

MEETING AGENDA
SAN ONOFRE UNITS 2 & 3 PRESSURIZER SAFETY
VALVE INLET PIPING MODIFICATIONS 9 - 16 - 81

INTRODUCTION	F. NANDY
EPRI TEST PROGRAM	J. BLANCO
CURRENT SCE DIRECTION	F. NANDY
SYSTEM ANALYSIS	S. WEISMANTEL
DESIGN MODIFICATIONS	J. MAHLMEISTER
IMPLEMENTATION	S. WEISMANTEL
SUMMARY	F. NANDY

SONGS 2&3 COMPLIANCE WITH NUREG 0737

1. EPRI SAFETY/RELIEF VALVE TEST PROGRAM

- OBJECTIVE - DEMONSTRATE VALVE OPERABILITY
- EPRI SCREENING CRITERIA
 - SET POINT \pm 3%
 - ACCUMULATION \leq 6%
 - BLOWDOWN \leq 10%
 - NO CHATTERING
- SCE PARTICIPATION
 - TECHNICAL
 - LICENSING
 - FINANCIAL

2. SONGS 2&3 PLANT SPECIFIC INFORMATION

- DRESSER SAFETY VALVE DESCRIPTION
- TEST RESULTS OVERVIEW
- ASSESSMENT
- ADDITIONAL TESTS

CURRENT SONGS 2 & 3 DIRECTION

CURRENT DESIGN HAS POTENTIAL FOR VALVE CHATTER

LICENSING SCHEDULE REQUIRES TIMELY RESOLUTION

DESIGN MODIFICATIONS INCLUDE

SHORTEN INLET PIPE

ADJUST VALVE RING SETTINGS

MODIFICATIONS ARE UNDERWAY

SAN ONOFRE 2 & 3

SAFETY VALVE SYSTEM MODIFICATION

- OVERPRESSURE PROTECTION SYSTEM DESCRIPTION
- PRESSURIZER SAFETY VALVES
- TEST RESULTS
- EVALUATION OF DESIGN
- DESCRIPTION OF DESIGN CHANGE
- DESIGN CHANGE IMPACTS
- DESIGN CONTINGENCY

EQUIPMENT PROVIDING
OVERPRESSURE PROTECTION FOR SAN ONOFRE SYSTEM

- PRIMARY SAFETY VALVES
- SECONDARY SAFETY VALVES
- REACTOR PROTECTIVE SYSTEM

SAN ONOFRE
PRESSURIZER SAFETY VALVES

SAFETY VALVE: DRESSER MODEL 31709NA

QUANTITY:	TWO
INLET/OUTLET DIAMETER:	6 BY 8
ORIFICE:	4.34 IN ²
SETPRESSURE:	2500 PSIA
ASME RATED CAPACITY:	504874 #/HR/VALVE
MINIMUM REQUIRED CAPACITY:	460,000 #/HR/VALVE
DESIGN BASIS INCIDENT:	LOSS OF LOAD WITH DELAYED REACTOR TRIP.

DRESSER 31709NA RESULTS

DATE:	JUNE 2, 1981
TEST DESCRIPTION	HIGH RAMP RATE STEAM TEST DESIGNED TO PRODUCE 2700 PSIA PEAK PRESSURE FOLLOWING VALVE LIFT.
INLET PIPING:	~ 15 FT
OPENING PRESSURE:	2488 PSIA
OPENING TIME:	0.016 SEC
PEAK PZR PRESSURE:	2680 PSIA
CLOSING PRESSURE:	2010 PSIA
POST-TEST LEAKAGE:	0.53 GPM
COMMENTS:	1) CHATTER AT 36 HZ FOR 122 SECONDS. 2) ORIGINAL RING ADJUSTMENT FOR 3% BLOWDOWN.

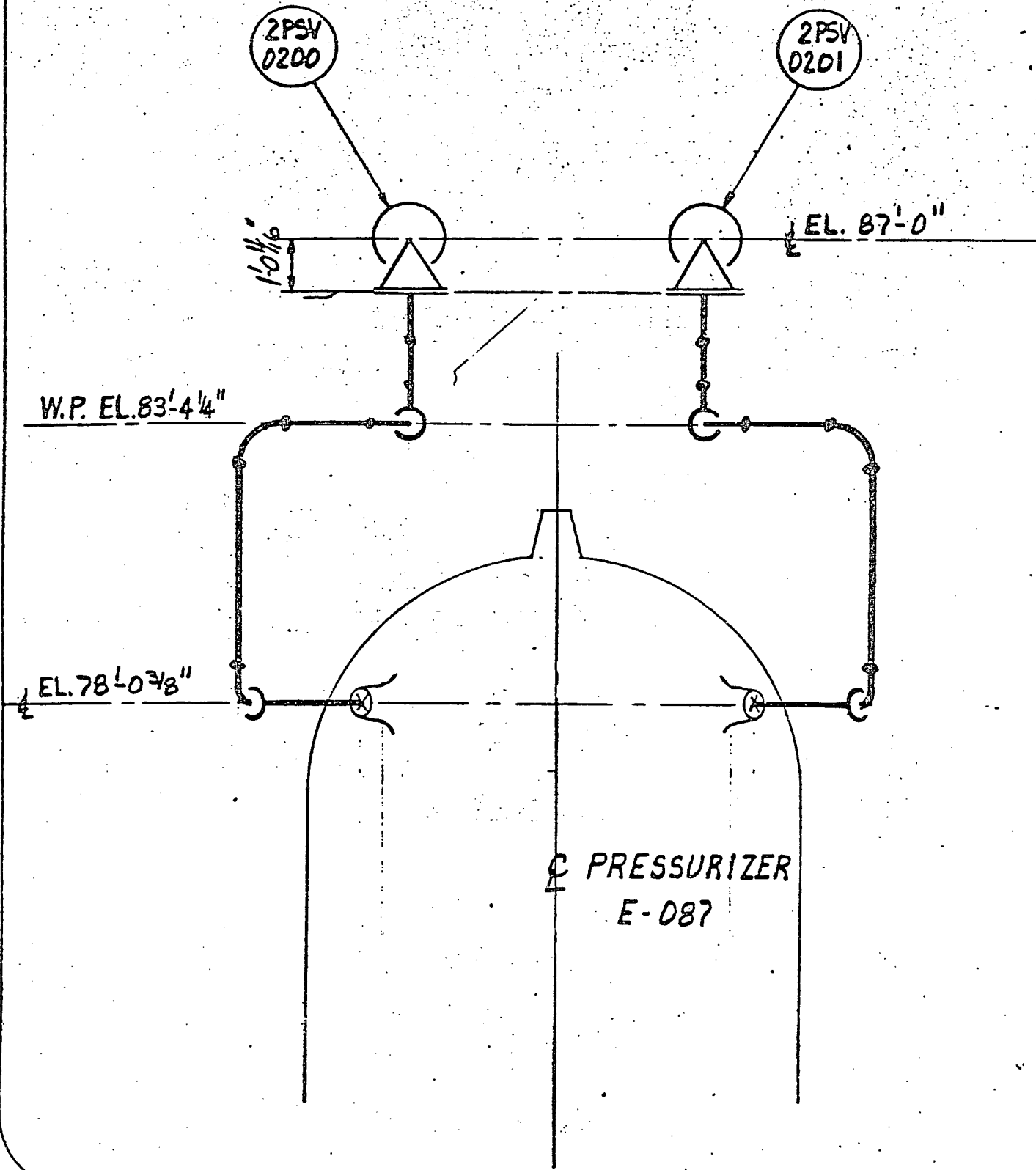
EFFECT OF CHATTER

- . NON-COMPLIANCE WITH ASME CODE
- . POTENTIAL FOR VALVE DAMAGE
- . POTENTIAL FOR DECREASED RELIEVING CAPACITY

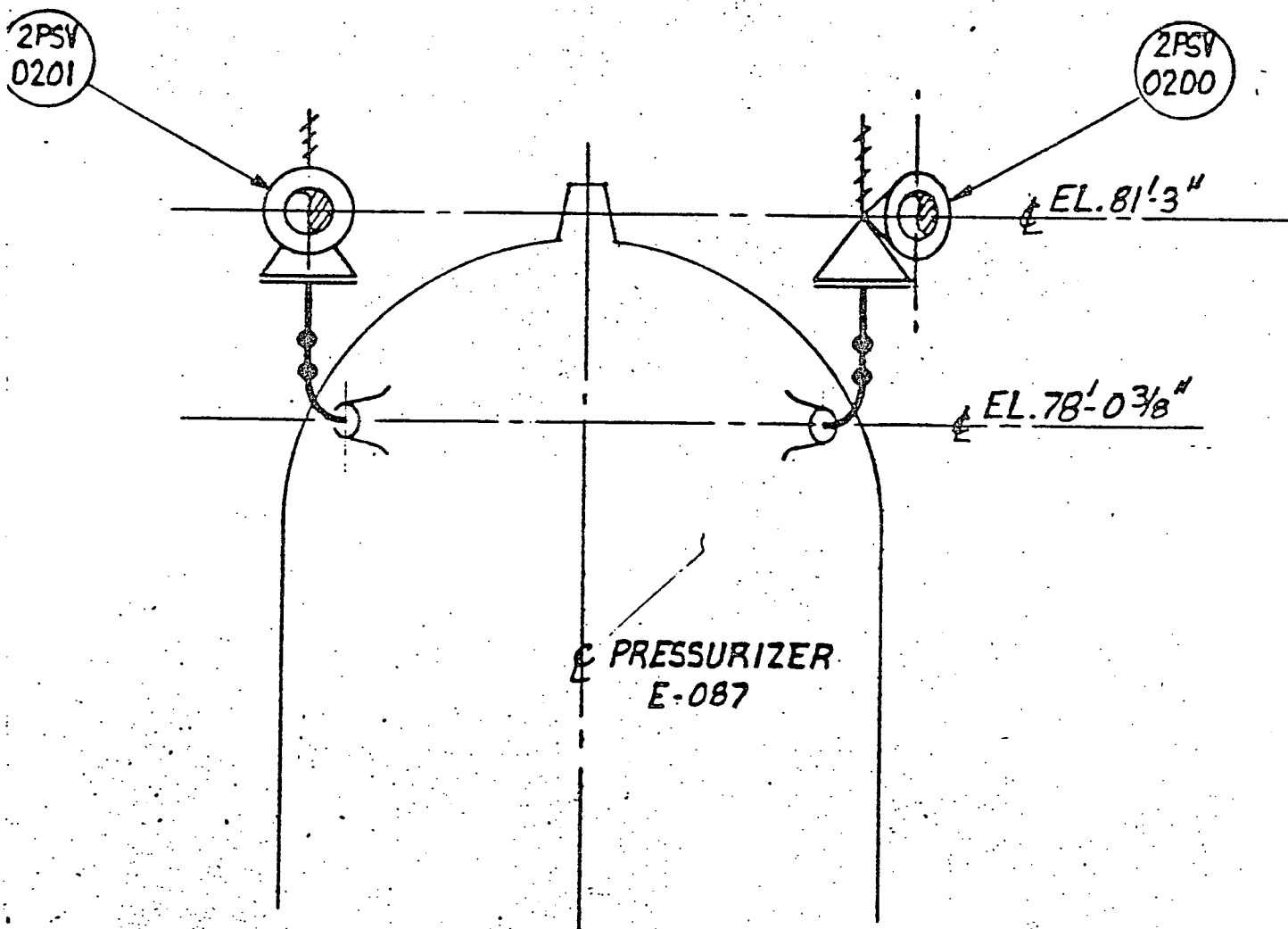
NOTE:

EPRI TEST ON 6/2/81 RESULTED IN VERY LONG CHATTER (TWO MINUTES). VALVE CLOSED WITH MINIMAL LEAKAGE (<1GPM).

EXISTING ARRANGEMENT



NEW ARRANGEMENT



DESIGN CHANGE IMPACTS

- SVs BUILT TO 1974 ASME CODE

- 1975 ADDENDA ALLOWS BLOWDOWN > 5%
 - NOTE IN DESIGN SPEC
 - JUSTIFY IN OVERPRESSURE PROTECTION REPORT

- REVISION TO SV DOCUMENTATION
 - DRAWINGS
 - TECH MANUALS
 - NAMEPLATES
 - DESIGN REPORT RECERTIFICATION

DESIGN CHANGE CONTINGENCY

DESIGN CHANGE:

SHORTEN INLET PIPING
INCREASE BLOWDOWN SETTING

CONTINGENCY #1:

INCREASE BLOWDOWN FURTHER

CONTINGENCY #2:

CHANGE INTERNALS TO LOWER
CAPACITY

CONTINGENCY #3:

REPLACE SVs WITH THREE
SMALLER VALVES

SUMMARY

BASED UPON CAREFUL EVALUATION OF ALTERNATIVES, SCE IS SHORTENING THE PRESSURIZER SAFETY VALVE INLET PIPING IN ORDER TO FACILITATE SATISFACTORY SAFETY VALVE OPERATION

EPRI IS CURRENTLY CONDUCTING TESTS UTILIZING A SHORT PIPING CONFIGURATION WITH DRESSER 31709NA VALVES. THE TEST CONFIGURATION ENVELOPS THE MODIFIED SAN ONOFRE 2 & 3 DESIGN AND THE RESULTS OF THE TESTING ARE BEING SCHEDULED FOR PRESENTATION TO THE NRC STAFF BY EPRI ON APPROXIMATELY OCTOBER 2, 1981

THE MODIFIED SAN ONOFRE UNITS 2 & 3 SAFETY VALVE INLET PIPING AND THE RESULTS OF THE EPRI TEST PROGRAM WILL BE UTILIZED TO DEMONSTRATE ACCEPTABLE SAFETY VALVE OPERATION