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February 13th, 2017

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ASTM D02.B0.03 L-42 Surveillance Panel Members and Guests:

Attached for your review and comment are the unconfirmed minutes of the:

February 8, 2017 Surveillance Panel Meeting (PRI – Warrendale, PA)

Please direct any corrections or comments to my attention.

Very Respectfully,

Eric Donovan, Chairman L-42 Surveillance Panel

L-42 Surveillance Panel Meeting Minutes

PRI – Warrendale, PA

February 8, 2017

Attendees: voting members in **bold**, * indicates called in via teleconference

R. Banas (XOM)	B. Foecking (LZ)	S. Parke (TMC)
D. Bell (Afton)	A. Goyal (BASF)	J. Rucker (Meritor)
B. Bubonic (LZ)	B. Hennessey (Dana)	D. Smith (Intertek)
J. Dharte (AAM)	P. Kanga (XOM)	M. Stevens (SwRI)
T. Deany (Dana)	B. Kearney (Afton)	A. Trader (Intertek)
E. Donovan (Afton/C)	M. Keisler (Afton)	W. Venhoff (LZ)
*K. Duho (Valvoline)	B. Koehler (SwRI)	
K. Drlja (LZ)	V. Marsic (LZ)	

Call to Order

Review of Agenda

The meeting agenda is attached.

Review of Membership

Motion by D. Smith to replace M. Umerley with W. Venhoff as a voting member, second by J. Dharte. Unanimous approval, no abstentions.

Motion by D. Mosher to add A. Goyal as a voting member, second by W. Venhoff. Unanimous approval, no abstentions.

B. Koehler noted he will be voting for R. Warden in her absence for this meeting only.

Approval of Meeting Minutes

Meeting minutes for approval:

- "20161102_SP" → November 2, 2016 Troy, MI
- "20170105 SP" → January 5, 2017 Teleconference

Motion to approve "20161102_SP" by W. Venhoff, second by A. Goyal to approve meeting minutes as presented. Unanimous approval, no abstentions.

Motion to approve "20170105_SP" by W. Venhoff, second by B. Koehler to approve meeting minutes as presented. Unanimous approval, no abstentions.

L-42 Hardware – 2017 order updates

E. Donovan reviewed the current status of the hardware order with the panel. Dana received POs from each of the three labs placing orders (Afton, Lubrizol, SwRI). At the request of Dana, the panel discussed a pilot batch vs having all 900 units produced and delivered at once. The panel agreed to have a small pilot batch of 9 units produced and shipped to the three labs placing orders. The labs agreed to run three tests per lab on a currently referenced stand with no adjustments made to the stand, two passing reference oil runs and one discrimination oil run. The labs will run the tests and share the results with Dana within approximately 2 weeks from receipt of the units, no more than 30 days.

L-42-1 Development

E. Donovan stated that Afton has not been able to perform more development due to rig availability. Once the test rig becomes available for more development, Afton will continue and share progress with the panel.

New/Open Issues

E. Donovan discussed that both transmission part numbers in the L-42 procedure are now discontinued. New transmission options will be researched. Six speed transmissions would be acceptable as long as 3^{rd} and 4^{th} gear have the same ratios as the current transmissions.

B. Koehler discussed that there might be availability issues with acquiring a new engine and the panel should be aware and monitor availability issues.

Adjournment

Motion by D. Smith, second by A. Goyal. All in favor, meeting adjourned.

Respectfully submitted,

Eric Donovan

L-42 Surveillance Panel Chairman



L-42 Surveillance Panel Meeting

Performance Review Institute Warrendale, PA February 8, 2017 11:00 am - 12:00 pm

Passion for Solutions

Agenda

- Call to Order
- Agenda
- Approval of Meeting Minutes
- **△ L-42-1 Development**
- **№ New/Open Issues**
- **Adjournment**



L-42 SP Voting Members

- Rob Banas ExxonMobil
- ▲ Allen Comfort US Army
- John Dharte AAM
- Eric Donovan Afton Chemical (Chair)
- ✓ Jule Rucker Meritor
- Scott Parke TMC
- ▶ Dale Smith Intertek
- Rebecca Warden SwRI



Approval of Meeting Minutes

△ SP Meeting Minutes

- ^ "20161102_SP" → November 2, 2016 Troy, MI



L-42 Hardware – 2017 order updates

- May 2016 − The SP agreed the best idea is to continue with Dana hardware until L-42-1 is complete
- August 2016 Labs were to review current hardware status and report back to plan timing for next hardware order
 - ▲ Afton 2 years
 - ▲ Intertek 2 years
 - ▲ Lubrizol 5 years
 - ◆ SwRI 1 year (conservatively)
- November 2016 The SP agreed on using the previous 2014 order batch requirements that Dana currently has on hand
- ✓ January 2017 The SP agreed to have orders placed with Dana by the end of January 2017 in order to receive axles by early 4Q2017



L-42 Hardware – 2017 order updates cont'd

- ▶ Dana requests that the 1st batch of axles be tested within a reasonable time period to ensure performance is as expected.
 - ◆ What is a reasonable timeframe for the panel to run an initial matrix of tests and report results to Dana?



L-42-1 Development

Summary

- ▲ Electric T-rig (input and outputs)
- ◆ Dana 44 mounted without springs

Development to date

- ◆ Data from L-42 run was used to create 100 Hz setpoints for initial L-42-1 testing
- ▲ Initial testing shows good progress, fine tuning still needed to hit exact setpoints consistently



New/Open Issues

Thanks!



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