



**Consumers
Power**

**POWERING
MICHIGAN'S PROGRESS**

General Offices: 1945 West Parnall Road, Jackson, MI 49201 • (517) 788-0550

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Nuclear Regulatory Commission
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DOCKET 50-255 - LICENSE DPR-20 - PALISADES PLANT -
RESTRUCTURED TECHNICAL SPECIFICATIONS

In Consumers Power Company's September 23, 1988 response to the NRC's SALP 8 Board Report, we informed the NRC of our participation in the industry and NRC efforts to develop Restructured Standard Technical Specifications (RSTS). Following approval of the Combustion Engineering (CE) Owners Group RSTS and approval of the CE lead plant Restructured Technical Specifications (RTS), by the NRC, we indicated we would submit the Palisades RTS. The goal date of the first quarter of 1990 for our submittal was based on the schedule for completion of both the CE RSTS and the lead plant (San Onofre). During the last few months, several interactions between the NUMARC working group on Technical Specifications Improvements and the NRC have taken place concerning review of the RSTS. On December 12, 1989, the NUMARC Working Group met with Dr. T E Murley and members of his staff. A schedule for obtaining NRC review comments and conducting meetings between the industry and NRC staff was agreed upon. The meeting was held as a result of utility concerns expressed in a NUMARC letter dated November 15, 1989, T E Tipton to Dr T E Murley and the NRC response letter dated November 27, 1989, F J Miraglia to T E Tipton.

This agreed upon review schedule presently continues through the end of April 1990. The issuance of the RSTS for all utility owners groups, including the CE Owners Group, will follow. The CE lead plant submittal will follow after April 1990. The NRC staff previously indicated it would require six to nine months to review the lead plant submittals. We expect to submit the Palisades RTS prior to completion of the NRC staff review of the CE lead plant submittal. However, because of uncertainties with the RSTS and lead plant reviews, we cannot provide a firm commitment date. Our goal, though, is to complete our RTS for submittal by the last quarter of 1990.

Slippage in the completion and approval of the CE RSTS has caused the completion date of the Palisades RTS to enter into the same time frame as the scheduled 1990 refueling outage and steam generator replacement. This may

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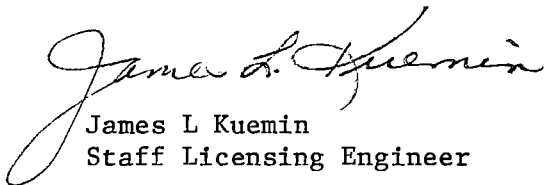
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have an impact on in-house review efforts near the completion of our RTS schedule.

Since Palisades presently has custom Technical Specifications, a major effort has been undertaken to develop an approach which we and the NRC can use to compare present and proposed requirements, show deletions and additions and justify differences. Enclosure 1 provides the approach we plan on using in submitting the Palisades Restructured Technical Specifications. We believe this approach is logical and well suited to our custom Technical Specifications. We have previously discussed this approach with Mr Jose Calvo and members of his Technical Specification Improvement Branch. Enclosure 1 is provided for your information and consideration. We welcome any comments you may have to improve our planned submittal approach.



James L. Kuemin
Staff Licensing Engineer

CC Administrator, Region III, USNRC
NRC Resident Inspector - Palisades

Attachments

ENCLOSURE 1

Consumers Power Company
Palisades Plant
Docket 50-255

PALISADES APPROACH TO LICENSING OF RESTRUCTURED
TECHNICAL SPECIFICATIONS

January 26, 1990

25 Pages

OC0190-0249-NL04

ENCLOSURE 1

PALISADES APPROACH TO LICENSING OF RESTRUCTURED TECHNICAL SPECIFICATIONS

The Owners Groups' Restructured Standard Technical Specifications (RSTS) submittals and future lead plant Restructured Technical Specifications (RTS) submittals will incorporate marked up copies of the current Standard Technical Specifications (STS) to indicate how present requirements were dispositioned along with justifications for change. This approach was attempted in our initial efforts to convert the present custom Technical Specifications (TS) to RTS. However, we determined that this approach was ineffective for custom TS and are modifying the Owners Group approach (see Attachment 1 for some typical examples comparing the modified approach we are taking to the Owners Group approach of page markups). The structure and content of our TS did not lend themselves to the Owners Groups' and lead plants' approach. Our present TS often have LCOs, applicabilities, action statements and administrative information combined in paragraphs within a single specification. Additionally, the grouping of information is inconsistent and often scattered throughout the TS. In general, the contents are arranged completely different from the CEOG RSTS. For these reasons, we have developed a modified approach which is adaptable to our custom TS and, in our opinion, is superior to the approach used by the Owners Group for Standard Technical Specifications.

We have discussed our present TS Sections 3 & 4 into a listing of approximately 2,000 separate LCOs, surveillances, actions, exceptions, etc. The initial effort on Sections 5 & 6 has identified an additional 500 requirements. This listing has allowed us to identify each present requirement which will allow comparison to the RTS, and which will form the bases for our RTS submittal.

We are structuring our RTS for internal review so that each section will be made up of a package containing the following items:

- 1) The RTS section and the Basis for the section.
- 2) A list of the existing Palisades TS requirements (LCO, Action, SR, etc) which gives either the corresponding Palisades Restructured Tech Specs (RTS) requirement number or, for relocated or deleted material, states its disposition. The comment section notes the differences between existing TS and RTS requirements. Justification for major differences is provided in the comment section.
- 3) A similar list of RTS requirements, which gives the corresponding TS number, or denotes material as "NEW".
- 4) A list of the RTS requirements, and corresponding CE Owners Group RSTS section numbers noting added and deleted material. The comment section notes the differences between our RTS submittal and the CEOG RSTS. Discussion of major differences is provided.

Items 1 through 3 will make up the bulk of the Palisades RTS submittal to the NRC. It will form the basis for a Technical Specification Change Request, providing changes, reasons for each change and justification for major changes. The bi-directional listings will assist us and the NRC in our reviews and provide assurance that all present TS requirements are dispositioned.

The justification of changes in Item 2 will be similar to that used for the CEOG RSTS. Some general guidelines to be used are:

- a) Justifications need not address changes in Completion Times for Required Actions, nor surveillance requirement frequencies which are changed solely to agree with RSTS. These two types of changes will be addressed generally. Deviations from the RSTS will be noted and justified.
- b) In many cases, LCOs are being added or made more restrictive in order to agree with RSTS. In those cases, a statement to that effect is sufficient. The same can be said about mode applicability.
- c) Material, which is to be relocated and which is addressed in the "split" document, should refer to that document. It should be verified, however, that the reasons given in the split document are appropriate for Palisades.
- d) Material which is to be relocated, but not addressed in the split document, should discuss why the Interim Policy Statement Criteria does not apply, and where the material will be located after removal for the TS.
- e) Material which is to be deleted should have an adequate explanation.
- f) Major differences between existing TS and RTS will be discussed and justified.

A sample of Item 2 is shown in Attachment 2.

Item 3 will not contain nearly as much descriptive information as Item 2. This list will point out new requirements which will not show up on Item 2. A sample of Item 3 is shown in Attachment 3.

Item 4 is to assist the NRC in their review. It will identify the correlation between the RSTS and RTS numbering, and point out those items which are different. Added or deleted items will have a brief explanatory note. Item 4 will also explain the differences between RTS and RSTS to point out plant specific differences. See Attachment 4.

The advantages of the approach described versus submittal of marked up Technical Specifications are:

1. The listing readily shows the relationship of present TS to proposed RTS and identifies relocated and deleted material. The listing is a valuable organizational tool for reviewers since it shows disposition of all present requirements.

2. The cross reference of RTS to TS identifies all new requirements.
3. Palisades' custom Technical Specifications have Actions, LCOs, Applicabilities and Surveillances mixed together and often poorly grouped. The TS to RTS listing groups all requirements for ready reference.
4. The listing can be sorted many ways, eg, grouping of all LCOs, Actions, SR, etc. The information is on disc which allows users flexibility to update, edit and track.
5. The listing established if a present TS requirement is an LCO, SR, Action, Definition or Administrative requirement.

3.1 PRIMARY COOLANT SYSTEM

HAS NO MEANING

Applicability

Applies to the operable status of the primary coolant system. (M)

Objective

To specify certain conditions of the primary coolant system which must be met to assure safe reactor operation. (N)

Specifications

3.1.1 Operable Components

- (A) LCO — a. At least one primary coolant pump or one shutdown cooling pump with a flow rate greater than or equal to 2810 gpm shall be in operation whenever a change is being made in the boron concentration of the primary coolant and the plant is operating in cold shutdown or above, except during an emergency loss of coolant flow situation. Under these circumstances, the boron concentration may be increased with no primary coolant pumps or shutdown cooling pumps running. RTS X.X.X
- (B) Applicability —
- (C) Exception which has no real application since auto actions b. would prevail — Four primary coolant pumps shall be in operation whenever the reactor is operated above hot shutdown, with the following exception: LCO (K) & Applicability RTS X.X.X
- (D) Action — Before removing a pump from service, thermal power shall be reduced as specified in Table 2.3.1 and appropriate corrective action implemented. With one pump out of service, return the pump to service within 12 hours (return to four-pump operation) or be in hot shutdown (or below) with the reactor tripped (from the C-06 panel, opening the 42-01 and 42-02 circuit breakers) within the next 12 hours. Start-up (above hot shutdown) with less than four pumps is not permitted and power operation with less than three pumps is not permitted. RTS X.X.X
- (E) ACTION —
- (F) LCO —
- (G) LCO —
- LCO & (H) — c. The measured four primary coolant pumps operating reactor vessel flow shall be 124.3×10^6 lb/hr or greater, when corrected to 532°F. RTS X.X.X
- LCO & (I) Applicability (J) — d. Both steam generators shall be capable of performing their heat transfer function whenever the average temperature of the primary coolant is above 325°F. RTS X.X.X
- e. Maximum primary system pressure differentials shall not exceed the following:

(I) Deleted
 For Standard Tech Spec Plants
 This ID is needed to refer the reviewer to the justification of changes between present TS and RTS

3-1b

Amendment No 11, 85, 118, 119
December 12, 1988

RTS X.X.X is needed to refer the reviewer to the corresponding RTS item since all numbering is different between TS and RTS
 TSP1088-0181-NL04

Palisades Technical Specification Requirement List (11/14/89).

TS Number	RTS Number	TS requirement description	Comment on changes
3.01	3.3	PCS requirements	
3.01.01.a	later	LCO: PCS flow > 2810; during boron changes	later
3.01.01.b		LCO: Four PCP's running; > Hot SD	
3.01.01.b		ACTION: < 4 PCPs; reduce pwr iaw tbl 2.3.1	
3.01.01.b		ACTION: < 4 PCPs; restore 4 PCPs; 12 hrs	
3.01.01.b		ACTION: < 4 PCPs > 12 hrs; Trip Rx from CO-6	
3.01.01.b		LCO: No startup; w < 4 pumps	
3.01.01.b		LCO: No power ops; < 3 pumps	
3.01.01.c		LCO: 4 PCP flow > 124.3E6 #/hr at 532F;	
3.01.01.d		LCO: Both SG's req operable; > 325F	

3.10 CONTROL ROD AND POWER DISTRIBUTION LIMITS

HAS NO
REAL
MEANING

Applicability

Applies to operation of control rods and hot channel factors during operation.

BB

Objective

To specify limits of control rod movement to assure an acceptable power distribution during power operation, limit worth of individual rods to values analyzed for accident conditions, maintain adequate shutdown margin after a reactor trip and to specify acceptable power limits for power tilt conditions.

CC

Specifications

3.10.1 Shutdown Margin Requirements

RTS X.X.X

(A) LCO
(B) Applicability
(C) LCO & RTS X.X.X
(D) ACTION RTS X.X.X
(E) Applicability
(F) Applicability
(G) LCO
RTS X.X.X

a. With four primary coolant pumps in operation at hot shutdown and above, the shutdown margin shall be 2%.

b. With less than four primary coolant pumps in operation at hot shutdown and above, boration shall be immediately initiated to increase and maintain the shutdown margin at > 3.75%.

THIS IS AT
< 4 RCP LCO

c. At less than the hot shutdown condition, with at least one primary coolant pump in operation or at least one shutdown cooling pump in operation, with a flow rate > 2810 gpm, the boron concentration shall be greater than the cold shutdown boron concentration for normal cooldowns and heatups, ie, nonemergency conditions.

/

(H) Applicability RTS X.X.X
(I) LCO
RTS X.X.X
ACTION (J)
RTS X.X.X
ACTION (K)
RTS X.X.X

During nonemergency conditions, at less than the hot shutdown condition with no operating primary coolant pumps and a primary system recirculating flow rate < 2810 gpm but > 650 gpm, then within one hour either:

/

- 1. (a) Establish a shutdown margin of > 3.5% and
- (b) assure two of the three charging pumps are electrically disabled.

/

OR

(L) (M) RTS X.X.X
SR/ACTION
RTS X.X.X
(N) ACTION
RTS X.X.X

- 2. At least every 15 minutes verify that no charging pumps are operating. If one or more charging pumps are determined to be operating in any 15 minute surveillance period, terminate charging pump operation and insure that the shutdown margin requirements are met and maintained.

/

3.10 CONTROL ROD AND POWER DISTRIBUTION LIMITS (Continued) /

3.10.1 Shutdown Margin Requirements (Continued) /

RTS X.X.X
APPLICABILITY
RTS X.X.X
ACTION

During nonemergency conditions, at less than the hot shutdown condition with no operating primary coolant pumps and a primary system recirculating flow rate less than 650 gpm, within one hour: SR / Y

RTS X.X.X
ACTION
SR
RTS X.X.X

(a) Initiate surveillance at least every 15 minutes to verify that no charging pumps are operating. If one or more charging pumps are determined to be operating in any 15-minute surveillance period, terminate charging pump operation and insure that the shutdown margin requirements are met and maintained. SR / Z

RTS X.X.X
ACTION
RTS X.X.X
ACTION

d. If a control rod cannot be tripped, shutdown margin shall be increased by boration as necessary to compensate for the worth of the withdrawn inoperable rod. SR / AA

RTS X.X.X
ACTION

LCO
RTS X.X.X

e. The drop time of each control rod shall be no greater than 2.5 seconds from the beginning of rod motion to 90% insertion.

3.10.2 (Deleted) /

3.10.3 Part-Length Control Rods

LCO
RTS X.X.X
EXCEPTION
RTS X.X.X

The part-length control rods will be completely withdrawn from the core (except for control rod exercises and physics tests).

3.10 CONTROL ROD AND POWER DISTRIBUTION LIMITS (Contd)

3.10.4 Misaligned or Inoperable Control Rod or Part-Length Rod

- (A) Definition
RTS X.X.X a. A control rod or a part-length rod is considered misaligned if it is out of position from the remainder of the bank by more than 8 inches.
- (B) RTS X.X.X-A
Definition b. A control rod is considered inoperable if it cannot be moved by its operator or if it cannot be tripped. A part-length rod is considered inoperable if it is not fully withdrawn from the core and cannot be moved by its operator.
- (C) Definition
RTS X.X.X If more than one control rod or part-length rod becomes misaligned or inoperable, the reactor shall be placed in the hot shutdown condition within 12 hours.
- (D) ACTION
RTS X.X.X
- (E) RTS X.X.X
ACTION c. If a control rod or a part-length rod is misaligned, hot channel factors must promptly be shown to be within design limits or reactor power shall be reduced to 75% or less of rated power within two hours. In addition, shutdown margin and individual rod worth limits must be met. Individual rod worth calculations will consider the effects of xenon redistribution and reduced fuel burnup in the region of the misaligned control rod or part-length rod.
- (F) RTS X.X.X
ACTION
- (G) RTS X.X.X
Add information

3.10.5 Regulating Group Insertion Limits

- (H) RTS X.X.X
LCO a. To implement the limits on shutdown margin, individual rod worth and hot channel factors, the limits on control rod regulating group insertion shall be established as shown on Figure 3-6. The 4-pump operation limits of Figure 3-6 do not apply for decreasing power level rapidly when such a decrease is needed to avoid or minimize a situation harmful to the plant personnel or equipment. Once such a power increase is achieved, the limits of Figure 3-6 will be returned to by borating the control rods above the insertion limit within two hours. Limits more restrictive than Figure 3-6 may be implemented during fuel cycle life based on physics calculations and physics data obtained during plant start-up and subsequent operation. New limits shall be submitted to the NRC within 45 days.
- (J) RTS X.X.X
Exception
- (J) RTS X.X.X
ACTION
- (K) RTS X.X.X
Admin
- (L) RTS X.X.X
LCO b. The sequence of withdrawal of the regulating groups shall be 1, 2, 3, 4.
- (M) RTS X.X.X
LCO c. An overlap of control banks in excess to 40% shall not be permitted.
- (N) RTS X.X.X
LCO d. If the reactor is subcritical, the rod position at which criticality could be achieved if the control rods were withdrawn in normal sequence shall not be lower than the insertion limit for zero power shown on Figure 3-6.
- (O) # applicability
RTS X.X.X

Palisades Technical Specification Requirement List (11/14/89).

TS Number	RTS Number	TS requirement description	Comment on changes
3.10	3.1	Control Rod & Power Distribution Limits	
3.10.01	3.1.1 & .2	Shutdown Margin Requirements	later
3.10.01.a	3.1.1	LCO: SDM = 2% > 525F; w 4 PCPs	
3.10.01.b	3.1.2	LCO: SDM > 3.75%; w < 4 PCPs > 525F	
3.10.01.b	3.1.2	ACTION: < 4 PCPs & > 525F; borate to req SDM	
3.10.01.c	3.1.1	LCO: Boron > CSD boron; < 525F w flow (Cold Shutdown Boron Conc not defined)	
3.10.01.c.01.a	later	ACTION: < 525F, lo flow; establish SDM > 3.5%, and	
3.10.01.c.01.b		ACTION: < 525F, lo flow; disable 2 Chg pumps, OR	
3.10.01.c.02		ACTION: < 525F, lo flow; initiate SR 3.10.1.c.2	
3.10.01.c.02		ACTION: < 525F, lo flow, Chg on; stop Chg & check SDM	
3.10.01.c.02		SR: Chg pumps; verify pumps off; 15 min	
3.10.01.?		ACTION: < 525F, lo lo flow; initiate SR 3.10.1.c.2	
3.10.01.?		ACTION: < 525F, lo lo flow; check Chg & SDM	
3.10.01.d	3.1.7 C	ACTION: untrippable rod; verify SDM	
3.10.01.e	SR 3.1.7.3	LCO: Each rod drop time < 2.5 sec	
3.10.02		Deleted	
3.10.03	3.1.10	LCO: PL rods withdrawn	
3.10.03	3.1.10	Except: 3.10.3 NA; rod exercising	
3.10.04	3.1.7	Misaligned or Inop Control Rods	
3.10.04.a	Deleted	Definition: Misaligned rod (> 8" out)	not a defined term in RSTS
3.10.04.b	Deleted	Definition: Inop control rod	not a defined term in RSTS
3.10.04.b	Deleted	Definition: Inop PL rod	not a defined term in RSTS
3.10.04.b	3.1.7 C	ACTION: > 1 misaligned or inop rod; HSD in 12 hrs (there is no LCO on misaligned rods)	
3.10.04.c	3.1.7 B	ACTION: misaligned rod; hot chnl OK or be < 75%	
3.10.04.c	3.1.7 B	ACTION: misaligned rod; Verify SDM	
3.10.04.c	Deleted	ACTION: misaligned rod; Verify rod worths (there are no req for rod worths)	withdrawal analysis assumes rods @ PDIL
3.10.05	3.1.9	Regulating Group Insertion Limits	
3.10.05.a	3.1.9	LCO: Reg rod insertion < Fig 3.6 limits; steady state	
3.10.05.a	Deleted	Except: Fig 3.6 limit NA; rapid power decreases	rapid dwn pwr, enter cond 3.1.9 A
3.10.05.a	3.1.9 A	ACTION: Rods < PDIL after down power; fix in 2 hrs	
3.10.05.a	Deleted	Admin: New limits to NRC w/in 45 days	limit now in Tech Specs
3.10.05.b	3.1.9	LCO: Sequence of rod withdrawal 1,2,3,4	
3.10.05.c	3.1.9	LCO: Rod overlap < 40%	
3.10.05.d	3.1.1, .2 & .9	LCO: Crit pos must be above PDIL; w subcrit	SDM treated iaw RSTS

POWER DISTRIBUTION INSTRUMENTATION

3.11.2 EXCORE POWER DISTRIBUTION MONITORING SYSTEM

LIMITING CONDITION FOR OPERATION

The excore monitoring system shall be operable with:

- a. The target Axial Offset (AO) and the Excore Monitoring Allowable Power Level (APL) determined within the previous 31 days using the incore detectors, and the measured AO not deviated from the target AO by more than 0.05 in the previous 24 hours.
- b. The AO measured by the excore detectors calibrated with the AO measured by the incore detectors.
- c. The quadrant tilt measured by the excore detectors calibrated with the quadrant tilt measured by the incore detectors.

APPLICABILITY:

- (1) Items a, b, and c, above are applicable when the excore detectors are used for monitoring LHR.
- (2) Item c above is applicable when the excore detectors are used for monitoring quadrant tilt.
- (3) Item b, above is applicable for each channel of the TM/LP trip and the Axial Shape Index (ASI) alarm.

ACTION 1:

With the excore monitoring system inoperable, do not use the system for monitoring LHR.

ACTION 2:

If the measured quadrant tilt has not been calibrated with the incores, do not use the system for monitoring quadrant tilt.

ACTION 3:

When the measured AO uncertainty is greater than specified in Specification 4.18.2, the TM/LP trip function and the ASI alarm setpoints shall be conservatively adjusted within twelve (12) hours or that channel shall be declared inoperable. The operability requirements for TM/LP and ASI are given in Table 3.17.1 and 3.17.4, respectively.

Basis

The excore power distribution monitoring system consists of Power Range Detector Channels 5 through 8.

The operability of the excore monitoring system ensures that the assumptions employed in the PDC-II analysis⁽¹⁾ for determining AO limits that ensure operation within allowable LHR limits are valid.

3-66a

Amendment No 47, 50, 58, 68, 118
November 15, 1988

Palisades Technical Specification Requirement List (11/14/89).

TS Number	RTS Number	TS requirement description	Comment on changes
3.11.02		Excure Power Distribution Monitoring System	LATER ↓
3.11.02.a	SR 3.1.3.3	SR: Incore AO & APL Target determined w/in 31 days; for monitoring LHR w excures	
3.11.02.a	Relocated	LCO: Meas AO w/in .05 of target for last 24 hrs; for monitoring LHR w excures	
3.11.02.b	SR 3.2.12.3	LCO: Excure AO cal w incore; monitoring LHR w excures	
3.11.02.b	SR 3.2.2 & .12	LCO: Excure AO cal w incore; each TM/LP trip chnl	
3.11.02.b	SR 3.2.12.4	LCO: Excure AO cal w incore; ASI aim	
3.11.02.c	SR 3.2.12.4/3.0.4	LCO: Excure Tq cal w incore; monitoring LHR w excures	
3.11.02.c	SR 3.2.12.3/3.0.4	LCO: Excure Tq cal w incore; monitoring Tq w.excures	
3.11.02 A1		ACTION: Excure monit sys inop; dont use for LHR	
3.11.02 A2		ACTION: Meas Tq not cal w incores; do not use for Tq	
3.11.02 A3		ACTION: AO uncert > LCO 4.18.2; adj TM/LPT & ASI aim (AO uncertainty not mentioned in 4.18.2)	

4.10

REACTIVITY ANOMALIES

Has no meaning

(A)

Applicability

Applies to potential reactivity anomalies.

Objective

To require evaluation of reactivity anomalies within the reactor.

Specifications

Following a normalization of the computed boron concentration as a function of burnup, the actual boron concentration of the primary coolant shall be periodically compared with the predicted value. If the difference between the observed and predicted steady-state concentrations reaches the equivalent of 1% in reactivity, the Atomic Energy Commission shall be notified within 24 hours and an evaluation as to the cause of the discrepancy shall be made and reported to the Atomic Energy Commission within 30 days.

Basis

To eliminate possible errors in the calculations of the initial reactivity of the core and the reactivity depletion rate, the predicted relation between fuel burnup and the boron concentration, necessary to maintain adequate control characteristics, must be adjusted (normalized) to accurately reflect actual core conditions. When rated power is reached initially, and with the control rod groups in the desired positions, the boron concentration is measured and the predicted curve is adjusted to this point. As power operation proceeds, the measured boron concentration is compared with the predicted concentration and the slope of the curve relating burnup and reactivity is compared with that predicted. This process of normalization shall be completed after about 10% of the total core burnup. Thereafter, actual boron concentration can be compared with prediction and the reactivity status of the core can be continuously evaluated. Any reactivity anomaly greater than 1% would be unexpected, and its occurrence would be thoroughly investigated and evaluated. The methods employed in calculating the reactivity of the core vs burnup and the reactivity worth of boron vs burnup are given in the FSAR.

The value of 1% is considered a safe limit since a shutdown margin of at least 2% with the most reactive rod in the fully withdrawn position is always maintained.

References

(1) FSAR, Section 3.3.2

RTS X.X.X

(B) SR

Implied LCO

(D) ADMIN

(E) ADMIN

RTS X.X.X

RTS X.X.X

RTS X.X.X

Palisades Technical Specification Requirement List (11/14/89).

TS Number	RTS Number	TS requirement description	Comment on changes
4.10		Reactivity Anomalies	
4.10	Relocated	LCD: Critical Boron; Actual w/in 1% of Predicted	LATER
4.10	Deleted	Admin: Crit/Predicted B \$k > 1%; notify AEC, 24 hrs	↓
4.10	Deleted	Admin: Crit/Predicted B \$k > 1%; Eval to AEC,30 days	
4.10	Relocated	SR: Critical Boron; compare w predicted; periodically	

Palisades Technical Specification Requirement List (12/14/89). Corrected through Amendment # 129.

This is a list of all of the requirements of the existing Palisades Plant Technical Specifications (TS) as interpreted for the process of writing Palisades Restructured Technical Specifications (RTS).

First Column: Existing Palisades Tech Spec (TS) numbering

Each numbered section of the TS is listed in the left-most column.

Items which contain more than one requirement are listed once for each requirement.

Second Column: Palisades Restructured Tech Spec (RTS) numbering

The nearest corresponding numbered item of the Palisades Restructured Technical Specifications is listed in the next column.

If the requirement does not appear in RTS, it is noted as "Deleted" or "Relocated."

"Deleted" is used to note where a requirement has been deleted.

ie deleting, iaw GI 84-15, the requirement to test a D.G. when an ECCS pump in the opposite train becomes inoperable.

"Relocated" is used to note where a requirement has been moved from tech specs to another controlled program or document.

Third Column: Existing Requirement

An abbreviation of the TS requirement appears in the third column.

Each item is identified as: LCO, ACTION, SR, Admin, Exception, etc.

Some items are implied, rather than explicit, for example, a LCO is implied when an ACTION exists without a stated LCO.

Forth Column: Comments and Justifications for Change

Comments may appear in the forth column.

This column notes when a written justification for change supports differences between TS and RTS.

General Comments:

- 1) Completion Times for required ACTIONS and Frequencies for Surveillance Requirements have, in almost all cases, been changed to agree with the CEOG-RSTS. In both cases, these times and frequencies are based on engineering judgement and operating experience, rather than on analyses. Therefore the Completion Times and Frequencies approved for the Standard Technical Specifications were used. In a few cases, plant hardware dictated deviating from the RSTS times or Frequencies. Each of these cases is explained individually.
- 2) The CEOG-RSTS used 12 hours as the Completion Time for going to MODE 3. The Palisades de-gasing system does not allow reducing PCS Hydrogen levels sufficiently, in 12 hours, to permit opening the PCS for maintenance. The de-gas system is not effective at low pressures. Since shutdowns to MODE 4 or 5 are normally followed by maintenance, Palisades RTS use 30 hours for attaining MODE 4. Thirty hours is sufficient to reduce PCS dissolved gas levels to shutdown values. The Completion Time for attaining MODE 5, 36 hours, is unchanged.
- 3) Several existing Palisades Tech Specs require testing the redundant components when a required piece of equipment is found inoperable. These requirements have been deleted. There are no similar requirements in RSTS, and it is the general philosophy that equipment is OPERABLE as long as its Surveillance Requirements are met, unless there is a specific reason to suspect otherwise.
- 4) Completion Times for Required Actions which, due to equipment differences, do not have identical counterparts in RSTS were determined using the same general rules as used when standardizing Completion Times for the RSTS:
 - a) 7 Days: The specified Condition did not eliminate the plant's ability to meet single failure criterion.
 - b) 72 Hours: The specified Condition did not eliminate the plant's ability to cope with design accidents, given no additional failures.
 - c) 24 Hours:
 - d)
 - e)

KEY:

TS requirement type:

Safety Limit
Surveillance Requirement
Limiting Safety Setting
Limiting Condition for Operation
Action

Column 3 syntax:

SL: Safety limit; Applicable conditions
SR: Equipment to be tested; Test description; Frequency
LSS: RPS Trip Chnl & setting
LCO: Equipment to be operable; Applicable conditions
ACTION: Condition requiring action; Required action; Completion time

Administrative Requirement
Permitted Instrument Bypass
Defined Term
Exception to other TS Requirement
Foot Note or other Note

Admin: Administrative requirement
Bypass: Bypassable component; conditions when bypass permitted
Definition: Name of defined item
Except: Excepted spec or condition; Applicable conditions
Note: Subject of note

Pal-TS to Pal-RTS Correlation:

TS Number	RTS Number	TS requirement description	Comment on changes
3.07	3.7	Electrical Systems Availability	
3.07.01.a	3.7.1	LCO: Sta Pwr Xfmr 1-2; > 325F	Applicability extended thru MODE 4 iaw RSTS. RTS LCO 3.7.1 requires 2 off-site circuits, but does not specifically require station power xfmr 1-2.
3.07.01.b	3.7.1	LCO: Startup Xfmr 1-2; > 325F	Applicability extended thru MODE 4 iaw RSTS. RTS LCO 3.7.1 requires 2 off-site circuits, but does not specifically require startup xfmr 1-2.
3.07.01.c	3.7.5	LCO: Eng Safeguards Buses 1C and 1D; > 325F	Applicability extended thru MODE 4 iaw RSTS. RTS LCO 3.7.5 requires all buses required by TS LCO 3.7.1.a thru g, and also requires buses listed in withdrawn TSCR of 3/25/86 the required buses are listed in basis table 3.7.5-1.
3.07.01.d	3.7.5	LCO: 480V Distribution Buses 11 & 12; > 325F	See 3.7.1.c comment, above.
3.07.01.e	3.7.5	LCO: MCC No 1, 2, 7, and 8; > 325F	See 3.7.1.c comment, above.
3.07.01.f	3.7.5	LCO: 125 V D-C Buses 1 and 2; > 325F	See 3.7.1.c comment, above.
3.07.01.g	3.7.5	LCO: Four preferred A-C Buses; > 325F	See 3.7.1.c comment, above.
3.07.01.h	3.7.3	LCO: 2 station Batteries; > 325F	Applicability extended thru MODE 4 iaw RSTS.
3.07.01.h	3.7.5	LCO: the DC [distribution] systems; > 325F	Applicability extended thru MODE 4 iaw RSTS.
3.07.01.h	3.7.3	LCO: 1 battery charger per bus; > 325F	Applicability extended thru MODE 4 iaw RSTS.
3.07.01.i	3.7.1	LCO: DG 1-1 & 1-2; > 325F	Applicability for 2 DGs extended through MODE 4 and added requirement for 1 DG operable in MODES 5 & 6, iaw RSTS.

Palisades Technical Specification Requirement List (12/14/89).

TS Number	RTS Number	TS requirement description	Comment on changes
3.07.01.i	SR 3.7.1.3	LCO: 2500 gal fuel per day tank; > 325F	RTS requires day tank check whenever DG is required to be operable. Also req in LCO 3.7.2 (Modes 5 & 6).
3.07.01.i	SR 3.7.1.6	LCO: 16000 gal in storage tank; > 325F	Applicability extended to all MODES iaw RSTS. SR 3.7.1.6 is also required by LCO 3.7.2. Required capacity increased iaw latest analyses.
3.07.01.j	Relocated	LCO: Switchyard Battery; > 325F	Switchyard equipment requirements relocated to *****. The operability of equipment in the switchyard is not assumed in the safety analysis, and does not meet any of the "split criterion."
3.07.01.j	Relocated	LCO: Switchyard D-C system; > 325F	See 3.7.1.j comment, above.
3.07.01.j	Relocated	LCO: 1 swyd battery charger; > 325F	See 3.7.1.j comment, above.
3.07.01.k	Relocated	LCO: Swyd 240V A-C Panels 1 & 2 and Dist sys; > 325F	See 3.7.1.j comment, above.
3.07.01.l	Relocated	LCO: 2400 V bus 1E; > 325F	The requirement to have bus 1E energized above 325°F has been relocated to *****. Bus 1E is not a safety grade bus. Its operability is not assumed in any safety analysis, and it does not meet any of the "split criterion."
3.07.02	Applic LCO	ACTION: LCO 3.7.1 not met	Specific conditions and ACTIONS are listed in 3.7.2.a thru m, below.
3.07.02.a	3.7.1 A.2	ACTION: Sta Pwr Xfmr inop; restore w/in 24 hrs	If xfmr is being used as one of the required off-site circuits, it must be restored w/in 72 hrs iaw RSTS.
3.07.02.a	Deleted	ACTION: Sta Pwr Xfmr inop; test both DGs	Deleted iaw RSTS and GL 84-15.
3.07.02.b	3.7.1 A.2	ACTION: SU Xfmr inop; restore w/in 24 hrs	If xfmr is being used as one of the required off-site circuits, it must be restored w/in 72 hrs iaw RSTS.
3.07.02.b	Deleted	ACTION: SU Xfmr inop; test both DGs	Deleted iaw RSTS and GL 84-15.
3.07.02.b	Deleted	ACTION: SU Xfmr inop; notify NRC of > 24 hr outage	Deleted. No similar requirement in RSTS; LCO requires 2 circuits from off-site, and limits operation to 72 hrs with < 2 circuits.
3.07.02.c	3.7.5 A.3	ACTION: bus 1C inop; restore w/in 8 hrs	Unchanged
3.07.02.c	3.7.1 A.1	ACTION: bus 1C inop; no inop equip on 1D	RTS ACTION declares affected equip inop, thus entering a condition for that equipment iaw RSTS.
3.07.02.c	Deleted	ACTION: bus 1C inop; test opposite DG	Deleted iaw RSTS and GL 84-15.
3.07.02.c	3.7.5 A.3	ACTION: bus 1D inop; restore w/in 8 hrs	Unchanged

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TS Number	RTS Number	TS requirement description	Comment on changes
3.07.02.c	3.7.5 A.1	ACTION: bus 1D inop; no inop equip on 1C	RTS ACTION declares affected equip inop, thus entering a condition for that equipment iaw RSTS.
3.07.02.c	Deleted	ACTION: bus 1D inop; test opposite DG	Deleted iaw RSTS and GL 84-15.
3.07.02.d	3.7.5 A.3	ACTION: Bus 11 inop; restore w/in 8 hrs	Unchanged
3.07.02.d	3.7.5 A.1	ACTION: Bus 11 inop; no inop equip on 12	RTS ACTION declares affected equip inop, thus entering a condition for that equipment iaw RSTS.
3.07.02.d	3.7.5 A.3	ACTION: Bus 12 inop; restore w/in 8 hrs	Unchanged
3.07.02.d	3.7.5 A.1	ACTION: Bus 12 inop; no inop equip on 11	RTS ACTION declares affected equip inop, thus entering a condition for that equipment iaw RSTS.
3.07.02.e	3.7.5 A.3	ACTION: MCC 1&7 inop; restore w/in 8 hrs	RTS CONDITION applies even if only one MCC is de-energized. Otherwise unchanged.
3.07.02.e	3.7.5 A.1	ACTION: MCC 1&7 inop; no inop equip on good MCCs	RTS ACTION declares affected equip inop, thus entering a condition for that equipment iaw RSTS.
3.07.02.e	3.7.5 A.3	ACTION: MCC 1&2 inop; restore w/in 8 hrs	RTS CONDITION applies even if only one MCC is de-energized. Otherwise unchanged.
3.07.02.e	3.7.5 A.1	ACTION: MCC 1&2 inop; no inop equip on good MCCs	RTS ACTION declares affected equip inop, thus entering a condition for that equipment iaw RSTS.
3.07.02.f	3.7.5 A.2	ACTION: 125VDC bus 1 inop; restore w/in 8 hrs	AOT reduced to 2 hrs iaw RSTS.
3.07.02.f	3.7.5 A.1	ACTION: 125VDC bus 1 inop; no inop equip on bus 1	RTS ACTION declares affected equip inop, thus entering a condition for that equipment iaw RSTS.
3.07.02.f	3.7.5 A.2	ACTION: 125VDC bus 2 inop; restore w/in 8 hrs	AOT reduced to 2 hrs iaw RSTS.
3.07.02.f	3.7.5 A.1	ACTION: 125VDC bus 2 inop; no inop equip on bus 2	RTS ACTION declares affected equip inop, thus entering a condition for that equipment iaw RSTS.
3.07.02.f	Relocated	ACTION: 125VDC bus 2 inop; provide emerg lighting	Emergency lighting requirements relocated to ****. Emergency lighting is not addressed in accident analyses, nor in RSTS. It does not meet any of the "split criterion."
3.07.02.g	3.7.5 A.3	ACTION: 1 Pref AC bus inop; restore w/in 8 hrs	Unchanged.
3.07.02.g	3.7.5 A.1	ACTION: 1 Pref AC bus inop; no inop equip on op buses	RTS ACTION declares affected equip inop, thus entering a condition for that equipment iaw RSTS.
3.07.02.h	3.7.3 B.1	ACTION: 1 battery inop; restore w/in 24 hrs	AOT reduced to 2 Hrs iaw RSTS

TS Number	RTS Number	TS requirement description	Comment on changes
3.07.02.h	Relocated	ACTION: 1 battery inop; run both chgrs on affected bus	Relocated to ****. RTS CONDITION is written assuming entire DC train is inoperable. The AOT has been reduced from 24 to 2 hours accordingly. There is no need to require both chargers to be in operation. In addition, since the CONDITION is entered whether the fault lies with a battery or charger, the former ACTION requiring both chargers is inappropriate.
3.07.02.i	3.7.1 B.4	Admin: max 7 days/month for < 2 DGs operable.	AOT changed to 72 hours per occasion iaw RSTS.
3.07.02.i	3.7.1 B.3	ACTION: 1 DG inop; test other DG	RTS ACTION allows verification that DG is OPERABLE w/o actual start, if difficulty with inoperable DG does not affect starting equipment. Verification that the fault is not common is required.
3.07.02.i	SR 3.7.1.1	ACTION: 1 DG inop; controls on other DG in auto	The actual check of controls in RTS is a weekly SR, iaw RSTS. If the difficulty with the inop DG involved lineup of controls, ACTION C.3 of LCD 3.7.1 would require verifying lineup of controls on the OPERABLE DG.
3.07.02.i	3.7.1 B.2 & C.2	ACTION: 1 DG inop; no inop equip on other side	RTS ACTION declares affected equip inop, thus entering a condition for that equipment iaw RSTS.
3.07.02.j	Relocated	ACTION: swyd 240 VAC pnl inop; keep its ACBs operable	See 3.7.1.j comment, above.
3.07.02.j	Relocated	ACTION: swyd 240 VAC pnl & ACBs inop; fix w/in 24 hrs	See 3.7.1.j comment, above.
3.07.02.j	Relocated	ACTION: swyd 240 VAC pnl & ACBs inop; keep ACBs open	See 3.7.1.j comment, above.
3.07.02.k	Relocated	ACTION: swyd batt inop; restore w/in 24 hrs	See 3.7.1.j comment, above.
3.07.02.k	Relocated	ACTION: swyd batt inop; both chgrs must be operable	See 3.7.1.j comment, above.
3.07.02.l	Relocated	ACTION: 2400 VAC bus 1E inop; restore w/in 24 hrs	See 3.7.1.l comment, above.
3.07.02.m	Relocated	ACTION: swyd 125 VDC pnl inop; keep its ACBs operable	See 3.7.1.j comment, above.
3.07.02.m	Relocated	ACTION: swyd 125 VDC pnl & ACBs inop; fix w/in 24 hrs	See 3.7.1.j comment, above.
3.07.02.m	Relocated	ACTION: swyd 125 VDC pnl & ACBs inop; keep ACBs open	See 3.7.1.j comment, above.
4.01.02.03.a		SR: SIS w offsite pwr; test w test ckt; 92 days	
4.01.02.03.a		SR: SIS w/o offsite pwr; test w test ckt; 92 days	
4.01.02.09.a	SR 3.7.1.16 & 18	SR: DBA Seq; test operation; 92 days (see 3(a) above)	Freq changed to 18 months iaw RSTS. SR # 16 verifies timing, SR # 18 verifies loading of equip.
4.01.02.10.a	SR 3.7.1.16 & 21	SR: Shutdown Seq; test operation; 18 months	SR #16 verifies timing, SR#21 verifies loading of equip. Essentially no change.
4.01.02.11.a	SR 3.7.1.8 & 9	SR: DG; test manual start, sync, & loading; 31 days	No change.

Palisades Technical Specification Requirement List (12/14/89).

TS Number	RTS Number	TS requirement description	Comment on changes
4.01.02.11.b	SR 3.7.1.18 & 21	SR: DG; test auto start, load shed, & loading; 18 Mo.	No change.
4.01.02.11.c	Deleted	SR: DG; test auto start initiating ckts; B4 SU	This DG start test has no parallel in RSTS, and has been deleted iaw recommendations of GL 84-15.
4.02.02.09	SR 3.7.1.3 & 6	SR: DG Fuel Supply; inventory; daily	No change for storage tank, day tank iaw RSTS, belly tank added iaw RG 1.137.
4.07	3.7	Emergency Power System Periodic Tests	
4.07.01	3.7.1 & 2	Diesel Generators	DG Surveillance covered under LCO 3.7.1
4.07.01.a	SR 3.7.1.8	SR: DGs; start manually; monthly	No Change
4.07.01.a	Relocated	SR: DGs; alternate tested start ckt; monthly	Details of test relocated to Surv procedure.
4.07.01.a	SR 3.7.1.13	SR: DGs; verify start time < 10 sec; monthly	Freq 184 days iaw RSTS
4.07.01.a	SR 3.7.1.9	SR: DGs; Test load to 2400 Kw; monthly	RTS SR specifies a band of 2300 to 2500 kw iaw guidance of RSTS.
4.07.01.b	SR 3.7.1.18	SR: DBA DG auto loading; integrated test; refueling	Freq changed to 18 mo; added requirements on voltage, freq, and run-time iaw RSTS.
4.07.01.b	SR 3.7.1.16 & 18	LCO: DBA DG auto loading w/in 30 sec.	The 30 sec requirement is replaced by SR #16 verifying design sequencer timing and SR #18 verifying actual loading of equipment onto DG. Essentially no change.
4.07.01.c	SR 3.7.1.26	SR: DGs; Inspect iaw Alco instructions; Refueling	Freq changed to 18 months iaw RSTS
4.07.01.d	SR 3.7.1.25	LCO: DG loads < 750A at 2400V	
4.07.01.e	SR 3.7.1.12	SR: Fuel Xfer pumps; verify operable; monthly	Freq 92 days iaw RSTS and ISI testing of other pumps.
4.07.02	3.7.3 & 4	Station Batteries	
4.07.02.a	SR 3.7.3.3	SR: Sta Batteries; Record each cell voltage; monthly	Freq changed to 92 days iaw RSTS.
4.07.02.a	SR 3.7.3.2	SR: Sta Batteries; Record 1 pilot cell s.g.; monthly	Freq changed to weekly iaw RSTS.
4.07.02.a		SR: Sta Batteries; Record 1 pilot cell temp; monthly	
4.07.02.b	SR 3.7.3.3	SR: Sta Batteries; Record each cell gravity; 3 months	No change.
4.07.02.b	SR 3.7.3.2	SR: Sta Batteries; Record each 5th cell temp; 3 months	No change.
4.07.02.b	SR 3.7.3.2 & 3	SR: Sta Batteries; Record lvl & water added; 3 months	No change.
4.07.02.c	SR 3.7.3.10	SR: Sta Batteries; Battery Service test; refueling	Freq changed to 18 months iaw RSTS.
4.07.02.d	SR 3.7.3.11	SR: Sta Batteries; Test discharge; each third refuelin	Freq changed to 5 years iaw RSTS.
4.07.02.d	SR 3.7.3.10	Except: SR 4.7.2.d (test disch) OK 4 SR 4.7.2.c	No change.
4.07.03	Relocated	Emergency Lighting	
4.07.3	Relocated	SR: Emerg Light outside CB; verify operable; 1 year	
4.07.3	Relocated	SR: Emerg Light inside CB; verify operable; B4 Rx head removal	

RTS Number	TS Number	RTS Requirement Description	Comments
3.7.1.a	3.7.1.a & b	LCO: Two off-site ckts OPERABLE, MODES 1-4	
3.7.1.b	3.7.1.i	LCO: Two DGs OPERABLE, MODES 1-4	
3.7.1 A	3.7.2.a & b	ACTIONS: one off-site ckt inop	
3.7.1 B	3.7.2.i	ACTIONS: one DG inop	
3.7.1 C	3.0.3	ACTIONS: one DG & one off-site ckt inop	
3.7.1 D	3.0.3	ACTIONS: two DGs inop	
3.7.1 E	3.0.3	ACTIONS: two off-site ckts inop	
3.7.1 F	3.7.2	ACTIONS: req actions not met in time;	
3.7.1.1	New	SR: DG lineup check	
3.7.1.2	New	SR: DG starting air check	
3.7.1.3	4.2.2.9	SR: DG fuel tank level check <i>dry</i>	
3.7.1.4	New	SR: DG fuel tank water check	
3.7.1.5	New	SR: DG new fuel sample	
3.7.1.6	4.2.2.9	SR: DG fuel storage tank level check	
3.7.1.7	New	SR: Off-site ckt breaker check	
3.7.1.8	4.7.1.a	SR: DG starting test	
3.7.1.9	4.7.1.a	SR: DG monthly load test	
3.7.1.10	New	SR: DG fuel storage tank water check	
3.7.1.11	New	SR: DG fuel storage tank sample	
3.7.1.12	4.7.1.e	SR: DG fuel xfer system test	
3.7.1.13	New	SR: DG 6 mo start & load test	
3.7.1.14	New	SR: Manual xfer of power to off-site ckts	
3.7.1.15	New	SR: Auto xfer of power to SU xfmr	
3.7.1.16	4.1.2.9.a, 10.a	SR: Sequencer timing test	
3.7.1.17	New	SR: Loadshed bypass test	
3.7.1.18	4.1.2.11.b	SR: LOSP w SIS test	
3.7.1.19	New	SR: DG 18 mo load test.	
3.7.1.20	New	SR: Load xfer from DG to off-site	
3.7.1.21	4.1.2.10.a	SR: LOSP w/o SIS test	
3.7.1.22	New	SR: DG single load rejection test	
3.7.1.23	New	SR: DG total load rejection test	
3.7.1.24	New	SR: LOSP w DG paralleled	
3.7.1.25	4.7.1.d	SR: DG load verification	
3.7.1.26	4.7.1.c	SR: DG inspection	
3.7.1.27	New	SR: DG simultaneous start	
3.7.1.28	New	SR: DG fuel tank cleaning	
3.7.2.a	New	LCO: One off-site ckt OPERABLE, MODES 5 & 6	
3.7.2.b	New	LCO: One DG OPERABLE, MODES 5 & 6	
3.7.2 A	New	ACTIONS: less than req AC sources OPERABLE	
3.7.2.1	New	SR: Required SRs from LCO 3.7.1, for MODES 5 & 6	
3.7.3	3.7.1.h	LCO: Two batteries w assco charger OPERABLE, MODES 1-4	
3.7.3 A	New	ACTIONS: battery cell not fully charged	
3.7.3 B	3.7.2.h	ACTIONS: one DC source inop	
3.7.3 C	3.7.2	ACTIONS: req actions not met in time	
3.7.3.1	4.7.2.a	SR: Battery terminal voltage check	
3.7.3.2	4.7.2.a	SR: Battery cell checks, pilot cells	
3.7.3.3	4.7.2.b	SR: Battery cell checks, all cells	

3.7.3.4	New	SR: Battery cell connector check
3.7.3.5	4.7.2.b	SR: Battery temp check
3.7.3.6	New	SR: Battery inspection
3.7.3.7	New	SR: Battery cell connector maintenance
3.7.3.8	New	SR: Battery cell resistance check
3.7.3.9	New	SR: Battery charger capacity check
3.7.3.10	4.7.2.c	SR: Battery service test
3.7.3.11	4.7.2.d	SR: Battery performance test
3.7.4	New	LCO: one DC source OPERABLE; MODES 5 & 6
3.7.4 A	New	ACTIONS: No DC source OPERABLE, MODES 5 & 6
3.7.4.1	New	SR: Required SRs from LCO 3.7.3, for MODES 5 & 6
3.7.5	3.7.1.c-g & etc.	LCO: Two elec dist trains energized MODES 1-4
3.7.5 A	3.7.2.c-g & etc.	ACTIONS: One elec dist train not fully energized
3.7.5 B	3.7.2	ACTIONS: req actions not met in time
3.7.5.1	New	SR: Breaker alignment check
3.7.6	New	LCO: One elec dist train energized, MODES 5 & 6
3.7.6 A	New	ACTIONS: No elec dist train fully energized
3.7.6.1	New	SR: Breaker alignment check.

RTS Number	RSTS Number	Description of RTS Requirement	Comments
3.7.1.a	3.7.1.a	LCO: Two off-site ckts OPERABLE, MODES 1-4	No change
3.7.1.b	3.7.1.b	LCO: Two DGs OPERABLE, MODES 1-4	No change
3.7.1 A	3.7.1 A	ACTIONS: one off-site ckt inop	No change
3.7.1 B	3.7.1 B	ACTIONS: one DG inop	Added verification of turbine driven AFW pump operability iaw STS, reworded required action statements for brevity and clarity. Retained all RSTS action.
3.7.1 C	3.7.1 C	ACTIONS: one DG & one off-site ckt inop	Made similar changes to those for condition B. Retained all RSTS action.
3.7.1 D	3.7.1 D	ACTIONS: two DGs inop	No change.
3.7.1 E	3.7.1 E	ACTIONS: two off-site ckts inop	No change.
3.7.1 F	3.7.1 F	ACTIONS: req actions not met in time;	No change
3.7.1.1	3.7.1.7	SR: DG lineup check	Reworded for clarity; no other change.
3.7.1.2	3.7.1.8	SR: DG starting air check	Reworded for clarity; no other change.
3.7.1.3	3.7.1.2	SR: DG fuel tank level check	Reworded for clarity; added verification of engine mounted tank iaw ANSI N195 and GL 84-15. Used Pal numbers.
3.7.1.4	3.7.1.11	SR: DG fuel tank water check	Reworded for clarity; deleted redundant 31 day frequency notation: DG must be run monthly, and remaining frequency entry required SR to be run after each DG run.
3.7.1.5	3.7.1.12	SR: DG new fuel sample	Separated SR for sampling new fuel from that for sampling storage tank to enhance clarity of requirements; specified units for viscosity, reworded. No technical change.
3.7.1.6	3.7.1.3	SR: DG fuel storage tank level check	Reworded to reflect palisades equipment and usage.
3.7.1.7	3.7.1.1	SR: Off-site ckt breaker check	No change in SR or frequency. Deleted notes calling out ACTIONS which require SR to be run; these add little and were neither complete nor correct.
3.7.1.8	3.7.1.5	SR: DG monthly starting test	Added verification of 10 second timing; moved note #1 to basis; deleted note #2 which is not applicable to Palisades (we have our DGs prewarmed and prelubed at all times and have no alternate starting sequences for gradual speed increases); enhanced frequency column entry to avoid having to refer to table on separate page.
3.7.1.9	3.7.1.6	SR: DG monthly load test	Moved note #1 to bases; deleted note #2 which is inappropriate to Palisades; reworded note #3 to agree with similar notes elsewhere in this section; used Palisades values; enhanced frequency column entry as in SR #8.

3.7.1.10	3.7.1.14	SR: DG fuel storage tank water check	Reworded using Palisades tank designation; changed frequency to 31 days iaw RG 1.137 for tanks below ground water level.
3.7.1.11	3.7.1.12	SR: DG fuel storage tank sample	Separated SR for sampling new fuel from that for sampling storage tank to enhance clarity of requirements; specified units for viscosity, reworded. No technical change.
3.7.1.12	3.7.1.4	SR: DG fuel xfer system test	Added reference to engine mounted tank iaw GL 84-15; reworded using Palisades designations.
3.7.1.13	3.7.1.9 & 10	SR: DG 6 mo start & load test	Combined SRs # 9 & 10 from RSTS; deleted notes inappropriate to Palisades; reworded using Palisades usage and values.
3.7.1.14	3.7.1.15	SR: Manual xfer of power to off-site ckts	Separated SR for auto from and manual xfer.
3.7.1.15	3.7.1.15	SR: Auto xfer of power to SU xfmr	Separated SR for auto from manual xfer; reworded using Palisades designators.
3.7.1.16	3.7.1.18	SR: Sequencer timing test	Reworded using Palisades designators and values.
3.7.1.17	3.7.1.22	SR: Loadshed bypass test	This is a Palisades specific SR. Pal does not have any DG trips which are bypassed during emergency operation. We do, however, bypass the undervoltage load shedding from the 2400 volt safeguards buses when the DG breaker is closed. This SR verifies that action.
3.7.1.18	3.7.1.21	SR: LOSP w SIS test	Reworded using Palisades values and designations; deleted note inappropriate to Palisades.
3.7.1.19	3.7.1.23	SR: DG 24 hour load test	Added 2 hour test at two hour rating iaw RG 1.108; reworded for clarity and consistency with other SRs in this section.
3.7.1.20	3.7.1.25	SR: Load xfer from DG to off-site	Reworded for clarity.
3.7.1.21	3.7.1.19	SR: LOSP w/o SIS test	Deleted note inappropriate to Palisades; used Palisades designations and values.
Deleted	3.7.1.20	SR: DG start on ESF signal test	Palisades does not start DGs w/o LOSP
3.7.1.22	3.7.1.16	SR: DG single load rejection test	Reworded for clarity; used Palisades values.

3.7.1.23	3.7.1.17	SR: DG total load rejection test	Reworded to avoid question as to whether or not the DG breaker may be tripped to accomplish the total load rejection or not. That is the only method available to achieve a total load rejection, but it could be construed to be prohibited by RSTS wording; used Palisades values.
3.7.1.24	3.7.1.26	SR: LOSEP w DG paralleled	Reworded to take differences between Palisades and "standard plant" into account, while accomplishing same purpose.
3.7.1.25	3.7.1.24	SR: DG load verification	Used Palisades value.
3.7.1.26	3.7.1.27	SR: DG inspection	No change.
3.7.1.27	3.7.1.28	SR: DG simultaneous start	Used Palisades values.
3.7.1.28	added	SR: DG fuel tank cleaning	Added this SR iaw RG 1.137.
3.7.1-1	3.7.1-1	Table: DG test schedule	Deleted words in note (2) referring to fast & slow starts, which do not apply to Palisades; Listed those SRs which do not affect DG starting or loading as not constituting failures which require more frequent DG testing; ie don't test DG starting more frequently if a breaker was found misaligned.
3.7.2.a	7.7.2.a	LCO: One off-site ckt OPERABLE, MODES 5 & 6	No change.
3.7.2.b	3.7.2.b	LCO: One DG OPERABLE, MODES 5 & 6	No change
3.7.2 A	3.7.2 A	ACTIONS: less than req AC sources OPERABLE	No change
3.7.2.1	3.7.2.1	SR: Required SRs from LCO 3.7.1, for MODES 5 & 6	Specified those SRs which test features required in MODES 5 & 6; ie excluded verification of SIS signal loading,
3.7.3	3.7.3	LCO: Two batteries w assco charger OPERABLE, MODES 1-4	No change.
3.7.3 A	added	ACTIONS: battery cell not fully charged	CONDITION A was added in order to remove the implied Required Actions from the battery cell testing SRs. It also assures that a battery, with a cell not meeting category A or B limits, is OPERABLE within the 2 hour AOT. The other requirements are the same as in RSTS SRs #2 and #3.
3.7.3 B	3.7.3 A	ACTIONS: one DC source inop	No change.
3.7.3 C	3.7.32 B	ACTIONS: req actions not met in time	No change.
3.7.3.1	3.7.3.2	SR: Battery terminal voltage check	No change.
3.7.3.2	3.7.3.1	SR: Battery cell checks, pilot cells	This SR was rewritten to put the implied Required Actions into Condition A.

3.7.3.3	3.7.3.3	SR: Battery cell checks, all cells	This SR was rewritten to put the implied Required Actions into Condition A.
3.7.3.4	3.7.3.4	SR: Battery cell connector check	Rewritten for clarity and brevity.
3.7.3.5	3.7.3.5	SR: Battery temp check	Used Palisades values.
3.7.3.6	3.7.3.6	SR: Battery inspection	No change.
3.7.3.7	3.7.3.7	SR: Battery cell connector maintenance	No change.
3.7.3.8	3.7.3.8	SR: Battery cell resistance check	No change.
3.7.3.9	3.7.3.9	SR: Battery charger capacity check	No change.
3.7.3.10	3.7.3.10	SR: Battery service test	Used Palisades values.
3.7.3.11	3.7.3.11	SR: Battery performance test	No change.
3.7.3-1	3.7.3-1	Table: Battery Surv Requirements	Used Palisades values.
3.7.4	3.7.4	LCO: one DC source OPERABLE; MODES 5 & 6	No change.
3.7.4 A	3.7.4 A	ACTIONS: No DC source OPERABLE, MODES 5 & 6	No change.
3.7.4.1	3.7.4.1	SR: Required SRs from LCO 3.7:3, for MODES 5 & 6	No change.
3.7.5	3.7.5	LCO: Two elec dist trains energized MODES 1-4	Rewritten extensively, putting the description of each train into the bases, and combining AC and DC into the same requirement. This is done to disallow simultaneously having a DC bus out in one train and an AC train out in the other. The declaration of affected equipment to be inoperable, in RSTS, would accomplish the same thing, but this way is intended to be more direct. There are no other effects of the rewording.
3.7.5 A	3.7.5 A & B	ACTIONS: One elec dist train not fully energized	No change other than combining RSTS conditions A and B into one.
3.7.5 B	3.7.5 C	ACTIONS: req actions not met in time	No change.
3.7.5.1	3.7.5.1	SR: Breaker alignment check	No change.
3.7.6	3.7.6	LCO: One elec dist train energized, MODES 5 & 6	This LCO changed in same manner as LCO 3.7.5, and for the same reasons.
3.7.6 A	3.7.6 A	ACTIONS: No elec dist train fully energized	No change.
3.7.6.1	3.7.6.1	SR: Breaker alignment check.	No change.