Agenda

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| **1.** | **Antitrust Admonition** |
| **2.** | **Agenda Review** |
| **3.** | **Review of PLWG Meeting Minutes (Dec 18)** |
| **4.** | **General Updates** |
|  | * 2025 PLWG leadership nominees to be considered at the Feb 6 ROS meeting |
|  | * No PLWG assignments at the Jan 9 ROS meeting |
|  | * 2025 PLWG meeting dates are posted |
| **5.** | **PGRR115 (related to NPRR1234) –**Interconnection Requirements for Large Loads and Modeling Standards for Loads 25 MW or Greater |
|  | * 115PGRR-16 ERCOT Steel Mills Comments 121924   Floyd – accepted the changes from ERCOT |
|  | * 115PGRR-17 ERCOT Comments 012425   Address Floyd comments first – section 9.2.5  Floyd - Load commissioning plan – 4.1.1.1 (7) need to add qualifiers  Robert – Advanced Transmission technologies – Not sure if place to bring up a topic -Have technology like an advanced RAS. Will be able to mitigate some of the issues outlined in the comments  Bill – put large load task force on pause. Can take up again on the technologies – had a request to schedule a task force meeting – encourage to comment and bring the technologies to that in Feb LFLTF meeting.  Robert – will follow along and submit comments.  Bill B– lot of concerns about the transmission service bus. ERCOT comments are built on the Oncor comments. Eliminate the need for the transmission service bus. Removed the definition in the NPRR.  Bill BlevinsPGRR review 115. There is a lot of work done by everyone. Now experiencing things/issues with the large load interconnection that we will continue to have to solve. Continue to solve and work on problems. Make sure everyone understands that. ERCOT understand that this does not solve all the problems. Appreciate all the effort that has gone in.  Bill Barnes – supportive of the ERCOT comments  POI and Service delivery point   * POI where the gen is going to inject * Service delivery point – where customer is getting their service from   Bill Barnes - When netting arrangements – looking at POI and SDB individually ?  Bill Blevins – variety of arrangements need to look at the metering arrangements. Need to review on case by case depending on the existing metering.  Bill Barnes – hope this does not change how the existing aux load arrangement does not change.  Bill Blevins – not changing anything with existing gens.  Second para of comments – did not want to put in the section 4.  Martha – 1000 MW limit – interconnection based limit. Wanted to include the comment that 1000 MW would exclude the existing load. Noticed that sentence Oncor suggested did not make it.  Jeff – that was intentional – thought was 122 will cover a broader set of situations. Do not want to put into a situation that we can lose more than  Harsh – the number will be updated based on studies.  Monica – Jeff agreed and will be updated in both 122 and 115.  Harsh – this will impose restrictions on that. Focus on new loads only. Leave existing loads alone for now.  Jeff – it is trying to cover the lack of voltage ride through issue. Do not want to put 115 in a situation that you could be over the 1000MW.  Raja – question on the limit  Jeff – see presentation prior – Southern Cross study which was 1400 WM so starting at 1000 MW.  Raja – it is the same limit for every part of the system?  Jeff – it is a frequency stability limit so the same for all parts of the system  Harsh – this language moving to a different section.  Jeff - 122 will cover the existing situations.  Bill Blevins– 9.2.3.4 – accepted Oncor proposal .Did move into a different section  CNP filed comments – ERCOT agrees with general CNP comments. Preferred ot use similar language. Address the same idea and concept. Removed reference to PUN. Made the adjustments and the titles etc. Some confusion on PUN and what it is. Avoid questions that may come up. 945 netting questions. At this point don’t want any confusion. Decided to strike it. Additional reference to CNP – did have a disagreement on one term. Interconnection TSP to lead TSP. Wanted to be more general. Not same party doing the same thing. 9.3.4.1 & 9.3.4.3 -load commission plan till upgrades are done. ERCOT wants the LCP to be there till after the load is on the system. Want to keep tracking that till they come up to load max point. Understand there is some margin. Want to stay longer till load has reached or close to it.  Bill Blevins -Material change – want to understand what it is. CNP wanted to use qualified change. Does not address the language. Someone did a study and then made a change. Hydrogen and change to data center. Type of load change will need a restudy. The MW change will also trigger a restudy. Want TSP and ERCOT to require a restudy if there is a change. Market notice had the qualified change. Want to make sure TSP and ERCOT have the authority. Could have clarity further down the road. Could put together the list. Applicability does not cover.  Monica – need to have some boundary or list for the customers.  Bill Blevins– want to have the list. Want to add to the interconnection handbook. Where it can be changed more frequently. Benefit in having a list.  Evan Neal– would like to see the list defined. 9.4 para 8. Restudy before interconnection. Want to have consistency. In favor as is. Want some more clarifying language.  Bill Blevins– will still need to keep working on this. Could this be in the handbook.  Evan – indifferent to protocols or handbook. ERCOT need toi have a definitive answer. . Do not want to move the goal post. Wants thoughts on what should be on the list.  Bill- understand and have things to address. Concern from CNP and joint commenters. We will work with folks on the DWG if there is a way to eliminate the need for the dynamics study. Have a lot of concerns about moving these loads too fast. Work from the joint commenters – some items need to be addressed. Need to work with TSP to work on the language. Understand the general concepts. We need to add in where there are GTC’s. Skip study and then find out there is an impact. Will work with the joint commentors on that.  Raja – disagreement on the study. The TSP study is not the ERCOT study. If TSP is saying study is not needed. ERCOT reads differently. Want a commitment from ERCOT that they will work with the TSP.  Bill – his team will work with TSP. Getting closer with the work done.  Raja- Do not want to wait 2 years. Do we have a ERCOT timeline?  Bill- don’t know how long it will take technically. Want to make sure those folks agree.  Need to put on DWG agenda.  Raja – GTC are determined in the QSA. How does this play into the dynamic study.  Bill – we will continue to do the GTC. When you identify the problems. Helps ERCOT to identify the problem and look further and do a detailed analysis and look at the dynamic study of the TSP. Look at TSP study about the system and use that to produce the limits with a detail study.  Raja – did study and did not see an issue. All the loads modeled together are not being looked at holistically.  Bill – see an identified stability issue and based on that they may do their own study and contingencies etc. take our study as information to understand. If you say no issues. May still do a study.  Sun Wook – Mention that ERCOT is open for discussion but have concerns about the comments. It is a blanket statement. Very generic and very premature. Need to work with DWG to come up with a different method.  Raja – then let’s see language form ERCOT if it is not good enough.  Sun wook ERCOT position we don’t want a screening criteria in the planning guides. Will bring up some methodologies at the Feb DWG meeting.  Raja - Want this to be in the binding documents.  Sun wook – we should have discussion in the study scope meeting. Have concern with compliance. If something in planning guide do not want to have the TSP not do the study. Do not want to have this in the PGRR.  Raja – ok let’s have the discussion at DWG. Want to have in binding documents.  Sun Wook – will work on that.  Bill – send large load folks to the DWG as well to talk about the real-world problems. First step to develop the criteria. Will need to talk to compliance and regulatory folks and then figure out where to put it.  Martha – supportive of ERCOT. Edits 9.4.3 – walk through the changes.  Bill – leave in 30 min.  Bill – in general opposed to giving lead tsp the sole authority. 9.3.2 a  Do not agree with TSP have the ultimate say. Need to have a process for resolving issues.  Bill – load service point goes away with the service bus.  Bill- do not support – have systems and tools that today to track the large loads. RIOO is better. Will help communications. Do not want to call out RIOO if there is a better system later. Want to have the flexibility – do not want to have the restriction.  Bill – have covered the joint commentors.  Floyd – found the language -only the large loads add new and modifications.  Bill – looks better. IT is the better language. Use the Floyd language as a desktop edit to the section.  Bill – going to do a system study. Some of the loads will have a load commission plan. There is a bucket of people already commissioned. These loads will be studies multiple times. In RTP, QSA etc.  Bill- understand issues that need to be improved. We want to get this moving forward. Committed to working on other improvements and a meeting. Want to move this to ROS.  Bill Barnes- 9.2.5 para 2. Co-located large load with the gen- metering is such that breakers installed such that loads can be isolated and the gen continue. Freq overshoot with the gen on.  Bill – if that load a 1Gig. A lot of the data centers. An electronic switch. If they see some kind of issues. Want to be able to trip the problem. The gen is fine. Need a w ay to selectively trip. Gen exists today – connect load to the internal plant switchgear. Install breakers to disconnect the load. If fault gen and load go. But want a additional possibility large load customers and gen together.  Need to talk at WMS. Data centers with gen – that is something will need to address with new rules. Waiting to see what happens at the legislature.  Raja – in the comments ERCOT filed. Did not see the edits that CNP and ERCOT talked about.  Bill – will look at the edits again.  Raja – 9.1 para 2. Want clarification on that.  Bill – sees that as an informative section. Study report has more information in it. Boiler plate in this section.  Harsh – remove whole para.  Table top edits – agreed to remove study report  Bill – interconnection fees – may be changing them for gens and loads  Bob -do you want to move to ROS?  Bill – can work on those separately– do not want to delay this and some the changes  Bob – Tariffs rule and want it in the handbook – need to have something moving soon.  Bill – take stock and update the handbook and help people - his folks getting inundated with meetings and call.  Monica – 9.3.3 3 explain the para- more if they are going to do cluster studies.  Eric Goff – lancium – move the PGRR to ROS.  Martha- move the PGRR to ROS. Fully expecting ERCOT to ask for a vote.  Floyd – is ERCOT going to post the final version.  Erin – ERCOT SME will file another set of comments before ROS or we could proceed PLWG comments and formally submitted them.  Clayton Stice - Bill wants the version at ROS from PLWG comments. Erin will add the comments and changes and sent to Dylan - will be distributed out to ROS like any other set of comments. Want this in the record where PLWG landed on this PGRR.  Formal comments through the revision request process. Desktop edits will edits will include including the CenterPoint ones.  Erin – plan Jan 24th is the starting point. ERCOT steel mills 4.1.1.1 7  9.2.5 para 2, 9.1 2 - bill will think about it. -study documents - Recommend the whole para to go away unless ERCOT wants to para – just strike the study documents.  Erin – you can suggest by certain companies but the general comments and the redline reflect the discussion.  Katie – lot of back and forth. Want the point company or person.  Bob – line on top considered as submitted in the record.  Erin – you want to focus on what PLWG made edits to. We can work to incorporate that into the write up. Dylan is fine with it.  Did desktop edits – added a section in the comments where section 4.1.1.1 (7 ) comments of Steel mills and consensus document language considered side by side.  PLWG- comments and moving to ROS |
| **6.** | **Congestion Cost Savings Test White Paper – Inflation Rate**  Ping – update on the inflation rate. ERCOT changed the inflation rate from the forecast perspective from 2% to 2.2% for the economic analysis – codify in the white paper – still welcome discussion – before any changes there will be discussion at PLWG  The whitepaper is getting close to final.  Monica – any other changes to whitepaper?  Ping – reach out to ERCOT and then discuss and then the discussion can happen at PLWG. Finalize and post the whitepaper pretty soon.  Kevin- will the paper stamped draft.  Ping – draft posted last year sept and oct plwg meeting – general feeling have support and consensus on the oct document and that the inflation rate was the only outstanding issue.  It is live document and can make additional changes if needed in the future. |
| **8.** | **PGRR119 –**PGRR119, Stability Constraint Modeling Assumptions in the Regional Transmission Plan |
|  | 119PGRR-07 Joint Commenters Comments  Alex - Review of the comments – Reliability need to clarify what that means  Ping – This reliability margin is different. Not the limit found in the studies. What will be enforced. Do not need to define the reliability margin.  Freddy – use something like discounted limit or best available limit.  Alex – what the limit is going to be- you can look back and may not be clear afterwards. Want additional transparency. Helps  IROL and SOL get discounted,  Harsh – can we just call out the limits.  Ping – the limits can change depending on the system conditions. Want to use the number without having to go through the stakeholder process.  Ping and Freddy – comfortable with changes  PLWG – PGRR 119 has consensus and move to ROS for vote. |
| **10.** | * **PGRR120 –**SSO Prevention for Generation Interconnection |
|  | 120PGRR-06 ERCOT Comments 01XX25 DRAFT |
|  | 120PGRR-06 AEP Comments 012825  Megan – have ERCOT draft comments page. Are based on the Southern Power comments. Transmission connect gen- made it clear.  Kevin – will be filing comments – language – ERCOT may prevent the gen from operating Megan – curtailment of the unit?  Kevin – curtailment to zero.  Jeff – had this issue already and ordered the breaker to be open.  Megan – we are always focusing on SSR.  Kevin – will go back to team about this.  Jeff – Clarification. ERCOT has the authority – just making it clear.  Freddy – the interaction can happen between ERCOT and gen at any gen level. They just remove the observed oscillation.  Kevin – this is what ERCOT doing already.  Mary – review AEP comments  Meagan – ERCOT is supportive – title they are okay  Did talk about AEP suggested SSO to SSR – push back – referencing the protocols which says SSR – do need to gray box SSO till NPRR 1234  Number of contingencies equals one. Generator funding pieces  Matt – reg counsel for ERCOT. We have concerns the larger piece where gen funded transmission. No paradigm or policy to allow for that. Ownership and usage – would be a new paradigm for gen funded. It is a large question than this protocol. ERCOT has concerns about including that in the PGRR.  Mary – currently gens do pay for ssr mitigation. With some of the revisions that are coming in 2026 for gen to pay for in excess of 20 million. For facilities required to interconnect.  Kristen – appreciate ERCOT being amenable to the SPC comments  Appreciate AEP comments – to tackle the problem in different directions. Similar to Matts concern that AEP introducing about gen paying for some of those costs.  Similarly, SPC would be concerned with green field transmission. If there are multiple viable solutions. The solution that is selected , that makes the most sense.  There was discussion eluded to series caps and possible retirement. In the whitepaper posted if the EHV is built out series caps could be retired. Do we need PGRR 120 as an interim since there is a chance the series caps may be retired.  Megan- on the ERCOT mind. They need data to back that up about retiring the caps. There are too many gens connecting so need something in the interim. There are a lot of gens in the study queue.  Matt- the addition of a gen is not justification for need. Bigger question that requires direction from the PUCT.  Alex – quick comment – around what Matt Arth referred to. Concept potential for gen funded transmission. We t to be careful like Kristen mentioned. Gen perspective always the opportunity for gen to fund that. Would not be reimbursed or rate based. The opportunity is there - it is never done befire. The funding transmission that everyone else uses does not make sense. It is allowed in the current rules.  Sun Wook – quick comment – series caps retirement Kristen comment. The study was done using the EHV – major transmission options that came out of 2024 RTP and Permian basin study.  Trying to make clear the basis of the study. This issue to address the on-going challenges today.  Kristen – understand the challenge – EHV is several years out and need solution for the near term. The whitepaper mentioned 18 series caps. The initial set of comments had 11 or 12 series caps. Would like a full list of the series caps.  Meagan- take back on the number of the caps and see if can be provided in comments.  Sun Wook – Kristen is referring to ERCOT whitepaper posted with the PUCT for the EEHV ERCOT has studies done for future. There is a sentence talking about the series caps  Megan- justification listed out the sub locations of the series caps. Will take back and put in comments ERCOT.  Mary – thank Alex for comments. Whether or not a gen would select this option.  Alex – it would be beneficial knowing sooner and more options. Maybe tweak the language.  Matt – on the learning sooner piece – Gens should find that out in the ERCOT screening studies in the beginning if there is SSO risk  Mary – with the AEP proposed language – a portion of the mitigation is identified upfront. Do not want one specific.  Mina – clarification on the ERCOT screening study. This is the ERCOT screening done before the FIS  Dylan – how is this different that mitigating the risk?  Mary- ERCOT and TSP could work to figure out the mitigation. Today the gen identifies the mitigation.  Mary – the reason for including language – currently gen mitigation options are limited – like green field transmission is not an option. Control tuning is typical and needs to be updated potentially if additional gens connect in the area. AEP comments provide more permanent solution. Permanent risk reduction does not remove the obligation of the GO.  Dylan - remove green field transmission piece. Build another line to POI. Will that impact with series of caps and the location and compensation. Design of the series cap. DO you need them at that point. Technically does that change things. Potentially now gen can get into the N-6.  Mary – Gen tapping a series compensated line – there is always a change.  N-1 can happen – Do not want to propose facilities that bring gens that are not previously impacted into the solution. Valid concern on the gen.  Matt - Gens already having ability to self fund (Alex) can we delete the included but not limited to green field transmission.  Mary – legal make it easier. But upfront transparency perspective, want to be clear  Striking the biggest option about cancelling the gens  Harsh – would this require protocols revision -tier 2 possibly.  Matt - That is a good point. ERCOT would not be endorsing a second line – no construct for the need for that.  Megan – ERCOT to file comments before PLWG.  PLWG – will table 120 |
| **11.** | * **PGRR122 –**Reliability Performance Criteria for Loss of Load |
|  | * 122PGRR-05 AEP Comments 012725   PGRR – reliability criteria  Mary – review comments. Overall supportive of this PGRR. One language change.  NERC terms  Jeff – when initially filed 122 intentionally did not use non-consequential load loss. Would not include load that are tripped due to the voltage excursion. Would like to keep language as is.  Mary – would put a load ride through requirement for the TSP?  Jeff – 122 is not proposing that. Not matter how you lose the load we cannot plan the system to lose more than 1000 MW. Cannot for frequency stability purpose. What eve the capability is form that load and if that results in more 1000 MW loss then it is problem and cannot do that.  Mary – interconnection studies happen at one time. Protection setting might be changed at any time. Open to non- consequential. load loss threshold in steady state but to try and coming up with a planning guide requirement that existing and new loads -it is not enforceable – cannot be put in place. Specifying only consequential or non-consequential.  Jeff- Don’t understand statement about enforceable or cannot comply –  Mary – TSP will not have full control – but should have models of the loads.  Do not want a planning guide requirement.  Jeff – still leave a reliability gap. Customer changes it. That could still frequency instability in real time. Looking for a comprehensive solution. 115 is the band aid and 122 is the comprehensive solution.  Raja – Jeff discussed at DWG. You are saying that a fault happens on the system  Jeff- so if you have one load tripping during an event with another (simultaneous).  Raja- costly solution to connect the customer and we just tell the customer that you cannot be connected.  Harsh – what about existing loads.  Jeff – possible impact to connected loads. Planning criteria not operating criteria. Need to think through.  Harsh – P6 and P3 contingencies – possible exclusion  Jeff – still need them. Cannot lose more than 1000MW for a contingency.  At any given time cannot handle a 1000 MW load loss.  Intention is simultaneous load loss. Loss of 600 MW and separately lose 600 MW then this would not apply -P6  Andrew – Helpful clarification – LCRA is thinking of filing comments. It is not clear under this criteria. Help clarify this. Clean up discussion of load loss. Have concerns and want to make it as specific as possible. Overall intention okay with it.  Jeff – good clarification  Harsh – how expensive it could be to mitigate this issue.  Jeff – limit mitigation to P1 and P7. – do not want that. P7  Raja- clarify area?  Jeff- in the context of a P6. like two radial lines. Each with 600 MW – loss of one line and loss of the other one later – that is not the concern. P1 or P6 contingency if the load gets dropped simultaneously.  Raja- if we don’t see a problem in the study, then why limit to 1000MW.  Jeff-talked internally – low inertia low IBR study. Will need to run the study – will run the study as often as we need to. 2018 and 2019 is the last time the study was run. Depends on what the analysis shows of the current study. If the study results are very different then we need to go back change the margins. Will need to see how the trend line is going between 2018 and today.  Not obligated to connect the customer and that wrecks the system.  Raja – will propose alternatives.  Jeff – need to look at alternative. We cannot connect someone if they will wreck our system. We want to work to find ways to connect them reliably – need to recognize the limitations.  Raja – want the study run annual or more frequently – we might be rejecting the customer unnecessarily.  Jeff – my concern is that inertia is going down. Number is getting smaller. Grid forming invertors may change the answer.  Raja – maybe we get SC turbines. It can go both ways.  Jeff – not want to commit to annual review. If system conditions change then are open to running the study again.  PLWG will table the PGRR.  Jeff – study complete march and April. Will apply to this pgrr and 115 |
| **12.** | **NERC Topics Roundtable (future topics):** |
|  | * CIP-014-4 - Physical Security   Mina – drafting is meeting again in February to clean up the comments and make the standard language changes and the plan is for the standard to go out for ballot for the third time in early March. |
|  | TPL-008 - Transmission System Planning Performance Requirements for Extreme Temperature Events – passed |
| **13.** | * **Review Open Action Items** |
|  | * Align the use of the terms “load” and “Load” in the Planning Guide with the defined term in Protocol Section 2 |
|  | Review Section 4; 26 occurrences of “load” or “Load”  Completed review of section 4 of the planning guide. |
| **14.** | * **Other business** |
| **15.** | * **Adjourn 3:20 pm** |
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