

Summary of Comments on 1st Posting of Balance Resources and Demand SAR

The following provided no constructive criticism:

- Arizona Public Service Co.
- APCI – Yadkin Division
- Power Pool of Alberta
- WAPA
- TVA
- Alabama Electric Cooperative

The following indicated a NERC Organization Standard for Balancing Resources and Demand is not needed

Comment: Dominion Resources – (SAR poorly written and should be withdrawn and re-written)

Consideration: The SAR has been revised to add more details

Comment: American Electric Power – (SAR not needed – covered by existing Operating Policies – work should wait on FERC’s Market Design)

Consideration: The NERC BOT directed that we move forward with the development of Organization Standards that address reliability.

The following indicated the scope of this SAR should be expanded as noted

Comment: ISO New England – add more details to relate the SAR to existing requirements

Consideration: SARs have not been designed to have a direct relationship with existing operating policies or planning standards. A footnote has been added to the revised SAR to document that CPM1 and CPS1 are mathematically the same.

Comment: Alabama Municipal Electric Authority – expand to include RTOs

Consideration: Each SAR identifies associated Functions rather than the types of organizations that must comply. These functions are identified in the Functional Model, and include: Reliability Authority, Balancing Authority, Interchange Authority, Transmission Service Provider, Transmission Owner, Transmission Operator, Generator, Planning Authority, Distribution Provider, Load Serving Entity, Purchasing-Selling Entity.

The following indicated the scope of this SAR should be reduced as noted

Comment: Manitoba Hydro – eliminate Unscheduled Power Flow (minimizing uncheduled power flow is not defined as a responsibility of the BA in the Functional Model)

Consideration: Addressed under Industry Need # 3

Significant Comments on Direction of SAR

Comment: ERCOT, Calpine, Constellation Power Source, Longhorn Power (PM), Republic Power LP, Tenaska Power Services, BP Energy Co., Mirant, Oncor, Lower Colorado River Authority - These standards should recognize there are some Interconnections with a single balancing authority and should be based on actual frequency performance requirements such as bandwidth deviation limits.

Consideration: Different frequency profiles are in existence today and will be recognized by including interconnection – specific frequency profiles in the SAR.

Comment: These standards should recognize that in the new market environment some balancing authorities will not have the same control structures as the old vertically integrated Control Areas.

Consideration: The purpose of the new standards development process is to give entities the opportunity to identify what to include/exclude from the scope or details of a SAR/standard. Specific suggestions on what to include/what to exclude need to be provided.

The new organization standards are not linked to entities (control areas) nor are they designed to specify control structures. The scope of this SAR identifies what is required by the standard to constitute compliant performance, not How to achieve the compliant performance.

Comment: MAPP's Operating Subcommittee - there may be various market-driven solutions which may provide an added incentive to meet these measurements. It is hoped that the sponsors of this standard will recognize these efforts while developing this standard.

Consideration: The purpose of the new standards development process is to give entities the opportunity to identify what to include/exclude from the scope or details of a SAR/standard. Specific suggestions on what to include/what to exclude need to be provided.

Comment: A frequency-driven cash-out mechanism for imbalance, calculated every 5 minutes or less, will both provide equity in the settlement of imbalance, but is very likely to control behavior such that CPS (CPM) will only be a boundary condition and will be constantly exceeded. We further add that details of this method will recognize limits on magnitude and need additional discussion.

Consideration: The NERC BOT stated that Organization Standards should focus on reliability, not on commercial practices. Each entity serving as a BA can develop whatever mechanisms wanted (including market mechanisms) to meet the reliability standard. It is not acceptable to violate the reliability standard. The mechanisms developed should support compliance with the reliability standard.

A SAR identifies What, not How. The inclusion of a measure, such as the cash-out mechanism, falls outside the scope of a SAR for two reasons – it tells 'How' and it addresses a market issue.

Regarding the issue of control behavior, the functional model, the RA has the authority, if needed, to tell the BA to shed load.

Comment: We agree that a Frequency Response Standard and Disturbance Control Standard will continue to be warranted. In fact, all four areas of this SAR will continue to be warranted; we simply suggest that there are market mechanisms, which will provide the same control, with cash-out benefit.

Consideration: The purpose of the new standards development process is to give entities the opportunity to identify what to include/exclude from the scope or details of a SAR/standard. Specific suggestions on what to include/what to exclude need to be provided.

Comment: NERC IOS Subcommittee – The proposed standard and associated measures and criteria should not be any more restrictive than is necessary for a reliable bulk electric system. Market mechanisms for the provision of balancing IOS should not be unnecessarily constrained. Market design is evolving rapidly, including for example, the ability to provide real time balancing services through bid-based systems.

Consideration: The industry's comments submitted to this SAR will determine how restrictive this SAR/standard will be. To address local issues, Regions and Reliability Authorities will continue to have the right to develop more restrictive standards.

Comment: NERC IOS Subcommittee – ...the IOS work stresses the importance of responsive balancing capabilities and controls in specific time horizons necessary to achieve effective control performance. Four balancing IOS, namely Regulation, Load Following, Contingency Reserve, and Frequency Response are considered by the IOS Subcommittee to be the fundamental building blocks for the balancing aspects of reliable bulk electric system operation. The IOS recommends that the drafting of the proposed standard consider the IOS Reference Document...

Consideration: The SAR Drafting Team is responsible for addressing specific comments submitted by interested parties. Your comments need to be specific to the SAR that has been drafted to define the scope of the standard to be developed. If you feel that particular elements should be included, these should be specified. Please identify what, specifically, you want added or deleted from the SAR.

The Standard Drafting team will draft a standard that is within the scope of the SAR.

Comment: NERC IOS Subcommittee – There should be a single set of standards for balancing of resources and demand. The numerical criteria for determining the amount of balancing responsiveness that is needed may vary depending on the reliability need of each interconnection, but must be standard within an interconnection.

Consideration: NERC IOS Subcommittee – There should be a single set of standards for balancing of resources and demand. The numerical criteria for determining the amount of balancing responsiveness that is needed may vary depending on the reliability need of each interconnection, but must be standard within an interconnection.

Comment: MIPS – the work of the JIITF should be considered

Consideration: The SAR Drafting Team is responsible for addressing specific comments submitted by interested parties. Your comments need to be specific to the SAR that has been drafted to define the scope of the standard to be developed. If you feel that particular elements should be included, these should be specified. Please identify what, specifically, you want added or deleted from the SAR.

The Standard Drafting team will draft a standard that is within the scope of the SAR.

Comment: MIPS – The SAR should not prescribe specific measures, rather should indicate that the appropriate measures should be used. The four measures included in the SAR may not be applicable in all interconnection (Western, Eastern, ERCOT)

Consideration: The SAR Drafting Team is responsible for addressing specific comments submitted by interested parties. Your comments need to be specific to the SAR that has been drafted to define the scope of the standard to be developed. If you feel that particular elements should be included, these should be specified. Please identify what, specifically; which measure(s) you feel are too prescriptive.

Title

Comment: International Transmission Company – change the title to: Balance Resources and Requirements – include meeting area instantaneous load demand, Interchange schedule, operating reserve, reactive resources and overlap regulation obligations

Consideration: The commenter was contacted and accepts the original title. Including “Requirements” within a standard title is redundant and unnecessary.

Comment: CA-ISO – change title to Load and Resource Balancing

Consideration: The intent was to make this title as inclusive as possible – The suggestions would narrow the focus, rather than maintain the broad focus.

Purpose of Standard

Comment: CA-ISO – make it clear that this standard is for operations during normal and emergency conditions. Change purpose to:

To match, as closely as possible, interconnection Loads and Resources in order to maintain scheduled system frequency during normal and emergency conditions

Consideration: The purpose of the SAR has been changed to reflect the consensus of comments received. The new purpose does reference both normal and abnormal conditions – which would include emergency conditions.

Comment: Southern Company Services – change purpose to: To maintain the frequency of the interconnections within approved limits for both short term and long term frequency deviations, or within the profile approved by the NERC Operating Committee

Consideration: The purpose of the SAR has been changed to reflect the consensus of comments received. The new purpose does reference a frequency profile.

Comment: Illinois Power – change to, “Maintain Balance of Resources and Load such that frequency can be maintained at levels required for reliability”

Consideration: The purpose of the SAR has been changed to reflect the consensus of comments received. The new purpose does reference a frequency profile and does not include the term, “Minimize.”

Comment: MIPS – Why not specify 60 HZ – if it should be a band around 60 HZ, specify – System is designed for 60 Hz, but the scheduled frequency may be adjusted for time error correction

Frequency is actually a measure of the health of the system, the purpose should be to develop criteria to maintain the balance of the resources / load

Should define “what” needs to be done, not “how”

Consideration: The purpose of the SAR has been changed to reflect the consensus of comments received. The new purpose does reference a frequency profile and does not include the term, “Minimize.”

Comment: MAAC – expand the purpose to retain the original intent of the former CPS that the basis/objective of a Balancing Standard is to maintain an approved “Frequency Profile” (Maintain an interconnection’s scheduled frequency within a pre-defined frequency profile.)

Consideration: The purpose of the SAR has been changed to reflect the consensus of comments received. The new purpose does reference a frequency profile and does not include the term, “Minimize.”

Comment: ComEd – concern about the use of the term “minimize” – Minimize is defined as “to reduce to the smallest possible amount, extent, size, or degree”. We believe the scope should be revised to reflect the acceptable control error bounds, which are part of CPS1 & CPS2. The use of the word minimize infers that all effort should be made to make the error as small as possible, which is contrary to existing standards and practices.

Consideration: The purpose of the SAR has been changed to reflect the consensus of comments received. The new purpose does reference a frequency profile and does not include the term, “Minimize.”

Industry Need for Standard

Comment: Illinois Power – add the following phrase before the numbered list: “A sufficiently close load resource balance is appropriate to: “

Consideration: With the changes to the list of needs, no qualifying preamble is needed

Comment: NERC IOS Subcommittee – “Load-resource balancing” should be consistent with title, “resource and demand balancing”

Consideration: With the changes to the list of needs, no qualifying preamble is needed

Comment: NERC IOS Subcommittee – “Generation failure” should be “unplanned loss of generation”

Consideration: Need #1 has been deleted based on the consensus of the comments submitted.

Comment: MIPS – The need is actually to establish that the obligations associated with the benefits from being interconnected are maintained

Consideration: The focus of Organization Standards is on reliability.

Comment: MAAC – ...frequency is a continuum (defined over various time periods) rather than a single parameter. The current Policy 1 CPS recognized this fact by defining its drivers based on an Operating Committee-approved frequency profile (a profile that would be monitored and adjusted as a function of current frequency experiences). By linking the CPS measures to the given profile, CPS was able to define a related/consistent set of short term (1 minute) and longer-term (10 minutes) parameters. Without linking the Purpose of Standard to such a profile, the standard is opened up to unrelated measures, measures that cannot be simply related to each other.

Consideration: The purpose has been revised to include the concept of a 'frequency profile'.

Industry Need #1

Comment: Southern Company Services – The supply/demand balance in an interconnection does not arrest sudden frequency changes as stated in the SAR.

Consideration: This phrase has been deleted.

Comment: Illinois Power – change to: Arrest normal frequency changes in the Interconnection caused by generation failure or load interruption

Consideration: Need #1 was deleted based on the consensus of the comments received.

Comment: MAAC – delete need to arrest sudden frequency changes

Consideration: Need #1 was deleted based on the consensus of the comments received.

Comment: MAAC - Item 1 of the list addresses a need that does not exist. There is no indication of a reliability problem being created by frequency response characteristics less than 1 minute. Indeed the Resources Subcommittee has debated the issue of its Disturbance Standard just because there was an issue of precision in defining when an incident started and when response was effected. If one cannot precisely define when an event occurred (in relation to other entities' measuring devices) than one can extrapolate that fact to state that creating a mandatory measure for such a condition is inappropriate. Also without linking the measure to CPM1 and CPM2 the measure lacks the consistency desired of Organization Standards.

Consideration: Need #1 was deleted based on the consensus of the comments received.

Industry Need #2

Comment: CA-ISO – statement too vague (well below)

Consideration: Need #2 was revised based on the combined changes to the comments received on other sections of the SAR.

Comment: Illinois Power –replace existing statement with: Avoid extended operation well below or above 60 HZ, at limits of reliable operation.

Consideration: There were no other industry comments indicating a need to explicitly address over frequency. Over-frequency should be controlled through CPM1 and CPM2.

The following was added to address underfrequency: “Prevent unwarranted underfrequency load shedding”

Industry Need #3

Comment: Manitoba Hydro – eliminate Unscheduled Power Flow (minimizing unscheduled power flow is not defined as a responsibility of the BA in the Functional Model)

Consideration: Need #3 was deleted from this SAR based on comments received – it is covered by the SAR for Monitor and Assess Short-term Transmission Reliability – Operate Within Limits. The BA won't have the data to accomplish this – the flows will have to be monitored by the RA

Comment: CA-ISO – USF cannot be minimized simply by maintaining 60 cycles.

Consideration: Need #3 was deleted from this SAR based on comments received – it is covered by the SAR for Monitor and Assess Short-term Transmission Reliability – Operate Within Limits. The BA won't have the data to accomplish this – the flows will have to be monitored by the RA

Comment: Illinois Power – delete (unscheduled flows can happen due to any balancing action, and this standard will not minimize such actions)

Consideration: Need #3 was deleted from this SAR based on comments received – it is covered by the SAR for Monitor and Assess Short-term Transmission Reliability – Operate Within Limits. The BA won't have the data to accomplish this – the flows will have to be monitored by the RA

Comment: ComEd –The use of the term “unscheduled power flows” in item three can also be misleading because for each Control Area “load/resource” balance controls only effects the Control Area “net interchange error”. Unsheduled flows can exist in or through a Control Area that does not have a “net interchange error” (i.e. difference between contract path and actual flows). Item three should be re-worded; unsheduled flows should be replaced with something a Control Area can control such as “net interchange error”.

Consideration: Need #3 was deleted from this SAR based on comments received – it is covered by the SAR for Monitor and Assess Short-term Transmission Reliability – Operate Within Limits. The BA won't have the data to accomplish this – the flows will have to be monitored by the RA

Comment: MAAC – delete need to minimize unscheduled power flows

Item 3 creates a problem because it does not recognize the defined role of Balancing. Item 3 address a need that falls under a standard for Operating Limits violations. Under the Reliability Model, the Balancing Authority has no information regarding transmission line flows (other than the Net values). To include a measure on balancing that address an operating limit violation (as suggested by Item 3) is not in keeping with the Reliability Model structure. It is not in keeping with creating unambiguous standards (i.e. that don't fall into the area of other standards). It cannot be technically justified within the constructs of balancing (i.e. there is no one-to-one correlation between ACE and transmission overloads. Large ACE may indeed help an overload.) Transmission reliability is the responsibility of the Reliability Authority functions.

Consideration: Need #3 was deleted from this SAR based on comments received – it is covered by the SAR for Monitor and Assess Short-term Transmission Reliability – Operate Within Limits. The BA won't have the data to accomplish this – the flows will have to be monitored by the RA

Industry Need # 4

Comment: Illinois Power – delete (no apparent relation to Industry Need for this standard)

Consideration: Need #4 was deleted based on the consensus of the comments received.

Comment: NPCC – The reliability objectives of the SAR must be realized through reliability standards mandating good system control. Inadvertent power flow in day-to-day operations is to be minimized; its presence is symptomatic of poor regulation and should not be the focus of a reliability standard. Most importantly, the accounting and resolution of inadvertent power is inherently a commercial issue and should not come under the purview of a reliability standard.

Consideration: Need #4 was deleted based on the consensus of the comments received.

Comment: MAAC – delete need to minimize Inadvertent Interchange

Inadvertent Interchange is not a reliability concern. Inadvertent Interchange may be costly, and make some operators unhappy but it is not a reliability issue. The Markets are addressing this issue. Those markets are slowly evolving but they are evolving. Inadvertent Interchange is not a frequency related problem and therefore does not belong within this standard (at least as it is proposed).

Consideration: Need #4 was deleted based on the consensus of the comments received.

Comment: International Transmission Company – need to take into account good and bad inadvertent – note there is no measure for this in the description provided

Consideration: Need #4 was deleted based on the consensus of the comments received.

Comment: ComEd – concern about the use of the term “minimize” – Minimize is defined as “to reduce to the smallest possible amount, extent, size, or degree”. We believe the scope should be revised to reflect the acceptable control error bounds, which are part of CPS1 & CPS2. The use of the word minimize infers that all effort should be made to make the error as small as possible, which is contrary to existing standards and practices.

Consideration: The purpose and Industry Needs sections of the SAR have been changed to reflect the consensus of comments received. The new purpose does reference a frequency profile and the new Needs section does not include the term, “Minimize.”

Comment: FL Municipal Power Agency – add checking of control error (check of inadvertent due to poor control)

Consideration: Only one suggestion was made to include checking of control error. This concept will be presented as an Issue for Consideration during the second posting of this SAR.

Brief Description - Introduction

Comment: NERC IOS Subcommittee – Load-Resource Balance Standard should read, “Balance Resources and Demand Standard”

Consideration: “Load-Resource Balance Standard” has been abbreviated to just ‘standard’

Comment: International Transmission Company –This section does not contain any mention of maintaining adequate resources to withstand system contingencies. At a minimum, this document should contain wording to the effect that “Balancing Authorities are expected to maintain sufficient resources (i.e., regulation, AGC, Contingency Reserve, DSM, etc.) To stabilize the system following an unexpected event.” The current wording of “maintaining ACE” is insufficient in that it does nothing to set a minimum standard for reserves or regulation. It does not have to go into explicit detail, let the regions define the level of detail. But something should be in the NERC document as far as setting a minimum.

Consideration: Only one suggestion was made to revise the wording as suggested. This concept will be presented as an Issue for Consideration during the second posting of this SAR.

Brief Description – Item #1 – FRM

Comment: Illinois Power - The industry has agreed that a control area should not take any control action that would negate the natural frequency response of their control area. It is not appropriate to define a control area’s responsibility regarding the magnitude of their frequency response. The only obligation should be to estimate it and incorporate it into their ACE equation through the frequency bias component. Frequency response is extremely difficult to measure. For the most part it will be lost in the noise of load and generation variations, which are independent of frequency. Illinois Power is very much opposed to any measure related to frequency response.

Consideration: FRM was deleted based on the consensus of the comments received.

Comment: ISO New England – eliminate FRM

Consideration: FRM was deleted based on the consensus of the comments received.

Comment: Manitoba Hydro – eliminate FRM (suggest that an FRM, by itself will not improve reliability)

Consideration: FRM was deleted based on the consensus of the comments received.

Comment: Illinois Power Company – eliminate FRM

Consideration: FRM was deleted based on the consensus of the comments received.

Comment: CA-ISO – proposed FRM does not provide a relevant measure...

Within seconds should say “Within one minute”

Consideration: FRM was deleted based on the consensus of the comments received.

Comment: Allegheny Power – Since the response capabilities are under the control of loads and/or generators, and are very difficult to measure except on an interconnection wide aggregate basis, we feel that, though it would be nice to have FRM, it would be difficult to write a requirement that is measurable and equitable, especially one applicable to a Balancing Authority.

Consideration: FRM was deleted based on the consensus of the comments received.

Comment: Southern Company Services – the Resources Subcommittee’s FRM is an attempt to measure and standardize Primary Frequency Response (a combination of Load Frequency Response and Turbine Governor Response) by control area or BA.

Consideration: FRM was deleted based on the consensus of the comments received.

Comment: NERC IOS Subcommittee – FRM – “only arrest’s the frequency change”

Consideration: FRM was deleted based on the consensus of the comments received.

Comment: Illinois Power – delete – there is nothing a control area can do to influence, control or dictate the frequency response of their load. There are guides related to generator governor response and that is as far as IP believes NERC should go.

Consideration: FRM was deleted based on the consensus of the comments received.

Comment: MAAC – delete FRM

Arrest Sudden Frequency changes:

The Frequency Response Measure proposal for a measure that applies to short-term (less than 1-minute) frequency deviations is unnecessary, impractical and most likely will be ineffective.

1. The measure is unnecessary because, for example, in the Eastern Interconnection no load shedding occurs before deviations of –170 mHz nor overspeed trippings before +1000mHz (EPRI study on Impacts of Governor Response) but no single event has even exceeded 90mHz.

2. The measure is impractical because it can only be effectively measured during large frequency deviations. The relatively small number of events will invalidate the results of the measure unless of course the measurements are taken continuously (which is conceivably possible but totally unnecessary). Further, the short event horizon (i.e. the time of the problem) will place the accuracy of the measuring devices under severe strain particularly as they relate to:

- when to begin the measurement (frequency ‘spikes’ are often humps; and time is of course ‘relative’ to the system);
- when the response is said to have completed;
- impacts of sample rates (sampled handoffs among interconnected entities causes data skewing); and
- impacts of load changes. Over longer measuring periods the load effects are mitigated, but within the time period of less than one minute, the concerns are more valid.

Comment: *Continuation of comments from MAAC*

3. The measure will be ineffective as part of the Balancing standard because there is little or nothing that can be done to change the situation. Generator response to frequency is a function of the governor response. The actual response of a given prime mover is dependent on its loading and other dynamic factors. If frequency response is needed within a local area or within a given interconnection, then the Reliability authorities (i.e. the Regional Councils, RTO's,... should develop special protection plans. Many people contend that most of the response is provided by the load itself and not by the resources under the control of the Balancing Authority. Let the Markets decide how to pay for this type of frequency response.

The concept of constraining control, based on frequency goes against the entire premise of the Control Performance theory used in the current Control Performance Standards. Those standards were predicated on allowing more and more variability over the shorter and shorter time periods. The reason that approach was taken was that it was recognized that little if anything can be consciously accomplished over those time periods. The real control came over tightening the margins over longer and longer time periods.

As a general standard Arresting sudden Frequency changes is unnecessary.

Regarding arresting frequency decay, what many, if not most people can agree to is that "active governors" are important. Rather than imposing a Frequency Response measure, it is may be more appropriate that a Governor installation requirement (where permitted by local regulations) be made as part of the Certification Requirements for a Generator. This would mean that each Reliability Council or Reliability Authority would be required to include a governor requirement on each of the resources that interconnect with it. The rationale for this certification requirement would not be for real-time frequency concerns as much as it would be for restarting an islanded area of an interconnection. This proposal may be better suited for the Blackstart SAR than for this Balancing SAR.

Consideration: FRM was deleted based on the consensus of the comments received.

Brief Description– Item #2 – CPM1

Comment: CA-ISO – The CPM1 measure does not specifically follow the present CPS1 Standard. CPM1 should measure the average of the clock-minute averages of the Balancing Authority's one-minute average ACE divided by $-10B$ (where B is the Balancing Authority's frequency bias) times the corresponding clock-minute averages of the Interconnection's frequency. Does ACE become ABE, i.e., Area Balancing Error rather than Area Control Error?

This item should also say "Compliance with CPM 1 assures that Balancing Authorities are contributing their share in maintaining scheduled Interconnection frequency as required".

Consideration: CPM and CPS are identical. (The revised SAR will clearly state this.) ACE is an industry definition and isn't expected to change to ABE.

Brief Description– Item #3 – CPM2

Comment: CA-ISO - The CPM2 measure does not specifically follow the present CPS2 Standard. CPM2 should measure the average ACE for each of the six ten-minute periods during the hour, and remain within specific limits, referred to as L10. The correlation with transmission operating limit violations should be removed.

Consideration: CPM and CPS are equivalent performance standards covering identical time horizons.

Comment: NERC's IOS Subcommittee – The proposed standard should not adopt the easier approach of simply relying on historical values of control performance criteria. Control performance criteria should be supported by a demonstrable reliability need.

Consideration: The SAR Drafting Team is responsible for addressing specific comments submitted by interested parties. Your comments need to be specific to the SAR that has been drafted to define the scope of the standard to be developed. Please identify what, specifically, you want added or deleted from the SAR.

Comment: MAAC – revise control measure 2 to be a 60-minute average

The brief description in the proposed SAR notes that CPM2 “...helps minimize power flows that can cause transmission operating limit violations.” The history of the Control Performance Standard is that it was based on maintaining a given frequency profile. There was no interest in improving the profile but neither was there a desire to degrade that profile. To ensure that the integrity of the profile was maintained at least two measurement times were needed. CPS1 uses an annual one-minute averaging period while CPS2 uses a monthly ten-minute period. The original theory was predicated on a one-minute and a sixty-minute averaging period. The ten-minute period was introduced as a way of controlling tie flows.

Under the Reliability Model the Balancing Authority does not necessarily have access to individual tie flow data (BA must of course have the basic Net Tie flow value). Therefore, making a Balancing standard that incorporates the concept of transmission line flow mitigation is inconsistent with the structure of the pending SARs. An ad hoc SAR will focus on Operating Limit violations. However to be in keeping with the Reliability Model, the Balancing obligation should only focus on measuring the performance of those performing the Balancing function.

The reintroduction of a 60-minute averaging measure will improve consistency between the control measures. It will also lend itself to help identify measuring errors between the measuring meters and the billing meters.

Consideration: Only one suggestion was made to reintroduce a 60-minute averaging measure. This concept will be presented as an Issue for Consideration during the second posting of this SAR.

Brief Description– Item #4 – DCM

Comment: CA-ISO – The DCM measure does not state the time period that the Area Control Error must either return to zero or its pre-disturbance level.

Consideration: The technical details for DCM will be developed by a Standard Drafting Team after the industry comes to consensus on the need for this standard and on the scope of this standard.

Comment: International Transmission Company – revise the wording for DCM to:

DCM ensures that the Interconnection **helps minimize unscheduled power flows and** return its.

Consideration: Only one suggestion was made to revise the wording as suggested. This concept will be presented as an Issue for Consideration during the second posting of this SAR.

Comment: Illinois Power – change first sentence to read: DCM ensures that the deficient system returns to an acceptable balance level within a defined period following a sudden generation or load change... (The original statement is not true. Compliance with DCM ensures that other resources replace a lost resource within a defined period. There can be no guarantee that the frequency will be at any particular value at the end of that period.

The objective should be to replace the resource, not to bring frequency to the scheduled value.)

Consideration: Only one suggestion was made to revise the wording as suggested. This concept will be presented as an Issue for Consideration during the second posting of this SAR.

Brief Description - Procedural Requirements

Comment: Illinois Power – delete the sentence starting, Each Balancing Authority... (CPM and DCM don't define any specific limits for a ACE)

Consideration: The Procedural Requirements section was deleted based on comments received and its redundancy with other sections of the SAR. The revised SAR includes no language indicating a need to have an AGC.

Comment: Duke Power Company – Strike the term “AGC” from Each BA shall have... (AGC is not a term needed or used to calculate an ACE value)

Consideration: The Procedural Requirements section was deleted based on comments received and its redundancy with other sections of the SAR. The revised SAR includes no language indicating a need to have an AGC.

Comment: MAAC – Delete the procedural requirement for an AGC facility

Under the new Organization Standards NERC would focus on WHAT not HOW. Why then should there be a requirement for an Automatic Generation Control facility. There is no question that an Area control error calculator is needed. What justification is there for requiring an AGC facility? Most likely an AGC system will be used – but there is no reason to mandate such a system.

Consideration: The Procedural Requirements section was deleted based on comments received and its redundancy with other sections of the SAR. The revised SAR includes no language indicating a need to have an AGC.

Comment: NERC IOS Subcommittee – “shall have” should be “shall have” “as defined by ‘the’ four measures.”

Consideration: The Procedural Requirements section was deleted based on comments received and its redundancy with other sections of the SAR. The revised SAR includes no language indicating a need to have an AGC.

Comment: MIPS – ACE can be measured without AGC. The sentence: “Each Balancing Authority shall have the necessary AGC facilities at its disposal to calculate an area control error (ACE) value (See Standard Technical Reference document).” should be deleted.

In the following section, “shall” should be changed to “may”

Each Balancing Authority shall maintain its ACE within specific limits as defined by four measures.

1. FRM
2. CPM1
3. CPM2
4. DCM

Each Balancing Authority may maintain its ACE within specific limits as defined by four measures.

1. FRM
2. CPM1
3. CPM2
4. DCM

Some of these measures may not be appropriate in different market models

Consideration: The Procedural Requirements section was deleted based on comments received and its redundancy with other sections of the SAR. The revised SAR includes no language indicating a need to have an AGC.

List of Functions to Which The Standard will Apply

Comment: International Transmission Company – add Generator and PSE

Consideration: As drafted, the proposed standard would not have any measures for the Generator, PSE, LSE – therefore these functions were not included. Because there were several suggestions that these functions be added, we have highlighted this in the Issues Section of the SAR Comment form for the second posting of this SAR.

Comment: NERC's IOS Subcommittee – consider adding generators, loads and others

Consideration: As drafted, the proposed standard would not have any measures for the Generator, PSE, LSE – therefore these functions were not included. Because there were several suggestions that these functions be added, we have highlighted this in the Issues Section of the SAR Comment form for the second posting of this SAR.

Comment: Duke Power Company – as a minimum, add generator and LSE

Consideration: As drafted, the proposed standard would not have any measures for the Generator, PSE, LSE – therefore these functions were not included. Because there were several suggestions that these functions be added, we have highlighted this in the Issues Section of the SAR Comment form for the second posting of this SAR.

Comment: MIPS – mixed comments, but some say consider generator and loads – anyone who is interconnected

Should defer to intra-RTO load resource combinations

Who has secondary responsibility if BA does not perform

Consideration: As drafted, the proposed standard would not have any measures for the Generator, PSE, LSE – therefore these functions were not included. Because there were several suggestions that these functions be added, we have highlighted this in the Issues Section of the SAR Comment form for the second posting of this SAR.

Secondary responsibilities should be addressed in the certification requirements for the RA function.

Reliability and Market Interface Principles

Comment: NERC's IOS Subcommittee – consider also checking #3 & #5

Consideration: Only one suggestion was made to identify additional principles to this SAR. This concept will be presented as an Issue for Consideration during the second posting of this SAR.

Other General Comments about this SAR

Comment: Measures (CPM, DCM, FRM) need to be related/mapped to the current standards (CPS, DCS). Specifically, are these "measures" new calculations or simply the existing calculations renamed as measures?

Consideration: A footnote has been included in the revised SAR to clarify the relationship between the existing measures for CPS and DCS and the new measures (CPM and DCM). The reason for changing CPM to CPS and for changing DCS to DCM was to clarify that these are measures within a standard – by themselves, DCS and CPS are not standards.

Comment: The terms “measures” and “standard” seem to be randomly and incorrectly interchanged in the description section. The measures are a quantifiable grade of how well the Balancing Authority controls to the standard. For example in the Frequency Response Measure section, Frequency Response, not Frequency Response Measure, arrest short-term (0-1 minute) frequency deviation following a sudden mismatch between generation and load. The Frequency Response Measure is how well the Balancing Authority met the standard for Frequency Response.

Consideration: The revised SAR does not mix the terms measure and standard.

Comment: A common, quantifiable definition of the term disturbance needs to be used between all standards, whether Operating or Planning. It is important that future SARs agree with the one defined by this one since it is the first.

Consideration: Only one suggestion was made to add a quantifiable definition to the term ‘disturbance’. This concept will be presented as an Issue for Consideration during the second posting of this SAR.

Comment: MIPS - The needs statement should be bullets, rather than numbered, unless specific priority is intended. Number 2 is actually less important

Consideration: The revised SAR uses bullets rather than numbers to clarify that the needs are not listed in any special order

Comment: FirstEnergy – Correct market signals must also be incorporated in the balance between load and generation. A reemphasis on Governor Response should be incorporated in a measure since this ability to correctly react to frequency deviation seems to be lacking in the industry.

Consideration: At this point, it appears that the issue of governor response will be addressed through installation requirements defined in Interconnection Agreements.

Comment: NERC's IOS Subcommittee – consider adding the following requirement: "All load, generation, and transmission operating in an Interconnection must be included within the metered boundaries of a Control Area." (Modify to make applicable to a BA)

Consideration: At this point, it appears that the proposed language will be contained within the BA Certification Requirements.

Comment: MAPP's Operating Subcommittee – The SAR should reflect some information on need and benefit. Each SAR should justify the requirement for the standard.

Consideration: The cost associated with implementing a proposed standard is addressed later in the standards development process.