

What's up with the Electric Generating Capacity?

These are turbulent times for energy producers and consumers alike and it is not at all clear what the outcomes will be.

There is a serious shortfall of electric generating capacity in the Western U. S. , brought on by the general lack of new generating capacity additions in recent years and the shortfall of hydro output due to recent dry weather conditions. Emission limits have also caused some to curtailed output.

At the same time, natural gas prices have sky-rocketed as a result of the increased demand for it in power generation, a general lack of new exploration activity, the continued draw down of storage and a colder than normal winter forecast and actual. This has also been aggravated by regional supply constraints, again in California.

This has translated into three-fold increases in electric prices to retail and commercial customers in certain parts of California, and the continuing threat of rolling brown outs.

Two of the major electric utilities in California are on the verge of bankruptcy and emergency measures in various forms are imminent.

Add this to the uncertainty of both price and supply of heating oil on the east Coast and it would be easy to conclude that the entire energy policy is suspect. And for sure, the utilities in California would have you believe that this is all the result of deregulation "gone bad" and that a return to a regulated environment is the only reasonable course of action.

On the other hand, Cambridge Energy Research has been tracking the new plant construction announcements and by their estimates there is more than enough generating capacity being added to the system and that we may in fact be headed for an "over-build." This is most apparent in the current 3-4 year gas turbine generator backlogs and the subsequent shortage of EPC capacity to install them.

Of course all of this construction was based upon wholesale gas prices of \$2.50/MMBtu. The real question for the turbomachinery community is how solid is the backlog and will it all actually get built?

It should also not go unnoticed that as the fuel cost component rises from \$2.50 to \$5.00/MMBtu, the breakeven point between CCGT and peaking units drops from 50% to 25% load factor. It is not clear that a CCGT could operate at 25% load factor, but this will still be a resource planning consideration.

The original thinking was that some of the older coal fired stations would be shut down because of the high cost to add the required pollution control equipment, and that the new high efficiency CCGT units would replace them. But given this climate of uncertainty on generation, it is hard to imagine that the EPA would force such an action in the near term.

A more likely scenario would be for the new administration and the EPA to provide a time extension on meeting emission requirements and that some of the new construction would be delayed in those regions with over-build potential, pending a clearer outlook on gas prices and electricity demand.

If anything, those banking on the 3-4 year backlog might exercise some caution before funding major investments to support it.

Peter Baldwin
Contributing Editor
pete_baldwin@base-e.net

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