



# Hourly Notification Time in Day-Ahead

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August 14, 2024

- Notification Time is one of the essential parameters submitted by Generation Resources:
  - Represents the time interval between PJM notification and the beginning of the start sequence;
  - It is used in both Day-Ahead market and Real-time market for energy as well as reserves;
  - Submitted through Markets Gateway.
- In Market Gateway, there are two ways to submit Notification Time:
  - Submit daily notification time On “Schedule Detail”, by temperature state (Cold/Intermediate/Hot);
  - Submit a single value hourly notification time on “Schedule Detail Update”. The hourly notification time overrides daily notification time.

- Hourly Notification Time is particularly useful for gas pipeline restrictions.
- Last year, PJM and IMM issued guidelines regarding temporary exception and use hourly differentiated notification time, in the event that an unit must nominate gas per the NAESB cycles (<https://www.pjm.com/-/media/markets-ops/energy/op-reserves/temporary-operating-parameter-limit-pls-exceptions-due-to-pipeline-restrictions.ashx>)

Hour	HE1	HE2	HE3	HE4	HE5	HE6	HE7	HE8	HE9	HE10	HE11	HE12
Notification Time	15	14	13	12	11	10	9	8	7	6	9	8
Time On (If Called)	15:00	15:00	15:00	15:00	15:00	15:00	15:00	15:00	15:00	15:00	19:00	19:00
Nearest Cycle	ID1	ID1	ID1	ID1	ID1	ID1	ID1	ID1	ID1	ID1	ID2	ID2

Hour	HE13	HE14	HE15	HE16	HE17	HE18	HE19	HE20	HE21	HE22	HE23	HE24
Notification Time	7	6	9	8	7	6	5	20	19	18	17	16
Time On (If Called)	19:00	19:00	23:00	23:00	23:00	23:00	23:00	15:00	15:00	15:00	15:00	15:00
Nearest Cycle	ID2	ID2	ID3	ID3	ID3	ID3	ID3	ID1	ID1	ID1	ID1	ID1

- However, hourly notification time is not used in Day-Ahead software today.
  - OATT Attachment K – Appendix, Sec 1.10 stipulates that hourly notification time is only used for Real-time;
  - The assumption at the time of this design was there would have been ample notification time for Day-Ahead scheduling, as Day-Ahead notification time is counted from 1400 the day before.

(b) For generation resource offers, Market Sellers may vary for each clock hour during the entire Operating Day the following offer parameters: (1) cost-based Start-up Costs; (2) cost-based No-load Costs; (3) Incremental Energy Offer; (4) Economic Minimum and Economic Maximum; (5) emergency minimum MW and emergency maximum MW; (6) ramp rate; (7) Synchronized Reserve maximum MW; (8) Secondary Reserve maximum MW; and (9) for Real-time Offers only, (i) notification time and (ii) for uncommitted hours only, Minimum Run Time.

- With the introduction of Non-Synchronized Reserves (NSR) and offline 30-min reserve in Day-Ahead (DA), there is a misalignment between DA and Real-time (RT) resulting in hourly notification time not being considered in DA:
  - For example: A CT has **daily** notification time + Startup time of 0.1 hour, and extended hourly notification time to align with NAESB nomination cycles:
  - In DA, this CT is eligible for NSR and offline 30-min reserve when not committed for energy, because DA only considers the **daily** notification time + Startup time;
  - In RT, this CT is not eligible for NSR or offline 30-min reserve when offline because of extended **hourly** notification time;
  - In this example, DA does not accurately reflect the true reserve capability of this CT.

- In order to accurately count offline reserve capabilities in the Day-Ahead market, it would be necessary to make changes in Day-ahead software:
  - Include hourly notification time in Day-ahead engine for reserve eligibility as we do in Real-time;
  - Reword Tariff section “for Real-time Offers only”;
  - Update M11 accordingly;
  - Time frame: implement the change before winter 2024
- The proposed change only applies in reserve clearing. The commitment for energy in Day-Ahead market will continue to use daily notification time.

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## Hourly Notification Time in Day-Ahead



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