Adjustments Affecting Calculation of the NYSRC's Installed Reserve Requirement

Presented by
Michael Cadwalader

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NYSRC Adjustments to Installed Reserve Margin

As described in an August 2004 ISO Staff white paper, the NYSRC makes a number of adjustments when it calculates the installed reserve margin (IRM) requirement for the NYCA.

These adjustments are intended to account for differences between:

- **The availability of resources, as reflected in their EFORds and DMNCs, and**
- **The likelihood that these resources will actually be available when needed to meet load, and the amount of capacity that will be available.**

Adjustments are necessary when the likelihood that a resource will incur a forced outage or derate is higher than the likelihood that would be implied by its EFORd.

- **Without such adjustments, the IRM requirement would not be sufficient to meet the NYSRC's objectives.**

Causes of NYSRC Adjustments

These adjustments are intended to account for the following:

- **Differences between actual generator availability and recorded availability, resulting from:**
  - ***Recording days following a forced outage as reserve shutdowns if there is no DAM schedule for those days.***
  - ***Recording days when generators cannot run due to lack of fuel as reserve shutdowns.***
  - ***Transmission outages that preclude generator operation.***
  - ***DMNC tests that rely on configurations that cannot be used during peak conditions or fuels that are unlikely to be available at those times.***
- **Maintenance outages occurring during peak conditions.**
- **Reduced summer capability for non-NYPA hydro generators without pondage capability.**
- **Decreased capability of combustion turbines during hot weather.**
- **Imperfect response by special case resources.**

Impact of NYSRC Adjustments

These adjustments can have a significant impact on the IRM requirement calculated for the NYCA by the NYSRC.

- **The differences between actual generator availability and recorded availability add 711 MW.**
- **The maintenance outage adjustment adds another 200 MW.**
  - ***These maintenance outages are for unplanned maintenance, and are not the same as the planned outages that are coordinated with the ISO through its outage coordination procedures.***
- **Effects of the other adjustments on the IRM requirement are harder to quantify.**
  - ***For example, the effect of the hydro adjustment depends on comparison of the average EFORd for those units to the 45% derate assumed by the NYSRC.***

Phantom UCAP

In some cases, these differences may be intentional.

- **In those cases, the NYSRC should continue to calculate an adjustment to the IRM requirement to account for this difference.**
- **Transmission outages that preclude generators from operating fall into this category.**

But in most cases, UCAP calculations should be modified—or the existing rules should be enforced—to ensure that resources are not credited with "phantom UCAP".

- **Phantom UCAP increases costs to loads, while reducing revenues for generators whose EFORds are consistent with their contributions to meeting NYSRC reliability standards.**
- **Modifying the minimum requirement is better than doing nothing, but inferior to fixing the UCAP rules.**

Recommended Changes to UCAP Rules

We recommend the following changes, which may eliminate the need for many of the adjustments performed by the NYSRC, or reduce the magnitude of those adjustments.

- **UCAP calculations for run-of-river hydro units should be modified to reflect availability during peak conditions.**
  - ***This is similar to the proposed modifications for wind generators to reflect diurnal variation in their capabilities.***

Recommended Changes to UCAP Rules (cont.)

- **Rules permitting generators to be out on maintenance outages should be tightened significantly.**
  - ***Currently, Att. K of the ICAP Manual does not require ISO approval of maintenance outages, as long as the resource in question defers the outage until the end of the nearest following weekend.***
    - It therefore may permit some outages during peak load hours to be treated as maintenance outages.
  - ***One approach is to eliminate maintenance outages, except for weekends.***
    - If a generator that experiences problems during the week can defer a shutdown/derate until the weekend, and can complete the needed repairs during the weekend, then it could take a maintenance outage that would not adversely affect its EFORd.
    - But if the shutdown/derate extends beyond that weekend, its EFORd would reflect this.
    - For the purposes of this policy, holidays would be considered weekends.
    - This would eliminate the need for adjustments to cover maintenance outages.
  - ***Alternatively, the ISO could approve weekday outages, but that approval should only be granted if the effect of such an outage on reliability is expected to be minimal.***
    - This would eliminate the need for adjustments to cover maintenance outages (approved by the ISO or not) during periods when load was *expected* to be high.

Recommended Changes to UCAP Rules (cont.)

- **DMNC tests must reflect generator configurations that can be achieved in actual plant operation with relatively short notice.**
  - ***The 8/04 white paper stated, "[E]xtraordinary actions [uncovered by ISO audits] ranged from shutting down of auxiliary equipment to physically disconnecting and reconnecting steam supply piping in a different configuration."***
  - ***Since ICAP providers are generally required to offer into the DAM, it seems reasonable to limit DMNC tests to configurations that can be implemented with 24 hours' notice.***
    - Units with such a turnaround time would be ready for the next day's peak by the time that day's DAM schedule was posted.

Recommended Changes to UCAP Rules (cont.)

- **DMNC tests must reflect the use of fuel that would be available for use during peak operation.**
  - ***The 8/04 white paper stated, "In another instance, a generating unit … utilizes a blend of coal with varying sulfur and BTU content to meet emission requirements. In conducting the DMNC test, the unit ran strictly on coal with the highest BTU content."***
  - ***If this fuel is available for peak operation with 24 hours' notice, we do not see any need to disallow its use during DMNC tests (or to include an adjustment in the minimum requirement to reflect its use).***

Rule Enforcement

We recommend that the following rules be enforced, which would eliminate the need for the following adjustments performed by the NYSRC.

- **Resources that are unable to operate, and are not on a planned outage that has been approved by the ISO, must record these outages as forced outages.**
  - ***This applies regardless of whether such a resource has a DAM schedule.***
  - ***It also applies even if its inability to operate is attributable to lack of fuel.***
    - Separate corrections may be applied for some generator classes for which this is a systematic problem—such as hydro without pondage capability or wind.
- **The ISO should audit these calculations and penalize entities that are mischaracterizing the nature of their outages.**

More stringent sanctions may be needed if the current ones do not suffice.

CT Capacity Adjustment

It is not clear to us that there is any need for the NYSRC to make an adjustment for CT capacity during hot weather.

- **Summer DMNC tests are already conducted during hot conditions (or are corrected to reflect output during those conditions).**

If the test conditions are not hot enough, we should consider making them hotter to be consistent with NYSRC assumptions.

Interaction Between the ICAP WG & the NYSRC

Finally, whenever the ISO Staff recommends an adjustment in the IRM requirement to reflect differences between the actual likelihood of outages and outages implicit in UCAP calculations to NYSRC, the ISO should inform the ICAP WG.

- **Meetings for each group should include regular updates by ISO Staff on the other group's activities.**
- **This would present the opportunity for the WG to address any misconceptions that the NYSRC may have.**
  - ***For example, an earlier draft of the ISO's white paper would have included an unnecessary adjustment to reflect differences between DAM bids and UOLs for some GTs and CLRs.***
- **And it would give the WG an opportunity to modify UCAP rules, if it sees fit, to avoid the need for an IRM adjustment by the NYSRC.**