Load Dump Ratings Methodology
• Hot Weather Recommendation 4.2:
  – Transmission Owners will calculate a Load Dump (LD) rating consistent with Transmission & Substation Subcommittee guide to allow separation between Long-Term Emergency (LTE) and LD rating, permitting operational flexibility and enhanced monitoring.
• Most TOs have examples where the stated Normal rating is equal to the stated Load Dump rating.
• PJM would like to require ratings with separation between LTE and LD ratings consistent with published Ratings Methodologies unless there is a physical equipment limitation.
• Line sag limitations and relay limitations can result in Normal = Load Dump ratings.

• PJM will continue to work with Transmission Owners to address equipment limitations that result in congestion or PCLLRWs.

• In some cases, re-submitting ratings with a split between LTE and load dump will result in increased congestion and PCLLRW.
### Example 138kv aerial line ratings due to sag limitation:

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<tr>
<th>Temp Set</th>
<th>Normal</th>
<th>LTE</th>
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<th>Load Dump</th>
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• Any post-contingency violation on these limited facilities will violate the load dump rating. This does not give operators much time to develop mitigation plans.

• Using the line rating example above, if PJM is using a 59 degree temperature set, once flows are above 176 MVA, the facility is above the load dump rating:
  – Post-contingency flow of 177 MVA is above the load dump rating of 176 MVA (at a 59 degree temp set, the normal/emergency/load dump rating is 176 MVA).
• During periods of extreme cold or heat and humidity, post-contingency flows can increase rapidly.

• Operators are required to implement contingency control actions as post-contingency flows exceed the emergency/load dump rating.

• In those instances where there are no generation or switching options to alleviate post-contingency flows, PJM and the TO must work together to develop a post contingency load shed plan (PCLLRW).

• As post-contingency flows continue to trend toward 115% of the stated load dump rating, N-5 analysis must be performed which may lead to pre-contingency load shed.
• Re-submit ratings so that the load dump rating is at least 3% higher than the LTE (long-term emergency) rating.

• In cases where a LD rating cannot be calculated per published methodologies, TOs will be required to re-submit LTE ratings that are at least 3% lower than the current Load Dump rating.

• PJM will add this language to M-03.
Load Dump Rating Methodology

- Guidelines for developing load dump ratings were provided by the Transmission & Substation Subcommittee and have been in place for a considerable amount of time.

- The report is available using the following link:
  http://www.pjm.com/~media/planning/design-engineering/maac-standards/bare-overhead-transmission-conductor-ratings.ashx
Next Steps

- Fully implement revised ratings by June 1, 2015.
- Modify TERM so that ratings entered after June 1, 2015 implementation date will be automatically denied if the LTE = LD.
- Update PJM Manual M-03 to reflect ratings methodology.
- New ratings will need to be entered earlier so that the FTR market has the correct ratings post-implementation.
- New ratings will need to be used in Planning cases also requiring early submittal.
• September 2013 Hot Weather analysis indicated issues for operators when controlling to facility ratings that do not have separation between the emergency and load dump ratings.

• TOs shall revise ratings that create a separation between the emergency and load dump ratings.

• This will give operators better awareness of contingency trends and will allow more time for action/planning.

• This will also result in more off-cost, PCLL/RW issuances.