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IDC and Its Data as Used in the Interpretation of Congestion in the Eastern Interconnection

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to ensure the reliability of the bulk power system

Interchange Distribution Calculator (IDC)

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- IDC 2007 historical data was provided for the DOE 2009 Congestion Study.
- Important to understand what the IDC is and what it does.
- Developed in the 1998-99 timeframe when volume of schedules was increasing significantly.
- Purpose of the IDC is to aid Reliability Coordinators in the Eastern Interconnection in implementing the Transmission Loading Relief (TLR) procedures as specified by NERC in Reliability Standard IRO-006 and as specified by NAESB in Business Practice Standard WEQ-008.
- Calculates the effect of all BA to BA scheduled transactions (e-Tags) on all specified flowgates in the Eastern Interconnection.

Interchange Distribution Calculator (IDC)

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- Evaluates the effect of all market flows on all specified coordinated flowgates in the Eastern Interconnection.
- Calculates the effects of all native load generation on all specified flowgates in the Eastern Interconnection.
- All calculations are provided for current hour and next hour.
- When TLR is issued by RC and curtailment quantity is requested, IDC specifies e-Tag, market flow (and generation if TLR Level 5) curtailment quantities by TLR level and priority.

Interchange Distribution Calculator (IDC)

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- Continue to provide data for frequency and duration of TLR's on any flowgate as well as the magnitude of curtailed MW (e-Tag schedules, market flows & native load generation) on any specified flowgate.

Several of the Metrics Considered

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- Number of Times/Periods when AFC/ATC = 0
- LMPCC – the Congestion Component of LMP
- Market Shadow Price
- IDC Related Metrics (by RC):
  - Number of TLR's Issued for a Flowgate
  - Duration of the Issued TLR for a Flowate
  - Magnitude of the TLR – Measured in Terms of Curtailed MW's

IDC Metrics – What Do They Mean?

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- Number of TLR's Issued for a Flowgate
  - Page 91 of the Version 0.2 Report Shows Top 7 RC's
  - Within RC Subset, Range Is 21 to 14,817 TLR's for 2007
- Duration of the TLR Event
  - TLR Levels May Change Within the TLR Event
  - Number of TLR's x Duration of TLR Provides Time Total
- Magnitude of the TLR
  - Measured by MW's Curtailed
  - When Combined with Time Total – Provides Total Quantity of Curtailed Energy (MWh) for a Specified Flowgate

IDC Metrics – For Further Consideration

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- Stratification of TLR Data
  - Curtailed Energy at TLR Level 5 (Firm Curtailments)
  - Curtailed Energy below TLR Level 5 (Non-Firm Curtailments)
  - A Better Picture of Congestion May Be Described Utilizing TLR Level 5 Data
- Congestion Determination
  - Can only be Defined once Expectations of the Power Grid are Known and Understood.
  - As with IDC Data, Will Probably Take Some Further Evaluation of Data to Produce a True Congestion Metric.

Questions?

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