

Forward Reliability Assessment Coordination

February 28, 2008

FRAC Basics

- Supplement DA commitment to meet expected RT conditions
- Security Constrained Unit Commitment
 - Unit commitment cost minimization with all constraints within limits

Forward Market Timeline

- Multi-Day FRAC study from 7-11 AM EST
- DA market closes at 11 PM EST
- DA should be posted by 4 PM EST
- FRAC re-bid period from 4-5 PM EST
- Next Day FRAC assessment from 5–9 PM EST
- FRAC commitments usually sent by 9 PM EST

FRAC Inputs

- RT Unit Offers
- Current Unit Plan – No Virtual Units
- Forecasted Load Plus Losses
- DA NSI
- Unit Outages
- Transmission Outages
- Constraints
- Loop Flows

FRAC Solution

- Security Constrained Unit Commitment
 - Cost minimization with penalty costs for violating constraints
 - The software picks the lowest cost solution
 - Unit costs considered by the software are startup and minimum load (i.e. no-load and incremental energy up to ecomin)
 - Energy cost evaluation is not the same as in the DA market
 - DA use energy cost at dispatch MW
 - DA commitments are considered must run units
 - No Virtual Units

FRAC Outputs

- RT Unit Commitments
 - Unit Starts and Stops
- RT Unit Plan
- Unit Dispatch Files
 - Used by various groups internal and external to MISO

Market Issues

- DA is financial and only clears bid load
- FRAC commits to forecasted load which is often greater than the cleared bid demand from DA
- There is no requirement for DA to clear 100% of forecasted load
- Hopefully, additionally committed units will likely dictate the energy prices as lower cost units have already been committed by DA
- With 3 part offers, startup and no-load costs are separate and not covered within the offer curve – It may be difficult to recover these costs thru dispatch

Software Interface

MSS : Multi Settlement System - [MTAYLOR@smdd_prod]

Action Edit Query Block Record Field Help Window

Cases

Approved Unapproved Failed All RelAsmnt Current Day Next Day All Current User Only Execute Stop Kill Archive Last Outage Update 25-FEB-2008 21:22:21

Case Id: 22500200802150813 Case Name: RA 2008-02-25 Savecase: December012007 Description: RelAsmnt Study Mode: RelAsmnt Use MIP:

Case Start: 25-FEB-2008 01:00 Case End: 25-FEB-2008 24:00 SpdEnd: 25-FEB-2008 24 Owner: OSHARTZER Delta Forecast Mw: LMP vs Rate ...

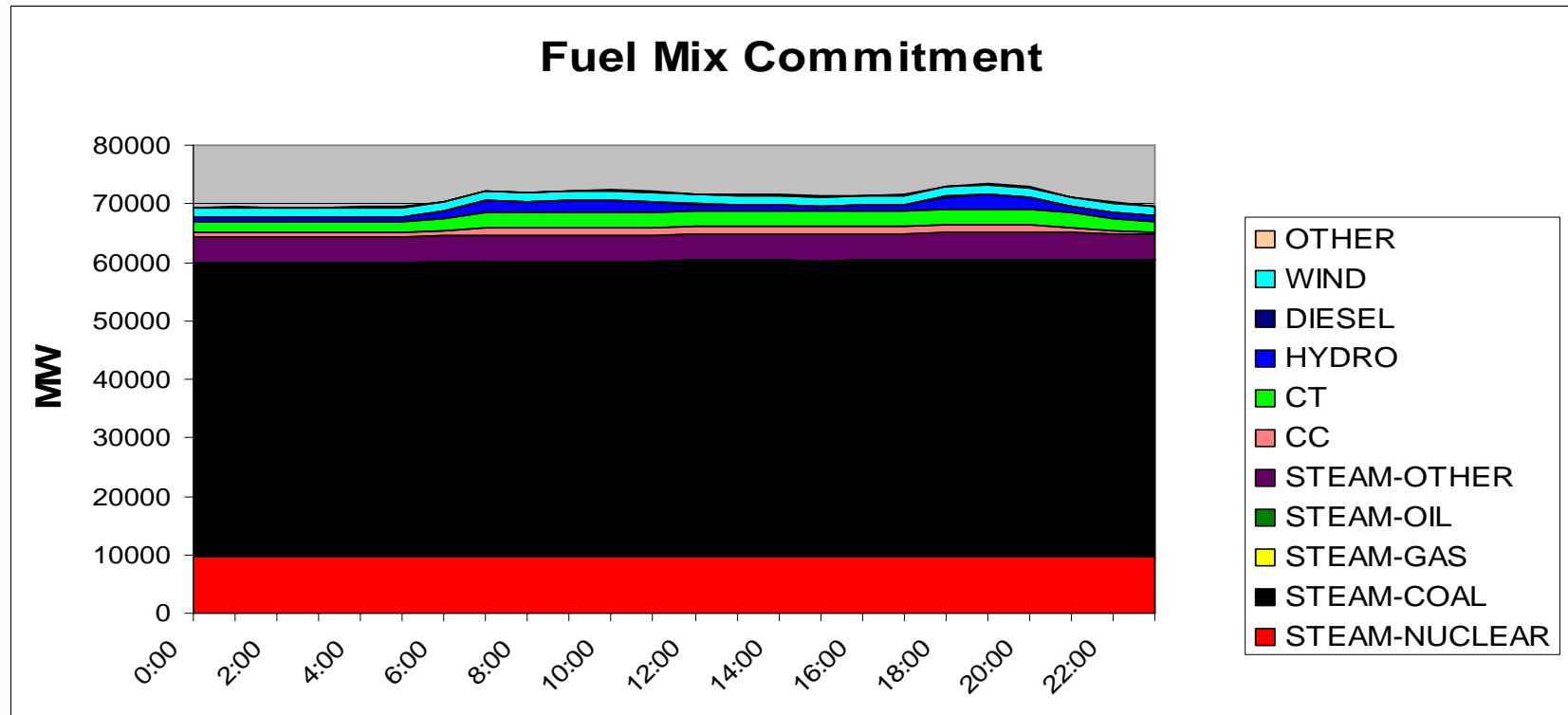
AutoMarketPower: SpdCommitPeakers: Source Case: Use: Exp: Top: Rsc: Advance Notice OVRD: Execute: Exp: Top: Rsc: Spd: SIT: Imp: SFT Mode: PF Based (1)

Branches RT Cons Constraints Exclude Ctgs Loop Flows Outages Limitsets Breakers Units LoadMS Flowgates Control Messages Output Machine Rsc Status OK Rsc Ldr Status OK

Mkthour	Topper Skip	Topper Status	Solve Sens	Spd Status	Sit Skip	Sit Status	Importer Status	Iterate Spd	Iterate Sit	Market Power	Condition	Lmp Min	Lmp Max	Dead Bus	Violate
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25-FEB-2008 02	<input type="checkbox"/>	OK	<input checked="" type="checkbox"/>		<input type="checkbox"/>					<input type="checkbox"/>	Normal				<input type="checkbox"/>
25-FEB-2008 03	<input type="checkbox"/>	OK	<input checked="" type="checkbox"/>		<input type="checkbox"/>					<input type="checkbox"/>	Normal				<input type="checkbox"/>
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25-FEB-2008 05	<input type="checkbox"/>	OK	<input checked="" type="checkbox"/>		<input type="checkbox"/>					<input type="checkbox"/>	Normal				<input type="checkbox"/>
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Record: 1/? <OSC> <DBG>

Charts and Graphs



Charts and Graphs

