ReliabilityFirst Standards Committee Agenda
04/03/2024 12:00 – 1:00 ET (11:00 – 12:00 CT)

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1. Welcome, Attendance and Introductions
2. Review Anti-Trust Statement
3. Approve March 5, 2024 Draft Minutes
4. Review SC Member Initial Thoughts
5. Review/Discuss Don Lock's Consensus Recommendations Document
6. Discuss Next Steps
7. Action Items
8. Future Meetings

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ReliabilityFirst Standards Committee Draft Minutes
03/05/2024 3:00 – 4:00 ET (2:00 – 3:00 CT)

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Member	Company	Sector	Term (Years)
Tim Kucey*	PSEG	Transmission	3.0 – 06/20/26
Ryan Kelley (Vice-Chair)	Duke	Transmission	1.5 – 12/20/24
Ryan Strom*	Buckeye Power	Small LSE	3.0 – 06/20/26
Vacant	Vacant	Small LSE	1.5 – 12/20/24
Rick Blumenstock*	Consumers	Medium LSE	3.0 – 06/20/26
Vacant	Vacant	Medium LSE	1.5 – 12/20/24
Beverly Laios	AEP	Large LSE	3.0 – 06/20/26
Dan Gacek	Exelon	Large LSE	1.5 – 12/20/24
Nick Poluch (Chair)*	Talen	Supplier	3.0 – 06/20/26
Vacant	Vacant	Supplier	1.5 – 12/20/24
Bobbi Welch*	MISO	RTO	3.0 – 06/20/26
Patricio Rocha Garrido*	PJM	RTO	1.5 – 12/20/24
Anthony Jablonski*	RF Staff		
Don Lock	Talen	Observer	
Mark Kuras	PJM	Observer	
Johnny Gest*	RF	Observer	
Tim Fryfogle*	RF	Observer	
Eric Rodriguez*	MISO	Observer	

Eduardo Ibanez*	MISO	Observer	

*Denotes in attendance

9. Welcome, Attendance and Introductions

a. The SC was welcomed, and attendance was taken.

10. Review Anti-Trust Statement

a. Tony reviewed the Anti-Trust Statement

11. Approve February 13, 2024 Draft Minutes

a. Motion: Approve February 13, 2024 Draft Minutes
b. Moved: Nick Poluch
c. Second: Rick Blumenstock
d. Discussion: None
e. Vote: The February 13, 2024 draft minutes were approved by the SC.

12. Bobbi Welch (MISO) to discuss/answer questions on the MISO submitted BAL-502-RF-03 submitted Five-year Review comments.

a. Eric Rodriguez from MISO went through a presentation which detailed the rationale for the position MISO holds to retire the RF BAL-502-RF-03 Standard. The five main arguments/points include the following:
    i. Reliability metric is not future-proof
    ii. Inability to keep pace with future shifts in risks
    iii. Duplicative of other regulations and studies
    iv. Stifles creativity
    v. Emerging regulations notes the need for regional efforts that will be superseded/short lived

    Eric noted that for these reasons MISO believes the RF Standard should be retired or at a minimum be revised. Following the presentation, Eric, Eduardo and Bobbi fielded questions from the SC and observers. Eric noted that if the BAL-502-RF-03 Standard is retired, he believes there would be no loss in reliability. MISO already meets the 1 day in 10 criteria based on the MISO Tariff and MISO would gain more flexibility and a more comprehensive risk assessment would be completed. It was noted that if the Standard would be revised, it would take resources to go through the drafting effort. Patricio also noted that he did not believe there would be a reliability risk if the Standard is retired as PJM needs to perform this analysis regardless of the Standard. He did note that the Standard does set the consistent requirements so applicable Entities can be comparable.

13. Determine Next Steps and Timeframe for RF SC to make Recommendation to RF Board

a. It was determined that we should put together a list of all the different topics and discussion points we all have been talking about for the last number of months. Nick volunteered Don Lock to draft the strawman. Nick noted that along with the technical rationale to help make a decision, we have to look at other non-technical items such as "optics" and "resources" when thinking about our forthcoming recommendation to the RF

Board. Once we have a good document outlining all the different pieces, we can potentially share with the Board prior to our final recommendation.

b. It was also suggested that each SC member provide their preliminary opinion (and short rationale) which to augment the work Don is putting together. The SC agreed with this approach as well.

14. Action Items

- Draft strawman to capture key discussion points (Don Lock) – Due March 15, 2024
- Each SC member to provide Tony J. their preliminary opinion (Revise, Retire, Reaffirm) and short rationale as to which way they are leaning at this time (All SC Members) - Due March 15, 2024

15. Future Meetings

a. Tony will request availability for the future meeting.

RF Standards Committee BAL-502-RF-03 FYR Initial Opinions (04/03/24)

Reaffirm	Revise	Retire
3	4	2

SC Member	Initial Opinion	Rationale
Tim Kucey	Reaffirm	My position is that RF SC should recommend reaffirmation of the standard - BAL-502-RF-03 - for the time being, with the intention to assess the new or revised NERC standard(s), being/to be developed for the Planning time horizon by NERC Standard Project 2022-03, for appropriateness for the RF region when the standard(s) is/are approved by the NERC BOT or FERC; subsequently, one or more regional variances to the NERC standard(s), or a revised RD regional standard could then be developed by RF if/as warranted or wanted by relevant RF registered entities. Factors considered in arriving at my position include: • I understand that the 2022-03 Project's 'Planning time horizon' SAR (copy attached) includes and addresses the issues and concerns that I understand an RF revision of BAL-502-RF-03 would address • Because of the issues and project deliverable similarities (i.e. new or revised standard(s) versus "guidance" etc.) involved, a Project by RF to revise BAL-502-RF-03 - which would be elective to RF, for the RF region only - at this time would be duplicative/redundant to what NERC will do(per the SAR) – and which it will do for the whole ERO enterprise, irrespective of what RF does. • RF Regional standard requirements cannot replace NERC standard requirements in the RF region footprint. The can also not be less stringent (e.g. what is required) or inclusive (e.g. from whom or WRT what) than any NERC standard requirements. • I'd suggest it would be an open question whether RF could complete and implement revision of BAL-502-RF-03 (i.e. to effective date, post- FERC approval) by the time the new or revised Planning time horizon NERC Project 2022-03 standard(s) reach(es) that milestone (effective date), or meaningfully in advance of that time (i.e. in effect for enough time to justify RF industry entities' time and resources expended to generate the RF regional standard(s) before the NERC one(s) became effective.) • I's also suggest that another open question might be regarding the extent to which RF entities might participate/engage in a BAL-502-RF-03 revision project – as Observers or RSDT members - when they are aware of NERC Project 2022-03; this could be further 'complicated' or whatever, I'd suggest, by virtue of only 2 RF registered entities – PJM and MISO – being in the scope of applicability of BAL-502-RF-03 now, with little likelihood – I'd understand - that this applicability would expand to others in the revised standard.
Ryan Kelley	Revise	I'm leaning toward revision for the time being pending future NERC action

Ryan Strom	Reaffirm	My preliminary thought is to re-affirm and then consider modification/retirement if NERC BAL-007 gets to the point of becoming FERC-approved.
Rick Blumenstock	Revise	I am in support of revision. A revision would update the resource adequacy requirements to address the challenges presented by the future generation fleet. It would also bring some consistency across RTOs, which will provide a mechanism of ensuring as one RTO updates/improves their methodology, it can be made standard for other RTOs through the RF standard.
Beverly Laios	Retire	My opinion is to retire BAL-502-RF-03 standard (Planning resource adequacy analysis, assessment and documentation) for three reasons. First, MISO and PJM, the only two entities in RF that have to comply with this regional standard, have both noted that there would not be a reliability risk if this Standard is retired. Second, both entities noted that they are performing needed analyses regardless of the BAL-502-RF-03 standard. And lastly, for efficiency considerations, the industry resources should focus on NERC project 2022-03 which is currently underway in developing standard(s) to address energy reliability assessment with energy-constrained resources, the same issue that BAL-502-RF-03 is addressing.
Dan Gacek	Reaffirm (consider revision)	My opinion on the BAL-502-RF-03 standard is to Reaffirm and to consider Revisions. The most compelling reason for me to say Reaffirm is the current NERC high priority project to develop a nationwide standard, that is similar to the BAL-502-RF-03 regional standard, to address an emerging reliability risk . Retiring our regional standard before the NERC standard is enforceable may create a reliability gap that increases the risk of generator fuel related issues in our area that can be avoided by keeping the regional standard in effect. PJM did not seem to have any concerns abiding by the current regional standard. Mark Kuras from PJM has a positive opinion of the regional standard, even sharing it with the NERC drafting team. The MISO presentation suggested the current version of the regional standard may be out of date relative to their preferred methods, and therefore BAL-502-RF-03 may benefit from an update. Based on MISO's concerns we should consider revisions to the regional standard that broaden the language in a manner that will support the preferred methods of both PJM and MISO.
Nick Poluch (Chair)	Revise	Refer to Don Lock's previous noted guidance which includes the following: - Replace the 1-in-10 LOLE metric with EUE.

		- Focus on conditions of peak demand-vs-capacity stress, not peak load.
		- Address worst-case credible weather conditions, instead of applying a statistical cutoff for cost reduction purposes.
		- Require a corrective action plan (CAP) when reserve margins are forecasted to fall below the minimum acceptable level.
		- Require more refined modeling of wintertime demand and supply, taking into account the effects of wind speed, activation of heat pump resistive heaters, natural gas storage/pipeline limitations etc.
		- Consider all significant stress tests for a changing resource mix, e.g.:
		  - Worst-credible low/high temperature + becalmed + nighttime (high demand, conventional plant freeze-ups, and near-zero renewables output)
		  - Winter Storm Uri scenario: Ice storm followed by multi-day extreme low temperatures (high demand, wind turbines out of service, conventional plant freeze-ups, draining of storage facilities, and low NG pipeline pressure.
		- Require consideration of local weak spots as well as area-wide deficiencies, especially as regards over-reliance on energy imports.

Bobbi Welch	Retire	MISO is leaning towards the "retire" option for BAL-502-RF-03 for the reasons stated below: • Reliability metric is not future-proof. • Inability to keep pace with future shifts in risk. • Duplicative of other regulations and studies. • Stifles creativity. • Emerging regulation negates the need for regional efforts that will be superseded/short-lived.
Patricio Rocha Garrido	Revise	My preliminary opinion for the BAL-502-RF-03 Standard is to revise the standard. I am leaning that way because: The Standard is not clear enough (there are multiple interpretations of 1 day in 10 years) The Standard does not mention LOLH and EUE, two key resource adequacy metrics in the resource mix of today and the future. The Standard should not require to perform analysis beyond 5 years because such analysis is too speculative

ReliabilityFirst Standards Committee Recommendation for Regional Standard BAL-502-RF, Planning Resource Adequacy Analysis, Assessment and Documentation Rev. A, DRAFT, 3/13/2024

Comments that are not meant to be part of the final document are denoted by italics and yellow highlighting

Purpose: BAL-502-RF is due for its five-year review, necessitating an RF Board of Trustees decision to reaffirm, retire or revise this standard.

Recommendation: *Tentative*, *a vote is yet to be taken* - The RF Standard Committee recommends revising BAL-502-RF.

Standards Committee discussions to-date indicate a majority opinion for revising BAL-502-RF. Detailed comments have been provided by PJM, RF and Talen for revising the standard, and by MISO for retiring it.

Rationale:

Reaffirm

Reaffirming the present version, BAL-502-RF-03, is inappropriate because:

- It is based on criteria that no longer represent industry best practices and may create misleading conclusions:
  - One day in ten years loss-of-load expectation (1-in-10 LOLE) – superseded by more comprehensive Expected Unserved Energy (EUE) metrics
  - Examination of only peak internal demand hours – superseded by peak demand-vs-capability mismatch situations (stress tests), to address the changing resources mix
- It does not place appropriate emphasis on development and validation of models for resource availability, fuel supply and load
- It is an analysis-only standard, with no requirement to correct forecasted resource deficiencies

More can be said here; but this is a summary, not an all-inclusive list of the deficiencies of the present standard.

Retire

Retiring BAL-502-RF-03 is inappropriate, because:

- Resource adequacy is a top-tier priority - the #2 concern in NERC's latest ERO Reliability Risk Priorities Report[1]
- Market mechanisms are not sufficiently addressing the issue within the RF area. MISO and PJM were listed as Elevated Risk During Extreme Weather areas in NERC's latest Winter Reliability Assessment[2]
- The Elevated Risk situation is forecasted to get much worse in the next few years.[3]

MISO's arguments regarding depending on market mechanisms have not been included here, since they are contradicted by the points above. This is particularly the case for the PJM table cited in footnote 3 (shown below).

Table 1. Reserve Margin Projections Under Study Scenarios

Reserve Margin	2023	2024	2025	2026	2027	2028	2029	2030
Low New Entry								
2023 Load Forecast	23%	19%	17%	15%	11%	8%	8%	5%
Electrification	22%	18%	16%	13%	10%	7%	6%	3%
High New Entry								
2023 Load Forecast	26%	23%	21%	19%	17%	16%	17%	15%
Electrification	25%	22%	20%	18%	15%	14%	14%	12%

- There is presently no NERC standard on this subject[4], just a Standards Authorization Request (SAR). and its outcome is yet to be seen.
- The timing of NERC's new standard on resource adequacy may prove unsuitable.

NERC's high-priority initiative for extreme weather preparedness (Project 2021-07, EOP-012) for example sets design criteria for new generation plants that will become applicable six years after kicking-off the project (10/1/2027 vs 2021). The reference in footnote 3 of this summary shows however that a six-year wait for NERC resource adequacy regulations to become effective will be too late to avert extreme problems in the RF region.

- It would be questionable for RF to abandon the topic of resource adequacy just after the Feb. 2021 Winter Storm Uri disaster demonstrated its exceptional importance, and without a known, suitable alternative to BAL-502-RF in place.

Revise

The principal points to address in revising BAL-502-RF-03 are as follows:

- Replace the 1-in-10 LOLE metric with EUE.
- Focus on conditions of peak demand-vs-capacity stress, not peak load.

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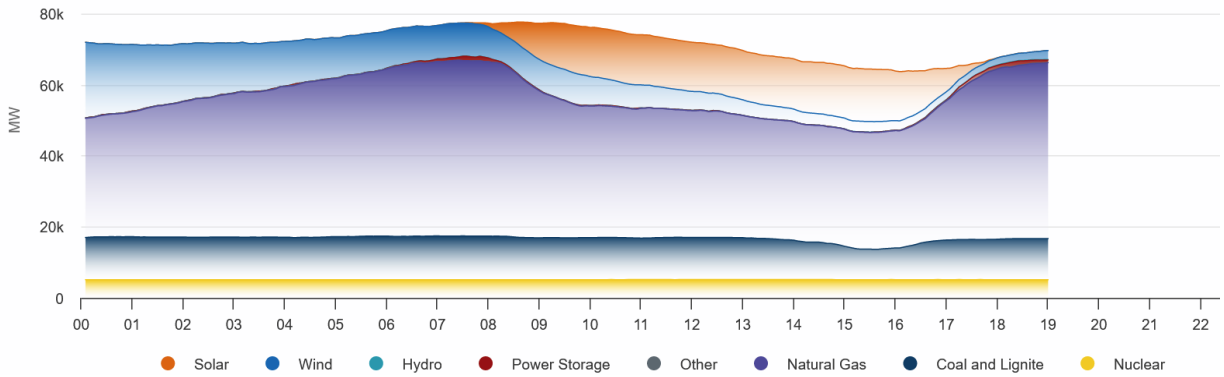
[1] See Fig. 3 on p.16, https://www.nerc.com/comm/RISC/Related%20Files%20DL/RISC_ERO_Priorities_Report_2023_Board_Approved_Aug_17_2023.pdf. The changing resource mix, which is giving rise to resource adequacy concerns, is NERC's #1 priority.

[2] https://www.nerc.com/pa/RAPA/ra/Reliability%20Assessments%20DL/NERC_WRA_2023.pdf, see Fig. 1 on p.5

[3] See Table 1 at https://www.pjm.com/-/media/library/reports-notices/special-reports/2023/energy-transition-in-pjm-resource-retirements-replacements-and-risks.ashx

[4] BAL-007 is currently under development, but it is not a resource adequacy standard.

- Address worst-case credible weather conditions, instead of applying a statistical cutoff for cost reduction purposes.
  The 2014 Polar Vortex and Winter Storm Uri for example involved weather conditions beyond the 0.2 percentile criterion of the EOP-012 Extreme Cold Weather temperature (ECWT). It would be a regulatory error of unthinkable magnitude for the MISO or PJM areas to suffer Uri-like harm because NERC in its resource adequacy standard chose once again not to consider the predictable weather extremes that brought about the disaster. The ECWT for Allentown, Pa for example is +2.0 F, while the ASHRAE 50-year-repeat dry bulb temperature is -12.9 F. The effort of updating BAL-502-RF will not be wasted RF achieves nothing more than convincing NERC to abandon its practice of establishing safety margins less than zero for extreme weather conditions.
- Require a corrective action plan (CAP) when reserve margins are forecasted to fall below the minimum acceptable level.
  RF cannot dictate the amount and types of generation and storage resources to be built, but they can require that existing plants not retire until something is available to take their place.
- Require more refined modeling of wintertime demand and supply, taking into account the effects of wind speed, activation of heat pump resistive heaters, natural gas storage/pipeline limitations etc.
- Consider all significant stress tests for a changing resource mix, e.g.:
  - Worst-credible low/high temperature + becalmed + nighttime (high demand, conventional plant freeze-ups, and near-zero renewables output)
    These two scenarios do not necessarily involve the peak demand, but they can create the worst-case supply-vs-demand mismatch for high renewables penetration, as shown below for the ERCOT area on the evening of 1/16/2024.



  - Winter Storm Uri scenario: Ice storm followed by multi-day extreme low temperatures (high demand, wind turbines out of service, conventional plant freeze-ups, draining of storage facilities, and low NG pipeline pressure.
- Require consideration of local weak spots as well as area-wide deficiencies, especially as regards over-reliance on energy imports.

Again, much more could be said. See in particular NERC's March 2023 ERATF white paper, Considerations for Performing an Energy Reliability Assessment, https://www.nerc.com/comm/RSTC_Reliability_Guidelines/CLEAN_ERATF_Vol_1_WhitePaper_17MAY2023.pdf