Enclosure 1

DIFFERING PROFESSIONAL OPINION (DPO)
REVIEW OF MCGUIRE TECHNICAL SPECIFICATIONS
DATED JUNE 11, 1984
BY ROBERT B.A. LICCIARDO

SAFETY EVALUATION COMMENTS ON REVIEW BY THE NRC ENTITLED "CLOSURE OF DPO ISSUES REGARDING MCGUIRE TECHNICAL SPECIFICATIONS (TACS 55435/55436/67757)"
DATED SEPTEMBER 10, 1990

PREPARED BY ROBERT B.A. LICCIARDO
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EXECUTIVE SUMMARY

PART 1 OVERALL REVIEW

The detailed and overall evaluation undertaken by the writer during his safety evaluation of the Dr. Murley memorandum of September 10, 1990, shows that the original categorization by the Reactor Systems Branch in respect of Open Items, is no longer valid and that the writer's original Safety Evaluation of the Proof and Review of the MCGUIRE TS's as represented in the REVIEW OF MCGUIRE TECHNICAL SPECIFICATIONS, dated June 11, 1984 was and remains valid for all items and that the potential number of concerns which may be closed by later clarification without any additional licensing action is evaluated at only about 6%.

The original number of items identified as concerns were totalled by the NRC as 380, out of which it selected 220 items for review for incorporation into either Plant Specific and/or Generic Ts, and thereby excluding 160 which are identified in the table by the symbol (O) under the column "OPEN". In the final analyses, a total of 421 items were identified out of which 174 (O) items were identified (instead of 160)

From 421 items 308 were ultimately evaluated out of which a 264 necessary licensing actions were identified. The remaining 86 residual items are valid and should now be considered; the writer's safety evaluation of these items remain unchanged

PART 2 PLANT SPECIFIC ISSUES

Fifty one items of concern by the writer in his DPO Review were identified as Plant Specific Issues, and of these 48 items have or will require plant specific or generic action in the form of amendments to the TS, FSAR, IST, and SPM for McGuire, and including 15 items for inclusion in the NSTS of which 5 should be added to the WSTS. Three (3) items only were closed out completely by licensee clarification alone representing only 6% of the total Plant specific concerns and which thereby establishes the validity of his McGuire TS review to Ref. A.1 in respect of these safety concerns.

In conclusion the level and quality of the NRC review has not been that expected from a Peer group review of the writer's safety concerns for the McGuire Facility at a point in time which is nine years after the commencement of operations of the Facility

PART 3 GENERIC ISSUES

The total number of items identified for generic consideration by a minimal set of various entities is 240. The total number of necessary additions to the NSTS is 207 and of this count many are also included in the WSTS under the same item numbers (CINS)

The total number of CINS impacted by both changes to the ETS and or the WSTS is 170, and would represent the total impact on the Existing Tech. Specs. alone for the MCGUIRE UNITS and which would have protected the plant against the Mid-Loop loss of Residual Heat Removal Cooling at both the Diablo Canyon and Votgle Units

In conclusion the level and quality of the review in the area of Generic concerns is Unacceptable as a Peer group review for the writer's McGuire TS Review of Ref.A.1

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TABLE NOMENCLATURE

GENERAL:

1) " ": INDICATES TITLES TO COLUMNS

2) OTHER THAN TITLES: REMAINING NOMENCLATURE IDENTIFIES THE CONGRESSIONAL ITEM NUMBERS (CINS) FOR WHICH THERE ARE RELATED ACTIONS TOGETHER WITH ADDITIONAL INFORMATION ON THEIR ORIGIN

DETAIL:

A	ASHOK THADANI ACTION OF JUNE 1990 MEMO
ACXX	CODIFICATION OF GROUPS OF ITEMS FROM THE ORIGINAL REACTOR SYSTEMS BRANCH SELECTION OF 220, BY THE DIVISION OF LICENSING IN ITS REVIEW TO REFERENCE A.3
A	CIN LOCATOR FOR PLANT SPECIFIC ELEMENTS OF THE ORIGINAL REVIEW OF 220 ITEMS WHICH REMAINED OPEN FOR RESPONSE BY THE LICENSEE. EITHER GENERIC OR PLANT SPECIFIC ISSUES. ACTION ARISING FROM THADANI LETTER OF MAY 14 1990
.A	CIN LOCATOR FOR PLANT SPECIFIC ELEMENTS OF THE ORIGINAL REVIEW OF 220 ITEMS WHICH REMAINED OPEN FOR RESPONSE BY THE LICENSEE, AND SUBSEQUENTLY SELECTED FOR CONSIDERATION AS GENERIC ISSUES FOR INCORPORATION INTO THE NEW STANDARD TECHNICAL SPECIFICATIONS AND OR THE WESTINGHOUSE STANDARD TS. ACTION ARISING FROM THADANI LETTER OF MAY 05 1990
..A	CIN LOCATOR FOR ELEMENTS OF THE ORIGINAL REVIEW OF 220 ITEMS WHICH REMAINED OPEN FOR GENERIC CONSIDERATION FOR INCLUSION IN THE WESTINGHOUSE STANDARD TS OR THE NEW STANDARD TS. ACTION ARISING FROM THADANI LETTER OF MAY 14 1990 TO REF. 37
"ASHTAD"	ACTIONS FROM ASHOK THADANI LETTER OF MAY 14,1990 (REF. 37)
BCXX	CODIFICATION OF GROUPS OF ITEMS, FROM THE ORIGINAL 220 ITEMS SELECTED BY THE FORMER REACTOR SYSTEMS BRANCH, BY THE DIVISION OF LICENSING IN ITS REVIEW TO REFERENCE A.3
CSA	CIN LOCATOR FOR ITEMS CLOSED SATISFACTORILY AND LATER ADDED TO TS ("CLOSSATADD")
CC	CINS CLOSED BY LATER CLARIFICATION BY LICENSEE, WITH OR WITHOUT ADDITIONS TO TS,FSAR,SPM OR IST.
"CLOSUS"	CINS CLOSED UNSATISFACTORILY BY DL'S REVIEW TO REF.A.3-- RBAL'S EVALUATION.
CI	CIN LOCATOR FOR "CLOSINVALI"
"CLOSINVALI"	CLOSURE INVALID--RBAL'S ORIGINAL EVALUATION OF DL REVIEW OF REF. A.3.
"CLOSLATARRE"	CLOSED BY DL REVIEW OF REF.A.3. FOR LATER REVIEW BY RBAL
"CLOSSATISF"	DELETED
"CLOSSATADD"	CLOSED SATISFACTORILY AND LATER ADDED TO THE MCGUIRE TS, FSAR, SPM, OR IST

"CLOSUNSOP"	CLOSED UNSATISFACTORILY, BUT PHILOSOPHICAL DISCUSSIONS IN PROGRESS BY DL REVIEW OF REF. A.3
"CLOSCLAR"	CLOSED WITH CLARIFICATION.
CLR	CIN LOCATOR FOR CLOSLATRRE
CU	CIN LOCATOR FOR "CLOSUNSOP"
EQRE	CINS FOR WHICH RELATED EQUIPMENT HAS BEEN REMOVED
ETS	CINS FOR EXISTING PLANT SPECIFIC TS - AMENDMENT AGREED TO
ETS+	CINS FOR EXISTING PLANT SPECIFIC TS - AMENDMENT IS NECESSARY
ETSW	CINS FOR ADDITION TO ETS AND WSTS - AMENDMENT IS AGREED TO
ETSW+	CINS FOR ADDITION TO ETS AND WSTS - AMENDMENT IS NECESSARY
"EXISTTS"	EXISTING TS WHETHER MCGUIRE OR WSTS
"FSAR"	FINAL SAFETY ANALYSIS REPORT
FSA	CINS FOR FINAL SAFETY ANALYSES REPORT-AMENDMENT AGREED TO
FSA+	CINS FOR FINAL SAFETY ANALYSES REPORT-AMENDMENT IS NECESSARY
G	CIN LOCATORS FOR GENERIC ISSUE
G.RSW	CIN LOCATORS FOR GENERIC ACTION RSB
G.RSB	CIN LOCATORS FOR GENERIC ISSUE BY REACTOR SYSTEMS BRANCH
"GENERIC"	ITEMS IDENTIFIED AS GENERIC BY VARIOUS ENTITIES
"GENSTUDY"	GENERIC STUDY: GENERIC LETTERS, OWNER'S GROUPS. W STUDY, NRC STUDY
"GENERICWE"	GENERIC TO WESTINGHOUSE TS.
GSWN	CINS FOR GENERIC STUDY BY WESTINGHOUSE AND NRC
GW	CINS FOR WESTINGHOUSE GENERIC ISSUE
IST	CIN FOR IN SERVICE INSPECTION PROGRAM-AMENDMENT AGREED TO
"ITEM NO".	CONGRESSIONAL ITEM NO
"LRH45"	TS REQUIREMENTS AND CONCERNS FOR LOSS OF RESIDUAL HEAT REMOVAL IN MODES 4 AND 5.
LR5	CINS FOR LRH45
"LRH6"	TS REQUIREMENTS AND CONCERNS FOR LOSS OF RESIDUAL HEAT REMOVAL IN MODE 6.
LR6	CINS FOR LRH6
"NEWSTS"	NEW STANDARD TS- SELECTED FOR CONSIDERATION
NSTS	CINS FOR WHICH REVIEWERS HAVE AGREED TO.
NSTS+	CINS FOR WHICH NSTS ADDITION IS NECESSARY
"OPEN"	IDENTIFIES 160 ITEMS EXCLUDED FROM REVIEW BY BERNERO MEMO OF AUGUST 30, 1984, REF. A.16
O	CINS FOR "OPEN"ITEMS EXCLUDED BY REF A.16
"OTHACTN":	ACTION BY OTHER ENTITIES
"PLNT SPEC".	SELECTED AS A PLANT SPECIFIC ITEMS BY THE DIVISION OF LICENSING IN ITS REVIEW TO REFERENCE A.3
PS	CIN FOR PLANT SPECIFIC ITEM
RSBWSTS	CIN FOR SUBMITTAL BY REACTOR SYSTEMS BRANCH FOR INCLUSION IN WESTINGHOUSE STANDARD TS's

"RSBSELECN"	RSBS SELECTION: CODIFICATION OF GROUPS OF ITEMS FROM THE ORIGINAL REACTOR SYSTEMS BRANCH SELECTION OF 220, BY THE DIVISION OF LICENSING IN ITS REVIEW TO REFERENCE A.3
"SETPNTMETH"	SET POINT METHODOLOGY
SPM	CIN FOR SET POINT METHODOLOGY-AMENDMENT AGREED TO
SPM+	CIN FOR SET POINT METHODOLOGY-AMENDMENT IS NECESSARY
"TMS10"	THOMAS MURLEY AUTHORIZATIONS ARISING FROM REFERENCES 37 AND 40
TMF	CINS FOR TMS10 ITEMS FROM REF. 40
TM	CINS FOR TMS10 ITEMS FROM REF. 37
W	CINS FOR: INDIVIDUAL ACTIONS BY WESTINGHOUSE.
WL	CINS FOR: WESTINGHOUSE LETTER RECOMMENDATIONS TO ALL WESTINGHOUSE REACTOR OWNERS
WOG	LOCATES CINS FOR STUDY BY WESTINGHOUSE OWNERS GROUP
WSTS	CINS FOR ITEMS INSIDE WESTINGHOUSE STANDARD TS
W.WSTS	CINS FOR WESTINGHOUSE RECOMMENDATION FOR WSTS

PART 1: OVERALL COMMENTS ON THE NRC REVIEW OF THE R.B.A. LICCIARDO MCGUIRE TS REVIEW OF 1984 (REF. A.1)

PART 1.1 SUMMARY

The original number of items identified as concerns were totalled by the NRC as 380, out of which it selected 220 items for review for incorporation into either Plant Specific and/or Generic Ts, and thereby excluding 160 which are identified in the table by the symbol (O) under the column "OPEN". In the final analyses, a total of 421 items were identified out of which 174 (O) items were identified (instead of 160)

From 421 items, 308 were ultimately evaluated out of which a 264 necessary licensing actions were identified. The remaining 86 residual items are valid and should now be considered; the writer's safety evaluation of these items remain unchanged

PART 1.2. DISCUSSION OF TABLE 1--TOTAL LIST OF CONCERNS FROM THE R.B.A. LICCIARDO MCGUIRE TS REVIEW OF 1984 (REF. A.1) LISTED BY (CONGRESSIONAL) ITEM NO (CIN): RECORD OF REVIEWS BY DIFFERENT ENTITIES

This table lists the total number of Items of Concern raised by the writer in his original DPO and the totality of related NRC review activities. It also identifies a minimal set of generic actions undertaken by various entities since the preparation of the McGuire TS Review. These includes Generic Letter 86-13 by the NRC To All Power Reactor Licensees And Applicants With Combustion Engineering and Babcock and Wilcox Pressurized Water Reactors, A Westinghouse letter to All Westinghouse Licensees on the subject of the Number Of Reactor Coolant Pumps In Mode 3. A Westinghouse Owners Group Action on LOCA in Mode 4; items submitted for inclusion in the Westinghouse Standard TS by the former Reactor Systems Branch; particular Generic studies by W and the NRC, Particular TS submittals by W through Licensees on overpressure protection in Modes 3 through 5, and other items as identified in the Table Nomenclature.

The original number of items identified as concerns were totalled by the NRC as 380, out of which it selected 220 items for review for incorporation into either Plant Specific and /or Generic Ts, and thereby excluding 160 which are identified in the table by the symbol (O) under the column "OPEN". In the final analyses, a total of 421 items were identified out of which 174 (O) items were identified (instead of 160)

A detailed evaluation of the table will show that in the overall analyses to date, 88 of these 174 Open Items were identified for evaluation as primarily generic concerns leaving a residual of 86: So that out of 421 items, 308 were ultimately evaluated out of which a detailed analysis of the table will show that 264 necessary licensing actions were identified. Furthermore, a detailed check of the 86 residual items by the groups into which they remain show the items are valid and should now be considered; the writer's safety evaluation of these items remain unchanged

Of the total No of 421 items, only six items were closed by clarification and by principally the licensee. The remainder remained valid.

TABLE 1:

TOTAL LIST OF CONCERNS FROM THE R.B.A. LICCIARDO MC.GUIRE TS REVIEW OF 1984

(REF. A.1) LISTED BY (CONGRESSIONAL) ITEM NO (CIN): RECORD OF REVIEWS BY DIFFERENT ENTITIES

Record#	ITEMNO	CLOSUS	PLNTSPEC	OPEN	CLOSINVALI	CLOSLATRRE	CLOSSATISF	GENERIC	CLOSSATADD	GENERICWE	CLOSUNSOP	CLOSWCLAR	GENSTUDY	NEWSTS	EXISTTS	WSTS	FSAR	SETPNTMETH	RSBSELECW	ASBTAB	OTHACTN	LRH45	LRH6	TMSID
1	1													NSTS+	ETS									TMF
2	2				CI									NSTS+	ETS+				BC1					TMF
3	3	CU																	BC1					
4	4	CU							CSA						ETS									
5	5			O																				
6	6				CI	CLP								NSTS+	ETS+				BC1		RSBWTS			TMF
7	7					CLR								NSTS+	ETS+				BC1		RSBWTS			TMF
8	8	CU												NSTS+					BC1		RSBWTS			TMF
9	9			O																				
10	10	CU																	AC2					
11	11				CI														BC11					
12	13				CI														AC2					
13	14	CU																	AC2					
14	15	CU																	AC2					
15	16		PS						CSA								FSA+	SPM+	AC3	A				TM
16	17	SU				CLR													BC3		TS?			
17	18		PS									CC							AC3	A				TM
18	19		PS						CSA								FSA+	SPM+	AC3	A				TM
19	20			O																				
20	21		PS						CSA								FSA	SPM	AC3	A	RSBWTS			TM
21	22			O																				
22	23			O																				
23	24			O																				
24	25			O																				
25	26			O																				
26	27			O									GSWN											
27	28			O									GSWH								RSBWTS			
28	29		PS						CSA						ETS		FSA+	SPM+	AC3B	A				TM
29	30				CI														BC3					
30	31			O																				
31	32			O						GW			GS		ETS						RSBWTS			
32	33									GW			GS		ETS						RSBWTS			
33	34							G.A		GW.A				NSTS	ETSW.A				AC34	.A	RSBWTS			TMF
34	35		PS					G.A		GW.A					ETSW.A				AC3B	.A	RSBWTS			
35	36			O										NSTS					AC3B	.A				
36	37		PS									CC		NSTS+						A				TMF
37	38A							G.A		GW.A			GNW	NSTS+	ETSW+				BC3	.A				TMF
38	38B							G.A		GW.A			GSW	NSTS+	ETSW.A+				BC3	.A				TMF
39	39				CI												FSA+							
40	40				CI														BC3					
41	41				CI			G.RSB						NSTS+					AC39					TMF
42	42			O										NSTS+										TMF
43	43			O										NSTS+										TMF
44	44		PS		CI									NSTS+					BC4					TMF
45	45		PS		CI			G						NSTS+	ETS+				AC4	A	RSBWTS			TMF
46	46			O																				
47	47			O																				
48	48			O																				
49	49		PS		CI														BC5					
50	50			O											ETS									

TABLE 1

TABLE 1:

TOTAL LIST OF CONCERNS FROM THE R.B.A. LICCIARDO MC.GUIRE TO REVIEW OF 1984

(REF A.1) LISTED bY (CONTRSSIONAL) ITEM NO (CIN): RECORD OF REVIEWS BY DIRRERENT ENTITIES

Record#	ITEMNO	CLOSUS	PLNTSPEC	OPEN	CLOSINVALI	CLOSLATRRE	CLOSSATISF	GENERIC	CLOSSATABD	GENERICWE	CLOSUNSOP	CLOSWCLAR	GENSTUDY	NEWSTS	EXISTTS	WSTS	FSAR	SETPNTMETH	PSBSELECN	ASHTAB	OTHACTN	LRH45	LRH6	TMSIB
51	51				CI			G.RSB											AC5					
52	52			0										NSTS+										TMF
53	53	CU	PS											NTS+					AC6					TMF
54	54		PS		CI														PC6					TMF+
55	55			0										NSTS+										TMF
56	56			0										NSTS+										TMF
57	57			0										NSTS+										TMF
58	58			0										NSTS+										TMF
59	59		PS		CI	CLR								NSTS+					AC7					TMF
60	60				CI									NSTS+					AC7					TMF
61	61				CI									NSTS+					AC7					TMF
62	62	CU	PS											NSTS+	ETS+				AC8	A				TMF
63	63			0										NSTS+										
64	64			0										NSTS+										
65	65			0										NSTS+	ETS						W.WTS			TMF
66	66				CI														BCB					
67	67							G.A		GW.A				NSTS+	ETSW.[illegible]				AC9	.A	RSBWTS			TMF
68	68							G.A						NSTS+	ETSW.A+				AC9	.A	RSBWTS			TMF
69	69							G.A		GW.A				NSTS+	ETST.A+				AC9	.A	RSBWTS			TMF
70	70							G.A		GW.A				NSTS+	ETSW.A+				AC9	.A	RSBWTS			TMF
71	71				CI			G.RSB						NSTS+					AC9		RSBWTS			TMF
72	72							G.A		GW.A				NSTS	ETSW.A				AC9	.A	RSBWTS			TMF
73	73				CI			G.RSB						NSTS+					BC9		RSBWTS			TMF
74	74		PS											NSTS+	ETS+				AC10	A				TM
75	75		PS		CI									NSTS	ETS+				AC10	A				TMF
76	76		PS																AC10					
77	77							G.A		GW.A				NSTS	ETSW.A				AC10	.A				TMF
78	78							G.A		GW.A				NSTS+	ETSW.A				AC10	.A				TMF
79	79							G.A		GW.A				NSTS+	ETSW.A				AC10	.A				
80	80			0																				
81	81			0																	RSBWTS			
82	82			0																				
83	83							G		GW				NSTS	ETSW									TMF
84	84			0										NSTS	ETS									TMF
85	85							G.RSB											AC11			LR5		
86	86				CI			G.RSB											AC12					
87	87	PS						G.A					GW.A	NSTS+	ETSW.A		FSA+		BC10	.A	RSBWTS			
88	88							G.A					GSW.A	NSTS+	ETSW.A+				BC10	.A	W.RSBWTS			
89	89			0																				
90	90			0																		LR5		
91	91				CI			G.RSB											AC13					
92	92		PS					G.W	CSA						ETS				AC13	A	RSBWTS			TM
93	93		PS														DEL		AC13	.A?				
94	94				CI			G.RSB											AC13					
95	95			0																				
96	96		PS					G.RSB							ETS+		FSA+		AC13	A				TM
97	97		PS					G.RSB							ETS+		FSA+		AC13					TM
98	98		PS					G.FSB	CSA								FSA		AC13	A				TM
99	98A		PS					G.RSB							ETS+		FSA+		AC13	A				TM
100	99				CI														BC11					

TABLE 1 (cont)

TABLE 1 (cont)

TABLE 1:
TOTAL LIST OF CONCERNS FROM THE R.B.A.LICCIARDO MC.GUIRE TS REVIEW OF 1984
(REF. A.1) LISTED BY (CONGRESSIONAL) ITEM NO (CIN): RECORD OF REVIEWS BY DIFFERENT ENTITIES

Record#	ITEMNO	CLOSUS	PLNTSPEC	OPEN	CLOSINVALI	CLOSL4TBRE	CLOSSATISF	GENERIC	CLOSSATAPD	GENERICWE	CLOSUNSOP	CLOSWCLAR	GENSTUDY	NEWSTS	EXISITS	WSTS	FSAR	SEIPNTMETH	RSBSELECM	ASHTAB	OTHACTN	LRH45	LRN6	TMSIB
101	100			O																				
102	101			O																				
103	102A			O																				
104	102B			O																				
105	103	CU						6											AC14					
106	104			O				6					WB6	NSTS							RSBWTS			TMF
107	105			O																				
108	106		PS					6.RSB	CSA					NSTS	ETS				AC14					TMF
109	107			O										NSTS+										TMF
110	108							6.A		GW.A					ETSW.A				AC14	.A				
111	109				CI				CSA						ETSW.DEL				RC12					
112	110			O										NSTS										TMF
113	111			O										NSTS							RSBWTS			TMF
114	112							6.RSB						NSTS	ETS.DEL				AC14					TMF
115	113			O																				
116	114			O																				
117	115			O																				
118	116			O																				
119	117				CI			6		GW				NSTS+	ET[illegible]				RC12			LR5		TMF
120	118				CI			6		GW				NSTS+	ETSW+				RC12			LR5		TMF
121	119				CI			6		GW				NSTS+	ETS				RC12			LR5		TMF
122	120				CI			6		GW				NSTS+	ETS+				RC12			LR5		TMF
123	121				CI			6		GW				NSTS+	ETS				RC12			LR5		TMF
124	122				CI			6	CSA	GW				NSTS+	ETS				RC12		RSBWTS	LR5		TMF
125	123							6		GW				NSTS+	ETS+				RC12					TMF
126	124		PS					6.RSB	CSA						ETS.				AC14					
127	125				CI																			
128	126							6.RSB	CSA						ETS				AC14					
129	127		PS						CSA					NSTS	ETS				AC14	A				TM
130	128		PS						CSA					NSTS	ETS				AC14	A		LR5		TM
131	129		PS					6.A	CSA	GW.A				NSTS	ETSW.A				RC12	.A				TMF
132	130			O																				
133	131			O																				
134	132			O									GS									LR5		
135	133			O									GS									LR5		
136	134			O									GS									LR5		
137	135			O																				
138	136			O																				
139	137			O																				
140	138							6.A		GW.A				NSTS+	ETSW.A				RC12	.A				
141	139		PS						CSA					NSTS+	ETS				RC12			LR5		
142	140		PS	O					CSA								FSA+							
143	141			O																				
144	142			O																				
145	143			O																				
146	144				CI														RC13					
147	145		PS						CSA					NSTS+	ETSW.ETS				AC15	A				TM
148	146		PS						CSA					NSTS+	ETSW.ETS				AC15	A				TM
149	147			O																				
150	148			O										NSTS										TMF

TABLE 1 (cont)

TABLE 1 (cont)

TABLE 1:

TOTAL LIST OF CONCERNS FROM THE R.B.A. LICCIARDO MC.GUIRE TS REVIEW OF 1984

(REF A.1) LISTED BY (CONGRESSIONAL) ITEM NO (CIN): RECORD OF REVIEWS BY DIFFERENT ENTITIES

Record#	ITEMNO	CLOSUS	PLNTSPEC	OPEN	CLOSINVALI	CLOSLATRRE	CLOSSATISF	GENERIC	CLOSSATADD	GENERICWE	CLOSUNSOP	CLOSWCLAR	GENSTUDY	NEWSTS	EXISTS	WSTS	FSAR	SETPNTMETH	RSBSELECN	ASHTAD	OTHACTN	LRH45	LRH6	TMSID
151	149			O																				
152	150			O																				
153	151		PS						CSA								FSA		AC15					
154	152			O					CSA						ETS		FSA+	SPM+			ITEM 29			
155	153			O				6	CSA	GW				NSTS+	ETSW						ITEM 122			
156	154		PS									CC					FSA+		AC15	A				TM
157	155		PS		CI							CC					FSA+		AC15	A				TM
158	156	CU							CSA								FSA+		AC15					
159	157		PS					6									FSA+		AC15	A				TM
160	158	CU						6											AC15					
161	159			O																				
162	160							6,RSB	CSA						ETS				AC15					
163	161			O																				
164	162			O																				
165	163			O																				
166	164							6,A		GW,A				NSTS+	ETSW,A				AC15	.A				TMF
167	165			O										NSTS+										TMF
168	166			O										NSTS+										TMF
169	167			O										NSTS+										TMF
170	168			O										NSTS+										TMF
171	169			O										NSTS+										TMF
172	170			O										NSTS+										TMF
173	171			O										NSTS+										TMF
174	172			O																				
175	173			O																				
176	174		PS												ETS+				AC16	A				TM
177	175		PS												ETS+				AC16	A				TM
178	176			O																				
179	177		PS														FSA+		AC16	A				TM
180	178		PS						CSA						ETS				AC16					
181	179		PS												ETS+				AC16	A				TM
182	180			O																				
183	181			O																				
184	182			O																				
185	183			O																				
186	184			O																				
187	185			O																				
188	186		PS												ETS+					A				TM
189	187		PS												ETS+				AC16	A				TM
190	188			O																				
191	189		PS														FSA+		AC16	A				TM
192	190		PS						CSA						ETS				AC16					
193	191		PS												ETS+				AC16	A				TM
194	192			O																				
195	193			O																				
196	194			O																				
197	195			O																				
198	196			O																				
199	197		PS	O											ETS+				AC16	A				TM
200	198		PS	O					CSA						ETS				AC16	A				TM

TABLE 1 (cont)

TABLE 1:
TOTAL LIST OF CONCERNS FROM THE R.B.A. LICCIARDO MC.GUIRE TS REVIEW OF 1984
(REF A.1) LISTED BY (CONGRESSIONAL) ITEM NO (CIN): RECORD OF REVIEWS BY DIFFERENT ENTITIES

Record#	ITEMNO	CLOSUS	PLNTSPEC	OPEN	CLOSINVALI	CLOSLATRRE	CLOSSATISF	GENERIC	CLOSSATADD	GENERICWE	CLOSUNSOF	CLOSWCLAR	GENSTUDY	NEWSTS	EXISTTS	WSTS	FSAR	SETPNTMETH	RSBSELECN	ASWIAD	OTHACTN	LRA45	LRA6	TMS10
201	199			O																				
202	200		PS												ETS				AC16					
203	201		PS	O											ETS*				AC16	A				TM
204	202			O																				
205	203		PS						CSA						ETS				AC16	A				TM
206	204			O																				
207	205			O																				
208	206		PS									CC							AC16	A				TM
209	207			O																				
210	208			O																				
211	209			O																				
212	210				CI														BC14					
213	211		PS						ESA						ETS				AC16	A				TM
214	212			O																				
215	213			O																				
216	214			O																				
217	215		PS									CC							AC16	A				TM
218	216			O																				
219	217			O																				
220	218			O																				
221	219			O																				
222	220			O																				
223	221			O																				
224	222			O																				
225	223			O																				
226	224			O																				
227	225			O																				
228	226			O																				
229	227			O																				
230	228			O																				
231	229							6.A		GW.A			GL	NSTS+	ETSW.A+				BC15	.A	WL			TMF
232	230							6.A		GW.A			GL	NSTS+	ETSW.A+				BC15	.A	WL			TMF
233	231							6.A		GW.A			GL	NSTS+	ETSW.A+				BC15	.A	WL			TMF
234	232							6.A		GW.A			GL	NSTS+	ETSW.A+				BC15	.A	WL			TMF
235	233							6.A		GW.A			GL	NSTS+	ETSW.A+				BC15	.A	WL			TMF
236	234							6.A		GW.A			GL	NSTS+	ETSW.A+				BC15	.A	WL			TMF
237	235							6.A		GW.A			GL	NSTS+	ETSW.A+				BC15	.A	WL			TMF
238	236							6.A		GW.A			GL	NSTS=	F W.A+				BC15	.A	WL			TMF
239	237							6.A		GW.A			GL	NSTS+	ETSW.A+				BC15	.A	WL			TMF
240	238		PS.Ba					6.A		GW.A			GL	NSTS+	ETSW.A+				BC15	.A	WL			TMF
241	239		PS.Ba					6.A		GW.A			GL	NSTS+	ETSW.A+				BC15	.^	WL			TMF
242	240		PS.Ba					6..A		GW..			GL	NSTS+	ETSW..A+				BC15	..A	WL			TMF
243	241		PS.Ba					6..A		GW..A			GL	NSTS+	ETSW..A+				BC15	..A	WL			TMF
244	242		PS.Ba					6..		GW..A			GL	NSTS+	ETSW..A+				BC15	..A	WL,RSBWTS			TMF
245	243		PS.Ba					6..A		GW..A			GL	NSTS+	ETSW..A+				BC15	..A	WL,RSBWTS			TMF
246	244		PS.Ba					6..A		GW..A			GL	NSTS+	ETSW..A+				BC15	..A	WL			TMF
247	245		PS.Bb					6..A		GW..A			GL	NSTS+	ETSW..A+				BC15	..A	WL			TMF
248	246		PS.Bb					6..A		GW..A			GL	NSTS+	ETSW..A+				BC15	..A	RSBWTS			TMF
249	247		PS.Bb					6..A		GW..A			GL	NSTS+	ETSW..A+				BC15	..A	RSBWTS			TMF
250	248		PS.Bb					6..A		GW..A			GL	NSTS+	ETSW..A+				BC15	..A	WL			TMF

TABLE 1 (cont)

TABLE 1:

TOTAL LIST OF CONCERNS FROM THE R.B.A. LICCIARDO MC.GUIRE TS REVIEW OF 1984

(REF A.1) LISTED BY (CONGRESSIONAL) ITEM NO (CIN): RECORD OF REVIEWS BY DIFFERENT ENTITIES

Record#	ITEMNO	CLOSUS	PLNTSPEC	OPEN	CLOSINVALI	CLOSLATRRE	CLOSSATISF	GENERIC	CLSSATADD	GENERICWE	CLOSUNSOP	CLOSWCLAR	GENSTUDY	NEWSTS	EXISTTS	WSTS	FSAR	SETPNTMETH	RSBSELECN	ASHIAD	OTHACTN	LRH45	LRH6	TMSIC
251	249		PS.8b					6..A		GW..A			GL	NSTS+	ETSW..A+				BC15	..A	WL			TMF
252	250		PS.8c					6..A		GW..A			GL	NSTS+	ETSW..A+				BC15	..A	WL			TMF
253	251		8c					6..A		GW..A			GL	NSTS+	ETSW..A+				BC15	..A	WL			TMF
254	252		PS.8c					6..A		GW..A			GL	NSTS+	ETSW..A+				BC15	..A	WL			TMF
255	253		PS.8c					6..A		GW..A			GL	NSTS+	ETSW..A+				BC15	..A	WL			TMF
256	254		PS.8c					6..A		GW..A			GL	NSTS+	ETSW..A+				BC15	..A	WL			TMF
257	255		PS.8c					6..A		GW..A			GL	NSTS+	ETSW..A+				BC15	..A	WL			TMF
258	256		PS.8c					6..A		GW..A			GL	NSTS+	ETSW..A+				BC15	..A	WL			TMF
259	257		PS.8d					6..A		GW..A			GL	NSTS+	ETSW..A+				BC15	..A	WL			TMF
260	258		PS.8d					6..A		GW..A			GL	NSTS+	ETSW..A+				BC15	..A	WL			TMF
261	259		PS.8d					6..A		GW..A			GL	NSTS+	ETSW..A+				BC15	..A	WL			TMF
262	260		PS.8d					6..A		GW..A			GL	NSTS+	ETSW..A+				BC15	..A	WL			TMF
263	261		PS.8d					6..A		GW..A			GL	NSTS+	ETSW..A+				BC15	..A	WL			TMF
264	262		PS.8e					6..A		GW..A			GL	NSTS+	ETSW..A+				BC15	..A	WL.RSBWTS			TMF
265	263			O																				
266	264			O																				
267	265			O																				
268	266			O																				
269	267																							
270	268				CI								GL	NSTS+	ETS.W+						WL			
271	269			O									GL	NSTS+	ETS.W+				AE17		WL			
272	270			O									GL	NSTS	ETS.W						WL			
273	271			O									GL	NSTS+	ETS.W+						WL.RSBWTS			
274	272				CI								GL	NSTS+	ETS.W+						WL.RSBWTS			
275	273		PS					6											RC16					
276	274		PS					6	CSA				GL	NSTS	ETSW ETS+				RC16	A	WL			TM
277	275			O									GL	NSTS	ETSW ETS+				RC16	A	WL			TM
278	276			O									W06	NSTS+								LR5		TMF
279	277		PS					F.A		GW.A			W06	NSTS+								LR5		TMF
280	278		PS.10					6..A		GW..A			W06	NSTS+	ETSW.A+				AE18	.A	RSBWTS	LR5		TMF
281	279		PS.10					5..A		GW..A			W06	NSTS	ETSW..A				AE18	..A	RSBWTS	LR5		TMF
282	280			O									W06	NSTS+	ETSW..A+				AE18	..A		LR5		TMF
283	281		PS.10					6.A		GW.A			W06		ETSW+				AE18			LR5		
284	282		PS.10					6.A		GW.A			W06	NSTS+	ETSW.A+		IST		AE18	.A		LR5		TMF
285	283		PS.10					6.A		GW.A			W06	NSTS+	ETSW.A+					.A		LR5		TMF
286	284		PS.10					5.A		GW.A			W06	NSTS+	ETSW.A+				AE18	.A		LR5		TMF
287	285		PS.10					6.A		GW.A			W06	NSTS	ETSW.A				AE18	.A		LR5		TMF
288	286			O									W06	NSTS+	ETSW.A+				AE18	.A		LR5		TMF
289	287			O										NSTS+								LR5		TMF
290	288							6.A		GW.A				NSTS+							RSBWTS	LR5		TMF
291	289							6.A		GW.A				NSTS+	ETSW.A+				AE19	.A		LR5		TMF
292	290							6.A		GW.A				NSTS+	ETSW.A+				AE19	.A		LR5		TMF
293	291							6.A		GW.A				NSTS+	ETSW.A+				AE19	.A		LR5		TMF
294	292			O				6		GW				NSTS+	ETSW.A+				AE19	.A		LR5		TMF
295	293			O				6		GW				NSTS+	ETSW+							LR5		TMF
296	294			O				6		GW				NSTS+	ETSW+							LR5		TMF
297	294			O				6		GW				NSTS+	ETSW+							LR5		TMF
298	296			O				6		GW				NSTS+	ETSW+							LR5		TMF
299	297			O				6		GW				NSTS+	ETSW+							LR5		TMF
300	298			O				6		GW				NSTS+	ETSW+							LR5		TMF

TABLE 1 (cont)

TABLE 1:
TOTAL LIST OF CONCERNS FROM THE R.B.A. LICCIARDO MC.GUIRE TS REVIEW OF 1984
(REF A.1) LISTED BY (CONGRESSIONAL) ITEM NO (CIN): RECORD OF REVIEWS BY DIFFERENT ENTITIES

Record#	ITEMNO	CLOSUS	PLNTSPEC	OPEN	CLOSINVALI	CLOSLATRRE	CLOSSATISF	GENERIC	CLOSSATADD	GENERICWE	CLOSUNSUP	CLOSWELAR	GENSTUDY	NEWSTS	EXISTTS	WSTS	FSAR	SETPNTMETH	RSRSELECN	ASHTAD	OTHACTN	LRN45	LRN6	TMSID
301	299			0										NSTS+								LR5		TMF
302	300			0										NSTS+								LR5		TMF
303	301			0										NSTS+								LR5		TMF
304	302	CU			CI			RSB						NSTS+					AC20			LR5		TMF
305	303			0										NSTS+								LR5		
306	304			0										NSTS+							RSRWTS	LR5		TMF
307	305			0										NSTS+								LR5		TMF
308	306	CU						RSB			CUP		GS	NSTS+					AC21		RSTWTS	LR5		TMF
309	307	CU						6.RSB			CUP		GS	NSTS+					AC21			LR5		TMF
310	308	CU						6.RSB			CUP		GS	NSTS+					AC21		RSRWTS	LR5		TMF
311	309	CU						6.RSB			CUP		GS	NSTS+					AC21			LR5		TMF
312	310			0				6			CUP		WOG	NSTS+	ETSW+		FSA					LR5		
313	311										CUP		GS	NSTS+	ETS.W+				AC22			LR5		
314	312										CUP		GS	NSTS+	ETS.W+				AC22			LR5		
315	313A							6.RSB					GS	NSTS+	ETS.W+				AC22			LR5		
316	313B							6.RSB	ESA					NSTS+	ETS.W+		FSA		AC22					
317	314				CI								GS						AC22			LR5		
318	315			0										NSTS+							RSRWTS			
319	316			0																				
320	317			0																				
321	318		PS		CI			6.TM					WOG	NSTS+						A				TM
322	318A		PS.5b					6.TM					WOG	NSTS+					AC23	A				TM
323	318B		PS.5b					6.TM					WOG	NSTS+					AC22	A				TM
324	318C								ESA				WOG	NSTS+			FSA							
325	318D				CI								WOG	NSTS+										
326	3 E				CI								WOG	NSTS+										
327	318F				CI								WOG	NSTS+										
328	319		PS.5b					6.TM					GS	NSTS	ETSW				AC22	A				TM
329	320			0										NSTS+	EST	WSTS					W			
330	321			0										NSTS+	ETS	WSTS					W			
331	322			0										NSTS+	ETS+						W			
332	323		PS		CI			6.RSB					RSB	NSTS+	ETSW+				AC24					
333	324		PS		CI			6.RSB					RSB	NSTS+	ETSW+				AC24					
334	325		PS		CI			6.RSB					RSB	NSFS+	ETSW+				AC24					
335	326		PS					6	ESA						ETS		FSA	SPM		A				TM
336	327		PS		CI														AC24					
337	328		PS									CC												
338	329											CC												
339	330	CU																						
340	331	CU																						
341	332		PS.12b						ESA								IST		AC24	A				TM
342	333			0																	RSRWTS			
343	334		PS						ESA								EDRE							
344	335								ESA								EDRE							
345	336		PS						ESA						ETS		EDRE	SPM		A				TM
346	337								ESA		CUP						EDRE							
347	338		PS						ESA								EDRE							
348	339				CI			6.RSB	ESA								EDRE							
349	340			0																				
350	341		PS						ESA								FSA+		AC26	A				TM

TABLE 1 (cont)

TABLE 1:
TOTAL LIST OF CONCERNS FROM THE R.B.A. LICCIARDO MC.GUIRE REVIEW OF 1984
(REF A.1) LISTED BY (CONGRESSIONAL) ITEM NO (CIN): RECORD OF REVIEWS BY DIFFERENT ENTITIES

Record#	ITEMNO	CLOSUS	PLNTSPEC	OPEN	CLOSINVALI	CLOSLAIRRE	CLOSSATISF	GENERIC	CLOSSATADD	GENERICWE	CLOSUNSOP	CLOSWCLAR	GENSTUDY	NEWSTS	EXISITS	WSTS	FSAR	SETPNTMETH	RSBSELECN	ASHTAD	OTHACTN	LRWHS	LRW6	TMSID
351	342				CI														BC18					
352	343				CI														BC18					
353	344				CI				CSA								EBRE		BC18					
354	345				CI														BC18					
355	346				CI														BC18					
356	347			0																				
357	348			0																				
358	349				CI														BC18					
359	350		PS.15						CSA						ETS				AC51	A				TM
360	351		PS.15						CSA						ETS				AC15	A				TM
361	352				CI														BC18					
362	353			0					CSA						ETS									TM
363	354			0																				
364	355		PS						CSA					NSTS+	ETS		EBRE		AC28					TMF
365	356			0										NSTS+										TMF
366	357		PS						CSA					NSTS+	ETS		EBRE		AC28					TMF
367	358			0										NSTS+										TMF
368	359			0										NSTS+								LR5	LR6	TMF
369	360			0										NSTS+									LR6	TMF
370	361			0										NSTS+									LR6	TMF
371	362			0										NSTS+									LR6	TMF
372	363			0																		LR5		
373	364		PS		CI														BC19			LR5		
374	365		PS.16					6.A		GW.A				NSTS+	ETSW.A+				AC29	..A		LR5		TMF
375	366		PS.16					6.A		GW.A				NSTS+	ETSW.A+				AC29	..A		LR5		TMF
376	367		PS.16					6.A		GW.A				NSTS+	ETSW.A+				AE29	..A		LR5		TMF
377	368		PS.16					6.A		GW.A				NSTS+	ETSW.A+				AE29	..A		LR5		TMF
378	369			0										NSTS+			FSA+					LR5		TMF
379	370			0																		LR5		
380	371			0																		LR5		
381	372			0																		LR5		
382	373			0																		LR5		
383	374			0																		LR5		
384	375							6.A		GW.A			WD6	NSTS	ETSW.A				AC30	.A				TMF
385	376							6.A		GW.A			WD6	NSTS	ETSW.A		FSA+		AC31	.A	RSBWTS	LR5		TMF
386	377							6.A		GW.A			WD6	NSTS+	ETSW.A+				AC31	.A	RSBWTS			TMF
387	378							6.A		GW.A				NSTS+	ETSW.A+				AC32	.A		LR5		TMF
388	379							6.A		GW.A					ETSW.A				AC33	.A		LR5		
389	380			0										NSTS+	ETS+							LR5		TMF
390	381							6.A		GW.A				NSTS+	ETSW.A+				BC20	.A		LR5		TMF
391	382		PS.17						CSA						ETS+				BC20	A		LR5		TM
392	383		PS		CI														AC34				LR6	
393	384		PS		CI														AC34					
394	385		PS		CI														AC36					
395	386		PS		CI														AC34					
396	387	CU																	AC34				LR6	
397	388		PS.18												ETS+		FSA+		AC34	A				TM
398	389		PS		CI			6.RSB											AC34					
399	390			0																				
400	391			0										NSTS+									LR6	TMF

TABLE 1 (cont)

TABLE 1 (cont)

TABLE 1:

TOTAL LIST OF CONCERNS FROM THE R.B.A. LICCIARDO MC.GUIRE TS REVIEW OF 1984

(REF A.1) LISTED BY (CONGRESSIONAL) ITEM NO (CIN): RECORD OF REVIEWS BY DIFFERENT ENTITIES

Record#	ITEMNO	CLOSUS	PENTSPEC	OPEN	CLOSINVALI	CLOSLATRPE	CLOSSATISF	GENERIC	CLOSSATADD	GENERICWE	CLOSUNSUP	CLOSWCLAR	GENSTUDY	NEWSTS	EXISTTS	WSTS	FSAR	SETPNTMETH	RSBSELECN	ASHTAD	OTHACTN	LRH45	LRH6	TMSID
401	392			0										NSTS+									LR6	TMF
402	393			0										NSTS+									LR6	TMF
403	394		PS.19					6..A		GW..A				NSTS+	ETSW..A+				AC35	..A			LR6	TMF
404	395			0										NSTS+									LR6	TMF
405	396			0										NSTS+									LR6	TMF
406	397		PS.19					6..A		GW..A				NSTS+	ETSW..A+				AC35	..A			LR6	TMF
407	398			0																			LR6	
408	399							6.A		GW.A				NSTS+	ETSW.A+				BC21	.A			LR6	TMF
409	400							6.A		GW.A				NSTS+	ETSW.A+				BC21	.A			LR6	TMF
410	401							E.A		GW.A				NSTS+	ETSW.A+				BC21				LR6	TMF
411	402		PS		CI									NSTS+					AC36				LR6	TMF
412	403		PS		CI			6.RSB						NSTS+					AC36				LR6	TMF
413	404			0										NSTS+									LR6	TMF
414	405		PS20					6.A		GW.A				NSTS+	ETSW.A+				AC36	.A			LR6	TMF
415	406		PS		CI			6.RSB						NSTS+					AC37					TMF
416	407		PS		CI			6.RSB						NSTS+					AC37					TMF
417	408			0										NSTS+								LR5		TMF
418	409			0										NSTS+										TMF
419	410			0																				
420	12				CI														AC2					
421	197A		PS	0											ETS+				AC16	A				TM

TABLE 1 (cont)

PART 2: COMMENTS ON THE PLANT SPECIFIC REVIEWS OF THE R.B.A. LICCIARDO MCGUIRE TS REVIEW OF 1984 (REF.1)

PART 2.1 SUMMARY

Fifty one items of concern by the writer in his DPO Review were identified as Plant Specific Issues, and of these 48 items have or will require plant specific or generic action in the form of amendments to the TS, FSAR, IST, and SPM for McGuire, and including 15 items for inclusion in the NSTS of which 5 should be added to the WSTS. Three (3) items only were closed out completely by licensee clarification alone representing only 6% of the total Plant specific concerns and which thereby establishes the validity of his McGuire TS review to Ref. A.1. in respect of these safety concerns.

In conclusion the level and quality of the NRC review has not been that expected from a peer group review of the writer's safety concerns for the McGuire Facility at a point in time which is nine years after the commencement of operations of the Facility

PART 2.2 DISCUSSION OF TABLE 2: CINS EVALUATED AS PLANT SPECIFIC BY A. THADANI MEMO OF MAY 05,1990 AND RELATED PLANT SPECIFIC (PS) (AND GENERIC) RESOLUTIONS (A SUBSET OF TABLE 1)

A detailed analysis of Table 1 will show that of the 220 items selected for review. 127 items were originally identified as plant specific and these are recognized in Table 1 by the identifier PS under the Column "PLNTSPEC." in the final analysis.

By the A. Thadani memo. of May 14, 1990, this number was further reduced to 51 by re-identification of the remaining items for generic consideration. The residual PS items and the consequences of these are shown in Table 2. The Writer's evaluation of the most recent Murley Memo to Ref. 40 is included. Arising from the evaluation of Generic Issues identified by the Reviewers, the table shows that 48 items have or will require plant specific or generic action in the form of amendments to the TS, FSAR, IST, and SPM for McGuire, and including 15 items for inclusion in the NSTS of which 5 should be added to the WSTS. Three (3) items only were closed out completely by licensee clarification alone.

Of the original 127 PS items, detailed analyses of the table will show that only 7 remain to be reviewed and these remain valid.

PART 2.3 DETAILED COMMENTS ON THE PROPOSED CLOSE OUT OF THE PLANT SPECIFIC ACTIONS BY THE T.M. MURLEY MEMO OF SEPTEMBER 10 1990.

Enclosure 2 is a copy of the PEVIEW OF MCGUIRE TECHNICAL SPECIFICATION to Ref. A.1. This identifies the Congressional Item Numbers (CINS) for each of the items of corcerns reported to the US Congress by the Chairman Nunzio J Palladino of the USNRC by letter of December 20, 1984.

Enclosure 3 is the copy of the T. Murley memorandum to Ref. 40 and which is a principal subject of these Comments. These detailed Comments are made directly against Enclosure 3, sub-enclosures 1, 2, and 3, and particularly against each of the items in the sequence in which they are presented in that document. Where no further comment is made the item is not generally addressed: Reference to this document is essential.

For Plant Specific concerns the NRC review to Ref. 40 has suffered from a number of deficiencies, nd these are detailed in the Comments. Summarily, they include the following:

In considering a set of disparate events with a particular common safety characteristic, Reviewers have oversimplified the evaluation by focussing on only one event and in a manner from which generalized invalid conclusions are derived for the remaining events

In considering single events, the Reviewers have considered a less than minimum partial set of the information required for the safety analyses of the events and have thereby faulted in their safety evaluation and in specifying a less than minimal set of such information for inclusion in the TS's

Some Reviewers have revealed a singular lack of the necessary detailed knowledge of related Regulatory requirements for all Protective systems including manual operations thereto, for the reactor, and the facility in general . This has lead to speculation on important features of events and the necessary protective responses by operating staff and including the availability of protective equipment and the preparation of procedures including the TS.

The Reviewers continually propose positions outside the licensing bases for the McGuire units and which are thereby invalid. They have also misread the Writer's evaluation . They have also made evaluations based on faulted knowledge of the Protective logic. The licensee has made faulted statements which have taken three cycles of review to be finally accepted by the licensee for ultimate correction.

Questions directed to resolving specific issues have been ignored causing them to remain open

There is a marked lack of capability in the necessary detailed Nuclear Engineering of the facility and especially the Protective systems, to meet Regulatory Requirements

And likewise there is a marked and thereby very serious lack of capability in the understanding, and thereby establishing of, the detailed safe operation of the reactor under normal operating conditions, to ensure licensing basis safety under T&A conditions.

There is a particular unwillingness by the NRC staff to enforce Regulatory Requirements for the evaluation of changes to Set Point Methodology in the form of Safety Analyses Limits and related Margins and in a manner which leaves TS for Set Points and Allowable Values unchanged. The formal evaluation by Amendment of TS changes required by the regulations is established by the fundamental protection policy that all actions associated with the determining the safe operation of the plant through the TS are so important that the NRC must be detail checked for Acceptance irrespective of its effect on the margin to safety. By proposing not to do this for many of the items in the the sub-enclosure 3 of Enclosure 3 is a non-conformance of NRC Regulatory responsibility .

Furthermore all values of parameters important to the safe operation of the Plant as determined by safety analyses are required to be reported in the FSAR; and this has not been enforced by Reviewers.

In conclusion the level and quality of the NRC review has not been that expected from a Peer group review of the writer's safety concerns for the McGuire Facility at a point in time which is nine years after the commencement of operations of the Facility

Detailed Comments by R.B.A. Licciardo on T. Murley Closure
of DPO Issues Regarding the Mc Guire Technical Specifications,
dated September 10, 1990.

Question 15, TS 3/4.5.3

RESPONSE

The licensee has accepted the writer's proposal to have only centrifugal charging pump operable below the specified temperature and together with the provision that the safety injection pumps are rendered incapable of delivering to the RCS. This proposal is acceptable provided that both of these constraints are included in the TS.

In setting related TS Temperature limits below which this is necessary, licensee should have a set point methodology which recognizes not only the errors in the Tavg measuring system, but also the differences in temperature between the location in Reactor Coolant Pressure Boundary where the critical stress/temperature limits will occur, and the Tavg being measured and used as indicator of that temperature. In this respect it appears that the general limit of 350 deg. F which is the value used to categorize TS Section 3/4.5.3 in the Standard TS has been chosen with those considerations in mind and which also answers the writer's original concern as to the TS provision for more pumps being available between 350 deg. F and 300 deg. F, than at lesser temperatures. So that effectively the temperature at which only one pump only, and that is the centrifugal Pump, should be capable of injecting into the RCS should be 350 deg. F. as read on the Tavg measuring system.

Robert B.A. Licciardo
December 1990

Detailed Comments by R.B.A. Licciardo on T. Murley Closure of DPO Issues Regarding the Mc Guire Technical Specifications, dated September 10, 1990.

QUESTION 4.c. Table 3.3.2, Item 17: REACTOR TRIP INSTRUMENTATION RESPONSE TIMES.

RESPONSE

The "clarifications" undertaken by Reviewers in the course of the Mc Guire TS Review have clouded a number of important fundamental issues which remain unresolved. And these are clearly stated in the writer's TS Review and substantively elaborated upon with license basis information in his memo of June 10, 1990, Ref. 14. Except for the very limited clarification of terminology, and related amendment to the TS, in the reviewer's responses the rest of the resolution to this particular question is unacceptable and for very significant areas of necessary protection over a complete range of break sizes in both the primary coolant system and the Main Steam System. This is also a generic issue for TS.

The substance of the writer's positions in these areas are fully documented in previous submittals, but are repeated here in part because of their importance.

RESOLUTION

RBAL Position - Reference response under Issue 2 below. Reference also comments under Questions 7b and 7g.

Issue 1. No Response from Licensee

The functional Unit described as Safety Injection Input from ESF" is incorrect. TS descriptors should be replaced by four functional units consistent with Table 3.3-5; i.e., by Manual Safety Injection, Containment Pressure-High, Pressurizer Pressure-Low (SI) and Steam Line Pressure-Low.

Proposed Action: TS descriptors should be replaced four functional units consistent with Table 3.3-5; i.e., by Manual Safety Injection, Containment Pressure-High, Pressurizer Pressure-Low (SI) and Steam Line Pressure-Low.

Issue No 2. Related Response Times omitted from TS by proposing as Not Applicable (N.A).

The Licensee responds that trip functions not utilized in FSAR transient and accident analyses will have the requirement indicated as Not Applicable (N.A.).

RBAL Response--This position is incorrect and thereby Unacceptable. An essential regulatory requirement is diversity of Protection Systems so that all licensing basis transients and accidents will in general have at least two separate parameters initiating protective action. Also Transient & Accident (T&A) analysis will also generally be undertaken with the second out trip, or other later trip, giving the most conservative evaluation considered necessary for the expected consequences of the Occurrence. In this regard it should be noted that for the parameters in question, examples include LOCA and MSLB Breaks inside and outside containment, both small and large; and such breaks in modes 3 and 4: For transients, the excessive cool down resulting from failure open of the main feedwater valves is an event where this is use as back up parameter. As a first out, or diverse protection, this reactor trip is especially important for events below the P-7 permissive when direct reactor trip from another parameter may not be available.

Proposed Action: The term NA alongside item 17 in this Table 3.3-2 should be replaced by the response times used in the Accident Analyses. Note the actual response times are included in Table 3.3-5 and under the more accurate descriptors required of Issue 1 above.

Issue No 3. Absence of docketed information for times used in related Accident Analyses, and particularly for MSLB, SBLOCA and LOCA events.

Proposed Action: The writer has discovered docketed information and which is different from that of existing TS values. Reference response to Questions 7b an 7g. The corrected values should be inserted in this Table 3.3-2, Item 17.

Issue 4: This issue has been resolved.

Detailed Comments by R.B.A. Licciardo on T. Murley Closure
of DPO Issues Regarding the Mc Guire Technical Specifications,
dated September 10, 1990.

Question 1b, Table 2.2-1, Item 4.

RESPONSE

The response has ignored the fact outlined in earlier submittals by the writer that the negative flux rate trip setpoint was not evaluated as part of the safety analyses for Mc Guire as there was no approved Evaluation Methodology for the related Transient. The setpoint methodology document was indeed in error. As a result of the DPO, later NRC approved Evaluation Methodology has now been used and the licensee has revised the Setpoint Methodology Table 3-4, to show a safety analyses limit of 6.9% rated thermal power. This value permits the TS trip setpoint and allowable values to remain unchanged.

Consequently the conclusions should show Amendment to the FSAR to record these changes in the related safety evaluation, and also to the related Set Point (SP) Methodology. This also became a generic issue for Westinghouse units.

Detailed Comments by R.B.A. Licciardo on T. Murley Closure of DPO Issues Regarding the Mc Guire Technical Specifications, dated September 10, 1990.

Question 1c, TS Table 2.2-1. Item 9

RESPONSE

The response concerning the set point methodology document is invalid. This document is the only primary source of information on the safety analyses limits on Section 15 Transient & Accident evaluations and as such performs a primary reference in evaluating licensing basis amendments to a 10 CFR 50.59(a)(1) requirements. And furthermore is the only source of information for checking the Set Points and Allowable Values of the TS.

All changes to the SPM should therefore be by a formal Amendment. Any current practice which ignores this is irregular and non conforming to regulatory requirements

Detailed Comments by R.B.A. Licciardo on T. Murley Closure
of DPO Issues Regarding the Mc Guire Technical Specifications,
dated September 10, 1990.

Question 1d, TS Table 2.2-1, Item 13

RESPONSE

A number of changes have been made to this particular TS since the writer's review. The original question was valid. The writer's previous work has revealed that the setpoint specified in the setpoint methodology document was a non-conservative application of the allowance for channel error and drift.

As advised under earlier review, the licensee has changed the bounding analysis event for this parameter to that of the Main Feedwater Line Rupture initiating at full power and assuming a low-low water level Safety analyses Limit of 23% of narrow range span. The licensee now states that the Mc Guire TS setpoint for the SG low-low water level trip, at 100% rated thermal power, "is now 40% of narrow range span which exceeds the safety analyses limit value of 23% narrow range span by more than 10%".

This change in Safety Analysis Limit for the SG should be be reflected in a necessary amendment to the Set Point Methodology Report for Mc Guire Units 1&2, Ref. 18, and also as a change to the FSAR (from the original value of > or = 54.9%).

Detailed Comments by R.B.A. Licciardo on T. Murley Closure
of DPO Issues Regarding the Mc Guire Technical Specifications,
dated September 10, 1990.

Question 1e, Table 2.2-1, Item 18b

RESPONSE

The last descriptor for this Question 1e, i.e., as "Item 18b", is incorrect and should be replaced by "18 c(i) (last para)".

The reviewers have not addressed the detailed clarifications by the writer in his previous submittal and therefor remains incomplete. Nevertheless, the licensee's original response itself remains satisfactory, and no changes are required.

Detailed Comments by R.B.A. Licciardo on T. Murley Closure of DPO Issues Regarding the Mc Guire Technical Specifications, dated September 10, 1990.

Question 2, TS Page 3/4 1-6, (TS 3.1.1.4)

RESPONSE

The licensee should be advised that the Qualitative Evaluation provided is Unacceptable in meeting the Regulatory requirements for safety analyses during the proposed experiments under 10CFR50.59, and the arguments based on probability of being within that temperature range is an infringement of TS requirements under 10CFR50.36.

The licensee provides a qualitative evaluation which proposes to show that for a MSLB, at End Of Core Life, with negative moderator temperature coefficient, nuclear power is reduced when the minimum temperature for criticality is reduced from 557 deg. F to 551 deg. F. The writer agrees with this proposition. However, DNBR is ultimately established from a combination of Thermal-Hydraulic as well as nuclear power conditions; and for the MSLB the reduction of average temperature from 557 deg. F to 551 deg. F also causes a significant reduction in the reactor vessel pressure under the resulting thermal hydraulic environment with emptied pressurizer and voiding with flashing in the Reactor Vessel head, so that resulting DNBR is reduced even though the return to nuclear power is reduced Ref. 42, Sections 3.3.3.13 and 3.1.4. (Item) 5d.

The writer notices that this concern is not restricted only to Mc Guire TS's, but also is applicable to all other facilities using Standard TS's, and thereby is a generic issue.

Detailed Comments by R.B.A. Licciardo on T. Murley Closure
of DPO Issues Regarding the Mc Guire Technical Specifications,
dated September 10, 1990.

Question 3, TS Table 3.3.1. Item 6c

RESPONSE

The reviewers have chosen not to respond in a specific and valid manner to the writer's concerns from the plant specific licensing and regulatory requirements for Mc Guire 1 & 2 and have referred to a later generalized letter without plant specific licensing action authority.

The licensee is therefore in violation of his licensing bases commitments in respect of this item.

The proposed TS's were invalid and remain invalid until they conform to FSAR commitments by having at least two Source Range Neutron Flux channels being operable in Modes 5-3 with effective alarms whilst the reactor trip breakers are in the open position.

Detailed Comments by R.B.A. Licciardo on T. Murley Closure
of DPO Issues Regarding the Mc Guire Technical Specifications,
dated September 10, 1990.

Question 5a, Table 3.3-3, Item 7g:

RESPONSE

The licensee has agreed with the proposition that the blockage of the trip in Mode 3 below Mode 3# is not acceptable. Further, the licensee has accepted the need for operability (of automatic initiation of Auxiliary Feed Water) in Mode 4.

This item on these two subjects is now closed with two (2) changes to the TS.

Detailed Comments by R.B.A. Licciardo on T. Murley Closure
of DPO Issues Regarding the Mc Guire Technical Specifications,
dated September 10, 1990.

Question 6b, Table 3.3-4, Items 7c(1) and (2)

RESPONSE

The necessary clarification of an apparent inconsistency between the TS and the Accident Evaluation is acceptable, and the FSAR should be modified to clarify this issue.

The response to the question of flow distribution under accident conditions is incomplete as the engineering features of the plant show that some form of flow control device must be used under these circumstances and this information is not provided in the FSAR. The licensee must provide these details for evaluation and the FSAR.

Detailed Comments by R.B.A. Licciardo on T. Murley Closure of DPO Issues Regarding the Mc Guire Technical Specifications, dated September 10, 1990.

Question 6c, Table 3.3.-4, Item 9.

RESPONSE

The reviewers have responded to the question of the basis for the set point concerned, but have not responded to the consequences of that in terms of the residual issue.

The licensee response confirms that the setpoint for the Emergency Busses allows them to be unloaded of all Non-ESF loads during 100% normal operation of the plant, without the reactor being tripped by the Undervoltage Trip on the RCP Busses, and consequently that after the Emergency Bus is transferred to DG supply, all of the Non-ESF loads will not be restored and this non-restoration of Non-ESF loads could mean the loss of services necessary for the continuing safe normal operation of the plant. Since there is no analyses of the consequences of the loss of these services in the Mc Guire FSAR, this represents an unanalyzed condition for the operating reactors at Mc Guire. The writer is advised that this this is also potentially a generic issue.

This concern should be evaluated and incorporated into the FSAR.

Robert B.A. Licciardo
December 1990

Detailed Comments by R.B.A. Licciardo on T. Murley Closure of DPO Issues Regarding the Mc Guire Technical Specifications, dated September 10, 1990.

Question 7a and 7f; Table 3.3-5, Item 2a; Table 3.3-5, Item 3a.

RESPONSE

1. The reviewers have not responded to the fact that LOCA's below P-11 Interlock were evaluated and are a part of the Licensing Bases for Mc Guire Units 1 and 2. Reference Question 8c of TABLE 4 of this review concerning my Item TS 3/4.4.1. G 2.6.3.

2. The reviewers have not responded to the items 2, 3, 4 & 5 of the writer's comments of Ref. A.14, except to effectively admit that the existing response time of the TS for the RHR/LOCA pumps is indeed incorrect and to provide an unacceptable justification for that.

The reviewers have also responded by providing response times from the TS, whereas it is the Safety Analyses that provide the bases for these values and no reviewer has responded to that fact. The current response provides no bases for an acceptable resolution.

The licensee shall respond specifically to the details of the writer's earlier review Ref. June 19 of information extracted from his own FSAR, and provide amendments to his TS in accordance with the data provided unless he has later documentary data to support different values.

Additionally the licensee has furthermore revised his LOCA analyses and leaves related update of the FSAR until 1991. Since his analyses has already been completed, the NRC should clarify the core reload status to which it applies, and if applicable to the current condition, immediately require the submission of the appropriate TS Amendments.

Detailed Comments by R.B.A. Licciardo on T. Murley Closure of DPO Issues Regarding the Mc Guire Technical Specifications, dated September 10, 1990.

Question 7b and 7g; Table 3.3-5, Item 2b; Table 3.3-5, item 3b

The reviewers have ignored the detailed comments by the writer on this particular issue and therefore I must presume they cannot be answered and therefore remain valid. This affects a large number of significant TS's and should be closed out with direct responses by the licensee to each of the review's questions without evasions.

The licensee response to these ncerns is incomplete and unacceptable.

Action:

1. For TS Table 3.?-5, Items 2b, 3b, and 4b, the current descriptor Reactor Trip (from SI), must be replaced by only "Reactor Trip".

2. For TS Table 3.3-5, Items 2b, 3b, and 4b, the current response times of 2 secs. must be replaced by > or = 0.46 secs.

Robert B.A. Licciardo
December 1990

Detailed Comments by R.B.A. Licciardo on T. Murley Closure of DPO Issues Regarding the Mc Guire Technical Specifications, dated September 10, 1990.

Question 7c and 7h Table 3.3-5. Item 2d: Table 3.3-5, Item 3d.

RESPONSE

There is no response to this question. This is unacceptable.

Action: Licensee should review RCPB valves isolated by the Safety Injection signal to ensure shortest possible closure times consistent with any specific analyses using particular valves which should already have been incorporated in relevant TS's. Such closure times should be incorporated into the TS's.

Detailed Comments by R.B.A. Licciardo on T. Murley Closure
of DPO Issues Regarding the Mc Guire Technical Specifications,
dated September 10, 1990.

Question 7e, Table 3.3-5, Item 2f:

RESPONSE

The licensee has provided no response to the licensing bases information provided by the writer under Ref A.14 justifying his proposition on this particular issue. Therefore the writer's position must be considered uncontested and thereby correct.

Therefore: Table 3.3-5 Items 2f, 3f, and 4f, shall include response times of equal to or < 60 secs. against the item of Auxiliary Feedwater Pumps.

Question 7j, Table 3.3-5, Item 2f.

RESPONSE

The licensee has provided no response to the licensing bases information provided by the writer under Ref. A.14 June 19 justifying his proposition on this particular issue. Therefore the writer's position must be considered uncontested and thereby correct.

Therefore: Table 3.3-5 Items 2f, 3f, and 4f, shall include response times of equal to or < 60 secs. against the item of Auxiliary Feedwater Pumps.

Question 7o, Table 3.3-5, Item 12

RESPONSE

Acceptable: The licensee should confirm that with the actual closing time for the sump and RWST valves being 60 secs. shorter than provided for in the sequence described, that sufficient water is ultimately delivered to the containment vessel to establish the NPSH evaluated to be available for all the ECCS pumps.

Question 9, Page 3/4 4-2, TS 3.4.1.2

RESPONSE

In his response the licensee has not addressed the need to determine safety limits and thereby TS for restart of a reactor coolant loop in this mode, and thereby is unacceptable.

Restarting an RCP without an adequate recognition and analysis of the prevailing conditions and consequences can cause a significant increase in reactivity, reactor power, and reactor pressure. The licensing bases for Mc Guire provided for substantially increased Boration concentrations to approx. 2000 ppm in Modes 3-5, to mitigate these potential circumstances; but the existing TS are in default in not providing for such Boration levels. Therefore the plant is exposed to potentially undesirable consequences if the action proposed is undertaken at this time. This concern had been recognized as a Generic item under Section 3/4.4.1, G2.6.1 and Listed under Table 4, Question 8a of this Memorandum.

Action: The licensee should be required to re-evaluate for his current TS, or borate to the level required by his existing safety evaluation under Ref. 16 page Q 212-47e before initiating cooldown in Mode 3. Unless prior boration is agreed to the existing TS permitting restart of the reactor coolant pumps represent an unanalyzed safety condition and should be immediately withdrawn.

The licensee's new proposal to utilize Abnormal Procedures for Natural Circulation are acceptable but not in the event that the the first priority is to use the RCP'S without prior boration.

Question 11b, TS Item 3.5

RESPONSE

Reviewers have accepted the writer's proposition that these concerns are to be evaluated and it has been decided to do this on a Generic Basis and for incorporation into the New Standard TS.

This issue however remains a Licensing Basis requirement for the Licensee, even though it is to be treated Generically.

Question 11c, TS 3.5

RESPONSE

Reviewers have accepted the writer's proposition that these concerns are to be evaluated and it has been decided to do this on a Generic Basis and for incorporation into the New Standard TS.

This issue however remains a Licensing Basis requirement for the Licensee, even though it is to be treated Generically.

Detailed Comments by R.B.A. Licciardo on T. Murley Closure of DPO Issues Regarding the Mc Guire Technical Specifications, dated September 10, 1990.

Question 12a, TS 3.5.1.1.d

RESPONSE

Reviewers have accepted the writer's proposition and the FSAR is to be updated to reflect this. Related Set Point methodology will need to be amended to reflect the changes in drift and channel error, and also the TS insofar as these amendments result in a change to the related Set Points and Allowable Values.

Question 12b, TS 4.5.1.1.1.d.1

RESPONSE

Reviewers have accepted the writer's proposition and the IST program, and necessarily the FSAR, is to be updated to reflect this.

Question 13, TS 3.5.1.2.d

RESPONSE

The fundamental safety issues of this item were identical to those of Question 12a, TS 3.5.1.1.d and Question 12b, TS 4.5.1.1.1.d.1 above, and were therefore accepted by the reviewers; however since the equipment has since been removed no related changes to the IST, FSAR and SPM are now necessary.

Question 14, TS 4.5.2.h

RESPONSE

The necessary distribution of ECCS flows to effectively protect against a LOCA is a set of Safety Analysis Limits which must therefore be recorded inside the FSAR.

Detailed Comments by R.B.A. Licciardo on T. Murley Closure
of DPO Issues Regarding the Mc Guire Technical Specifications,
dated September 10, 1990.

Question 17, TS 3/4.7.5

RESPONSE

Reviewers have accepted the writer's proposition and are therefore required to include surveillance requirements in the TS to ensure that the operating train (of the Nuclear Service System is manually aligned to the Nuclear Service Water Pond under icing conditions. The importance of this is critically increased by the fact that this change-over is manual, not automatic, so that under accident conditions automatic response for the supply of Nuclear Service Water service water is not available within the necessary response times of 65 to 76 secs of Table 3.3-5.

The licensee shall Amend the TS's to include this requirement under either TS Section 3/4.7.4 NSWS or TS Section 3/4.7.5. SNSWP. No change to the FSAR is necessary as the commitment remains in the document.

Note: The 76 secs is outside the Licensing Basis for the plant as described under CINS 180, 181, 182, 192, 195, 204 and 212 and must be evaluated. Otherwise the plant will be in an Unanalyzed Safety Condition.

Question 18, TS 3/4.9.1

RESPONSE

The reviewers have not provided a detailed response to the writer's safety evaluation of the need for TS changes on this issue to restore licensing basis protection requirements of safety related engineering and surveillance procedures to protect the plant against the boron dilution events. The writer must therefore conclude that there is no defensible position by the reviewers and the writer's evaluation remains valid.

Action: The licensee shall modify the language of his TS to require locking of the valve #INV 250, and to verify closure of the valves INV-171A and INV-175A.

TABLE 2:

CINS EVALUATED AS PLANT SPECIFIC BY A. THADANI MEMO
OF MAY 14, 1990 AND RELATED PLANT SPECIFIC (PS) (AND GENERIC) RESOLUTIONS (A SUBSET OF TABLE 1)

Record#	ITEMNO	CLOSUS	PLNTSPEC	OPCX	CLOSINVALI	CLOSLATRRE	CLOSSATISF	GENERIC	CLOSSATADD	GENERICWE	CLOSUNSOP	CLOSNCLAR	GENSTUDY	NEWSTS	EXISTTS	WSTS	FSAR	SETPNTMETH	RSRSELECN	ASHTAD	OTHACTN	LRHK5	LRHK6	TMSTI
15	16		PS						CSA								FSA+	SPM+	AC3	A				TM
17	18		PS									CE							AC3	A				TM
18	19		PS						CSA								FSA+	SPM+	AC3	A				TM
20	21		PS						CSA								FSA	SPM	AC3	A	RSBWTS			TM
28	29		PS						CSA						ETS		FSA+	SPM+	AC3B	A				TM
36	37		PS									CE		NSTS+						A				TMF
45	45		PS		CI			6						NSTS+	ETS+				AC4	A	RSBWTS			TMF
62	62	CU	PS											NSTS+	ETS+				AC8	A				TMF
74	74		PS											NSTS+	ETS+				AC10	A				TM
75	75		PS		CI									NSTS	ETS+				AC10	A				TMF
92	92		PS					6.W	CSA						ETS				AC13	A	RSBWTS			TM
96	96		PS					6.RSB							ETS+		FSA+		AC13	A				TM
98	98		PS					6.RSB	CSA								FSA		AC13	A				TM
99	98A		PS					6.RSB							ETS+		FSA+		AC13	A				TM
129	127		PS						CSA					NSTS	ETS				AC14	A				TM
130	128		PS						CSA					NSTS	ETS				AC14	A		LR5		TM
147	145		PS						CSA					NSTS+	ETSW.ETS				AC15	A				TM
148	146		PS						CSA					NSTS+	ETSW.ETS				AC15	A				TM
156	154		PS									CE					FSA+		AC15	A				TM
157	155		PS		CI							CE					FSA+		AC15	A				TM
159	157		PS					6									FSA+		AC15	A				TM
176	174		PS												ETS+				AC16	A				TM
177	175		PS												ETS+				AC16	A				TM
179	177		PS														FSA+		AC16	A				TM
181	179		PS												ETS+				AC16	A				TM
188	186		PS												ETS+					A				TM
189	187		PS												ETS+				AC16	A				TM
191	189		PS														FSA+		AC16	A				TM
193	191		PS												ETS+				AC16	A				TM
199	197		PS	B											ETS+				AC16	A				TM
200	198		PS	B					CSA						ETS				AC16	A				TM
203	201		PS	B											ETS+				AC16	A				TM
205	203		PS						CSA						ETS				AC16	A				TM
208	206		PS									CE							AC16	A				TM
213	211		PS						CSA						ETS				AC16	A				TM
217	215		PS									CE							AC16	A				TM
275	273		PS					6					GL	NSTS	ETSW ETS+				BC16	A	WL			TM
276	274		PS					6	CSA				GL	NSTS	ETSW ETS+				BC16	A	WL			TM
321	318		PS		CI			6.TM					WOG	NSTS+						A				TM
322	318A		PS.5b					6.TM					WOG	NSTS+					AC23	A				TM
323	318B		PS.5b					6.TM					WOG	NSTS+					AC22	A				TM
328	319		PS.5b					6.TM					GS	NSTS	ETSW				AC22	A				TM
335	326		PS					6	CSA						ETS		FSA	SPM		A				TM
341	332		PS.12b						CSA								IST		AC24	A				TM
345	336		PS						CSA						ETS		FORE	SPM		A				TM
350	341		PS						CSA								FSA+		AC26	A				TM
359	350		PS.15						CSA						ETS				AC31	A				TM
360	351		PS.15						CSA						ETS				AC15	A				TM
391	382		PS.17						CSA						ETS+				BC20	A		LR5		TM
397	388		PS.18												ETS+		FSA+		AC34	A				TM
421	197A		PS	B											ETS+				AC16	A				TM

TABLE 2

PART 3: COMMENTS ON THE REVIEW OF GENERIC DPO ISSUES OF THE R.B.A. LICCIARDO MCGUIRE TS REVIEW OF 1984 (REF. A.1)

PART 3.1 SUMMARY

The total number of items identified for generic consideration by a minimal set of various entities is 240. The total number of necessary additions to the NSTS is 207 and of this count many are also included in the WSTS under the same item numbers (CINS)

The total number of CINS impacted by both changes to the ETS and or the WSTS is 170, and would represent the total impact on the Existing Tech. Specs. alone for the MCGUIRE UNITS and which would have protected the plant against the Mid-Loop loss of Residual Heat Removal Cooling at both the Diablo Canyon and Votgle units

In conclusion the level and quality of the NRC review in the area of Generic concerns is Unacceptable as a Peer review for the writer's McGuire TS Review of Ref. A.1

PART 3.2 DISCUSSION OF MINIMAL SET OF GENERIC ACTIVITIES AND ACTIONS ARISING FOR VARIOUS ENTITIES, AND DERIVING FROM THE R.B.A. LICCIARDO MCGUIRE TS REVIEW OF 1984 (REF. A.1). REF. TABLE 3.1 (A SUBSET OF TABLE 1)

This table 3.1 lists the total set of generic actions undertaken by various entities since the preparation of the McGuire TS Review. These include Generic Letter 86-13 by the NRC To All Power Reactor Licensees And Applicants With Combustion Engineering and Babcock and Wilcox Pressurized Water Reactors, A Westinghouse letter to All Westinghouse Licensees on the subject of the Number Of Reactor Coolant Pumps In Mode 3. A Westinghouse Owners Group Action on LOCA in Mode 4; items submitted for inclusion in the Westinghouse Standard TS by the former Reactor Systems Branch; particular Generic studies by W and the NRC, Particular TS submittals by W through Licensees on overpressure protection in Modes 3 through 5, and other items as identified in the Table Nomenclature.

In table 3.1, the impact of generic issues on the NSTS is identified in two general ways

a) The total number of items identified for generic consideration by a minimal set of various entities is 240

b) The total number of necessary additions to the NSTS is 207. Of this count many are also included in the WSTS under the same CINS and which are not separately accounted for

c) The impact on the NSTS arising from the NRC reviews where the results are represented by specific Reviewers conclusions is represented by the locator NSTS . These total 17.

d) The necessary supplement to the Reviewers specific conclusions as concluded by the writer's comments in Part 3.1 of this memo are identified by the locator NSTS+ and total 190 additional items.

e) Detailed analyses will show that an additional 4 items are added to the WSTS only and not accounted for in this particular analyses. A cross check with Table 1 will show this result. This gives a total of 211 CIN'S for the NSTS and the WSTS

PART 3.3 DISCUSSION OF MINIMAL SET OF ACTIONS ON THE EXISTING TS AND WESTINGHOUSE STS ARISING FROM VARIOUS ENTITIES, AND DERIVING FROM THE R.B.A. LICCIARDO MCGUIRE TS REVIEW OF 1984 (REF. A.1). REF. TABLE 3.2 (A SUBSET OF TABLE 1).

The total number of items in this list is 170, and this represents the total impact on the Existing Tech. Specs. alone for MCGUIRE, or the ETS through the impact of the WSTS, or the WSTS alone, both from the action of the A. Thadani Letter discussed in Table 2.1 and also the impact arising from other actions including the ongoing generic actions of the other entities which would be incorporated into WSTS or ETS before adoption of the NSTS. This represents are larger Set than discussed in Part 2

The total no. of actions involving the WSTS directly, and the Westinghouse TS through actions initiating in the Existing TS (ETSW OR ETS.W) is 100. This limited set is occasioned by earlier reviews before the advent of the NSTS in which references were necessarily made to that document in generic studies: And also which evolve out of multiple Plant Specific Actions such as the "The Number Of Reactor Coolant Pumps Operation In Mode 3".

The impact on the WSTS arising from specific Reviewers conclusions is represented by the locators ETSW or ETS.W. or WSTS. These total 25. The necessary supplement to the Reviewers specific conclusions as concluded by the Writer (RBAL), are identified by the locators ETS.W+ or ETSW+ and total 75 additional items. Reference the detailed Comments elsewhere in this Report. The table shows that many of these items also become part of the NSTS

PART 3.4 DETAILED COMMENTS ON THE REVIEW OF THE PROPOSED CLOSE OUT OF GENERIC ISSUES BY THE T.M. MURLEY MEMO OF SEPTEMBER 10 1990

Enclosure 2 is a copy of the REVIEW OF MCGUIRE TECHNICAL SPECIFICATION to Ref. A.1. This identifies the Congressional Item Numbers (CINS) for each of the items of concerns reported to the US Congress by the Chairman Nunzio J Palladino of the USNRC by letter of December 20, 1984.

Enclosure 3 is the copy of the T. Murley memorandum to Ref. 40 and which is a principal subject of these Comments. These detailed Comments are made against directly against Enclosure 3, sub-enclosure 4 and particularly against each of the items in the sequence in which they are presented in that document. Where no further comment is made the item is not generally addressed: Reference to this document is essential.

The Reviewer's have not detailed their review of the writer's concerns for CINS 292 through 298 even though these fully evaluate the REACTOR COOLANT SYSTEM-COLD SHUTDOWN, LOOPS NOT FILLED, which is the Diablo Canyon Event of 1987 for which the licensee was completely unprepared because the NRC rejected his concerns outright in early 1983 and when detailed under the current DPO review in 1984 were again given very low priority even beyond the event itself until the LOCA in Mode 4 event at Braidwood in December 1989 when it then received the first consideration under this accelerated review. Acceptance of the Writer's concerns in 1984 would have ensured awareness of the event on its Occurrence and complete protection, instead of the severe risk to which the public was exposed. These circumstances also apply to the Vogtle Event under a significantly different set of circumstances, in Mode 6, later in March 1990 which was covered under CINS 399 to 405 which would have protected the plant against the event--The staff's comment that none of the Writer's issues applied because none of them concerned Station Blackout reflects the fact that the NRC has still not studied these comments 6 1/2 years after their preparation: The NRC Staff is again invited to read the Writer's CINS references above, and his detailed Comments under Concern 36 A of this review, and prepare a valid safety evaluation of his propositions and discover where their problems exist and potentially facilitate an overall improvement in their proposed total level of protection. It must be said that the level of the Reviewers comments do not represent the level of impartiality that is necessary to ensure that never again will there be serious misjudgment about the importance of writer's early propositions on potentially serious events before they occur as has been manifested for the cases of Diablo Canyon, Braidwood and Vogtle. And there are many more events still waiting to happen in the residual unprotected state in which the current NRC Reviewers would propose to leave the NSTS and the WSTS without the provisions introduced by the writer in this Review.

In respect of the 160 items not selected for review in 1984 even after the writer explained their importance in a memo to Denton (Ref. 36), the current staff persists with the 1984 decision even though Reactor Protection in Modes 3-6 is now a major research program and they allegedly have reviewed for the necessary protections and generic items in modes 3 through 6. Reference to Part 1.2 discussion will reveal that 88 out of actually 178 open items were identified for evaluation as primarily generic concerns leaving a residual of 86: Furthermore, a detailed check of the 86 residual items by the groups into which they remain show the items are valid and should now be considered; the writer's safety evaluation of these items in his 1984 TS Review to Ref. A.1 remain unchanged

The NRC review to Ref. 40 has suffered from a number of deficiencies, and these are revealed above and further detailed in the Comments which follow. Many of these are common to those outlined under Part 2.3.1 but with particular importance in certain areas for Generic Issues. Summarily, they include the following:

In considering a set of disparate events with a particular common safety characteristic Reviewers have oversimplified the evaluation by focussing on only one event and in a manner from which generalized invalid conclusions are derived for the remaining events

In considering single events, the Reviewers have considered a less than minimum partial set of the information required for the safety analyses of the events and have thereby faulted in their safety evaluation and in specifying a less than minimal set of such information for inclusion in the TS's. An item of particular importance here is the set of process parameters used as the starting bases for all T&A's in all Modes of operation 1-5, and not only Modes 1&2.

The reviewers continually propose positions outside the licensing bases for the McGuire units and which are thereby invalid; have misread the Writer's evaluations and have also made evaluations based on faulted knowledge of the Protective logic. For some concerns the licensee has made faulted statements requiring additional cycles of evaluation. evaluation cycles for correction. Questions directed to resolving specific issues have been ignored.

There is a marked lack of capability in the necessary detailed Nuclear Engineering of Protective systems, to meet Regulatory Requirements

There is a marked and thereby very serious lack of capability in the understanding, and thereby establishing of, the detailed safe operation of the reactor under normal operating conditions, to ensure licensing basis safety under T&A conditions.

In reviewing events in Mode 3, 4, and 5, the Reviewers have used invalid information thereby reaching faulted conclusions: Further in the process they have been unable to detect basic faults in this invalid information which should have made them aware of its severe limitations

In Modes 5 and 6, the Reviewers have shown a singular lack of knowledge of related licensing bases requirements in evaluating and analyzing for the consequences of T&A's.

The reviewers have also shown a marked lack of the necessary detailed knowledge of the related Regulatory Requirements for all Protective systems including manual operations thereto for the reactor and the facility in general in Modes 3, 4, 5 & 6, and the detailed nuclear Engineering necessary to achieve these. This has lead to speculation on important features of events and the necessary protective responses by operating staff and including the availability of protective equipment and the preparation of procedures including the TS. These circumstances are completely Unacceptable within the licensing Bases for ensuring Public Health and Safety

A very serious fault and particularly endemic in considering T&A's in Modes 3,4,5 and 6, is the perception that because a particular event may result in larger margins to safety than calculated for the bounding event of the licensing bases, that protection is not needed; and furthermore this conclusion is made without a safety evaluation of what then happens to the unprotected plant for which the event is now not mitigated because it is now unprotected and thereby not terminated.

In conclusion the level and quality of the NRC review in the area of Generic concerns is Unacceptable as a Peer review for the writer's McGuire TS Review of Ref. A.1

Detailed Comments by R.B.A. Licciardo on T. Murley Closure of DPO Issues Regarding the Mc Guire Technical Specifications, dated September 10, 1990.

CONCERN 9A, QUESTION 8e, TS 3/4.2.5: AVAILABILITY OF RCPs' DEPARTURE FROM NUCLEATE BOILING (DNB) TS

General Comment: These concerns derive from TS Section 3/4.2.5 under CIN's 67 to 73, and unfortunately, Reviewer's comments are made outside the context of related concerns of the writer in Section 2.1.1 under CIN's 1-7 and TS section 3/4.4-9 CIN'S 306 to 309. Reference to these other sections will provide the answer to a number of the Reviewers' comments.

Concerning Resolution I

First para: It was the writer who first proposed the proposition from which the first comment by the reviewer is made. Under a resulting action by RSB it became a generic issue from which ultimately the TS criteria were developed: Ref. the previous ref's and also Table 2, CINS 6, 7, and 8.

Second para.: Reviewers comments are incorrect. The W reactor programs an indicated Tavg against Thermal power level from and at Zero power in Mode 2 to Maximum Licensing Basis power in Mode 1: Ref CINS 67-69. Safety analyses uses these programmed values at zero power and maximum licensing basis power in conjunction with positive and negative errors in the related measuring instrumentation to provide the upper and lower safety analyses limits in calculating the consequences of Licensing Bases Transient and Accidents Analyses in the approach of the plant responses to the safety limits of multiple criteria: and not only DNB as related by the Writer in reference A.1, Page 16, Section 3.4.2.5./Evaluation/Item a). Further, these evaluations are also undertaken at intermediate power levels such as P-10 and P-8. In general, for nuclear systems the margin to the safety limit of a given criterion is not measured directly, but necessarily calculated using a No of variables for parameters which themselves are not the safety criterion. The critical values of the process parameters themselves therefore do not have a safety limit but have a safety analysis limit, and likewise a limiting safety analysis limiting value, and a safety analysis Set point. And for Plant Protection these are generally identified in the Set Point Methodology for the particular Nuclear Unit. And therefore these programmed values must be included in the TS under 10CFR50.36(c)(1) with the necessary safety analysis limits, limiting safety analyses system settings, and set points, which have been the CINS of concern identified above in his DPO. These parameters must thereby ultimately include related values for Tavg, pressurizer pressure and level, and steam generator level, as are discussed in the Writer's DPO. Allowable values for expected drift should be established within the Limits of Total Error (Ref. CIN 1), and indeed the latest MC GUIRE TS incorporate such limits for (maximum) Tavg. and pressurizer pressure,and these become the related limiting safety analysis system settings.

The sub-item a) of this para. is incorrect. The reviewer should detail read the licensees CINS referenced above for the related references. Process Set Points do not need to generate a trip; they represent necessary setpoints for operation of the plant under stable normal operating conditions and are expected to vary slowly only within the ability of the related control systems

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to sustain them: If they cannot be sustained within the allowable values (the limiting safety analysis system settings), then the plant must be shut down as otherwise the calculated safety upon which safety of the plant has been established and licensed can no longer be validated. Alternately, if there is a transient or accident causing rapid change to unsafe values, the reactor protection system will protect the reactor through the use of the overpower and overtemperature Delta T trips and or other trips of Table 2.2.1. and in accordance with the new set points and limiting safety analysis system settings calculated to be required for such a Transient or Accident from the related bounding event. References to these and related graphical representations are discussed under CIN 2.

The sub-items b) and c) are incorrect statements in the light of the previous paragraph.

Conclusion: The writer's concerns under the complete set of CINS reference above remain valid, and the related clarifications and necessary amendments to the TS should be incorporated in both the New Standard TS (NSTS) and the Plant Specific TS (PSTS).

Concerning Resolution II

The Writer's comments for Tavg under Resolution I above also apply to the Reviewers' comments here for pressurizer pressure, since all the determinant circumstances are the same. The reviewers acknowledge that pressurizer pressure is also a an important process variable necessary to protect the integrity of the physical barriers that guard against the unconditional release of radioactivity and thereby it must be included in the TS under 10CFR50.36(c)(1) with the necessary safety analysis limits, limiting safety analysis system settings, and safety analysis set points which have been the CINS of concern identified above in his DPO.

In this case, if there is a transient or accident causing rapid change to unsafe values, the reactor protection system will again protect the reactor through the use of the overpower and overtemperature Delta T trips, the pressurizer pressure trip, and or other trips of Table 2.2.1. and again in accordance with the new set of set point and limiting safety system settings calculated to be required for such a Transient or Accident from the related bounding event. References to these and related graphical representations are discussed under CIN 2.

Concerning related para. 3: Reviewers should reference CIN 11 which identifies and discusses the design pressure for the mechanical design of the reactor coolant system and its internals at 2485 psig. 2250 psia from table 4 in which section the thermal hydraulic evaluation of the reactor core is evaluated must be taken as the instrumentation set point for control of the pressurizer pressure under normal stable operating conditions and which is used to calculate upper and lower safety analyses limits (by the application of specified instrument error corrections) from which plant safety is calculated in the same manner as for Tavg above: Except that pressurizer pressure remains constant from Zero power to maximum licensing basis power, unlike Tavg. Under these conditions the TS Set point should at 2235 psig instead of the value of 2215 psig used in the TS at that time.

Concerning the last para. and the calculation of the safety analysis limit, when conservative methodology is used for T&A's, safety analysis limits, for both upper and lower values, are calculated from the steady state instrument reading setpoint as described above. The comments by the reviewer are thereby incorrect.

Concerning Resolution-III

The meaning of the values on Fig. 2.2.1 have been concerns by the writer under CINS 1, 2, & 3 and which have never been satisfactorily answered by multiple reviewers: Its origin with respect to the licensing bases for verification for inclusion in the TS is not evident as it is no presented it that form in the FSAR. And likewise current Reviewers have also chose not to respond. By logic if Fig. 2.1.1 represented allowable normal operating conditions for satisfactory protection against all licensing basis T&A's then programmed values of pressurizer pressure should be included.

If the set-points for pressurizer pressure as discussed herein are to be represented on this Figure and which was originally proposed for consideration by the writer under Section 3/4.2.1, Evaluation a) and CIN 72, the only licensing basis that exists is a a constant pressurizer pressure of 2235 psig over the range of thermal power from zero to the maximum licensing basis rating and which should be labelled as Acceptable Operation under steady state operating conditions. The current TS which do not provide for this would be outside the existing licensing basis.

There is no licensing basis for the implied proposition that steady state operation anywhere inside the regime of "acceptable operation" will give Acceptable Responses under licensing basis T&A's. This proposition is false. Without the further clarification requested by the writer in his DPO under CINS 1&2, it appears that this figure represents potential safety limits for reactor operation under steady state conditions only, and there is no licensing basis evaluation to show that transients and accidents occurring whilst operating under this broad range of conditions will give Acceptable responses. The only steady state conditions from which acceptable responses have been calculated to be safe are the programmed values of Tavg and Pressurizer Pressure (and level, and steam generator level), versus Power Level as has already been described and it is these values which need to be included in this figure: Any other plant status would place the plant in an Unanalyzed Safety condition.

Concerning the Operability of the Pressurizer:

CIN 307 shows that pressurizer (water) level programmed with power is also a parameter requiring inclusion in the TS for the same reasons as has been discussed above for Tavg and pressurizer pressure.

For licensing basis T&A's, Pressurizer operability is established only when it is capable of maintaining a pressurizer pressure at its set point value (of 2235 psig) and the programmed set point values of pressurizer water level, during steady state operation, and this depends not only on the water volume and heaters but the the complete set of subsystems contributing to the maintenance of these values. Thereby the performance requirements remain the only valid basis for the related LCO'S. By logic if Fig. 2.1.1 represented allowable normal operating conditions for satisfactory protection against all licensing basis T&A's then programmed values of pressurizer level should be included and labelled as Acceptable Operation under steady state operating conditions.

Note that the operability of the PORV's on the pressurizer are also a requirement for protection against Steam Generator Tube Rupture and thereby may need to be considered as part of the operability of this item (pressurizer). This should be an additional item for consideration under the related CIN 309.

Detailed Comments by R.B.A. Licciardo on T. Murley Closure
of DPO Issues Regarding the Mc Guire Technical Specifications,
dated September 10, 1990.

CONCERN 15B, QUESTIONS 8a, 8b, 8c, 8d, and 8e. TS 3/4.4.1 REACTOR COOLANT LOOPS AND COOLANT CIRCULATION.

RBAL COMMENTS: These are made for each of the main headings of this group:

Issue:

The aim of [illegible] review in simplifying the writer's concerns has grossly misrepresented the licensing bases for Mc Guire in this Mode 3 and following Modes 3,4,5 and 6. Consequently the reviewers' comments are invalid in their representation of the writer's concerns.

As an example, the Mc Guire licencing basis requires Special Boration Procedures and related protective measures on entering Mode 3 through to cold shutdown (Mode 5) to substantively minimize the necessary protective requirements for Acceptable levels of protection against all appropriate T&A's: Under these conditions the boron concentration on entering Mode 3 is increased to the value required in Mode 5. Under these circumstances shut down margin in Mode 3 is substantially increased (over that required by the STS) such that if the reactor is already tripped at the beginning of the event the return to nuclear power event is substantively ameliorated. However the reactor must be already tripped, and the reduction in absolute pressures in these modes, albeit with decreased reactor coolant system temperatures, serves to substantively reduce DNBR margins or increase fuel damage. Furthermore, for some occurrences the event itself must be terminated, even though the reactor is tripped, otherwise it would proceed beyond the limits of normal protection in Modes 1 and 2, and thereby lead to a severe accident. Note that if the reactor is not initially required to be tripped by TS, and necessary safety related reactor and Engineered Safety Features trips are not incorporated into the TS in these Modes, then any T&A still has the probability of generating a severe accident.

By comparison, the STS upon which the licensee's TS was based, was developed primarily to assure adequate decay heat removal capability in these Modes 3,4,5 and 6 without consideration of the need to protect against any Transients or Accidents. Consequently it is absent any Special Boration Control Procedural requirement and is virtually absent any safety related protective trips and thereby the plant remains completely unprotected with a high probability of a severe accident arising from the Occurrence of any Transient or Accident.

Question 8a: OCCURRENCES WITH RAPID REACTIVITY INCREASE

The first comment limits these Occurrences only to the Uncontrolled Rod Cluster Control Assembly Bank Withdrawal from Sub-Critical Condition, whereas there is a set of at least seven Occurrences, each with different characteristics.

This comment in the second para. attributed to the Writer is made inside the context of the provisions of the existing TS for Mc Guire which does not conform to the Mc Guire FSAR licensing basis, but to that of the STS with all of its related deficiencies.

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Question 8b: STEAM LINE BREAKS: OCCURRENCES

This statement on the resulting impact on safety margin is made inside the context of the existing FSAR with Special Boration Control and specific requirements for automatic and manual protective actions to protect the reactor against the occurrence. And since as previously described these FSAR requirements are not included inside the STS upon which the Mc Guire TS was based they cannot be used as a valid basis for the Reviewers' conclusions, which as clearly stated in his Report under CIN 247 are based on the circumstance of the proposed (current) TS and its deficiencies in protective actions. These are all fully discussed under CINS 244, 245, 246, and 247, to which no response has been made by the reviewer's. The Reviewers, conclusions are therefore unacceptable and the Writers' concerns remain valid.

If the Reviewers wish to take advantage of the Special Boration Control provisions of the Mc Guire FSAR, then CINS 41-66 and 355-362 must be addressed together with the additional provisions for initiating manual and automatic action as described in the licensing basis for Mc Guire and provided for elswhere in the DPO.

Question 8c: LOSS OF PRIMARY COOLANT: OCCURRENCES

It should be noted that the positions taken by the writer are not Assertions but propositions deriving from available information whist seeking further evaluation and proposals from the licensee to finalize a safe position: They would become the basis for further licensing action in the event further Acceptable safety evaluations were not obtained.

Question 8d: OCCURRENCES CAUSING AN INCREASE OF RCS TEMPERATURE

The Reviewers have neglected to mention the most important consideration in including events which are normally licensing basis events from Rated Power, as potentially significant events from Zero Power. As the writer has explained from his review to Ref. A2., CINS 257 through 261:

> "Those events causing an increase in RCS temperature are of concern because of the potential influence of the positive moderator temperature coefficient resulting from the increased boron concentration"

And further:

> Except for item b; all these events are licensing bases events from Rated power, and not zero power, so that their importance would normally be minimal except for the positive moderator Temperature Coefficient and the complete lack of Safety Related Trip protection proposed with the Reactor Trip System Instrumentation TS."

Detailed Comments by R.B.A. Licciardo on T. Murley Closure of DPO Issues Regarding the Mc Guire Technical Specifications, dated September 10, 1990.

Question 8e: AVAILABILITY OF REACTOR COOLANT PUMPS

Again the reviewers have represented the writer's position in a very simplistic and inadequate manner in respect of all the important related significant considerations. The writer summarized the position as:

"Occurrence II, III, and IV Events in MODES 3,4 and 5, can result in returns to power with high peaking coefficients requiring effective reactivity control and/or reactor core flow for RCS protection, including DNBR, at the very substantially reduced pressure levels in the loop (2250 psig to 425 psig and less). Concomitant decreases in RCS temperatures are beneficial, but the importance of RCS pressure may be dominant. Acceptable RCS protection therefore requires RCS flows which are substantial, and/or effective reactivity control including combined action to limit potential reactivity excursion.

At this time, with the proposed TS, 4 RCS loops (with increased Reactor Trip Protection) would be required at entry into and during Mode 3 to meet the requirements of just the Licensing Basis Events From Zero Power. In Mode 4, operation of 4 RCS Loops, whilst in RHR, may be undesirable because of the substantial additional burden on the RHR system; so, nonoperability of all RCPs must be compensated by other controllable factors such as inserting all movable control assemblies and removing power from the Reactor Trip System Breakers, closure of Main Feedwater (Containment) isolation valves to both Main and Auxiliary Feedwater systems, closure of Main Steam Isolation Valves, and Boration Control measures additional to those included in the propose TS. An additional available alternate action is to use, within Mode 4, a minimum set of RCS pumps (and loops) as established by Safety Analyses, to cool the plant down to effectively zero pressure (gauge) in the Steam Generators (or less if the condenser was still available) before transferring the heat sink to the RHR System This would ensure control of Steam Line Break, and LOCA events small and large, down to RCS conditions where RCS flows are not necessary".

The writer must conclude that in excluding this summary representation of the writer's concerns that the Reviewers, are not capable of the quality of the review that was called for in the agreement to subject the writer's comments to what was to be effectively a peer review.

Comments on the "Resolution"

The new STS now recognizes in a very limited manner the writer's concerns but because of the inability of the reviewers to recognize, evaluate and consider for incorporation into the TS's all the elements fully described in the writer's review that are important to Acceptable Plant Protection in accordance with existing licensing basis requirements, the plants adopting such TSs will remain unprotected against potentially severe consequence in Modes 3, 4 and 5, by being exposed to a complete set of Unanalyzed Safety Conditions.

In representing the un-referenced Westinghouse positions to writer's reference A.13, the Reviewers have displayed a remarkable degree of non-conformance to Regulatory Requirements in representing a letter has having Acceptable Regulatory Positions when to the best of the writer's knowledge it has never been reviewed and formally accepted by the NRC as a Topical Report.

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Furthermore in reviewing and applying the Westinghouse letter to Licensing Bases protection in these modes 1-6 the reviewers have not shown the capability of an Acceptable appraisal of its ability to protect the core as required in the licensing basis for the facility. And in spite of the fact that all these circumstances and conditions and related necessary considerations are presented in the Safety Evaluation Report known as the REVIEW OF MC GUIRE TECHNICAL SPECIFICATIONS to Reference A.1.

The writer would be pleased to provide a licensing basis Safety Evaluation Report on the Westinghouse Letter and offered to do so after receiving a copy of the document in July of 1984 in response to the Writer's earlier Safety Evaluation Report on the Mc Guire TS which was given in an Unauthorized Non-Regulatory manner to Westinghouse. However the writer's request was refused when he expressed concern about serious deficiencies in the effective representation of the report leading to potentially unsafe conditions for the reactor. Unfortunately, since then it has apparently been represented as a satisfactory basis for licensees to make appropriate representations in respect of Amendments to their TS and now the New Standard Technical Specifications (NSTS) for which it is seriously deficient. Examples will suffice:

W proposes that consideration of the Uncontrolled Rod Withdrawal Event in Modes 4&5 is unrealistic. This is not the licensing basis for Mc Guire where no such restriction was acceptable: It was the same reason given by the NRC Staff in rejecting the mid-loop operating event first identified by the writer inn 1983 from this Mc Guire TS Review and together with other concerns eventually resulted in this DPO Review. This is Unacceptable. The only reason for proposing this as unrealistic is that it is extremely difficult to otherwise protect against except in a very simple manner by unlatching the control rods in these Modes. It should be realized that the consequences of such an unprotected event in these Modes 4&5 would be a severe accident.

W proposes that for the Reactivity Insertion Rate for the Uncontrolled Rod Withdrawal event be assumed for 30 pcm/s compared with the licensing basis requirement for this event of 75 pcm/s. Thereby the W proposition is invalid and Unacceptable.

W proposes a bounding condition for the R.C.S. in Mode 3, at 400 deg. F and 2000 psia. Surely Reviewers, experienced in these reviews, would recognize a more appropriate related bounding condition of 425 psig at RCS Temperatures > 350 deg. F being the RCS condition in Mode 3 prior to entry into the RHR Mode and under which the substantially reduced pressure would lead to a severe accident. Thereby the W position is invalid and Unacceptable.

What safety related protective system has W described to ensure that the reactivity turns around as represented in its submittal. The only safety related reactor trip available for this purpose on Mc Guire Units and preceding plants is the Power Range Neutron Flux Trip-Low Power Set Point, and the Mc Guire TS and the STS at the time of this DPO review did not require this trip to be operable in Mode 3 (as well as Modes 4, and 5): And this has not been a cautionary important advisory in the W presentation. So the reactor could be subject to a severe accident from this unprotected event and this is Unacceptable.

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of DPO Issues Regarding the Mc Guire Technical Specifications,
dated September 10, 1990.

Referring to the second last para. of the "Resolution", the writer finds no difference with the Reviewers, on his representations on the question that Reactor Coolant Pumps operating throughout the critical phase of a LOCA will reduce the calculated related peak clad temperature and that thereby the coastdown of tripped pumps or pumps which have Lost Offsite Power is similarly beneficial but with lesser effect: Refce. A.2 page 64. The point at issue of the Reviewers, seems to be the writer's statement that pending further analyses, these considerations warrant the required operation of 4 pumps to ersure adequate protection against LOCA'S down to 425 psig/350 deg. F. This is based on the fact that the negative core flow rate occurring on the loss of the pumps during a LOCA would be consistent with that of the 4 pumps used in W ECCS analyses. If only 2 pumps were operating in this Mode instead of 4, the negative flow rate and its beneficial effect would be reduced and thereby be outside the licensing basis, and result in a higher calculated Peak Clad Temperature which would thereby be Unacceptable.

The above examples and many other features of the original W presentation to Ref. A.13 make it inappropriate to spend further time on the Comments of the Reviewers who have not been able to evaluate for any of the significant deficiencies in its use as a proposed Topical Report let alone an Unauthorized Guide. And on these considerations the writer finds the conclusions by the Reviewers in their last para. of the Resolution to Question 15B to be unacceptable.

In conclusion on this particular issue, all the writer's CINS associated with this particular CONCERN 15B which are widespread through-out his DPO have been validated and it has initiated a series of events with far reaching and widespread implications. In this respect the writer references the reader to TABLE 3 in which a minimum set of its widespread effect on TS CINS is identified alongside the code WL for Westinghouse Letter to utilities and running parallel with GL, the Generic Letter from the NRC. And added to that now must be the major activity initiated by the Office of Nuclear Reactor Regulation early 1990 and the purpose of which is to now formally study Reactor Protection in these Modes 3 through 5 and 6.

The Writer trusts that the results from these developments will now recognize the importance of the Mc Guire FSAR in establishing a Licensing Basis for protection against all appropriate Transients & Accidents in Modes 3 through 5 and 6 and together with the results from the writer's review establish and confirm an NRC Policy in this matter.

Detailed Comments by R.B.A. Licciardo on T. Murley Closure of DPO Issues Regarding the Mc Guire Technical Specifications, dated September 10, 1990.

CONCERN 18A: QUESTION 10, TA Page 3/4 4-3. REACTOR COOLANT SYSTEM--HOT SHUT DOWN.

Comments on the Summarized Issue:

The Reviewers have eliminated two of the most important sets of requirements from their Summary which are 1) the totality of protective elements needed to protect against T&A's in this plant status under the related RCS loop operability circumstances and 2) The Reactor Coolant System (RCS) conditions for which these events were evaluated to ensure their inclusion in the TS's as LCO'S with related Set Points and allowable values.

In so far as these were not addressed in a fully Acceptable manner under the previous Concern 15.B it remains unacceptable for these circumstances and these are detailed in his ref A.1. under CINS 275 through 285. Since the Reviewers have no comment on these concerns the writer records these as having been reviewed as Acceptable.

The Writer did not address the single failure of a motorized valve arising from the a loss of offsite power. The passive failure of the valve, independent from that of loss of power supplies is a specific licensing basis for this facility. In this and many other respects the Reviewers have not responded to the detailed requirements for the failure circumstances which were taken from the existing licensing bases for the Mc Guire Units. The Reviewers thereby wish to create a new licensing bases, and, that is not the purpose of this review.

Comments on "Resolution"

For the purposes of Decay Heat Removal Only:

Whereas the MC Guire Units have a single RHR suction line containing two Reactor Coolant Pressure Boundary Isolation Valves, this occurs in a small number of W units and is in contravention of Regulatory Requirements and without the necessary Formal Exemption which is required under these circumstances.

The passive failure of the valve, independent of power supplies is a specific licensing basis for this facility. The alternate argument now being used for the NSTS was proposed during licensing of the facility and was Unacceptable.

Regulations require a normal safe shut-down to cold shut down conditions during a Category 1 Seismic event together with a complete loss of offsite power and the worst single failure.

In the event of failure of the single valve as discussed, the licensing basis requires return to the use of the steam generators and under loss of offsite power (LOOP) conditions these would then be required to operate under natural circulation conditions. Providing onsite control and instrumentation power was available to at least one of these steam generators and natural circulation capability provided adequate heat removal capacity to prevent severe damage to the core, then that would be acceptable: However if the blockage of the one in-line valve was caused by a inadvertent signal caused by a fault in one of safety related power supplies to these Reactor Coolant Pressure Boundary Valves then it must be presumed that the same supply could fault the instrumentation and control systems on the same electrical division supplying Steam Generators (SGS) and so render those related units inoperable and thereby unavailable. Since these two valves control two trains they must capable of actuation by either division and therefore a failure in either division could cause its loss: Unfortunately, this thereby means that steam generators on either division may be lost (the value of independence has been lost) so that at least two steam generators, one each from separate electrical divisions, must be available under these circumstances and only for the case of those facilities with the common suction line. The availability of offsite power makes no difference to this conclusion; except that for the LOOP case the licensee should ensure by analyses that sufficient decay heat cooling capacity with one steam generator otherwise two SGS on each division would be required.

These circumstances show that for the nuclear facility with the common suction line to the RHR system, in the event the RHR system is lost, then the alternate use of the RCS loops requires that at least two steam generators, one each from different safety related power divisions must be operable, and of course 2 RCP'S when offsite power is available.

It remains difficult to perceive how one "inoperable system" of two parallel RHR systems sharing common RCPB valves will not potentially impact the remaining system, in all potential single failure situations. For example air induction into one system could also affect the operability of the second system ; a situation in which one RHR pump may be removed would require additional RCPB valves to isolate that system from the operable system and these are not provided. What is the prescribed status of the power supplies and related logic, both AC and DC, which ensures that the RCPB can be isolated automatically in the event this is required and how is this impacted by the fact that these valves also have a logic protecting the RHR from inadvertent overpressurization from the RCS. And the requirement of the Standard Review Plan that requires that failure of a valve shall not cause any valve to change its position. And the fact that in its RCPB isolation function, this valve combination should automatically go to the protected position of being closed in the event of failure of power supply. The Writer concludes specific inoperabilities would have to be defined to validate the proposed TS in this matter.

The writer notes that the reviewers have not spoken to the need to ensure that each of the cooling systems required by the TS are required to be powered from separate onsite safety related power divisions (including related DC an AC safety related power supplies for instrumentation and control) to conform to Regulatory Requirements. Therefore the NSTS proposal that any combination of RCS and RHR loops be Operable, irrespective of power supplies, is invalid. Ref. CIN 287 of Ref. A.1.

CIN 286 of the writer's review (Ref. A.1.) shows that if water solid operation in Mode 4 is to commence at <= 300 deg. F then two independent cooling loops are required to be in operation to prevent an overpressurization event on failure of one only operating system. Further, at this time the writer is unaware of any safety analyses evaluation of the adequacy of the existing Low Temperature Protection system to mitigate the consequences of such an event; therefore any

TS permitting such a circumstance would result in an Unanalyzed Safety Condition, and therefore would be invalid.

For The Purposes Of Protection Against Transients and Accidents In Mo :

A larger number of pumps than one (1) is required unless special mea taken to otherwise mitigate the consequences of these occurrences ar requirements will be the determining parameters for the minimum numb required to be operating in Mode 4. Reference our earlier "Comments Summarized Issue", and the original Ref.A.1, CINS 221 through 262, a

Comments on second para.:

It is invalid and a thereby a violation of Regulatory requirements to exclude from the NSTS, the safety related Atmospheric Dump Valves (ADV'S) from the TS in Mode 4 since the Regulatory Requirement is to be capable of normal safe shutdown to cold shutdown conditions under a loss of offsite power together with an associated Category 1 Safe Shut Down Earthquake and the worst case single failure which includes the loss of one electrical division. The alternate methods of final heat rejection discussed by the reviewers are purely speculative in their availability and performance and reflect an approach which is contrary to the regulatory requirements of required safety analyses and 10CFR36, and because of this writer does not provide a detailed response. The proposed position is Unacceptable. This subject is also fully discussed under Concern 30A, under the alternate description of "STEAM GENERATOR POWER OPERATED RELIEF VALVES".

Further, there is also a non-safety related function for the ADV's to perform in protecting the plant from a return to power transients in this Mode, in controlling energy release prior to the potential lift of the first SG safety relief.

Arising from the above, the need for operability of the SG safety valves in this Mode has also been raised in the DPO under CINS 299 to 305 and the reviewers again have not reflected this in the necessary TS.

The Reviewers positions on these necessary protections against T&As in Mode 4 are a reflection of their inadequate evaluations under CONCERN 15B above. It should be realized by Reviewers that these Occurrences can occur and unless they have been analyzed not to show unacceptable radiological releases under the unprotected plant states they propose, then they remain an Unanalyzed Safety Condition. Ultimately they must be protected to that level required by licensing bases allowable offsite doses otherwise severe consequences for the plant can result.

Comments on para. 3:

Following on the protection requirements just discussed under para. 2, the TS must also ensure the necessary surveillance requirements the purpose of which is specified in 10CFR36 (a)(3) as requirements relating to test, calibration, or inspection to assure that the necessary quality of systems and components is maintained, that facility operation will be within the safety limits, and that the limiting conditions of operation will be met: The writer does not see the necessary responsible evaluation of his proposals for revised surveillance as being undertaken in a manner reflecting the substance and importance of these requirements, as there has been no response to the specific deficiencies in the TS identified by his concerns. The position proposed by the Reviewers is Unacceptable, and thereby the Writer's concerns are valid.

Detailed Comments by R.B.A. Licciardo on T. Murley Closure
of DPO Issues Regarding the Mc Guire Technical Specifications,
dated September 10, 1990.

CONCERN 19A., QUESTION 8. COLD SHUTDOWN (MODE 5) WITH LOOPS FILLED

Concerning the para. "Issues":

This paragraph has nct summarized the principal parameters determining the TS requirements in this Mode including the licensing basis requirements for the Mc Guire units. These are very clearly stated by the writer in Ref. A.1. CINS 286 to 291. As a consequence the reviewers proposals do not conform to the required protections and especially against the single failure closed of the RCPB valve in the common suction line of the RHR system and are therefore invalid for these circumstances. They are also invalid for the case of related water solid operation. Because of non response to his concerns the writer establishes the validity of his proposals.

Resolution:

Reference the comments under "Issues"

One concern requiring particular response is CIN 289 allowing all pumps to be de-energized for at least one hour. The reviewers, only response is that this will be limited to once every 8 hrs. In response to the writer's request for a definition of the related circumstances and an analyses of how the plant would respond to transients and accidents under these circumstances to ensure acceptable levels of protection and thereby safety, no response has been provided. This absence of a response means that the plant would be placed in an unanalyzed safety condition and is thereby Unacceptable. A fully protected safety status must be established to meet the safety requirements of this need but without the analyses requested this is no possible and thereby the proposed plant status is Unacceptable.

Furthermore, proposed restart of the RCP'S under the above circumstances requires evaluation and TS constraints to ensure acceptable levels of potential return to limited nuclear power levels causing overpressurization of the RCS.

Again, the Reviewers' comments on non-testing of alarms and flow rates and other parameters necessary to establish protective system performance, violates the 10CFR36 requirements which are that the LCOS' represent the lowest functional capability or performance levels of equipment required for a safe operation of the facility, and that Surveillance assures that these are met. Surveillance is not intended merely to ensure that the equipment is functioning only, but also that it is capable of operating to LCO performance requirements, and this is absent from many important surveillance requirements on equipment for which performance can be significantly impacted between In Service Testing (IST) periods: Also the writer finds no test programs in STS Chapter 5. Furthermore, redundant alarms are a necessary safety related warning element enabling evaluation of timely manual protective action to limit the consequences of the event to acceptable levels within the licensing bases; otherwise the regulations require as a first priority the use of automatic responses for all Occurrences other than Accidents:

Detailed Comments by R.B.A. Licciardo on T. Murley Closure
of DPO Issues Regarding the Mc Guire Technical Specifications,
dated September 10, 1990.

The Reviewers' comments on available thermal capacities, and alternative manual actions and equipment required to offset loss of RHR cooling, are very generalized statements unsupported by analyses and TS for the related equipment, and are therefore speculative and thereby invalid and Unacceptable as a licensing basis for protection against the single failure of the RCPB isolation valve which is the licensing bases for Mc Guire. A fundamental cause for the general problems being experienced by the industry in modes 4-6 is the seriously faulted perceived unimportance of these apparently benign circumstances by the Reviewers, and historically is the reason why the Midloop cooling events at Diablo Canyon and the loss of cooling at Vogtle occurred in completely unprepared circumstances, after the writer had addressed both situations during 1983 and 1984 in his Mc Guire Review and were rejected by the NRC as being unimportant.

Detailed Comments by R.B.A. Licciardo on T. Murley Closure of DPO Issues Regarding the Mc Guire Technical Specifications, dated September 10, 1990.

CONCERN 20B, TS SECTION 3/4.7.4, STANDBY NUCLEAR SERVICE WATER POND (ULTIMATE HEAT SINK)

The ultimate heat sink is essential for final heat rejection to meet Regulatory requirements, including the requirement to be able to cool the plant down to cold shutdown conditions, and subsequent refuelling; and this necessitates special LCO requirements to ensure continuing operability which may not be immediately apparent to those unfamiliar with their conceptual and detailed design, and operating characteristics during the course of a cooldown, and especially to and in Modes 5 and 6. Furthermore, the Ultimate Heat Sink may take many different forms. From this experience, the Writer rejects the proposition that TS for other dependent systems will ensure satisfactory operation for the Ultimate Heat Sink, when the multiple critical LCOS and related surveillance necessary to ensure Acceptable performance are absent together with the necessary definition and Authorities to ensure that they are met to safeguard the integrity of the fuel in a fully controlled environment under these circumstances.

It must be recognized, that the remaining single Ultimate Heat Sink may only be a single pool which has been designed at minimum cost and thereby minimum thermal storage capability and that after a cool down to Mode 4 and then into Modes 5 and 6, the many operating design limits are being encountered. Or it may consist of a cooling tower with related cooling tower pond and many active components, again operating at their design limits. Furthermore, that every protective system in the plant remains dependent on the operability of that single heat sink. The importance of this system is dominant and Regulatory requirements necessarily place it in the TS.

Detailed Comments by R.B.A. Licciardo on T. Murley Closure
of DPO Issues Regarding the Mc Guire Technical Specifications,
dated September 10, 1990.

CONCERN 21B, TS PAGE 3/4.9-11. REFUELLING OPERATIONS-LOW WATER LEVEL

Comments:

The Reviewers do not respond to the detailed deficiencies of the TS vis a vis Regulatory Requirements, as required for a valid evaluation. Their comments are absent the required Regulatory and related Technical analyses and are therefore speculative and without merit.

Furthermore the Reviewers have not evaluated writer's Concerns of his DPO review to Ref. A.1 on pages 107 108 and 109 and related CINS 399 through 405, documented and formulated from within the licensing bases for the Mc Guire units; they must therefore remain valid.

Since little or no effective change is apparently proposed for the NSTS, the proposed NSTS will be seriously deficient. And because of their utmost importance in protecting what has been a significant set of events occurring under this Mode 6, and related Mode 5, represents a serious invalid deficiency by the NRC in the necessary exercise of their responsibilities to Public Health And Safety.

Detailed Comments by R.B.A. Licciardo on T. Murley Closure of DPO Issues Regarding the Mc Guire Technical Specifications, dated September 10, 1990.

CONCERN 29A, TS PAGE 3/4.7-4: AUXILIARY FEEDWATER SYSTEM

Comments:

This CONCERN is also identified as CINS' 364-368 and 369 in Ref.A.1.

Since the Reviewer's have chosen to not allow for the necessary Mc Guire Licensing Basis Protection against Transients & Accidents in Mode 4, but refer to the dominant deficiency of the existing TS of providing only for potential loss of Decay Heat Cooling in this Mode, their review is incomplete and invalid.

As an example of the reviewers' deficiencies, the licensing basis for operability of the steam driven auxiliary feed water pumps in Mode 5 is provided under CIN 365.

Concerning the Steam Line Pressure Low signal, the pressure drop across the nozzle is the largest and most significant with the double ended steam line break, not the least as proposed by the reviewers. This therefore does result in earlier Protective actions than if the pressure taps were taken from upstream of the Nozzles, and together with the 7 sec. closure of the Main Steam line Isolation valve ensure isolation of the remaining three SGs within approx. 10 secs. Available information would indicate ultimate blowdown times of up to 25 sec. for the ruptured SG, and not a few secs. The writer's question was directed to establishing the residual pressures in the remaining three steam generators to verify that since the TDAFWP, would by design be finally operating from one of these units, would the related residual steam line pressures throughout the event ensure AFW flows consistent with related licensing bases analysis assumptions and especially the since the TS. LCO. for the pump specifies Operability at a pressure of greater than 900 psig. Reference CIN 365. This information requested by the Writer was not provided by the Reviewers, but research into related Topical Reports by the Writer shows resulting SG pressures of approximately 780 psia compared with the 900 psig required for surveillance testing in the TS. Furthermore lesser operating values down too 125 psi are required at the bottom of Mode 3 which is a normal operating requirement, and in modes 4 and 5 lesser values will be the operating environment in the event of the single failure closed of the RCPB valve and in the event all power is lost ie., a Station Blackout (SBO). Therefore the writer's particular concerns in this area have not been covered by the reviewers and the need for TS changes have been confirmed

Furthermore all these concerns relate directly to other TS issues under CINS 117 through 124 to which the same comments thereby apply.

Detailed Comments by R.B.A. Licciardo on T. Murley Closure of DPO Issues Regarding the Mc Guire Technical Specifications, dated September 10, 1990.

CONCERN 30A, TS PAGE 3.4.7-8: MAIN STEAM ISOLATION VALVES

Comments;

The licensing bases for Main Steam Line Break in Mode 4 does require Protective Actions to terminate the event, and for the following reasons:

1. The earlier propositions of the Reviewers to Concern 15B, Question 8a have been shown to be invalid so that protective actions must be taken to limit consequences to Acceptable values and this requires the related MSIV isolations in this Mode 4.

2. Even though safety analyses were to show less severe consequences under Mode 4 with related protective actions as proposed by the Reviewers, the protective actions must be available to ensure this lesser value. Furthermore, without the protective action all SGs would blow down in an unanalyzed unprotected event which is unacceptable. And the consequences of this could be disastrous in many respects by the now potential infringement of multiple Safety Criteria, and especially if the resulting break and blowdown was to outside containment.

Detailed Comments by R.B.A. Licciardo on T. Murley Closure
of DPO Issues Regarding the Mc Guire Technical Specifications,
dated September 10, 1990.

CONCERN 31A, PAGE 3/4.7-8a. STEAM GENERATOR POWER OPERATED RELIEF VALVES (SGPORV)

Comments:

A careful read of the CIN 376 will show that the reason for the reactor power level of 20% in natural circulation is that although the permissive P-7 set point for reactor trip on loss of all RCPS is set at 10% nuclear power, there is a verified maximum error of an additional 10 percentage points in the related instrument channels giving a necessarily conservative evaluation at 20% to be used for reactor nuclear power in any safety evaluation.

There is a faulted interpretation by the Reviewers on the representation of Atmospheric Dump Valves (ADV) and the SGPORV. In his DPO review both names have been applied by the writer to the same set of valves which are installed downstream of the Steam Generator Safety Valves (SGVS) (but upstream of the Main Steam Isolation Valves) (MSIV) and which are steam generator power operated relief valves (SGPORV) with a relieving capacity of 10% steam flow and as described by the Reviewers and the writer earlier in this review and during normal operation are set to actuate during normal operating transients to minimize or prevent the opening of the first SGSV. The SGPORVS are safety related and thereby required to be included in the TS as described earlier under CONCERN 18A, with the alternate title of ADVS. The confusion arises over the presence of an additional system of Dump Valves which are non-safety related and which are located downstream of the MSIV's. A principal component of this system is a dump valve capacity of 10% which exhausts to the turbine condenser, preventing unnecessary loss of steam from the system. This dump capacity is the minimum required to control the plants' heat release during startup, cooldown, hot standby, hot shutdown, and physics testing of the reactor during normal reactor operations. However on loss of offsite power and or the condenser this system cannot be used and thereby SGPORV'S have been provided and are necessary to enable the normal safe shut down to the Regulatory Requirement of Cold Shut Down (Mode 5). Thereby the Non-Safety Related (Non Atmospheric) Dump Valves (NSRDV) of 10% capacity are not included in any licensing bases safety analyses and therefore have no place in the TSs. And the safety related SGPORVS which are easily confused with these and for which the description Atmospheric Dump Valve (ADV) has been used are required to be in the NSTS. The resulting confusion should be eliminated by using the term Steam Generator PORV's in the NSTS.

Detailed Comments by R.B.A. Licciardo on T. Murley Closure
of DPO Issues Regarding the Mc Guire Technical Specifications,
dated September 10, 1990.

CONCERN 32A, TS SECTION 3/4.7.3.: COMPONENT COOLING WATER SYSTEM

CIN 378 fully describes the Regulatory Bases for this system including specific operability and operating requirements in Modes 5 and 6. The system's primary importance for inclusion in the TS can be measured by it being specifically required in the Regulations, and following that, the Dominant importance in ensuring the operability of every protective system and related set of elements on its particular redundant and independent train.

Further, the writer finds it completely Unacceptable that Reviewers assigned to this task propose that two operable component cooling water systems are not required by this licensee in modes 5 and 6 as the two systems are operating in an interconnected manner so that only one set of pumps are needed. THIS IS IN COMPLETE VIOLATION OF REGULATORY REQUIREMENTS AND THE RELATED PROCEDURE SHOULD BE IMMEDIATELY WITHDRAWN AND REPLACED WITH TS ASSURING NON-CONTINUANCE OF THE PRACTICE. THE REVIEWERS' STATEMENTS JUSTIFYING THIS HAVE NO SUPPORTABLE EVALUATION OF LICENSING BASES QUALITY AND REFLECT AN UNACCEPTABLE UNDERSTANDING OF NUCLEAR ENGINEERING AND ITS RELATIONSHIP TO REGULATORY REQUIREMENTS FOR NECESSARY AND ACCEPTABLE PROTECTION AGAINST LICENSING BASES TRANSIENTS AND ACCIDENTS.

Finally, TS are not written in an invalid manner to facilitate maintenance and system modification. On a nuclear facility arrangements for maintenance and inspection are to be designed around the special features of licensing bases requirements for Nuclear Power Plants with its very special focus on Public Health And Safety as the first concern. And in this respect the proposal by the Reviewers is faulted and thereby Invalid. If the licensee wishes to propose special circumstances then he is must propose compensating factors which will provide the same level of protection as provided by the licensing bases and this would be subject to review and approval if acceptable. But without such evaluation and related change to the TS this would be invalid and thereby a violation of the Licensing Bases.

Detailed Comments by R.B.A. Licciardo on T. Murley Closure
of DPO Issues Regarding the Mc Guire Technical Specifications,
dated September 10, 1990.

CONCERN 33A, TS SECTION 3/4.7.4 SERVICE WATER SYSTEM.

The comments for this system are exactly the same as those for the previous CONCERN 32A with the description of the system replaced by "service water system".

Detailed Comments by R.B.A. Licciardo on T. Murley Closure of DPO Issues Regarding the Mc Guire Technical Specifications, dated September 10, 1990.

CONCERN 35A, TS 3/4.9.8: RESIDUAL HEAT REMOVAL AND COOLANT CIRCULATION--HIGH WATER LEVEL

The licensing bases for Mc Guire, and any other facility, requires protection against a single failure in the RHR system with a related safety evaluation and establishment of necessary protective actions to limit the consequences of events to Acceptable levels. In their response the reviewers have provided none of these requirements and is thereby unacceptable. Thereby the writer's documented safety evaluation under Ref. A.1 TS 3.4.9.8 including related CINS 391 to 397 remain the only valid bases for related Regulatory Actions including related TS. The speculative proposals by the reviewers have no validity in Nuclear Reactor Regulation and are thereby Unacceptable.

Detailed Comments by R.B.A. Licciardo on T. Murley Closure
of DPO Issues Regarding the Mc Guire Technical Specifications,
dated September 10, 1990.

CONCERN 36A, TS PAGE 3/4.9--11: REFUELLING OPERATIONS --LOW WATER LEVEL

Reference the writer's comments under CONCERN 35A; they remain unchanged for this CONCERN except for the Subject. Thereby the writer's documented safety evaluation under Ref A.1. TS PAGE 3.4.9--11 including related CINS 399 to 405 remain the only valid bases for related Regulatory Actions including related TS. The speculative proposals by the reviewers have no validity in Nuclear Reactor Regulation and are thereby Unacceptable.

With respect to the Vogtle situation which occurred under these conditions, the staff has stated that none of the writer's issues addressed Station Blackout (SBO) so that effectively there was no original contribution from this set of concerns by the writer. Again the staff has completely missed the central issues of any regulatory requirement to ensure that the facility WILL NOT BE PLACED IN A COMPLETE LOSS OF SAFETY RELATED POWER FROM THE WORST CASE SINGLE FAILURE, AND DURING A SEISMIC EVENT, or any other of numerous uncontrollable offsite events which could have resulted in the same loss of offsite power that occurred. THE TS's APPROVED FOR VOGTLE WERE FAULTED IN ALLOWING THE SBO TO OCCUR AND WITHOUT ANY EVALUATION OF THE CONSEQUENCES. If the NRC staff had accepted the Writer's Concerns and related Safety Analyses when originally issued in 1984, and applied, the SBO would not have occurred. These issues of the Votgle event together with those of the Diablo Canyon event were reported by the writer in this TS review of 1984 and evaluated by the staff as being unimportant and rejected for any further consideration. After the DPO they were given the lowest priority, and this continued after the Diablo Canyon event until James Sniezek and later Dr. Murley accelerated the review to its current status in early 1990, after the Braidwood LOCA in Mode 4 event (also principally considered in the McGuire TS Review), and at the same time initiated the now major research program in the area of reactor risk in these Modes. The reluctance of reviewers to treat this current assignment in a complete and regulatory manner and the manifest unwillingness to accept the writer's earlier work for review in 1984, and later for the particular case of the Diablo Canyon event, and now for the Votgle event as well as the Diablo Canyon event, would make the NRC staff potentially culpable of serious deficiencies in the performance of their primary responsibility for Public Health and Safety.

CONCERN 38A, TABLE 2.2-1: REACTOR TRIP INSTRUMENTATION SETPOINT/POWER REACTOR TRIPS BLOCK,P-7.

The writer finds the requested clarification of this item (CIN- 34) inside the Bases is acceptable.

Detailed Comments by R.B.A. Licciardo on T. Murley Closure of DPO Issues Regarding the Mc Guire Technical Specifications, dated September 10, 1990.

CONCERN 3B, TABLE 2.2-1: REACTOR TRIP INSTRUMENTATION SETPOINTS-LOSS OF PROTECTION USING LOW POWER BLOCKS

Comments on Issue(s)

This DPO concerns the total problem of the effect of the P-7 permissive blocking a number of protective reactor trips at low power including zero power in Modes 2,3,4 and 5, and the potential adverse consequences which have not been evaluated except in Mode 2 alone when the power levels addressed are invalid.

Comments on Resolution:

Under CINS 32 and 33 the writer shows that the only available licensing basis analyses for natural circulation is at a power level of 5%, and not the 10% quoted by the reviewers. Further, under CONCERN 31A, we have confirmed a conservative power for safety analyses under these conditions of 20% Rated power, making speculative the proposition by the reviewers of acceptable responses to T&A's under these circumstances.

The writer has described a large number of circumstances under which unsatisfactory responses to T&A's can occur, but except for the case of the pressurizer water level trip these have not been addressed. In fact a number of Events for Assessment have occurred since the writer's DPO, which relate directly to the effects of P-7 in blocking these trips. One of these events was the Tripping of all RCP'S "below the P-7 set point" and which resulted in an unexpected power and pressure surge for the reactor.

For the pressurizer water level trip, the reviewers have not recognized that a primary protective action is that of overpressure protection of the RCS, and that it is not blocked by the P-7 permissive, whilst the high water level trip which is a back up for that protective action is blocked.

The writer did address the question of the automatic water level controller for the pressurizer and showed that for failure of 2 channels of this non safety related system below the P-7 set point, the pressurizer level would reach the trip point in 1/2 hour whilst the surveillance of the reading is once a shift so that the reactor is not adequately protected by this manual action in the absence of the trip. Furthermore, the writer's propositions for its substantive benefits as an automatic reactor trip for T&A's below the P-11 setpoint before water solid operation, haves not been addressed by the Reviewers.

In their comments the Reviewers have not addressed most of the significant safety concerns of the writer in relation to loss of reactor trips from the presence of the relatively "low power" blocks, namely P-7, and P-8, which are presented and evaluated by the writer under CINS 32, and 36-40 of Ref. A.1. Substantive related materials are also discussed under CINS 80-88.

Under these conditions, the writer evaluates his concerns as valid and requiring action.

QUESTION 5B, CONCERN 12B, TABLE 3.3-3: ENGINEERED SAFETY FEATURES ACTUATION SYSTEM (ESFAS) INSTRUMENTATION

The Reviewers' action is Acceptable.

Detailed Comments by R.B.A. Licciardo on T. Murley Closure
of DPO Issues Regarding the Mc Guire Technical Specifications,
dated September 10, 1990.

CONCERN 10A, TS PAGE 3/4.3-ITEM 6c: SOURCE RANGE NEUTRON FLUX

Comments on Resolution:

These Items can also be identified as CINS 77,78 and 79.

Item 1: The response required by the writer is: For Mc Guire, the source range and intermediate range-high neutron flux trips, and related trip systems are not Qualified as Safety Related, and the only Safety Related power level trip system available to protect against return to power T&A's in Modes 3-5, when the reactor trip breakers are closed, is the Power Range Neutron Flux Trip- LOW Set Point which is used to protect against these same events in Mode 2: And therefore TS are required for operability of this Power Range Trip in these Modes 3-5 for these same T&A's. Furthermore, in answer to the writer's questions concerning the FSAR requirement for the Source Range and Intermediate Range Neutron Flux Monitors and related trips to also be in the TS under the same circumstances, they can serve as a diverse trip system, although they are not Qualified as safety related, under Non-Accident Occurrences when Environmental effects will have no effect on their operation.

Item 2: What has not been highlighted by the reviewers is that when the control rod system is incapable of withdrawal, the source range monitors are required with their alarm systems to be operable in these Modes, and also Mode 6, to protect against the Boron Dilution Event which has been discussed in this Review under Plant Specific Question 3, TS Table 3.3.1 Item 6, or CINS 74, 75, and 76.

Robert B.A. Licciardo
December 1990

Detailed Comments by R.B.A. Licciardo on T. Murley Closure
of DPO Issues Regarding the Mc Guire Technical Specifications,
dated September 10, 1990.

CONCERN 10B, TS PAGE 3/4.3-2: P-11 INTERLOCK--NEGATIVE STEAM LINE PRESSURE RATE- HIGH SIGNAL

This item is also identified as CIN 87 and is related to CIN 104.

The issue is broader than as summarized, as it also includes evaluation of the alternate modes of initiating the reactor trip from the Containment Pressure-High Signal both on small and large line MSLB breaks both inside and outside containment.

The response by the reviewers is invalid as the Steam Line Pressure Negative Rate Signal does not initiate reactor trip. Furthermore it does not initiate Safety Injection for reactivity control of the event and also does not initiate containment isolation; this signal isolates the Main Steam Line Isolation valves only. Under these circumstances, this Question focussed on the minimum size break which would not initiate the containment high pressure signal and all the related protective a ions and therefore be absent automatic protection, and especially when the break occurs outside of containment. The response is faulted and thereby invalid and unless other protective actions considered else where in the writer's review were adopted, would leave the plant unprotected.

Robert B.A. Licciardo
December 1990

Detailed Comments by R.B.A. Licciardo on T. Murley Closure of DPO Issues Regarding the Mc Guire Technical Specifications, dated September 10, 1990.

CONCERN 14A, TABLE 3.3-3: ESFAS INSTRUMENTATION. CONTAINMENT HIGH-HIGH SIGNAL IN MODE 4

This item is also identified as CIN 107.

Without separate evaluation by calculation, or a related reference, the writer does not accept the proposition that there is insufficient energy release on a MSLB or LOCA in Mode 4 to increase pressure inside containment to the Containment High- High Setpoint of 2.9 psig for Mc Guire Units, and especially when the maximum pressure inside containment is calculated at 15 psig for accident conditions. As one of the principal contributors to total energy inside the containment, the energy per pound of saturated water at 425 psig is approx. 80% of that in the SGS at 1050 psig and approx. 60% of that in the RCS at 2235 psig. And in the case of the MSLB with the current TS, there is still a return to nuclear power providing additional energy. Further it is this signal which initiates Containment Spray in addition to Deck Recirculation Fans, and not the containment high signal as stated by the reviewers, and so the pressure suppression available from its' operation will not become available until this set-point is reached.

Detailed Comments by R.B.A. Licciardo on T. Murley Closure
of DPO Issues Regarding the Mc Guire Technical Specifications,
dated September 10, 1990.

CONCERN 15A, TABLE 3.3-4: ESFAS INSTRUMENTATION SETPOINTS-INCLUSION OF NEW ESF FUNCTIONAL UNIT IN THE TS.

The comment by the reviewers is incorrect as the writer has provided the reasons for the proposal under CIN 164.

Whereas the current TS provides for only one Functional Unit, Feedwater Isolation, there are in fact two elements to this activity, namely Trip of all Feedwater Pumps and Main Feedwater isolation. Further whereas the trip of all Feedwater pumps is initiated by only two sets of Protective Logic, that of Main Feedwater Isolation is initiated by four logic sets. So that the distinction need to be made and the related logic systems subject to the appropriated TS LCO and Surveillance Requirements feedwater system and by four separate sets of ESFAS logic.

Robert B.A. Licciardo
December 1990

TABLE 3.1

LIST OF MINIMAL SET OF GENERIC ACTIVITIES AND ACTIONS ARISING
FROM VARIOUS ENTITIES, AND DERIVING FROM THE R.B.A. LICCIARDO
MC.GUIRE TS REVIEW OF 1984 (REF A.1). (A SUBSET OF TABLE 1)

Record#	ITEMNO	GENERIC	GENERICWE	GENSTUDY	NEWSTS	WBTS	ASHTAD	OTHACTN	TMSID
1	1				NSTS+				TMF
2	2				NSTS+				TMF
6	6				NSTS+			RSBWTS	TMF
7	7				NSTS+			RSBWTS	TMF
8	8				NSTS+			RSBWTS	TMF
20	21						A	RSBWTS	TM
26	27			GSWN					
27	28			GSWN				RSBWTS	
31	32		GW	GS				RSBWTS	
32	33		GW	GS				RSBWTS	
33	34	G.A	GW.A		NSTS		.A	RSBWTS	TMF
34	35	G.A	GW.A				.A	RSBWTS	
35	36				NSTS		.A		
36	37				NSTS+		A		TMF
37	38A	G.A	GW.A	GNW	NSTS+		.A		TMF
38	38B	G.A	GW.A	GSW	NSTS+		.A		TMF
41	41	G.RSB			NSTS+				TMF
42	42				NSTS+				TMF
43	43				NSTS+				TMF
44	44				NSTS+				TMF
45	45	G			NSTS+		A	RSBWTS	TMF
51	51	G.RSB							
52	52				NSTS+				TMF
53	53				NTS+				TMF
55	55				NSTS+				TMF
56	56				NSTS+				TMF
57	57				NSTS+				TMF
58	58				NSTS+				TMF
59	59				NSTS+				TMF
60	60				NSTS+				TMF
61	61				NSTS+				TMF
62	62				NSTS+		A		TMF
63	63				NSTS+				
64	64				NSTS+				
65	65				NSTS+			W.WTS	TMF
67	67	G.A	GW.A		NSTS+		.A	RSBWTS	TMF
68	68	G.A			NSTS+		.A	RSBWTS	TMF
69	69	G.A	GW.A		NSTS+		.A	RSBWTS	TMF
70	70	G.A	GW.A		NSTS+		.A	RSBWTS	TMF
71	71	G.RSB			NSTS+			RSBWTS	TMF
72	72	G.A	GW.A		NSTS		.A	RSBWTS	TMF
73	73	G.RSB			NSTS+			RSBWTS	TMF
74	74				NSTS+		A		TM
75	75				NSTS		A		TMF
77	77	G.A	GW.A		NSTS		.A		TMF
78	78	G.A	GW.A		NSTS+		.A		TMF
79	79	G.A	GW.A		NSTS+		.A		
81	81							RSBWTS	
83	83	G	GW		NSTS				TMF
84	84				NSTS				TMF
85	85	G.RSB							
86	86	G.RSB							

TABLE 3.1

TABLE 3.1
LIST OF MINIMAL SET OF GENERIC ACTIVITIES AND ACTIONS ARISING
FROM VARIOUS ENTITIES, AND DERIVING FROM THE R.B.A. LICCIARDO
MC.GUIRE TS REVIEW OF 1984 (REF. A.1). (A SUBSET OF TABLE 1)

Record#	ITEMNO	GENERIC	GENERICWE	GENSTUDY	NEWSTS	WSTS	ASHTAD	OTHACTN	TMSID
87	87	G.A		GW.A	NSTS+		.A	RSBWTS	
88	88	G.A		GSW.A	NSTS+		.A	W.RSBWTS	
91	91	G.RSB							
92	92	G.W					A	RSBWTS	TM
94	94	G.RSB							
96	96	G.RSB					A		TM
97	97	G.RSB							TM
98	98	G.RSB					A		TM
99	98A	G.RSB					A		TM
105	103	G							
106	104	G		WOG	NSTS			RSBWTS	TMF
108	106	G.RSB			NSTS				TMF
109	107				NSTS+				TMF
110	108	G.A	GW.A				.A		
112	110				NSTS				TMF
113	111				NSTS			RSBWTS	TMF
114	112	G.RSB			NSTS				TMF
119	117	G	GW		NSTS+				TMF
120	118	G	GW		NSTS+				TMF
121	119	G	GW		NSTS+				TMF
122	120	G	GW		NSTS+				TMF
123	121	G	GW		NSTS+				TMF
124	122	G	GW		NSTS+			RSBWTS	TMF
125	123	G	GW		NSTS+				TMF
126	124	G.RSB							
128	126	G.RSB							
129	127				NSTS		A		TM
130	128				NSTS		A		TM
131	129	G.A	GW.A		NSTS		.A		TMF
134	132			GS					
135	133			GS					
136	134			GS					
140	138	G.A	GW.A		NSTS+		.A		
141	139				NSTS+				
147	145				NSTS+		A		TM
148	146				NSTS+		A		TM
150	148				NSTS				TMF
155	153	G	GW		NSTS+			ITEM 122	
159	157	G					A		TM
160	158	G							
162	160	G.RSB							
166	164	G.A	GW.A		NSTS+		.A		TMF
167	165				NSTS+				TMF
168	166				NSTS+				TMF
169	167				NSTS+				TMF
170	168				NSTS+				TMF
171	169				NSTS+				TMF
172	170				NSTS+				TMF
173	171				NSTS+				TMF
231	229	G.A	GW.A	GL	NSTS+		.A	WL	TMF
232	230	G.A	GW.A	GL	NSTS+		.A	WL	TMF
233	231	G.A	GW.A	GL	NSTS+		.A	WL	TMF

TABLE 3.1 (cont)

TABLE 3.1
LIST OF MINIMAL SET OF GENERIC ACTIVITIES AND ACTIONS ARISING FROM VARIOUS ENTITIES, AND DERIVING FROM THE R.B.A. LICCIARDO MC.GUIRE TS REVIEW OF 1984 (REF. A.1). (A SUBSET OF TABLE 1)

Record#	ITEMNO	GENERIC	GENERICWE	GENSTUDY	NEWSTS	WSTS	ASHTAD	OTHACTN	TMSIC
234	232	G.A	GW.A	GL	NSTS+		.A	WL	TMF
235	233	G.A	GW.A	GL	NSTS+		.A	WL	TMF
236	234	G.A	GW.A	GL	NSTS+		.A	WL	TMF
237	235	G.A	GW.A	GL	NSTS+		.A	WL	TMF
238	236	G.A	GW.A	GL	NSTS=		.A	WL	TMF
239	237	G.A	GW.A	GL	NSTS+		.A	WL	TMF
240	238	G.A	GW.A	GL	NSTS+		.A	WL	TMF
241	239	G.A	GW.A	GL	NSTS+		.A	WL	TMF
242	240	G..A	GW..	GL	NSTS+		..A	WL	TMF
243	241	G..A	GW..A	GL	NSTS+		..A	WL	TMF
244	242	G..A	GW..A	GL	NSTS+		..A	WL.RSBWTS	TMF
245	243	G..A	GW..A	GL	NSTS+		..A	WL.RSBWTS	TMF
246	244	G..A	GW..A	GL	NSTS+		..A	WL	TMF
247	245	G..A	GW..A	GL	NSTS+		..A	WL	TMF
248	246	G..A	GW..A	GL	NSTS+		..A	RSBWTS	TMF
249	247	G..A	GW..A	GL	NSTS+		..A	RSBWTS	TMF
250	248	G..A	GW..A	GL	NSTS+		..A	WL	TMF
251	249	G..A	GW..A	GL	NSTS+		..A	WL	TMF
252	250	G..A	GW..A	GL	NSTS+		..A	WL	TMF
253	251	G..A	GW..A	GL	NSTS+		..A	WL	TMF
254	252	G..A	GW..A	GL	NSTS+		..A	WL	TMF
255	253	G..A	GW..A	GL	NSTS+		..A	WL	TMF
256	254	G..A	GW..A	GL	NSTS+		..A	WL	TMF
257	255	G..A	GW..A	GL	NSTS+		..A	WL	TMF
258	256	G..A	GW..A	GL	NSTS+		..A	WL	TMF
259	257	G..A	GW..A	GL	NSTS+		..A	WL	TMF
260	258	G..A	GW..A	GL	NSTS+	.	..A	WL	TMF
261	259	G..A	GW..A	GL	NSTS+		..A	WL	TMF
262	260	G..A	GW..A	GL	NSTS+		..A	WL	TMF
263	261	G..A	GW..A	GL	NSTS+		..A	WL	TMF
264	262	G..A	GW..A	GL	NSTS+		..A	WL.RSBWTS	TMF
269	267			GL	NSTS+			WL	
270	268			GL	NSTS+			WL	
271	269			GL	NSTS			WL	
272	270			GL	NSTS+			WL RSBWTS	
273	271			GL	NSTS+			WL..SBWTS	
275	273	G		GL	NSTS		A	WL	TM
276	274	G		GL	NSTS		A	WL	TM
277	275			WOG	NSTS+				TMF
278	276			WOG	NSTS+				TMF
279	277	G.A	GW.A	WOG	NSTS+		.A	RSBWTS	TMF
280	278	G..A	GW..A	WOG	NSTS		..A	RSBWTS	TMF
281	279	G..A	GW..A	WOG	NSTS+		..A		TMF
282	26[illegible]			WOG					
283	281	G.A	GW.A	WOG	NSTS+		.A		TMF
284	282	G.A	GW.A	WOG	NSTS+		.A		TMF
285	283	G.A	GW.A	WOG	NSTS+		.A		TMF
286	284	G.A	GW.A	WOG	NSTS		.A		TMF
287	285	G.A	GW.A	WOG	NSTS+		.A		TMF
288	286				NSTS+				TMF
289	287				NSTS+			RSBWTS	TMF
2[illegible]	288	G.A	GW.A		NSTS+		.A		TMF

TABLE 3.1 (cont)

TABLE 3.1

LIST OF MINIMAL SET OF GENERIC ACTIVITIES AND ACTIONS ARISING FROM VARIOUS ENTITIES, AND DERIVING FROM THE R.B.A. LICCIARDO MC.GUIRE TS REVIEW OF 1984 (REF. A.1). (A SUBSET OF TABLE 1)

Record#	ITEMNO	GENERIC	GENERICWE	GENSTUDY	NEWSTS	WETS	ASHTAD	OTHACTN	TMSIO
291	289	G.A	GW.A		NSTS+		.A		TMF
292	290	G.A	GW.A		NSTS+		.A		TMF
293	291	G.A	GW.A		NSTS+		.A		TMF
294	292	G	GW		NSTS+				TMF
295	293	G	GW		NSTS+				TMF
296	294	G	GW		NSTS+				TMF
297	294	G	GW		NSTS+				TMF
298	296	G	GW		NSTS+				TMF
299	297	G	GW		NSTS+				TMF
300	298	G	GW		NSTS+				TMF
301	299				NSTS+				TMF
302	300				NSTS+				TMF
303	301				NSTS+				TMF
304	302	RSB			NSTS+				TMF
305	303				NSTS+				
306	304				NSTS+			RSBWTS	TMF
307	305				NSTS+				TMF
308	306	RSB		GS	NSTS+			RSTWTS	TMF
309	307	G.RSB		GS	NSTS+				TMF
310	308	G.RSB		GS	NSTS+			RSBWTS	TMF
311	309	G.RSB		GS	NSTS+				TMF
312	310	G		WOG	NSTS+				
313	311			GS	NSTS+				
314	312			GS	NSTS+				
315	313A	G.RSB		GS	NSTS+				
316	313B	G.RSB			NSTS+				
317	314			GS					
318	315				NSTS+			RSBWTS	
321	318	G.TM		WOG	NSTS+		A		TM
322	318A	G.TM		WOG	NSTS+		A		TM
323	318B	G.TM		WOG	NSTS+		A		TM
324	318C			WOG	NSTS+				
325	318D			WOG	NSTS+				
326	318E			WOG	NSTS+				
327	318F			WOG	NSTS+				
328	319	G.TM		GS	NSTS		A		TM
329	320				NSTS+	WSTS		W	
330	321				NSTS+	WSTS		W	
331	322				NSTS+			W	
332	323	G.RSB		RSB	NSTS+				
333	324	G.RSB		RSB	NSTS+				
334	325	G.RSB		RSB	NSTS+				
335	326	G					A		TM
342	333							RSBWTS	
348	339	G.RSB							
364	355				NSTS+				TMF
365	356				NSTS+				TMF
366	357				NSTS+				TMF
367	358				NSTS+				TMF
368	359				NSTS+				TMF
369	360				NSTS+				TMF
370	361				NSTS+				TMF

TABLE 3.1. (cont)

TABLE 3.1

LIST OF MINIMAL SET OF GENERIC ACTIVITIES AND ACTIONS ARISING FROM VARIOUS ENTITIES, AND DERIVING FROM THE R.B.A. LICCIARDO MC.GUIRE TS REVIEW OF 1984 (REF. A.1). (A SUBSET OF TABLE 1)

Record#	ITEMNO	GENERIC	GENERICWE	GENSTUDY	NEWSTS	WSTS	ABHTAD	OTHACTN	TMSID
371	362				NSTS+				TMF
374	365	G.A	GW.A		NSTS+		..A		TMF
375	366	G.A	GW.A		NSTS+		..A		TMF
376	367	G.A	GW.A		NSTS+		..A		TMF
377	368	G.A	GW.A		NSTS+		..A		TMF
378	369				NSTS+				TMF
384	375	G.A	GW.A	WOG	NSTS		.A		TMF
385	376	G.A	GW.A	WOG	NSTS		.A	RSBWTS	TMF
386	377	G.A	GW.A	WOG	NSTS+		.A	RSBWTS	TMF
387	378	G.A	GW.A		NSTS+		.A		TMF
388	379	G.A	GW.A				.A		
389	380				NSTS+				TMF
390	381	G.A	GW.A		NSTS+		.A		TMF
395	389	G.RSB							
400	391				NSTS+				TMF
401	392				NSTS+				TMF
402	393				NSTS+				TMF
403	394	G..A	GW..A		NSTS+		..A		TMF
404	395				NSTS+				TMF
405	396				NSTS+				TMF
406	397	G..A	GW..A		NSTS+		..A		TMF
408	399	G.A	GW.A		NSTS+		.A		TMF
409	400	G.A	GW.A		NSTS+		.A		TMF
410	401	G.A	GW.A		NSTS+				TMF
411	402				NSTS+				TMF
412	403	G.RSB			NSTS+				TMF
413	404				NSTS+				TMF
414	405	G.A	GW.A		NSTS+		.A		TMF
415	406	G.RSB			NSTS+				TMF
416	407	G.RSB			NSTS+				TMF
417	408				NSTS+				TMF
418	409				NSTS+				TMF

TABLE 3.1 (cont)

TABLE 3.2

LIST OF MINIMAL SET OF ACTIONS ON THE EXISTING TS AND WESTINGHOUSE STS ARISING FROM VARIOUS ENTITIES, AND DERIVING FROM THE R.B.A. LICCIARDO MC.GUIRE TS REVIEW OF 1984 (REF. A.1). (SUBSET OF TABLE 1)

Record#	ITEMNO	GENERIC	GENERICWE	GENSTUDY	NEWSTS	EXISTTS	WSTS	ASHTAD	OTHACTN	TMSIC
1	1				NSTS+	ETS				TMF
2	2				NSTS+	ETS+				TMF
4	4					ETS				
6	6				NSTS+	ETS+			RSBWTS	TMF
7	7				NSTS+	ETS+			RSBWTS	TMF
28	29					ETS		A		TM
31	32		GW	6BS		ETS			RSBWTS	
32	33		GW	6BS		ETS			RSBWTS	
33	34	G.A	GW.A		NSTS	ETSW.A		.A	RSBWTS	TMF
34	35	G.A	GW.A			ETSW.A		.A	RSBWTS	
37	38A	G.A	GW.A	GNW	NSTS+	ETSW+		.A		TMF
38	38B	G.A	GW.A	GSW	NSTS+	ETSW.A+		.A		TMF
45	45	G			NSTS+	ETS+		A	RSBWTS	TMF
50	50					ETS				
62	62				NSTS+	ETS+		A		TMF
65	65				NSTS+	ETS			W.WTS	TMF
67	67	G.A	GW.A		NSTS+	ETSW.A+		.A	RSBWTS	TMF
68	68	G.A			NSTS+	ETSW.A+		.A	RSBWTS	TMF
69	69	G.A	GW.A		NSTS+	ETST.A+		.A	RSBWTS	TMF
70	70	G.A	GW.A		NSTS+	ETSW.A+		.A	RSBWTS	TMF
72	72	G.A	GW.A		NSTS	ETSW.A		.A	RSBWTS	TMF
74	74				NSTS+	ETS+		A		TM
75	75				NSTS	ETS+		A		TMF
77	77	G.A	GW.A		NSTS	ETSW.A		.A		TMF
78	78	G.A	GW.A		NSTS+	ETSW.A		.A		TMF
79	79	G.A	GW.A		NSTS+	ETSW.A		.A		
83	83	G	GW		NSTS	ETSW				TMF
84	84				NSTS	ETS				TMF
87	87	G.A		GW.A	NSTS+	ETSW.A		.A	RSBWTS	
88	88	G.A		GSW.A	NSTS+	ETSW.A+		.A	W.RSBWTS	
92	92	G.W				ETS		A	RSBWTS	TM
96	96	G.RSB				ETS+		A		TM
97	97	G.RSB				ETS+				TM
99	98A	G.RSB				ETS+		A		TM
108	106	G.RSB			NSTS	ETS				TMF
110	108	G.A	GW.A			ETSW.A		.A		
111	109					ETSW.DEL				
114	112	G.RSB			NSTS	ETS.DEL				TMF
119	117	G	GW		NSTS+	ETSW+				TMF
120	118	G	GW		NSTS+	ETSW+				TMF
121	119	G	GW		NSTS+	ETS				TMF
122	120	G	GW		NSTS+	ETS+				TMF
123	121	G	GW		NSTS+	ETS				TMF
124	122	G	GW		NSTS+	ETS			RSBWTS	TMF
125	123	G	GW		NSTS+	ETS+				TMF
126	124	G.RSB				ETS.				
128	126	G.RSB				ETS				
129	127				NSTS	ETS		A		TM
130	128				NSTS	ETS		A		TM
131	129	G.A	GW.A		NSTS	ETSW.A		.A		TMF
140	138	G.A	GW.A		NSTS+	ETSW.A		.A		

TABLE 3.2

TABLE 3.2

LIST OF MINIMAL SET OF ACTIONS ON THE EXISTING TS AND WESTINGHOUSE STS ARISING FROM VARIOUS ENTITIES, AND DERIVING FROM THE R.B.A. LICCIARDO MC.GUIRE TS REVIEW OF 1984 (REF. A. 1). (SUBSET OF TABLE 1)

Record#	ITEMNO	GENERIC	GENERICWE	GENSTUDY	NEWSTS	EXISTTS	WSTS	ASHTAD	OTHACTN	TMSIC
141	139				NSTS+	ETS				
147	145				NSTS+	ETSW,ETS		A		TM
148	146				NSTS+	ETSW,ETS		A		TM
154	152					ETS			ITEM 2[illegible]	
155	153	G	GW		NSTS+	ETSW			ITEM 122	
162	160	G,RS$				ETS				
166	164	G,A	GW,A		NSTS+	ETSW,A		,A		TMF
176	174					ETS+		A		TM
177	175					ETS+		A		TM
180	178					ETS				
181	179					ETS+		A		TM
188	186					ETS+		A		TM
189	187					ETS+		A		TM
192	190					ETS				
193	191					ETS+		A		TM
199	197					ETS+		A		TM
200	198					ETS		A		TM
202	200					ETS				
203	201					ETS+		A		TM
205	203					ETS		A		TM
213	211					ETS		A		TM
231	229	G,A	GW,A	GL	NSTS+	ETSW,A+		,A	WL	TMF
232	230	G,A	GW,A	GL	NSTS+	ETSW,A+		,A	WL	TMF
233	231	G,A	GW,A	GL	NSTS+	ETSW,A+		,A	WL	TMF
234	232	G,A	GW,A	GL	NSTS+	ETSW,A+		,A	WL	TMF
235	233	G,A	GW,A	GL	NSTS+	ETSW,A+		,A	WL	TMF
236	234	G,A	GW,A	GL	NSTS+	ETSW,A+		,A	WL	TMF
237	235	G,A	GW,A	GL	NSTS+	ETSW,A+		,A	WL	TMF
238	236	G,A	GW,A	GL	NSTS+	ETSW,A+		,A	WL	TMF
239	237	G,A	GW,A	GL	NSTS+	ETSW,A+		,A	WL	TMF
240	238	G,A	GW,A	GL	NSTS+	ETSW,A+		,A	WL	TMF
241	239	G,A	GW,A	GL	NSTS+	ETSW,A+		,A	WL	TMF
242	240	G,,A	GW,,	GL	NSTS+	ETSW,,A+		,,A	WL	TMF
243	241	G,,A	GW,,A	GL	NSTS+	ETSW,,A+		,,A	WL	TMF
244	242	G,,A	GW,,A	GL	NSTS+	ETSW,,A+		,,A	WL,RSBWTS	TMF
245	243	G,,A	GW,,A	GL	NSTS+	ETSW,,A+		,,A	WL,RSBWTS	TMF
246	244	G,,A	GW,,A	GL	NSTS+	ETSW,,A+		,,A	WL	TMF
247	245	G,,A	GW,,A	GL	NSTS+	ETSW,,A+		,,A	WL	TMF
248	246	G,,A	GW,,A	GL	NSTS+	ETSW,,A+		,,A	RSBWTS	TMF
249	247	G,,A	GW,,A	GL	NSTS+	ETSW,,A+		,,A	RSBWTS	TMF
250	248	G,,A	GW,,A	GL	NSTS+	ETSW,,A+		,,A	WL	TMF
251	249	G,,A	GW,,A	GL	NSTS+	ETSW,,A+		,,A	WL	TMF
252	250	G,,A	GW,,A	GL	NSTS+	ETSW,,A+		,,A	WL	TMF
253	251	G,,A	GW,,A	GL	NSTS+	ETSW,,A+		,,A	WL	TMF
254	252	G,,A	GW,,A	GL	NSTS+	ETSW,,A+		,,A	WL	TMF
255	253	G,,A	GW,,A	GL	NSTS+	ETSW,,A+		,,A	WL	TMF
256	254	G,,A	GW,,A	GL	NSTS+	ETSW,,A+		,,A	WL	TMF
257	255	G,,A	GW,,A	GL	NSTS+	ETSW,,A+		,,A	WL	TMF
258	256	G,,A	GW,,A	GL	NSTS+	ETSW,,A+		,,A	WL	TMF
259	257	G,,A	GW,,A	GL	NSTS+	ETSW,,A+		,,A	WL	TMF
260	258	G,,A	GW,,A	GL	NSTS+	ETSW,,A+		,,A	WL	TMF
261	259	G,,A	GW,,A	GL	NSTS+	ETSW,,A+		,,A	WL	TMF
262	260	G,,A	GW,,A	GL	NSTS+	ETSW,,A+		,,A	WL	TMF

TABLE 3.2 (cont)

TABLE 3.2
LIST OF MINIMAL SET OF ACTIONS ON THE EXISTING TS
AND WESTINGHOUSE STS ARISING FROM VARIOUS ENTITIES, AND
DERIVING FROM THE R.D.A. LICCIARDO MC.GUIRE TS
REVIEW OF 1984 (REF. A.1). (SUBSET OF TABLE 1)

Record#	ITEMNO	GENERIC	GENERICWE	GENSTUDY	NEWSTS	EXISTTS	WSTS	ASHTAD	OTHACTN	TMSIC
263	261	G..A	GW..A	GL	NSTS+	ETSW..A+		..A	WL	TMF
264	262	G..A	GW..A	GL	NSTS+	ETSW..A+		..A	WL.RSBWTS	TMF
269	267			GL	NSTS+	ETS.W+			WL	
270	268			GL	NSTS+	ETS.W+			WL	
271	269			GL	NSTS	ETS.W			WL	
272	270			GL	NSTS+	ETS.W+			WL.RSBWTS	
273	271			GL	NSTS+	ETS.W+			WL.RSBWTS	
275	273	G		GL	NSTS	ETSW ETS+		A	WL	TM
276	274	G		GL	NSTS	ETSW ETS+		A	WL	TM
279	277	G.A	GW.A	WOG	NSTS+	ETSW.A+		.A	RSBWTS	TMF
280	278	G..A	GW..A	WOG	NSTS	ETSW..A		..A	RSBWTS	TMF
281	279	G..A	GW..A	WOG	NSTS+	ETSW..A+		..A		TMF
282	280			WOG		FTSW+				
283	281	G.A	GW.A	WOG	NSTS+	ETSW A+		.A		TMF
284	282	G.A	GW.A	WOG	NSTS+	ETSW.A+		.A		TMF
285	283	G.A	GW.A	WOG	NSTS+	ETSW.A+		.A		TMF
286	284	G.A	GW.A	WOG	NSTS	ETSW.A		.A		TMF
287	285	G.A	GW.A	WOG	NSTS+	ETSW.A+		.A		TMF
290	288	G.A	GW.A		NSTS+	ETSW.A+		.A		TMF
291	289	G.A	GW.A		NSTS+	ETSW.A+		.A		TMF
292	290	G.A	GW.A		NSTS+	ETSW.A+		.A		TMF
293	291	G.A	GW.A		NSTS+	ETSW.A+		.A		TMF
294	292	G	GW		NSTS+	ETSW+				TMF
295	293	G	GW		NSTS+	ETSW+				TMF
296	294	G	GW		NSTS+	ETSW+				TMF
297	294	G	GW		NSTS+	ETSW+				TMF
298	296'	F	GW		NSTS+	ETSW+				TMF
299	297	G	GW		NSTS+	ETSW+				TMF
300	298	G	GW		NSTS+	ETSW+				TMF
312	310	G		WOG	NSTS+	ETSW+				
313	311			GG	NSTS+	ETS.W+				
314	312			GG	NSTS+	ETS.W+				
315	313A	G.RSB		GG	NSTS+	ETS.W+				
316	313B	G.RSB			NSTS+	ETS.W+				
328	319	G.TM		GG	NSTS	ETSW		A		TM
329	320				NSTS+	EST	WSTR		W	
330	321				NSTS+	ETS	WSTS		W	
331	322				NSTS+	ETS+			W	
332	323	G.RSB		RSB	NSTS+	ETSW+				
333	324	G.RSB		RSB	NSTS+	ETSW+				
334	325	G.RSB		RSB	NSTS+	ETSW+				
335	326	G				ETS		A		TM
345	336					ETS		A		TM
359	350					ETS		A		TM
360	351					ETS		A		TM
362	353					ETS				TM
364	355				NSTS+	ETS				TMF
366	357				NSTS+	ETS				TMF
374	365	G.A	GW.A		NSTS+	ETSW.A+		..A		TMF
375	366	G.A	GW.A		NSTS+	ETSW.A+		..A		TMF
376	367	G.A	GW.A		NSTS+	ETSW.A+		..A		TMF
377	368	G.A	GW.A		NSTS+	ETSW.A+		..A		TMF

TABLE 3.2 (cont)

TABLE 3.2

LIST OF MINIMAL SET OF ACTIONS ON THE EXISTING TS AND WESTINGHOUSE STS ARISING FROM VARIOUS ENTITIES, AND DERIVING FROM THE R.B.A. LICCIARDO MC.GUIRE TS REVIEW OF 1984 (REF. A. 1). (SUBSET OF TABLE 1)

Record#	ITEMNO	GENERIC	GENERICWE	GENSTUDY	NEWSTS	EXISTTS	WSTS	ASHTAD	OTHACTN	TMSID
384	375	G.A	GW.A	WOG	NSTS	ETSW.A		,A		TMF
385	376	G.A	GW.A	WOG	NSTS	ETSW.A		,A	RSBWTS	TMF
386	377	G.A	GW.A	WOG	NSTS+	ETSW.A+		,A	RSBWTS	TMF
387	378	G.A	GW.A		NSTS+	ETSW.A+		,A		TMF
388	379	G.A	GW.A			ETSW.A		,A		
389	380				NSTS+	ETS+				TMF
390	381	G.A	GW.A		NSTS+	ETSW.A+		,A		TMF
391	382					ETS+		A		TM
397	388					ETS+		A		TM
403	394	G..A	GW..A		NSTS+	ETSW..A+		..A		TMF
406	397	G..A	GW..A		NSTS+	ETSW..A+		..A		TMF
408	399	G.A	GW.A		NSTS+	ETSW.A+		,A		TMF
409	400	G.A	GW.A		NSTS+	ETSW.A+		,A		TMF
410	401	G.A	GW.A		NSTS+	ETSW.A+				TMF
414	405	G.A	GW.A		NSTS+	ETSW.A+		,A		TMF
421	197A					ETS+		A		TM

TABLE 3.2 (cont)

LIST OF REFERENCES FOR COMMENTS BY R. LICCIARDO

1. Letter from H. B. Tucker (D.P.Co) to H. R. Denton (NRC) dated September 27, 1982 to the subject of "McGuire Nuclear Station."

2. Memo from C. O. Thomas (SSPB) to Brian W. Sheron (RSB) on the subject of "Proof and Review of McGuire - Units 1 and 2, Technical Specifications," - Dated January 14, 1983.

3. U.S. Nuclear Regulatory Commission, Final Safety Analysis Report, Volume 4, Duke Power Company, McGuire Nuclear Station, Units 1 and 2.

4. U.S. Nuclear Regulatory Commission, Final Safety Analysis Report, Volume 5, Duke Power Company, McGuire Nuclear Station, Units 1 and 2, Rev. 45.

5. U.S. Nuclear Regulatory Commission, Final Safety Analysis Report, Volume 7, Duke Power Company, McGuire Nuclear Station, Units 1 and 2, Rev. 45.

6. U.S. Nuclear Regulatory Commission, Final Safety Analysis Report, Volume 8, Duke Power Company, McGuire Nuclear Station, Units 1 and 2, Rev. 45.

7. U.S. Nuclear Regulatory Commission, Final Safety Analysis Report, Volume 10, Duke Power Company, McGuire Nuclear Station, Units 1 and 2, Rev. 45.

8. U.S. Nuclear Regulatory Commission, Final Safety Analysis Report, Volume 11, Duke Power Company, McGuire Nuclear Station, Units 1 and 2, Rev. 45.

9. Deleted

10. U.S. Nuclear Regulatory Commission; Office of Nuclear Reactor Regulation; "Safety Evaluation Report; McGuire Nuclear Station Units 1 and 2, Duke Power Company," NUREG-0422, on Docket Nos. 50-369 and 50-370, March 1, 1978

11. U.S. Nuclear Regulatory Commission, Office of Nuclear Reactor Regulation; "Safety Evaluation Report, McGuire Nuclear Station Units 1 and 2, Duke Power Company," NUREG-0422, Supp. 1, on Docket Nos. 50-369 and 50-370, May 1978.

12. U.S. Nuclear Regulatory Commission, Office of Nuclear Reactor Regulation; "Safety Evaluation Report, McGuire Nuclear Station Units 1 and 2, Duke Power Company," NUREG-0422, Supp. No. 2, on Docket Nos. 50-369 and 50-370, March 1979.

13. U.S. Nuclear Regulatory Commission, Office of Nuclear Reactor Regulation; "Safety Evaluation Report, McGuire Nuclear Station Units 1 and 2, Duke Power Company," NUREG-0422, Supp. No. 3 on Docket Nos. 50-369 and 50-370, May 1980.

14. U.S. Nuclear Regulatory Commission, Office of Nuclear Reactor Regulation; "Safety Evaluation Report, McGuire Nuclear Station Units 1 and 2, Duke Power Company," NUREG-0422, Supp. No. 4, on Docket Nos. 50-369 and 50-370, January 1981.

15. U.S. Nuclear Regulatory Commission, Office of Nuclear Reactor Regulation, "Safety Evaluation Report, McGuire Nuclear Station Units 1 and 2, Duke Power Company," NUREG-0422, Supp. No. 5, on Docket Nos. 50-369 and 50-370, April 1981.

16. Memo from R. W. Houston to T. M. Novak on the subject of "Staff Review and Input to SER Supplement No. 6 for McGuire Nuclear Station Units 1 and 2". Dated February 08, 1983.

17. Letter from H. B. Tucker (D.P.Co) to H. R. Denton (NRC) on the subject of McGuire Nuclear Station, Units I and 2, filing amendment No. 71 to its Application for License for the McGuire Nuclear Station and Submitting Revision 45 to the Final Safety Analysis Report. Dated February 16, 1983

18. Letter from W. O. Parker (D.P.Co) to H. R. Denton (NRC), dated Oct. 8, 1981 on the subject of McGuire Nuclear Station, Unit I and submitting copies of Report identified as "Westinghouse Reactor Protection System/ Engineered Safety Features Actuation System Setpoint Methodology, Duke Power Company, McGuire Unit 1," by C. R. Tuley et al. and dated April 1981 published by Westinghouse Electric, Nuclear Energy Systems, PROPRIETARY.

19. Westinghouse Electric Corporation, PWR Systems Division "Westinghouse Emergency Core Cooling System - Plant sensitivity studies, WCAP-8356. August 1, 1974.

20. U.S. Nuclear Regulatory Commission, Final Safety Analysis Report, Volume 4, Duke Power Company, McGuire Nuclear Station, Units 1 and 2, Rev. 45.

21. Letter from T. M. Novak (NRC) to H. B. Tucker (D.P.Co), dated May 17, 1983 on the subject of OL Condition 2.C.(11)g, Anticipatory Reactor Trip (11.K.3.10) (McGuire Nuclear Station, Unit 1).

22. U.S. Nuclear Regulatory Commission, Final Safety Analysis Report, Volume 9, Duke Power Company, McGuire Nuclear Station, Units 1 and 2, Rev. 45.

23. Letter from W. O. Parker (D.P.Co) to H. R. Denton (NRC), dated August 13, 1980, re: McGuire Nuclear Station.

24. Letter from W. O. Parker (D.P.Co) to H. R. Denton (NRC), dated September 18, 1980, re: McGuire Nuclear Station. Page 13, Response to 3(e).

25. Duke Power Company McGuire Nuclear Station, Unit 1, Docket No. 50-369, License No. NPF-9 Startup Report, February 15, 1982.

26. Memo for RSB, CPB, ICSB Members from Brian W. Sheron (RSB), Carl H. Berlinger (CPB), Faust Ross (ICSB) dated April 12, 1983 on the subject of Inadvertent Boron Dilution Events.

27. Westinghouse Electric Corporation, Nuclear Energy Systems Topical Report, Overpressure Protection for Westinghouse Pressurized Water Reactors, WCAP-7769. Rev. 1, June 1972.

28. Westinghouse Electric Corporation for the Westinghouse Owners Group on Reactor Coolant System Over pressurization, July 1977.

29. U.S. Nuclear Regulatory Commission, Final Safety Analysis Report, Volume 6 Duke Power Company, McGuire Nuclear Station, Units 1 and 2, Rev. 45.

30. Memo for: Brian W. Sheron (NRC) from Robert B. A. Licciardo, dated June 11, 1984 on the subject of Review of McGuire Technical Specifications.

31. Westinghouse Electric Corporation, PWR Systems Division, Topical Report WCAP-9226, Rev. 1, January 1978, NES Proprietary Class 2, Section 2.

32. Westinghouse Electric Corporation, Western Nuclear Energy Systems, "Report on the Consequences of a Main Feed Line Rupture" WCAP 9230 Proprietary.

33. Westinghouse Electric Corporation, Western Nuclear Energy Systems, Setpoint Studies, Duke Power Company, William B. McGuire Nuclear Plant, Unit 1 & 2, May 11, 1978.

34. Letter to Thomas Novak (NRC) to H. B. Tucker, (DPCo), "Request for Comments on McGuire Technical Specifications Concerns Resulting from Differing Professional Opinion," dated July 9, 1985.

35. Letter from H. B. Tucker (DPCo) to Harold Denton (NRC), "NRC DPO Concerns on McGuire Technical Specifications," dated June 10, 1986.

36. Memo from Robert B. A. Licciardo, to H. R. Denton on Subject: McGuire Technical Specifications: Request for Completion of Post Resolution Phase of Differing Professional Opinion of Mr. R. Licciardo, June 3, 1985.

37. Memo from Ashok C. Thadani to Steven A. Varga on the Subject: Resolution of Plant-Specific DPO Issues Concerning McGuire Technical Specifications, dated May 14, 1990.

38. Letter from H. Thompson to R. Bernero, "Disposition of Concerns Raised by R. Licciardo in his DPO on the McGuire Technical Specifications," dated May 28, 1985.

39. Letter from A. Thadani to C. E. Rossi and S. A. Varga on the subject: "Assignment and Schedules for Resolution of McGuire DPO Technical Specifications," dated January 26, 1990.

40. Memo from T. M. Murley, Director, NRR, to Robert Licciardo, PMAS, NRC, on the subject: "Closure of Outstanding Technical Specification Concerns Deriving from R. Licciardo's DPO Review of the McGuire Technical Specifications." (TACS 55435/55436/67757) dated Sept. 10, 1990.

41. USNRC; Standard Technical Specifications for Westinghouse Pressurized Water Reactor (Revision Issue Fall 1981); NUREG-0452-REV-4 dated November 1981.

42. Westinghouse Electric Corporation, PWR Systems Division, Reactor Core Response to Excessive Secondary Steam Releases by S. D. Hollingsworth and D. C. Hood. January 1978. WCAP-9261. Rev. 1, NES Proprietary (Class 2)

A.1 Letter from Robert Licciardo to Brian Sheron, "Review of McGuire Technical Specifications," dated June 11, 1984.

A.2. Letter from Thomas Novak to H. B. Tucker, "Request for Comments on McGuire Technical Specifications Concerns Resulting from Differing Professional Opinion," dated July 9, 1985.

A.3. Letter from H. Thompson to R. Bernero, "Disposition of Concerns Raised by R. Licciardo in his DPO on the McGuire Technical Specifications," dated May 28, 1985.

A.4 Letter from H. B. Tucker to Harold Denton, "NRC DPO Concerns on McGuire Technical Specifications," dated June 10, 1986.

A.5. Memorandum from Thomas Murley to Robert Licciardo, "December 7, 1983 Differing Professional Opinion," dated December 29, 1989.

A.6. WCAP-8745-P-A, "Design Bases for the Thermal Overpower ΔT and Thermal Overtemperature ΔT Trip Functions," dated March 1977.

A.7. NUREG-0964, "Technical Specifications McGuire Nuclear Station Unit Nos. 1 and 2," dated March 1983.

A.8. Letter from William Parker to Harold Denton, "Westinghouse Reactor Protection System/Engineered Safety Features Actuation System Setpoint Methodology, Duke Power Company, McGuire Unit 1," dated October 1981.

A.9. Duke Power Company, McGuire Nuclear Station Final Safety Analysis Report - Volumes 5, 6, 7, 9, 10 and 12.

A.10. ANS-56.2, "Containment Isolation Provisions for Fluid Systems," 1976.

A.11. Generic Letter 85-05, "Inadvertent Boron Dilution Events," January 85.

A.12. Letter from George Lear to D. C. Switzer, "Millstone Nuclear Power Station Units 1 and 2," dated June 1977.

A.13. Letter from E. P. Rahe, Jr., Westinghouse Electric Corporation, to Mr. D. Eisenhut (USNRC) on the Subject of Number of Operating Reactor Coolant Pumps in Mode 3, July 9, 1984.

A.14. Memo from Robert Licciardo, PSB, NRC, to Steven A. Varga, Director, on the subject: Comments on Resolution 6 and Plant Specific DPO Issues Concerning McGuire Technical Specifications, dated June 19, 1990.

A.15. Proposed Memo to Thomas M. Novak from R. Wayne Houston on the Subject Staff Review of Proof and Review Copy of Proposed Technical Specifications for McGuire Units 1&2. 06/06/1983.

A.16. Memorandum for Darrel G. Eisenhut, from: Robert M. Bernero, "Concerns on McGUIRE Technical Specifications," dated August 30, 1984.

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ENCLOSURE 2.

UNITED STATES
NUCLEAR REGULATORY COMMISSION
WASHINGTON, D. C. 20555

JUN 11 1984

MEMORANDUM FOR: Brian W. Sheron, Chief
Reactor Systems Branch
Division of Systems Integration

FROM: Robert B. A. Licciardo
Nuclear Engineer
Reactor Systems Branch
Division of Systems Integration

SUBJECT: REVIEW OF MCGUIRE TECHNICAL SPECIFICATIONS

REFERENCE: a) Memo from Harold R. Denton, Director
Office of Nuclear Reactor Regulation
for Darrell G. Eisenhut, Director
Division of Licensing and
Roger J. Mattson, Director
Division of Systems Integration
on the Subject: DIFFERING PROFESSIONAL
OPINION OF MR. LICCIARDO REGARDING MCGUIRE
TECHNICAL SPECIFICATION and dated: March 21, 1984

b) Memo from Brian W, Sheron, Chief, RSB, DSI to
Robert Licciardo RSB, DSI dated April 11, 1984
on the Subject: MCGUIRE TECHNICAL SPECIFICATIONS
ASSIGNMENT

I reference your memo to reference b) requesting review of the McGuire Technical Specifications to an acceptable format, in response to the requirement of reference a) for a coordinated review of the concerns arising from the writer's earlier DPO.

Please find attached copy of a document entitled "McGuire Units 1 & 2: Proposed Technical Specifications; Review of Proof and Review Copy," which is in response to your request.

The review is composed of two sections. The first section is entitled "Pre Review Information" which details the Basis, Purpose and Resources, Schedule, Evaluation Method, Regulatory Requirements and Licensing Consequences of the Review. The second section contains the Detailed Review.

Since the staff required this detailed review to be conducted without any formal, or substantive informal discussion, both within and without RSB, I presume that it is to be used as a basis for the coordination stated in Harold R. Denton's letter to reference a), namely that "The Division of Systems Integration, in coordination with DL, shall have people that are knowledgeable about the technical subjects raised by Mr. Licciardo, the standard technical specifications, and the McGuire technical specifications review the broad technical subjects and subgroups raised in the DPO." The

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writer considers that such a coordinated review including constructive critique is an essential consequence of any such document. The writer also believes that such construction must be developed on the basis of responsible written and signed comment within the Regulatory Framework. The writer would be pleased to participate in this coordination as required.

The writer is aware that RSB staff has received copies of the writer's initial proposed memo to T. M. Novak from R. W. Houston on the subject of: "STAFF REVIEW OF PROOF AND REVIEW COPY OF PROPOSED TECHNICAL SPECIFICATIONS FOR MCGUIRE UNITS 1 & 2" dated 06/15/83, and through this action is pleased to have made an early contribution to recent reviews of Technical Specifications for Operating License Applications.

Further, the writer has been informed that the above referenced memo (of 06/15/83) was also provided to Westinghouse (W) and notes two subsequent developments of significance:

1) In response to a question from M. Wigdor concerning "Vogtle," on "Cold Overpressure Mitigation", W has now recently submitted a Topical report entitled "Cold Overpressure Mitigating Systems," dated February 1984, for review by NRC.

2) W has recently reviewed its position on Reactor Coolant System (RCS) Operability requirements in MODE 3 and from this has determined the need for additional operable RCS pumps over those required in the W STS for the case of "Uncontrolled Rod Cluster Control Assembly Bank Withdrawal From a Subcritical Condition."

Both of the above items 1) and 2) were the subject of specific concern in the referenced memo proposed by the writer, and it is encouraging to note the early response by W to those safety issues.

R. Licciardo

R. B. A. Licciardo

Attachment: As stated

cc: H.R. Denton
R. Mattson
R.W. Houston w/attachment
N. Lauben w/attachment

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