

TABLE 3.5-4 (Sheet 1)
ENGINEERED SAFETY FEATURE
SETPOINTS (CONT'D)

<u>NO.</u>	<u>FUNCTIONAL UNIT</u>	<u>CHANNEL ACTION</u>	<u>SETPOINT</u>
1.	High Containment Pressure	Safety Injection Containment Spray* Steam Line Isolation* Containment Isolation*	≤ 6 psig
2.	High-High Containment Pressure	See No. 1	≤ 30 psig
3.	Pressurizer Low Pressure	Safety Injection	≥ 1715 psig
4.	High Steam Line Differential Pressure (2/3 between any header and any line)	Safety Injection	≤ 150 psi
5.	High Steam Line Flow (2/3 lines)	Safety Injection Steam Line Isolation	d/p for 3.84×10^6 lb/hr, 770 psig, 100% RP d/p for 0.64×10^6 lb/hr, 1005 psig, 0% RP d/p linear with 1st stg. press., 0-100% RP
	Coincident with:		
	Low Steam Line Pressure, or		≥ 600 psig
	Low T_{avg}		≥ 531 F
6.	Low-Low Steam Generator Level	Auxiliary Feedwater	$\geq 15\%$ narrow range
7a.	Loss of Voltage (either 4 KV bus)	Auxiliary Feedwater	N.A.

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* High and High-High coincident.

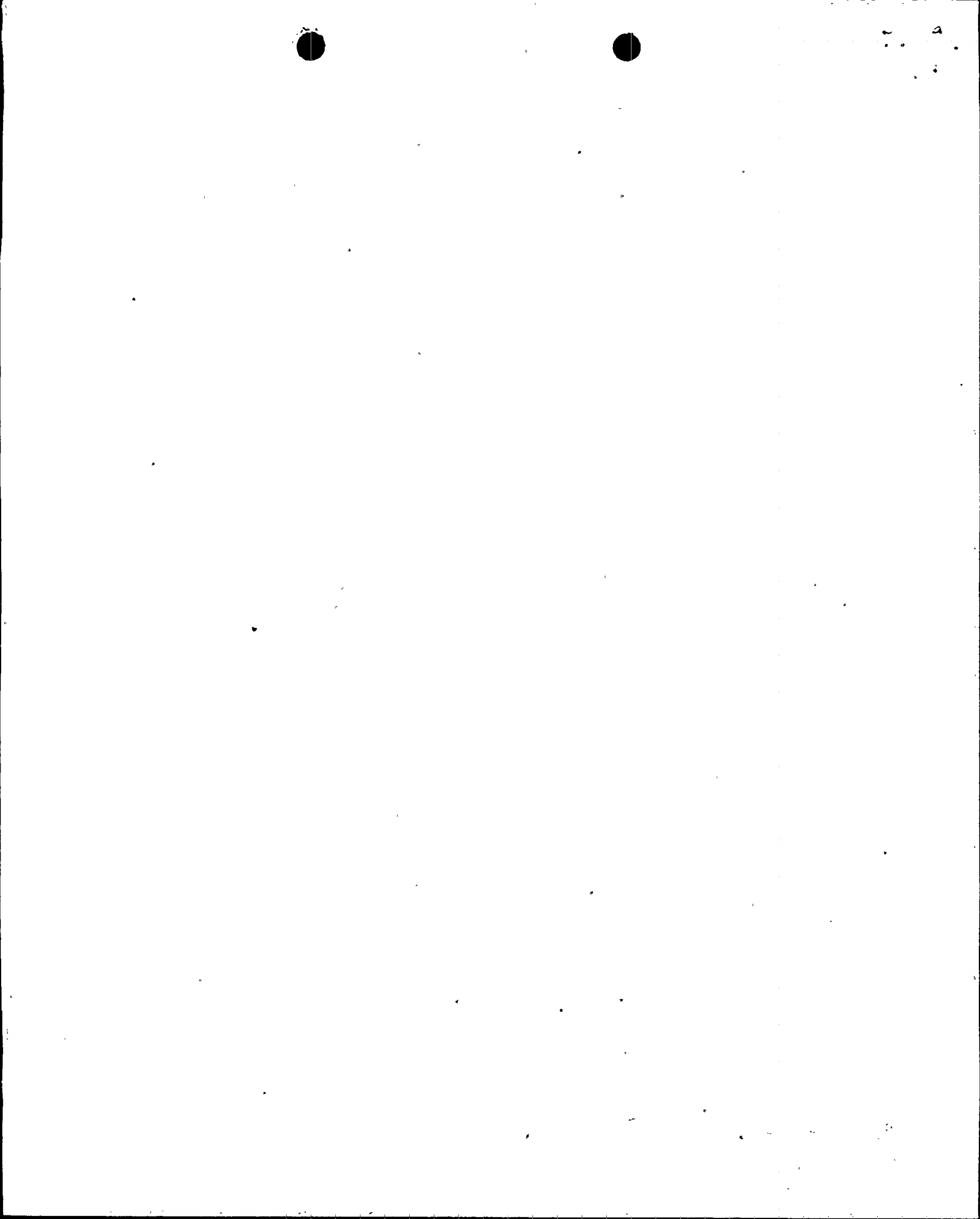


TABLE 3.5-4 (Sheet 2)
ENGINEERED SAFETY FEATURE SETPOINTS (CONT'D)

NO.	FUNCTIONAL UNIT	CHANNEL ACTION	SETPOINT
7b.	Degraded Voltage (either 4 KV bus)**	Auxiliary Feedwater	3605 + 75V, -0V with a 30 min. ± 10 min time delay.
7c.	Degraded Voltage** (480 volt Load Center)	Auxiliary Feedwater	All with tolerance of +5V, -0V
	<u>LOAD CENTER/RELAY NO.</u>		<u>SETPOINT</u>
3A	327H/3A1** # 327H/3A2** # (tag no. later)** (tag no. later)**		431V (10 sec. delay) 431V (10 sec. delay) 428V ₂ with 30 min. 428V } (± 10 min) delay
3B	327H/3B1** # 327H/3B2** # (tag no. later)** (tag no. later)**		411V (10 sec. delay) 411V (10 sec. delay) 433V ₂ with 30 min. 433V } (± 10 min) delay
3C	327H/3C1** # 327H/3C2** # (tag no. later)** (tag no. later)**		412V (10 sec. delay) 412V (10 sec. delay) 434V ₂ with 30 min. 434V } (± 10 min) delay
3D	327H/3D1** # 327H/3D2** # (tag no. later)** (tag no. later)**		423V (10 sec. delay) 423V (10 sec. delay) 443V ₂ with 30 min. 443V } (± 10 min) delay
4A	327H/4A1** # 327H/4A2** # (tag no. later)** (tag no. later)**		410V (10 sec. delay) 410V (10 sec. delay) 434V ₂ with 30 min. 434V } (± 10 min) delay
4B	327H/4B1** # 327H/4B2** # (tag no. later)** (tag no. later)**		409V (10 sec. delay) 409V (10 sec. delay) 432V ₂ with 30 min. 432V } (± 10 min) delay
4C	327H/4C1** # 327H/4C2** # (tag no. later)** (tag no. later)**		396V (10 sec. delay) 396V (10 sec. delay) 421V ₂ with 30 min. 421V } (± 10 min) delay
4D.	327H/4D1** # 327H/4D2** # (tag no. later)** (tag no. later)**		398V (10 sec. delay) 398V (10 sec. delay) 420V ₂ with 30 min. 420V } (± 10 min) delay
8.	Safety Injection	Auxiliary Feedwater	All SI setpoints
9.	Trip of both Main Feedwater Pump Breakers	Auxiliary Feedwater	N.A.

** These items do not apply on Unit 3 until after implementation of PC/M 79-116 and on Unit 4 until after implementation of PC/M 80-44.

Channel action is subject to condition being concurrent with Safety Injection signal.

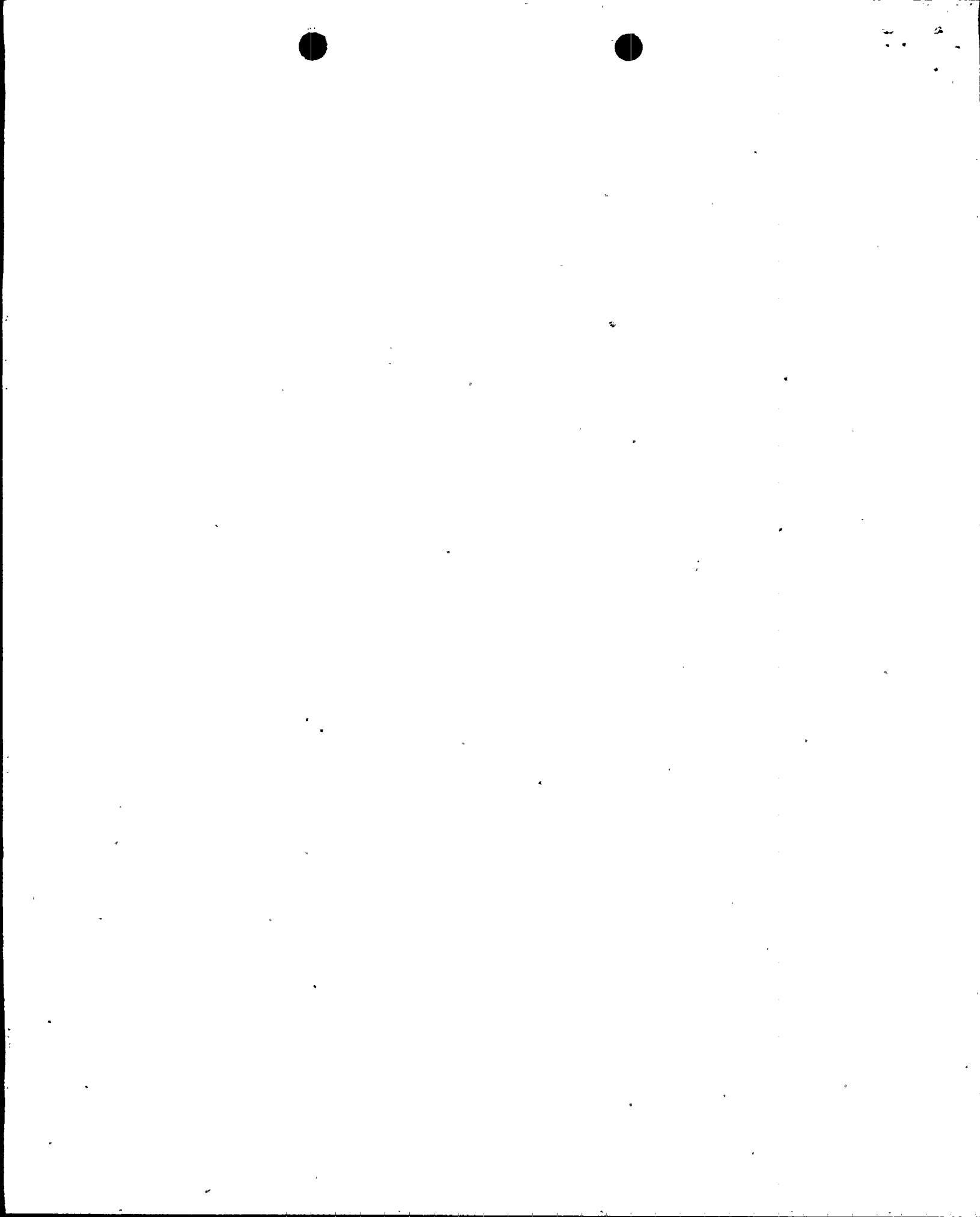


TABLE 3.5-2
ENGINEERED SAFETY FEATURES ACTUATION

<u>NO.</u>	<u>FUNCTIONAL UNIT</u>	<u>1</u> <u>MIN.</u> <u>OPERABLE</u> <u>CHANNELS</u>	<u>2</u> <u>MIN.</u> <u>DEGREE</u> <u>OF</u> <u>REDUNDANCY</u>	<u>3</u> <u>OPERATOR ACTION</u> <u>IF CONDITIONS OF</u> <u>COLUMN 1 OR 2</u> <u>CANNOT BE MET</u>
1.	SAFETY INJECTION			
1.1	Manual	1	0	Cold Shutdown
1.2	High Containment Pressure	2	1	Cold Shutdown
1.3	High Differential Pressure between any Steam Line and the Steam Line Header	2	1	Cold Shutdown
1.4	Pressurizer Low Pressure*	2	1	Cold Shutdown
1.5	High Steam Flow in 2/3 Steam Lines with Low T_{avg} or Low Steam Line Pressure	1/line in each of 2 lines	1	Cold Shutdown
2.	CONTAINMENT SPRAY			
2.1	High Containment Pressure and High-High Containment Pressure (Coincident)	2 per set	1/set	Cold Shutdown
3.	AUXILIARY FEEDWATER			
3.1	Low-Low Steam Generator Level	2	1	Hot Shutdown
3.2	Loss of Power			
	a. 4.16 kV Emergency Bus undervoltage (Loss of voltage)	2	0	Cold Shutdown
	b. 4.16 kV Emergency Bus undervoltage (degraded voltage)**	2	0	Cold Shutdown
	c. 480 v Load Centers (2 instantaneous relays per load center)**	2	0	Cold Shutdown
	d. 480 v Load Centers (2 inverse time relays per load center)**	2	0	Cold Shutdown
3.3	Safety Injection		(--- See 1 above ---)	
3.4	Trip of both Main Feedwater Pump Breakers	2	0	Cold Shutdown

* This signal may be manually bypassed, when the reactor is shutdown and pressure is below 2000 psig.

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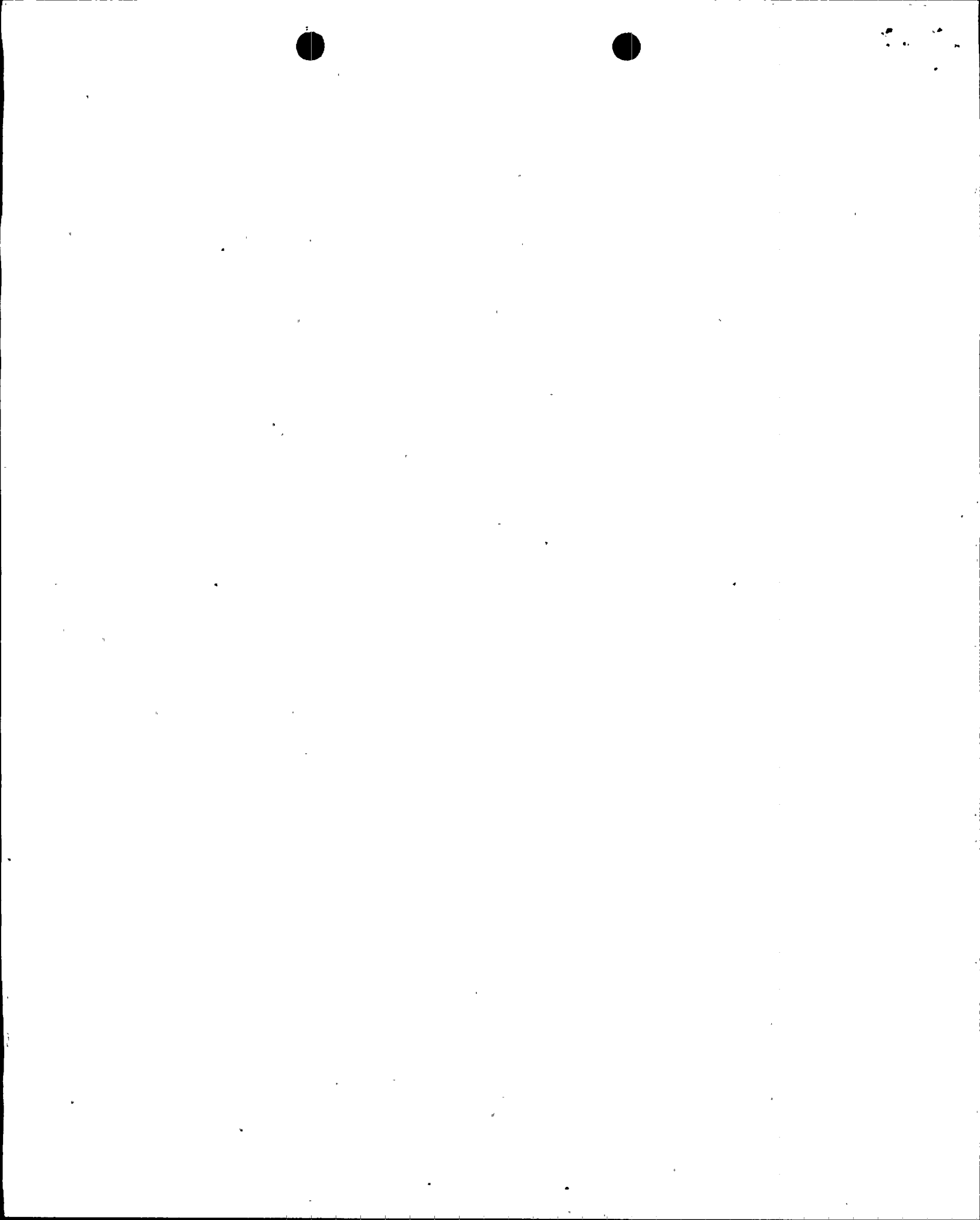
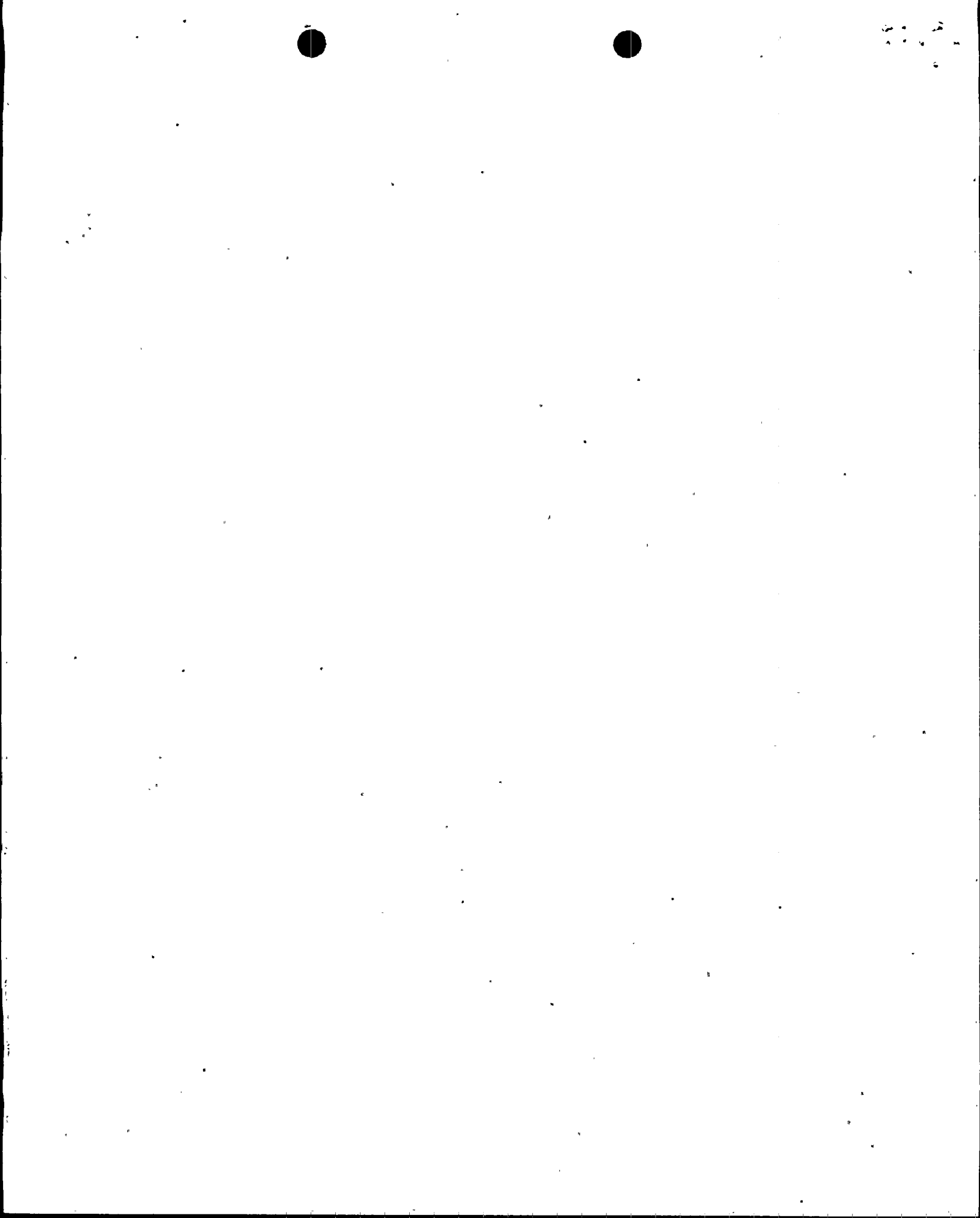


TABLE 4.1-1 SHEET 3

	<u>Channel Description</u>	<u>Check</u>	<u>Calibrate</u>	<u>Test</u>	<u>Remarks</u>
23.	Environmental Radiological Monitors	N.A.	A(1)	M(1)	(1) Flow
24.	Logic Channels	N.A.	N.A.	M [†]	
25.	Emer. Portable Survey Instruments	N.A.	A	M	
26.	Seismograph	N.A.	N.A.	Q	Make trace. Test battery (change semi-annually)
27.	Auxiliary Feedwater Flow Rate	M [†]	R	N.A.	
28.	RCS Subcooling Margin Monitor	M [†]	R	N.A.	
29.	PORV Position Indicator (Primary Detector)	M [†]	N.A.	R	} Check consists of monitoring indicated position and verifying by observation of related parameters
30.	Safety Valve Position Indicator	M [†]	N.A.	R	
31.	Safety Valve Position Indicator	M [†]	R	N.A.	
32.	a. Loss of Voltage (both 4kv busses)	N.A.	N.A.	R	For AFW actuation at Power Only
	b. Undervoltage (both 4kv busses and 480 volt load centers)**	S	R	M	These tests are not required when in cold or refueling shutdown
33.	Trip of both Main Feedwater Pump Breakers	N.A.	N.A.	R	For AFW actuation at power only

** This item does not apply on Unit 3 until after implementation of PC/M 79-116 and on Unit 4 until after implementation of PC/M 80-44.




STATE OF FLORIDA)
)
COUNTY OF DADE) ss.

Robert E. Uhrig, being first duly sworn, deposes and says:

That he is Vice President of Florida Power & Light Company, the herein;

That he has executed the foregoing document; that the statements made in this said document are true and correct to the best of his knowledge, information, and belief, and that he is authorized to execute the document on behalf of said


Robert E. Uhrig

Subscribed and sworn to before me this

6 day of August, 1982

Cheryl L. Fredrick
NOTARY PUBLIC, in and for the County of Dade,
State of Florida

My commission expires: Notary Public, State of Florida at Large
My Commission Expires October 30, 1983
Bonded thru Maynard Bonding Agency

10-11-54

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