Attachment A to IPN-84- 35

Proposed Technical Specification Changes

NEW YORK POWER AUTHORITY
INDIAN POINT 3 NUCLEAR POWER PLANT
DOCKET NO. 50-286

TABLE 3.5-1

ENGINEERED SAFETY FEATURES INITIATION INSTRUMENT SETTING LIMITS

No.	FUNCTIONAL UNIT	CHANNEL	SETTING LIMIT
1.	High Containment Pressure (Hi Level)	Safety Injection	$\leq$3.5 psig
2.	High Containment Pressure (Hi-Hi Level)	a. Containment Spray b. Steam Line Isolation	$\leq$23 psig
3.	Pressurizer Low Pressure	Safety Injection	$\geq$1700 psig
4.	High Differential Pressure Between Steam Lines	Safety Injection	$\leq$150 psi
5.	High Steam Flow in 2/4 Steam Lines Coincident with Low T_{avg} of Low Steam Line Pressure	a. Safety Injection b. Steam Line Isolation	$\leq$40% of full steam flow at zero load $\leq$40% of full steam flow at 20 % load $\leq$110% of full steam flow at full load $\geq$540°F T_{avg} $\geq$600 psig steam line pressure
6.	Steam Generator Water Level (low-low)	Auxiliary Feedwater	$\geq$5% of narrow range instrument span each steam generator
7.*	a. 480v Bus Undervoltage Relay		$\geq$200v**
	b. 480v Bus Degraded Voltage Relay (Non-SI)		$\geq$ 414v with a $\leq$45 sec time delay
	c. 480v Bus Degraded Voltage Relay (Coincident SI)		$\geq$ 414v with a $\leq$ 10 sec time delay

* To be effective after completion of all required modifications.

** The undervoltage protection devices used for diesel generator starting are induction type disc relays; therefore, the time to actual trip will decrease as a function of voltage decrease below the setpoint.

TABLE 4.1-1 (SHEET 4 of 4)

CHANNEL DESCRIPTION	CHECK	CALIBRATE	TEST	REMARKS
29. Reactor Coolant System Subcooling Margin Monitor	D	R	N.A.	
30. PORV Position Indicator (Limit Switch)	N.A.	R	R	
31. PORV Position Indicator (Acoustic Monitor)	D	R	R	
32 Safety Valve Position Indicator (Acoustic Monitor)	D	R	R	
33. Auxiliary Feedwater Flow Rate	N.A.	R	N.A.	
34. Plant Effluent Radioiodine/ Particulate Sampling (Sample line common with monitor R 13)	N.A.	N.A.	R	
35.* Loss of Power				
a. 480v Bus Undervoltage Relay	N.A.	R	M	
b. 480v Bus Degraded Voltage Relay	N.A.	R	M	
c. 480v Safeguards Bus Under Voltage Alarm - Alarm Title 25 on Panel SBF-2 Safeguards	N.A.	R	M	

S - Each Shift
D - Daily
W - Weekly
M - Monthly
P - Prior to each startup if not done previous week
Q - Quarterly
R - Each Refueling Outage
NA - Not Applicable

* To be effective after completion of all required modifications.

Attachment B to IPN-84-35

Safety Evaluation Related to Proposed
Technical Specification Changes

NEW YORK POWER AUTHORITY
INDIAN POINT 3 NUCLEAR POWER PLANT
DOCKET NO. 50-286

SECTION I - DESCRIPTION OF CHANGE

The changes proposed for Tables 3.5-1 ("Engineered Safety Features Initiation Instrument Setting Limits") and 4.1-1 ("Minimum Frequencies for Checks, Calibrations, and Tests of Instrument Channels") supercede the changes previously proposed for these tables in the Authority's Reference 2 letter, pursuant to the NRC Staff's Reference 3 letter. The proposed changes consist of the addition of relay setpoints, time delays, testing intervals, and calibration intervals for the 480v safeguard emergency buses. In addition, the setting limit for the 480v bus undervoltage relay (Item 7a of Table 3.5-1) has been increased from $\geq$40% of nominal voltage to a more conservative $\geq$200 volts setting limit consistent with the Authority's Reference 2 letter.

SECTION II - EVALUATION OF CHANGE

The changes proposed for the Technical Specifications as indicated in Attachment A are in accordance with the guidelines for DGV protection as delineated in the NRC's June 3, 1977 letter. The 480-volt safeguards bus undervoltage protection as proposed will provide all protective functions necessary to ensure availability of power to safety-related equipment and prevent equipment damage due to sustained DGV conditions under all postulated scenarios. In addition, the protection proposed will provide assurance that the offsite power source is not unnecessarily forsaken.

The DGV relay setpoint is based on the limiting safety-related load and conservatively accounts for voltage losses associated with the cable feeders from the 480-volt buses to the MCC's. The time delay for the DGV relays under SI conditions allows for proper coordination to prevent spurious actuation and is in accordance with FSAR accident analysis assumptions for delivering cooling water to the core under such postulated conditions. The time delay for the DGV relays under non-SI conditions allows for proper coordination with normal plant electrical transients (e.g., large motor starts, fast transfers, etc.). The channel functional surveillance test periodicity for the LOV and DGV relays will ensure the protection proposed is available to preclude postulated DGV conditions from adversely affecting safety-related equipment.

The Authority considers that the proposed changes can be classified as not likely to involve significant hazards considerations since the proposed changes "constitute an additional limitation, restriction, or control not presently included in the technical specifications." (Example (ii), Federal Register, Vol. 48, No. 67 dated April 6, 1983, page 14870).

SECTION III - IMPACT OF CHANGE

This change will not impact the following:

- ALARA Program
- Fire Protection Program
- Emergency Plan
- FSAR or SER Conclusions
- Overall Plant Operations

SECTION IV - CONCLUSION

The incorporation of these modifications: a) will not increase the probability nor the consequences of an accident or malfunction of equipment important to safety as previously evaluated in the Safety Analysis Report; b) will not increase the possibility for an accident or malfunction of a different type than any evaluated previously in the Safety Analysis Report; c) will not reduce the margin of safety as defined in the basis for any Technical Specification; d) do not constitute an unreviewed safety question as defined in 10 CFR 50.59; e) involves no signficant hazards considerations as defined in 10 CFR 50.92.

SECTION V - REFERENCES

(a) IP-3 FSAR

(b) IP-3 SER

Attachment C to IPN-84-35

Description of Proposed Plant Modifications

NEW YORK POWER AUTHORITY
INDIAN POINT 3 NUCLEAR POWER PLANT
DOCKET NO. 50-286

The existing undervoltage protection of the 480-volt safeguards buses at Indian Point 3 consists of the following:

1) Loss of voltage (LOV) protection is provided by two undervoltage relays on each of the four buses. These are Westinghouse type CV-7 inverse time relays arranged in a one-out-of-two logic per bus with a current technical specification setpoint of $\geq$40% nominal voltage. Actuation of these relays will trip the bus supply breaker, initiate load shedding, start the onsite emergency diesel generator, and initiate load sequencing.

2) Degraded grid voltage (DGV) protection is provided by two voltage sensing relays on each of the four buses. These are Gould type J16SV12 relays arranged in a two-out-of-two logic. In addition, each of these voltage sensing relays has its own associated Agastat Model E7022AK022 timing relay to provide a time delay to insure proper coordination with plant electrical transients (e.g., large motor starts, fast transfers, etc.). Actuation of these relays will trip the bus supply breaker, which will in turn actuate the LOV relays.

3) Control room alarm annunciation of an impending undervoltage condition is provided by one alarm relay per bus. These are Westinghouse type CP reverse phase relays with an indicating voltage switch. The setpoint for these relays is governed by applicable alarm response procedures and is maintained well above the voltage sensing value of the DGV relays.

Based upon the DGV studies performed by the Authority on the Indian Point 3 electrical distribution system, the Authority is proposing to make the following modifications to the existing 480-volt safeguards bus undervoltage protection system:

(Refer to the attached sketch of the proposed logic for the modified 480-volt safeguards undervoltage protection system)

1) Retain the existing LOV relays. The existing protection scheme will be modified to provide for monthly testability. The added features will consist of test switches and indicating lights that will enable testing of one LOV relay per bus at a time, thus providing LOV protection through a one-out-of-one logic during testing. The technical specification setpoint proposed for these relays is $\geq$ 200 volts.

2) Retain the existing DGV relays. A modified protection scheme for continuous DGV conditions that is arranged in a two-out-of-two logic with a proposed technical specification setpoint of $\geq$ 414 volts and a time delay of $\leq$ 45 seconds will be provided (see Attachment A). This time delay is required for proper coordination with plant

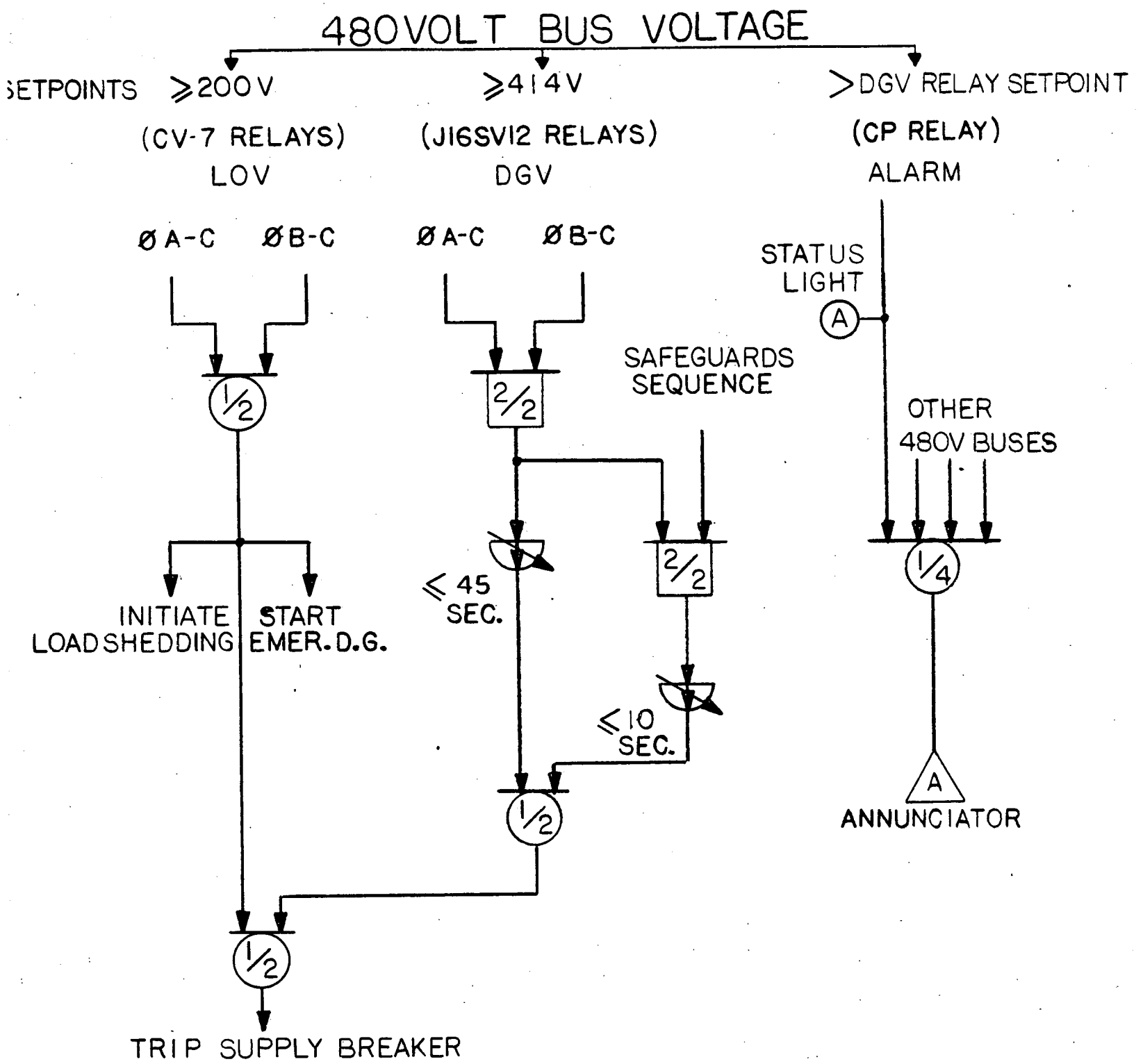
transients as indicated above. For safeguards actuation coincident with a DGV condition, a bypass of the ≤ 45 second time delay will be provided. This bypass consists of a proposed technical specification time delay of ≤ 10 seconds to provide proper coordination and prevent spurious actuation (see Attachment A). The modified scheme will have provisions for monthly testability. The testing scheme will include provisions for testing of the DGV sensing relays and timers (see Attachment A).

3) Retain the existing undervoltage alarm relay, annunciator scheme and setpoint (as established by applicable alarm response procedures). Monthly testing of the alarm by technical specifications is proposed (see Attachment A).

The 480-volt safeguards bus undervoltage protection as outlined above, will provide all protective functions necessary to insure availability of power to safety-related equipment and prevent equipment damage due to sustained DGV conditions.

The Authority currently plans to complete the above-described modifications prior to start-up from the cycle 4/5 refueling outage.

(TYPICAL FOR FOUR BUSES)



IP3 480V SAFEGUARD BUSES UNDERVOLTAGE PROTECTION SYSTEM LOGIC DIAGRAM