NRC Form (9-83)	366							1	LIC	ENSE	EE EV	EN	TRE	PORT	(LER	)		U.S. N	APPR	EAR REG NOVED O RES: 8/3	ULATI M8 NC	0 8 Y COM	MISSION 04
																	Tpor	CKET NUMBER	R (2)			PA	GE (3)
Day	Tis-B	ASSA	Un	it 1													0	151010	10	131	16	1 0	013
TITLE (4)	13-0	0330	UII.	LC 1													-		-	121.	1.10		14.1.2
Do	aian	1001	mpt	ion	No		Inc	orpora	ted	i in	Plan	t 0	nera	tions									
EVE	INT DATE	(5)	T	LOIL	LEF	NU	MBER	(6)		RI	EPORT DA	ATE (	7)	C & O IIIO		OTHER	RFA	CILITIES INVO	DLVE	ED (8)			
MONTH	DAY	YEAR	YE	AR	5	EQUI	ENTIA	L REVI	SION	MONTH	DAY	Y	EAR		FAC	LITY NA	AMES		00	OCKET N	UMBER	R(S)	
			-		1							T							0	1510	10	101	11
08	1 2	8 8	8	6-	-	ol	3 ]7	-0	1	0 2	0 2	8	7						0	1510	10	101	
OPE	RATING		THI	S REPO	RTI	S SU	BMITT	ED PURSUA	ANTT	O THE	REQUIRE	MENT	S OF 10	CFR §: /(	Check on	e or more	of t	he following) (	11)	1			
MC	OE (9)	1	1	20.40	2(6)					20.406	5(c)			-	50.73	(a)(Z)(iv)			-	73.71	(6)		
POWE	R		-	29.40	6(a)(	1)(1)				50.36	e)(1)				50.73	(a)(Z)(v))			-	OTH	ER (So	ecity in Ab	atract
(10)	10	010	)	20.40		1/(#)				50.30	a) (2) (i)				80.73	a)(2)(viii)	(A)		1	Delow 366A	and in	n Text, NR	C Form
			-	20.40	5(a)(	11(14)				50,730	a)(2)(ii)				50,73	(a)(2)(viii)	)(8)		V	olun	tar	y Rep	ort
				20.40	5(.)(	1)(v)			-	50.73	a)(2)(iii)			1	1.73	(a)(2)(x)							
			-						L	CENSE	E CONTA	CT FO	A THIS	LER (12)	-				-				
NAME																			TE	LEPHON	NUM	BER	
																		AREA CODE					
Pe	ter H	. St	rau	be														4119	2	141	91-	1510	00
						COM	PLET	E ONE LINE	FOR	EACH C	COMPONE	NT F	AILURE	DESCRIBE	DINT	IS REPO	TRO	13)	-		-		
CAUSE	SYSTEM	COM	PONEN	T	MA	URE	AC-	REPORTA TO NPR	ABLE				CAUSE	SYSTEM	COM	PONENT		TURER	1	TO NPP	OS		
		-		+	-			-	-								+		1		-		
	1	1	1	4	1	1	-		_						-	11	+	111	-		-		
						1								1		1.1		111					
			-		-	BU	PPLEN	AENTAL REI	PORT	EXPECT	TED (14)							EVARA			NONTH	DAY	YEAR
										L								SUBMIS	SION	Г			
Thi a p of ide Sup det	s LER ortic the s ntify pleme ermin	l is on of systematic entained	wri f th em. tent l ca that	tten tten Th ial ilcu	n take is pr lat	to eup pr rob	doc ar obl	ument ad Puri em was is in t perfor no pla	th ifi thi thi	e di cati dent s ar d by mod	ffere on Sy ified ea. Tole	ence vste 1 th edo	e be em an hrou, Edi:	tween nd the gh a n son ar needed	a de activité nd Be 1. no	esign tual ew sp echte	n a op bec	ssumpti eration ificall Power C dure ch	on on y	used f tha strue porat	d to at p ctur tion	o desi portic red to have led ar	ign on o
and	no o	other	r di	scr	87 PD S	o2	090 Al	oded. were	87(050	2023 PD	A6	SMI	2 500	stion		Clas		I analy	se I	s wer	8	eview 1	ve d
NRC Par	- 100			-		-											-		-	- 11	1 0.00	1984.0.454	481/1875

NRC Form 366A	LICENSEE EVENT REPORT (LER) TEXT CONTINUATION											
FACILITY NAME (1)	DOCKET NUMBER (2)		LE	A NUMBER (6	)		PAGE (3)					
		YEAR		SEQUENTIAL NUMBER		NUMBER		Τ	Γ			
Davis-Besse Unit 1	0 5 0 0 3 4 6	8   6	_	0 3 7	-	011	012	OF	0	3		

EXT III more space is required, use additional NRC Form 366A's) (1)

#### Description of Occurrence:

Bechtel Power Corporation, Gaithersburg, was performing a review of ASME Section III, Class 1 analyses for Toledo Edison to determine if these analyses imposed any operational related restraints (i.e. fatigue limits) on the affected systems. As a result of this review, it was discovered that an analysis performed by Teledyne for Bechtel documented a design assumption on Teledyne's part that is not consistent with normal plant operation.

The system involved is the Makeup and Purification System inlet to the letdown coolers and is limited to piping analyzed under stress problem T002b. The Teledyne analysis assumes isolation of the letdown cooler and no restoration to service during normal or hot standby conditions.

Plant procedures do not address the Teledyne analysis assumption as an operational restraint. Consequently, the following procedures open valve MU2B during normal or hot standby conditions:

PROCEDURE	_CONDITION
PP 1101.01	Placing an idle letdown cooler in service.
PP 1102.03	For Trip Recovery, returning letdown to service.
PP 1102.10	Plant Shutdown and Cooldown, strokes MU2B every 100 F. to avoid separation of the wedge from the stem.
SP 1104.02	Makeup and Purification System, high letdown line temperature > 135 F. and high component cooling water header pressure > 135 psig open MU2B if the reason for initiation is known.

# Designation of Apparent Cause of Occurrence:

The apparent cause for the above occurrence is a failure to assure that assumptions made in the analysis are valid and in conformance with plant operating procedures. As an option, design assumptions affecting system operational parameters should have been transmitted to plant operations personnnel for comments and or inclusion in plant procedures.

TEJ

17m 366A		U.S. NUCLEAR REGULATORY COMMISSIO
	LICENSEE EVENT REPORT (LER) TEXT CONTINUATION	APPROVED OMB NC 2150-0104 EXPIRES 8/31-85

FACILITY NAME (1)	DOCKET NUMBER (2)										LE	R NU	PAGE (3)								
									YE	YEAR		NUMBER				REVISION NUMBER		T	T		
Davis-Besse Unit 1	0	15	0	0	0	3	14	6	8	6	_	0	3	7	_	0 1	0	3	OF	0	3

TEXT /// more space is required, use additional NRC Form 366A's) (17)

## Analysis of Occurrence:

Presently the plant is in an extended outage. This system is well within the present design assumptions.

Since a fatigue analysis is required for ASME Section III Class 1 piping, the validity of the assumption and/or its impact on the piping fatigue limits must be evaluated.

Supplemental calculations have been performed by Toledo Edison and Bechtel Power Corporation which demonstrate that the limiting condition for this piping is 7400 allowable cycles (i.e. isolation of inlet flow to the letdown cooler for up to one hour and restoration during hot conditions). Letdown flow is normally interrupted for much shorter durations than one hour and therefore, these cycles are conservative. Based upon this large number of allowable letdown isolations, no plant procedure need be modified, no operational changes imposed and no physical changes need be made to this system.

### Corrective Action:

1

1

The failure to properly correlate design data/criteria with actual plant operational conditions caused the subject problem. All other Class 1 analyses reviewed either did not specify operational restraints or, if they did, these restraints were identified in plant procedures. Therefore, investigation for similar occurrences in other Bechtel ASME Section III Class 1 analyses has been completed and no further corrective actions in this area are required.

In response to the more general concern of avoiding recurrence, Toledo Edison now requires B&W to supply Toledo Edison with a document called an Analytical Input Summary (AIS) in which B&W summarizes the major analytical assumptions to be used in an analysis. For other external interfaces, Toledo Edison Engineering Procedure NFES-100 "Design Interface Control" applies. This requires that design objectives and technical requirements be identified and reviews be performed to verify they are met.

## Failure Data:

Since the start of the System Review and Test Program two LERs (see LERs 86-11 and 86-28) have identified instances where vendor assumptions did not correlate with plant operations.

REPORT NO: NP-33-86-45

PCAQ NO(s): 86-319

February 2, 1987

. . .



Log No. KA87-0030 NP-33-86-45 Rev. 1

Docket No. 50-346 License No. NPF-3

U. S. Nuclear Regulatory Commission Document Control Desk Washington, D. C. 20555

Gentlemen:

Enclosed is Revision 1 to Licensee Event Report 86-037. The revisions to the report are indicated by a "1" in the left margin of each page.

Please destroy or mark superseded your previous copy of this report and replace with the attached revision.

Yours truly,

Taus

Louis F. Storz Plant Manager Davis-Besse Nuclear Power Station

LFS/ed

Enclosure

cc: Mr. James G. Keppler Regional Administrator, USNRC Region III

> Mr. Paul Byron DB 1 NRC Resident Inspector

TOLEDO, OHIO 43652