Entergy

Entergy Operations, Inc.
River Bend Station
5485 U.S. Highway 61N
St. Francisville, LA 70775
Tel 225 381 4157
Fax 225 635 5068
dlorfin@entergy.com

David N. Lorfing
Manager-Licensing

November 13, 2006

U. S. Nuclear Regulatory Commission
Document Control Desk
Washington, D. C. 20555

Subject: River Bend Station – Unit 1
Docket No. 50-458
License No. NPF-47
Revisions to the Technical Requirements Manual and the Technical Specifications Bases

File Nos.: G9.5, G9.25.1.5, G9.41.1

RBG-46633
RBF1-06-0173

Ladies and Gentlemen:

Pursuant to 10CFR50.71(e), Entergy Operations, Inc., (EOI) herein submits changes to the River Bend Station (RBS) Technical Requirements Manual (TRM). The revised pages cover the changes made in the period of April 9, 2005 through November 12, 2006. This includes TRM revisions 101 through 107.

Pursuant to RBS Technical Specification 5.5.11, revised pages for the Technical Specification Bases pages are included. The revised pages cover the changes made in the period of April 9, 2005 through November 12, 2006. This includes Bases revisions 123 through 127.

As required by 10CFR50.71(e), the below affirmation certifies that the information in this submittal accurately reflects changes made since the previous submittal, necessary to represent information and analyses submitted or prepared pursuant to NRC requirements.

A001

If you have any question, please contact me at 225-381-4517.

I declare under penalty of perjury that the foregoing is true and correct. Executed on November 13, 2006.

Sincerely,

David N. Lorfing
Manager – Licensing

DNL/DHW

Enclosure: Technical Requirements Manual Revision Pages
Technical Specifications Bases Revision Pages

cc: U. S. Nuclear Regulatory Commission
Region IV
611 Ryan Plaza Drive, Suite 400
Arlington, TX 76011

(w/o enclosures)

U. S. Nuclear Regulatory Commission
Senior Resident Inspector
P. O. Box 1150
St. Francisville, LA 70775

Enclosure

River Bend Station
RBG-46633

Technical Requirements Manual Change Pages
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TR 3.4.11 RCS Pressure and Temperature (P/T) Limits

Note: The pressure-temperature limits given in Technical Specification Figure 3.4.11-1 are limited for use up to 32 EFPY.

Table 3.4.11-1
REACTOR VESSEL MATERIAL SURVEILLANCE PROGRAM
WITHDRAWAL SCHEDULE

Table Deleted

Table 3.4.11-2
REACTOR VESSEL MATERIAL SURVEILLANCE PROGRAM
CAPSULE DATA (@ EOC 12)

CAPSULE NUMBER	VESSEL LOCATION	LEAD FACTOR at I.D./¼T
1*	3°	
2	177°	0.916/1.3
3**	183°	

* Note: Capsule No. 1 was removed from and remained out of vessel during cycle 7. This capsule is designated as the "standby" capsule.

** Note: Capsule No. 3 was removed and tested. See BWRVIP-113 Report.

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B 3.3-90	0	B 3.3-130	0	B 3.3-170	110	B 3.3-210	1
B 3.3-91	0	B 3.3-131	0	B 3.3-171	6-5	B 3.3-211	1
B 3.3-92	0	B 3.3-132	0	B 3.3-172	6-5	B 3.3-212	107
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TR 1-3	77	TR 3.3-36 (57v)	13	TR 3.3-82 (77viii)	5
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TR 3.0-4	5	TR 3.3-41 (60ii)	62	TR 3.3-87 (77xiii)	5
TR 3.1-1 (10i)	5	TR 3.3-42 (61i)	62	TR 3.3-88	86
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TR 3.3-15 (24iv)	5	TR 3.3-61 (71xiv)	40	TR 3.4-17 (33v)	5
TR 3.3-16 (28i)	78	TR 3.3-62 (71xv)	81	TR 3.5-1 (5i)	5
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TR 3.3.8.1 Loss of Power (LOP) Instrumentation

Table 3.3.8.1-1 (page 1 of 1)
Loss of Power Instrumentation

FUNCTION	REQUIRED CHANNELS PER DIVISION	SURVEILLANCE REQUIREMENTS	TRIP SETPOINT
1. Divisions 1 and 2 - 4.16 kV Emergency Bus Undervoltage			
a. Loss of Voltage • 4.16 kV basis	3	SR 3.3.8.1.1 SR 3.3.8.1.2 SR 3.3.8.1.3 SR 3.3.8.1.4	≥ 2910 V and ≤ 3030 V
b. Loss of Voltage • Time Delay	3*	SR 3.3.8.1.2* SR 3.3.8.1.3 SR 3.3.8.1.4	≥ 2.7 seconds and ≤ 3.3 seconds
c. Degraded Voltage • 4.16 kV basis	3	SR 3.3.8.1.1 SR 3.3.8.1.2 SR 3.3.8.1.3 SR 3.3.8.1.4	≥ 3692 V and ≤ 3733 V
d. Degraded Voltage • Time Delay, No LOCA	3*	SR 3.3.8.1.2* SR 3.3.8.1.3 SR 3.3.8.1.4	≥ 54 seconds and ≤ 66 seconds
e. Degraded Voltage•Time Delay, LOCA	3*	SR 3.3.8.1.2* SR 3.3.8.1.3 SR 3.3.8.1.4	≥ 4.56 seconds and ≤ 5.54 seconds
2. Division 3 • 4.16 kV Emergency Bus Undervoltage			
a. Loss of Voltage • 4.16 kV basis	2	SR 3.3.8.1.1 SR 3.3.8.1.3 SR 3.3.8.1.4	≥ 2892 V and ≤ 3198 V
b. Loss of Voltage • Time Delay	2	SR 3.3.8.1.3 SR 3.3.8.1.4	≥ 2.7 seconds and ≤ 3.3 seconds
c. Degraded Voltage • 4.16 kV basis	2	SR 3.3.8.1.1 SR 3.3.8.1.2 SR 3.3.8.1.3 SR 3.3.8.1.4	≥ 3675 V and ≤ 3720 V
d. Degraded Voltage • Time Delay, No LOCA	2	SR 3.3.8.1.2* SR 3.3.8.1.3 SR 3.3.8.1.4	≥ 54 seconds and ≤ 66 seconds
e. Degraded Voltage • Time Delay, LOCA	2	SR 3.3.8.1.2 SR 3.3.8.1.3 SR 3.3.8.1.4	≥ 4.63 seconds and ≤ 5.57 seconds

* On a one-time basis, the Required Channels Per Division is changed from "3" to "1" for Functions 1.b, 1.d, and 1.e. Also on a one-time basis, the requirements of SR 3.3.8.1.2 are not applicable to Functions 1.b, 1.d, 1.e and 2.d. These one-time changes expire on June 1, 2006

SURVEILLANCE REQUIREMENTS (continued)

or expiration of the 2 hour allowance, the channel must be returned to OPERABLE status or the applicable Condition entered and Required Actions taken.

SR 3.3.8.1.1

Performance of the CHANNEL CHECK once every 12 hours ensures that a gross failure of instrumentation has not occurred. A CHANNEL CHECK is normally a comparison of the parameter indicated on one channel to a similar parameter on other channels. It is based on the assumption that instrument channels monitoring the same parameter should read approximately the same value. Significant deviations between the instrument channels could be an indication of excessive instrument drift in one of the channels or something even more serious. A CHANNEL CHECK will detect gross channel failure; thus, it is key to verifying the instrumentation continues to operate properly between each CHANNEL CALIBRATION.

Agreement criteria are determined by the plant staff based on a combination of the channel instrument uncertainties, including indication and readability. If a channel is outside the criteria, it may be an indication that the instrument has drifted outside its limit.

The Frequency is based on operating experience that demonstrates channel failure is rare. The CHANNEL CHECK supplements less formal, but more frequent, checks of channels during normal operational use of the displays associated with the required channels of the LCO.

SR 3.3.8.1.2

A CHANNEL FUNCTIONAL TEST is performed on each required channel to ensure that the entire channel will perform the intended function. Any setpoint adjustment shall be consistent with the assumptions of the current plant specific setpoint methodology.

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B 3.0-4	0	B 3.1-36	0	B 3.3-11	1	B 3.3-48	6-13
B 3.0-5	0	B 3.1-37	0	B 3.3-12	0	B 3.3-49	1
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B 3.0-7	0	B 3.1-39	0	B 3.3-14	0	B 3.3-51	1
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B 3.0-13a	108	B 3.1-46	118	B 3.3-21	1	B 3.3-58	0
B 3.0-14	0	B 3.1-47	118	B 3.3-22	1	B 3.3-59	1
B 3.0-15	0	B 3.1-48	0	B 3.3-23	1	B 3.3-60	0
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BASES

BACKGROUND (continued)

per recirculation pump. One trip system trips one of the two EOC-RPT breakers for each recirculation pump and the second trip system trips the other EOC-RPT breaker for each recirculation pump.

APPLICABLE SAFETY ANALYSES, LCO, and APPLICABILITY

The TSV Closure and the TCV Fast Closure, Trip Oil Pressure-Low Functions are designed to trip the recirculation pumps from fast speed operation in the event of a turbine trip or generator load rejection to mitigate the neutron flux, heat flux, and pressure transients, and to increase the margin to the MCPR SL. The analytical methods and assumptions used in evaluating the turbine trip and generator load rejection, as well as other safety analyses that assume EOC-RPT, are summarized in References 2, 3, and 4.

To mitigate pressurization transient effects, the EOC-RPT must trip the recirculation pumps from fast speed operation after initiation of initial closure movement of either the TSVs or the TCVs. The combined effects of this trip and a scram reduce fuel bundle power more rapidly than does a scram alone, resulting in an increased margin to the MCPR SL. Alternatively, MCPR and LHGR limits for an inoperable EOC-RPT as specified in the COLR are sufficient to mitigate pressurization transient effects. The EOC-RPT function is automatically disabled when turbine first stage pressure is < 40% RTP.

EOC-RPT instrumentation satisfies Criterion 3 of the NRC Policy Statement.

The OPERABILITY of the EOC-RPT is dependent on the OPERABILITY of the individual instrumentation channel Functions. Each Function must have a required number of OPERABLE channels in each trip system, with their setpoints within the specified Allowable Value of SR 3.3.4.1.3. The actual setpoint is calibrated consistent with applicable setpoint methodology assumptions. Channel OPERABILITY also includes the associated EOC-RPT breakers. Each channel (including the associated EOC-RPT breakers) must also respond within its assumed response time.

Allowable Values are specified for each EOC-RPT Function specified in the LCO. Nominal trip setpoints are specified in the setpoint calculations. A channel is inoperable if

(continued)

BASES

APPLICABLE SAFETY ANALYSES, LCO, and APPLICABILITY (continued)

its actual trip setpoint is not within its required Allowable Value. The nominal setpoints are selected to ensure the setpoints do not exceed the Allowable Value between successive CHANNEL CALIBRATIONS. Operation with a trip setpoint less conservative than the nominal trip setpoint, but within its Allowable Value, is acceptable. Trip setpoints are those predetermined values of output at which an action should take place. The setpoints are compared to the actual process parameter (e.g., TSV electrohydraulic control (EHC) pressure), and when the measured output value of the process parameter exceeds the setpoint, the associated device (e.g., trip unit) changes state. The analytic limits are derived from the limiting values of the process parameters obtained from the safety analysis. The Allowable Values are derived from the analytic limits, corrected for calibration, process, and some of the instrument errors. The trip setpoints are then determined accounting for the remaining instrument errors (e.g., drift). The trip setpoints derived in this manner provide adequate protection because instrumentation uncertainties, process effects, calibration tolerances, instrument drift, and severe environment errors (for channels that must function in harsh environments as defined by 10 CFR 50.49) are accounted for.

The specific Applicable Safety Analysis, LCO, and Applicability discussions are listed below on a Function by Function basis.

Alternatively, since this instrumentation protects against MCPR SL and LHGR violations with the instrumentation inoperable, modifications to the MCPR limits (LCO 3.2.2) and the LHGR limits (LCO 3.2.3) may be applied to allow this LCO to be met. The MCPR and LHGR penalties for the Condition EOC-RPT inoperable are specified in the COLR.

Turbine Stop Valve Closure

Closure of the TSVs and a main turbine trip result in the loss of a heat sink that produces reactor pressure, neutron flux, and heat flux transients that must be limited. Therefore, an EOC-RPT is initiated on TSV Closure in anticipation of the transients that would result from closure of these valves. EOC-RPT decreases reactor power and aids the reactor scram in ensuring the MCPR SL is not exceeded during the worst case transient.

Closure of the TSVs is determined by limit switches on each stop valve. There are two limit switches associated with each stop valve, and the signal from each limit switch is assigned to a separate trip system. Thus, each trip system

(continued)

8

BASES

ACTIONS

A.1 and A.2 (continued)

the EOC-RPT System is capable of performing the intended function. However, the reliability and redundancy of the EOC-RPT instrumentation is reduced such that a single failure in the remaining trip system could result in the inability of the EOC-RPT System to perform the intended function. Therefore, only a limited time is allowed to restore compliance with the LCO. Because of the diversity of sensors available to provide trip signals, the low probability of extensive numbers of inoperabilities affecting all diverse Functions, and the low probability of an event requiring the initiation of an EOC-RPT, 72 hours is allowed to restore the inoperable channels (Required Action A.1) or apply the EOC-RPT inoperable MCPR and LHGR limit. Alternately, the inoperable channels may be placed in trip (Required Action A.2) since this would conservatively compensate for the inoperability, restore capability to accommodate a single failure, and allow operation to continue. As noted in Required Action A.2, placing the channel in trip with no further restrictions is not allowed if the inoperable channel is the result of an inoperable breaker, since this may not adequately compensate for the inoperable breaker (e.g., the breaker may be inoperable such that it will not open). If it is not desired to place the channel in trip (e.g., as in the case where placing the inoperable channel in trip would result in an EOC-RPT), or if the inoperable channel is the result of an inoperable breaker, Condition C must be entered and its Required Actions taken.

B.1 and B.2

Required Actions B.1 and B.2 are intended to ensure that appropriate actions are taken if multiple, inoperable, untripped channels within the same Function result in the Function not maintaining EOC-RPT trip capability. A Function is considered to be maintaining EOC-RPT trip capability when sufficient channels are OPERABLE or in trip, such that the EOC-RPT System will generate a trip signal from the given Function on a valid signal and both recirculation pumps can be tripped from fast speed operation. This requires two channels of the Function, in the same trip system, to be OPERABLE or in trip, and the associated EOC-RPT fast speed breakers to be OPERABLE or in trip. Alternatively, Required Action B.2 requires the MCPR limit and the LHGR limit for inoperable EOC-RPT, as specified in the COLR, to be applied. This also restores the margins to MCPR and LHGR assumed in the safety analysis.

(continued)

BASES

ACTIONS

B.1 and B.2 (continued)

The 2 hour Completion Time is sufficient for the operator to take corrective action, and takes into account the likelihood of an event requiring actuation of the EOC-RPT instrumentation during this period. It is also consistent with the 2 hour Completion Time provided in LCO 3.2.2, Required Action A.1, since this instrumentation's purpose is to preclude a MCPR violation.

C.1 and C.2

With any Required Action and associated Completion Time not met, THERMAL POWER must be reduced to < 40% RTP within 4 hours. Alternately, the associated recirculation pump fast speed breaker may be removed from service since this performs the intended function of the instrumentation. The allowed Completion Time of 4 hours is reasonable, based on operating experience, to reduce THERMAL POWER to < 40% RTP from full power conditions in an orderly manner and without challenging plant systems.

SURVEILLANCE REQUIREMENTS

The Surveillances are modified by a Note to indicate that when a channel is placed in an inoperable status solely for performance of required Surveillances, entry into associated Conditions and Required Actions may be delayed for up to 6 hours, provided the associated Function maintains EOC-RPT trip capability. Upon completion of the Surveillance, or expiration of the 6 hour allowance, the channel must be returned to OPERABLE status or the applicable Condition entered and Required Actions taken. This Note is based on the reliability analysis (Ref. 5) assumption of the average time required to perform channel surveillance. That analysis demonstrated that the 6 hour testing allowance does not significantly reduce the probability that the recirculation pumps will trip when necessary.

SR 3.3.4.1.1

A CHANNEL FUNCTIONAL TEST is performed on each required channel to ensure that the entire channel will perform the intended function. Any setpoint adjustment shall be consistent with the assumptions of the current plant specific setpoint methodology.

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B 3.6-106	0	B 3.7-4	1	B 3.8-12	0	B 3.8-51a	125
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B 3.6-112	0	B 3.7-10	110	B 3.8-18	102	B 3.8-55	0
B 3.6-113	6-5	B 3.7-11	110	B 3.8-19	117	B 3.8-56	120
B 3.6-114	6-5	B 3.7-12	110	B 3.8-20	117	B 3.8-57	120
B 3.6-115	0	B 3.7-13	115	B 3.8-21	102	B 3.8-58	120
B 3.6-116	0	B 3.7-14	115	B 3.8-22	113	B 3.8-59	110
B 3.6-117	0	B 3.7-15	0	B 3.8-23	113	B 3.8-60	110
B 3.6-118	0	B 3.7-16	110	B 3.8-24	113	B 3.8-61	115
B 3.6-119	110	B 3.7-17	4-4	B 3.8-25	102	B 3.8-62	0
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B 3.6-122	2-4	B 3.7-20	115	B 3.8-28	113	B 3.8-65	0
B 3.6-123	2-4	B 3.7-21	6-13	B 3.8-29	113	B 3.8-66	1
B 3.6-124	2-4	B 3.7-22	0	B 3.8-30	113	B 3.8-67	4-5
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BASES

BACKGROUND (continued)

The Division III battery has adequate storage to carry the required load continuously for at least 2 hours (Ref. 4).

Each DC battery subsystem is separately housed in a ventilated room apart from its charger and distribution centers. Each subsystem is located in an area separated physically and electrically from the other subsystems to ensure that a single failure in one subsystem does not cause a failure in a redundant subsystem. There is no sharing between redundant Class 1E subsystems such as batteries, battery chargers, or distribution panels.

The batteries for a DC electrical power subsystem are sized to produce required capacity at 80% of nameplate rating while maintaining system voltage.

Each battery charger of Division I and II DC electrical power subsystems has ample power output capacity for the steady state operation of connected loads required during normal operation, while at the same time maintaining its battery bank fully charged. Each battery charger has sufficient excess capacity to restore the battery bank from the design minimum charge to its fully charged state within 24 hours while supplying normal steady state loads (Ref. 4).

The battery charger of Division III DC electrical power subsystem has sufficient capacity to restore the battery bank from the design minimum charge to its fully charged state in 8 hours while supplying normal steady state loads (Ref. 4).

The battery charger is normally in the float-charge mode. Float-charge is the condition in which the charger is supplying the connected loads and the battery cells are receiving adequate current to optimally charge the battery. This assures the internal losses of the battery are overcome and the battery is maintained in a fully charged state.

When desired, the charger can be placed in the equalize mode. The equalize mode is at a higher voltage than the float mode and charging current is correspondingly higher. The battery charger is operated in the equalize mode after a battery discharge or for routine maintenance. Following a battery discharge, the battery recharge characteristic accepts current at the current limit of the battery charger (if the discharge was significant, e.g., following a battery service test) until the battery terminal

(continued)

BASES

BACKGROUND (continued)

voltage approaches the charger voltage setpoint. Charging current then reduces exponentially during the remainder of the recharge cycle. Lead-calcium batteries have recharge efficiencies of greater than 95%, so once at least 105% of the ampere-hours discharged have returned, the battery capacity would be restored to the same as it was prior to the discharge. This can be monitored by direct observation of the exponentially decaying charging current or by evaluating the amp-hours discharged from the battery and amp-hours returned to the battery.

APPLICABLE SAFETY ANALYSES

The initial conditions of Design Basis Accident (DBA) and transient analyses in the USAR, Chapter 6 (Ref. 5) and Chapter 15 (Ref. 6), assume that ESF systems are OPERABLE. The DC electrical power system provides normal and emergency DC electrical power for the DGs, emergency auxiliaries, and control and switching during all MODES of operation.

The OPERABILITY of the DC subsystems is consistent with the initial assumptions of the accident analyses and is based upon meeting the design basis of the unit. This includes maintaining DC sources OPERABLE during accident conditions in the event of:

(continued)

BASES

APPLICABLE SAFETY ANALYSES (continued)

a. An assumed loss of all offsite AC power or of all onsite AC power; and

b. A worst case single failure.

The DC sources satisfy Criterion 3 of the NRC Policy Statement.

LCO

The DC electrical power subsystems, each subsystem consisting of one battery, one battery charger, and the corresponding control equipment and interconnecting cabling supplying power to the associated bus within the divisions, are required to be OPERABLE to ensure the availability of the required power to shut down the reactor and maintain it in a safe condition after an anticipated operational occurrence (AOO) or a postulated DBA. Loss of any DC electrical power subsystem does not prevent the minimum safety function from being performed (Ref. 4).

APPLICABILITY

The DC electrical power sources are required to be OPERABLE in MODES 1, 2, and 3 to ensure safe unit operation and to ensure that:

a. Acceptable fuel design limits and reactor coolant pressure boundary limits are not exceeded as a result of AOOs or abnormal transients; and

b. Adequate core cooling is provided, and containment integrity and other vital functions are maintained in the event of a postulated DBA.

The DC electrical power requirements for MODES 4 and 5 are addressed in the Bases for LCO 3.8.5, "DC Sources–Shutdown."

ACTIONS

A.1, A.2, and A.3

Condition A represents one division with one battery charger inoperable (e.g., the voltage limit of SR 3.8.4.1 is not maintained). The ACTIONS provide a tiered response that focuses on returning the battery to the fully charged state restoring a fully qualified charger to the OPERABLE status in a reasonable time period. Required Action A.1 requires that the battery terminal voltage be restored to greater than or equal to the minimum

(continued)

BASES

ACTIONS

A.1, A.2, and A.3 (continued)

established float voltage within 2 hours. This time provides for returning the inoperable charger to OPERABLE status or providing an alternate means of restoring battery terminal voltage to greater than or equal to the minimum established float voltage. Restoring the battery terminal voltage to greater than or equal to the minimum established float voltage provides good assurance that, within 12 hours, the battery will be restored to its fully charged condition (Required Action A.2) from any discharge that might have occurred due to the charger inoperability. A discharged battery having terminal voltage of at least the minimum established float voltage indicates that the battery is on the exponential charging portion (the second part) of its recharge cycle. The time to return a battery to its fully charged state under this condition is simply a function of the amount of the previous discharge and the recharge characteristic of the battery. Thus there is good assurance of fully recharging the battery within 12 hours, avoiding a premature shutdown with its own attendant risk.

If established battery terminal float voltage cannot be restored to greater than or equal to the minimum established float voltage within the 2 hours, and the charger is not operating in the current-limiting mode, a faulty charger is indicated. A faulty charger that is incapable of maintaining established battery terminal float voltage does not provide assurance that it can revert to and operate properly in the current limit mode that is necessary during the recovery period following a battery discharge event that the DC system is designed for.

If the charger is operating in the current limit mode after 2 hours that is an indication that the battery is partially discharged and its capacity margins will be reduced. The time to return the battery to its fully charged condition in this case is a function of the battery charger capacity, the amount of loads on the associated DC system, the amount of the previous discharge, and the recharge characteristic of the battery. The charge time can be extensive, and there is not adequate assurance that it can be recharged within 12 hours (Required Action A.2).

Required Action A.2 requires that the battery float current be verified as less than or equal to 2 amps. This indicates that, if the battery had been discharged as a result of the inoperable battery charger, it has now been fully recharged. If at the expiration of the initial 12 hour period the battery float current is not less than or equal to 2 amps this indicates there may be additional battery problems and the battery must be declared inoperable.

BASES

ACTIONS

A.1, A.2, and A.3 (continued)

Required Action A.3 limits the restoration time for the inoperable battery charger to 7 days. This action is applicable if the balance of plant non-Class 1E battery charger and Station Blackout (SBO) diesel are available, during the completion time duration, as an alternate means of restoring battery terminal voltage to greater than or equal to the minimum established float voltage. The 7 day completion time reflects a reasonable time to effect restoration of the qualified battery charger to operable status.

B.1

Condition B represents one division with a loss of ability to completely respond to an event, and a potential loss of ability to remain energized during normal operation. It is, therefore, imperative that the operator's attention focus on stabilizing the unit, minimizing the potential for complete

(continued)

BASES

ACTIONS

B.1 (continued)

loss of DC power to the affected division. The 2 hour limit is consistent with the allowed time for an inoperable DC distribution system division.

If one of the required Division I or II DC electrical power subsystems is inoperable for reasons other than Condition A (e.g., inoperable battery, or inoperable battery charger and associated inoperable battery), the remaining DC electrical power subsystems have the capacity to support a safe shutdown and to mitigate an accident condition. Since a subsequent worst case single failure could, however, result in the loss of minimum necessary DC electrical subsystems, continued power operation should not exceed 2 hours. The 2 hour Completion Time is based on Regulatory Guide 1.93 (Ref. 7) and reflects a reasonable time to assess unit status as a function of the inoperable DC electrical power subsystem and, if the DC electrical power subsystem is not restored to OPERABLE status, to prepare to effect an orderly and safe unit shutdown.

C.1

With the Division III DC electrical power subsystem inoperable, the HPCS and Standby Service Water System pump 2C may be incapable of performing their intended functions and must be immediately declared inoperable. This declaration also requires entry into applicable Conditions and Required Actions of LCO 3.5.1, "ECCS – Operating," and LCO 3.7.1, "Standby Service Water (SSW) System and Ultimate Heat Sink (UHS)."

D.1 and D.2

If the inoperable DC electrical power subsystem cannot be restored to OPERABLE status within the associated Completion Time, the unit must be brought to a MODE in which the LCO does not apply. To achieve this status, the plant must be brought to at least MODE 3 within 12 hours and to MODE 4 within 36 hours. The allowed Completion Times are reasonable, based on operating experience, to reach the required plant

(continued)

BASES

ACTIONS

D.1 and D.2 (continued)

conditions from full power conditions in an orderly manner and without challenging plant systems. The Completion Time to bring the unit to MODE 4 is consistent with the time required in Regulatory Guide 1.93 (Ref. 7).

SURVEILLANCE REQUIREMENTS

SR 3.8.4.1

Verifying battery terminal voltage while on float charge helps to ensure the effectiveness of the charging system and the ability of the batteries to perform their intended function. Float charge is the condition in which the charger is supplying the continuous charge required to overcome the internal losses of a battery (or battery cell) and maintain the battery (or battery cell) in a fully charged state. The voltage requirements are based on the nominal design voltage of the battery and are consistent with the initial voltages assumed in the battery sizing calculations. The 7 day Frequency is conservative with manufacturer's recommendations and IEEE-450 (Ref. 8).

SR 3.8.4.2

Visual inspection to detect corrosion of the battery cells and connections, or measurement of the resistance of each inter-cell, inter-rack, inter-tier, and terminal connection, provides an indication of physical damage or abnormal deterioration that could potentially degrade battery performance. Only those terminals and connectors which have visible corrosion must be measured for connection resistance.

The Surveillance Frequency for these inspections, which can detect conditions that can cause power losses due to resistance heating, is 92 days. This Frequency is considered acceptable based on operating experience related to detecting corrosion trends.

SR 3.8.4.3

Visual inspection of the battery cells, cell plates, and battery racks provides an indication of physical damage or abnormal deterioration that could potentially degrade battery performance.

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TR 3.3.14 Primary Containment and Drywell Hydrogen Analyzers

TLCO 3.3.14.1 Primary containment and drywell hydrogen analyzers shall be operable.

APPLICABILITY: MODES 1 and 2

---NOTE---
TLCO 3.0.4 is not applicable.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One analyzer inoperable.	A.1 Restore to OPERABLE	30 days
B. Required Action and associated Completion Time of Condition A not met	B.1 Document the condition in the Corrective Action program	Immediately
C. Two hydrogen analyzers inoperable	C.1 Restore one analyzer to OPERABLE status	7 days
D. Required Action and associated Completion Time of Condition C not met	D.1 Be in MODE 3	12 hours

SURVEILLANCE REQUIREMENTS

SURVEILLANCE	FREQUENCY
TSR 3.3.14.1 Perform CHANNEL CHECK.	31 days
TSR 3.3.14.2 Perform CHANNEL CALIBRATION.	92 days

TR 3.9.15 Inclined Fuel Transfer System

TLCO 3.9.15 The inclined fuel transfer system (IFTS) may be in operation provided that:

a. The floor plugs are installed and the access door of all rooms through which the transfer system penetrates are closed and locked.

b. DELETED

c. The blocking valve located in the fuel building IFTS hydraulic power unit is OPERABLE.

d. At least one IFTS carriage position indicator at each carriage position is OPERABLE and at least one liquid level sensor is OPERABLE or the level can be confirmed visually.

e. Each keylock switch which provides access control lockout is OPERABLE.

f. DELETED

APPLICABILITY: When the IFTS containment blank flange is removed and IFTS is operated to handle irradiated components.

ACTIONS

	CONDITION		REQUIRED ACTION	COMPLETION TIME
A.	One or more of the requirements of the above specification not satisfied.	A.1	Suspend IFTS operation with the IFTS at either terminal point	Immediately

SURVEILLANCE REQUIREMENTS

	SURVEILLANCE	FREQUENCY
TSR 3.9.15.1	Verify that no personnel are in areas immediately adjacent to the IFTS tube and that the floor plugs are installed and access doors, to rooms through which the IFTS tube penetrates, are closed and locked.	Within 4 hours prior to the startup of the IFTS
TSR 3.9.15.2	Verify that at least one IFTS carriage position indicator at each carriage position is OPERABLE and at least one level sensor is OPERABLE or the level can be confirmed visually.	30 days
TSR 3.9.15.3	DELETED	
TSR 3.9.15.4	DELETED	
TSR 3.9.15.5	Verify that the blocking valve in the Fuel Building IFTS hydraulic power unit is OPERABLE.	30 days
TSR 3.9.15.6	Verify that each keylock switch which provides access control lockout is OPERABLE.	30 days
TSR 3.9.15.7	DELETED	

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TR 3.9.16 Refuel Floor Jib Crane

TLCO 3.9.16 The refuel floor jib crane shall be OPERABLE

APPLICABILITY During handling of fuel assemblies or control rods.

ACTIONS

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more requirements for jib crane OPERABILITY not satisfied.	A.1 Suspend jib crane operation involving the handling of fuel assemblies or control rods.	-------NOTE-------- Place the load in a safe condition prior to suspending operation. ---------- Immediately

SURVEILLANCE REQUIREMENTS

SURVEILLANCE		FREQUENCY
TSR 3.9.16.1	Demonstrate operation of the overload cutoff on the jib crane hoist before the load exceeds 1000 ± 50 pounds.	Within 7 days prior to the start of jib crane operations.
TSR 3.9.16.2	Demonstrate operation of the uptravel stop interlock on the jib crane hoist to maintain at least 8 feet 2 inches of water coverage above the top of fuel assemblies.	Within 7 days prior to the start of jib crane operations.
TSR 3.9.16.3	Demonstrate operation of the uptravel stop interlock on the jib crane hoist to maintain at least 6 feet 9 inches of water coverage above the top of control rods.	Within 7 days prior to the start of jib crane operations.

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B 3.4-34	0	B 3.5-12	109	B 3.6-26	3-9	B 3.6-67	122
B 3.4-35	0	B 3.5-13	109	B 3.6-27	121	B 3.6-68	122
B 3.4-36	0	B 3.5-13a	109	B 3.6-28	110	B 3.6-69	122
B 3.4-37	0	B 3.5-14	109	B 3.6-29	2-1	B 3.6-70	122
B 3.4-38	0	B 3.5-15	0	B 3.6-30	0	B 3.6-71	122
B 3.4-39	110	B 3.5-16	0	B 3.6-31	0	B 3.6-72	0
B 3.4-40	110	B 3.5-17	0	B 3.6-32	0	B 3.6-73	0
B 3.4-41	110	B 3.5-18	0	B 3.6-33	0	B 3.6-74	0
B 3.4-42	110	B 3.5-19	0	B 3.6-34	0	B 3.6-75	0
B 3.4-43	0	B 3.5-20	6-14	B 3.6-35	109	B 3.6-76	6-12
B 3.4-44	0	B 3.5-21	6-9	B 3.6-36	0	B 3.6-77	3-3
B 3.4-45	0	B 3.5-22	0	B 3.6-37	109	B 3.6-78	122
B 3.4-46	0	B 3.5-23	0	B 3.6-38	109	B 3.6-79	0
B 3.4-47	0	B 3.5-24	0	B 3.6-39	0	B 3.6-80	0
B 3.4-48	0	B 3.5-25	0	B 3.6-40	0	B 3.6-81	2-8
B 3.4-49	0	B 3.6-1	0	B 3.6-41	0	B 3.6-82	2-8
B 3.4-50	0	B 3.6-2	2-1	B 3.6-42	0	B 3.6-83	121
B 3.4-51	0	B 3.6-3	2-1	B 3.6-43	3-9	B 3.6-84	6-5
B 3.4-52	0	B 3.6-4	2-1	B 3.6-44	3-9	B 3.6-85	115
B 3.4-53	6-4	B 3.6-5	0	B 3.6-45	3-9	B 3.6-86	6-5
B 3.4-54	6-13	B 3.6-6	110	B 3.6-46	3-9	B 3.6-87	110
B 3.4-55	6-4	B 3.6-7	110	B 3.6-47	1	B 3.6-88	6-5
B 3.4-56	0	B 3.6-8	2-3	B 3.6-48	0	B 3.6-89	6-5
B 3.4-57	0	B 3.6-9	2-3	B 3.6-49	0		

BASES

SURVEILLANCE REQUIREMENTS (continued)

SR 3.6.1.3.5

For primary containment purge valves with resilient seals, additional leakage rate testing beyond the test requirements of 10 CFR 50, Appendix J (Ref. 4), is required to ensure OPERABILITY. The acceptance criterion for each purge exhaust valve is established by the Primary Containment Leakage Rate Testing Program to ensure early detection of seal degradation. Operating experience has demonstrated that this type of seal has the potential to degrade in a shorter time period than do other seal types. Based on this observation, and the importance of maintaining this penetration leak tight (due to the direct path between primary containment and the environment), a Frequency of 184 days was established. Additionally, this SR must be performed within 92 days after opening the valve. The 92 day Frequency was chosen recognizing that cycling the valve could introduce additional seal degradation (beyond that which occurs to a valve that has not been opened). Thus, decreasing the interval (from 184 days) is a prudent measure after a valve has been opened.

The SR is modified by a Note stating that the primary containment purge valves are only required to meet leakage rate testing requirements in MODES 1, 2, and 3. If a LOCA inside primary containment occurs in these MODES, purge valve leakage must be minimized to ensure offsite radiological release is within limits. At other times pressurization concerns are not present and the purge valves are not required to meet any specific leakage criteria.

SR 3.6.1.3.6

Verifying that the full closure isolation time of each MSIV is within the specified limits is required to demonstrate OPERABILITY. The full closure isolation time test ensures that the MSIV will isolate in a time period that does not exceed the times assumed in the DBA analyses. The maximum closure time has been selected to contain fission products and to ensure the core is not uncovered following line breaks. The minimum closure time is consistent with the assumptions in the safety analyses to prevent pressure surges. The Frequency of this SR is in accordance with the Inservice Testing Program.

(continued)

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TECHNICAL REQUIREMENTS MANUAL
LIST OF EFFECTIVE PAGES

PAGE NUMBER	REV	PAGE NUMBER	REV	PAGE NUMBER	REV
i	77	TR 3.3-28 (52ii)	5	TR 3.3-74 (74i)	105
ii	100	TR 3.3-29 (52iii)	5	TR 3.3-75 (77i)	90
iii	98	TR 3.3-30 (52iv)	5	TR 3.3-76 (77ii)	5
iv	104	TR 3.3-31 (52v)	5	TR 3.3-77 (77iii)	44
v	77	TR 3.3-32 (57i)	80	TR 3.3-78 (77iv)	44
vi	77	TR 3.3-33 (57ii)	97	TR 3.3-79 (77v)	44
TR 1-1	77	TR 3.3-34 (57iii)	40	TR 3.3-80 (77vi)	5
TR 1-2	77	TR 3.3-35 (57iv)	13	TR 3.3-81 (77vii)	5
TR 1-3	77	TR 3.3-36 (57v)	13	TR 3.3-82 (77viii)	5
TR 1-4	77	TR 3.3-37 (57vi)	87	TR 3.3-83 (77ix)	5
TR 3.0-1	77	TR 3.3-38 (57vii)	16	TR 3.3-84 (77x)	5
TR 3.0-2	5	TR 3.3-39 (57viii)	28	TR 3.3-85 (77xi)	5
TR 3.0-3	92	TR 3.3-40 (60i)	62	TR 3.3-86 (77xii)	77
TR 3.0-4	5	TR 3.3-41 (60ii)	62	TR 3.3-87 (77xiii)	5
TR 3.1-1 (10i)	5	TR 3.3-42 (61i)	62	TR 3.3-88	86
TR 3.1-2 (17i)	84	TR 3.3-43 (61ii)	98	TR 3.3-89	90
TR 3.1-3 (17ii)	90	TR 3.3-44 (65i)	9	TR 3.3-90 (40i)	103
TR 3.1-4 (25i)	5	TR 3.3-45 (67i)	72	TR 3.4-1 (4i)	5
TR 3.2-1 (6i)	74	TR 3.3-46 (67ii)	75	TR 3.4-2 (5i)	48
TR 3.3-1 (6i)	5	TR 3.3-47 (67iii)	75	TR 3.4-3 (5ii)	86
TR 3.3-2 (9i)	48	TR 3.3-48 (71i)	85	TR 3.4-4 (11i)	5
TR 3.3-3 (9ii)	72	TR 3.3-49 (71ii)	91	TR 3.4-5 (13i)	5
TR 3.3-4 (9iii)	78	TR 3.3-50 (71iii)	5	TR 3.4-6 (16i)	49
TR 3.3-5 (15i)	5	TR 3.3-51 (71iv)	38	TR 3.4-7 (16ii)	75
TR 3.3-6 (15ii)	5	TR 3.3-52 (71v)	38	TR 3.4-8 (16iii)	75
TR 3.3-7 (17i)	5	TR 3.3-53 (71vi)	77	TR 3.4-9 (19i)	5
TR 3.3-8 (17ii)	18	TR 3.3-54 (71vii)	77	TR 3.4-10 (32i)	101
TR 3.3-9 (17iii)	18	TR 3.3-55 (71viii)	5	TR 3.4-11 (32ii)	71
TR 3.3-10 (18i)	61	TR 3.3-56 (71ix)	79	TR 3.4-12 (32iii)	5
TR 3.3-11 (18ii)	86	TR 3.3-57 (71x)	5	TR 3.4-13 (33i)	5
TR 3.3-12 (24i)	5	TR 3.3-58 (71xi)	40	TR 3.4-14 (33ii)	5
TR 3.3-13 (24ii)	21	TR 3.3-59 (71xii)	5	TR 3.4-15 (33iii)	39
TR 3.3-14 (24iii)	49	TR 3.3-60 (71xiii)	40	TR 3.4-16 (33iv)	5
TR 3.3-15 (24iv)	5	TR 3.3-61 (71xiv)	40	TR 3.4-17 (33v)	5
TR 3.3-16 (28i)	78	TR 3.3-62 (71xv)	81	TR 3.5-1 (5i)	5
TR 3.3-17 (31i)	72	TR 3.3-63 (71xvi)	5	TR 3.5-2 (5ii)	5
TR 3.3-18 (37i)	5	TR 3.3-64 (71xvii)	5	TR 3.5-3 (12i)	77
TR 3.3-19 (43i)	9	TR 3.3-65 (71xviii)	67	TR 3.5-4 (12ii)	77
TR 3.3-20 (43ii)	9	TR 3.3-66 (71xix)	96	TR 3.6-1 (2i)	11
TR 3.3-21 (43iii)	9	TR 3.3-67 (71xx)	51	TR 3.6-2 (2ii)	69
TR 3.3-22 (43iv)	9	TR 3.3-68 (71xxi)	51	TR 3.6-3 (8i)	73
TR 3.3-23 (43v)	9	TR 3.3-69 (71xxii)	78	TR 3.6-3a (8ii)	13
TR 3.3-24 (43vi)	77	TR 3.3-70 (71xxiii)	75	TR 3.6-4 (8iii)	73
TR 3.3-25 (43vii)	5	TR 3.3-71 (71xxiv)	90	TR 3.6-5 (20i)	11
TR 3.3-26 (47i)	9	TR 3.3-72 (71xxv)	26	TR 3.6-6 (20ii)	77
TR 3.3-27 (52i)	5	TR 3.3-73 (71xxvi)	5		

TR 3.3.8.1 Loss of Power (LOP) Instrumentation

Table 3.3.8.1-1 (page 1 of 1)
Loss of Power Instrumentation

FUNCTION	REQUIRED CHANNELS PER DIVISION	SURVEILLANCE REQUIREMENTS	TRIP SETPOINT
1. Divisions 1 and 2 - 4.16 kV Emergency Bus Undervoltage			
a. Loss of Voltage • 4.16 kV basis	3	SR 3.3.8.1.1 SR 3.3.8.1.2 SR 3.3.8.1.3 SR 3.3.8.1.4	≥ 2910 V and ≤ 3030 V
b. Loss of Voltage • Time Delay	1	SR 3.3.8.1.3 SR 3.3.8.1.4	≥ 2.7 seconds and ≤ 3.3 seconds
c. Degraded Voltage • 4.16 kV basis	3	SR 3.3.8.1.1 SR 3.3.8.1.2 SR 3.3.8.1.3 SR 3.3.8.1.4	≥ 3692 V and ≤ 3733 V
d. Degraded Voltage • Time Delay, No LOCA	1	SR 3.3.8.1.3 SR 3.3.8.1.4	≥ 54 seconds and ≤ 66 seconds
e. Degraded Voltage•Time Delay, LOCA	1	SR 3.3.8.1.3 SR 3.3.8.1.4	≥ 4.56 seconds and ≤ 5.54 seconds
2. Division 3 • 4.16 kV Emergency Bus Undervoltage			
a. Loss of Voltage • 4.16 kV basis	2	SR 3.3.8.1.1 SR 3.3.8.1.3 SR 3.3.8.1.4	≥ 2892 V and ≤ 3198 V
b. Loss of Voltage • Time Delay	2	SR 3.3.8.1.3 SR 3.3.8.1.4	≥ 2.7 seconds and ≤ 3.3 seconds
c. Degraded Voltage • 4.16 kV basis	2	SR 3.3.8.1.1 SR 3.3.8.1.2 SR 3.3.8.1.3 SR 3.3.8.1.4	≥ 3675 V and ≤ 3720 V
d. Degraded Voltage • Time Delay, No LOCA	2	SR 3.3.8.1.3 SR 3.3.8.1.4	≥ 54 seconds and ≤ 66 seconds
e. Degraded Voltage • Time Delay, LOCA	2	SR 3.3.8.1.2 SR 3.3.8.1.3 SR 3.3.8.1.4	≥ 4.63 seconds and ≤ 5.57 seconds

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ii	100	TR 3.3-29 (52iii)	5	TR 3.3-75 (77i)	90
iii	98	TR 3.3-30 (52iv)	5	TR 3.3-76 (77ii)	5
iv	104	TR 3.3-31 (52v)	5	TR 3.3-77 (77iii)	44
v	77	TR 3.3-32 (57i)	80	TR 3.3-78 (77iv)	44
vi	77	TR 3.3-33 (57ii)	97	TR 3.3-79 (77v)	44
TR 1-1	77	TR 3.3-34 (57iii)	40	TR 3.3-80 (77vi)	5
TR 1-2	77	TR 3.3-35 (57iv)	13	TR 3.3-81 (77vii)	5
TR 1-3	77	TR 3.3-36 (57v)	13	TR 3.3-82 (77viii)	5
TR 1-4	77	TR 3.3-37 (57vi)	87	TR 3.3-83 (77ix)	5
TR 3.0-1	77	TR 3.3-38 (57vii)	16	TR 3.3-84 (77x)	5
TR 3.0-2	5	TR 3.3-39 (57viii)	28	TR 3.3-85 (77xi)	5
TR 3.0-3	92	TR 3.3-40 (60i)	62	TR 3.3-86 (77xii)	77
TR 3.0-4	5	TR 3.3-41 (60ii)	62	TR 3.3-87 (77xiii)	5
TR 3.1-1 (10i)	5	TR 3.3-42 (61i)	62	TR 3.3-88	86
TR 3.1-2 (17i)	84	TR 3.3-43 (61ii)	98	TR 3.3-89	90
TR 3.1-3 (17ii)	90	TR 3.3-44 (65i)	9	TR 3.3-90 (40i)	103
TR 3.1-4 (25i)	5	TR 3.3-45 (67i)	72	TR 3.4-1 (4i)	5
TR 3.2-1 (6i)	74	TR 3.3-46 (67ii)	75	TR 3.4-2 (5i)	48
TR 3.3-1 (6i)	5	TR 3.3-47 (67iii)	75	TR 3.4-3 (5ii)	86
TR 3.3-2 (9i)	48	TR 3.3-48 (71i)	85	TR 3.4-4 (11i)	5
TR 3.3-3 (9ii)	72	TR 3.3-49 (71ii)	91	TR 3.4-5 (13i)	5
TR 3.3-4 (9iii)	78	TR 3.3-50 (71iii)	5	TR 3.4-6 (16i)	49
TR 3.3-5 (15i)	5	TR 3.3-51 (71iv)	38	TR 3.4-7 (16ii)	75
TR 3.3-6 (15ii)	5	TR 3.3-52 (71v)	38	TR 3.4-8 (16iii)	75
TR 3.3-7 (17i)	5	TR 3.3-53 (71vi)	77	TR 3.4-9 (19i)	5
TR 3.3-8 (17ii)	18	TR 3.3-54 (71vii)	77	TR 3.4-10 (32i)	101
TR 3.3-9 (17iii)	18	TR 3.3-55 (71viii)	5	TR 3.4-11 (32ii)	71
TR 3.3-10 (18i)	61	TR 3.3-56 (71ix)	79	TR 3.4-12 (32iii)	5
TR 3.3-11 (18ii)	86	TR 3.3-57 (71x)	5	TR 3.4-13 (33i)	5
TR 3.3-12 (24i)	5	TR 3.3-58 (71xi)	40	TR 3.4-14 (33ii)	5
TR 3.3-13 (24ii)	21	TR 3.3-59 (71xii)	5	TR 3.4-15 (33iii)	39
TR 3.3-14 (24iii)	49	TR 3.3-60 (71xiii)	40	TR 3.4-16 (33iv)	5
TR 3.3-15 (24iv)	5	TR 3.3-61 (71xiv)	40	TR 3.4-17 (33v)	5
TR 3.3-16 (28i)	78	TR 3.3-62 (71xv)	106	TR 3.5-1 (5i)	5
TR 3.3-17 (31i)	72	TR 3.3-63 (71xvi)	5	TR 3.5-2 (5ii)	5
TR 3.3-18 (37i)	5	TR 3.3-64 (71xvii)	106	TR 3.5-3 (12i)	77
TR 3.3-19 (43i)	9	TR 3.3-65 (71xviii)	67	TR 3.5-4 (12ii)	77
TR 3.3-20 (43ii)	9	TR 3.3-66 (71xix)	96	TR 3.6-1 (2i)	11
TR 3.3-21 (43iii)	9	TR 3.3-67 (71xx)	51	TR 3.6-2 (2ii)	69
TR 3.3-22 (43iv)	9	TR 3.3-68 (71xxi)	51	TR 3.6-3 (8i)	73
TR 3.3-23 (43v)	9	TR 3.3-69 (71xxii)	78	TR 3.6-3a (8ii)	13
TR 3.3-24 (43vi)	77	TR 3.3-70 (71xxiii)	75	TR 3.6-4 (8iii)	73
TR 3.3-25 (43vii)	5	TR 3.3-71 (71xxiv)	90	TR 3.6-5 (20i)	11
TR 3.3-26 (47i)	9	TR 3.3-72 (71xxv)	26	TR 3.6-6 (20ii)	77
TR 3.3-27 (52i)	5	TR 3.3-73 (71xxvi)	5		

TR 3.3.7.5 Seismic Monitoring Instrumentation

TLCO 3.3.7.5 The seismic monitoring instrumentation shown in Table 3.3.7.5-1 shall be OPERABLE.

APPLICABILITY: At all times.

ACTIONS

---NOTE---
Separate Condition entry is allowed for each channel.

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more required seismic monitoring instruments inoperable.	A.1 Restore required seismic monitoring instruments to OPERABLE.	30 days
B. Required Action A.1 and associated Completion Time not met.	B.1 Initiate action to prepare an appropriate deficiency document. AND B.2 Enter TLCO 3.0.3	Immediately

TABLE 3.3.7.5-1 (Page 1 of 1)
SEISMIC MONITORING INSTRUMENTATION

	MINIMUM INSTRUMENTS OPERABLE	SURVEILLANCE REQUIREMENTS	MEASUREMENT RANGE
1. Triaxial Time-History Accelerographs			
a. Reactor Bldg Mat EL 70' 0" (ERS-NBE1A / ERS-NBR2H)	1	TSR 3.3.7.5.1 TSR 3.3.7.5.2 TSR 3.3.7.5.3 TSR 3.3.7.5.4	0 ± 1.0 g
b. Reactor Bldg Ext Shield Wall EL 232' 0" (ERS-NBE1B / ERS-NBR2I)	1	TSR 3.3.7.5.1 TSR 3.3.7.5.2 TSR 3.3.7.5.3 TSR 3.3.7.5.4	0 ± 1.0 g
c. Reactor Bldg Drywell EL 151' 0" (ERS-NBE1C / ERS-NBR2J)	1	TSR 3.3.7.5.1 TSR 3.3.7.5.2 TSR 3.3.7.5.3 TSR 3.3.7.5.4	0 ± 1.0 g
d. Free Field - Grade Level (ERS-NBE1D / ERS-NBR2K)	1	TSR 3.3.7.5.1 TSR 3.3.7.5.2 TSR 3.3.7.5.3 TSR 3.3.7.5.4	0 ± 1.0 g
2. Triaxial Peak Accelerographs			
a. Reactor Bldg SLCS Storage Tank (ERS-NBR2A)	1	TSR 3.3.7.5.3 TSR 3.3.7.5.4	0 ± 10.0 g
b. Reactor Bldg - RHR Inj. Piping (ERS-NBR2B)	1	TSR 3.3.7.5.3 TSR 3.3.7.5.4	0 ± 10.0 g
c. Aux. Bldg Service Water Piping (ERS-NBR2C)	1	TSR 3.3.7.5.3 TSR 3.3.7.5.4	0 ± 10.0 g
3. Triaxial Seismic Switches			
a. Reactor Bldg Mat EL 70' 0" (ERS-NBS4B)	1(a)	TSR 3.3.7.5.1(b) TSR 3.3.7.5.2 TSR 3.3.7.5.3 TSR 3.3.7.5.4	0.025 to 0.25 g
b. Free Field EL 95' (ERS-NBS4A)	1(d)	TSR 3.3.7.5.1(b) TSR 3.3.7.5.2 TSR 3.3.7.5.3 TSR 3.3.7.5.4	0.025 to 0.25 g
4. Triaxial Response - Spectrum Recorders			
a. Reactor Bldg Mat EL 70' 0" (ERS-NBS2D)	1(c)	TSR 3.3.7.5.1 TSR 3.3.7.5.2 TSR 3.3.7.5.3 TSR 3.3.7.5.4	0 ± 2 g
b. Reactor Bldg Floor EL 141' 0" (ERS-NBS2F)	1	TSR 3.3.7.5.3 TSR 3.3.7.5.4	0 ± 2 g
c. Auxiliary Bldg Mat EL 70' 0" (ERS-NBS2G)	1	TSR 3.3.7.5.3 TSR 3.3.7.5.4	0 ± 2 g
d. Auxiliary Bldg Floor EL 141' 0" (ERS-NBS2E)	1	TSR 3.3.7.5.3 TSR 3.3.7.5.4	0 ± 2 g

(a) With control room indication and annunciation (SEISMIC EVENT HIGH).
(b) Except seismic trigger.
(c) With control room indication and annunciation (SEISMIC EVENT HIGH-HIGH).
(d) With control room indication and annunciation (SEISMIC TAPE RECORDING SYS START).

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B 3.6-91	115	B 3.6-131	2-4	B 3.7-29	115	B 3.8-37	115
B 3.6-92	6-5	B 3.6-132	3-4	B 3.7-30	0	B 3.8-38	110
B 3.6-93	115	B 3.6-133	3-4	B 3.7-31	115	B 3.8-39	102
B 3.6-94	6-5	B 3.6-134	2-8	B 3.8-1	0	B 3.8-40	102
B 3.6-95	6-5	B 3.6-135	2-8	B 3.8-2	5-3	B 3.8-41	3-2
B 3.6-96	0	B 3.6-136	6-2	B 3.8-3	0	B 3.8-42	0
B 3.6-97	1	B 3.6-137	2-8	B 3.8-4	0	B 3.8-43	0
B 3.6-98	0	B 3.6-138	2-8	B 3.8-5	105	B 3.8-44	0
B 3.6-99	0	B 3.6-139	2-8	B 3.8-6	0	B 3.8-45	0
B 3.6-100	0	B 3.6-140	2-8	B 3.8-7	0	B 3.8-46	0
B 3.6-101	121	B 3.6-141	2-8	B 3.8-8	105	B 3.8-47	0
B 3.6-102	121	B 3.6-142	2-8	B 3.8-8a	105	B 3.8-48	3-2
B 3.6-103	121	B 3.7-1	110	B 3.8-9	105	B 3.8-49	3-2
B 3.6-104	6-5	B 3.7-2	110	B 3.8-10	0	B 3.8-50	0
B 3.6-105	110	B 3.7-3	110	B 3.8-11	0	B 3.8-51	125
B 3.6-106	0	B 3.7-4	1	B 3.8-12	0	B 3.8-51a	125
B 3.6-107	6-5	B 3.7-5	1	B 3.8-13	0	B 3.8-52	125
B 3.6-108	6-5	B 3.7-6	0	B 3.8-14	127	B 3.8-52a	125
B 3.6-109	6-5	B 3.7-7	3-1	B 3.8-15	102	B 3.8-52b	125
B 3.6-110	6-5	B 3.7-8	1	B 3.8-16	102	B 3.8-53	125
B 3.6-111	6-5	B 3.7-9	0	B 3.8-17	102	B 3.8-54	125
B 3.6-112	0	B 3.7-10	110	B 3.8-18	127	B 3.8-55	0
B 3.6-113	6-5	B 3.7-11	110	B 3.8-19	117	B 3.8-56	120
B 3.6-114	6-5	B 3.7-12	110	B 3.8-20	117	B 3.8-57	120
B 3.6-115	0	B 3.7-13	115	B 3.8-21	102	B 3.8-58	120
B 3.6-116	0	B 3.7-14	115	B 3.8-22	113	B 3.8-59	110
B 3.6-117	0	B 3.7-15	0	B 3.8-23	113	B 3.8-60	110
B 3.6-118	0	B 3.7-16	110	B 3.8-24	113	B 3.8-61	115
B 3.6-119	110	B 3.7-17	4-4	B 3.8-25	102	B 3.8-62	0
B 3.6-120	121	B 3.7-18	110	B 3.8-26	102	B 3.8-63	0
B 3.6-121	119	B 3.7-19	6-13	B 3.8-27	113	B 3.8-64	0
B 3.6-122	2-4	B 3.7-20	115	B 3.8-28	113	B 3.8-65	0
B 3.6-123	2-4	B 3.7-21	6-13	B 3.8-29	113	B 3.8-66	1
B 3.6-124	2-4	B 3.7-22	0	B 3.8-30	113	B 3.8-67	4-5
B 3.6-125	2-4	B 3.7-23	0	B 3.8-31	102	B 3.8-68	4-5
B 3.6-126	2-4	B 3.7-24	1	B 3.8-32	3-1	B 3.8-69	1
B 3.6-127	2-4	B 3.7-25	6-14	B 3.8-33	3-1		
B 3.6-128	110	B 3.7-26	6-7	B 3.8-34	110		
B 3.6-129	3-4	B 3.7-27	0	B 3.8-35	0		

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v	77	TR 3.3-32 (57i)	80	TR 3.3-78 (77iv)	44
vi	77	TR 3.3-33 (57ii)	97	TR 3.3-79 (77v)	44
TR 1-1	77	TR 3.3-34 (57iii)	40	TR 3.3-80 (77vi)	5
TR 1-2	77	TR 3.3-35 (57iv)	13	TR 3.3-81 (77vii)	5
TR 1-3	77	TR 3.3-36 (57v)	13	TR 3.3-82 (77viii)	5
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TR 3.0-4	5	TR 3.3-41 (60ii)	62	TR 3.3-87 (77xiii)	5
TR 3.1-1 (10i)	5	TR 3.3-42 (61i)	62	TR 3.3-88	86
TR 3.1-2 (17i)	84	TR 3.3-43 (61ii)	98	TR 3.3-89	90
TR 3.1-3 (17ii)	90	TR 3.3-44 (65i)	9	TR 3.3-90 (40i)	103
TR 3.1-4 (25i)	5	TR 3.3-45 (67i)	72	TR 3.4-1 (4i)	5
TR 3.2-1 (6i)	74	TR 3.3-46 (67ii)	75	TR 3.4-2 (5i)	48
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TR 3.3-2 (9i)	48	TR 3.3-48 (71i)	85	TR 3.4-4 (11i)	5
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TR 3.3-11 (18ii)	86	TR 3.3-57 (71x)	5	TR 3.4-13 (33i)	5
TR 3.3-12 (24i)	5	TR 3.3-58 (71xi)	40	TR 3.4-14 (33ii)	5
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TR 3.6-13 (28i)	90	TR 3.7-34 (15xxvii)	5	TR 3.11-12	5
TR 3.6-14 (28ii)	35	TR 3.7-35 (15xxviii)	5	TR 3.11-13	5
TR 3.6-15 (30i)	5	TR 3.8-1 (15i)	76	TR 3.11-14	5
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TR 3.7-10 (15iii)	5	TR 3.8-23 (42xvi)	88	TR 5-7	23
TR 3.7-11 (15iv)	93	TR 3.9-1 (7i)	84	TR 5-8	5
TR 3.7-12 (15v)	5	TR 3.9-2 (7ii)	72	TR 5-9	5
TR 3.7-13 (15vi)	5	TR 3.9-3 (13i)	85	TR 5-10	5
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TR 3.7-27 (15xx)	5				

BASES

SURVEILLANCE REQUIREMENTS (continued)

SR 3.8.1.1

This SR ensures proper circuit continuity for the two qualified circuits between the offsite transmission network and the onsite Class 1E Distribution System and availability of offsite AC electrical power. The breaker alignment verifies that each breaker is in its correct position to ensure that the Division 1, 2, and 3 distribution buses and loads are connected to their preferred power source and that appropriate independence of offsite circuits is maintained. The 7 day Frequency is adequate since breaker position is not likely to change without the operator being aware of it and because its status is displayed in the control room.

SR 3.8.1.2 and SR 3.8.1.7

These SRs help to ensure the availability of the standby electrical power supply to mitigate DBAs and transients and maintain the unit in a safe shutdown condition.

To minimize the wear on moving parts that do not get lubricated when the engine is not running, these SRs have been modified by Notes (the Note for SR 3.8.1.7 and Note 2 for SR 3.8.1.2) to indicate that all DG starts for these Surveillances may be preceded by an engine prelube period and followed by a warmup period prior to loading.

For the purposes of this testing, the DGs are started from standby conditions. Standby conditions for a DG mean that the diesel engine coolant and oil are being continuously circulated and temperature is being maintained consistent with manufacturer recommendations for DG 1A and DG 1B. For DG 1C, standby conditions mean that the lube oil is heated by the jacket water and continuously circulated through a portion of the system as recommended by the vendor. Engine jacket water is heated by an immersion heater and circulates through the system by natural circulation.

In order to reduce stress and wear on diesel engines, the manufacturer recommends that the DGs be gradually accelerated to synchronous speed prior to loading. These modified start procedures are the intent of Note 3, which is only applicable when such procedures are used.

(continued)

BASES

SURVEILLANCE REQUIREMENTS

SR 3.8.1.7

See SR 3.8.1.2

SR 3.8.1.8

Transfer of each 4.16 kV ESF bus power supply from the normal offsite circuit to the alternate offsite circuit demonstrates the OPERABILITY of the alternate circuit. This SR applies to Divisions 1, 2, and 3. The 18 month Frequency of the Surveillance is based on engineering judgment taking into consideration the plant conditions required to perform the Surveillance, and is intended to be consistent with expected fuel cycle lengths. Operating experience has shown that these components usually pass the SR when performed on the 18 month Frequency. Therefore, the Frequency was concluded to be acceptable from a reliability standpoint.

This SR is modified by a Note. The reason for the Note is that, during operation with the reactor critical, performance of this SR could cause perturbations to the electrical distribution systems that could challenge continued steady state operation and, as a result, plant safety systems. Credit may be taken for unplanned events that satisfy this SR. Examples of unplanned events may include:

1) Unexpected operational events which cause the equipment to perform the function specified by this Surveillance, for which adequate documentation of the required performance is available; and

2) Post corrective maintenance testing that requires performance of this Surveillance in order to restore the component to OPERABLE, provided the maintenance was required, or performed in conjunction with maintenance required to maintain OPERABILITY or reliability.

(continued)

TR 3.4.6.1 Reactor Coolant System Pressure Isolation Valve Pressure Monitors

TLCO 3.4.6.1 The high\low pressure interface valve pressure monitors shown in Table 3.4.6.1-1 shall be OPERABLE.

APPLICABILITY: MODES 1 and 2,
MODE 3, except valves in the residual heat removal (RHR) shutdown cooling flowpath when in, or during the transition to or from, the shutdown cooling mode of operation.

ACTIONS

NOTE
Separate Condition entry is allowed for each channel.

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. One or more pressure monitors inoperable.	A.1 Restore channel to OPERABLE status.	7 days
B. Required Action and associated Completion Time of Condition A not met.	B.1 Verify pressure less than the alarm setpoint. AND B.2 Restore channel to OPERABLE status.	once per 12 hours 30 days from discovery of failure to meet LCO
C. Required Action and associated Completion Time of Condition B not met.	C.1 Enter TLCO 3.0.3.	Immediately

TR 3.6.4.2 Secondary Containment Isolation Dampers (SCIDs) and Fuel Building Isolation Dampers (FBIDs)

TABLE 3.6.4.2-1 (page 1 of 1)
SECONDARY CONTAINMENT AND FUEL BUILDING AUTOMATIC ISOLATION DAMPERS

	DAMPER FUNCTION	MAXIMUM ISOLATION TIME (Seconds)	DAMPER GROUP #	APPLICABLE OPERATIONAL CONDITION
1.	Shield Building Annulus Ventilation Exhaust Damper (1HVR*AOD161)	15	12	1, 2, 3
2.	Shield Building Annulus Ventilation Exhaust Damper (1HVR*AOD23A)	15	12	1, 2, 3
3.	Shield Building Annulus Ventilation Exhaust Damper (1HVR*AOD23B)	15	12	1, 2, 3
4.	Auxiliary Building Ventilation Exhaust Damper (1HVR*AOD214)	15	11	1, 2, 3
5.	Auxiliary Building Ventilation Exhaust Damper (1HVR*AOD262)	15	11	1, 2, 3
6.	Auxiliary Building Ventilation Exhaust Damper (1HVR*AOD249)	15	11	1, 2, 3
7.	Auxiliary Building Ventilation Exhaust Damper (1HVR*AOD10A)	15	12	1, 2, 3
8.	Auxiliary Building Ventilation Exhaust Damper (1HVR*AOD10B)	15	12	1, 2, 3
9.	Auxiliary Building Ventilation Supply Damper (1HVR*AOD143)	15	11	1, 2, 3
10.	Auxiliary Building Ventilation Supply Damper (1HVR*AOD164)	15	11	1, 2, 3
11.	Fuel Building Ventilation Supply Damper (1HVF*AOD122)	15	13	##
12.	Fuel Building Ventilation Supply Damper (1HVF*AOD101)	15	13	##
13.	Fuel Building Ventilation Exhaust Damper (1HVF*AOD104)	15	13	##
14.	Fuel Building Ventilation Exhaust Damper (1HVF*AOD137)	15	13	##
15.	Fuel Building Ventilation Exhaust Damper (1HVF*AOD102)	15	13	##
16.	Fuel Building Ventilation Exhaust Damper (1HVF*AOD112)	15	13	##

Damper groups are designated in Table 3.3.6.2-2
When handling recently irradiated fuel in the Fuel Building.

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B 3.3-81	0	B 3.3-121	0	B 3.3-161	0	B 3.3-201	115
B 3.3-82	0	B 3.3-122	0	B 3.3-162	0	B 3.3-202	0
B 3.3-83	0	B 3.3-123	4-1	B 3.3-163	0	B 3.3-203	0
B 3.3-84	0	B 3.3-124	0	B 3.3-164	0	B 3.3-204	3-4
B 3.3-85	0	B 3.3-125	2-6	B 3.3-165	0	B 3.3-205	0
B 3.3-86	0	B 3.3-126	0	B 3.3-166	0	B 3.3-206	0
B 3.3-87	0	B 3.3-127	0	B 3.3-167	0	B 3.3-207	0
B 3.3-88	0	B 3.3-128	0	B 3.3-168	0	B 3.3-208	0
B 3.3-89	0	B 3.3-129	0	B 3.3-169	0	B 3.3-209	1
B 3.3-90	0	B 3.3-130	0	B 3.3-170	110	B 3.3-210	1
B 3.3-91	0	B 3.3-131	0	B 3.3-171	6-5	B 3.3-211	1
B 3.3-92	0	B 3.3-132	0	B 3.3-172	6-5	B 3.3-212	107
B 3.3-93	0	B 3.3-133	0	B 3.3-173	6-5	B 3.3-213	0
B 3.3-94	0	B 3.3-134	0	B 3.3-174	110	B 3.3-214	123
B 3.3-95	0	B 3.3-135	0	B 3.3-175	6-5	B 3.3-215	3-3
B 3.3-96	6-12	B 3.3-136	0	B 3.3-176	6-5	B 3.3-216	0
B 3.3-97	0	B 3.3-137	0	B 3.3-177	6-5	B 3.3-217	0
B 3.3-98	0	B 3.3-138	0	B 3.3-178	6-5	B 3.3-218	0
B 3.3-99	0	B 3.3-139	115	B 3.3-179	6-5	B 3.3-219	0
B 3.3-100	0	B 3.3-140	115	B 3.3-180	6-5	B 3.3-220	0
B 3.3-101	0	B 3.3-141	0	B 3.3-181	0	B 3.3-221	1
B 3.3-102	0	B 3.3-142	104	B 3.3-182	0	B 3.3-222	0
B 3.3-103	0	B 3.3-143	110	B 3.3-183	1	B 3.4-1	4-8
B 3.3-104	0	B 3.3-144	115	B 3.3-184	0	B 3.4-2	4-8
B 3.3-105	0	B 3.3-145	2-6	B 3.3-185	0	B 3.4-3	114
B 3.3-106	0	B 3.3-146	0	B 3.3-186	0	B 3.4-4	4-8
B 3.3-107	0	B 3.3-147	0	B 3.3-187	0	B 3.4-5	112
B 3.3-108	0	B 3.3-148	109	B 3.3-188	0	B 3.4-6	4-8
B 3.3-109	0	B 3.3-149	0	B 3.3-189	0	B 3.4-7	4-8
B 3.3-110	0	B 3.3-150	109	B 3.3-190	0	B 3.4-8	4-8
B 3.3-111	0	B 3.3-151	0	B 3.3-191	0	B 3.4-9	0
B 3.3-112	0	B 3.3-152	0	B 3.3-192	0	B 3.4-10	0
B 3.3-113	0	B 3.3-153	116	B 3.3-193	0	B 3.4-11	0
B 3.3-114	0	B 3.3-154	0	B 3.3-194	0	B 3.4-12	0
B 3.3-115	0	B 3.3-155	0	B 3.3-195	0	B 3.4-13	0
B 3.3-116	0	B 3.3-156	0	B 3.3-196	0	B 3.4-14	0
B 3.3-117	103	B 3.3-157	115	B 3.3-197	0	B 3.4-15	0
B 3.3-118	0	B 3.3-158	115	B 3.3-198	3-4	B 3.4-16	6-7
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B 3.6-91	115	B 3.6-131	2-4	B 3.7-29	115	B 3.8-37	115
B 3.6-92	6-5	B 3.6-132	3-4	B 3.7-30	0	B 3.8-38	110
B 3.6-93	115	B 3.6-133	3-4	B 3.7-31	115	B 3.8-39	102
B 3.6-94	6-5	B 3.6-134	2-8	B 3.8-1	0	B 3.8-40	102
B 3.6-95	6-5	B 3.6-135	2-8	B 3.8-2	5-3	B 3.8-41	3-2
B 3.6-96	0	B 3.6-136	6-2	B 3.8-3	0	B 3.8-42	0
B 3.6-97	1	B 3.6-137	2-8	B 3.8-4	0	B 3.8-43	0
B 3.6-98	0	B 3.6-138	2-8	B 3.8-5	105	B 3.8-44	0
B 3.6-99	0	B 3.6-139	2-8	B 3.8-6	0	B 3.8-45	0
B 3.6-100	0	B 3.6-140	2-8	B 3.8-7	0	B 3.8-46	0
B 3.6-101	121	B 3.6-141	2-8	B 3.8-8	105	B 3.8-47	0
B 3.6-102	121	B 3.6-142	2-8	B 3.8-8a	105	B 3.8-48	3-2
B 3.6-103	121	B 3.7-1	110	B 3.8-9	105	B 3.8-49	3-2
B 3.6-104	6-5	B 3.7-2	110	B 3.8-10	0	B 3.8-50	0
B 3.6-105	110	B 3.7-3	110	B 3.8-11	0	B 3.8-51	125
B 3.6-106	0	B 3.7-4	1	B 3.8-12	0	B 3.8-51a	125
B 3.6-107	6-5	B 3.7-5	1	B 3.8-13	0	B 3.8-52	125
B 3.6-108	6-5	B 3.7-6	0	B 3.8-14	127	B 3.8-52a	125
B 3.6-109	6-5	B 3.7-7	3-1	B 3.8-15	102	B 3.8-52b	125
B 3.6-110	6-5	B 3.7-8	1	B 3.8-16	102	B 3.8-53	125
B 3.6-111	6-5	B 3.7-9	0	B 3.8-17	102	B 3.8-54	125
B 3.6-112	0	B 3.7-10	110	B 3.8-18	127	B 3.8-55	0
B 3.6-113	110	B 3.7-11	110	B 3.8-19	117	B 3.8-56	120
B 3.6-114	6-5	B 3.7-12	110	B 3.8-20	117	B 3.8-57	120
B 3.6-115	0	B 3.7-13	115	B 3.8-21	102	B 3.8-58	120
B 3.6-116	0	B 3.7-14	115	B 3.8-22	113	B 3.8-59	110
B 3.6-117	0	B 3.7-15	0	B 3.8-23	113	B 3.8-60	110
B 3.6-118	0	B 3.7-16	110	B 3.8-24	113	B 3.8-61	115
B 3.6-119	110	B 3.7-17	4-4	B 3.8-25	102	B 3.8-62	0
B 3.6-120	121	B 3.7-18	110	B 3.8-26	102	B 3.8-63	0
B 3.6-121	119	B 3.7-19	6-13	B 3.8-27	113	B 3.8-64	0
B 3.6-122	2-4	B 3.7-20	115	B 3.8-28	113	B 3.8-65	0
B 3.6-123	2-4	B 3.7-21	6-13	B 3.8-29	113	B 3.8-66	1
B 3.6-124	2-4	B 3.7-22	0	B 3.8-30	113	B 3.8-67	4-5
B 3.6-125	2-4	B 3.7-23	0	B 3.8-31	102	B 3.8-68	4-5
B 3.6-126	2-4	B 3.7-24	1	B 3.8-32	3-1	B 3.8-69	1
B 3.6-127	2-4	B 3.7-25	6-14	B 3.8-33	3-1		
B 3.6-128	110	B 3.7-26	6-7	B 3.8-34	110		
B 3.6-129	3-4	B 3.7-27	0	B 3.8-35	0		