	left side
LSS	load sequencing and shutting
LTC	load tap changer
LTD	limited demand
LUBE	lubrication
LVL	level
MA	manual - automatic
MAINT	maintenance
MAN	manual
MAX	maximum
MCC	motor control center
MD	motor driven
MECH	mechanical
MG	motor generator
MIN	minimum
MN	main
MON	monitor
MOV	motor operated valve
MSCV	main stop and control valve
MSIV	main steam isolation valve
MSL	main steam line
MSR	moisture separator reheater
MSV	main stop valve
MTR	motor
MU	make-up

Revised Panel Abbreviations

<u>Abbreviation</u>	<u>Meaning</u>
N	north
N ₂	nitrogen
NEG	negative
NORM	normal
NSSSS	nuclear steam supply shutoff system
O ₂	oxygen
OA	outside air
OG	off gas
OO	out of (file)
OPER	operating/in operation
OTBD	outboard
OTPT	output
OUTL	outlet
OVERCUR	overcurrent
OVERLD	overload
OVERRD	override
OVERSP	overspeed
PART	particulate
PC	precoat
PCW	primary chilled water
PDISCH	pressure discharge
PENETR	penetration
PERM	permit/permissive
PERS	personnel
PH	phase
pH	pH
PMP	pump
PMPHS	pumphouse
PNL	panel
POS	position
POT	potential
PREHTR	preheater
PREP	prepare/preparation
PRESS	pressure
PRI	primary
PRL	parallel
PROC	process/procedure
PROD	product
PROT	protective/protection
PSW	plant service water
PT	point
PW	primary water
PWR	power
PWRLOSS	loss of power
R	right
RAD	radiation/radioactivity
RADWST	radioactive waste

Revised Panel Abbreviations

<u>Abbreviation</u>	<u>Meaning</u>
RCDR	recorder
RCIC	reactor core isolation coolant
RCV	receiving
RCVR	receiver
RDL	radial
RE	rear
REC	record
RECIRC	recirculating/recirculation
RECOMB	recombiner
REDUC	reduction
REDUN	redundant
REF	reference
REFRIG	refrigeration
REFUEL	refueling
REG	regulator/regulation
REGEN	regenerative
REM	removal
RESVR	reservoir
REV	reverse
RFP	reactor feed pump
RFPT	reactor feed pump turbine
RHR	residual heat removal
RHTR	reheater
RL	rear left
RLF	relief
RM	room
RMT	remote
RPS	reactor protection system
RPT	recirc pump trip
RR	rear right
RS	right side
RTN	return
RWCU	reactor water cleanup
RX	reactor
RPV	reactor pressure vessel
S	south
SANI	sanitary
SCV	stop and control valve
SEC	secondary
SEL	select/selecter
SENS	sensor
SEP	separator
SEQ	sequence
SFGD	safeguard
SGTS	standby gas treatment system
SHUTDN	shutdown
SIG	signal
SJAE	steam jet air ejector
SLC	standby liquid control
SMP	sump
SMPL	sample

Revised Panel Abbreviations

<u>Abbreviation</u>	<u>Meaning</u>
SOL	solenoid
SP	speed
SPCU	suppression pool cleanup
SPLY	supply
SPMU	suppression pool makeup
SPR	spray
SRM	source range monitor
SRV	safety relief valve
SS	seal steam
SSBV	seal steam bypass valve
SSC	seal steam control
SSCV	seal steam control valve
SSS	seal steam supply
SSW	standby service water
STA	station
STBY	standby
STG	stage/staging
STM	steam
STOR	storage
SU	startup
SUBLP	subloop
SUBST	substitute
SUCT	suction
SUM	summer
SUPP	suppression
SUPV	supervisory
SV	stop valve
SVC	service
SW	service water
SWGR	switchgear
SWYD	switchyard
SYNC	synchronized
SYS	system
TBCW	turbine building cooling water
TEMP	temperature
TERM	terminal
THR	thrust
THROT	throttle
TK	tank
TNL	tunnel
TOT	total
TRBY	turbidity
TREAT	treatment
TSE	turbine stress evaluator
TURB	turbine
TURN	turning
TVR	thyristor voltage regulator
TWR	tower
TAF	top active fuel

Revised Panel Abbreviations

<u>Abbreviation</u>	<u>Meaning</u>
UNDERFREQ	underfrequency
UNDERVOLT	undervoltage
UPSC	upscale
V	volt
VAC	vacuum
VAC/VDC	volts AC/volts DC
VENT	vent/ventilation
VIBR	vibration
VLV	valve
VM	volt meter
VOL	volume
VOLT	voltage
VOLTLOSS	loss of voltage
VR	voltage regulator
VSL	vessel
W	west
WC	water column
WR	wear
WST	waste
WTR	water
X	exchanger
XFER	transfer
XFMR	transformer
XOVER	crossover
XTIE	cross tie
/	or (exceptions: A/C and O/A)