

LICENSEE EVENT REPORT

CONTROL BLOCK / / / / / / (1) (PLEASE PRINT OR TYPE ALL REQUIRED INFORMATION)

/0/1/ /V/A/N/A/S/1/ (2) /0/0/-/0/0/0/0/0/-/0/0/ (3) /4/1/1/1/1/ (4) / / / (5)

LICENSEE CODE

LICENSE NUMBER

LICENSE TYPE

CAT

/0/1/ REPORT /V/ (6) /0/5 0/0/0/3/3/8/ (7) /0/4/2/9/8/1/ (8) /0/7/2/2/8/1/ (9)

SOURCE

DOCKET NUMBER

EVENT DATE

REPORT DATE

EVENT DESCRIPTION AND PROBABLE CONSEQUENCES (10)

/0/2/ / On April 29, 1981, the ongoing multiple structure ARS evaluation effort identi- /
 /0/3/ / fied 7 pipe support arrangements in various Unit 1 systems which did not meet the /
 /0/4/ / the operability criteria due to overstressed conditions. On May 19, 1981, a total /
 /0/5/ / of 13 unacceptable pipe hangers on Unit 2 were identified. In addition, reanaly- /
 /0/6/ / sis indicates that the pipe stress of a Unit 1 atmospheric steam dump line ex- /
 /0/7/ / ceeds FSAR allowables. This additional analysis does not change the original de- /
 /0/8/ / sign basis selection of ARS for application to bounded piping problems. /

SYSTEM
CODECAUSE
CODECAUSE
SUPCODE

COMPONENT CODE

COMP.
SUBCODEVALVE
SUBCODE

/0/9/ /S/B/ (11) /X/ (12) /Z/ (13) /S/U/P/O/R/T/ (14) /D/ (15) /Z/ (16)
 LER/RO EVENT YEAR SEQUENTIAL OCCURRENCE REPORT REVISION
 (17) REPORT NO. NO.
 NUMBER /8/1/ /-/ /0/3/5/ / \ / /0/3/ /X/ /-/ /1/

ACTION FUTURE EFFECT SHUTDOWN ATTACHMENT NPRD-4 PRIME COMP. COMPONENT
 TAKEN ACTION ON PLANT METHOD HOURS SUBMITTED FORM SUB. SUPPLIER MANUFACTURER
 /F/ (18) /F/ (19) /Z/ (20) /Z/ (21) /0/0/0/0/ (22) /Y/ (23) /N/ (24) /A/ (25) /G/2/5/5/ (26)

CAUSE DESCRIPTION AND CORRECTIVE ACTIONS (27)

/1/0/ / The requested seismic stress reanalysis of piping sections spanning multiple /
 /1/1/ / building structures imposed new and larger accelerations on the pipe systems /
 /1/2/ / causing the overstressed conditions to arise. The atmospheric steam dump piping /
 /1/3/ / problem resulted from a discrepancy in the location of a pipe support. The /
 /1/4/ / affected hangers were modified by DC 80-S46 to meet the new operability criteria. /

FACILITY

METHOD OF

STATUS

%POWER

OTHER STATUS

DISCOVERY

DISCOVERY DESCRIPTION (32)

/1/5/ /E/ (28) /1/0/0/ (29) / NA / (30) /D/ (31) /Pipe Stress Reanalysis By A/E/

ACTIVITY

CONTENT

RELEASED

OF RELEASE

AMOUNT OF ACTIVITY (35)

LOCATION OF RELEASE (36)

/1/6/ /Z/ (33) /Z/ (34) / NA / / NA /

PERSONNEL EXPOSURES

NUMBER

TYPE

DESCRIPTION (39)

/1/7/ /0/0/0/ (37) /Z/ (38) / NA /

PERSONNEL INJURIES

NUMBER

DESCRIPTION (41)

/1/8/ /0/0/0/ (40) / NA /

LOSS OF OR DAMAGE TO FACILITY

TYPE

DESCRIPTION

(43)

/1/9/ /Z/ (42) / NA /

PUBLICITY

ISSUED

DESCRIPTION (45)

8108030257 310722
 PDR ADOCK 05000338
 S PDR

NRC USE ONLY

/2/0/ /N/ (44) / NA /

NAME OF PREPARER

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Description of Event

On April 29, 1981, Vepco was informed by Stone & Webster that the ongoing multiple structure amplified response spectrum (ARS) evaluation requested by the NRC had identified 7 pipe support arrangements on Unit 1 which did not meet operability criteria due to overstressed conditions. On May 19, 1981, 13 pipe supports on Unit 2 were reported as not meeting the required criteria. In addition, preliminary reanalysis indicates pipe stress on Unit 1 main steam atmospheric dump line 6"-SHP-39-601-Q2 to be over FSAR allowables. The Station was informed of this condition on June 23, 1981. This event is reportable pursuant to T.S. 6.9.1.9.b. The hangers involved are as follows:

UNIT 1

<u>Hanger No.</u>	<u>Location</u>	<u>Unacceptable Condition</u>
WFPD-H-1	Main Feedwater Header 26"-WFPD-6-901-Q2	Weld overstressed
WFPD-H-2	Main Feedwater Header 26"-WFPD-6-901-Q2	Weld overstressed
RS-H-206A and B	"C" Recirculation Spray Cooler Discharge Line 10"-RS-11-153A-Q2	Snubbers stressed over rated allowable
RS-H-208A and B	"A" Recirculation Spray Cooler Discharge Line 10"-RS-3-153A-Q2	Snubbers stressed over rated allowable
QS-H-207	"B" Quench Spray Header Supply Line 8"-QS-39-153A-Q2	Snubber stressed over rated allowable
QS-H-209A and B	"A" Quench Spray Header Supply Line 8"-QS-37-153A-Q2	Snubbers stressed over rated allowable
SHP-H-224	"A" Main Steamline 32"-SHP-57-601	Snubber stressed over rated allowable

UNIT 2

<u>Hanger No.</u>	<u>Location</u>	<u>Unacceptable Condition</u>
WFPD-H-213	"C" Steam Generator Feedwater Line 16"-WFPD-409-601	Brace plate overstressed
WFPD-H-214	"B" Steam Generator Feedwater Line 16"-WFPD-413-601	Brace plate overstressed
WFPD-H-215	"A" Steam Generator Feedwater Line 16"-WFPD-417-601	Brace plate overstressed
WGCB-H-161	"C" Steam Generator Blowdown Line 3"-WGCB-403-601-Q3	Hanger exceeds normal upset stress allowable

UNIT 2 (cont)

<u>Hanger No.</u>	<u>Location</u>	<u>Unacceptable Condition</u>
WGCB-H-513	"A" Steam Generator Blowdown Line 3"-WGCB-414-601-Q2	Hanger exceeds normal upset stress allowable
WGCB-H-514	"C" Steam Generator Blowdown Line 3"-WGCB-416-601-Q2	Hanger exceeds normal upset stress allowable
WGCB-H-515	"C" Steam Generator Blowdown Line 3"-WGCB-403-601-Q3	Hanger exceeds normal upset stress allowable
WGCB-H-516	"B" Steam Generator Blowdown Line 3"-WGCB-415-601-Q2	Hanger exceeds normal upset stress allowable
WGCB-H-517	"B" Steam Generator Blowdown Line 3"-WGCB-402-601-Q3	Hanger exceeds normal upset stress allowable
WGCB-H-518	"A" Steam Generator Blowdown Line 3"-WGCB-414-601-Q2	Hanger exceeds normal upset stress allowable
WGCB-H-608	"C" Steam Generator Blowdown Line 3"-WGCB-403-601-Q3	Hanger exceeds normal upset stress allowable
SI-H-56A	High Head Safety Injection Lines 3"-SI-417-1502-Q1 and 3"-SI-457-1502-Q1	Weld size and bolt torque under required values for points 1 and 2
RP-H-4	Refueling Purification Pump Discharge Header 6"-RP-41-152-Q3	Weld overstressed

Probable Consequences of Occurrence

The additional analysis performed, due to the NRC request, does not change the original design basis selection of ARS for application to bounded piping problems. As a result, the health and safety of the general public were not affected by the results of the review. The consequences are also minimized by the fact that necessary pipe support modifications were implemented during unit shutdown and satisfactorily completed prior to startup and all atmospheric steam dump line pipe stress is well below faulted allowable limits which provide sufficient justification for interim operation.

Cause of Event

The seismic stress reanalysis of piping sections spanning multiple building structures, by considering the appropriate accelerations from each of the independent structures to which the piping supports are attached, imposed new and larger accelerations on the pipe systems resulting in the overstressed conditions. The overstress on the atmospheric steam dump piping was caused by a support being coded in at a valve during the initial stress analysis instead of 18 inches away from the valve which

is as close to the valve as it could be placed and consequently the correct as-built condition.

Immediate Corrective Action

Each of the overstressed hangers were modified as follows by Design Change 80-S46 to meet the new operability criteria:

<u>Hanger No.</u>	<u>Modification</u>
WFPD-H-1	Added stiffener plates to the support
WFPD-H-2	Added stiffener plates to the support
RS-H-206A and B	Replaced existing snubbers with larger snubbers
RS-H-208A and B	Replaced existing snubbers with larger snubbers
QS-H-207	Replaced existing snubber with larger snubbers
QS-H-209A and B	Replaced existing snubbers with larger snubbers
SHP-H-224	Added an additional snubber to the support and replaced the existing snubber
WFPD-H-213	Changed clamps on snubber and added stiffener plates to the support
WFPD-H-214	Changed clamps on snubber and added stiffener plates to the support
WFPD-H-215	Changed clamps on snubber and added stiffener plates to the support
WGCB-H-161	Removed portion of pipe trunnion from the support
WGCB-H-513	Added sway strut to the support
WGCB-H-514	Added sway strut to the support
WGCB-H-515	Added sway strut to the support
WGCB-H-516	Added sway strut to the support
WGCB-H-517	Added sway strut to the support
WGCB-H-518	Added sway strut to the support
WGCB-H-608	Added a plate to the support

Hanger No.

Modification

SI-H-56A

Added special clamp anchor to the support and changed welds

RP-H-4

Added tube steel stiffener plates and shim plates to the support

Scheduled Corrective Action

Five support modifications will be made such that all atmospheric steam dump piping and supports meet FSAR allowables. Stone & Webster is presently analyzing the as-built piping and designing the necessary support modifications.

Actions Taken to Prevent Recurrence

No further actions required.

Generic Implications

Potential generic implications exist on plants requiring multiple structure ARS evaluations or any other analysis which uses more severe seismic conditions as a criterion.