

2017 CiSCO CEMS User's Group

NH₃ Monitoring and Determination

What we know now – a follow up

The Case Study

- Site in New Jersey (starting up another site in Massachusetts)
 - Combined Cycle Combustion Turbines
 - Site has been certified and running for about two years
 - There is a high temp NH_3 to NO Converter at the probe with split sample line to two NO_x analyzers (traditional NH_3 determination method).
 - Also have a SCR NO_x analyzer so we can calculate NH_3 Slip using a traditional calculation (also need amount of NH_3 injected)
 - There is a cross stack TDL (Tunable Diode Laser) NH_3 analyzer at the stack
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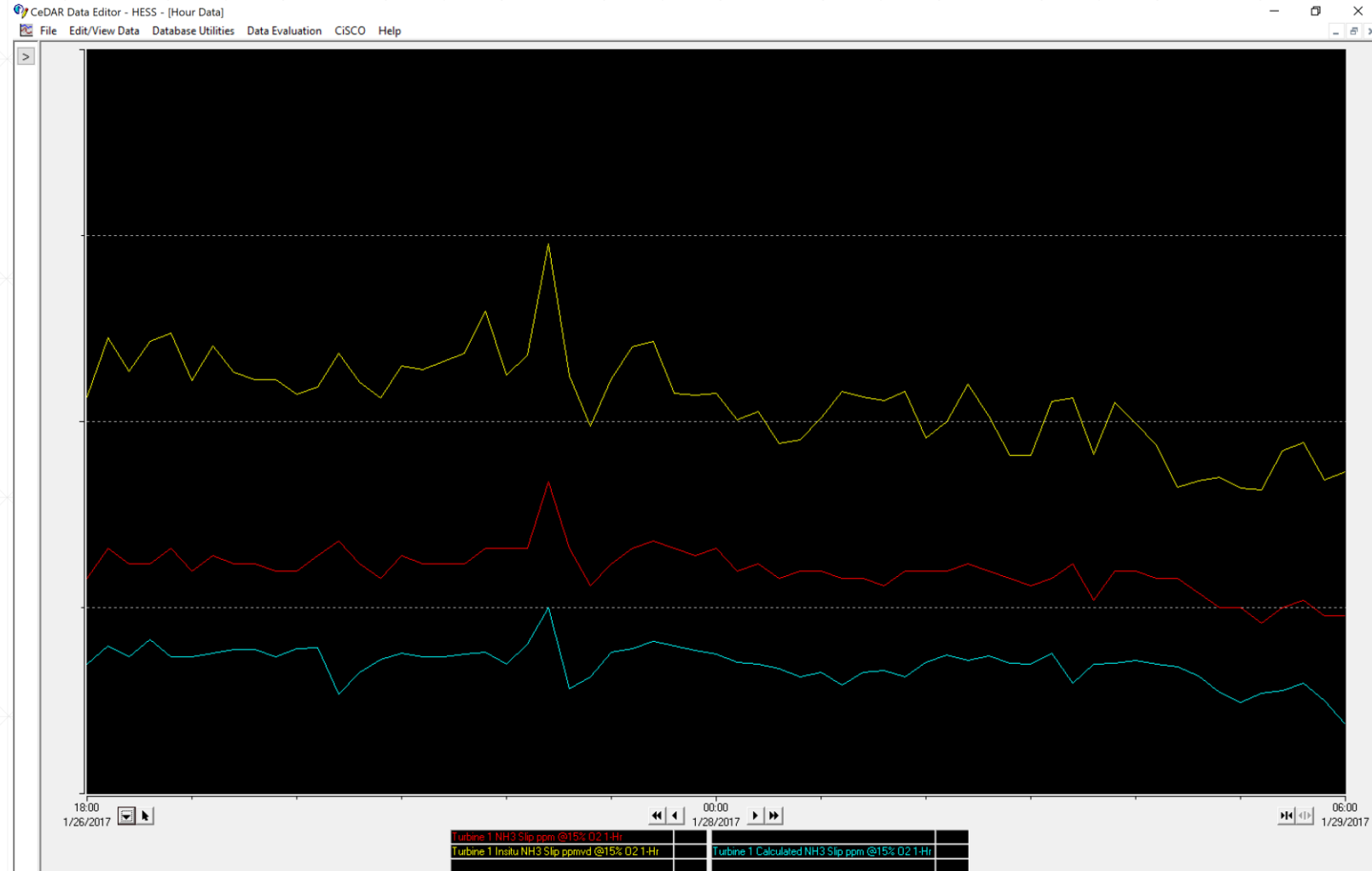
The Case Study

- New Jersey does not mandate NH₃ testing for the Slip Monitoring – CiSCO had the initial RATA stack team perform the NH₃ Slip tests and compared to the NH₃ determination method (this is the method that has been defined as accepted practice to NJDEP)
 - RATA passed as being close to NH₃ Determination method
 - No annual testing is occurring to compare subsequent years of run time against a third party test team
 - Massachusetts site will run RATA against the determination method (CiSCO hopes for annual testing on that unit)
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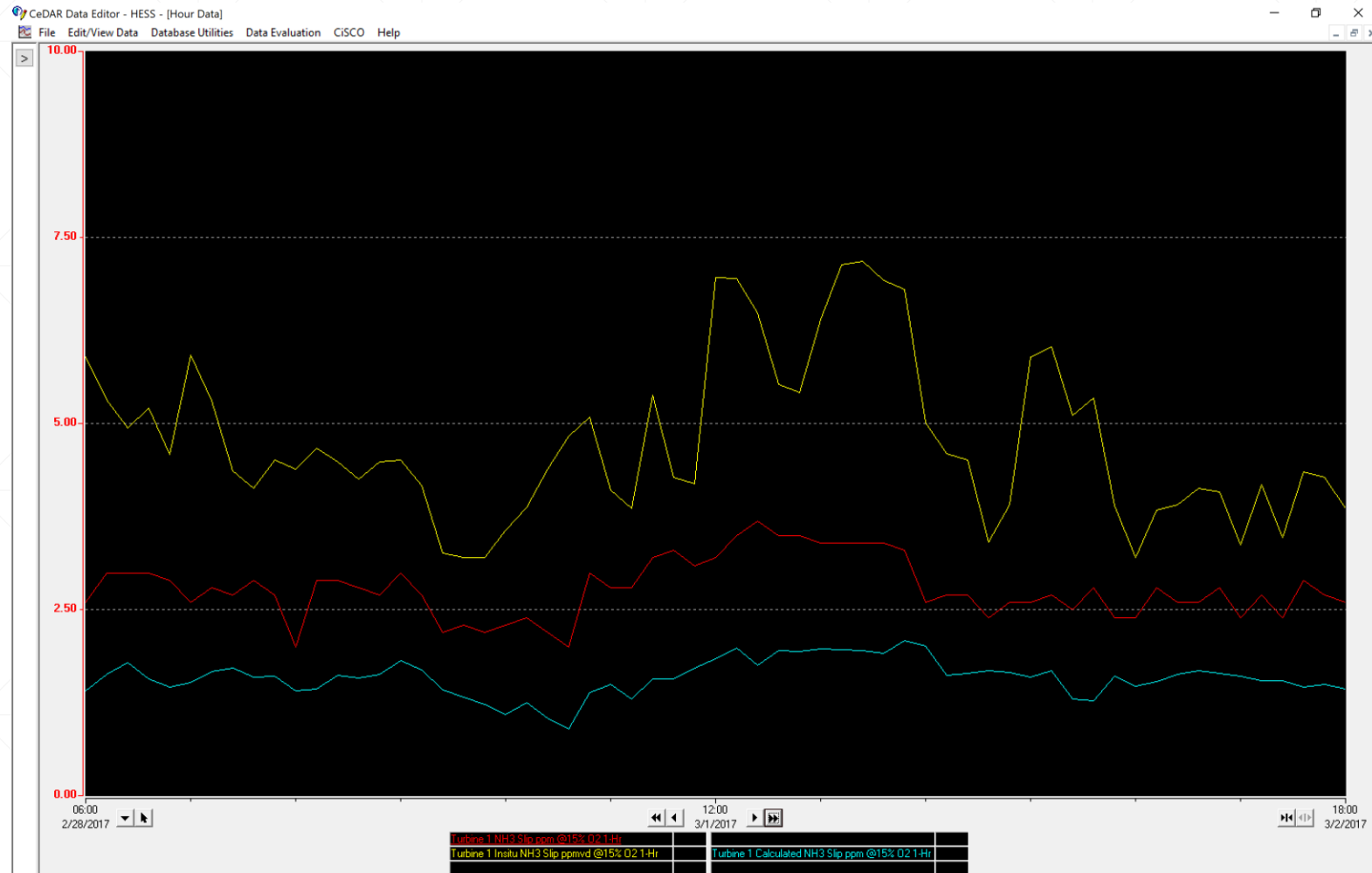
Comments from another site

- CiSCO has two CEMS at another site in Massachusetts that uses the NH₃ differential method, but the plant (on its own) installed cross stack TDL NH₃ analyzers.
 - Recent RATA testing showed close results (within NO_x RATA tolerances) for the differential method.
 - Early morning testing showed the TDL reading very close to the stack team too. Evening runs were also very close. Midday runs were skewed high. Site contact said this is common on “very hot days” when the stack (and the TDL analyzer) are in sunlight on very hot days (over 90°F days). This is anecdotal evidence and not based on any physical data in our possession.
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What the data shows



What the data shows



What's Next

- CeDAR Updates

