| **Chat Transcript from the April 4, 2023 NAESB Gas-Electric Harmonization Forum** |
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| **Time**  | **To**  | **From**  | **Chat**  |
| 9:07am | Everyone  | Theresa Pugh  | Great to see you Rae. Hope you are doing great.  |
| 9:15am | Hosts and Panelists  | Rae McQuade  | Thanks so much  |
| 9:17am | Everyone  | Nancy Bagot  | That is helpful and EPSA may be able to submit comments on a NG coordinator, we had similar questions as many others as to the role, authority, scope - will work on a response from our vantage point. Thank you |
| 9:37am | Everyone  | Dennis Kimm | Andrea is very correct. Buying the packages on ICE is not the problem. It is knowing if you even need the gas two days ahead of time since the ISO/RTO doesn't do commitment until the afternoon prior to the operating day. |
| 9:38am | Hosts and Panelists  | Joshua Wakeam  | As an individual...Still getting caught up on old recordings. Though I think communication and winterization go a long way, I've heard the question who pays for things and I think a fair answer is a mix in the following way: Fuel is a gas network reliability problem similar to if the electric service was terrible there would be corp commission complaints, standards, etc. The gas industry should have the bulk of the cost to have reliable service but not all. Just as electric customers have backup generators, UPSs, etc., critical facilities such as natural gas generators should have adequate reserve storage for short term outages or failed forecasts. The reliability costs in that manner are shared by all customers. Cold weather isn't unusual, so it's probable we need transparency into how NG performs in cold weather. We shouldn't be wondering how the NG network broke down after the fact. Critical gas facilities locations are very difficult to get for restoration priority and load shed exclusion. |
| 9:39am | Everyone  | Mark Spencer  | I agree that RTO commitment procedures are an impediment. Some RTOs won't commit units until the operating day, which diminishes the value of FT gens may hold. |
| 9:40am | Everyone  | Gene Nowak | You do not need to be a shipper to subscribe to a pipeline EBB to get email notices. Log in one time - save your email and you are set. |
| 9:42am | Everyone | Dennis Kimm | Correct Mark Spencer. I should have said no earlier that the afternoon prior to the operating day but at times just minutes prior to the commitment. |
| 9:42am | Everyone  | Dick Brooks  | During my tenure with ISO-NE I did observe multiple scenarios where ICE transactions were used to justify intra-day offer price changes (increases) due to additional fuel charges. ICE is indeed being used effectively to adjust natural gas purchases. |
| 9:45am | Everyone  | Sylvia Munson  | KM Intrastates are unique, in a good way, in that their Intrastate pipelines provide almost all of the same information as their Intrastates through their EBBs, email notifications, etc. |
| 9:50am | Everyone  | Jennifer Coffee  | Agree with Larry 100% |
| 9:52am | Everyone  | Russell Murrell  | Well said Larry. Good to hear you! |
| 9:57am | Everyone  | Dick Brooks  | FYI: My trip report from the ISO-NE CLG meeting on 3/30, which I referred to in my comments, is available online https://energycentral.com/c/gr/trip-report-iso-new-england-consumer-liaison-group-meeting-portsmouth-nh |
| 10:08am | Everyone  | Joan Dreskin  | The pipelines and ISOs meet, at a minimum pre-winter, to discuss communications and what data may be missing. The individual pipes and ISOs/RTOs also speak. Again, communications do not create additional pipeline capacity. |
| 10:10am | Everyone  | Jennifer Coffee  | Having to sign off for legislative meetings. |
| 10:11am | Everyone  | Michael Desselle  | It's clear that we are not going to solve the infrastructure problem... |
| 10:12am | Hosts and Panelists  | Shawn Grant  | CAISO submitted comments on Friday but I don't see them listed? Can I email or resubmit. Thanks for your help. |
| 10:13am | Everyone  | Michelle Foss  | I wonder if, at this point, the GEH process could be filtered. 1 - what are industry participants doing to harden systems and manage future risks. we know actions are being taken but what are they, to what extent, etc. To Michael's point, there will always be gaps in infrastructure. 2 - considering these actions, what are the residual risk factors that would need mitigation. clearly, this would go beyond physical infrastructure and include contracting, etc. 3 - best approaches to mitigate the risks that will be hard to manage. i worry about creating layers of regulatory oversight or compliance requirements or other things (a la banking!) that incur costs without commensurate benefits. i also worry (like banking!) that there always is risk in markets, that government failure usually is a big factor (banking!) and net benefit to customers erodes. |
| 10:15am | Everyone  | Andrea Chambers  | If there is a list of specific items of information that ISOs and RTOS think are not available that would be useful, maybe they can post the list for us to discuss. So far, I have heard that more detailed information on location of the operational issue would be useful. |
| 10:21am | Everyone  | Joshua Phillips  | In our comments the following are mentioned. during r21006 discussions, it was raised that some pipes include these to specific levels, but not all pipes indicate the same information in their notices. • Provisions and contingencies planned by both parties • Critical gas and electric facilities within the impacted region • Location of any interruptions (anticipated or planned) including final delivery points • Cause of the interruption including sufficient detail to understand the cause, which production facility, equipment, and/or facility is creating the interruption • Remediation attempts • Anticipated duration |
| 10:22am | Everyone  | Theresa Pugh  | Intrigued by Josh’s ideas  |
| 10:26am | Everyone  | Mark Spencer  | Is the issue that some RTOs are not fully utilizing the information available under 787? RTOs may receive information from pipeline operators under 787, yet RTOs require gens to update them on pipeline conditions that affect the gen and only after such notice from a specific gen do RTOs update the gens operating parameters, which may have a significant impact on the dispatch solution. It's infeasible for a gen to continuously canvas pipeline conditions under tight conditions. Gens don't know exactly when an RTO may call on that gen, at what output, or for how long. The belief that gens have superior knowledge to RTOs, especially considering 787, or that RTOs must wait for gens to update their operating parameters may need to be re-considered. P.S. I think ISO-NE largely does this coordination with the pipeline operators AND proactively communicates its concerns with specific generators. |
| 10:27am | Everyone  | Catherine Elder  | PIpelines do post all those things and under regular conditions that is adequate. We heard from participants that those informational postings (and I would submit single seasonal meetings as well are inadequate) when we get into extreme demand conditions with supply freeze offs. So we have the bookends and we know the market failed at that extreme end. The postings are often vague and some pipelines post more detail than others. So the question is whether some sort of more intense real-time facilitation is needed during critical periods. I suspect it would help but it is tricky to arrange for something that would not come into play very often. It is that finding the gas and/or capacity when where it is available in an emergency that is the important part (and recovering the cost). What small incremental step could we take? |
| 10:27am | Everyone  | Theresa Pugh  | I worry about the build out of new semiconductor fabricating plants that cannot handle any outages without serious and enormously expensive damage to the fabricating ovens if loss of power. We're about to build many new Chips plants (thankfully) and I worry about some of these new manufacturing types and what happens when there is a gas outage. Four of these plants are being built in NE and I worry |
| 10:33am | Everyone  | Christopher Smith  | Bob - happy to hop on and discuss further, but I agree with Eric's comments about lack of capacity on the coldest days |
| 10:34am | Everyone  | Michelle Foss  | excellent point being made now - pathways to "fixes", whether capacity adds or other - are not straightforward |
| 10:35am | Everyone  | Michael Desselle  | music to NAESB's ears... standardization |
| 10:35am | Everyone  | Dick Brooks  | Thanks, Jonathan. I will be responding to Eric's comment, re: need for better planning information, securing fuel etc. |
| 10:40am | Everyone  | Catherine Elder  | Agree with Eric on his points about lack of consistency across pipeline postings and standardizing more (and yes, will take some effort to do that). One thing the crisis facilitator might do is help distill and interpret the postings. Almost like a "public advisor" perhaps. |
| 10:50am | Everyone  | Matthew Agen  | On 1b, AGA does not have any more to add beyond what is in AGA’s comments and those provided by Eric and the New England LDC group before the break. |
| 10:52am | Everyone  | Gene Nowak  | Interstate pipelines routinely post detailed information regarding the location of an issue or restriction and the impact to shippers at a high level at that location. We cannot post specific shipper information to the world. Shippers know where they source gas and on what service they are transporting and know if they will be impacted by a given posting. A specific delivery location's impact should be communicated directly by the shipper providing service. Gas generators/RTO/ISOs need to have better visibility of what gas supply and transport/storage service the gens have available in order to determine impact of a specific posting, Do ISO/RTOs and Gens share this info on an ongoing basis? |
| 10:58am | Everyone  | Catherine Elder  | Shippers have said it is inadequate under extreme conditions |
| 11:01am | Everyone  | Mark Spencer  | Gene, as a gen we canvas the market several times throughout the day for available supply and transportation, but those conditions can change minute-to-minute, hour-to-hour. What gens cannot know is the holistic picture of what RTOs are going to draw from a pipe (through their commitment process) and how that's going to change availability to a specific gen. Unfortunately, in our experience, the flow of information has been mostly one way. |
| 11:02am | Everyone  | Michelle Foss | Thanks Larry for your comments and those from KM. helps me with my questions. |
| 11:03am | Everyone  | Dick Brooks  | I agree, the information exchange needs to be bidirectional in order to improve planning for both Gas and Electric stakeholders |
| 11:04am | Everyone  | Joshua Wakeam  | Gas generators need priority service and critical gas facilities need priority service. It has been almost impossible to obtain a list of critical gas locations that serve generators to exclude them from load shedding and provide priority restoration. |
| 11:04am | Everyone  | Nancy Bagot  | As to a gas "crisis manager" or voluntary coordinator of some sort, we need to get clear on what that role is - there needs to be great care and realistic skepticism about adding a layer between service providers and customers. I think it's fair to say there's an operational triangle right now (gas supply/pipe - ISO/RTO - generator) and as referenced in some comments a gas coordinator or manager seems to just expand that to a square. It may, instead, be an issue of ensuring sufficient and timely information is shared via a logical and useful mechanism or protocol. Which may exist, or may differ sufficiently by region that indicates a need to develop more standard information sharing protocols. |
| 11:06am | Everyone  | Nancy Bagot  | On the power side, large manufacturers "shut down" often or shift operations in order to sell their power which is more lucrative than continuing production during that emergency period. |
| 11:07am | Everyone  | Steve Watson  | It seems like to me that we have skipped a very important step in the process to develop targeted recommendations that will fix the problems. That step is to identify and document root causes and consensus building around those root causes. From my experience, conclusions and recommendations naturally flow from proper consensus around root causes. |
| 11:07am | Everyone  | Sylvia Munson  | A marketer that I previously consulted with offered contracts to industrial customers that included a turnback of all or part of their capacity in constrained situations. Often, these industrials received compensation for this offering. |
| 11:08am | Everyone  | Joshua Phillips  | A regional gas coordinator could reduce the level of complexity, if all parties are sending and pulling to that coordinator source under standard methods, that would significantly reduce complexity by the various approaches inter or intra state information is shared. rather than an RTO interpreting 26 different formatted messages, it would be 1 type of message. |
| 11:11am | Everyone  | Catherine Elder  | I heard the same thing said that Bob and others are mentioning on the INDs being willing in the crisis to sell their gas instead of use it. And the suggestion was that it would have helped some of the generators to have known that and been able to buy that gas and/or associated capacity. |
| 11:12am | Everyone  | Nancy Bagot  | To Mark Spencer's point on Order 787 information required to be shared between pipelines and RTOs, that is important to keep in the mix - it is info that is currently required and thus shared. It does also raise the issue as to what information is best provided by whom -- there are circumstances in which the RTO needs to go to the generator for its supply access or options, information a pipe would not have. Conversely, a generator shouldn't be asked to identify gas system constraints or operational concerns which may invoke systemwide impacts, or even the impacts on one pipeline by its upstream supply and delivery system. |
| 11:13am | Everyone  | Joshua Wakeam | Reducing demand of natural gas during the winter would be difficult and would be meaningless if the freed capacity wasn't allocated specifically for generators. |
| 11:16am | Everyone  | Mark Spencer  | Nancy, I would add that RTOs dispatch solutions may have an impact on a specific generator's ability to schedule gas. Obviously, a gen doesn't know what the RTOs potential dispatch solution may be, and the RTO holds that information. Ultimately, I think the RTOs may need to step up and determine whether a generator is going to be able to start within 30-minutes since the RTOs receive non-public information from the pipes, know their possible dispatch solution, and can communicate concerns with the gen. |
| 11:17am | Hosts and Panelists  | Joshua Phillips  | electric distribution utilities have used air-conditioner programs, e.g. in peak supper demand, the ac might not come on until its 75 degrees rather than the homeowners thermostat setting of 70. These programs have rules so that end users understand they will be receiving an annual payment for allowing this. |
| 11:18am | Everyone  | Dennis Kimm | Multi-day unit commitment requirements during extreme cold days for the ISO/RTO along with a tariff that allows generators to recover costs for gas supply that doesn't get burned would go a long way to solve these problems, at least in the Midwest. |
| 11:18am | Everyone  | Dick Brooks  | Even carrier pigeons have improved over the past 10 years, Bob |
| 11:18am | Hosts and Panelists  | Joshua Phillips  | would be interesting to see a joint co optimization of gas dispatch and electric market dispatch during those critical times. (excluding critical gas or electric facilities) |
| 11:19am | Everyone  | Thomas King  | I agree with Dennis Kimm that multi-day commitment from the ISO/RTO and ability to recover costs for unburned fuel would go a long ways. |
| 11:20am | Everyone  | Michael Russ  | Technology does not change the physics of gas flow in pipelines. |
| 11:21am | Everyone  | Catherine Elder  | no but it can change our ability to communicate better in real time |
| 11:23am | Hosts and Panelists  | Brian Fitzpatrick  | To Nancy and Mark's comments: PJM utilizes all of the information that it obtains from the interstate pipelines to assess general risk assessments for the gas fleet based on those conditions along with known physical and contractual arrangements at the generator. Specifically to Nancy's comment, PJM must rely on the generator to provide their individual availability based on current/anticipated conditions as the generator impacts can vary significantly and PJM would not have that discrete, real time availability as other alternative types of supply and transport arrangements may be occurring. Additionally, when it comes to dual fuel generators, it is critical to receive fuel availability information from the generators, particularly during high demand periods. |
| 11:23am | Everyone  | Michael Russ  | But the cycles that were set up were restricted based on the physics of lowing gas, not on limited ability to communicate. |
| 11:24am | Everyone  | Catherine Elder  | physics limits cycles? no. |
| 11:24am | Everyone  | Joshua Phillips  | how is liquidity increased on the w/e or holidays? That seems to be the missing piece. |
| 11:25am | Everyone  | Catherine Elder  | yeah, pipelines operating 24/7 is not the same as liquidity over the weekend or after the timely nomination and the issue is whether information can help a generator get gas after that timely nom cycle |
| 11:25am | Hosts and Panelists  | Roy Harvey  | The chat window is very helpful. Can you please enable Saving of chat? Thanks! |
| 11:25am | Everyone  | Joshua Phillips  | who has this visibility? the gen does not. |
| 11:26am | Roy Harvey  | Jonathan Booe  | Roy - All chat records have been saved and are posted on the NAESB GEH Forum website. |
| 11:26am | Hosts and Panelists  | Jonathan Booe  | Thanks for explaining! I'll look there for it. |
| 11:27am | Everyone  | Dick Brooks  | A full curtailment may not be needed, but a minor adjustment by several parties could be "good enough" |
| 11:28am | Everyone  | Mark Spencer  | Dick, what do you mean by "full curtailment?" thanks. |
| 11:29am | Everyone  | Dick Brooks  | California, last year, saw a very effective demand side response that helped stabilize the grid. Could a DR program for gas consumers also help make more gas available for electricity generation? Maybe? |
| 11:30am | Everyone  | Catherine Elder  | you're talking about the Governor's text message on September 6? indeed that worked and it looked like the National Grid pilot was similar. worth looking at more! |
| 11:31am | Everyone | Dick Brooks  | Yes, Catherine  |
| 11:32am | Everyone  | Catherine Elder  | Although the NatGrid pilot didn't threaten imminent blackouts. That message from the Governor came through the emergency network to cell phones so my first reaction was "what the hell is going on? It makes you sit up and take notice for sure. |
| 11:33am | Hosts and Panelists  | Brian Fitzpatrick  | Additionally, related to separate comments, PJM is continuing to discuss unit commitment timing along with multi day commitment opportunities with stakeholders through the ongoing Electric Gas Coordination Sr Task Force |
| 11:34am | Everyone  | Dick Brooks  | This was another case where "information exchange" helped navigate a tenuous situation. Could this also work for the natural gas industry, too? |
| 11:43am | Everyone  | Catherine Elder  | Definitely worth trying. And totally agree with Keith Collins at SPP Market Monitoring. |
| 11:43am | Everyone  | Mark Spencer  | For those advocating for a multi-day market, do you think load's participation should be mandatory? One of the concerns we've seen is that in some days RTOs do not clear 100% of their forecasted load; supply offers and demand bids are cleared economically. This situation would likely worsen in a M-DAM and at best serve to shift financial risk between load and suppliers and at worst fail due to lack of participation. When ISO-NE briefly contemplated a M-DAM, load's participation was voluntary, and then it died. I'm not advocating against, but there are some threshold issues that need to be sorted out. |
| 11:44am | Everyone  | Joshua Wakeam  | Great reminders Keith. Winter happens every year, who knew. They gotta get supply/capacity/dedicated storage and drive those prices down now that there is large growth. Batteries won't last for a week-long event and are generally insignificant to the peak demand required. |
| 11:44am | Everyone  | Dennis Kimm | Well said Mr.Collins! |
| 11:46am | Hosts and Panelists  | Ana Garza-Beutz | Agree thank you for your comments Keith! |
| 11:46am | Hosts and Panelists  | Keith Collins  | I appreciate the opportunity to participate. We look forward for continued discussions! |
| 11:49am | Everyone  | Joshua Wakeam  | Didn't Uri load shedding happen during the workweek? |
| 11:51am | Everyone  | Catherine Elder  | the storm started Saturday and got colder and colder through the holiday and extended into the workweek. The first load shed was on the holiday. |
| 11:52am | Everyone  | Dennis Kimm | It does seem like each region of the country does have its own set of issues so maybe some of the solutions need to be region specific. |
| 11:52am | Everyone  | Andrea Chambers  | ERCOT believed they had committed sufficient capacity until Sunday and so they did not commit additional generation. This was an error in forecasting load. |
| 11:54am | Everyone  | Joshua Wakeam  | Not to mention the missed wind forecasts and turbines freezing up |
| 11:54am | Everyone  | Andrea Chambers  | If you read the court case in the Luminant case the 3rd circuit it discusses the timeline. |
| 11:55am | Everyone  | Catherine Elder  | But I wonder how ERCOT made that error. New Mexico Gas saw the storm coming and shifted their swing gas purchases from Permian to other basins that were not expected to freeze. If they saw it why did ERCOT not see it? Or maybe it was degree -- maybe ERCOT didn't see it getting as cold as it got, which is a weather forecasting problem. |
| 11:56am | Everyone  | Andrea Chambers  | I agree there was a problem with the weather forecast that they were relying upon according to the reports. |
| 11:57am | Everyone  | Dick Brooks  | This is really a risk management challenge, IMO. |
| 11:58am | Everyone  | Andrea Chambers  | I was really not trying to blame anyone, I am just pointing to facts that I think lead to the problem on the weekend, specifically, a bad weather forecast that lead to an inadequate forecast. |
| 11:59am | Everyone  | Andrea Chambers | I meant it lead to an inadequate load forecast. |
| 12:00pm | Hosts and Panelists  | Roy Harvey  | Is NAESB planning to have any recommendations or synthesis of these discussions by the FERC winter gas electric forum on June 20? |
| 12:00pm | Everyone  | Joshua Wakeam  | The weatherman is always wrong 😊 |
| 12:00pm | Everyone  | Catherine Elder  | And to Dick's point, we have to manage that risk of a bad weather forecast -- ha ha wait 5 minutes and the weather will change except when it gets worse |