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(ISAS)

ATF Guideline Task Force

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Section 1 - Introduction

Welcome to the Western Electricity Coordinating Council (WECC) After-the-Fact (ATF) Training and Reference Manual (ATF Manual).

This document is designed to assist the ATF Personnel working in the Western Interconnection. It will aid new ATF Employees and provide a reference point for experienced ATF personnel.

The ATF Manual is considered a living reference document that reflects continuous changes in the national electric transmission and marketing business practices and procedures. The WECC ISAS ATF Work Group has the responsibility to review and update this document every two years.

The ATF Manual is divided into seven sections:

Section 1. Introduction
Section 2. Standards of Conduct
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Section 4. Sequence of Events – Overview of the Electricity Marketing and Reliability Process
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Refer to the Appendices for additional related ATF information.

This manual was developed by a small group of ATF experts in the WECC Region. They are members of the ATF Work Group reporting to the WECC Interchange Scheduling and Accounting Subcommittee (ISAS).

Disclaimer:

This document serves as a manual and is based on North American Electric Reliability Corporation *(NERC),* North American Energy Standards Board *(NAESB), and Western Electricity Coordinating Council (WECC) Standards, Regional Criteria, and Regional Business Practices. Information contained in this manual neither supersedes these organizations nor their requirements. It is strongly recommended that ATF staff familiarize themselves with these Standards, Regional Criteria, and Regional Business Practices. It is the intent of this manual to be a general reference guide for the ATF Staff in their daily work. It is neither intended to be all inclusive nor limiting in its scope.*

This release of the ATF Manual supersedes any previous version. You should be aware that, if you are using a printed document, it may be out of date. The most current ATF Manual can be found on the ATFWG page on the WECC website.

Section 2 - Standards of Conduct

The Federal Power Act of 1920 provides for federal regulation and development of power resources, and it authorizes the Federal Energy Regulatory Commission (FERC) to regulate the transmission and sale of electric energy in interstate commerce. The act requires companies to conduct their business in a fair and impartial manner.

In 1996, FERC found that unduly discriminatory and anti-competitive practices existed in the electric industry and that transmission-owning utilities (usually those both supplying and delivering energy) had discriminated against others seeking transmission access. Standards of Conduct (SOC) were developed at that time for the electric industry and FERC issued orders 888 and 889, requiring Open Access Transmission Tariffs (OATT), the Open Access Same-Time Information System (OASIS) websites, and more.

In November 2003, FERC issued Orders 2004 A, B, C, and D, further refining the SOCs that govern electric utilities' market activities.

In 2007, FERC adopted Order 890-A as a final rule reforming its decade-old Orders 888 and 889. It ensures that an open-access transmission regulatory framework exists that allows transmission service to be provided on a non-discriminatory, just, and reasonable basis. It also provides more effective regulation and transparency in the operation of the transmission grid. FERC has continued to amend the SOCs to "make them clearer and to refocus the rules on the areas where there is the greatest potential for abuse." FERC's Standards of Conduct are found in Part 358 of Title 18 of the Code of Federal Regulations.

One of the most significant elements of the SOC is the requirement that the transmission provider employees treat all transmission customers on a not unduly discriminatory basis and function independently of marketing and energy affiliates' employees, meaning non-public transmission or customer information cannot be shared. In the event that FERC finds a company has violated the SOC, it has the ability to withdraw market-based rate authority for the transmission providers, a very serious financial consequence.

Companies must ensure training programs are available for employees. These programs are intended to teach employees how to conduct themselves when dealing with other employees and other regulated entities. Topics may include prohibited conduct, implementation rules (employee transfers, functional separation, tariff implementation, books and records, organizational charts), auditing and compliance.

FERC's new enforcement standards are an effort to encourage companies to establish programs that comply with its requirements. Under these standards, if FERC identifies areas of non-compliance, it will consider the seriousness of the offense (harm caused, whether it was intentional) as well as mitigating factors (reduced penalty for internal

compliance, self-correction or cooperation) in applying penalties. FERC is serious about ensuring compliance and will quickly identify and correct noncompliance.

Under some circumstances, the existing regulations provide for penalties of $1 million per day per violation. FERC can even refer a case to the Justice Department for possible criminal investigation and prosecution.

Section 3 - National and Regional Electricity Councils

NERC

The North American Electric Reliability Corporation (NERC), formed in 1968, originally operated as a voluntary organization to promote Bulk Electric System reliability and security. Competition and structural changes taking place in the industry have significantly altered the incentives and responsibilities of market participants to the point that voluntary compliance was no longer adequate. While reliability is still the main objective, when NERC was certified as the “electric reliability organization” by FERC on July 20, 2006, it acquired the legal authority to enforce compliance with its reliability standards.

NERC's mission is to ensure the reliability and security of the bulk power system in North America. To achieve that, NERC develops and enforces reliability standards; monitors the bulk power system; assesses future adequacy; audits owners, operators, and users for preparedness; and educates and trains industry personnel. It is comprised of eight Regional Entities made up of electric utilities, independent power producers, and electricity marketers. The electric utility members are from all ownership segments of the industry: investor-owned, federal, state, municipal, rural electric cooperative, and provincial.

The development of enforceable reliability standards has changed the way the industry does business. They form the foundation of NERC’s efforts to help maintain and improve the reliability of the bulk power system. These standards are developed by a Standards Committee comprised of NERC staff and representatives from various industry sectors. The standards must be approved by the FERC and Canadian provincial regulators before becoming legally binding to the electric market.

The first set of enforceable standards was approved in March 2007. Since then more than 80 additional standards have become mandatory and enforceable with more on the way. The enforcement is achieved through a program of monitoring, audits and investigations, and the imposition of financial penalties.

NERC has joined with NAESB (see below) to develop business practices which complement their Reliability Standards.

NAESB

The North American Energy Standards Board (NAESB) serves as an industry forum for the development of standards for the wholesale and retail gas and electric markets. NAESB works with NERC to coordinate the development of business practice standards and reliability standards for the wholesale electric industry.

NAESB was formed in 2002 as the successor of the Gas Industry Standards Board, which was established in 1994 as an independent and voluntary North American organization to develop and promote the use of business practices and related electronic communications standards.

WECC

The Western Electricity Coordinating Council (WECC) has been responsible for coordinating and promoting Bulk Electric System Reliability in the Western Interconnection since its formation in 1967. In addition, WECC supports efficient and competitive power markets, assures open and non-discriminatory Transmission access among members, provides a forum for resolving Transmission disputes, and promotes an environment for coordinating operations and planning (http://www.wecc.biz). WECC is responsible for the development of planning and operating reliability criteria and policies, overseeing compliance with these criteria and policies, and facilitating a regional Transmission planning process. WECC also provides training programs for regional electricity industry personnel.

WECC and its members strive to maintain their self-governance and to unify the coordination and integration of the Interconnected Transmission System. An important element in WECC's mission is to assess compliance with established criteria and policies and to administer enforcement where applicable. These objectives go hand-in-hand with developing and maintaining a strong and complementary working relationship with the regional Transmission groups, other subregional planning groups, and power pools.

WECC is geographically the largest of the eight NERC Regional Entities where membership is voluntary and open to any organization having an interest in the reliability of interconnected system operations or coordinated planning (http://www.nerc.com/page.php?cid=1|9|119).

The WECC covers 1.8 million square miles of service territory, which is equivalent to more than half the contiguous area of the United States. Members provide reliable service to over 78 million people within 14 Western states, two Canadian provinces, and portions of one state in Mexico.

Section 4 - Sequence of Events – Overview of the Electricity Marketing and Reliability Process

Preschedule

1. Purchasing-Selling Entities (PSE) purchase and/or sell energy in megawatt-hours (MWh).
2. Transactions are provided to a PSE Prescheduler on a day-ahead basis.
3. The PSE Prescheduler contacts involved parties to determine and secure the transaction path from the Source Balancing Authority Area (BAA) to the Sink BAA.
4. Available Transfer Capability for the physical-transaction path is purchased via OASIS. When scheduling with the California Independent System Operator (CISO), transmission service requests are made by submitting schedules into the Day-Ahead Market.
5. An Electronic Tag (e-Tag) is created to reflect the market and physical path of the Transaction described in step 3.
6. Transmission Service Provider/Balancing Authority Area (TSP/BAA) Preschedulers evaluate the transmission service requests and e-Tags.
7. When the e-Tags are approved by all parties and reach the approved state, the Transaction becomes a part of the Scheduled Interchange.
8. TSP/BAA Preschedulers verify path limits and constraints and curtail e-Tags if necessary.
9. At the end of the Preschedule day, Net Scheduled Interchange is confirmed with Adjacent Balancing Authorities by TSP/BAA Preschedulers via the WECC Interchange Tool (WIT).

Real-Time Operations

1. Real-Time PSEs purchase and/or sell energy for the hour ahead.
2. Available Transfer Capability for the physical Transaction path is purchased via OASIS. When scheduling with the CISO, transmission service requests are made by submitting schedules into the Hour-Ahead Market, as defined by the CISO.
3. Transactions are tagged and scheduled prior to the energy flowing.
4. Adjacent BAAs personnel will check out Net Scheduled Interchange to verify Real-Time via WIT changes from Preschedule prior to each hour.
5. At the end of each operating hour, the total Net Scheduled Interchange (NSI) and Net Actual Interchange (NAI) is verified and balanced between all Adjacent BAAs via WIT.

After-the-Fact

1. Verify Net Scheduled and Net Actual Interchange from the prior day with Adjacent BAAs via WIT.
2. Investigate discrepancies (MWh) with involved ATF personnel.

   This may include:

   a) Use of e-Tag information

   b) Recorded telephone conversations or conference calls

   c) Preschedule documentation and Real-Time log notes, or email

   d) Internal databases

   e) Use of NERC Standards and WECC Procedure for Reconciling Inadvertent Interchange Reporting Discrepancies

3. Settlements (Month End and Intra Month)

   a) Contact all involved parties to settle MWh and/or dollars in accordance with the underlying sales or purchase contract for month

   b) Resolve any errors that show up at this time (refer to 2 above)

   c) Some entities may require documentation regarding any changes made

   d) Invoices are sent based on each entity's billing procedures. This may happen before all parties have reached final agreement

4. Comply with NERC and WECC Standards as stated in Section 5.

Section 5 - ATF Duties and Responsibilities

Introduction

The ATF checkout process involves gathering preschedule and Real-Time data, confirming and/or reconciling the data with other BAAs, TSPs, and PSEs. Monthly, Inadvertent data is processed by WECC and uploaded to the Consortium for Electric Reliability Technology Solutions (CERTS) database, based on the data required for WECC and NERC standards.

The process starts with the TSP/BAA and PSE Preschedulers. TSP/BAA Preschedulers balance resources and Interchange Schedules with forecasted loads for the BAA. PSE Preschedulers implement energy trades which require the following, 1) coordination with upstream and downstream counterparties 2) the acquisition of transfer capability on the appropriate TP's system 3) assurance that an accurate e-Tag is issued . On the operating day, Real-Time personnel use these schedules as the starting point for adjusting resources and Interchange Schedules in response to Real-Time area load requirements, system generation, transmission changes, and trading opportunities.

During Real-Time operations, BAAs check hourly schedules prior to the hour and Actual Interchange at the tie-line points after the hour. The Scheduled and Actual Interchange should be the same for Adjacent BAAs. Discrepancies should be researched and documented during Real-Time to assist the ATF process. However, the constraints of Real-Time may preclude discrepancies from being resolved.

After the operating day, BAA ATF personnel shall verify that no discrepancies exist and that their internal scheduling systems reconcile with WIT.

Interconnections, Balancing Authority Areas (BAAs), and Inadvertent Interchange

An Interconnection is an electrically-connected system operating throughout the electric grid at the same frequency, regardless of geography. For it to operate reliably and safely, its frequency needs to be continuously monitored and maintained. The activity of each BAA directly impacts the Interconnection frequency. Therefore, each BAA must contribute to the frequency regulation of the Interconnection.

North America (the United States, Canada and Mexico) is divided into four electric system Interconnections. The largest one is the Eastern Interconnection, followed by the Western Interconnection, ERCOT Interconnection (most of Texas), and the Quebec Interconnection.

North American Electric Power Grid

The Western Interconnection is governed by the Western Electricity Coordinating Council (WECC), and is divided into four subregions.

1. Northwest Power Pool (NWPP).
2. Rocky Mountain Power Area (RMPA)
3. Arizona-New Mexico-Southern Nevada Power Area (AZ / NM / SNV).
4. California-Mexico Power Area (CA / MEX)

A BAA has several defining characteristics. One characteristic is that it has one or more tie lines within the Interconnection. Every tie line is metered and telemetered. The tie line metering measures the energy into and out of a BAA. The sum of all the tie line metering surrounding a BAA is the Net Balancing Authority Area Interchange with the Interconnection. The NERC term for tie line net metering flow is Net Actual Interchange. The NERC term for the sum of schedules is Net Schedule Interchange. The difference between Net Actual Interchange and the Net Scheduled Interchange at the end of each hour is Inadvertent Interchange. It is the responsibility of each BAA to minimize hourly Inadvertent Interchange.

As the Inadvertent Interchange is calculated hourly, it is added to the previous hour's accumulation. If the BAA accurately matches schedules and load, then the accumulated Inadvertent should be minimal. A negative or positive accumulation indicates whether a BAA owes energy to or is owed energy by the Interconnection.

If a Scheduled or Actual Interchange value is changed during the ATF checkout, one or more BAAs Inadvertent will change by the same amount, ultimately affecting the accumulated Inadvertent impact on the Interconnection.

Automatic Time Error Correction (ATEC) occurs in Real-Time. This process tracks and pays back hourly primary Inadvertent as it occurs. Each BAAs Inadvertent Interchange balance is tracked by the WECC Interchange Tool (WIT) WIT allows WECC/NERC to track the entire Interconnection's Inadvertent, showing all BAAs individual and collective contribution. The sum of all the accumulated Inadvertent Interchange within the Interconnection should equal zero. Inadvertent reporting requirements are discussed in more detail in NERC BAL-004-WECC and BAL-006 Standards.

WECC Interchange Tool (WIT)

The WECC Interchange Tool (WIT) is an interchange scheduling system driven by schedules that are populated before and up to the hour, and actuals that are populated after the hour. WIT uses tag-based scheduling to calculate and report BAA hourly Net Schedule Interchange. The system is also programmed to collect hourly interchange actual information for BAA Net Actual Interchange and Inadvertent calculation and reporting.

For ATF purposes, checkout can be verified in WIT by check marks next to hourly and actual data per the INT-021-WECC-CRT 1.2. Once actual imbalances are resolved, BAAs can make direct updates in WIT. Conversely, BAAs are not allowed to make direct changes to Schedule data in WIT. Schedule data in WIT can be changed by tag changes or tag creations via BAA scheduling systems, as long as the changes are made within 168 hours of original schedule. Changing Schedule data or creating Schedules after 168 hours from the Schedule time in WIT requires direct WECC personnel involvement.

Since WIT is the repository of the WECC Schedule, Actual, and Inadvertent data; it is the monthly data source for the NERC site of CERTS reporting. If imbalances appear in CERTS, then the BAs involved must resolve them in WIT and then wait for subsequent updates from WIT to CERTS to reflect the changes (balanced values are green color coded). Imbalances remaining after the 15th of each month require BAAs to report the imbalance by filing a "WECC Inadvertent Imbalance Reporting Form" with WECC. This document can be found on the WECC website and in Appendix 4 of this document. Irresolvable imbalances may require arbitration as stated in the Resolution and Binding Arbitration section of this document.

The user interface for WIT is Web-based. The displays are organized into groups based on the main components of the system. The WIT User Guide follows a similar organization.

The sections in the User Guide describing the specific displays are also available online in the system. For the displays under the Scheduling menu, the help pages can be accessed by clicking on the help button (the blue circle with the question mark). For the displays under the User and Misc menu, the help pages can be accessed by navigating to the Help Menu (under Misc).

Collection of Data

Although each company has its own specific processes for the ATF Personnel to work with, the following is a list of commonly-used data:

- A list of e-Tags associated with the schedules
- A record of the original schedule
- Real-Time log notes pertaining to changes
- Recorded telephone conversations
- An energy management system
- Actual interchange telemetry data
- OASIS reservation information
- Direct contact with the operator or trader involved in a transaction
- Preschedule notes and data exchanges with other BAAs

ATF Personnel will use this information to confirm or reconcile the Interchange Schedules and Actuals from the previous day. If the schedules and actuals agree, the process is simple. The process becomes more involved when communications have not been clear and human or system errors have occurred.

ATF Balancing Authority Area (BAA) Checkout

Before proceeding with the ATF checkout, a preliminary check of the data sources is recommended. Typical checks include:

- Metering consistency - Do one or more of the hourly values differ significantly from most hours of the day?
- Correct signs (positive/negative) for energy schedules and actuals.
- Data from Real-Time to energy accounting system is accurately transferred
- Schedule contract limits observed
- Flow through / wheeling schedules net to zero for a Balancing Authority Area

In order to expedite the checkout, BAAs may agree to exchange data through electronic mail, facsimile, and/or website posting. This method is often combined with a verbal or telephone checkout.

If the checkout results in a match between BAAs and other ATF adjacents, then the day's checkout is complete and WIT checkout can occur. However, there are often discrepancies, with either Scheduled or Actual Interchange, that require more effort and time to resolve. It is imperative that all parties agree to any necessary changes before they are made.

Some of the more frequent causes of scheduled discrepancies are:

- Miscommunication regarding schedule changes, line outages, path restrictions, generation curtailments, and results of integration calculations
- Difficulties identifying schedules that are netted together (stacked, rolled up)
- Changes to schedules after a checkout
- E-Tags not matching schedules
- Inaccurately prepared/modified e-Tags

Determining the source of what causes discrepancies and the method by which those discrepancies are resolved may become complex and time consuming. Documentation that is organized, easily referenced, and understandable helps reduce research time and keeps the checkout on track. Since some problems involve several parties (e.g., BA, TP, PSE), extensive conference calling may be required. Cooperation among the checkout participants becomes very important, helpful, and appreciated.

Some of the more frequent causes of actual (metered) discrepancies are:

- Telemetry failure
- Meter equipment failure
- Data transfer issues
- Failure of the Real-Time Operators to confirm actual values
- Unilateral changes to actual values after a checkout

Some BAAs have metered intertie values, which are dynamic signals that are sent to all intertie participants each hour. There is often some difference in the hourly signals being sent to each participating utility. However, these must be resolved hourly and the participating BAAs must agree to the same number.

Some intertie meters are read only once a month. In these cases, at the end of each month, the meter read is given to the BAA at either end of the tie point and both utilities may make their adjustments to agree with the actual meter read. These adjustments are made to the telemetered values that have been uploaded to their energy management system.

At some point, ATF personnel will exchange Net Actual and Net Scheduled Interchange with their Adjacent BAAs and counterparties. The ATF checkout should occur daily for the previous day. The longer the delay, the more difficult the checkout may become. If a Source BAA and Sink BAA agree on a schedule, all entities in the path will agree to that same schedule unless transfer capability is not available. The end result must be a balanced schedule with the Adjacent BAA.

ATF E-TAG

Schedules represented by E-Tags can be adjusted after-the fact only under certain circumstances. There is a specific protocol that must be followed and all parties involved must concur. Please see WECC's ATF Tagging Guideline for details and E-Tag timing tables in the NAESB Wholesale Electric Quadrant Business Practice Standards. The form to be used is listed in Appendix 3.

Settlements

The settlement process varies among ATF groups. Settlements are often handled by a separate department. They rely on the ATF group to provide them with accurate data for the invoicing process. This makes it even more imperative to resolve imbalances in a timely manner. The longer the time taken, the more corrections are needed to invoices and other supporting documents.

ATF Resolution and WECC/NERC Standards

The North American Electric Reliability Corporation (NERC), which oversees the Interconnections described earlier, has set a time limit on the resolution process. This is

set forth in NERC Reliability Standards. All BAAs hourly data is uploaded to the Western Interchange Tool (WIT) and is compiled into a monthly summary of Inadvertent Interchange. If any discrepancies exist between BAAs they should be corrected no later than the 15th calendar day following the month, as specified by the NERC standard. If discrepancies persist beyond this deadline., NERC Reliability Standards establish a means that can force a resolution. It is important that ATF checkout personnel be aware and knowledgeable of the WECC/NERC Standards**,** and report discrepancies to: disputereports@wecc.biz by completing the WECC Inadvertent Out of Balance Reporting Form.

Reconciling Inadvertent Interchange Reporting Discrepancies

NERC Standards describes the process where unresolved disputes may be submitted to binding arbitration. Prior to this step, WECC will encourage ATF personnel to expedite reconciliation.

WECC's resolution procedure is designed to satisfy the guidelines specified by NERC. The basic features of the procedure can be found in the WECC Guideline for Reconciling Inadvertent Interchange Reporting Discrepancies on the WECC website. If a dispute cannot be resolved by applying the WECC resolution procedure, NERC binding arbitration will be enforced.

WECC/NERC Reports

Reporting responsibilities vary among ATF groups. Some required reporting may include:

- FERC Annual 714
- NERC Monthly Inadvertent
- NERC Quarterly Load Report

Organizations

WECC sponsors several specialized subcommittees to coordinate the business practices of each special interest group. Scheduling and ATF issues are addressed by the Interchange Scheduling and Accounting Subcommittee (ISAS). ISAS meets on a regular basis to discuss current issues and develop or update procedures. This may include the development or change of business practices associated with interchange scheduling.

There are various work groups formed to address specific tasks within ISAS. The ATF Work Group is responsible for addressing ATF issues and maintaining any related ATF documents.

Section 6 - Liquidated Damages

In the event of a curtailment, the performing party may have the right to recoup damages from the non-performing party, depending on the specific contract. The non-performing party may have an obligation to keep the contract whole either by redirect or re-supply of the energy that has been interrupted. In the event this is not possible, the defaulting party may be allowed to provide restitution in the form of liquidated damages. The obligation to provide restitution would reside with the specific Contract.

The calculation for Liquidated Damages (LD's) will be in accordance with the specific contract language. LD's are generally calculated by subtracting the contract price from the "fair market price", including transmission and losses charged for delivery, as traded in Real-Time for the affected hours. If that difference is positive, the difference will be multiplied by the number of MW's curtailed and the result may be charged to the defaulting party. However, if the price difference is negative, no LDs can be charged. These damages are typically agreed upon by both counter parties, provided the specific contract language allows for such agreement.

LDs are strictly a marketing resolution and do not affect Balancing Authority checkouts or imbalances.

Section 7 - Glossary

For a comprehensive Glossary of Terms used in NERC Reliability Standards please go to: http://www.nerc.com/files/Glossary_of_Terms.pdf

For a comprehensive Glossary for WECC Criteria and WECC Regional Business Practices and Naming Conventions please go to:

http://www.wecc.biz/Standards/Documents/WECC%20Glossary%20for%20Criteria%20Regional%20Business%20Practices%20and%20Naming%20Conventions%20Updated%2012-26-2012.doc

This glossary lists commonly used ATF terms. Some of the terms are referenced in the preceding document and others are for informational purposes only.

Actual Interchange

The metered interchange over a specific interconnection between two physically-Adjacent Balancing Authorities.

Adjacent Balancing Authority

A Balancing Authority that is interconnected another Balancing Authority Area either directly or via a multi-party agreement or transmission tariff.

After the Fact Tag (ATF TAG)

ATF tags are used to allow Balancing Authorities (BAs or CAs), Transmission Service Providers (TSPs), and Scheduling Entities (SEs) to accurately reflect a schedule which was coordinated and controlled to by a BA's energy management systems (EMS) and Automatic Generation Control (AGC) systems during Real-Time system operations, but was not properly tagged.

ATFWG

Acronym for After-the-Fact Work Group, a work group of the Interchange Scheduling and Accounting Subcommittee.

Balancing Authority (BA)

The responsible entity that integrates resource plans ahead of time, maintains load-interchange-generation balance within a Balancing Authority Area, and supports Interconnection frequency in real time.

Balancing Authority Area (BAA)

The collection of generation, transmission, and loads within the metered boundaries of the Balancing Authority. The Balancing Authority maintains load-resource balance within this area.

Consortium for Electric Reliability Technology Solutions- CERTS

NERC Inadvertent Monitoring System.

Inadvertent Interchange

The difference between the Balancing Authorities Net Actual Interchange and Net Scheduled Interchange (IA -IS).

Interchange

Energy transfers that cross a Balancing Authority's Area boundaries.

Interchange Schedule

An agreed-upon Interchange Transaction size (megawatts), start and end time, beginning and ending ramp times and rate, and type required for delivery and receipt of power and energy between the source and sink Balancing Authorities involved in the transaction.

Interchange Transaction Tag or **Tag**

The details of an Interchange Transaction required for its physical implementation. (This is an electronic transfer of information).

Intermediate Balancing Authority

A Balancing Authority Area that has connecting facilities in the Scheduling Path between the Sending Balancing Authority Area and Receiving Balancing Authority Area and operating agreements that establish the conditions for the use of such facilities.

Load

The amount of electric power delivered or required at any specified point or points on a system.

Load-Serving Entity

Secures energy and transmission service (and related Interconnected Operation Services) to serve the electrical demand and energy requirements of its end-use customers.

Net Actual Interchange

The algebraic sum of all metered Interchange over all interconnections between two physically-Adjacent Balancing Authority Areas.

Net Interchange Schedule

The algebraic sum of all Interchange Schedules with each Adjacent Balancing Authority.

Net Scheduled Interchange

The algebraic sum of all Interchange Schedules across a given path or between Balancing Authorities for a given period or instant in time.

Off-Peak

Those hours or other periods that have been defined by NAESB business practices, contract, agreements, or guides as periods of lower electrical demand.

On-Peak

Those hours or other periods that have been defined by NAESB business practices, contract, agreements, or guides as periods of higher electrical demand.

Open Access Same-Time Information System (OASIS)

An electronic posting system that the Transmission Service Provider maintains for transmission access data and that allows all transmission customers to view the data simultaneously.

Point of Delivery (POD)

A location that the Transmission Service Provider specifies on its transmission system where an Interchange Transaction leaves or a Load-Serving Entity receives its energy.

Point of Receipt (POR)

A location that the Transmission Service Provider specifies on its transmission system where an Interchange Transaction enters or a Generator delivers its output.

Point-to-Point Transmission Service – The reservation and transmission of capacity and energy on either a firm or non-firm basis from the Point(s) of Receipt to the Point(s) of delivery.

Preschedule

Day(s) ahead balancing of Interchange Schedules between entities within the Interconnection.

Purchasing-Selling Entity (PSE)

The entity that purchases or sells, and takes title to energy, capacity, and Interconnected Operations Services. Purchasing-Selling Entities may or may not own generating facilities.

Real-Time Scheduling

Hour-ahead balancing of Interchange Transactions within the Interconnection for the current day.

Real-Time Operations

Instantaneous operations of a power system.

Reserves

Energy amount that must be available to cover a BAAs loss of generation.

Reserve Sharing

Under written agreement, the operating reserve requirements of two or more Balancing Authority Area's may be combined or shared to maintain Scheduled frequency and avoid loss of load following Transmission or generation contingencies.

Reserve Sharing Group

A group whose members consist of two or more Balancing Authorities that collectively maintain, allocate, and supply operating reserves required for each Balancing Authority's use in recovering from contingencies within the group. Scheduling energy from an Adjacent Balancing Authority to aid recovery need not constitute reserve sharing provided the transaction is ramped in over a period the supplying party could reasonably be expected to load generation in (e.g., ten minutes). If the transaction is ramped in quicker (e.g., between zero and ten minutes) then, for the purposes of Disturbance Control Performance, the Areas become a Reserves Sharing Group.

Schedule

(*Noun*) An Interchange Schedule.

(*Verb*) To set up a plan or arrangement for an Interchange Transaction.

Scheduling Entity

An entity responsible for approving and implementing Interchange Schedules. It can be a Balancing Authority or Transmission Provider.

Scheduled Interchange

Transactions agreed to between Balancing Authorities in the Interconnection.

Scheduling Path

The Transmission Service arrangements reserved by the Purchasing-Selling Entity for a transaction.

Sink Balancing Authority

The Balancing Authority in which the load (sink) is located for an Interchange Transaction. (This will also be a Receiving Balancing Authority for the resulting Interchange Schedule.)

Source Balancing Authority

The Balancing Authority in which the generation (source) is located for an Interchange Transaction. (This will also be a Sending Balancing Authority for the resulting Interchange Schedule.)

Tariff

The FERC-required legal document that allows Transactions to flow on the national open access Transmission system.

Transmission

An interconnected group of lines and associated equipment for the movement or transfer of electric energy between points of supply and points at which it is transformed for delivery to customers or is delivered to other electric systems.

Transmission Customer

1. Any eligible customer (or its designated agent) that can or does execute a transmission service agreement, or can or does receive transmission service.
2. Any of the following responsible entities: Generator Owner, Load-Serving Entity, or Purchasing-Selling Entity

Transmission Service

Services provided to the Transmission Customer by the Transmission Service Provider to move energy from a Point of Receipt to a Point of Delivery.

Transmission Service Provider (TP)

The entity that administers the transmission tariff and provides Transmission Service to Transmission Customers under applicable transmission service agreements.

Unexpected or Uncontrollable Force

An event or circumstance that prevents one Party from performing its obligations under one or more transactions, which event or circumstance is not within the reasonable control of, or the result of the negligence of, the claiming Party, and which by the exercise of due diligence the claiming Party is unable to avoid, cause to be avoided, or overcome. So long as the requirements of the preceding sentence are met, an "Uncontrollable Force" may include and is not restricted to flood, drought, earthquake, storm, fire, lightning, epidemic, war, riot, act of terrorism, civil disturbance or disobedience, labor dispute, labor or material shortage, sabotage, restraint by court order or public authority, and action or nonaction by, or failure to obtain the necessary authorizations or approvals from, any governmental agency or authority.

Western Interconnection

The interconnected electrical systems that encompass the region of the Western Electricity Coordinating Council of the North American Electric Reliability Council. The region extends from Canada to Mexico. It includes the provinces of Alberta and British Columbia, the northern portion of Baja California (Mexico), and all or portions of the 14 western states in between.

WEQ Electric Industry Registry

A NERC sponsored website for registering entities to do business on the electrical interconnection.

Wheeling

The movement of energy across transmission lines excluding the Source and Sink Balancing Authority Areas.

WECC Interchange Tool (WIT)

The WECC Interchange Tool (WIT) is an interchange scheduling system driven solely by the Interchange Transaction System (e-Tag) specified by NERC and NAESB. Tag-based scheduling facilitates schedule coordination and automates the scheduling process to a large degree. The system also collects hourly interchange actual information for use in Inadvertent Interchange calculations and reporting.

Appendix 1 - Related Sites

Federal Energy Regulatory Commission

http://www.ferc.gov/

Electric Power Research Institute (EPRI)

http://www.epri.com/

North American Electric Reliability Council (NERC)

http://www.nerc.com/

North American Energy Standards Board

http://www.naesb.org

Western Electricity Coordinating Council

http://www.wecc.biz/main.html

Open Access Same Time Information System (OASIS)

http://www.oasis.oati.com

WECC Interchange Tool (WIT)

https://www.wit.oati.com

Consortium for Electric Reliability Technology Solutions (CERTS)

http://certs.lbl.gov/

WEQ Electric Industry Registry

https://www.naesbwry.oati.com

Appendix 2 - NERC Scheduling Product Codes

For a current list of Transmission Providers, Purchasing Selling Entities, and Balancing Authorities go to the NAESB Electric Industry Registry (EIR) located at https://www.registry.oati.com

Scheduling Product Codes

Product Codes

	Code	Name
Transmission	0-NX	Non-Firm Next Hour
	1-NS	Non-Firm Secondary
	2-NH	Non-Firm Hourly
	3-ND	Non-Firm Daily
	4-NW	Non-Firm Weekly
	5-NM	Non-Firm Monthly
	6-NN	Non-Firm Network
	7-F	Firm
	7-FN	Firm Network Service
Generation	G-F	Firm Energy
	G-NF	Non-Firm Energy
	G-FC	Firm Contingent - WECC
	G-FP	Firm Provisional Energy - WECC
	G-F1	Hourly Firm Energy - WECC
	G-EX	Exchange of Firm Energy - WECC
	C-NS	Capacity for Non-Spinning Reserve - WECC
	C-RE	Capacity associated with energy recallable for Reserves - WECC
	C-SP	Capacity for Spinning Reserve - WECC

Appendix 3 - WECC Schedule Change Request Form (Sample)

WECC SCHEDULE CHANGE REQUEST FORM

Please send this completed and signed form to disputereports@wecc.biz

	Date D-M-Y	HE	Time Zone	Tag	Current MW Schedule	Requested MW Schedule	Reason
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							

Source BA:	
Responsible ATF Name:	
Signature:	
Date:	

Sink BA:	
Responsible ATF Name:	
Signature:	
Date:	

Intermediary BA	
Responsible ATF Name:	
Signature:	
Date:	

Intermediary BA:	
Responsible ATF Name:	
Signature:	
Date:	

Appendix 4 - WECC Inadvertent Imbalance Reporting Form

Information and Directions for Completing the WECC Inadvertent Reporting Form

Please see the WECC Guideline for Reconciling Inadvertent Interchange Reporting Discrepancies. It's purpose is: to define a WECC regional process for resolving After-the-Fact Inadvertent Interchange reporting discrepancies between Balancing Authorities not resolved prior to or by the 15th of the following month.

NERC Standard BAL-006-1.1 Requirement R.5 states:

Adjacent Balancing Authorities that cannot mutually agree upon their respective Net Actual Interchange or Net Scheduled Interchange quantities by the 15th calendar day of the following month shall, for the purposes of dispute resolution, submit a report to their respective Regional Reliability Organization Survey Contact. The report shall describe the nature and the cause of the dispute as well as a process for correcting the discrepancy.

Directions:

Reporting Company: Balancing Authority that is submitting the form. Use registered NERC acronyms.

Reporting Month: Month that the Imbalance occurs in. There must be one report per month, per Reporting Company. When disputing with more than one Balancing Authority in the same month, each Reporting Company may have more than one counterparty listed on a single report.

Reporting Contact: Person from the Balancing Authority that is submitting the form.

Reporting Email Address: Email Address of the person from the Balancing Authority that is submitting the form.

Phone #: Phone number of the person from the Balancing Authority that is submitting the form.

Date Submitted or Updated: The original date the report was sent in, and dates of any following updates to the form.

Counterparty: Name of Balancing Authority that the submitting company is out of balance with. Use registered NERC acronyms.

MWh Difference: Total number of MWh in dispute for the month.

NAI/NSI (A or S):

Indicate whether the disputed numbers are (A)ctual or (S)cheduled imbalances.

Brief Description of the Nature and the Cause of the Dispute:

Describe why the Balancing Authorities do not agree. Refer to attached sample form for examples.

Brief Description of the Process for Correcting the Discrepancy: Explain the process for resolving the Imbalance. Refer to the attached sample form for examples.

Estimated Completion Date: Determine a REALISTIC date that the imbalance will be resolved.

The form shall be submitted to the RRO Survey Contact by the 15th day of the following month. Please send the form to WECC (disputereports@wecc.biz) with a courtesy copy to the ATFWG Chair (http://www.wecc.biz/committees/StandingCommittees/OC/ISAS/ATFWG/default.aspx).

Every Friday thereafter, updates shall be submitted again unless no changes have occurred. If corrections have been made, enter a new date in the Date Submitted/Updated column below the submitted date. To the right of the new date, include the new information in the appropriate columns. Make sure that a new Estimated Completion Date is entered, if necessary.

What happens when an Adjacent Balancing Authority is ”knocked out of balance” by the source and sink Balancing Authorities? A report must still be submitted by each party involved by the Friday of that week if a resolution has not been made.

However, based on the following requirement in Standard BAL-006-1, this should not occur. Changes cannot be made unless ALL parties are in agreement. Two out of three parties cannot post a change unless the third party is in agreement and reposts at the same time.

R4.3. A Balancing Authority shall make after-the-fact corrections to the agreed-to daily and monthly accounting data only as needed to reflect actual operating conditions (e.g. a meter being used for control was sending bad data). Changes or corrections based on non-reliability considerations shall not be reflected in the Balancing Authority's Inadvertent Interchange. After-the-fact corrections to scheduled or actual values will not be accepted without agreement of the Adjacent Balancing Authority(ies).

WECC Inadvertent Out of Balance Reporting Form (Sample)

WECC Inadvertent Out of Balance Reporting | ATF Dispute Form

Reporting Company:		**Reporting Contact (Name & Number):**			
Reporting Month:		**Reporting E-mail Address:**			
Date Submitted/Updated	**Counterparty**	**MWh Diff.**	**NAI/NSI (A or S)**	**Description of Nature & Cause of Dispute**	**Description of Process for Correcting Dispute**	**Est. Completion Date**
1/11/08	BA2	3	S	1 Lack of transmission. Tag was approved with insufficient transmission	1 BA1 marketing to purchase ATF transmission if available.	1/31/08
	BA3	28	S	1 BA1 did not have correct values in system to match tags.	1 BA1 & BA3 to compare detailed reports to find discrepancy.	1/31/08
				2 Unit down – tags were not curtailed and/or curtailed inaccurately.	2.Conference Call to discuss issues on curtailed tags.	2/4/08
				3 Over scheduling on remote generation.	3.BA1 marketing to settle with affected parties.	2/4/08
1/18/08	BA4	8	A	1 Ran end of month report and found that BA4 no longer matched BA1 on actual.	1 BA1 has contacted BA4 to alert that actual no longer match. BA4 to change.	1/25/08

3 | Updated 04/06/10

Approving Committee, Entity or Person	Date
Interchange Scheduling and Accounting Committee	January 2014