

Attachment A:  
TAC Recommendation on the  
Generation Adequacy Task Force  
Report

Recommended Changes to the  
ERCOT Capacity, Demand and  
Reserves Report

Revised Report  
April 8, 2010

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## **Introduction**

At the August 18, 2009 ERCOT Board of Directors meeting, the Board members received an update on ERCOT's Emergency Interruptible Load Service ("EILS") program. One result of the Board's discussion was a suggestion that EILS be included as a resource in ERCOT's Capacity, Demand and Reserve ("CDR") report. The CDR report, a forecast of future demands and resources for the summer and winter peak load periods in the current and five future years, had not previously included EILS in the reserve margin calculations.

Based on the Board's EILS discussion and the ever-changing resource landscape in ERCOT, the Chair of the Wholesale Market Subcommittee ("WMS") reconstituted the Generation Adequacy Task Force ("GATF") at the August 19, 2009 WMS meeting. The GATF was an existing joint task force of the WMS and the Reliability and Operations Subcommittee ("ROS") and had not met since 2007. In addition to EILS, WMS members suggested the GATF also take into consideration such issues as how variable resources are accounted for in the CDR, peak load calculations, whether a 12.5% margin is adequate for the amount of wind generation on the system, and the treatment of air permits and Signed Generation Interconnect Agreements ("SGIA") when determining whether or not new resources should be included in the reserve margin calculation.

The GATF met numerous times in late 2009 and early 2010. In addition to the issues suggested by WMS, the GATF also developed an update to its charter and goals, performed a detailed review of the process and inputs into Loss-of-Load-Probability ("LOLP") studies, reviewed ERCOT Staff's load forecasting processes; developed a recommendation for EILS and other demand response programs; and reviewed all the inputs, assumptions, and format of the CDR report.

## **GATF Charter and Goals**

The GATF's first item of business was to refresh the group's charter and goals since it had been over two years since it had last met. At the September 22, 2009 meeting, members discussed the various reasons for resuming the GATF's work, potential deliverables from the group, the last LOLP study performed by ERCOT Staff, new technologies, and issues concerning the CDR and its targeted audience, its format, its assumptions, etc. Based on the discussion, the GATF developed the following:

### **GATF Charter**

Re-examine the reserve margin calculation and submit a final report to the Technical Advisory Committee ("TAC") by the TAC's January 2010 meeting with recommendations on making the calculations more accurate using the current and anticipated mix of the various technologies available in the region.

## GATF Goals

- Review all the findings and recommendations from the previous GATF reports dated May 23, 2005 and March 7, 2007.
  - Review the definition of firm load
  - Review the definitions for available resources (summer dependable capability, DC ties, switchable capacity, wind generation, planned generation with a SGIA or signed letter from the resource owner stating that the resource is available for operation, mothballed resources, demand side resources, resource retirements)
  - Review the contents and format of the CDR
- Develop a recommendation for the treatment of EILS as it relates to the CDR.
- Review and develop a recommendation concerning determination of the capacity value of new renewable technologies (solar, storage, etc.) in the CDR.
- Develop recommendations for the upcoming LOLP study (GATF is to provide input to ERCOT regarding the study assumptions, data sources, results, etc.).
- Complete a draft report by the December 2009 WMS meeting that provides ERCOT's Planning Department with recommendations on all the assumptions for the reserve margin calculation to use in the LOLP study.
- Complete a final GATF report for consideration and vote at the January 2010 TAC meeting.

The subsequent sections of this report address each of the GATF goals and deliverables. However, it should be noted that there was a one month slippage in the target dates for the submittal of this report.

## LOLP Study Review

At the initial GATF meeting, ERCOT Staff had indicated they would be performing an updated LOLP study during the first quarter of 2010. The last LOLP<sup>1</sup> study was performed in the late 2006, early 2007 timeframe. Since the results of an LOLP study play a significant role in the reserve margin calculation, the GATF members asked ERCOT staff to provide a detailed overview of the various processes, inputs, and assumptions that make up the study.

ERCOT Staff's overview of the LOLP study was provided to the GATF on October 13, 2009. The material covered by ERCOT was from a previous presentation from 2007 entitled "Analysis of Target Reserve Margin for ERCOT." A copy of the presentation can be found at the following link:

[http://www.ercot.com/content/meetings/gatf/keydocs/2009/1013/GATF\\_LOLP\\_Presentation\\_1\\_12\\_07\\_as\\_presented.ppt](http://www.ercot.com/content/meetings/gatf/keydocs/2009/1013/GATF_LOLP_Presentation_1_12_07_as_presented.ppt)

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<sup>1</sup> ERCOT Staff also refers to an LOLP study as a Target Reserve Margin Study. For the purposes of this report, the terms will be used interchangeably.

ERCOT Staff explained that a LOLP study is conducted to evaluate the relationship between various generation reserve margins and the probability of loss-of-load events in ERCOT. The study has also been used to provide a basis for estimating the effective load carrying capability (“ELCC”) of variable output resources, most notably wind resources, and various results from the study are utilized in developing ERCOT’s CDR report. Once the background information on the LOLP study was provided, ERCOT Staff and the GATF developed a list of issues and questions concerning the assumptions that will be used for the 2010 study. The LOLP issues and the GATF recommendations are as follows:

What will be the source of information for generation forced outage rate assumptions in the Target Reserve Margin Study?

ERCOT Staff initially recommended that generator forced outage rate information be taken from two sources: 1) the NERC Generation Availability Data System (“GADS”), and 2) the PUC’s nodal market cost-benefit analysis report dated December 18, 2008. However, it was noted that one limitation in using the NERC GADS data is that the information is based on units across all of North America, and that forced outage rates may be significantly different across various regions. It was also noted that the nodal market cost-benefit analysis utilized only 2006 GADS data, which may be too limiting for the LOLP study.

The GATF discussed the issues and agreed to the following forced outage rate assumptions. NERC GADS forced outage rate data averaged over the 2004 to 2008 timeframe will be utilized in the LOLP study. In addition, ERCOT Staff will compare the NERC data with ERCOT’s operational data to ensure it is within a reasonable range. To further refine the information and make it more ERCOT-specific, ERCOT Staff implemented a process in which market participants either: 1) granted ERCOT permission to obtain each company’s GADS data directly from NERC, or 2) provided each company’s information directly to ERCOT.

What years will be studied?

The GATF agreed that 2012 will be the initial study year. Subsequent studies might be performed for future years once the LOLP capabilities are developed by ERCOT Staff.

Will transmission topology be modeled? If so, to what level of detail?

ERCOT Staff suggested a “single node” arrangement to begin with for LOLP purposes, but will perform additional studies once the cases are developed to look at transmission needs probabilistically. The GATF made no recommended changes to ERCOT Staff’s proposal, although it was noted that the ELCC of wind could be significantly different for a pre-CREZ vs. post-CREZ scenario.

What assumptions will be used for scheduled maintenance of resources?

The GATF discussed the possibility of utilizing NERC GADS data and the PUC's nodal cost-benefit analysis report, coupled with historical nuclear unit maintenance schedules (i.e., every 18 months) as a basis for generator scheduled maintenance outages. Some believed, however, that "major" maintenance on combined cycle and coal units, much like nuclear units, is not performed on an annual basis, and that outage durations can fluctuate from year to year. ERCOT staff believed the cyclic nature of the outage durations will be accounted for by using NERC maintenance outage information averaged over a multi-year period. It was also suggested that the ERCOT region, because of its advanced level of deregulation compared to other markets, may have a vastly different maintenance outage profile than other NERC regions. Similar to the process above for forced outage rate assumptions, ERCOT Staff implemented a process in which market participants will either: 1) grant ERCOT permission to obtain each company's GADS data directly from NERC, or 2) provide each company's information directly to ERCOT.

What type of generation technology should be added to the LOLP models when determining reserve margins and estimating the ELCC of wind resources?

In the 2007 LOLP study, coal plant additions were assumed when estimating the ELCC of wind resources. Coal was the assumed addition in 2007 because at that time coal plants were the predominant type of generation being announced. GATF members discussed the fact that in the future there may be a reduced likelihood of coal units coming on line based on the potential for far reaching environmental legislation, thus a natural gas-fired combined cycle and natural gas-fired peaking unit is a better assumption at this time. ERCOT Staff agreed and will evaluate natural gas additions in the 2010 study.

What modifications, if any, should be made to the model's input assumptions regarding wind resources? Should wind be modeled with different ELCC's based on its geographic location (West, Coastal, etc.)? What assumptions should be made for other renewable technologies (solar, biomass, etc.)?

To determine the ELCC of wind generators, ERCOT Staff will basically perform the LOLP calculations utilizing the same methodology as the 2007 study with one slight modification. With wind generators in the northern and western regions of the state having different wind profiles than those in the south, ERCOT will determine the ELCC for each region to determine if there are significant differences between the two. If so, ERCOT will add a line item in the CDR showing the ELCC for each. If not, then the ELCC of wind generators in both regions will be combined on a capacity weighted basis in the CDR.

Some members of GATF believed the current ELCC of wind used in the CDR, 8.7%, may be too low when compared to actual values. ERCOT Planning's Dan Woodfin stated he believed their studies will indicate an increase in the ELCC for wind, primarily due to the increased wind generator quantities since 2007, and because there is more geographic diversity among wind farms today. The GATF agreed with the revised ERCOT Staff procedure, but also recommended that once the ELCC of wind was determined (either by region or combined), ERCOT Staff should compare the ELCC values with actual wind operational data to ensure reasonableness.

As for the assumptions on solar plants, the GATF agreed that utility scale solar will likely not have a significant impact on the next version of the LOLP covering the 2012 timeframe. However, it was recommended that ERCOT staff perform additional research on the impact of distributed solar installations on the firm load assumptions used in the studies.

### **Load Forecasting**

ERCOT Staff reviewed their procedures for producing the Long-Term Hourly Peak Demand and Energy Forecast. This forecast is produced annually using a set of econometric inputs, weather, demographic data, and other variables to project the long-term trends in historical load. The forecast is the basis for calculating the reserve margins across the winter and summer peak load periods. The GATF did not recommend any changes to the existing load forecasting processes.

### **EILS and other Demand Response Resources**

#### **Emergency Interruptible Load Service**

As indicated in the Introduction section of this report, one of the issues the GATF was asked to address was a determination of whether or not, and how, EILS should be accounted for in the reserve margin calculations. To date, EILS has never been included in reserve margin calculations. Some members of the GATF advocated that EILS be excluded from the resource mix. Others argued the program should be included because EILS suppliers are tested for performance and there are penalties for non-performance. Nevertheless, GATF members eventually reached consensus that EILS should be included in reserve margin calculations and the CDR. Once the inclusion of EILS was decided, the GATF then conducted a lengthy debate, spanning two separate meetings, on how to address EILS in the CDR.

ERCOT Staff's initial recommendation was to use historically procured values of EILS in the reserve margin calculation, with the caveat that EILS, while not as mature a resource as Loads Acting as Resources ("LaaR"), is expected to grow in the future. It was also pointed out the procurement of EILS for the summer months typically covers the summer peak load periods, but that EILS procurements in the winter do not necessarily coincide

with winter peak loads. The winter peak load can occur in different months and even at different times (morning or evening) of the day, so winter peak loads are much less predictable.

Some of the additional methodologies discussed by GATF members included using the actual EILS procurements in the current year (as discussed above), but show the 500 MW minimum procurement level that was included in the original PUC Subst. Rule 25.507, ERCOT Emergency Interruptible Load Service, for the later years of the CDR (i.e., years 2 through 5). Yet another methodology offered was to utilize a 10% growth rate for the summer EILS levels, but show a 500 MW minimum in the winter months since winter EILS procurements have generally been higher than the summer. Finally, a third alternative discussed was to utilize an average of the “offered” amounts of EILS, rather than the “procured” amounts. In previous procurement cycles, ERCOT Staff has often procured less EILS than was actually offered. None of these alternatives gained any significant consensus, so they are not being recommended by GATF at this time.

With no initial, clear consensus being reached by the GATF, ERCOT Staff performed a closer examination of the correlation between EILS procurement quantities and the actual summer and winter peak load periods. It was noted that the June through September summer procurement quantities of EILS for the Business Hour 3 period (Hours Ending 1700 through 2000, Monday thru Friday except ERCOT Holidays) correlate well with summer peak loads. However, the winter procurement periods and winter peak loads do not correlate as well. ERCOT Staff’s closer review of the winter peak load and EILS data indicates that winter peak load seldom occurs in the February – May procurement period. Therefore, based on their data review, ERCOT staff recommended the following methodology be utilized for EILS quantities in the reserve margin calculation:

- For the winter period, “current year”
  - Use only the Oct.-Jan. Contract Period
  - Use simple average of 2 Time Period procurements (Business Hours 3 and Non-Business Hours)
- For the summer period, “current year”
  - Use the actual Business Hours 3 May procurement (this is the quantity for the June through September contract period).

For the later year periods (years 2 through 5), ERCOT recommended a 10% growth rate in EILS, with the caveat that this growth rate will have to be reviewed and possibly amended as additional procurement data is collected. The GATF came to general agreement that this methodology was acceptable.

#### Other Demand Response Programs

The GATF also discussed the potential effect of advanced metering programs on the reserve margin calculations. ERCOT Staff suggested it is premature to include advanced metering impacts in the calculations at this time, but ERCOT will continue to monitor progress in advanced metering programs and may include them in the future once additional information is collected.

ERCOT Staff also reported on energy efficiency initiatives ongoing by the State of Texas. As part of the American Recovery and Reinvestment Act of 2009, numerous Texas state agencies, including the State Energy Conservation Office, have received \$780 million to be utilized for energy efficiency, appliance rebates, weatherization, etc., of which \$327 million will be going to the Texas Department of Housing and Community Affairs. As of the date of this report, the various state agencies have not yet provided detailed information as to how these dollars will be spent. ERCOT Staff will continue to monitor these programs, as they may impact their forecasts of firm load. It was also noted that the money is to be spent over a 3 year period, which includes the 2012 study period mentioned herein.

### **Review and Discussion of CDR Inputs, Calculations and Format**

Another GATF goal was to perform an updated review of the current assumptions and calculations used in the reserve margin calculation and to review the general format of the CDR report. Based on their discussion, the following recommendations are provided:

Installed Capacity Assumptions – In previous reserve margin calculations, each unit’s Summer Net Dependable Generating Capability has been used. However, ERCOT Staff recommended that Resource Asset Registration Form (“RARF”) data be utilized because there have been modifications to the unit testing procedures since the CDR was last published (ERCOT now uses an unannounced testing process). The GATF agreed that RARF data provides the best information and discussed the numerous unit rating parameters used in the RARF. A consensus was reached that the best RARF data points to use in the reserve calculation are the:

“Seasonal net max sustainable rating – summer”, and  
“Seasonal net max sustainable rating – winter”

New Unit Additions – Currently, to be included in the reserve margin calculation, a unit must have a SGIA and a Texas Commission on Environmental Quality (“TCEQ”) approved air permit or other public, financially-binding agreement between the generator and TSP under which generation interconnection facilities would be constructed or ERCOT’s receipt of a commitment letter from a municipal electric provider or an electric cooperative building a generation project. There was discussion by the GATF that these criteria may be providing an overly optimistic view of the future generation resources that will be in service. It was suggested that in today’s economic climate it is difficult to secure financing for projects, even with a SGIA and air permit or other binding agreements. In addition, the approval of an air permit can be appealed. Therefore, one

suggestion was to modify the criteria to say new units will not be added until ERCOT is notified by the resource owner that the project has a 1) non-appealable air permit and, 2) adequate financing in place to complete construction.

Other GATF participants, while agreeing that developers face significant hurdles under today's economic and environmental conditions, believed the reserve margin calculation will always contain numerous assumptions with varying levels of uncertainty, and the most important aspect of presenting the CDR data is to be consistent. It was also mentioned that the SGIA and air permit are both publicly available (as are the other agreements and letters mentioned herein), while financing terms and conditions for a project are confidential; thus it may not be possible to obtain accurate information concerning a developers financing terms. Finally, it was unclear to some as to what was meant by a "non-appealable" air permit. Therefore, some GATF members recommended the assumptions for new unit additions remain the same.

At the GATF's January 13, 2010 meeting, members came to a consensus that new unit additions could be treated utilizing a process similar to Section 6.5.9.3 of the ERCOT Protocols, Generation Resource Return to Service Updates. This section requires Generation Entities that own or control a mothballed or Reliability Must-Run ("RMR") resource to report to ERCOT twice a year, on a unit specific basis, the estimated lead time required for each resource to return to service and, in percentage terms, the probable generation capacity from each Resource that the Generation Entity expects to return to service in each of the next five (5) years.

The GATF agreed that similar language and a similar process could be utilized for new unit additions. It was initially recommended that the GATF develop a revision for both the ERCOT zonal Protocols and the nodal Protocols that would have required Generating Entities already having a SGIA and air permit to submit an "affirmative" declaration that the SGIA and air permit, and the in-service dates referenced in those documents, are still applicable.<sup>2</sup> However, when members of the GATF began the process of developing the protocol revisions it was noted that many of the generation developers with SGIA's and air permits in place are not ERCOT market participants and thus not bound by the ERCOT protocols. Therefore, ERCOT Staff instead will implement a process in which they will contact the developers individually and obtain a non-binding estimate on the expected on-line date for units with a SGIA and air permit. ERCOT Staff intends to request the on-line estimates prior to each update of the reserve margin calculation.

Renewables – The GATF had previously agreed that ERCOT's utilization of the ELCC methodology in previous LOLP studies for wind generation resources is still valid when calculating reserve margins. The GATF also agreed that for now, solar resources should

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<sup>2</sup> The GATF's initial recommendation would have also applied to those Generating Entities showing other public, financially-binding agreements between the generator and TSP under which generation interconnection facilities would be constructed, or ERCOT's receipt of a commitment letter from a municipal electric provider or an electric cooperative building a generation project.

be treated like conventional generation, at least until a threshold of solar capacity is reached. The GATF agreed that the ELCC for solar should be revisited once a 200 MW threshold of solar capacity has a SGIA for operation within ERCOT.

Mothballed Capacity – The reserve margin calculation currently uses mothballed capacity based on the lead time and probability information furnished by generation owners pursuant to ERCOT Protocol Section 6.5.9.3, Generation Resource Return to Service Updates. The GATF agreed the treatment of mothballed generation should not be modified.

DC Tie Capacity – The currently methodology is to include 50% of DC Tie Capacity in the reserve margin calculation. The GATF had no suggested changes to this assumption.

“Switchable” Capacity – The current reserve margin calculation includes the Summer Net Dependable Capability of “switchable” units, less the amount of capacity reported by the owners of switchable capacity to be unavailable to ERCOT during the summer peak load period as the result of a requirement, such as a unit-specific contract, for delivery outside of ERCOT<sup>3</sup>. As discussed above under “Installed Capacity Assumptions”, the GATF recommends that the resource capacity reported in the RARF for switchable units and the data provided pursuant to ERCOT Protocol Section 16.5.3, Requirements for Reporting and for Changing the Terms of a Resource Registration, be utilized in the reserve margin calculations and CDR.

Netting of Generation and Load – Currently, the reporting of Private Use Network (PUN) capacity for use in the reserve margin calculation is per Protocol Section 10.3.2.4, Reporting of Net Generation Capacity. The GATF had no suggested changes to this assumption.

Retired Capacity – Currently, a reduction in installed capacity is made for any publicly announced generating unit retirements during the CDR’s five-year forecast period. The GATF initially suggested the CDR line item for retired capacity be removed since any reductions due to retirements has already been accounted for in the installed capacity values. However, there may be instances in which a generation resource owner has notified ERCOT through a “Suspension of Operations” form (as required by ERCOT Protocol Section 6.5.9.1) that it plans to cease operations for a particular resource within a certain period of time, yet ERCOT Staff may still be evaluating the resource for potential RMR service when the CDR is published. Therefore, it is recommended that the CDR line item for retired capacity be modified to read “Pending Unit Retirements” for this particular situation.

CDR Format – The GATF provided ERCOT staff with the following suggestions concerning the format of the CDR report:

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<sup>3</sup> Refer to ERCOT Protocol Section 16.5.3(5), Requirements for Reporting and for Changing the Terms of a Resource Registration.

1. Move the “SummerCapacities” and “WinterCapacities” tabs closer to the front of the report, right behind the “SummerSummary” and “WinterSummary” tabs.
2. Post the GATF reports on the planning portion of the ERCOT website.
3. To provide information concerning the age of resources, add a column showing the on line commercial date for each resource in the “SummerCapacities” and “WinterCapacities” tabs.
4. In the “SummerFuelTypes” and “WinterFuelTypes” tabs, provide a definition of the generation category designated as “Other” and add a row for solar technologies.

## **Recommendations**

Below is a summary of the recommendations being made by the GATF for the reserve margin calculation procedure and the CDR:

### **LOLP Study**

- Utilize NERC GADS forced outage rate data averaged over the 2004 to 2008 timeframe and compare the NERC data with ERCOT’s operational data to ensure it is within a reasonable range. To further refine the information and make it more ERCOT-specific, implement a process in which market participants either: 1) grant ERCOT permission to obtain each company’s GADS data directly from NERC, or 2) provide each company’s information directly to ERCOT.
- The LOLP study year will be 2012.
- Transmission topology will be modeled in a “single node” arrangement, although separate studies will be performed once LOLP cases are developed to look at transmission needs probabilistically.
- NERC GADS data will be used as a basis for the assumptions concerning scheduled maintenance of resources. However, ERCOT Staff will attempt to obtain aggregated ERCOT specific scheduled maintenance data from NERC, rather than industry-wide information. Implement the same NERC GADS data gathering process described above for forced outage information.
- Natural gas-fired combined cycle combustion turbines and natural gas-fired simple-cycle combustion turbine peaking units will be used for new unit additions when determining reserve margins and the ELCC of wind resources.
- To determine the ELCC of wind generators, perform the LOLP calculations utilizing the same methodology as the 2007 study with one slight modification. ERCOT Staff will determine the ELCC for each region (north/west and south) to determine if there are significant differences between the two. If so, ERCOT will add a line item in the CDR showing the ELCC for each. If not, then the ELCC of wind generators in both regions will be combined on a capacity weighted basis in the CDR. Once the ELCC of wind generation is determined, ERCOT Staff will compare the ELCC values with actual wind operational data to ensure reasonableness.

- Solar plants will be treated the same as conventional generation in the LOLP until a threshold level of 200 MW has a SGIA.

#### Load Forecasting

No recommended changes to the existing ERCOT load forecasting processes.

#### Emergency Interruptible Load Service

The GATF recommends the following methodology be utilized for EILS quantities in the reserve margin calculation:

- For the winter period, “current year”
  - Use only the Oct.-Jan. Contract Period
  - Use simple average of 2 Time Period procurements (Business Hours 3 and Non-Business Hours)
- For the summer period, “current year”
  - Use the actual May procurement amount for Business Hours 3 (this procurement is for the June through September contract period).

For the later years in the planning periods (years 2 through 5), a 10% growth rate in EILS will be used, with ERCOT Staff reviewing this growth rate, and possibly amending the rate, as additional EILS procurement data is collected.

#### Other Demand Response Programs

- Advanced metering programs will not be included in the reserve margin calculations at this time. ERCOT Staff will continue to monitor progress in advanced metering programs and may include them in the future once additional information is collected.
- ERCOT Staff will continue to monitor energy efficiency initiatives ongoing by the State of Texas to determine their impact, if any, on firm load calculations.

#### CDR Inputs, Calculations and Format

- Installed Capacity Assumptions – Utilize the following information from RARFs in the reserve calculation:
  - “Seasonal net max sustainable rating – summer”, and
  - “Seasonal net max sustainable rating – winter”
- New Unit Additions – Prior to any update to the reserve margin calculation, ERCOT Staff will contact new unit developers individually and obtain a non-binding estimate of the expected on-line date for units with a SGIA and air permit. ERCOT Staff will request the estimates prior to each update of the reserve margin calculation.
- Renewables – Continue to use the ELCC methodology used in previous LOLP studies for wind generation resources when calculating reserve margins. Solar resources shall

be treated similarly to conventional generation until a 200 MW threshold of solar resources with a SGIA for operation within ERCOT has been reached.

- Mothballed Capacity – Continue to utilize the current “mothballed” capacity methodology based on the lead time and probability information furnished by generation owners as per the requirements in ERCOT Protocol Section 6.5.9.3, Generation Resource Return to Service Updates.
- DC Tie Capacity – No changes recommended to the current methodology of including 50% of DC Tie Capacity in the reserve margin calculation.
- “Switchable” Capacity – Utilize the resource capacity reported in the RARF for the switchable units and the data provided pursuant to ERCOT Protocol Section 16.5.3, Requirements for Reporting and for Changing the Terms of a Resource Registration.
- Netting of Generation and Load – No suggested changes to the generation and load netting methodology for private use networks.
- Retired Capacity – Modify the CDR line item for retired capacity to read “Pending Unit Retirements” for instances in which a generation resource owner has notified ERCOT they intend to cease operations for a particular resource within a certain period of time, yet ERCOT Staff may still be evaluating the resource for potential RMR service when the CDR is published.

#### CDR Format

- Move the “SummerCapacities” and “WinterCapacities” tabs further closer to the front of the report, right behind the “SummerSummary” and “WinterSummary” tabs.
- Post the GATF reports on the planning portion of the website.
- Add a column showing the on line commercial date for each unit in the “SummerCapacities” and “WinterCapacities” tabs.
- In the “SummerFuelTypes” and “WinterFuelTypes” tabs, provide a definition of the generation category of “Other” and add a row for solar technologies.