Recent FERC Reactive Power Decisions

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Reactive Power

- Reactive power cannot be cost effectively transmitted long distances
- Reactive power needs are often highly localized and can only be satisfied locally
  - Supplied from generators locally
  - Capacitive devices

Docket No. ER04-961

- Reactive power needs often must be met instantaneously or in a matter of a few minutes
- If a facility is off-line most hours of the year or if it lacks a firm year around fuel supply, such generators cannot meet the transmission system's need for reactive power

Recent FERC Reactive Power Decisions

- Docket No. ER04-961 – Midwest ISO Schedule 2 Tariff
- Order No. 661-A – Wind Generator interconnection Rule
- Troubling inconsistencies between these two decisions that benefit generators and negatively impact customers
- This could have disproportionately large impacts on customers in certain zones

Docket No. ER04-961

- To ensure all generators are paid for reactive power on a comparable basis, all generators shall be compensated for reactive power service regardless of a consideration of need
- With no needs test, customers are not protected against having to pay for unnecessary reactive power service
- Under the just and reasonable standard in Section 205 of the Federal Power Act, facilities must be used or useful, *i.e.,* needed

Docket No. ER04-961

- A generator's claimed comparability is enough to form a basis for payment for reactive power service
- Compensation based on nameplate rating rather than actual capability
- Compensation is calculated using the utility's cost of capital and capital structure

Docket No. ER04-961

- The reactive power charge is calculated and collected on a zonal basis
- A zone with few customers and a ready supply of fuel could end up paying a lot for reactive power service
- Generators are paid for reactive power on a reservation charge basis (paying them from every hour of every day) regardless of whether they actually provide service or can be relied upon to provide service

Docket No. ER04-961

- Paying a reservation charge to all generators:
  - Means that peaking plants that operate only a small percentage of the year are paid on the same basis as a baseload generator that provides back bone reactive power services
  - Ignores the fact that different generators have different fuel suppliers, may be frequently off-line and not even staffed, and may have no obligation to start operations if they are not online

Proper Reactive Power Compensation

- Generators that are infrequently requested to provide reactive power should be paid on a production basis when they provide reactive power
- Generators that provide the “back bone” reactive power should be paid reservation charges
  - Generators that provide daily reactive needs

Proper Reactive Power Compensation

- Paying generators regardless of reactive power that they actually provide sends the wrong price signals and does nothing to reward the actual provision of reactive power
- Paying all generators when they actually produce reactive power would send proper price signals

Calpine Case in SPP

- Calpine facility ran infrequently and produced significant amounts of reactive power less than 1% of the time
- SPP studies found that even without the plant there would be sufficient reactive power for the foreseeable future (10-15 year planning cycle) in the area
- There was no need for the Calpine facility to provide reactive power

Bluegrass Case in MISO

- The plant rarely ran and was not on-line to provide reactive power most of the time and often was not staffed
- The plant's hours of operation are on weekdays from 6:00 AM until 4:00 PM
- The plant could take more than an hour to be brought on-line if called on outside of these hours
- The plant lacked firm fuel supplies

Bluegrass Case in MISO

- The one time the control area operator called upon it to provide reactive power support, the facility was incapable of providing the amount of reactive power requested
- The plant did not run nor produce reactive power in 2004
- In 2005, the plant produced MVARs only three times for purposes other than testing
- The plant operated only 497 hours from the period of June 2, 2002 to July 21, 2005

Bluegrass Outcome

- Bluegrass received a reservation charge of $762,135 annually
- An increase from 50 cents per MVAR to $350 per MVAR for reactive power that was actually provided

Order No. 661-A

- The Commission has found that interconnecting wind generators are not required to meet the transmission provider's power factor standard absent a specific determination of need, stating that this would protect such generators against having to pay excessive costs

Order No. 661-A

- The requirement for a needs test is intended to prevent a wind generator from having to pay for equipment that is not needed for system reliability purposes
- Admits that a needs test is possible and desirable if it helps to prevent unnecessary costs for generators

Docket No. EL05-72

- Compensation is calculated using heated losses based on full rated power factor capability rather than actual run time and actual heating losses

Rule of Thumb

- Whatever benefits the generator is the policy that FERC will set, even if it results in inconsistent decisions and negative impacts on customers