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## Duke Energy DOCUMENT TRANSMITTAL FORM

Facility: **CATAWBA NUCLEAR STATION**  
SUBJECT  
**SLC Revision to 16.9-22, TS Bases 3.7.7**

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Date: **6/21/2022**

Document Transmittal #: **TR-NUC-CN-014427**

Purpose: **Issue**

Released By:

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**Document Management**

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Document ID	1	2	3	4	5	6	7	8	9	10
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LICN - CN - CNS FOL Unit 2 LOEP - DEL - ISSUED										
LICN - CN - CNS-SLC-16.9-22 - 001 - ISSUED		FYI E	FYI LP		FYI E	FYI E	FYI E			FYI E
LICN - CN - CNS-SLC-LOES - 109 - ISSUED		FYI E	FYI LP		FYI E	FYI E	FYI E			FYI E
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Remarks:

A001  
NRR



16.9 AUXILIARY SYSTEMS

16.9-22 Control Room Area Ventilation System (CRAVS) - Intake Alarms

COMMITMENT

-----NOTE-----

Applicable to the CRAVS smoke alarms only. The chlorine detection alarm is addressed in SLC 16.6-4, Chlorine Detectors and Associated Circuitry and the CRAVS radiation detection alarm is addressed in SLC 16.7-10, Radiation Monitoring for Plant Operations.

The CRAVS Intake Alarms shall be FUNCTIONAL.

APPLICABILITY: All MODES.

REMEDIAL ACTIONS

-----NOTE-----

SLC 16.2.3 is not applicable.

CONDITION	REQUIRED ACTION	COMPLETION TIME
A. CRAVS smoke intake alarm non-functional for one or both control room intakes.	A.1 Establish a fire watch patrol once per hour at the affected control room intake(s).	1 hour

TESTING REQUIREMENTS

TEST	FREQUENCY
TR 16.9-22-1 Verify that on a Smoke Density – High test signal, an alarm is received in the control room.	18 months

**BASES**        The CRAVS Intake Alarms provide operator information relative to smoke, chlorine and radiation concentrations at each control room intake. Operators use this information to align the CRAVS to ensure that the control room will remain habitable for operations personnel during and following accident conditions.

The REMEDIAL ACTION for non-functional smoke intake alarms is consistent with that for non-functional fire detection instrumentation. The fire detection instrumentation requirements are discussed in SLC 16.9-6, Fire Detection Instrumentation.

- REFERENCES**
1.        Letter from NRC to Gary R. Peterson, Duke, Issuance of Improved Technical Specifications Amendments for Catawba, September 30, 1998.
  2.        SLC 16.6-4, Chlorine Detectors and Associated Circuitry
  3.        SLC 16.7-10, Radiation Monitoring for Plant Operations

### Remove and Insert

Replace the following page(s) of Catawba Nuclear Station Selected Licensee Commitments (SLC) Manual with the attached revised page(s). The revised page(s) are identified by Section number and contains marginal lines indicating the areas of change.

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If you have any questions concerning the contents of this Catawba Nuclear Station Selected Licensee Commitments (SLC) Manual update, please contact Nicole Edwards (704)382-6669.



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## B 3.7 PLANT SYSTEMS

### B 3.7.7 Component Cooling Water (CCW) System

#### BASES

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BACKGROUND	<p>The CCW System provides a heat sink for the removal of process and operating heat from safety related components during a Design Basis Accident (DBA) or transient. During normal operation, the CCW System also provides this function for various nonessential components, as well as the spent fuel storage pool. The CCW System serves as a barrier to the release of radioactive byproducts between potentially radioactive systems and the Nuclear Service Water System (NSWS), and thus to the environment.</p> <p>The CCW System is arranged as two independent, full capacity cooling loops, and has isolatable nonsafety related components. Each safety related train includes two 50% capacity pumps, surge tank, heat exchanger, piping, valves, and instrumentation. Each safety related train is powered from a separate bus. An open surge tank in the system provides sufficient inventory to protect the pumps from a lack of net positive suction head available (NPSHA) due to a moderate energy line break. The pumps have sufficient NPSHA with the surge tank empty provided the piping up to the tank is filled. The pumps on each train are automatically started on receipt of a safety injection signal, and all nonessential components are isolated.</p> <p>Additional information on the design and operation of the system, along with a list of the components served, is presented in the UFSAR, Section 9.2 (Ref. 1). The principal safety related function of the CCW System is the removal of decay heat from the reactor via the Residual Heat Removal (RHR) System. This may be during a normal or post accident cooldown and shutdown.</p>
APPLICABLE SAFETY ANALYSES	<p>The safety related design basis function of the CCW System is to remove waste heat from various components essential in mitigating design basis events which require Emergency Core Cooling System (ECCS) operation. The CCW System is also used to support normal operation. The normal temperature of the CCW is 87°F, and, during unit cooldown to MODE 5 (<math>T_{\text{cold}} &lt; 200^{\circ}\text{F}</math>), a maximum temperature of 120°F is</p>

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BASES

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APPLICABLE SAFETY ANALYSES (continued)

assumed (Ref. 1). This 120°F limit is to prevent thermal degradation of the large pump motors supplied with cooling water from the CCW System.

The CCW System is designed to perform its function with a single failure of any active component, assuming a loss of offsite power.

The CCW System also functions to cool the unit from RHR entry conditions ( $T_{\text{cold}} < 350^{\circ}\text{F}$ ), to MODE 5 ( $T_{\text{cold}} < 200^{\circ}\text{F}$ ), during normal and post accident operations. The time required to cool from 350°F to 200°F is a function of the number of CCW and RHR trains operating. One CCW train is sufficient to remove decay heat during subsequent operations with  $T_{\text{cold}} < 200^{\circ}\text{F}$ . This assumes a maximum service water temperature of 100°F occurring simultaneously with the maximum heat loads on the system.

The CCW System satisfies Criterion 3 of 10 CFR 50.36 (Ref. 2).

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LCO

The CCW trains are independent of each other to the degree that each has separate controls and power supplies and the operation of one does not depend on the other. In the event of a DBA, one CCW train is required to provide the minimum heat removal capability assumed in the safety analysis for the systems to which it supplies cooling water. To ensure this requirement is met, two trains of CCW must be OPERABLE. At least one CCW train will operate assuming the worst case single active failure occurs coincident with a loss of offsite power.

1. A CCW train is considered OPERABLE when:
    - a. Both pumps and associated surge tank are OPERABLE; and
    - b. The associated piping, valves, heat exchanger, and instrumentation and controls required to perform the safety related function are OPERABLE.
- OR
- c. The train's Non-Essential Auxiliary Building Supply and Return header valves and the Non-Essential Reactor Building Supply and Return header valves are closed; and
  - d. The train's ND heat exchanger cooling flow inlet isolation valve is
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BASES

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LCO (continued)

opened; and

- e. The flow path through the train's miniflow lines is isolated.

This alignment assures miniflow protection for the operating KC pumps through the trains ND heat exchanger and the essential header.

The isolation of CCW from other components or systems not required for safety may render those components or systems inoperable but does not affect the OPERABILITY of the CCW System.

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APPLICABILITY

In MODES 1, 2, 3, and 4, the CCW System is a normally operating system, which must be prepared to perform its post accident safety functions, primarily RCS heat removal, which is achieved by cooling the RHR heat exchanger.

In MODE 5 or 6, the requirements of the CCW System are determined by the systems it supports.

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ACTIONS

A.1

Required Action A.1 is modified by a Note indicating that the applicable Conditions and Required Actions of LCO 3.4.6, "RCS Loops—MODE 4," be entered if an inoperable CCW train results in an inoperable RHR loop. This is an exception to LCO 3.0.6 and ensures the proper actions are taken for these components.

If one CCW train is inoperable, action must be taken to restore OPERABLE status within 72 hours. In this Condition, the remaining OPERABLE CCW train is adequate to perform the heat removal function. The 72 hour Completion Time is reasonable, based on the redundant capabilities afforded by the OPERABLE train, and the low probability of a DBA occurring during this period.

B.1 and B.2

If the CCW train cannot be restored to OPERABLE status within the associated Completion Time, the unit must be placed in a MODE in which the LCO does not apply. To achieve this status, the unit must be placed in at least MODE 3 within 6 hours and in MODE 5 within 36 hours. The allowed Completion Times are reasonable, based on operating

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BASES

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ACTIONS (continued)

experience, to reach the required unit conditions from full power conditions in an orderly manner and without challenging unit systems.

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SURVEILLANCE  
REQUIREMENTS

SR 3.7.7.1

This SR is modified by a Note indicating that the isolation of the CCW flow to individual components may render those components inoperable but does not affect the OPERABILITY of the CCW System.

Verifying the correct alignment for manual, power operated, and automatic valves in the CCW flow path to safety related equipment provides assurance that the proper flow paths exist for CCW operation.

This SR does not apply to valves that are locked, sealed, or otherwise secured in position, since these valves are verified to be in the correct position prior to locking, sealing, or securing. This SR also does not apply to valves that cannot be inadvertently misaligned, such as check valves. This Surveillance does not require any testing or valve manipulation; rather, it involves verification that those valves capable of being mispositioned are in the correct position.

The Surveillance Frequency is based on operating experience, equipment reliability, and plant risk and is controlled under the Surveillance Frequency Control Program.

SR 3.7.7.2

This SR verifies proper automatic operation of the CCW valves on an actual or simulated actuation safety injection, Phase 'A' Isolation, or Phase 'B' Isolation signal. The CCW System is a normally operating system that cannot be fully actuated as part of routine testing during normal operation. This Surveillance is not required for valves that are locked, sealed, or otherwise secured in the required position under administrative controls. The Surveillance Frequency is based on operating experience, equipment reliability, and plant risk and is controlled under the Surveillance Frequency Control Program.

SR 3.7.7.3

This SR verifies proper automatic operation of the CCW pumps on an actual or simulated actuation signal. The CCW System is a normally

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BASES

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SURVEILLANCE REQUIREMENTS (continued)

operating system that cannot be fully actuated as part of routine testing during normal operation. The Surveillance Frequency is based on operating experience, equipment reliability, and plant risk and is controlled under the Surveillance Frequency Control Program.

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REFERENCES

1. UFSAR, Section 9.2.
2. 10 CFR 50.36, Technical Specifications, (c)(2)(ii).

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3.4.12-5	263/259	3/29/11

3.4.12-6	263/259	3/29/11
3.4.12-7	263/259	3/29/11
3.4.12-8	263/259	3/29/11
3.4.13-1	267/263	3/12/12
3.4.13-2	267/263	3/12/12
3.4.14-1	173/165	9/30/98
3.4.14-2	173/165	9/30/98
3.4.14-3	299/295	10/23/18
3.4.14-4	263/259	3/29/11
3.4.15-1	234/230	9/30/06
3.4.15-2	234/230	9/30/06
3.4.15-3	234/230	9/30/06
3.4.15-4	263/259	3/29/11
3.4.16-1	268/264	6/25/12
3.4.16-2	268/264	6/25/12
3.4.16-3(deleted)	268/264	6/25/12
3.4.16-4(deleted)	268/264	6/25/12
3.4.17-1	263/259	3/29/11
3.4.18-1	280/276	4/26/16
3.4.18-2	280/276	4/26/16
3.5.1-1	211/205	12/23/03
3.5.1-2	263/259	3/29/11
3.5.1-3	263/259	3/29/11
3.5.2-1	253/248	10/30/09
3.5.2-2	299/295	10/23/18
3.5.2-3	263/259	3/29/11
3.5.3-1	213/207	4/29/04
3.5.3-2	173/165	9/30/98
3.5.4-1	173/165	9/30/98
3.5.4-2	269/265	7/25/12
3.5.5-1	173/165	9/30/98
3.5.5-2	263/259	3/29/11
3.6.1-1	173/165	9/30/98
3.6.1-2	192/184	7/31/01

3.6.2-1	173/165	9/30/98
3.6.2-2	173/165	9/30/98
3.6.2-3	173/165	9/30/98
3.6.2-4	173/165	9/30/98
3.6.2-5	263/259	3/29/11
3.6.3-1	173/165	9/30/98
3.6.3-2	290/286	7/21/17
3.6.3-3	290/286	7/21/17
3.6.3-4	290/286	7/21/17
3.6.3-5	263/259	3/29/11
3.6.3-6	299/295	10/23/18
3.6.3-7	192/184	7/31/01
3.6.4-1	263/259	3/29/11
3.6.5-1	173/165	9/30/98
3.6.5-2	263/259	3/29/11
3.6.6-1	282/278	4/26/17
3.6.6-2	299/295	10/23/18
3.6.8-1	213/207	4/29/04
3.6.8-2	263/259	3/29/11
3.6.9-1	253/248	10/30/09
3.6.9-2	263/259	3/29/11
3.6.10-1	301/297	4/18/19
3.6.10-2	289/285	5/08/17
3.6.11-1	263/259	3/29/11
3.6.11-2	263/259	3/29/11
3.6.12-1	263/259	3/29/11
3.6.12-2	263/259	3/29/11
3.6.12-3	263/259	3/29/11
3.6.13-1	256/251	6/28/10
3.6.13-2	263/259	3/29/11
3.6.13-3	263/259	3/29/11
3.6.14-1	173/165	9/30/98
3.6.14-2	263/259	3/29/11
3.6.14-3	270/266	8/6/13

3.6.15-1	173/165	9/30/98
3.6.15-2	263/259	3/29/11
3.6.16-1	263/259	3/29/11
3.6.16-2	263/259	3/29/11
3.6.17-1	253/248	10/30/09
3.7.1-1	173/165	9/30/98
3.7.1-2	299/295	10/23/18
3.7.1-3	281/277	4/29/16
3.7.2-1	173/165	9/30/98
3.7.2-2	299/295	10/23/18
3.7.3-1	173/165	9/30/98
3.7.3-2	299/295	10/23/18
3.7.4-1	294/290	10/23/17
3.7.4-2	263/259	3/29/11
3.7.5-1	295/291	10/23/17
3.7.5-2	173/165	9/30/98
3.7.5-3	299/295	10/23/18
3.7.5-4	263/259	3/29/11
3.7.6-1	294/290	10/23/17
3.7.6-2	263/259	3/29/11
3.7.7-1	253/248	10/30/09
3.7.7-2	263/259	3/29/11
3.7.8-1	271/267	08/09/13
3.7.8-2	271/267	08/09/13
3.7.8-3	271/267	08/09/13
3.7.8-4	300/296	11/28/18
3.7.8-5 (new)	300/296	11/28/18
3.7.9-1	263/259	3/29/11
3.7.9-2	263/259	3/29/11
3.7.10-1	250/245	7/30/09
3.7.10-2	260/255	8/9/10
3.7.10-3	301/297	4/18/19
3.7.11-1	198/191	4/23/02
3.7.11-2	263/259	3/29/11

3.7.12-1	301/291	4/18/19
3.7.12-2	289/285	5/08/17
3.7.13-1	301/297	4/18/19
3.7.13-2	289/285	5/08/17
3.7.14-1	263/259	3/29/11
3.7.15-1	263/259	3/29/11
3.7.16-1	233/229	9/27/06
3.7.16-2	233/229	9/27/06
3.7.16-3	233/229	9/27/06
3.7.17-1	263/259	3/29/11
3.8.1-1	304/300	11/11/19
3.8.1-2	304/300	11/11/19
3.8.1-3	304/300	11/11/19
3.8.1-4 (new)	304/300	11/11/19
3.8.1-5 (new)	304/300	11/11/19
3.8.1-6 (new)	304/300	11/11/19
3.8.1-7 (new)	304/300	11/11/19
3.8.1-8 (new)	304/300	11/11/19
3.8.1-9 (new)	304/300	11/11/19
3.8.1-10 (new)	304/300	11/11/19
3.8.1-11	308/304	9/28/21
3.8.1-12	263/259	3/29/11
3.8.1-13	308/304	9/28/21
3.8.1-14	308/304	9/28/21
3.8.1-15	308/304	9/28/21
3.8.1-16	308/304	9/28/21
3.8.1-17	263/259	3/29/11
3.8.1-18	308/304	9/28/21
3.8.1-19	292/288	9/08/17
3.8.1-20	308/304	9/28/21
3.8.1-21	308/304	9/28/21
3.8.2-1	173/165	9/30/98
3.8.2-2	207/201	7/29/03
3.8.2-3	173/165	9/30/98

3.8.3-1	175/167	1/15/99
3.8.3-2	263/259	3/29/11
3.8.3-3	263/259	3/29/11
3.8.4-1	173/165	9/30/98
3.8.4-2	263/259	3/29/11
3.8.4-3	292/288	9/08/17
3.8.4-4	292/288	9/08/17
3.8.4-5	262/258	12/20/10
3.8.5-1	173/165	9/30/98
3.8.5-2	207/201	7/29/03
3.8.6-1	253/248	10/30/09
3.8.6-2	253/248	10/30/09
3.8.6-3	253/248	10/30/09
3.8.6-4	263/259	3/29/11
3.8.6-5	223/218	4/27/05
3.8.7-1	173/165	9/30/98
3.8.7-2	263/259	3/29/11
3.8.8-1	173/165	9/30/98
3.8.8-2	263/259	3/29/11
3.8.9-1	173/165	9/30/98
3.8.9-2	173/165	9/30/98
3.8.9-3	263/259	3/29/11
3.8.10-1	207/201	7/29/03
3.8.10-2	263/259	3/29/11
3.9.1-1	263/259	3/29/11
3.9.2-1	215/209	6/21/04
3.9.2-2	263/259	3/29/11
3.9.3-1	227/222	9/30/05
3.9.3-2	301/297	4/18/19
3.9.4-1	207/201	7/29/03
3.9.4-2	297/293	1/4/18
3.9.5-1	293/289	9/29/17
3.9.5-2	297/293	1/4/18
3.9.6-1	263/259	3/29/11



3.9.7-1	263/259	3/29/11
4.0-1	284/280	6/21/16
4.0-2	233/229	9/27/06
5.1-1	273/269	2/12/15
5.2-1	273/269	2/12/15
5.2-2	273/269	2/12/15
5.2-3	Deleted	9/21/09
5.3-1	307/303	11/17/20
5.4-1	173/165	9/30/98
5.5-1	286/282	9/12/16
5.5-2	286/282	9/12/16
5.5-3	173/165	9/30/98
5.5-4	173/165	9/30/98
5.5-5	216/210	8/5/04
5.5-6	299/295	10/23/18
5.5-7	280/276	4/26/16
5.5-8	280/276	4/26/16
5.5-9	280/276	4/26/16
5.5-10	280/276	4/26/16
5.5-11	280/276	4/26/16
5.5-12	280/276	4/26/16
5.5-13	280/276	4/26/16
5.5-14	301/297	4/18/19
5.5-15	280/276	4/26/16
5.5-16	280/276	4/26/16
5.5-17	280/276	4/26/16
5.5-18	280/276	4/26/16
5.5-19	280/276	4/26/16
5.6-1	222/217	3/31/05
5.6-2	253/248	10/30/09
5.6-3	222/217	3/31/05
5.6-4	284/280	6/21/16
5.6-5	301/297	4/18/19
5.6-6	280/276	4/26/16

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5.7-2

273/269  
173/165

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i	Revision 1	4/08/99
ii	Revision 2	3/01/05
iii	Revision 1	6/21/04
B 2.1.1-1	Revision 0	9/30/98
B 2.1.1-2	Revision 1	12/19/03
B 2.1.1-3	Revision 1	12/19/03
B 2.1.2-1	Revision 0	9/30/98
B 2.1.2-2	Revision 0	9/30/98
B 2.1.2-3	Revision 0	9/30/98
B 3.0-1 thru B 3.0-21	Revision 7	5/02/19
B 3.1.1-1 thru B 3.1.1-6	Revision 3	5/05/11
B 3.1.2-1 thru B 3.1.2-5	Revision 3	11/14/17
B 3.1.3-1 thru B 3.1.3-6	Revision 2	4/14/15
B 3.1.4-1 thru B 3.1.4-9	Revision 1	5/05/11
B 3.1.5-1 thru B 3.1.5-4	Revision 2	5/05/11
B 3.1.6-1 thru B 3.1.6-6	Revision 1	5/05/11
B 3.1.7-1	Revision 0	9/30/98
B 3.1.7-2	Revision 2	1/08/04
B 3.1.7-3	Revision 2	1/08/04
B 3.1.7-4	Revision 2	1/08/04
B 3.1.7-5	Revision 2	1/08/04
B 3.1.7-6	Revision 2	1/08/04
B 3.1.8-1 thru B 3.1.8-6	Revision 4	3/28/18
B 3.2.1-1 thru B 3.2.1.-11	Revision 4	5/05/11

B 3.2.2-1 thru	Revision 3	5/05/11
B 3.2.2-10		
B 3.2.3-1 thru	Revision 2	5/05/11
B 3.2.3-4		
B 3.2.4-1 thru	Revision 2	5/05/11
B 3.2.4-7		
B 3.3.1-1 thru	Revision 8	4/08/16
B.3.3.1-55		
B 3.3.2-1 thru	Revision 13	10/20/21
B 3.3.2-51		
B 3.3.3-1 thru	Revision 6	4/11/14
B.3.3.3-16		
B 3.3.4-1 thru	Revision 2	5/05/11
B 3.3.4-5		
B 3.3.5-1 thru	Revision 3	12/18/15
B 3.3.5-6		
B 3.3.6-1 thru	Revision 6	08/02/12
B 3.3.6-5		
B 3.3.9-1 thru	Revision 3	06/02/14
B 3.3.9-5		
B 3.4.1-1 thru	Revision 3	5/05/11
B 3.4.1-5		
B 3.4.2-1	Revision 0	9/30/98
B 3.4.2-2	Revision 0	9/30/98
B 3.4.2-3	Revision 0	9/30/98
B 3.4.3-1 thru	Revision 2	5/05/11
B 3.4.3-6		
B 3.4.4-1 thru	Revision 2	5/05/11
B 3.4.4-3		
B 3.4.5-1 thru	Revision 3	5/05/11
B 3.4.5-6		
B 3.4.6-1 thru	Revision 5	4/26/17
B 3.4.6-6		

B 3.4.7-1 thru	Revision 8	5/20/20
B 3.4.7-8		
B 3.4.8-1 thru	Revision 5	5/20/20
B 3.4.8-5		
B 3.4.9-1 thru	Revision 3	08/02/12
B 3.4.9-5		
B 3.4.10-1 thru	Revision 4	10/23/18
B 3.4.10-4		
B 3.4.11-1 thru	Revision 4	5/05/11
B 3.4.11-7		
B 3.4.12-1 thru	Revision 6	10/23/18
B 3.4.12-13		
B 3.4.13-1 thru	Revision 7	3/15/12
B 3.4.13-7		
B 3.4.14-1 thru	Revision 3	5/05/11
B 3.4.14-6		
B 3.4.15-1 thru B	Revision 6	5/05/11
3.4.15-10		
B 3.4.16-1 thru	Revision 4	10/23/12
B 3.4.16-5		
B 3.4.17-1 thru	Revision 2	5/05/11
B 3.4.17-3		
B 3.4.18-1 thru	Revision 2	4/26/16
B 3.4.18-8		
B 3.5.1-1 thru	Revision 4	4/26/17
B 3.5.1-8		
B 3.5.2-1 thru	Revision 5	10/23/18
B 3.5.2-11		
B 3.5.3-1 thru	Revision 2	4/26/17
B 3.5.3-3		
B 3.5.4-1 thru	Revision 5	4/11/14
B.3.5.4-5		
B 3.5.5-1 thru	Revision 1	5/05/11
B 3.5.5-4		

B 3.6.1-1 thru	Revision 2	6/14/22
B 3.6.1-5		
B 3.6.2-1 thru	Revision 2	5/05/11
B 3.6.2-8		
B 3.6.3-1 thru	Revision 7	10/23/18
B 3.6.3-14		
B 3.6.4-1 thru	Revision 2	5/05/11
B 3.6.4-4		
B 3.6.5-1 thru	Revision 3	07/27/13
B 3.6.5-4		
B 3.6.6-1 thru	Revision 8	10/23/18
B 3.6.6-8		
B 3.6.8-1 thru	Revision 3	5/05/11
B 3.6.8-5		
B 3.6.9-1 thru	Revision 6	5/05/11
B 3.6.9-5		
B 3.6.10-1 thru	Revision 4	7/15/19
B 3.6.10-6		
B 3.6.11-1 thru	Revision 5	5/05/11
B 3.6.11-6		
B 3.6.12-1 thru	Revision 5	5/05/11
B 3.6.12-11		
B 3.6.13-1 thru B	Revision 4	5/05/11
3.6.13-9		
B 3.6.14-1 thru	Revision 3	6/14/22
B 3.6.14-5		
B 3.6.15-1 thru	Revision 1	5/05/11
B 3.6.15-4		
B 3.6.16-1 thru	Revision 4	6/14/22
B 3.6.16-4		
B 3.6.17-1 thru	Revision 4	7/07/20
B 3.6.17-5		
B 3.7.1-1 thru	Revision 3	10/23/18
3.7.1-5		

B 3.7.2-1 thru	Revision 4	10/23/18
B 3.7.2-5		
B 3.7.3-1	Revision 3	10/23/18
B 3.7.3-6		
B 3.7.4-1 thru	Revision 3	11/14/17
B 3.7.4-4		
B 3.7.5-1 thru	Revision 5	10/23/18
B 3.7.5-9		
B 3.7.6-1 thru	Revision 6	9/10/18
B 3.7.6-3		
B 3.7.7-1 thru	Revision 3	6/21/22
B 3.7.7-5		
B 3.7.8-1 thru	Revision 10	5/21/20
B 3.7.8-12		
B 3.7.9-1 thru	Revision 4	6/14/22
B 3.7.9-4		
B 3.7.10-1 thru	Revision 14	4/23/20
B 3.7.10-9		
B 3.7.11-1 thru	Revision 5	4/23/20
B 3.7.11-4		
B 3.7.12-1 thru	Revision 11	4/23/20
B 3.7.12-7		
B 3.7.13-1 thru	Revision 6	7/15/19
B 3.7.13-5		
B 3.7.14-1 thru	Revision 2	5/05/11
B 3.7.14-3		
B 3.7.15-1 thru	Revision 2	5/05/11
B 3.7.15-4		
B 3.7.16-1	Revision 2	9/27/06
B 3.7.16-2	Revision 2	9/27/06
B 3.7.16-3	Revision 2	9/27/06
B 3.7.16-4	Revision 0	9/27/06
B 3.7.17-1 thru	Revision 2	5/05/11
B 3.7.17-3		

B 3.8.1-1 thru	Revision 8	9/28/21
B.3.8.1-39		
B 3.8.2-1	Revision 0	9/30/98
B 3.8.2-2	Revision 0	9/30/98
B 3.8.2-3	Revision 0	9/30/98
B 3.8.2-4	Revision 3	11/11/19
B 3.8.2-5	Revision 2	5/10/05
B 3.8.2-6	Revision 1	5/10/05
B 3.8.3-1 thru	Revision 4	5/05/11
B 3.8.3-8		
B 3.8.4-1 thru	Revision 12	6/14/22
B 3.8.4.11		
B 3.8.5-1	Revision 0	9/30/98
B 3.8.5-2	Revision 2	7/29/03
B 3.8.5-3	Revision 1	7/29/03
B 3.8.6-1 thru	Revision 4	5/05/11
B 3.8.6-7		
B 3.8.7-1 thru	Revision 3	5/05/11
B 3.8.7-4		
B 3.8.8-1 thru	Revision 3	5/05/11
B 3.8.8-4		
B 3.8.9-1 thru	Revision 2	5/05/11
B 3.8.9-10		
B 3.8.10-1 thru	Revision 3	5/05/11
B 3.8.10-4		
B 3.9.1-1 thru	Revision 3	5/05/11
B 3.9.1-4		
B 3.9.2-1 thru	Revision 6	3/21/17
B 3.9.2-3		
B 3.9.3-1 thru	Revision 5	7/15/19
B 3.9.3-5		
B 3.9.4-1 thru	Revision 6	1/23/18
B 3.9.4-6		



B 3.9.5-1 thru B 3.9.5-5	Revision 7	5/21/20
B 3.9.6-1 thru B 3.9.6-3	Revision 2	5/05/11
B 3.9.7-1 thru B 3.9.7-3	Revision 1	5/05/11