

APR - 8 1986

DMS

Docket No. 50-255

Consumers Power Company
ATTN: Dr. F. W. Buckman
Vice President
Nuclear Operations
212 West Michigan Avenue
Jackson, MI 49201

Gentlemen:

The NRC's Office for Analysis and Evaluation of Operational Data (AEOD) has completed an assessment of 10 Palisades Licensee Event Reports (LER's) as part of the NRC's Systematic Assessment of Licensee Performance (SALP) Report, which was mailed to you on February 12, 1986.

Enclosed (Attachment B) is the assessment of the LERs from Palisades. In general, AEOD found these LERs to be of above average quality based on the requirements contained in 10 CFR 50.73. The Palisades LERs have the third highest overall average score of the 24 units that have been evaluated to date using this methodology. What makes this fact interesting is that this was accomplished, (1) without the use of an outline format which the other high scoring units use, and (2) in spite of the fact that two of the ten LERs were of below average quality. If Palisades were to implement the use of a good format and improve their review process so as to identify and correct those few LERs which are not meeting current requirements or which contain minor deficiencies, Palisades could submit even higher quality LERs in the future. The enclosed report provides the basis for this finding. The enclosed report is being provided so that the specific deficiencies noted can be corrected in future LERs.

In addition, AEOD recently completed a study (AEOD/P504) of unplanned reactor trips that occurred in 1984. A summary table of reactor trip frequencies from that study is provided in Attachment A for your information.

No reply to this letter is required. If you have any questions, please contact W. G. Guldmond at (312) 790-5574.

Sincerely,

"Original Signed by E.G. Greenman"

Charles E. Norelius, Director
Division of Reactor Projects

Enclosure: AEOD Assessment

See Attached Distribution

8604080266 860403
PDR ADOCK 05000255
G PDR

11
TEOI

Distribution

cc w/enclosure:

Mr. Kenneth W. Berry, Director
 Nuclear Licensing
 J. F. Firlit, General Manager
 DCS/RSB (RIDS)
 Licensing Fee Management Branch
 Resident Inspector, RIII
 Ronald Callen, Michigan
 Public Service Commission
 Nuclear Facilities and
 Environmental Monitoring
 Section

RIII *go* RIII
St. Aubert
 Suermann/jlk *for JAF*
 3/28 *3/28*

RIII
[Signature]
 Gutdemond
 3/28

RIII
[Signature]
 Norelius

RIII
~~Davis~~

RIII
~~Kepler~~

ATTACHMENT A

APPENDIX A 1984 REACTOR TRIP RATES

NAME	MANUAL	AUTO MATIC	LESS THAN OR EQUAL 15% POWER	GREATER THAN 15% POWER	CRITICAL HOURS	TRIP RATE PER 1000 HOURS POWER GT 15	MEAN TIME BETWEEN TRIPS POWER GT 15%
BRUNSWICK 1	0	7	2	5	7023.8	0.71	1404.8
CALVERT CLIFFS 1	4	1	0	5	7531.0	0.66	1506.2
PALISADES	0	1	0	1	1550.5	0.64	1550.5
PEACH BOTTOM 3	1	4	0	5	7757.7	0.64	1551.5
QUAD CITIES 1	1	3	0	3	4766.9	0.63	1589.0
ZION 1	0	6	2	4	6319.8	0.63	1579.9
BROWNS FERRY 1	4	4	0	4	8067.4	0.62	1613.5
BEAVER VALLEY 1	1	6	0	4	6476.3	0.62	1619.1
OCONEE 3	0	4	0	4	6520.7	0.61	1630.2
MAINE YANKEE	1	7	0	4	6688.8	0.60	1672.2
SAN ONOFRE 2	1	4	2	3	5272.4	0.57	1757.5
FITZPATRICK	0	4	0	4	7087.2	0.56	1771.8
ARKANSAS 1	0	3	0	3	6222.4	0.48	2074.1
DRESDEN 2	0	3	0	3	6511.4	0.46	2170.5
INDIAN POINT 2	1	5	2	2	4718.4	0.42	2359.2
OCONEE 1	1	3	0	3	7452.4	0.40	2484.1
D. C. COOK 1	0	3	0	3	8085.9	0.37	2695.3
PRAIRIE ISLAND 1	0	4	1	2	8321.3	0.36	2773.8
BROWNS FERRY 2	0	3	0	2	5895.7	0.34	2947.9
COOPER	0	3	1	2	5952.6	0.34	2976.3
NORTH ANNA 2	1	4	2	2	6136.0	0.33	3068.0
ZION 2	2	6	5	2	6285.2	0.32	3142.6
HADDAM NECK	1	3	1	2	6515.6	0.31	3257.8
CALVERT CLIFFS 2	1	2	0	2	6630.2	0.30	3315.1
QUAD CITIES 2	0	4	0	2	6988.6	0.29	3494.3
VERMONT YANKEE	1	2	0	2	7115.2	0.28	3557.6
KEWAUNEE	0	5	2	2	7570.5	0.26	3785.3
CRYSTAL RIVER 3	0	2	0	2	8346.5	0.24	4173.3
MILLSTONE 2	1	2	1	2	8596.8	0.23	4298.4
FORT CALHOUN 1	1	1	0	1	5386.3	0.19	5386.3
R. E. GINNA	0	1	0	1	6848.7	0.15	6848.7
FARLEY 1	0	1	0	1	7005.8	0.14	7005.8
BIG ROCK POINT	0	3	0	0	6981.9	0.00	.
SAN ONOFRE 1	0	0	0	0	888.6	0.00	.
OYSTER CREEK	0	2	0	0	1700.0	0.00	.
NINE MILE POINT 1	0	1	1	0	6414.0	0.00	.
MILLSTONE 1	0	0	0	0	6990.2	0.00	.
H. B. ROBINSON	0	1	0	0	616.1	0.00	.

APPENDIX A 1984 REACTOR TRIP RATES

NAME	MANUAL	AUTO MATIC	LESS THAN OR EQUAL 15% POWER	GREATER THAN 15% POWER	CRITICAL HOURS	TRIP RATE PER 1000 HOURS POWER GT 15	MEAN TIME BETWEEN TRIPS POWER GT 15%
WPPSS 2	4	20	7	17	2983.0	5.70	175.5
CALLAWAY 1	1	13	6	6	1131.5	5.30	188.6
GRAND GULF 1	2	6	3	4	1010.0	3.98	252.5
SUSQUEHANNA 2	2	8	3	7	2145.9	3.28	306.6
SALEM 1	0	10	1	7	2872.3	2.62	381.8
MCGUIRE 2	5	13	0	16	6138.3	2.61	383.6
SALEM 2	0	10	2	8	3386.0	2.38	423.3
HATCH 2	0	7	0	7	3108.7	2.25	444.1
DIABLO CANYON 1	0	7	3	2	967.1	2.07	483.6
LASALLE 2	3	8	2	9	4469.8	2.01	496.6
SURRY 2	2	13	2	12	7435.3	1.61	619.6
BROWNS FERRY 3	2	0	1	1	700.7	1.43	700.7
LASALLE 1	0	9	0	9	6280.0	1.43	697.8
SEQUOYAH 2	0	10	0	9	6334.0	1.42	703.8
NORTH ANNA 1	2	7	2	6	4759.9	1.26	793.3
ST LUCIE 2	1	9	0	9	7379.2	1.22	819.9
TURKEY POINT 4	0	11	3	6	5079.8	1.18	846.6
SURRY 1	1	7	2	6	5293.7	1.13	882.3
D C COOK 2	2	6	1	6	5294.8	1.13	882.5
SEQUOYAH 1	1	12	4	7	6206.1	1.13	886.8
SUMMER	0	12	5	6	5553.4	1.08	925.6
SUSQUEHANNA 1	1	6	0	7	6549.3	1.07	935.6
DRESDEN 3	0	9	4	4	3889.0	1.03	972.3
TROJAN	0	7	2	5	4895.4	1.02	979.1
INDIAN POINT 3	0	9	0	7	6941.6	1.01	991.7
TURKEY POINT 3	1	8	1	7	7366.6	0.95	1052.4
LA CROSSE	1	8	0	7	7437.0	0.94	1062.4
ST LUCIE 1	2	4	1	5	5555.2	0.90	1111.0
HATCH 1	3	7	3	5	5638.7	0.89	1127.7
MCGUIRE 1	0	5	0	5	5638.7	0.82	1218.2
SAN ONOFRE 3	0	9	3	4	6090.8	0.79	1267.7
ARKANSAS 2	0	15	6	6	5070.7	0.79	1272.0
YANKEE ROWE	2	3	0	5	7631.9	0.78	1279.7
RANCHO SECO 1	0	4	0	4	8398.6	0.78	1279.7
BRUNSWICK 2	0	3	1	2	5338.8	0.75	1334.7
DUANE ARNOLD	0	6	1	5	2650.1	0.75	1325.1
DAVIS-BESSE 1	1	4	0	4	6627.1	0.75	1325.4
FARLEY 2	1	5	0	6	5529.0	0.72	1382.3
					8375.7	0.72	1396.0

APPENDIX A 1984 REACTOR TRIP RATES

NAME	MANUAL	AUTO MATIC	LESS THAN OR EQUAL 15% POWER	GREATER THAN 15% POWER	CRITICAL HOURS	TRIP RATE PER 1000 HOURS POWER GT 15	MEAN TIME BETWEEN TRIPS POWER GT 15%
MONTICELLO	0	0	0	0	810.6	0	.
POINT BEACH 1	1	1	0	0	6420.1	0	.
OCONEE 2	0	0	0	0	8784.0	0	.
PEACH BOTTOM 2	0	0	0	0	2583.9	0	.
PILGRIM	0	0	0	0	170.3	0	.
POINT BEACH 2	0	1	0	0	7544.2	0	.
PRAIRIE ISLAND 2	0	0	0	0	7844.0	0	.
BYRON 1	2	0	0	0	0.0	.	.

ATTACHMENT B

AEOD INPUT TO SALP REVIEW FOR PALISADES

Introduction

In order to evaluate the overall quality of the contents of the Licensee Event Reports (LERs) submitted by Palisades during the November 1, 1984 to October 31, 1985 Systematic Assessment of Licensee Performance (SALP) assessment period, a sample of the unit's LERs was evaluated using a refinement of the basic methodology presented in NUREG/CR-4178¹. The sample consists of 10 LERs which were all the LERs on file at the time the evaluation was started. See Appendix A for a list of the LER numbers in the sample.

It was necessary to start the evaluation before the end of the SALP assessment period because the input was due such a short time after the end of the SALP period. Therefore, not all of the LERs prepared during the SALP assessment period were available for review.

Methodology

The evaluation consists of a detailed review of each selected LER to determine how well the content of its text, abstract, and coded fields meets the requirements of NUREG-1022², and Supplements 1³ and 2⁴ to NUREG-1022.

The evaluation process for each LER is divided into two parts. The first part of the evaluation consists of documenting comments specific to the content and presentation of each LER. The second part consists of determining a score (0-10 points) for the text, abstract, and coded fields of each LER.

The LER specific comments serve two purposes; (1) they point out what the analysts considered to be the specific deficiencies or observations concerning the information pertaining to the event, and (2) they provide a basis for a count of general deficiencies for the overall sample of LERs

that were reviewed. Likewise, the scores serve two purposes; (1) they serve to illustrate in numerical terms how the analysts perceived the content of the information that was presented, and (2) they provide a basis for the overall score determined for each LER. The overall score for each LER is the result of combining the scores for the text, abstract, and coded fields (i.e., $0.6 \times \text{text score} + 0.3 \times \text{abstract score} + 0.1 \times \text{coded fields score} = \text{overall LER score}$).

Evaluation Results

The results of the LER quality evaluation are divided into two categories: (1) detailed information and (2) summary information. The detailed information, presented in Appendices A through D, consists of LER sample information (Appendix A), a table of the scores for each sample LER (Appendix B), tables of the number of deficiencies and observation for the text, abstract and coded field (Appendix C), and comment sheets containing narrative statements concerning the contents of each LER (Appendix D). When referring to these appendices, the reader is cautioned not to try to directly correlate the number of comments on a comment sheet with the LER scores, as the analyst has flexibility to consider the magnitude of a deficiency when assigning scores.

Discussion of Results

Although the purpose of this evaluation was to assess the quality of the contents of the individual LERs selected for review, the analysts often make other observations which they believe should be brought to the attention of the reader. The following discussion addresses a general observation that was noticed for Palisades during the evaluation of the unit's LERs.

General Observation

The Palisades LERs have the third highest overall average score of all the units that have been evaluated to date using this methodology. What makes this fact interesting is that this was accomplished: (1) without the

use of an outline format which the other high scoring units use, and (2) in spite of the fact that two of the ten LERs were of below average quality.

It is the analysts' opinion that if Palisades were to implement the use of a good format and improve their review process so as to identify and correct those few LERs which are not meeting current requirements or which contain minor deficiencies, Palisades could attain even higher quality LERs in the future.

LER Quality Results

A discussion of the analysts' conclusions concerning LER quality are presented below. These conclusions are based solely on the results of the evaluation of the contents of the LERs selected for review and as such represent the analysts' assessment of each units performance (on a scale of 0 to 10) in submitting LERs that meet the requirements of 10 CFR 50.73(b).

Table 1 presents the average scores for the sample of LERs evaluated for Palisades. The reader is cautioned that the scores resulting from the methodology used for this evaluation are not directly comparable to the scores contained in NUREG/CR-4178 due to refinements in the methodology. In order to place the scores provided in Table 1 in perspective, the scores from other units that have been evaluated using this methodology are provided in Table 2. Additional units will be added to Table 2 as they are evaluated. Table 3 and Appendix Table B-1 provide a summary of the information that is the basis for the average scores in Table 1. For example, Palisades' average score for the text of the LERs that were evaluated is 8.4 out of a possible 10 points. From Table 3 it can be seen that the text score actually resulted from the review and evaluation of 17 different requirements ranging from the discussion of plant operating conditions before the event [10 CFR 50.73(b)(2)(ii)(A)] to text presentation. The percent scores in the text summary section of Table 3 provide an indication of how well each text requirement was addressed by the licensee for the 10 LERs that were evaluated.

TABLE 1. SUMMARY OF SCORES^a FOR PALISADES

	<u>Average</u>	<u>High</u>	<u>Low</u>
Text	8.4	9.3	7.1
Abstract	8.3	10.0	5.0
Coded Fields	8.5	9.5	7.8
Overall	8.4 ^b	9.5	6.6

a. See Appendix B for a summary of scores for each LER that was evaluated.

b. Overall Average = 60% Text Average + 30% Abstract Average + 10% Coded Fields Average.

TABLE 2. COMPARISON OF AVERAGE SCORES FROM OTHER UNITS

<u>Unit Name^a</u>	<u>End SALP Period</u>	<u>Text Average</u>	<u>Abstract Average</u>	<u>Coded Fields Average</u>	<u>Overall Average</u>
Salem 2	9-30-85	8.9	8.9	8.6	8.9
Salem 1	9-30-85	8.6	9.0	8.9	8.8
Palisades	10-31-85	8.4	8.3	8.5	8.4
LaSalle 1	9-30-85	7.9	8.1	8.6	8.0
LaSalle 2	9-30-85	8.0	7.7	8.6	8.0
Catawba 1	9-30-85	8.0	7.4	8.6	7.9
Trojan	10-31-85	7.8	7.6	8.9	7.8
Pilgrim 1	10-31-85	7.6	7.8	8.1	7.7
Beaver Valley 1	9-30-85	7.2	8.3	8.8	7.7
Maine Yankee	10-31-85	7.5	7.3	8.5	7.5
Quad Cities 2	9-30-85	7.9	6.4	8.6	7.5
Byron 1	10-31-85	7.5	7.3	8.3	7.5
Quad Cities 1	9-30-85	7.9	6.5	8.4	7.5
Brunswick 1	10-31-85	6.8	8.5	8.5	7.5
D. C. Cook 2	9-30-85	6.7	8.3	8.4	7.3
Dresden 3	9-30-85	7.2	7.3	8.0	7.3
Palo Verde 1	9-30-85	6.8	7.7	8.4	7.3
D. C. Cook 1	9-30-85	6.4	8.3	8.4	7.2
Zion 2	9-30-85	7.2	6.7	8.2	7.1
Robinson 2	10-31-85	7.1	6.9	7.8	7.1
Vermont Yankee	10-18-85	7.0	7.0	8.2	7.1
Dresden 2	9-30-85	6.9	7.3	7.9	7.1

TABLE 2. (continued)

<u>Unit Name^a</u>	<u>End SALP Period</u>	<u>Text Average</u>	<u>Abstract Average</u>	<u>Coded Fields Average</u>	<u>Overall Average</u>
Brunswick 2	10-31-85	6.0	7.9	8.8	6.8
Zion 1	9-30-85	6.0	7.5	7.9	6.6

a. Units are ordered by overall average score.

TABLE 3. LER REQUIREMENT PERCENTAGE SCORES FOR PALISADES

<u>TEXT</u>	Percentage Scores () ^a
<u>Requirements [50.73(b)] - Descriptions</u>	
(2)(ii)(A) - - Plant condition prior to event	90 (10)
(2)(ii)(B) - - Inoperable equipment that contributed	b
(2)(ii)(C) - - Date(s) and approximate times	72 (10)
(2)(ii)(D) - - Root cause and intermediate cause(s)	89 (10)
(2)(ii)(E) - - Mode, mechanism, and effect	100 (6)
(2)(ii)(F) - - EIIS Codes	85 (10)
(2)(ii)(G) - - Secondary function affected	b
(2)(ii)(H) - - Estimate of unavailability	71 (7)
(2)(ii)(I) - - Method of discovery	90 (10)
(2)(ii)(J)(1) - Operator actions affecting course	100 (8)
(2)(ii)(J)(2) - Personnel error (procedural deficiency)	96 (3)
(2)(ii)(K) - - Safety system responses	100 (2)
(2)(ii)(L) - - Manufacturer and model no. information	67 (6)
(3) - - - - - Assessment of safety consequences	80 (10)
(4) - - - - - Corrective actions	82 (10)
(5) - - - - - Previous similar event information	70 (10)
(2)(i) - - - - - Text presentation	79 (10)

ABSTRACT

<u>Requirements [50.73(b)(1)] - Descriptions</u>	Percentage Scores () ^a
- Major occurrences (Immediate cause and effect information)	91 (10)
- Description of plant, system, component, and/or personnel responses	94 (10)
- Root cause information	77 (10)
- Corrective Action information	71 (10)
- Abstract presentation	82 (10)

TABLE 3. (continued)

<u>CODED FIELDS</u>	<u>Percentage Scores ()^a</u>
<u>Item Number(s) - Description</u>	
1, 2, and 3 - Facility name (unit no.), docket no. and page number(s)	100 (10)
4 - - - - - Title	54 (10)
5, 6, and 7 - Event date, LER No., and report date	92 (10)
8 - - - - - Other facilities involved	100 (10)
9 and 10 - - Operating mode and power level	93 (10)
11 - - - - - Reporting requirements	100 (10)
12 - - - - - Licensee contact information	100 (10)
13 - - - - - Coded component failure information	96 (10)
14 and 15 - - Supplemental report information	95 (10)

a. Percentage scores are the result of dividing the total points for a requirement by the number of points possible for that requirement. (Note: Some requirements are not applicable to all LERs, therefore, the number of points possible was adjusted accordingly.) The number in parenthesis is the number of LERs for which the requirement was considered applicable.

b. A percentage score for this requirement is meaningless as it is not possible to determine from the information available to the analyst whether this requirement is applicable to a specific LER. It is always given 100% if it is provided and is always considered "not applicable" when it is not.

Discussion of Specific Deficiencies

A review of the percentage scores presented in Table 3 will quickly point out where the licensee is experiencing the most difficulty in preparing LERs. For example, the first deficiency that stands out involves text requirement 50.73(b)(2)(ii)(C)--Dates and approximate times of occurrences. Six of the ten LERs failed to provide enough dates and/or times to enable the reader to gain an adequate time history for the occurrences discussed in the text. Related to this is the 71% score for Requirement 50.73(b)(2)(ii)(H). Adequate dates or times are not included in two of the LERs involving safety system trains; therefore, the unavailability time for the safety system or component can not be determined. Time information concerning unavailability due to failure, repair, surveillance, or other factors is important to those people using LER data for risk assessment purposes and should be included when appropriate.

Requirement 50.73(b)(3)--Assessment of Safety Consequences is being addressed, but not adequately for all LERs. Five of the ten LERs are considered to be deficient in this area because the statements concerning the consequences and safety implication leave the reader with unanswered questions. The following statements, taken from the Palisades LERs, will illustrate the problem: (1) "The boron concentration was within limits therefore there was no safety consequence", (2) "and there were no challenges to the system", (3) "the problem was immediately recognized and corrected", (4) "since no adjustments were required", and (5) "since all remaining safety features were operable". While all these statements are undoubtedly true, the reader is still left with the questions such as, "What if the boron concentration had been diluted?", "What if there had been a challenge to the system?", and "What were the other remaining safety features?". It is not enough to state that there were no safety consequences because nothing bad happened. The reader is interested in knowing what could have been the consequences and what other systems were available to mitigate these postulated (but probable) consequences.

The manufacturer and model number for all failed equipment discussed in the text was not always provided. Component identification should be provided in the text whenever a component is suspected to have contributed to the event. Faulted components need not be identified unless their design is somehow suspected to have contributed to the fault.

Information concerning previous similar events was not provided in three of the ten LERs. Similar events should be referenced by LER number or, if there have been no previous similar events, the text should state same. The text presentation, while generally good, would be enhanced by the use of an outline (see Supplement Number 2 to NUREG-1022, page D-1).

The abstract scores for root cause and corrective action are the result of not adequately summarizing the information that is present in the text. Note that the scores for these text requirements are higher than the abstract scores indicating that not all of the root cause or corrective action information was summarized in the abstract.

The main deficiency in the area of coded fields involve the title. None of the ten titles indicated root cause. All do provide information concerning the result of the event (i.e., why the event was required to be reported), but the link (i.e., circumstances or conditions which tie the root cause to the result) was missing in seven of the LERs. An example of a title that only addressed result might be "Reactor Scram". This is inadequate in that the cause and link are not provided. A more appropriate title might be "Inadvertant Relay Actuation During Surveillance Test LOP-1 Causes Reactor Scram". From this title the reader knows the cause was either personnel or procedural and testing was the factor linking the cause and the result.

The operating mode and the report date were left blank for two LERs. While this is obviously a minor problem, it does demonstrate the need for a better final review prior to submittal.

Table 4 provides a summary of the areas that need improvement for the Palisades LERs. For more specific information concerning deficiencies the reader should refer to the information presented in Appendices C and D. General guidance concerning these requirements can be found in NUREG-1022, Supplement No. 2.

TABLE 4. AREAS MOST NEEDING IMPROVEMENT FOR PALISADES LERs

Areas	Comments
Safety assessment information	Statements involving consequences or implications were often boiler plate statements such as, "minimal safety significance because all system functioned as designed". More effort should be placed on providing a discussion of the safety implications which will justify the boiler plate statements.
Manufacturer and model number information	Component identification information should be included in the text whenever a component fails or is suspected to have contributed to the event because of its design.
Date and time information	Sufficient dates and times should be included in the text to enable the reader to have a time history of the event and/or to determine the length of time that safety system trains or components were out of service.
Previous similar events	Previous similar events should be referenced (LER Number) or the text should state there are none.
EIIIS codes	Codes for each component and system involved in the event should be provided.
Text presentation and readability	An outline format is recommended.
Abstract	Root cause and corrective action information is not being adequately summarized.
Coded Fields	
a. Titles	Titles need to be written such that they provide the root cause and result of the event and the cause can be linked to the result.

REFERENCES

1. B. S. Anderson, C. F. Miller, B. M. Valentine, An Evaluation of Selected Licensee Event Reports Prepared Pursuant to 10 CFR 50.73 (DRAFT), NUREG/CR-4178, March 1985.
2. Office for Analysis and Evaluation of Operational Data, Licensee Event Report System, NUREG-1022, U.S. Nuclear Regulatory Commission, September 1983.
3. Office for Analysis and Evaluation of Operational Data, Licensee Event Report System, NUREG-1022 Supplement No. 1, U.S. Nuclear Regulatory Commission, February 1984.
4. Office for Analysis and Evaluation of Operational Data, Licensee Event Report System, NUREG-1022 Supplement No. 2, U.S. Nuclear Regulatory Commission, September 1985.

APPENDIX A
LER SAMPLE SELECTION
INFORMATION
FOR PALISADES

TABLE A-1. LER SAMPLE SELECTION FOR PALISADES (255)

<u>LER Sample Number</u>	<u>LER Number</u>	<u>Comments</u>
1	84-023-02	
2	84-024-00	
3	84-025-00	
4	84-026-01	
5	84-027-00	
6	85-002-00	
7	85-004-00	
8	85-005-00	
9	85-006-00	
10	85-007-00	

APPENDIX B
EVALUATION SCORES OF
INDIVIDUAL LERS FOR PALISADES

TABLE B-1. EVALUATION SCORES OF INDIVIDUAL LERs FOR PALISADES

	LER Sample Number ^a															
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Text	9.2	8.5	7.1	8.0	8.9	9.0	7.6	8.2	7.9	9.3	--	--	--	--	--	--
Abstract	10.0	8.1	5.0	8.5	9.8	9.3	8.8	9.1	6.8	7.8	--	--	--	--	--	--
Coded Fields	9.5	8.0	7.9	8.9	8.5	7.8	9.0	8.9	8.5	8.0	--	--	--	--	--	--
Overall	9.5	8.4	6.6	8.3	9.1	9.0	8.1	8.5	7.6	8.7	--	--	--	--	--	--

	LER Sample Number														AVERAGE
	17	18	19	20	21	22	23	24	25	26	27	28	29	30	
Text	--	--	--	--	--	--	--	--	--	--	--	--	--	--	8.4
Abstract	--	--	--	--	--	--	--	--	--	--	--	--	--	--	8.3
Coded Fields	--	--	--	--	--	--	--	--	--	--	--	--	--	--	8.5
Overall	--	--	--	--	--	--	--	--	--	--	--	--	--	--	8.4

a. See Appendix A for a list of the corresponding LER numbers.

APPENDIX C

DEFICIENCY AND OBSERVATION
COUNTS FOR PALISADES

TABLE C-1. TEXT DEFICIENCIES AND OBSERVATIONS FOR PALISADES

Description of Deficiencies and Observations	Number of LERs with Deficiencies and Observations	
	Sub-paragraph Totals ^a	Paragraph Totals () ^b
50.73(b)(2)(ii)(A)--Plant operating conditions before the event were not included or were inadequate.		2 (10)
50.73(b)(2)(ii)(B)--Discussion of the status of the structures, components, or systems that were inoperable at the start of the event and that contributed to the event was not included or was inadequate.		0 (0)
50.73(b)(2)(ii)(C)--Failure to include sufficient date and/or time information.		6 (10)
a. Date information was insufficient.	0	
b. Time information was insufficient.	6	
50.73(b)(2)(ii)(D)--The root cause and/or intermediate failure, system failure, or personnel error was not included or was inadequate.		3 (10)
a. Cause of component failure was not included or was inadequate	2	
b. Cause of system failure was not included or was inadequate	0	
c. Cause of personnel error was not included or was inadequate.	1	
50.73(b)(2)(ii)(E)--The failure mode, mechanism (immediate cause), and/or effect (consequence) for each failed component was not included or was inadequate.		0 (6)
a. Failure mode was not included or was inadequate		
b. Mechanism (immediate cause) was not included or was inadequate		
c. Effect (consequence) was not included or was inadequate.		

TABLE C-1. (continued)

Description of Deficiencies and Observations	Number of LERs with Deficiencies and Observations	
	Sub-paragraph Totals ^a	Paragraph Totals () ^b
50.73(b)(2)(ii)(F)--The Energy Industry Identification System component function identifier for each component or system was not included.		2 (10)
50.73(b)(2)(ii)(G)--For a failure of a component with multiple functions, a list of systems or secondary functions which were also affected was not included or was inadequate.		0 (0)
50.73(b)(2)(ii)(H)--For a failure that rendered a train of a safety system inoperable, the estimate of elapsed time from the discovery of the failure until the train was returned to service was not included.		2 (7)
50.73(b)(2)(ii)(I)--The method of discovery of each component failure, system failure, personnel error, or procedural error was not included or was inadequate.		1 (10)
a. Method of discovery for each component failure was not included or was inadequate	0	
b. Method of discovery for each system failure was not included or was inadequate	0	
c. Method of discovery for each personnel error was not included or was inadequate	1	
d. Method of discovery for each procedural error was not included or was inadequate.	0	

TABLE C-1. (continued)

Description of Deficiencies and Observations	Number of LERs with Deficiencies and Observations	
	Sub-paragraph Totals ^a	Paragraph Totals () ^b
50.73(b)(2)(ii)(J)(1)--Operator actions that affected the course of the event including operator errors and/or procedural deficiencies were not included or were inadequate.		0 (8)
50.73(b)(2)(ii)(J)(2)--The discussion of each personnel error was not included or was inadequate.		1 (3)
a. OBSERVATION: A personnel error was implied by the text, but was not explicitly stated.	0	
b. 50.73(b)(2)(ii)(J)(2)(i)--Discussion as to whether the personnel error was cognitive or procedural was not included or was inadequate.	0	
c. 50.73(b)(2)(ii)(J)(2)(ii)--Discussion as to whether the personnel error was contrary to an approved procedure, was a direct result of an error in an approved procedure, or was associated with an activity or task that was not covered by an approved procedure was not included or was inadequate.	0	
d. 50.73(b)(2)(ii)(J)(2)(iii)--Discussion of any unusual characteristics of the work location (e.g., heat, noise) that directly contributed to the personnel error was not included or was inadequate.	0	
e. 50.73(b)(2)(ii)(J)(2)(iv)--Discussion of the type of personnel involved (i.e., contractor personnel, utility licensed operator, utility nonlicensed operator, other utility personnel) was not included or was inadequate.	1	

TABLE C-1. (continued)

Description of Deficiencies and Observations	Number of LERs with Deficiencies and Observations	
	Sub-paragraph Totals ^a	Paragraph Totals () ^b
50.73(b)(2)(ii)(K)--Automatic and/or manual safety system responses were not included or were inadequate.		0 (2)
50.73(b)(2)(ii)(L)--The manufacturer and/or model number of each failed component was not included or was inadequate.		2 (6)
50.73(b)(3)--An assessment of the safety consequences and implications of the event was not included or was inadequate.		5 (10)
a. OBSERVATION: The availability of other systems or components capable of mitigating the consequences of the event was not discussed. If no other systems or components were available, the text should state that none existed.	1	
b. OBSERVATION: The consequences of the event had it occurred under more severe conditions were not discussed. If the event occurred under what were considered the most severe conditions, the text should so state.	1	
50.73(b)(4)--A discussion of any corrective actions planned as a result of the event including those to reduce the probability of similar events occurring in the future was not included or was inadequate.		2 (10)

TABLE C-1. (continued)

Description of Deficiencies and Observations	Number of LERs with Deficiencies and Observations	
	Sub-paragraph Totals ^a	Paragraph Totals () ^b
a. A discussion of actions required to correct the problem (e.g., return the component or system to operation condition or correct the personnel error) was not included or was inadequate.	0	
b. A discussion of actions required to reduce the probability of recurrence of the problem or similar event (correct the root cause) was not included or was inadequate.	0	
c. OBSERVATION: A discussion of actions required to prevent similar failures in similar and/or other systems (e.g., correct the faulty part in all components with the same manufacturer and model number) was not included or was inadequate.	1	
<u>50.73(b)(5)</u> --Information concerning previous similar events was not included or was inadequate.		3 (10)

TABLE C-1. (continued)

Description of Deficiencies and Observations	Number of LERs with Deficiencies and Observations	
	Sub-paragraph Totals ^a	Paragraph Totals () ^b
50.73(b)(2)(i)--Text presentation inadequacies.		1 (10)
a. OBSERVATION: A diagram would have aided in understanding the text discussion.	0	
b. Text contained undefined acronyms and/or plant specific designators.	0	
c. The text contains other specific deficiencies relating to the readability.	1	

a. The "sub-paragraph total" is a tabulation of specific deficiencies or observations within certain requirements. Since an LER can have more than one deficiency for certain requirements, (e.g., an LER can be deficient in the area of both date and time information), the sub-paragraph totals do not necessarily add up to the paragraph total.

b. The "paragraph total" is the number of LERs that have one or more requirement deficiencies or observations. The number in parenthesis is the number of LERs for which the requirement was applicable.

TABLE C-2. ABSTRACT DEFICIENCIES AND OBSERVATIONS FOR PALISADES

Description of Deficiencies and Observations	Number of LERs with Deficiencies and Observations	
	Sub-paragraph Totals ^a	Paragraph Totals () ^b
A summary of occurrences (immediate cause and effect) was not included or was inadequate		3 (10)
A summary of plant, system, and/or personnel responses was not included or was inadequate.		1 (10)
a. Summary of plant responses was not included or was inadequate.	0	
b. Summary of system responses was not included or was inadequate.	0	
c. Summary of personnel responses was not included or was inadequate.	1	
A summary of the root cause of the event was not included or was inadequate.		7 (10)
A summary of the corrective actions taken or planned as a result of the event was not included or was inadequate.		6 (10)

TABLE C-2. (continued)

<u>Description of Deficiencies and Observations</u>	<u>Number of LERs with Deficiencies and Observations</u>	
	<u>Sub-paragraph Totals^a</u>	<u>Paragraph Totals ()^b</u>
Abstract presentation inadequacies		5 (10)
a. OBSERVATION: The abstract contains information not included in the text. The abstract is intended to be a summary of the text, therefore, the text should discuss all information summarized in the abstract.	0	
b. The abstract was greater than 1400 characters	2	
c. The abstract contains undefined acronyms and/or plant specific designators.	0	
d. The abstract contains other specific deficiencies (i.e., poor summarization, contradictions, etc.)	3	

a. The "sub-paragraph total" is a tabulation of specific deficiencies or observations within certain requirements. Since an LER can have more than one deficiency for certain requirements, (e.g., an LER can be deficient in the area of both date and time information), the sub-paragraph totals do not necessarily add up to the paragraph total.

b. The "paragraph total" is the number of LERs that have one or more deficiency or observation. The number in parenthesis is the number of LERs for which a certain requirement was applicable.

TABLE C-3. CODED FIELDS DEFICIENCIES AND OBSERVATIONS FOR PALISADES

Description of Deficiencies and Observations	Number of LERs with Deficiencies and Observations	
	Sub-paragraph Totals ^a	Paragraph Totals () ^b
Facility Name		0 (10)
a. Unit number was not included or incorrect.		
b. Name was not included or was incorrect.		
c. Additional unit numbers were included but not required.		
Docket Number was not included or was incorrect.		0 (10)
Page Number was not included or was incorrect.		0 (10)
Title was left blank or was inadequate		10 (10)
a. Root cause was not given in title	10	
b. Result (effect) was not given in title	0	
c. Link was not given in title	7	
Event Date		0 (10)
a. Date not included or was incorrect.		
b. Discovery date given instead of event date.		
LER Number was not included or was incorrect		0 (10)
Report Date		3 (10)
a. Date not included	2	
b. OBSERVATION: Report date was not within thirty days of event date (or discovery date if appropriate).	1	
Other Facilities information in field is inconsistent with text and/or abstract.		0 (10)
Operating Mode was not included or was inconsistent with text or abstract.		1 (10)

TABLE C-3. (continued)

Description of Deficiencies and Observations	Number of LERs with Deficiencies and Observations	
	Sub-paragraph Totals ^a	Paragraph Totals () ^b
Power level was not included or was inconsistent with text or abstract		0 (10)
Reporting Requirements		0 (10)
a. The reason for checking the "OTHER" requirement was not specified in the abstract and/or text.		
b. OBSERVATION: It would have been more appropriate to report the event under a different paragraph.		
c. OBSERVATION: It would have been appropriate to report this event under additional unchecked paragraphs.		
Licensee Contact		0 (10)
a. Field left blank		
b. Position title was not included		
c. Name was not included		
d. Phone number was not included.		
Coded Component Failure Information		2 (10)
a. One or more component failure sub-fields were left blank.	0	
b. Cause, system, and/or component code is inconsistent with text.	0	
c. Component failure field contains data when no component failure occurred.	2	
d. Component failure occurred but entire field left blank.	0	

TABLE C-3. (continued)

Description of Deficiencies and Observations	Number of LERs with Deficiencies and Observations	
	Sub-paragraph Totals ^a	Paragraph Totals () ^b
Supplemental Report		2 (10)
a. Neither "Yes"/"No" block of the supplemental report field was checked.	0	
b. The block checked was inconsistent with the text.	2	
Expected submission date information is inconsistent with the block checked in Item (14).		0 (10)

a. The "sub-paragraph total" is a tabulation of specific deficiencies or observations within certain requirements. Since an LER can have more than one deficiency for certain requirements, (e.g., an LER can be deficient in the area of both date and time information), the sub-paragraph totals do not necessarily add up to the paragraph total.

b. The "paragraph total" is the number of LERs that have one or more requirement deficiencies or observations. The number in parenthesis is the number of LERs for which a certain requirement was applicable.

APPENDIX D
LER COMMENT SHEETS FOR
PALISADES

TABLE D-1. SPECIFIC LER COMMENTS FOR PALISADES (255)

Section	Comments
1. <u>LER Number</u> : 84-023-02	
Scores: Text = 9.2 Abstract = 10.0 Coded Fields = 9.5 Overall = 9.5	
Text	1. <u>50.73(b)(2)(ii)(C)</u> --Approximate times information for occurrences is inadequate.
Abstract	1. The abstract contains greater than 1400 characters.
Coded Fields	1. <u>Item (4)</u> --Title: Root cause and link are not included. 2. <u>Item (7)</u> --The report date is not included on revision zero.

TABLE D-1. SPECIFIC LER COMMENTS FOR PALISADES (255)

Section	Comments
2. <u>LER Number:</u> 84-024-00	
Scores: Text = 8.5 Abstract = 8.1 Coded Fields = 8.0 Overall = 8.4	
Text	<ol style="list-style-type: none"> 1. <u>50.73(b)(2)(ii)(C)</u>--Approximate time information for occurrences is not included. 2. <u>50.73(b)(2)(ii)(H)</u>--The estimate of the elapsed time from the discovery of the failure of a safety system train until the train was returned to service is not included. 3. <u>50.73(b)(2)(ii)(L)</u>--Identification (e.g. manufacturer and model no.) of the failed component(s) discussed in the text is not included. 4. <u>50.73(b)(5)</u>--Information concerning previous similar events is not included. 5. <u>50.73(b)(5)</u>--If no previous similar events are known, the text should so state.
Abstract	<ol style="list-style-type: none"> 1. <u>50.73(b)(1)</u>--Summary of occurrences [immediate cause(s) and effects(s)] is inadequate. 2. <u>50.73(b)(1)</u>--Summary of personnel responses is inadequate. 3. <u>50.73(b)(1)</u>--Summary of root cause is inadequate. 4. <u>50.73(b)(1)</u>--Summary of corrective actions taken or planned as a result of the event is not included.
Coded Fields	<ol style="list-style-type: none"> 1. <u>Item (4)</u>--Title: Root cause and link are not included. 2. <u>Item (7)</u>--OBSERVATION: Report date is not within thirty days of event date (or discovery date if appropriate).

TABLE D-1. SPECIFIC LER COMMENTS FOR PALISADES (255)

Section	Comments
3. <u>LER Number:</u> 84-025-00	
Scores: Text = 7.1 Abstract = 5.0 Coded Fields = 7.9 Overall = 6.6	
Text	<ol style="list-style-type: none"> 1. <u>50.73(b)(2)(ii)(C)</u>--Approximate times information for occurrences is not included. 2. <u>50.73(b)(2)(ii)(L)</u>--Identification (e.g. manufacturer and model no.) of the failed component(s) discussed in the text is not included. 3. <u>50.73(b)(3)</u>--Discussion of the assessment of the safety consequences and implications of the event is not included. 4. <u>50.73(b)(5)</u>--Information concerning previous similar events is not included. 5. <u>50.73(b)(5)</u>--If no previous similar events are known, the text should so state.
Abstract	<ol style="list-style-type: none"> 1. <u>50.73(b)(1)</u>--Summary of occurrences [immediate cause(s) and effects(s)] is inadequate. 2. <u>50.73(b)(1)</u>--Summary of root cause is not included. 3. <u>50.73(b)(1)</u>--Summary of corrective actions taken or planned as a result of the event is not included. 4. Abstract does not adequately summarize the text. Additional space is available within the abstract field to provide the necessary information but it was not utilized.
Coded Fields	<ol style="list-style-type: none"> 1. <u>Item (4)</u>--Title: Root cause is not included. 2. <u>Item (7)</u>--Report date is not included. 3. <u>Item (14)</u>--The block checked is inconsistent with information in the text. Since the root cause was not known, it seems appropriate to submit a supplemental report when it is determined.

TABLE D-1. SPECIFIC LER COMMENTS FOR PALISADES (255)

Section	Comments
4. <u>LER Number:</u> 84-026-01	
Scores: Text = 8.0 Abstract = 8.5 Coded Fields = 8.9 Overall = 8.3	
Text	<ol style="list-style-type: none"> 1. <u>50.73(b)(2)(ii)(C)</u>--The text did not include an initial starting time for the event. 2. <u>50.73(b)(2)(ii)(F)</u>--Some Energy Industry Identification System component function identifiers were not included. 3. <u>50.73(b)(4)</u>--Are there other level detectors which should be included in the updated maintenance schedule?
Abstract	<ol style="list-style-type: none"> 1. <u>50.73(b)(1)</u>--Summary of corrective actions taken or planned as a result of the event is not included.
Coded Fields	<ol style="list-style-type: none"> 1. <u>Item (4)</u>--Title: Root cause is not included. 2. <u>Item (13)</u>--Component failure field contains data when no component failure occurred.

TABLE D-1. SPECIFIC LER COMMENTS FOR PALISADES (255)

Section	Comments
5. <u>LER Number:</u> 84-027-00	
Scores: Text = 8.9	Abstract = 9.8
	Coded Fields = 8.5
	Overall = 9.1
Text	<ol style="list-style-type: none"> 1. <u>50.73(b)(2)(ii)(D)</u>--The text should discuss the reason why the coils were not included in a preventative maintenance schedule. 2. <u>50.73(b)(3)</u>--Discussion of the assessment of the safety consequences and implications of the event is inadequate. <p>OBSERVATION: The availability of other systems or components capable of mitigating the consequences of the event should be discussed. If no other systems or components are available, the text should so state.</p> <p>OBSERVATION: The consequences of the event had it occurred under more severe conditions should be discussed. If the event occurred under what are considered the most severe conditions, the text should so state.</p>
	3. <u>50.73(b)(5)</u> --Information concerning previous similar events is not included.
	4. <u>50.73(b)(5)</u> --If no previous similar events are known, the text should so state.
Abstract	<ol style="list-style-type: none"> 1. <u>50.73(b)(1)</u>--The reason for reporting this event was a common cause resulting in failures in two supposedly independent trains. The abstract only indicates that one failure occurred. 2. <u>50.73(b)(1)</u>--The cause was that no maintenance had been performed because the relays were not included in maintenance procedures; this is more than just inadequate maintenance.
Coded Fields	<ol style="list-style-type: none"> 1. <u>Item (4)</u>--Title: Root cause and link are not included. 2. <u>Item (13)</u>--For information only, only one line needs to be filled in when two or more failed components are identical.

TABLE D-1. SPECIFIC LER COMMENTS FOR PALISADES (255)

Section	Comments
6. <u>LER Number:</u> 85-002-00	
Scores: Text = 9.0 Abstract = 9.3 Coded Fields = 7.8 Overall = 9.0	
Text	<ol style="list-style-type: none"> 1. <u>50.73(b)(2)(ii)(A)</u>--Discussion of plant operating conditions before the event is not included. 2. <u>50.73(b)(2)(ii)(C)</u>--Approximate time information for occurrences is not included. 3. <u>50.73(b)(2)(ii)(J)(2)(iv)</u>--Discussion of the type of personnel involved (i.e., contractor personnel, utility licensed operator, utility nonlicensed operator, other utility personnel) is not included. 4. <u>50.73(b)(3)</u>--Discussion of the assessment of the safety consequences and implications of the event is inadequate.
Abstract	<ol style="list-style-type: none"> 1. <u>50.73(b)(1)</u>--Summary of root cause is inadequate. 2. The referenced LER should have been described as a previous similar event.
Coded Fields	<ol style="list-style-type: none"> 1. <u>Item (4)</u>--Title: Root cause is not included. 2. <u>Item (4)</u>--Title: Link is not included.

TABLE D-1. SPECIFIC LER COMMENTS FOR PALISADES (255)

Section	Comments
7. <u>LER Number:</u> 85-004-00	
Scores: Text = 7.6	Abstract = 8.8 Coded Fields = 9.0 Overall = 8.1
Text	<ol style="list-style-type: none"> 1. The following comments applies to the abstract judged as the text. 2. <u>50.73(b)(2)(11)(C)</u>--Approximate times information for occurrences is not included. 3. <u>50.73(b)(2)(11)(D)</u>--The root and/or intermediate cause discussion for each personnel error is not included. Why was the procedural requirement not performed? 4. <u>50.73(b)(2)(11)(F)</u>--The Energy Industry Identification System component function identifier(s) and/or system name of each component or system referred to in the LER is not included. 5. <u>50.73(b)(2)(11)(I)</u>--Discussion of the method of discovery of the personnel error is not included. How was the error noted? 6. <u>50.73(b)(4)</u>--Discussion of corrective actions taken or planned is inadequate.
Abstract	<ol style="list-style-type: none"> 1. <u>50.73(b)(1)</u>--Summary of root cause is inadequate. 2. <u>50.73(b)(1)</u>--Summary of corrective actions is inadequate.
Coded Fields	<ol style="list-style-type: none"> 1. <u>Item (4)</u>--Title: Root cause is not included.

TABLE D-1. SPECIFIC LER COMMENTS FOR PALISADES (255)

Section	Comments
8. <u>LER Number:</u> 85-005-00	
Scores: Text = 8.2 Abstract = 9.1 Coded Fields = 8.9 Overall = 8.5	
Text	<ol style="list-style-type: none"> 1. <u>50.73(b)(2)(ii)(H)</u>--The estimate of the elapsed time from the discovery of the failure of a safety system train until the train was returned to service is not included. 2. <u>50.73(b)(3)</u>--The safety assessment should be more specific about other systems capable of performing the backup function. 3. Continued investigation into the cause and possible corrective actions imply the need for a supplemental report.
Abstract	<ol style="list-style-type: none"> 1. No comments.
Coded Fields	<ol style="list-style-type: none"> 1. <u>Item (4)</u>--Title: Root cause and link are not included. 2. <u>Item (13)</u>--The breaker is still in working condition (no failure), so this field could have been left blank.

TABLE D-1. SPECIFIC LER COMMENTS FOR PALISADES (255)

Section	Comments
9. <u>LER Number:</u> 85-006-00	
Scores: Text = 7.9 Abstract = 6.8 Coded Fields = 8.5 Overall = 7.6	
Text	<ol style="list-style-type: none"> 1. <u>50.73(b)(2)(ii)(D)</u>--A supplemental report appears to be needed to describe the root cause of the rod drive failure. Without a commitment to submit a supplemental report, this LER must be considered incomplete. 2. <u>50.73(b)(4)</u>--A supplemental report appears to be needed to describe the corrective actions taken once the root cause is known (see comment 1). Without a commitment to submit a supplemental report, this LER must be considered incomplete.
Abstract	<ol style="list-style-type: none"> 1. <u>50.73(b)(1)</u>--Summary of root cause is inadequate. 2. <u>50.73(b)(1)</u>--Summary of corrective actions is inadequate.
Coded Fields	<ol style="list-style-type: none"> 1. <u>Item (4)</u>--Title: Root cause and link are not included. 2. <u>Item (14)</u>--The block checked is inconsistent with information in the text. The ongoing investigation into root cause and corrective actions implies the need for a supplemental report.

TABLE D-1. SPECIFIC LER COMMENTS FOR PALISADES (255)

Section	Comments
10. <u>LER Number:</u> 85-007-00	
Scores: Text = 9.3 Abstract = 7.8 Coded Fields = 8.0 Overall = 8.7	
Text	<ol style="list-style-type: none"> 1. <u>50.73(b)(2)(11)(D)</u>--The root and/or intermediate cause discussion for each valve failure is inadequate. 2. <u>50.73(b)(3)</u>--Discussion of the assessment of the safety consequences and implications of the event is inadequate. 3. Some ideas are not presented clearly (hard to follow).
Abstract	<ol style="list-style-type: none"> 1. <u>50.73(b)(1)</u>--Summary of occurrences [immediate cause(s) and effects(s)] is inadequate. 2. <u>50.73(b)(1)</u>--Summary of root cause of valve failure is not included. 3. <u>50.73(b)(1)</u>--Summary of corrective actions taken or planned as a result of the event is inadequate. 4. The abstract contains greater than 1400 characters.
Coded Fields	<ol style="list-style-type: none"> 1. <u>Item (4)</u>--Title: Root cause and link are not included.
	<p>OBSERVATIONS: Inadequate root cause determination is suggested in view of the previous 36 LER's (1983 and 1984) addressing valve leakage.</p>