IIIH Data Review Task Force Conference Call November 6, 2015 1:00 – 2:00 Eastern

Attendees:

Chrysler: Haiying Tang Shell: Karin Haumann, Oronite: Jo Martinez, Kaustav Sinha, Robert Stockwell Afton: Ed Altman, Bob Campbell Ashland: Amol Savant Infineum: Andy Ritchie, Gordon Farnsworth, Doyle Boese, Mike McMillan Lubrizol: George Szappanos, Kevin OMalley, Jerry Brys, Michael Conrad Intertek: Adison Schweitzer SwRI: Ankit Chaudhry, Sid Clark, Travis Kostan TMC: Rich Grundza OHT: Jason Bowden, Matt Bowden Ford: Ron Romano Toyota: Teri Kowalski, Hirano Satoshi

Karin started the call providing a summary of the earlier calls where the group reviewed the data for the IIIH Precision Matrix in efforts to understand the tests in question explaining the group has yet to find any technical reasons for the mild results.

Kevin OMalley provided an update on data analysis showing plots of engine oil pressures as suggested yesterday during the call. Kevin showed the pressure plots for 434-2 where both mild tests showed lower oil gallery pressures. Ed asked Kevin to plot engine oil pump pressures to view the delta between the pump and gallery pressures.

The group spent some time discussing pressure spikes in the crankcase pressure traces for test 106789A. The group called the pressure traces of concern "Ghost Lines" with the final conclusion the traces were probably resulting from something in the data acquisition within the test cell.

Next the group discussed oxidation and nitration data. Karin asked Kevin to plot all 434-2 data and the group again discussed oil gallery and pressure data focusing on oil filter by-pass operations. The group confirmed the early filter was designed to keep the customer from installing the wrong element.

The group continued looking at plots as Kevin went through the data following suggestions from the group.

Karin asked if people on the call could consolidate phones to allow additional people to call into the conference.

Saad Abouzahr announced to the group that Chrysler Upper Management was suggesting pulling the plug on the development program after delaying the past two years and if we do not get a favorable vote at the November AOAP Meeting. Saying that, Saad indicated he had to leave for another meeting and Haiying remained on the call.

The group again returned to plotting different parameters through Kevin OMalley's Web-ex view.

Karin finally explained to the group that in light of Chrysler's concerns as stated by Saad Abouzahr, the group needed to focus on the issues at hand and a way to move forward.

Discussion revolved around how to handle a lab not being able to show the same separation between the oils as the other labs. Karin reminded everyone we have five labs and seven stands and we have one test stand that is not separating the oils.

The group discussed variation in the 438 data and Kaustav reminded everyone that 438 was chosen to be a failing WPD oil and it has accomplished that task. Bob Campbell commented that 438 needed to include in the data. Again, Kaustav reminded everyone we should be focusing on 434-2.

Discussion between Bob Campbell, Kaustav Sinha, Haiying Tang, and Karin Haumann continued. Karin again indicated the data on 438 was not the concern on this call. The issue now at hand is how do we handle the problem we have one out of seven stands not separating the oils, questioning do we widen the bands or do we continue to investigate why the stand is not separating the oils.

Gordon Farnsworth commented on why there are reference oils that were chosen for only one parameter when the oils will be evaluated using all parameters in the reference system. Ron Romano commented the oil was chosen for a failing WPD, however he agreed the reference oil should use all parameters in the reference system. The group continued to discuss the oils and the reference bands with concerns about the acceptance bands and discrimination.

The groups discussed whether Severity Adjustments within the LTMS system would eventually handle the problem. Karin expressed concern that if we include all the data now, we are going to wash all the variability out and if the problem came up in another lab it may not be identified and she didn't think that was the best thing for the test.

Bob Campbell asked if we removed the two data points in question on 434-2, what it changes with the variability in 438 left in the data. Karin indicated it changed about 8 hundredths or not much. The group switched discussion to batch materials focused on engines from Chrysler, with comment from Sid about how the engines are run in Trenton North / South understanding both lines use the same material feed.

The group discussed the Referencing and LTMS system and what would we change on the stand to re-run the Matrix Tests. Bob Campbell indicated there were no changes between the Proveout tests and the Matrix tests.

Sid asked how we move forward investigating the severity issues yet still support Chrysler moving forward with the test, possibly setting up a task team to continue investigating potential differences in operations and hardware.

The group discussed the reasons for including all the data and the risks this group would be taking removing data from the Matrix from a statistician's viewpoint that the secretary did not capture or would attempt to capture as discussed.

Ron Romano asked if anyone has actually calculated targets based on these data, to which Kevin OMalley replied "Yes, but the data needed to be updated". Rich, Karin, and Kevin discussed the data with Kevin showing the data on the Web-ex.

The group had much discussion about targets and changes to the bands based on changes to the data set. Again the data discussed was not captured by the secretary.

The group agreed the test will most likely have a very low Pvis acceptance limit and not everybody will be happy but Ron Romano said he's fine with it as a product that passes this test is a true product that will protect against oxidation. Bob Campbell reminded everyone, that an oil that protects against oxidation at that level will make it harder on the Sequence VI Test.

Karin again reviewed the current issue is to find a way to support Chrysler for this test so MOPAR procures the hardware to support the test.

Ron Romano commented that there is now way this group is going to reach consensus on this subject for the November AOAP and Teri Kowalski asked to receive presentations in advance of the AOAP Meeting as Scott Lindholm will not be at the meeting and she will be the Chairperson.

Ron Romano and Teri Kowalski exited the call at this time.

After much discussion, Karin made the following motion:

Karin / Kaustav

The Task Force recommends the Matrix Data set used to create the Reference Acceptance Bands for the IIIH include only the labs that have shown an ability to discriminate the oils run in the Precision Matrix.

The group discussed wording of the motion and the group agreed to make the motion more data set specific. Bob Campbell finally asked if the intent was to remove Lab "D" data.

The final motion;

Karin / Kaustav

The Task Force Recommends eliminating Lab "D" data from the Precision Matrix Data Analysis based on lack of ability to discriminate on Pvis between the Matrix Oils.

After additional discussion with Jason Bowden reviewing the task that the group was given at the Surveillance Panel Meeting, Karin finally called the question and Sid Clark went through the vote by roll call.

Company /Organization	Approve	Abstain	Negative
Infineum			Х
Oronite	Х		
Shell	Х		
Toyota		Х	
Afton			Х
Ashland		Х	
Intertek			Х
Lubrizol		Х	
SwRI			Х
ТМС		Х	
ОНТ			Х
Totals	2	4	5

After some conversation, Jason Bowden suggested we put together some sort of group to work with the lab to continue investigating this issue. Sid Clark suggested the labs talk with their management to discuss supporting additional testing to help investigate the discrimination of the test.

The group discussed additional parameters to look at including hours to percent increase with Karin commenting they need a much larger data base to build an equation for hours to percent increase.

The meeting adjourned at 3:23 pm Eastern.

This is a compilation from notes recorded during the call, with comments from member participants during the Draft Review. Certain subjects may not necessarily be in exact order; however, they are believed to represent an accurate account of the call. If anyone feels changes or additional content may be necessary, please contact Sid Clark @ 586-873-1255 or Sidney.Clark@swri.org

Thanks, Sid