

July 26, 1979

To: RW Zechman
From: ER FREDERICK

subject: observed changes in simulator training/
instructional techniques.

- ① operators were faced with more difficult casualties i.e. multiple failures, compounding circumstances,
- ② more "real world" situations - for instance if an operator failed to properly align the makeup pump before starting it; it would fail.
- ③ each casualty was carried out until a normal cooldown was established - this lead to some good training on maintaining the plant in stability over long periods of time under unusual conditions.
- ④ emphasis was placed on basic core parameters, maintenance of a heatsink, incore temperatures

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⑤ operators were made to be alert to identify situations which require off site notifications

⑥ operators were made to be alert to conditions which may warrant action in accordance with the TMI EMERGENCY PLAN

In general the emphasis was on maintaining core integrity thru positive action and generic emergency considerations as opposed to response thru memorized emergency action.

ENCLOSURE 1

AUXILIARY FEEDWATER UPGRADING

1. Automatic initiation of the motor driven AFW pumps upon loss of both feedwater pumps or loss of four (4) Reactor Coolant Pumps.
2. Modification of the AFW control valves such that they fail open on loss of air.
3. Automatic block loading of the motor driven AFW pumps on the diesel.
4. Incorporation of AFW in the TMI-1 technical specifications as specified in IE Bulletin 79-05A, item 8. Verification that technical specification requirements of AFW capacity are in accordance with the accident analysis will be conducted.
5. Provide indication in the control room of AFW flow to each Steam Generator.
- 6. Provide procedures and training to assure that AFW is available and properly applied when required. Procedures will identify the need to verify proper operation when AFW is initiated.
- 7. To assure that AFW will be aligned in a timely manner to inject on all AFW demand events when in the surveillance test mode, procedures will be implemented and training conducted to provide an operator at the necessary location in communications with the control room during the surveillance mode to carry out alignment changes necessary upon AFW demand events.
8. Design review and modifications, as necessary, will be conducted to provide control room annunciation for all auto start conditions of the AFW system.

(2)

"CHANGE"

AP 1001

Three Mile Island Nuclear Station

SIDE 1

Figure 1001-3

Procedure Change Request

No. 79-357

1. Procedure OP1104-46 11 Hest Trace
No. Present Revision No. Title
2. Recommended Revision (Include page numbers, paragraph numbers, and exact wording of recommended change. Attach additional sheets if necessary.)

See attached page 22.1 (change or indicates on attached sheet)

3. Reason for Revision

Incorrect heat trace number listed

4. (a) Does Revision replace a TCN? yes no
 (b) If "yes" indicate the TCN Number

5. Recommended by CC Lane Date ? 6. Supervisor's Signature [Signature] Date 7/9/79

This Section completed by Procedure Coordinator

7. (a) Is procedure on Nuclear Safety Related Procedure List? (Sec. A.P. 1001 - Appendix B)
 If "yes", change is reviewed by PORC and a Nuclear Safety. yes no
 Evaluation is prepared (side 2 of this form). If "no", only Department Head review is required.
- (b) Is procedure on Environmental Impact Procedure List? (See A.P. 1001 - Appendix B)
 If "yes", an Environmental Impact Evaluation must be prepared (Side 2 of this Form) yes no

8. Review (Administrative, Chemistry and Health Physics Procedures may require approval of both Unit 1 and Unit 2)

Unit 1	Unit 2
Department Head <u>[Signature]</u> Date <u>7/9/79</u>	Department Head <u>NA</u> Date <u>_____</u>
Chairman of PORC <u>NA</u> Date <u>_____</u>	Chairman of PORC <u>NA</u> Date <u>_____</u>

9. Approval
 *Unit Superintendent [Signature] Date 7/12/79
 *NOTE: If 7 (a) or 7 (b) are "yes", Unit Superintendent must approve evaluation on the other side of this form.

10. Approval
 Manager, Generation Quality Assurance NA Date _____
 **NOTE: M.Q.A. approval required only on certain Administrative Procedures listed in Enclosure 7 of AP 1001.

11. Change Entered 17
Date Rev. No.

POOR ORIGINAL

(Listed By Company Seniority)

	A	B	C	D	E	F
SHIFT SUPERVISOR	W. H. Zewc(SRO)	J. J. Chwastyk(SRO)	B. A. Mehler(SRO)	G. R. Hitz(SRO)	B. G. Smith(SRO)	K. P. Bryan(SRO)
SHIFT FOREMEN #1	D. L. Pilsitz(SRO)	T. L. Crouse(SRO)	L. G. Noll(SRO)	D. C. Janes(SRO)	T. H. Acker(SRO)	R. L. Parnell(SRO)
SHIFT FOREMEN #2	F. J. Scheimann(SRO)	W. T. Conaway(SRO)	C. D. Adams(SRO)	A. W. Miller(SRO)	K. P. Hoyt(SRO)	C. L. Guthrie(SRO)
C.R.O. #1	J. L. Masters(RO) S. W. Brantley(RO) **D. B. Mayhue	J. C. Banks(RO) **V. C. Ruppert, Jr. **R. W. Flanagan	R. E. Boyer(RO) J. E. Keisch(RO) **M. P. Kendig	P. F. Chalecki(RO) D. L. Noodell(RO) **D. A. Smith	R. A. Heilman(RO) **J. C. Herman	T. H. Goodlavage(RO) D. E. Smith(RO) **W. A. Fraser
C.R.O. #2	L. O. Wright(RO) C. C. Faust(RO)	T. F. Illjes(RO) J. M. Kidwell(RO) **C. F. Mell	J. R. Congdon(RO) M. V. Cooper(RO) **M. D. Phillippe	D. I. Olson(RO) M. S. Coleman(RO)	R. R. Booher(RO) **J. J. Blessing	H. A. McGovern(RO) E. D. Hemula(RO) **L. P. Germer
AUX. OP. "A"	H. E. Farst (1) L. D. Bucher (1) D. R. Miller (2) D. W. Horton (1) J. W. Randisi (1) T. S. Daugherty (2) D. A. Buchter (2)	J. E. Kimney (1) D. T. Calnan (1) D. A. Trump (1) M. B. Snyder (1) M. D. Demmy (2) E. A. Curry (2) F. D. Telenko (2)	C. F. Barge (1) C. W. Keyser (1) D. B. Wilson (2) J. Stupak (1) G. R. Schutt (1) G. J. Tilley (2)	J. Manoskey (2) N. J. Monson (1) R. N. Bochmer (1) J. M. Kohl (2) B. J. Keller (1) W. J. Wentling (2) D. F. Spath (1)	F. M. Ditzler (1) A. M. Horney (1) H. L. Carr (1) P. H. Shannon (2) R. K. Fountain, Sr. (2) J. L. Fishell (1)	C. S. Miller (1) M. R. Baynard (1) R. H. Lightner (2) K. A. Lebo (1) J. K. Lionarons (2) E. W. Tennis (1) W. H. Sawyer (2)
AUX. OP. "B"	G. L. Cvijic (2) D. J. Laudermitch (2) H. S. Richards (1) S. L. Turns (1)	D. E. Aithouse (1) J. L. Hetrick (2) W. G. Ogle, Jr. (2) D. C. Knerr (2)	E. H. Shue (2) B. E. Hoffman (2) F. D. Bongardner, Jr. (2) D. M. Vastine (1) R. S. Campbell (1)	E. T. Matincheck (2) R. E. Johnson (2) D. L. Wilt (1) G. A. Pierce (2)	B. I. Corkle (2) J. M. Boyd (2) S. I. Martin (1) S. L. Hull (2) R. E. Neff (1) R. G. Kleinfelter (2)	T. M. Kauffman (2) D. J. Gorse (1) D. H. Smith (2)
AUX. OP. "C"	M. D. Willenbecher (1) J. A. Gingrich (2)	C. S. Gordon (1) P. L. Hetrick (2) T. P. Stackpole (1)	P. A. LaBar (2) F. J. Kacinko (1)	J. R. Barry (2) D. A. Tolene (1)	S. M. Fuhrman (1) C. A. Conrad (2)	J. P. Levensood (1) D. L. Heilman (2) G. J. Bixler (2)

NOTE: (1)(2) INDICATES UNIT PRINCIPALLY ASSIGNED TO
(**) CRO IN TRAINING

OFF SHIFT ASSIGNMENTS:

Operations Engineers Nuclear - H. B. Shipman, C. C. Seitz
W. J. Marshall D. Berry
Ops. Clerk, Jr. - Linda L. Ritter (1) D. Russ (2)
Tech. Analyst - W. R. Desh
Shift Foreman Training - J. W. Garrison
Shift Supervisor - R. S. Hutchison(SRO)
Shift Foreman - D. R. Deiter(SRO)

Approved

M. J. Ross 6/11/79
Supervisor of Operations Unit #1 or #2

TMI UNIT #1 AND UNIT #2 SHIFT SCHEDULE

Day	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S	M	T	W	T	F	S	S							
11-7	A	A	A	A	A	B	B	B	B	B	B	B	C	C	C	C	C	C	C	C	D	D	D	D	D	D	E	E	E	E	E	E	E	E	E	A	A	A	A	A	A	A							
7-3	C	D	D	D	D	D	D	D	D	D	D	D	E	E	E	E	E	E	E	E	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F	A	A	A	A	A	A	A							
Relief	F	F	F	F	F	F	F	A	A	A	A	A	A	A	B	B	B	B	B	B	B	B	C	C	C	C	C	C	C	C	C	C	C	C	C	D	D	D	D	D	D	D	E	E	E	E	E	E	E
3-11	B	B	B	C	C	C	C	C	C	C	D	D	D	D	D	D	D	D	D	D	E	E	E	E	E	E	E	E	E	E	E	F	F	F	F	F	F	F	F	F	F	F	A	A	A	A	A	A	A
Training	E	E	E	E	E	E	E	F	F	F	F	F	F	F	A	A	A	A	A	A	A	A	B	B	B	B	B	B	B	B	B	B	B	B	B	C	C	C	C	C	C	C	D	D	D	D	D	D	D
JAN-FEB	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	1	2	3	4	5	6	7	8	9	10	11							
FEB-MAR	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22								
MAR-APR-MAY	26	27	28	29	30	31	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	1	2	3	4	5	6							
MAY-JUNE	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17							
JUNE-JULY	18	19	20	21	22	23	24	25	26	27	28	29	30	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29							
JULY-AUG-SEP	30	31	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	1	2	3	4	5	6	7	8	9							
SEPT-OCT	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21							
OCT-NOV-DEC	22	23	24	25	26	27	28	29	30	31	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	1	2							
DEC-JAN(1980)	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	1	2	3	4	5	6	7	8	9	10	11	12	13							
JAN-FEB	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24							
FEB-MAR-APR	25	26	27	28	29	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	1	2	3	4	5	6							
APR-MAY	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18							
MAY-JUNE	19	20	21	22	23	24	25	26	27	28	29	30	31	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29							
JUNE-JULY-AUG	30	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	1	2	3	4	5	6	7	8	9	10							
AUG-SEPT	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21							
SEPT-OCT-NOV	22	23	24	25	26	27	28	29	30	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	1	2							
NOV-DEC	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	1	2	3	4	5	6	7	8	9	10	11	12	13	14							
IN C-JAN(1981)	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25							
JAN-FEB-MAR	26	27	28	29	30	31	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	1	2	3	4	5	6	7	8							
MAR-APR	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19							
APR-MAY	20	21	22	23	24	25	26	27	28	29	30	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31							
JUNE-JULY	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	1	2	3	4	5	6	7	8	9	10	11	12							
JULY-AUG	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23							
AUG-SEPT-OCT	24	25	26	27	28	29	30	31	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	1	2	3	4							
OCT-NOV	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15							
NOV-DEC	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27							
DEC-JAN(1982)	28	29	30	31	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	1	2	3	4	5	6	7							
FEB-MAR	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21							
MAR-APR-MAY	22	23	24	25	26	27	28	29	30	31	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	1	2							
MAY-JUNE	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	1	2	3	4	5	6	7	8	9	10	11	12	13							
JUNE-JULY	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25							
JULY-AUG-SEP	26	27	28	29	30	31	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	1	2	3	4	5	6							
SEPT-OCT	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17							
OCT-NOV	18	19	20	21	22	23	24	25	26	27	28	29	30	31	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28							
NOV-DEC-JAN	29	30	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	1	2	3	4	5	6	7	8	9							

POOR ORIGINAL