LDEOC/EOEC SURVEILLANCE PANEL

A LDEOC/EOEC conference call was held on August 22[h], 2012 at 9 am Central Standard Time. The following members were on the call:

Jennifer Keiter – Lubrizol
Mike Kasimirsky – TMC
Matt Bowden – OHT
Kevin Rettmann - Intertek
Gill Reinhard - Intertek
Mike Lopez - Intertek
Doyle Boese - Infineum
Mike McMillan – Infineum
Jeff Clark - TMC
Allison Athey – Volvo
Mike Birke – SwRI
Becky Grinfield – SwRI
Michelle Holzer - SwRI

Doyle Boese of Infineum developed two methods for calculating targets for LDEOC –

Method 1 – This method attempts to adjust for changes in severity as well as lab to lab differences.
- Calculate average of current batch (Batch 7 in this case) for each lab.
- For each lab, subtract above average from current target.
- Add above adjustment to results (corresponding to each lab) of new batch.
- Calculate mean of adjusted results.
- Determine statistical significance of difference between mean of adjusted results and target.
- If statistically significant, utilize mean of adjusted results as new target.

Method 2 – This method attempts to adjust for lab to lab differences.
- Calculate average of current batch (Batch 7 in this case) for each lab.
- For each lab, subtract above average from average of lab averages. (Could also subtract from average of all results.)
- Add above adjustment to results (corresponding to each lab) of new batch.
- Calculate mean of adjusted results.
- Determine statistical significance of difference between mean of adjusted results and target.
- If statistically significant, utilize mean of adjusted results as new target.

Doyle noted that at present recalculating targets does not make sense since there is no level of stability in the data. Looking at CUSUM plots of the various elastomer properties, there are distinct severity shifts that occur in most labs which do not coincide with any batch changes.

Regardless all of the shifting in data, of the last 460 data points submitted, only two failed. Jeff Clark at TMC stated that the current approval system does not have the power to detect problems, and changes in lab performance go undetected. Kevin Rettman of Intertek noted that despite all of the changes in severity, Intertek has not heard any concerns from clients about field issues related to elastomers. SwRI echoed the same sentiments.

In further discussion of what to do and whether to do anything about establishing new targets for current and future batches, Doyle Boese made a suggestion to use his Method 2 to account for lab-to-lab differences in assessing whether targets need to be adjusted. No action was taken on this suggestion. Instead the group decided that before the subject of establishing new limits is breached, the causes for both severity shifts in the labs and lab-to-lab differences need to be investigated. To address the severity shifts in the labs Mike Kasimirsky has posted CUSUM plots for each lab and elastomer type on the TMC website. With additional information he will provide from a summary report, each lab is being asked to go back and investigate possible causes for severity shifts that are not batch related. To address the lab-to-lab variability, a workshop will be held at Southwest Research. Mike Birke will send out proposed dates.

VMQ - Allison Athey provided an update from the last EMA meeting, where the limited availability of the current VMQ material was discussed. As of now, there is no other feedback from EMA. Allison mentioned that Volvo does not use VMQ. Matt Bowden of OHT mentioned they procured enough Dow Corning material for one last batch of EOEC VMQ. He estimates they have a 6-8 month supply.

Jennifer Keiter of Lubrizol made a Power Point presentation addressing the hardness severity trend of EOEC Vamac. The trend has been consistently drifting severe since roughly 2006 across all labs. Matt Bowden of OHT is going to investigate if any of the ingredient suppliers OHT uses have changed the formulation of their products. Matt will report back with any findings at the next meeting.

There was no other business, and the meeting was adjourned at 10 am.

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