

Caterpillar Surveillance Panel

Conference Call 10/24/2014 12:00PM CST

Attendance:

Jim Gutzwiller
Martin Thompson
Vince Caliendo
Elisa Santos
Matt Bowden
Bill Larch
Andrew Stevens
Bob Campbell
Hind Abi-Akar
Mark Jarrett
Jim Moritz
Adam Roig
Mark Cooper
Sean Moyer
Pat Fetterman
Jim McCord

Agenda Items:

Continue discussion on the 1N correction factor analysis.

Old Business

Discussion Items:

1N Connection Factor

Elisa Santos Presentation on Data Analysis and potential outcomes

Document ** Oct 21st 1N Evaluating the impact**



Oct 21st 1N
Evaluating the impact

Top Groove Fill

The correction factors proposed include transformed ICFs and standard engineering unit ICFs. There were questions on how this would work with lab specific severity adjustments

The standard deviations could be calculated from pools of data from multiple oils or just from specific oils and specific combinations of oils and liners.

There was a discussion that the performance of 809 may not be characteristic of the majority of current testing because the performance from 809 is well above the pass limit. 811 is closer to the performance of what candidate oils need and may be more appropriate to use for a model to set ICFs that will be used on candidate oils. Transformed space ICFs that include 809 performances may skew the effect of the ICF on candidate testing.

It was decided to use the pooled data of both oils for calculating the standard deviation, but only 811 for calculating the ICFs and SAs.

The later portions of the discussion focus on scenario 5C: This includes 811 data ONLY and uses a log transformed rated TGF value with a CF of .438191 added in transformed space.

The data was reviewed and it as determined what data the mean values for each oil were calculated from. From this discussion, it was brought up whether the LTMS target should be moved to transformed space or various combinations of reporting and implementing the correction factor. The impact of various scenarios was discussed without a final decision.

The implementation of the correction factor, what to perform in transformed space and what not to is still in discussion.

Follow up comments sent to the SP on 10-22-2014 by Elisa Santos

Dear Surveillance Panel members,

I did some follow up work based on Bob Campbell's comments about focusing on 811 data. I also combined 811-1 and 811-2 – Kevin's comment.

Options 4A, 4B and 5B were added to the previous scenarios (Table 1). Details about the new options are also summarized in this email – see tables2 and 3.

Note that the added options below have smaller corrections than 1A, 1B, 2A and 2B. Other options were considered but eliminated, since the SP has demonstrated concern with high CFs. We can discuss more about this on Friday. Best Regards, Elisa

About previous scenarios:

1A & 1B: CF= 15 (std for y_i = new liner std by oil; std for SA= 14.6 or pooled std for new liner)
 2A and 2B: LN (TGF rated); CF 0.5814693; (std for y_i = new liner std by oil; std for SA= model RMSE or pooled std for new liner)

Table 1

Lab	N new liner	TGF									
		Current state		Scenario 1A		Scenario 1B	Scenario 2A		Scenario 2B		
		Actual	Actual	Actual	Actual	Actual	Actual	Actual	Actual	Actual	
		Pass/Fail	Pass/Fail	Pass/Fail	Pass/Fail	Pass/Fail	Pass/Fail	Pass/Fail	Pass/Fail	Pass/Fail	
		Fail Cal	limit	Fail Cal	limit	limit	Fail Cal	limit	Fail Cal	limit	
A	22	0	20	3	20	16	2	18	3	18	
B1	22	0	7.4	2	5	5	2	11	4	11	
D	8	0	20	0	5	5	0	11	0	11	
G	14	0	9.4	0	5	5	0	11	0	11	

About new scenarios:

- Scenario 4A and 4B: All data combining 811-1 and 811-2; LN (TGF rated); CF= 0.496015 (std for yi= new liner std by oil; std for SA= pooled std for new liner)

Table 2

n=116	LN TGFrated			options 4A and 4B	
Level	LSMean	Std Error	Mean		
1Y355	3.195117	0.12016	3.19651		
1Y3998	2.699102	0.158134	2.64479		
diff	0.496015		0.55172		
oil is IND2	combining 811-1 and 811-2				
Summary of Fit					
RSquare	0.316374				
RSquare Adj	0.236728				std pooled
Root Mean SE	0.599782	4A		4B	0.524359
Mean LN TGFrated	2.925407				
Observations	116				

- Scenario 5B: 811 data ONLY; LN (TGF rated); CF = 0.438191 (std for yi= new liner std by oil; std for SA= pooled std for new liner)

Table 3

Scenario 5B					
Model with liner only: equivalent to taking the mean by liner					
Level	LSMean	Std Error			
1Y355	3.01828	0.112267			
1Y3998	2.580089	0.120915			
diff	0.438191				
std pooled	0.524359				

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