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MEMORANDUM FOR: A. Schwencer, Chief
Licensing Branch No. 2
Division of Licensing

FROM: Voss A. Moore, Chief
Human Factors Engineering Branch
Division of Human Factors Safety

SUBJECT: NRC VERIFICATION OF WNP-2 CONTROL ROOM DESIGN IMPROVEMENTS

The enclosure to this memorandum lists those human engineering discrepancies (HEDs) which the applicant has committed to correct prior to licensing. NRC verification of these corrections is to be completed before WNP-2 is granted an operating license. Please transmit this listing to the applicant and ask that they inform us when all of the corrections have been made.

Where possible, verification of these design improvements should be accomplished by the NRC resident inspector. We will, however, be able to supply personnel from DHFS to accomplish this task if the resident inspector is unable to complete the task.

Voss A. Moore, Chief
Human Factors Engineering Branch
Division of Human Factors Safety

Enclosure:
As Stated

cc: R. Auluck
A. Toth

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OFFICE	HFEB <i>mf</i>	HFEB <i>mf</i>	HFEB <i>SHW</i>			
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DATE	11/23/83	11/23/83	11/23/83			

WNP-2 HEDs TO BE CORRELATED BEFORE LICENSING

1. Commitments made in the WNP-2 Control Room Design Review Preliminary Report

The following HEDs are identified by the Finding number as given in Part C of the staff's Human Factors Engineering Preliminary Design Assessment Audit Report, and the corresponding WNP-2 HED number as given in the applicant's Control Room Design Review Preliminary Report. Staff comments associated with some of these HEDs are identified by a parenthetical number following the finding number. These staff comments are listed at the end of this section.

<u>Finding</u>	<u>WNP-2 HED</u>	<u>Finding</u>	<u>WNP-2 HED</u>	<u>Finding</u>	<u>WNP-2 HED</u>
1.13	24.5.1	3.40 (5)	14.3.8.k	4.18	24.6.33
1.14	21.3.2	3.41	14.3.8.l	5.2	10.3.6
1.15 (1)	3.3.1.d	3.42	24.3.9.a	5.5	11.3.2
1.16 (2)	24.5.10	3.43	24.3.9.b	5.9	24.7.2
1.19 (3)	19.3.1	3.44	24.3.9.c	5.10	24.4.3
3.1	24.3.1	3.45	24.3.9.d	5.12	24.4.2
3.2	24.3.2	3.46	14.3.10	5.13	10.3.5
3.3	24.3.3	3.47	14.3.5	5.14	24.6.3
3.6	14.3.20	3.51	14.5.5.2.c	5.18	10.3.16
3.7	14.3.9	3.52 (4)	14.5.3.2	5.19	24.4.6
3.12	24.3.8	3.53	14.5.4.3	5.20	24.4.7
3.19 (4)	18.3.1	3.54	14.3.12	5.21	24.4.8
3.22	14.5.3.3	4.9	13.3.7.c	5.23	24.6.25
3.29	14.3.4	4.10	13.3.13	5.24	10.3.13
3.30 (5)	14.3.8.a	4.11	3.3.2.b	5.25	10.3.15
3.31 (5)	14.3.8.b	4.12	13.3.1.a	5.26	6.3.2
3.32 (5)	14.3.8.c	4.13	13.3.1.c	5.27	24.4.4
3.33 (5)	14.3.8.d	4.14	13.3.3	5.28	24.6.30
3.34 (5)	14.3.8.e	4.15	13.3.2	5.29	24.6.22
3.38 (5)	14.3.8.f	4.16	13.3.15	5.30 (6)	11.3.7
3.39 (5)	14.3.8.g	4.17	13.3.16	5.34 (7)	12.3.2

<u>Finding</u>	<u>WNP-2 HED</u>	<u>Finding</u>	<u>WNP-2 HED</u>	<u>Finding</u>	<u>WNP-2 HED</u>
5.65 (7)	12.3.3	6.27	7.3.37	6.56	7.3.23
6.1	7.3.1	6.28	13.3.17	6.57	7.3.24
6.2	6.3.8	6.29	24.6.7	6.58	7.3.26
6.3	7.3.2	6.30	24.6.14	6.59	7.3.27
6.4	7.3.4	6.31	24.6.16	6.60	24.6.12
6.5	7.3.7	6.32	24.6.17	6.61	24.6.15
6.6	7.3.9	6.33	24.6.18	6.62	24.6.20
6.7	11.3.6	6.34	24.6.19	6.63	13.3.4
6.8	24.6.8	6.35	5.3.14	6.64 (9)	7.3.28
6.9	24.6.9	6.36	7.3.3	6.65	7.3.5
6.10	7.3.10	6.37	7.3.6	6.66	7.3.11
6.11	7.3.3.2	6.38	7.3.38	6.67	13.3.5
6.12	7.3.43	6.39	7.3.39	6.69	10.3.7
6.13	7.3.40.a	6.40	11.3.8	6.70	5.3.1
6.14	7.3.40.b	6.41	11.3.9	6.71	5.3.2
6.15	7.3.40.c	6.42	11.3.10	6.73	24.6.1
6.16	7.3.40.d	6.43	7.3.15	6.74	6.3.4
6.17	7.3.40.e	6.44	7.3.16	6.75	5.3.3
6.18 (8)	7.3.41	6.45	7.3.25	6.77	5.3.8
6.19	7.3.42	6.47	7.3.17	6.79	24.6.3
6.20	24.6.21	6.48	7.3.18	6.80	5.3.5
6.21	5.3.4	6.49	7.3.19	6.81	5.3.6
6.22	7.3.33	6.50	24.6.10	7.2	15.3.2
6.23	7.3.34	6.51	24.6.11	8.1	5.3.16.h
6.24	7.3.8	6.52	7.3.13	8.4	12.3.4.d
6.25	7.3.35	6.54	7.3.21	8.5	24.5.6
6.26	7.3.36	6.55	7.3.22	8.8	5.3.16.j

<u>Finding</u>	<u>WNP-2 HED</u>	<u>Finding</u>	<u>WNP-2 HED</u>	<u>Finding</u>	<u>WNP-2 HED</u>
8.10	24.5.8	8.18	5.3.16.g	8.25	24.5.2
8.12	13.3.10	8.19	24.6.5	8.27	5.3.19
8.13	12.3.4.a	8.20	24.7.5	8.28	24.6.6
8.14	12.3.4.b	8.21	5.3.10	8.29	5.3.18
8.15	12.3.4.b	8.22	5.3.11	8.30	5.3.12
8.16	5.3.16.d	8.23	5.3.20	8.49	5.3.16.b
8.17	5.3.16.f	8.24	5.3.22		

Notes

- (1) Legibility of illuminated status indicators should be reviewed and verified before licensing.
- (2) Glare and parallax should be reviewed and verified as acceptable before licensing.
- (3) See finding 1.36. Diffusers for remote shutdown panel light fixtures should be installed before licensing. Temporary solutions are acceptable.
- (4) This HED should be reviewed in conjunction with finding 3.22.
- (5) The wording of these alarm panels does not clearly define the meaning of the alarm.
- (6) Pen color parameter should be noted on all recorders.
- (7) Shift turnover procedures should be reviewed and verified before licensing. A detailed review of the single indicating light problem and potential design solutions should be made during the DCRDR.
- (8) Verification that an administrative procedure controlling the use of temporary labels is in place should be provided before licensing.
- (9) See finding 6.108 concerning labels with too narrow stroke width. (In Part 2).

2. Commitments made in the WNP-2 response to the NRC Preliminary Design Assessment Audit Report and the NRC/WPPSS meeting of November 2, 1983.

The following HEDs are identified by the Part and Finding number as given in the staff's Human Factors Engineering Preliminary Design Assessment Audit Report. The applicant's proposed solutions were given in the WNP-2 response to the staff's Audit Report, and reference the staff's Part and Finding number.

<u>Finding</u>	<u>Finding</u>	<u>Finding</u>	<u>Finding</u>
<u>Part A</u>	<u>Part D (cont'd)</u>	<u>Part D (cont'd)</u>	<u>Part E</u>
1.1	5.41	6.107	1.32
1.18	5.43	6.108	3.67
1.20	5.45	6.109	3.68
1.31	5.48	6.110	3.71 (2)
3.5	5.50	6.111	4.31
<u>Part D</u>	6.87	6.112	5.8
1.21	6.88	7.4	5.62 (3)
1.28	6.89	7.10	6.53
3.57	6.90	8.31	6.113
3.58	6.93	8.33	<u>Part F</u>
3.62	6.94	8.34	3.72
3.64	6.95	8.35	3.74
4.20	6.96	8.36	4.32
4.24	6.99	8.40	4.36
5.33	6.100 (1)	8.41	5.60
5.34	6.102	8.42	5.68
5.36	6.103	8.44	5.71
5.37	6.104		5.73
			5.76
			8.48

Notes:

- (1) Temporary labels acceptable until permanent labels are installed.
- (2) Mushroom heads, main benchboards.
- (3) Temporary markings on selected indicators.