

**Version 0 Reliability Standards
Errata Sheet for Draft 3 Posted for Ballot Beginning December 3, 2004
December 20, 2004**

Updates are highlighted.

Standard No. (Old)	Standard No. (New)	Section No.	Correction	Justification
01	BAL-001	R2	Correct the error in equation for L_{10} at the top of page 3 to read: $L_{10} = 1.65 \epsilon_{10} \sqrt{(-10B_i)(-10B_s)}$	The equation in Draft 3, shown below, erroneously includes a division sign under the square root that was carried over from Policy 1: $L_{10} = 1.65 \epsilon_{10} \sqrt{(-10B_i)/(-10B_s)}$ The correct equation has been confirmed to have a multiplication under the square root, per the Performance Standards Reference Document page 3 Section B 1.1.2.
02	BAL-002	M1	Delete last two paragraphs on page 4, beginning “ACE _M is the..” and “ACE _m is the...”	These two paragraphs are identical to the last two bullets on the same page and are repeated unnecessarily.
05	BAL-005	R10	Modify R10 to read: “The Balancing Authority shall include all Dynamic Schedules and Pseudo-Ties in the calculation of Net Scheduled Interchange for the ACE equation.”	Net Scheduled Interchange does not include any Actual Interchange, including Pseudo-Ties (reference Policy 1E 4.3.2: “ Dynamic Schedules. The CONTROL AREA shall include all Dynamic Schedules in the calculation of NET SCHEDULED INTERCHANGE for the ACE equation.”)
06	BAL-006	R4.1	Correct numbering under R4.1 to show ‘R4.1.1’ and ‘R4.1.2’ instead of ‘R1.4.1’ and ‘R1.4.2’.	Requirement numbers were incorrectly transposed.
06	BAL-006	Regional Differences	Added MISO RTO Inadvertent Interchange Accounting Waiver to the list of waivers.	The standard correctly showed a regional difference to be: MISO RTO Inadvertent Interchange Accounting Waiver. However, it was not shown in list of

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				waivers.
07	TOP-004	Title and header	Title: “Transmission Security Operations ”	The title was corrected from Draft 1 to Draft 2 to change Transmission Security to Transmission Operations. Draft 3 was incorrectly changed back. Security has connotation of physical or cyber security.
10, 11, 13	INT-001 INT-002 INT-003	Various	T tag	Tag is a defined term in the glossary and should be capitalized in all instances in the referenced standards.
10	INT-001	Purpose R1.2	P oint-to- P oint T ransmission S ervice	Term is defined in the glossary and should be capitalized.
10	INT-001	R2.2	To replace unexpected generation loss, such as through prearranged reserve sharing agreements or other arrangements, and all emergency Transactions to mitigate System Operating Limit (SOL) or Interconnection Reliability Operating Limit (IROL) violations. If the duration of the Emergency Transaction to replace the generation loss is less than 60 minutes, then the Transaction shall be exempt from tagging. Such interchange shall be tagged within 60 minutes from the time at which the Interchange Transaction begins.	Correction to align requirement with language and intent of Policy 3A 2.1, fifth bullet – that transactions to replace loss of generation are exempt from tagging if the duration of the Transaction is less than 60 minutes. Policy 3A 2.1 refers only to generation loss emergencies. SOL and IROL emergencies are addressed in INT-004 Requirement 1.
10	INT-001	R2.3	All B ilateral I nadvertent I nterchange P ayback.	Not a term defined in the glossary.
10	INT-001	R3	The Balancing Authority or Purchasing Selling Entity responsible for submitting the tag shall submit all tags to the Sink Balancing Authority according to timing tables in Attachment 1-INT-001-0.	For the Transactions that are tagged by the Sink Balancing Authority, it is meaningless to require the Sink Balancing Authority to submit the tag to itself.
10	INT-001	M1	A Balancing Authority shall <u>provide documentation to show meet 100% of the tagging requirements</u> for all scheduled interchanges between Balancing Authority Areas were tagged.	The language was corrected to show how compliance with the requirements will be measured, while removing the inference that the Balancing Authority is responsible for tagging all transactions. Most transactions are the responsibility of the Purchasing-Selling Entity. The

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				Balancing Authority is responsible for verifying there is a tag before scheduling the interchange.
10	INT-001	Attachment 1 Table 1	P assive A pproval P assive D denial D deferred D denial	Terms not defined in the glossary.
10, 11, 12	INT-001 INT-002 INT-003 INT-004	Various	R amp R eallocation L oad D ynamic S chedule	Terms are defined terms in the glossary and should be capitalized.
11	INT-002-0	R1.4 R1.5 R5	Modify as follows: “ S ecurity R eliability A analysis S ervices”	Security connotes physical or cyber security. Since this is not a defined term in the glossary, lower case is appropriate.
12	INT-003	Purpose	A adjacent Balancing Authority	Adjacent Balancing Authority is defined in glossary. Therefore, ‘adjacent’ should be capitalized.
12	INT-003	R6 (new)	Add requirement on page 3: “R6. Balancing Authorities shall operate such that the maximum Net Interchange Schedule between any two Balancing Authorities does not exceed the lesser of: R6.1. The total capacity of both the owned and arranged-for transmission facilities in service for any Transmission Service Provider along the path, or R6.2. The established network Total Transfer Capability between Balancing Authorities, which considers other transmission facilities available to them under specific arrangements, and the overall physical constraints of the transmission network.”	This requirement is a translation of Operating Policy 3B5, which was unintentionally omitted in the translation. Policy 3B 5. Maximum scheduled interchange. The maximum NET INTERCHANGE SCHEDULE between two BAS shall not exceed the lesser of the following: 5.1. Total capacity of facilities. The total capacity of both the owned and arranged-for transmission facilities in service for any transmission service provider along the path, or 5.2. Total Transfer Capability. The established network Total Transfer Capability (TTC) between BAS, which

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				considers other transmission facilities available to them under specific arrangements, and the overall physical constraints of the transmission network. Total Transfer Capability is defined in <i>Available Transfer Capability Definitions and Determination</i> , NERC, June 1996.
13	INT-004	R1	If a Reliability Coordinator, Transmission Operator, or Source or Sink Balancing Authority, due to a reliability event, needs to modify an Interchange Transaction that is in progress or scheduled to be started, the entity shall, <u>within 60 minutes of the start of the emergency Transaction</u> , modify the Interchange Transaction tag, and shall communicate the modification to the Sink Balancing Authority.	Correction to capture language and intent of Policy 3A2.4.1.
13	INT-004	M1	The Sink Balancing Authority shall provide evidence that <u>the responsible Purchasing-Selling Entity</u> a revised a tag was provided when the deviation exceeded the criteria in Requirement R5.	The language was corrected to show how compliance with the Requirement 5 will be measured, while removing the inference that the Balancing Authority is responsible for tagging dynamic schedules. Tagging dynamic schedules that meet the criteria of Requirement 5 are the responsibility of the Purchasing-Selling Entity.
13	INT-004	D1 Compliance Monitoring Process	Periodic tag audit as prescribed by NERC. For the requested time period, the Sink Balancing Authority shall provide the instances when dynamic schedule deviation exceeded the criteria in Requirement 5 and shall demonstrate <u>provide evidence that the responsible Purchasing-Selling Entity submitted</u> a revised tag was submitted .	The language was corrected to show how compliance with the Requirement 5 will be measured, while removing the inference that the Balancing Authority is responsible for tagging dynamic schedules. Tagging dynamic schedules that meet the criteria of Requirement 5 are the responsibility of the Purchasing-Selling Entity.
13	INT-004	D.2 Levels of	Delete the levels of non-compliance as stated and	To be consistent with INT-001, levels of

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		Non-Compliance	replace with “Not specified.” Level 1: One tag was not updated according to Requirement R5. Level 2: Two tags were not updated according to Requirement R5. Level 3: Three tags were not updated according to Requirement R5. Level 4: Four or more tags are not updated according to Requirement R5.	non-compliance are not specified. Levels of non-compliance on tags have not been implemented in the compliance program because there is concern with the number of tags relating to each level of non-compliance. This issue should be resolved in a future version.
13	INT-004	Attachment 1 Table 1	T ransmission R eservation P assive A pproval	Not defined terms in the glossary.
15	TOP-005	D. 2.1 and 2.4 Levels of Non-Compliance	Level 1: “The responsible entity <u>Each entity responsible for reporting information under Requirements R1 to R5</u> is providing the requesting entities with the data required, in specified time intervals and format, but there are problems with consistency of delivery identified in the measuring process that need remedy (e.g., the data is not supplied consistently due to equipment malfunctions, or scaling is incorrect).” “Level 4: The responsible entity <u>Each entity responsible for reporting information under Requirements R1 to R5</u> is not providing the requesting entities with data with the specified content, timeliness, or format. The information missing is included in the requesting entity’s list of data.”	Removes confusion about which entities are responsible.
16	TOP-003	D. 2.1 and 2.4 Levels of Non-Compliance	Level 1: “The responsible entity <u>Each entity responsible for reporting information under Requirements R1 to R3</u> has a process in place to provide information to their Reliability Coordinator but does not have a process in place (where permitted by legal agreements) to provide this information to the	Removes confusion about which entities are responsible.

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			<p>neighboring Balancing Authority or Transmission Operator.”</p> <p>“Level 4: There is no process in place to exchange outage information, or The responsible entity <u>the entity responsible for reporting information under Requirements R1 to R3</u> does not follow the directives of the Reliability Coordinator to cancel or reschedule an outage.”</p>	
18	TOP-001	R4	“the -Distribution Provider...”	Remove extra space between ‘the’ and ‘Distribution’.
20	EOP-002	R8.2	Request the Reliability Coordinator to declare an Emergency Energy <u>Emergency Alert</u>	Words incorrectly transposed.
20	EOP-002	Attachment 1 Section 2.4.3	“This evaluation shall include analysis of system security <u>reliability</u> and ...”	Security connotes physical or cyber security.
24	TOP-002	R17	“R17. Balancing Authorities and Transmission Operators shall, without any intentional time delay, communicate the information described in the requirements R1 to R4 7 <u>16</u> above to their Reliability Coordinator.”	Correct numbering error in referring to the prior 16 requirements in the standard.
28	EOP-008	D2 Levels of Non-Compliance	<p>Level 1: Plan exists but is not reviewed annually. NA</p> <p>Level 2: Plan exists but does not address one of the elements listed in Requirement R1. A contingency plan has been implemented and tested, but has not been reviewed in the past year, or the contingency plan has not been tested in the past year or there are no records of shift operating personnel training.</p> <p>Level 3: N/A. A contingency plan has been implemented, but does not include all of the elements contained in Requirements 1-4.</p> <p>Level 4: Plan exists but does not address two or more of the elements listed in Requirement R1, or there is no</p>	Corrected levels of non-compliance to refer to P6T3. The levels of non-compliance had been incorrectly transferred from P6T2, which refers to restoration, not backup capability.

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			plan in place. A contingency plan has not been developed, implemented, and tested.	
32	PER-003	R1	<p>“R1. Each Transmission Operator, Balancing Authority, and Reliability Coordinator shall staff all operating positions that meet either one or both of the following criteria with personnel that are NERC-certified for the applicable functions:</p> <ul style="list-style-type: none"> • Positions that have the primary responsibility, either directly or through communications with others, for the real-time operation of the interconnected Bulk Electric System. • Positions directly responsible for complying with NERC standards.” 	<p>The drafting team had added “either one or” as what it thought was a clarification of the requirement. The clarification, however, changed the meaning intended by the Personnel Subcommittee when it developed Operating Policy 8C1 stating: An OPERATING AUTHORITY ... shall staff operating positions <u>that meet both</u> of the following criteria with NERC-Certified SYSTEM OPERATORS</p> <p>The change in meaning would require additional personnel to be certified and is therefore beyond the scope of Version 0.</p>
37	IRO-004	D1. Compliance	“Reliability Coordinators will be asked to provide documentation showing that next-day security <u>reliability</u> analyses were conducted each day...”	Security connotes physical or cyber security.
37	IRO-004	R8	“Transmission Service Provider -shall ...”	Remove extra space between ‘Provider’ and ‘shall’.
39	IRO-006	Attachment 1 Section 2.4.1 Section 2.5.1	“Such operation is imminent and it is expected that facilities will exceed their security <u>reliability</u> limit...”	Security connotes physical or cyber security.
39	IRO-006	Regional Differences	<u>Regional Difference. 1. PJM/MISO Enhanced Congestion Management (Curtailment/Reload/Reallocation) Waiver approved March 25, 2004.</u>	<u>PJM/MISO waiver was unintentionally omitted from the TLR requirement and has been restored.</u>
51.1	TPL-001	Table 1, Note b and Note c.	“ Security-reliability of the interconnected transmission systems.”	
51.1	TPL-001	Title and title in header	“System Performance Assessments Under Normal (No Contingency) Conditions (Category A):	Standard describes performance requirements, not assessment

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				requirements.
51.1	TPL-001	Table 1 Section C	7. Transmission Circuit 8. Transformer 7. Transmission Circuit	Corrected order of items 7 and 8 which appeared reversed due to a formatting problem.
51.2	TPL-002	Table 1, Note b and Note c.	“ Security -reliability of the interconnected transmission systems.”	Security connotes physical or cyber security.
51.2	TPL-002	Title in header	“System Performance Following Extreme BES Events Loss of a Single BES Element”	Typo in the header resulted in incorrect title in one section.
51.2	TPL-002	Table 1 Section C	7. Transmission Circuit 8. Transformer 7. Transmission Circuit	Corrected order of items 7 and 8 which appeared reversed due to a formatting problem.
51.3	TPL-003	Table 1, Note b and Note c.	“ Security -reliability of the interconnected transmission systems.”	Security connotes physical or cyber security.
51.3	TPL-003	Table 1 Section C	7. Transmission Circuit 8. Transformer 7. Transmission Circuit	Corrected order of items 7 and 8 which appeared reversed due to a formatting problem.
51.4	TPL-004	Table 1, Note b and Note c.	“ Security -reliability of the interconnected transmission systems.”	Security connotes physical or cyber security.
51.4	TPL-004	Table 1 Section C	7. Transmission Circuit 8. Transformer 7. Transmission Circuit	Corrected order of items 7 and 8 which appeared reversed due to a formatting problem.
60.1	FAC-004	R1, R1.1, R1.5, R2, and M1. Section 2D 2.1, 2.3, and 2.4	“facility and equipment Ratings...” changed to “equipment and Facility Ratings...”	Facility Rating is a defined term in glossary. Language modified to show Facility Rating capitalized and equipment not capitalized.
60.5	FAC-005	4.1 and R2	“The T ransmission Owner”	Capitalized Transmission, because Transmission Owner is a responsible entity defined in the functional model and the glossary.
61.5	MOD-018	R1.2	“ permans demands...”	Typo.
61.7	MOD-020	Title	“Providing Interruptible Demands and Direct Control Load Management Data to System Operators and Security Center Reliability Coordinators...”	Update Security Coordinator to Reliability Coordinator.

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63.1	PRC-003	M1	“defined in <u>Reliability</u> Standard PRC-003-0_R1.”	Added ‘Reliability’ for consistency with M2.
70.1	EOP-007	R1.1	“all blackstart generators ¹ -designated ...”	Delete extra space between ‘generators ¹ ’ and ‘designated’.
Glossary	Glossary	Available Transfer Capability (ATC)	“A measure of the transfer capability remaining in the physical transmission network for further commercial activity over and above already committed uses. ATC is defined as the Total Transfer Capability (TTC), less the Transmission Reliability Margin (TRM), less the sum of existing transmission commitments (which includes retail customer service) and the Capacity Benefit Margin (CBM).” <u>“A measure of the transfer capability remaining in the physical transmission network for further commercial activity over and above already committed uses. It is defined as Total Transfer Capability less existing transmission commitments (including retail customer service), less a Capacity Benefit Margin, less a Transmission Reliability Margin.”</u>	Corrected to use existing definition in planning standards.
Glossary	Glossary	Capacity Benefit Margin (CBM)	“That amount of transmission transfer capability reserved by Load-Serving Entities to ensure access to generation from interconnected systems to meet generation reliability requirements. Reservation of CBM by a Load-Serving Entity allows that entity to reduce its installed generating capacity below that which may otherwise have been necessary without interconnections to meet its generation reliability requirements.” <u>“The amount of firm transmission transfer capability preserved by the transmission provider for Load-Serving Entities (LSEs), whose loads are located on that Transmission Service Provider’s system, to enable access by the LSEs to generation from interconnected systems to meet generation reliability requirements. Preservation of CBM for an</u>	Corrected to use existing definition in planning standards.

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			<u>LSE allows that entity to reduce its installed generating capacity below that which may otherwise have been necessary without interconnections to meet its generation reliability requirements. The transmission transfer capability preserved as CBM is intended to be used by the LSE only in times of emergency generation deficiencies.</u>	
Glossary	Glossary	Cascading	Modify the first sentence in the definition: “The uncontrolled successive failure loss of system elements triggered by an incident at any location within the Interconnection. ”	Returns definition to language in the original planning standard.
Glossary	Glossary	Contingency	“The failure, with little or no warning, of one or more elements of the transmission system. This includes, but is not limited to, generator, transmission line, transformer, and circuit breaker failures or misoperations. The unexpected failure or outage of a system component, such as a generator, transmission line, circuit breaker, switch or other electrical element.”	Reverted back to a definition in the existing planning standards.
Glossary	Glossary	Dynamic Interchange Schedule	Modify last sentence in definition: “Commonly used for scheduling jointly owned generation to or from another control area Balancing Authority Area.”	Corrected control area to Balancing Authority Area.
Glossary	Glossary	Receiving Balancing Authority	Add definition for Receiving Balancing Authority: “The Balancing Authority importing the Interchange.”	Standard INT-003 (12) distinguishes different requirements for the Sink and Receiving Balancing Authorities. The drafting team omitted the definition for Receiving Balancing Authority. Definition is from the Operating Manual.
General	General	Regional Differences	Some standards use ‘None’ and other use ‘None identified.’ Change all to use None identified.	Correction for consistency.
Glossary	Glossary	Resource Planner	Add definition for Resource Planner (from Functional Model): “ <u>The entity that develops a long-term (generally one year and beyond) plan for the resource adequacy of specific loads (customer demand and energy requirements) within a Planning Authority</u> ”	Resource Planner is used in several planning standards and was inadvertently omitted from the glossary.

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			<u>Area.”</u>	
Glossary	Glossary	Sending Balancing Authority	Add definition for Sending Balancing Authority: “The Balancing Authority exporting the Interchange.”	Standard INT-003 (12) distinguishes different requirements for the Source and Sending Balancing Authorities. The drafting team omitted the definition for Receiving Balancing Authority. Definition is from the Operating Manual.
Glossary	Glossary	Special Protection System	“ <u>An automatic protection system designed to detect abnormal or predetermined system conditions ...</u> ”	Corrected to be consistent with existing planning standards.
Glossary	Glossary	Total Transfer Capability (TTC)	“ The amount of electric power that can be reliably transferred over the interconnected transmission network. <u>The amount of electric power that can be moved or transferred reliably from one area to another area of the interconnected transmission systems by way of all transmission lines (or paths) between those areas under specified system conditions.</u> ”	Corrected to use existing definition in planning standards.
Glossary	Glossary	Transmission Reliability Margin (TRM)	“ <u>The amount of transmission transfer capability necessary to provide reasonable assurance that the interconnected transmission network will be secure. TRM accounts for the inherent uncertainty in system conditions and the need for operating flexibility to ensure reliable system operation as system conditions change.</u> ”	Definition was unintentionally omitted from the glossary. Definition is from existing definition in planning standards.
Waivers	Waivers	Index	Corrected index to show two waivers inadvertently omitted. Also noted that two other waivers are not in Version 0 because they refer to requirements that were assigned to NAESB for development of business practices.	