

Unit Outage and Ramp Coordination

Darrell Frogg
Generation Department

SOS
May 2, 2019

- Coordinating Transmission Outages with scheduled Generation Outages and Effect on Reliability Studies
- Longer Ramp Up Periods Compared to Other Unit Types
- Short Lead Time for Updates on Breaker Close to Full Ramp Up
- Understanding Need for Ticket to Extend through Ramp Up

New Generator Ticket

User ID: froggd	Company: PJM Interconnection		
Generation Type: Nuclear ▼	Unit Name: TEST UNIT 44 ROBOT ▼		

Company Ticket ID: <input style="width: 90%;" type="text" value="1234567"/>	Date	Hour	
	(MM/DD/YYYY)	(HH24:MI)	
Description: <div style="border: 1px solid gray; padding: 5px; min-height: 100px;"> Scheduled Refuel/other repairs. Unit will be back online 5/27. Unit will reach full load by 5/31. </div>	Est./Ramp Start:	<input type="text" value="05/12/2019"/>	<input type="text" value="23:00"/>
	Est. End:	<input type="text" value="05/31/2019"/>	<input type="text" value="08:00"/>
	Est. Early Return :	<input type="text" value="05/31/2019"/>	<input type="text" value="08:00"/>
	End Date Unknown	<input type="checkbox"/>	
	Informational:	<input type="checkbox"/>	

Daily Job: # Days: Start Day Delta:

MW
Volt. Reg.
MVAR
Governor
MVAR Test
PSS

MW Ticket Info

	Date	Hour		
	(MM/DD/YYYY)	(HH24:MI)		
Est. Ramp Complete:	<input type="text" value="05/14/2019"/>	<input type="text" value="08:00"/>	Ticket Reduction: <input style="width: 50px;" type="text" value="198"/>	Inst. Cap: 198
Company Switch Start:	<input style="width: 50px;" type="text"/>	<input style="width: 50px;" type="text"/>	Cause:	<input style="width: 100px;" type="text" value="Annual Inspections/Refuel"/> ▼
Company Switch End:	<input style="width: 50px;" type="text"/>	<input style="width: 50px;" type="text"/>	Outage Type:	<input style="width: 100px;" type="text" value="Forecasted Planned"/> ▼

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GENERATION TICKET EDITOR

Ticket ID	313347	Company	PJM Interconnection	Company Ticket ID	1234567	ICAP	198 MW	Dual Fuel Flag	<input type="checkbox"/>
User ID	froggd	Submitted	4/11/2019 14:38:40	Control Zone	OVEC	Original Reduction	198 MW	Primary Fuel	N/A
Gen Type	Nuclear	Unit Name	TEST UNIT 44 ROBOT	Informational	NO	Effective Reduction	198 MW	Secondary Fuel	N/A
Cause	Outage Type	Ticket Status		Est. Start / Ramp Start	05/12/2019 23:00:00	Switch Start	00/00/00 00:00	Black Start Unit	<input type="checkbox"/>
<u>Annual Inspections/Refuel</u>	Forecasted Planned	Approved		Est. Ramp Complete	05/14/2019 08:00:00	Switch End	00/00/00 00:00		
Related Ticket ID				Est. End	05/31/2019 08:00:00	Actual Start	00/00/00 00:00		
				Est. Early Return	05/31/2019 08:00	Actual End	00/00/00 00:00		
						Forced Date	00/00/00 00:00		

Description (4000 Character Limit)

Scheduled Refuel/other repairs. Unit will be back online 5/27. Unit will reach full load by 5/31.

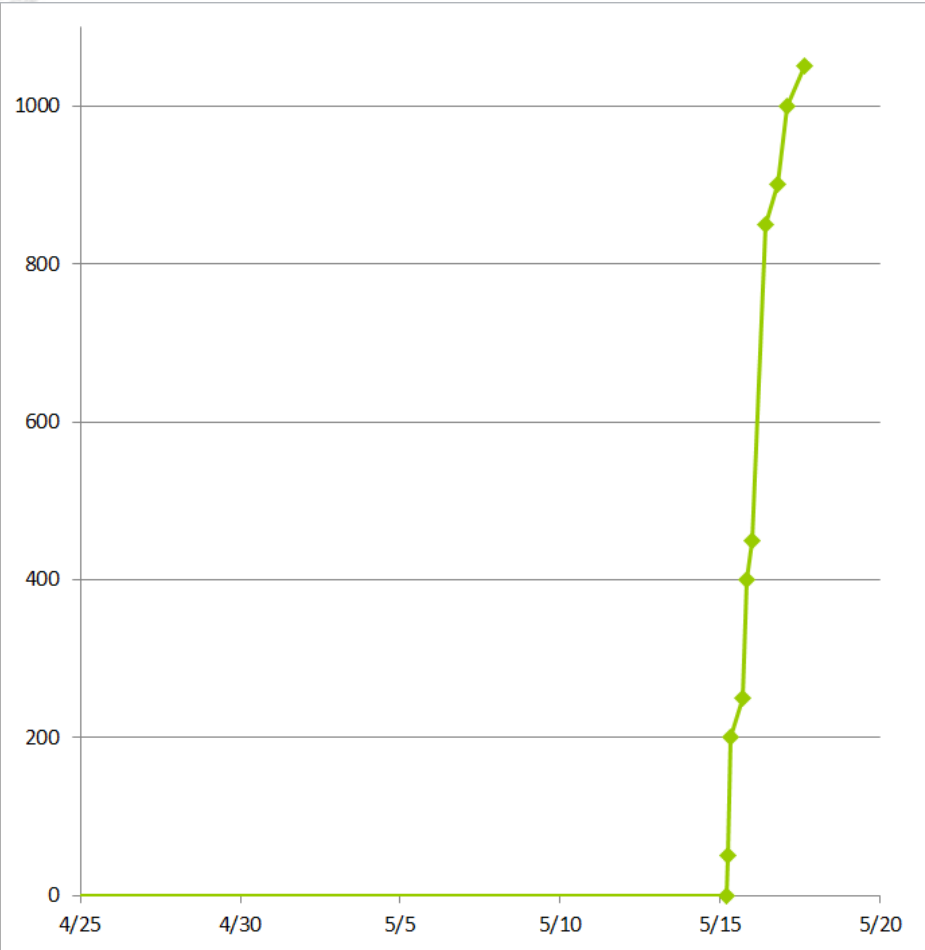
PJM Comments (4000 Character Limit)

Auto Approval Comments

Exit Print Add Revision History Log Comments Log Study Results Switch Log Attachments (0)

Revision ID	User	Revised Start Date	Revised Ramp Complete	Revised End Date	Mw Reduction	Effective Date	Revision Status	Timestamp
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Start Time	End Time	Start MW	End MW	Reduction	Duration	Description of Work
4/1/2019 0:01	5/15/2019 5:00	0	0	1055	26days 5:00:00	
5/15/2019 5:00	5/15/2019 6:00	0	50	1005	1:00:00	
5/15/2019 6:00	5/15/2019 7:30	50	200	855	1:30:00	
5/15/2019 7:30	5/15/2019 16:30	200	250	805	9:00:00	
5/15/2019 16:30	5/15/2019 20:00	250	400	655	3:30:00	
5/15/2019 20:00	5/15/2019 23:45	400	450	605	3:45:00	
5/15/2019 23:45	5/16/2019 9:30	450	850	205	9:45:00	
5/16/2019 9:30	5/16/2019 19:00	850	900	155	9:30:00	
5/16/2019 19:00	5/17/2019 2:30	900	1000	55	7:30:00	
5/17/2019 2:30	5/17/2019 15:30	1000	1050	5	13:00:00	
5/17/2019 15:30	5/17/2019 18:00	1050	1055	0	2:30:00	



- How far in advance are the ramp details getting to the MOCs and then to the TOs and PJM?
- How often are changes by the plant to planned outages relayed to MOCs and TOs?
- Any thoughts on method to standardize communication of ramp details at the end of outages to TOs and PJM?
 - Similar to ramp details at the start of the outage
- Other suggestions?