

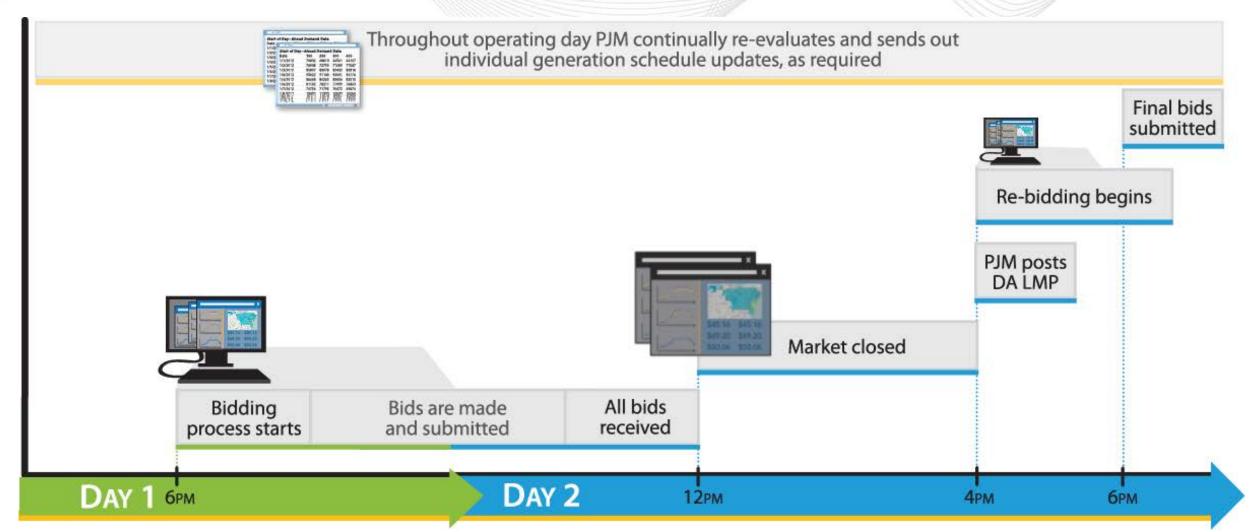
Gas Market Coordination in PJM Markets

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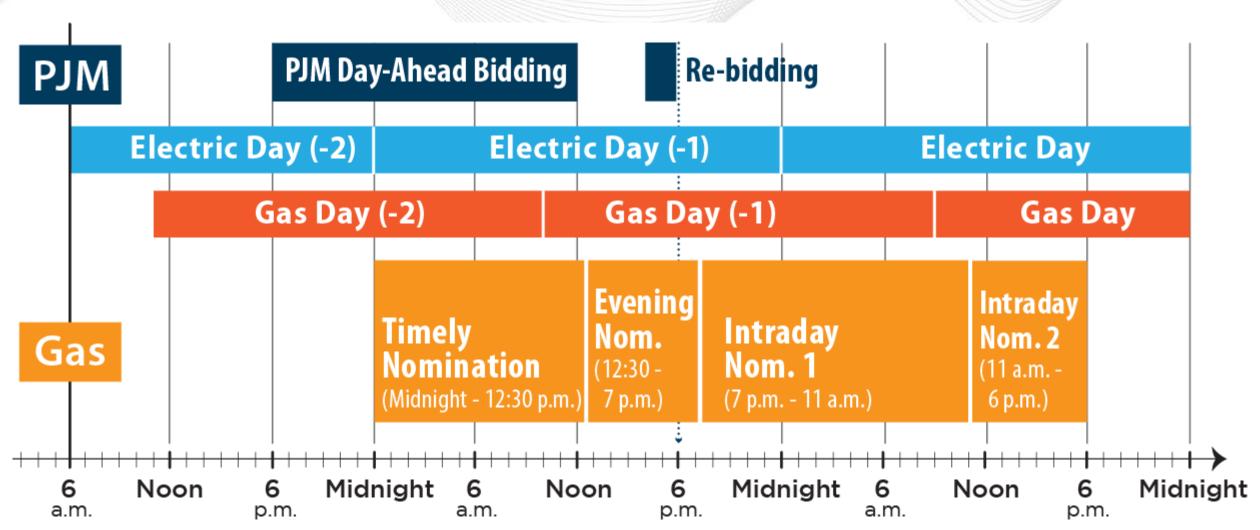


Day-Ahead Market Timeline (Eastern Time)





Current Gas Nomination Schedule (Eastern Time)



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Gas and Electric Market Schedules

Operational day differences

- Procure gas for two gas days for one electric day.
- Generator may need to sell gas if not picked up to run on the electric day.
- Generators must balance gas deliveries and could be forced to derate during the start of the morning peak to balance gas deliveries.

Nominations

- Units must nominate gas transportation (timely) before knowing the day-ahead awards.
- Interruptible transportation, even if they nominate in the timely schedule, can have their nominations eliminated if firm transportation customers elect to use their capacity in later nomination periods (except for nominations made in the Intraday 2 period).
- Interruptible transportation is harder to get or can be unavailable in later nomination cycles, after a generator has been scheduled to run in the day-ahead market.



Natural Gas Nomination Cycles

Nomination Cycles (Eastern Time)

| Cycle | Category | Current NAESB Standards | Revised NAESB Standards |
|------------|---------------------|-------------------------|-------------------------|
| Timely | Nomination Deadline | 12:30 p.m. | 2:00 p.m. |
| | Schedule Issued | 5:30 p.m. | 6:00 p.m. |
| | Start of Gas Flow | 10:00 a.m. | |
| Evening | Nomination Deadline | 7:00 p.m. | 7:00 p.m. |
| | Schedule Issued | 11:00 p.m. | 10:00 p.m. |
| | Start of Gas Flow | 10:00 a.m. | |
| Intraday 1 | Nomination Deadline | 11:00 a.m. | 11:00 a.m. |
| | Schedule Issued | 3:00 p.m. | 2:00 p.m. |
| | Start of Gas Flow | 6:00 p.m. | 3:00 p.m. |
| | IT Bump Rights | bumpable | bumpable |
| Intraday 2 | Nomination Deadline | 6:00 p.m. | 3:30 p.m. |
| | Schedule Issued | 10:00 p.m. | 6:30 p.m. |
| | Start of Gas Flow | 10:00 p.m. | 7:00 p.m. |
| | IT Bump Rights | no bump | bumpable |
| Intraday 3 | Nomination Deadline | | 8:00 p.m. |
| | Confirmations | | 10:30 p.m. |
| | Schedule Issued | | 11:00 p.m. |
| | Start of Gas Flow | | 11:00 p.m. |
| | IT Bump Rights | | no bump |



ISO/RTO Day-Ahead Timetable

| | - //// | |
|---|----------------------------------|--|
| ISO/RTO | Time For Submission of Bids (ET) | Time for Publication of Day-Ahead Commitment Bids (ET) |
| California Independent System Operator | | |
| Corporation (CAISO) | 1:00 p.m. | 4:00 p.m. |
| ISO New England Inc. (ISO-NE) | 10:00 a.m. | 1:30 p.m. |
| PJM Interconnection, LLC (PJM) | 12:00 p.m. | 4:00 p.m. |
| Midcontinent Independent System Operator, Inc. (MISO) | 11:00 a.m. | 3:00 p.m. |
| New York Independent System Operator, Inc. (NYISO) | 5:00 a.m. | 11:00 a.m. |
| Southwest Power Pool, Inc. (SPP) | 12:00 p.m. | 5:00 p.m. |

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PJM Day-Ahead Bidding and Gas Nomination Schedule – Final FERC Order (ET)

