Q1. Why was the RDT limit change requested? Who, why and how does that request work?
A1. Joint parties in the south requested it due to the conditions they were experiencing on their systems. The request was reliability based.
   - MISO only has 1,000 mw of firm transfer capability
   - Limit changes are a risk when joint parties are experiencing difficult situations

Q2. Was Max Gen Alert trigged by the RDT change?
A2. It was a contributing factor.

Q3. Which joint party/parties requested the change?
A3. Any joint party can make the request.
MISO was asked to share more information on who and why later, if possible. We are still working with the joint parties to determine what they were seeing at the time they made the call.

Q2. Performance of resources: Did emergency-only resources perform well?
A2. From a preliminary perspective, we think they performed OK. Load dropped as expected. There is still time to look at performance. Our current construct requires us to go into emergency procedures to access demand response.

Q3. MISO’s emergency procedures don’t clearly define when curtailment of exports happens. Can we get more information on this?
   - During MISO’s capacity emergency procedures, when are exports curtailed?
   - What does it say about external BAs and their EEA levels? Can we have more info describing how this works?
A3. We’ll take the action item to get more clarity on that.

Q4. On gas supply issues related to units running out of gas in the evening, was that a bunch of generators that needed intraday gas purchases? Or was this a supply issue?
A4. MISO is working with members to understand those details.

_Dennis Kimm – MidAmerican Energy_

Q5. Slide 10. The gas supply issue is a timing question not a supply issue

- When you don't commit gas gen ahead of time - it is difficult to have gas if not already procured, especially during a long weekend
- Needed a commitment decision from MISO by 7am Friday morning.
- On any day, it's also impossible to get more gas after 5pm for the next day
- PJM has rules in place where they provide generators with reimbursement for gas purchases, if not ultimately needed.
- Want this to be a lesson learned for MISO.

A5. MISO commented that gas units were not available. Discussions will occur exploring pros/cons of processes generally suitable for normal days compared to emergency days.

_Kevin Kingsley – MDU_  

Comment: One other policy/procedure MISO should look at is when it comes to calling on LMRs, MISO needs to be able to give LMRs an exception to not be called on. In his example from 12/23 (and previous events), MDU is effectively in a generation pocket where they had gen that wasn't dispatched up due to constraints on deliverability and they were being asked to serve as an LMR.

_Travis Stewart – Gable and Associates_

Q6. Slide 10, were we seeing about 30 GW of forced outages? Can we get a follow up between now and next RSC.

A6. MISO will consider.

Q7. Walking into a holiday where we under forecast load and you can't get gas on a holiday. Is there a way we can adjust load forecast to clear more in the day ahead so that the gas can purchase enough to run through these events? Or would that take a tariff revision?

A7. This is part of our five-year plan. A need to quantify net uncertainty. We are working on it, and our process is in an immature state like the rest of the industry. We have dedicated resources working on it, and it is critical to have the understanding and mechanism in place so that we aren't just pulling a buffer number for these.

Q8. Did MISO under forecast wind?

A8. The wind forecast performed fairly well. The lesson learned was that we did see uptick in forced outages due to the temps. We're still missing temperature cut-out information for some
wind resources. To be as accurate as possible, we need that data from our resources – we need to keep working with members to get that information to drive a more accurate forecast.

**Chris Plante – WEC Energy Group**

Comment: Supported the request by Jim Dauphanais to tighten up emergency procedures on when to call on LMRs for support. LMRs did not sign-up to support non-firm market exports. We don’t want to put someone into an emergency, but if it wouldn't, we need more clarity on when LMRs called to support those exports.

Answer: We’ll see if we can make timing clear. Our neighbors were in EEA2 & EEA3. The LMRs were because our neighbors were shedding load. We were assisting them as we’d hope to have their assistance in the same situation

Comment: We clear the full contract path of the RDT in the PRA (3000-2500), perhaps we need to re-evaluate whether we should be using those units in the PRA.

- Is this appropriate in PRA especially as we move to the seasonal PRA?
- Are we overcommitting the RDT in the PRA? (Perhaps we need a Winter Storm Elliott presentation similar to this one in the RASC to discuss resource adequacy.)

**Stephen Lindeman – DTE**

Q9. 23 GW gas outages – do we have a sense of how many were supply versus other?
A9. Will expect to provide in the coming months.

**Ted Kuhn - Stakeholder**

Comment: Would request a load forecasting workshop this spring? (1-2 days) Heard the issues around load forecasting in the past. Would be good to get everyone together. Maybe better to focus on uncertainty versus accuracy in load forecasting.

**Dustin Eichholt**

Q10. How does MISO do on the commitment of dual-registered DRR/LMR? Would like to hear more on this because LMR is only 2/3 the story. How much LMR is not available due to also being registered a DRR?
A10. This is information we expect to provide in the coming months.
Tom Butz - Minnesota Power
Comments: Day-ahead v. real-time dispatch. Seems like there was a 4GW difference between gen and dispatch per the website. Other stored resources that had more. Requested a chart showing hourly availability by DA/RT to show actual real-time generation by fuel type compared to DA awards.

Would like to see a fuel versus forced outage comparison.
Load forecast and an increase in resistance heating could create massive increase in load. May be a concern that there may be a runaway situation in causing load to be higher than expected.

Valy Goepfrich - WPPI
Comment: During the Elliott event, we did not get emails that we usually get with alerts, etc.
Answer: Distribution of notifications – we had some issues with the MCS and are working on that so that we do see this in future events.

Q11. Several load charges were credits that day, why?
A11. We’ll have to take this back to our settlements team and incorporate into our review of this event.

Warren Hess - CMPAS
Q12. Did things look like business as usual until about 8:30 on the 12/23? Would you talk through this?
   • Did not show the severity of increase for afternoon peak

A12. Going into the operating day, planning handoffs looked like we had plenty of generation sufficiency for the day. As we got into the day, we saw an initial increase in load, but the pattern increased drastically later in the afternoon.

Jeff Wernert – The Prime Group LLC
Q13. Has MISO considered asking if MPs have nominated for gas? Seems this would give more awareness to operators about who might be able to run if needed.
   • Suggesting if MPs could enter this information into the portal, it may help operators more quickly get to the right resources
A13. As a part of the winter survey, we have collected that info about operating temps, cold cutoff. Our operators reached out to some generators during the day. We have made progress, but there is more to go to make it more systematic.

Q14: Can we list what EEA levels others were in and when in a future presentation/appendix of future presentation?
A14: We will see what we can do with that publicly.

Simon Mahan - SREA

Q15. Could not get the data to match how much was being sent to TVA (MISO is lower)? Can you look at that and publish an update on it later? Also, the information on Slide 17 did not match EIA information and want to know the reason for the discrepancy.
Additionally, could a version of slide 6 be created to show maximum transfers versus the average?
A15: We will investigate further.

David Patton - IMM

Comment: Maybe MISO is not showing wheels to TVA?
IMM is going to evaluate winter event at a later date.

Appreciate and agree with helping neighbors, but want to reinforce that it’s incredibly important to follow procedures and make sure that actions are documented in the emergency procedures. In other situations, IMM has seen how conservative actions to manage reliability can result in profound costs for participants. Have heard concerns about LMRs.

To reconcile – recommend MISO have Joint Operating Agreements on what is expected in these circumstances. By having these agreements, there can be settlement agreements to keep members unharmed.

Recommend approaching TVA to develop a Joint Operating Agreement.

Really important that if all RTOs agree that these actions are necessary and document in an agreement. Otherwise, this puts pressure on operators to come up with the best things to do under stressful conditions.

Joan Soller – Power Alliance/Wabash Valley

Comment: Weather days for forecasts - same thing with baseline LMR data... difficult to measure for Meter data
• baseline data to measure LMR performance
Valy Goepfrich - WPPI

Q16. Was the forecast error MISO or Market Participant?

A16. DA forecast (MISO's) – uses the greater of Market Participant and MISO forecast.

Q17. Why, when wind was dispatched down, did prices remain high on December 23?

A17. We do not have that information now. MISO will come back with more on that later.

Hwikwon Ham - Minnesota PUC

Q18. Why were LMRs dispatched in this case? Understand that there’s a discrepancy between state and MISO tariffs re: module E?

We count on our neighbors and must count on them to make sure we are reliable.

MISO’s communication was inadequate. MISO needs to improve how it communicates and include this information.

If you compare MN and IN hub LMPs, you can see that we need more transmission to be reliable. We could have helped more (Iowa/MN) – could have helped more and not deployed LMRs with more transmission.

Tom Butz – Minnesota Power

Q19. When it comes to deciding on LMRs or exports to others, when you have synchronous system, when it comes to emergency procedures, what level of emergency is needed? Maybe not economic or being a nice neighbor – was there a frequency drop that would have caused more issues?

A19. Essentially, this was a first for MISO. We often expect our neighbors to help us. This led to decisions from an operational philosophy.

Simon Mahan – SREA

Q20. When will final report be posted?

A20. No date has been set, but it will be faster turnaround time than Winter Storm Uri.