# Gas Unit Commitment Coordination (OC): Communication Issues
# OPTIONS MATRIX

| # | Design Components[1] | Generator Attribute Level | Priority | Status Quo |
|---|---|---|---|---|
| [Click here for the eMKT Users Guide (Design Component Definitions)](#) | | | | |
| 1 | **EXISTING GENERATOR DATA** | | | |
| 1a | Emergency Min/Maximum (MW) | Unit, Schedule, Hourly Updates | High | **Entry Frequency-** Upon submittal of unit-specific info to PJM<br>**Update Frequency-** Daily/Hourly<br>**Entry Method-** eMKT<br>**Required/Not Required-** Required (if not entered, default value=0)<br>**Enforced-** |
| 1b | Economic Minimum/Maximum (MW) | Unit, Schedule, Hourly Updates | High | **Entry Frequency-** Upon submittal of unit-specific info to PJM<br>**Update Frequency-** Daily/Hourly<br>**Entry Method-** eMKT<br>**Required/Not Required-** Required (if not entered, default value=0)<br>**Enforced-** |
| 1c | Start Up Costs (Hot, Inter,Cold) | Unit (Price Based), Schedule (Cost Based) | Education | **Entry Frequency-** Daily (Cost based); Every 6 months (Price based)<br>**Update Frequency-** Daily (Cost based); Every 6 months (Price based)<br>**Entry Method-** eMKT<br>**Required/Not Required-** Required (if not entered, default value=$0.00)<br>**Enforced-** |
| 1d | No Load Costs | Unit (Price Based), Schedule (Cost Based) | Education | **Entry Frequency-** Daily (Cost based); Every 6 months (Price based)<br>**Update Frequency-** Daily (Cost based); Every 6 months (Price based)<br>**Entry Method-** eMKT<br>**Required/Not Required-** Required (if not entered, default value=$0.00)<br>**Enforced-** |

Solution

| # | Design Components[1] | Generator Attribute Level | Priority | Status Quo |
|---|---|---|---|---|
| 1e | Start Up Times (Hot, Inter, Cold) | Schedule | | **Entry Frequency-** Daily<br>**Update Frequency-** Daily<br>**Entry Method-** eMKT<br>**Required/Not Required-** Required<br>**Enforced-** Scheduling practices / Forced Outage |
| 1f | Notification Times (Hot, Inter, Cold) | Schedule, Hourly Updates | High | **Entry Frequency-** Daily<br>**Update Frequency-** Hourly (Unit Hourly Updates)<br>**Entry Method-** eMKT<br>**Required/Not Required-** Required  (if not entered, default value=0)<br>**Enforced-** |
| 1g | Cost Based Schedule | Schedule | Education | At least 1 schedule made available daily - can have more - parameter limited |
| 1h | Price Based Schedule | Schedule | Education | Only 1 price based schedule available daily (if not parameter limited, PLS must be available in Emergency) |
| 1i | Minimum/Maximum Run Times | Schedule | High | **Entry Frequency-** Daily<br>**Update Frequency-** Daily (preferred) Hourly (in practice, not preferred)<br>**Entry Method-** eMKT<br>**Required/Not Required-** Required (if not entered, default value= 0.0 MWh)<br>**Enforced-** |
| 1j | Minimum Downtime (hourly) | Schedule | | **Entry Frequency-** Daily<br>**Update Frequency-** Daily<br>**Entry Method-** eMKT<br>**Required/Not Required-** Required (if not entered, default value= 0.0 MWh)<br>**Enforced-** |
| 1k | Temperature State Definitions<br><br>Hot to Cold (hours)<br>Hot to Intermediate (hours) | Schedule | | **Entry Frequency-** Daily<br>**Update Frequency-** Daily<br>**Entry Method-** eMKT<br>**Required/Not Required-** Required<br>**Enforced-** |

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| 1l | Status | | High | The status of the generating unit is determined on a unit basis, using the Unit Detail web page. The status on the Unit Detail is used for to reflect the unit's long-term status. This is the default for the unit. The Unit Hourly Updates web page is used to reflect real-time changes to the unit status and overwrites the unit status on the Unit Detail web page.<br>If the status changes during real-time (for example, the unit becomes unavailable or limits change as a result of operating problems), the Operating Company uses the Unit Hourly Updates web page to provide the updated status.<br>The following unit statuses are available from the Unit Detail web page:<br>Economic — Indicates that a unit is available for normal economic dispatch. This is the default<br>Emergency — Indicates that a unit is available only for<br>Must Run — Indicates that the generating unit is self-scheduling. Unit MUST be committed. The unit is committed at Economic Min and allowed to move up to Economic Max.<br>Not Available — Indicates that the unit is unavailable. |
| 1m | Max Weekly Energy | Schedule | High | The maximum amount of energy, reported in MWh, that the unit can produce in one week used for study purposes. The default value is 0.0 MWh. If unit is fuel limited, it is recommended that his value be set to the default and run time restrictions be bid using the Maximum Run Time parameters. |
| 2 | **New Generator Data** | | | |
| 2a | **Limits** | | | Combined previous 2a-2d<br>Limitations on Burning the fuel (2a)<br>Emissions Limits (2b)<br>Remaining Run Hours (when below defined threshold) (2c)<br>Data on critical resource and deterioration rate (resources required to start/operate unit) (2d) |
| 2a(I) | *What is the Limit?* | | | |
| 2a(II) | *Rate of Deterioration?* | | | |
| 2b | **Impacts of Limits** | | | |
| 2b(I) | *Run Time* | | | |
| 2b(II) | *Loading Levels* | | | |
| 2b(III) | *Price* | | | |

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| 2e | Dual Fuel Capability/ Quality | | High | Not a specific data field.   Can be described in schedule name, but not required.  Fuel Type is on each Schedule |
| | Dual Fuel Availability | | High | |
| | Time to Transition | | High | |
| | Output during Transition | | High | |
| 2f | Inventory Changes (i.e. fuel tanks) | | | Data not currently available to PJM (potential for coordination with eFuel (IMM) |
| 2g | Latest Deadline Time | | | Not currently collected |
| 2h | Price for Latest Notification Time | | | Not currently collected |
| 2i | Dynamic Minimum/Maximum Run Time | | | |
| 2j | Dynamic Minimum/Maximum Loading Levels | | | |
| 2k | Time to Start | | | |
| 2l | Gas Delivery Characteristics (distance to pipeline, size of pipeline, distance to city) | | | |
| 2m | Gas Acquisition characteristics (firm/non-firm delivery contracts, quantities | | | |
| 2n | Amount of time since last start | | | |
| 3 | General Parameter Data Requirements  (specific data fields to be reviewed) | | | |
| 3a | Data is "locked down" | | | 12pm for next day |
| 3b | Effective date for data parameters | | | Can enter data for 7 days into the future |
| 3c | Penalties or incentives to provide and update parameter data | | | None - Default values used if data not entered |
| 4 | Scope, binding nature (financially & physically) of dispatcher instructions provided via phone calls for unit commitment purposes | | | Currently phone used for updates for unit commitments- not consistent.  Commitment will honor Min Run Time in effect at time of commitment |
| 5 | True (actual physical limits of unit) limit vs. parameter limited data (or address parameter limited schedules) | | | |
| 6 | Timing for scheduling during Emergency Procedures | | | |
| 7 | Process for dispatching limited units | | | |

**Instructions:**

[1]Design Components - each is an "attribute" or "component" of any proposed solution.  Consensus of the group should be sought on selection of a set of solutic

| # | Design Components[1] | Generator Attribute Level | Priority | Status Quo | Solution |
|---|---|---|---|---|---|

[2]Solution Options - each is a solution alternative elicited from the stakeholder group that meet one of the specific solution criteria.

**To complete the matrix:**
1. Elicit from the stakeholder group a set of components (attributes) desired for any proposed solution. Enter a short label for each in the Design Components c
2. If needed, enter a more detailed description of each criteria on the "Component Details" tab.
3. Using informal/non-binding voting, rate each component's priority in the final solution as "high/medium/low"
4. Elicit from the stakeholder group potential solution alternative(s) for each component.  Enter a short label for each in the Solution Options columns.
5. If needed, enter a more detailed description of each potential solution option on the "Solution Details" tab.
6. Once the matrix is filled out, the group will attempt to select a single solution alternative (column) for each component (row) to form a solution "package".
   Example: cells 1B, 2C, 3A, 4B, 5D could make up a solution package.
7. If consensus is achieved on a single package (Tier 1 decision-making method), this will be documented in a Consensus Proposal Report to the parent comm
8. If not, the group will identify up to 3 possible solution packages in a comparative Proposal Alternatives Report to the parent committee (Tier 2 decision-makir