**LTMS TF STG 20101115 Teleconference**

**'Rajakumar, Allison'**; 'Jeff Clark'; **'Arthur.T.Andrews**@ExxonMobil.com'; '**Bob Mason'; 'Dan Worcester** (dan.worcester@swri.org)'; **Chadwick, Martin** (Intertek); **Martinez, Jo** G. (jogm); **'Janet Buckingham'**; **'todd.dvorak**@aftonchemical.com'; **'Doyle Boese'**; 'Scinto, Phil'; **Jim Rutherford**

**Review Notes (20101103) – approved**

**Previous action items –**

* **All consider approaches to Ee and Ez limits by parameter and test type for resolution next meeting**
* **Jeff give Doyle philipe.f.saad@cummins.com contact information. Doyle try to establish whether we can identify engine generation from engine serial number in LTMS dataset**
* **Jim prepare communication to Cummins SP today for approval by LTMS TF STG**
* **LTMS TF STG comment back to Jim by 9 AM pacific on above communication**

**Latest draft documents –**

* ltms2ndEditionDraft17.9 (abridged) 20101019.docx
* ltms2ndEditionDraft17.1c 20100722.docx

**HD –**

* ~ best ways to calculate Ee and Ez limits by parameter and test type.
  + Proposals?
    - Dimensionality by principal components or simulation

Assume

1. We want to adjust limits for number of monitoring and severity adjustment “parameters” (it seems that the majority of you want to do this); and,
2. The heuristic probability-like calculations are used for these limits as for others.

Calculate variance-covariance matrix of residuals from basic reference test model. This would typically include reference entity and oil as predictors and would use any transformations as appropriate. From principal components analysis of the matrix, determine the number of components necessary to account for 90% of the variability. Call this number the dimensionality of the system. Then adjust the limits for experiment-wise error using Sidak equation as in the following spreadsheet.



Many people liked this approach but they didn’t like the numbers or the relationship between Ee and EZ or the starting point. It started sounding like we were winning more over to **not** adjusting for the number of parameters. We will all go away and think about it some more and maybe play with data and come back next time to resolve.

* + - Min, max, and linear interpolation
    - Unique by parameter
    - Percentages of level 1 or level 3 ei and Zi limits
  + Ez could be looked at in original units and vary by criterion.
* ISB soot levels, rates, and adjustment factors
  + No real conclusions. Data are confounded and it is hard to say what is going on.
* T-11 and T-12
  + Not discussed.

**IIIG –**

* + Dave Glaenzer has a new version of Appendix F for IIIG to be discussed at conference call 11/17, 2 PM Eastern

**VID –**

* VID LTMS task force declared finished. To present at next meeting in January.

**Next? Next meeting 2 PM Eastern December 2**

**Action items:**

* **Jim will draft a note to Jim Moritz on outcome of ISB soot investigation and send to group by end of day. Any comments to be returned by 9 AM Pacific, Tuesday, November 16, 2010**
* **All think more about Ee and EZ. Come to next meeting prepared to resolve.**