



Address 100 Barr Harbor Drive  
PO Box C700  
W. Conshohocken, PA  
19428-2959 | USA

Phone 610.832.9500  
Fax 610.832.9666  
Web www.astm.org

---

**Committee D02 on PETROLEUM PRODUCTS AND LUBRICANTS**

*Chairman:* KENNETH O. HENDERSON, Cannon Instrument Co., 2139 High Tech Road, State College, PA 16803, (814) 353-8000, Fax: (814) 353-8007, e-mail: kenohenderson@worldnet.att.net  
*First Vice-Chairman:* BEN R. BONAZZA, TI Group Automotive Systems, Caro Research Center, 326 Green Street, Caro, MI, 48723 (989) 673-8181 ext. 227, Fax: (989) 673-3241, e-mail: bbonazza@us.tiauto.com  
*Second Vice-Chairman:* JANET L. LANE, ExxonMobil Research & Engrg., 600 Billingsport Rd, Paulsboro, NJ 08066-0480 (856) 224-3302, Fax: (856) 224-3616, e-mail: janet.l.lane@exxonmobil.com  
*First Secretary:* RALPH A. CHERRILLO, Shell Global Solutions (US) Inc., Westhollow Tech Ctr., 3333 Highway 6 South, Houston, TX 77082 (281) 544-8789, Fax: (281) 544-8150, e-mail: ralph.cherrillo@shell.com  
*Second Secretary:* MICHAEL A. COLLIER, Petroleum Analyzer Co. LP, PO Box 206, Wilmington, IL 60481, (815) 458-0216, Fax: (815) 458-0217, e-mail: macvarlen@aol.com  
*Staff Manager:* DAVID R. BRADLEY, (610) 832-9681, Fax: (610) 832-9668, e-mail: dbradley@astm.org

May 6<sup>th</sup>, 2019

Reply to:  
Eric Donovan  
Afton Chemical Corporation  
500 Spring St.  
Richmond, VA 23219  
(804) 788-5097  
(804) 788-6239 [FAX]  
eric.donovan@aftonchemical.com

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

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

**February 13, 2019 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 13, 2019

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

<b>R. Banas (Exxon)</b>	K. Drlja (LZ)	<b>T. Muransky (AAM)</b>
<b>D. Beck (TMC)</b>	B. Foecking (LZ)	E. Sattler (Army)
D. Bell (Afton)	<b>A. Goyal (BASF)</b>	<b>D. Smith (Intertek)</b>
J. Bulanty (LZ)	*T. Joy (BASF)	<b>M. Stevens (SwRI)</b>
<b>A. Comfort (Army)</b>	P. Kanga (ExxonMobil)	W. Venhoff (LZ)
J. Clark (TMC)	B. Kearney (Afton)	
<b>E. Donovan (Afton/C)</b>	A. Lange (Intertek)	

### Call to Order

#### Review of Agenda

The meeting agenda is attached.

#### Review of Membership

J. Dharte (retired) will be replaced by Troy Muransky as the AAM voting member. Motion to approve by W. Venhoff, second by D. Smith. Unanimous approval, no abstentions.

#### Approval of Meeting Minutes

Meeting minutes for approval:

- "20181107\_SP" → November 7, 2018 – Troy, MI

Motion to approve by M. Stevens, second by D. Smith to approve meeting minutes as presented. Unanimous approval, no abstentions.

#### 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.

**Drive-by-wire throttle**

Discussion was had amongst several panel members about the lack of time to develop a new throttle solution. Options for a newer throttle body were discuss and should be feasible once someone can find time for development.

**TMC 113 Dropout / New Discrimination Oil Development**

The SP discussed acceptance testing for TMC 119. All agreed to run one test on a referenced test stand for a total of four (4) runs for approval. Labs can run this test as a 2<sup>nd</sup> discrimination oil run during a 4 test calibration sequence or any time during a reference period.

**New/Open Issues**

D. Beck (TMC) discussed section 9.6.1 of the ASTM D7452 procedure and options to update verbiage to require a four test calibration sequence (now including a discrimination run) instead of the three test sequence previously required. All feedback was positive and a motion to change the procedure was made by D. Smith, second by A. Goyal. Unanimous approval, no abstentions. The TMC will facilitate changing the procedure and an info letter will be sent soon.

**Adjournment**

Motion by W. Venhoff, second by M. Stevens. All in favor, meeting adjourned.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'Eric Donovan', with a long horizontal line extending to the right.

Eric Donovan

L-42 Surveillance Panel Chairman



## L-42 Surveillance Panel Meeting

Performance Review Institute  
Warrendale, PA  
February 13, 2019  
10:45 am - 11:00 am EST

Passion for Solutions™

# Agenda

- ▲ **Call to Order**
- ▲ **Agenda**
- ▲ **Membership Review & Update**
- ▲ **Approval of Meeting Minutes**
- ▲ **L-42-1 Development**
- ▲ **Drive-by-wire throttle update**
- ▲ **New/Open Issues**
  - ▲ TMC 113 dropout / New discrimination oil development
  - ▲ Spray nozzle angle tolerance
- ▲ **Adjournment**

## L-42 SP Voting Members

- 📌 Rob Banas – ExxonMobil
- 📌 Allen Comfort – US Army
- 📌 John Dharte – AAM → **Replacement needed due to retirement?**
- 📌 Eric Donovan – Afton Chemical (Chair)
- 📌 Arjun Goyal – BASF
- 📌 Dylan Beck – TMC
- 📌 Jule Rucker – Meritor
- 📌 Dale Smith – Intertek
- 📌 Robert Slocum – Lubrizol
- 📌 Mary Stevens – SwRI

# Approval of Meeting Minutes

## SP Meeting Minutes

- ▲ “20181107\_SP” → November 7, 2018 – Troy, MI

# L-42-1 Development

## Summary

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

## Goal is to have the rig follow L-42 setpoints first then use mathematical model for setpoints

## 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

## On hold at Afton for the near future due to rig availability



## Drive-by-wire throttle

- 📌 During the August 2017 meeting, the panel discussed options of a drive-by-wire throttle body to replace the current, old design using the Jordan.
- 📌 R. Slocum (Lz) has attempted to use a current Corvette throttle body and control card.
- 📌 Update from Lubrizol?

# TMC 113 Dropout / New Discrimination Oil Development

## From the August 2017 meeting:

- ▲ Additive dropout was found in latest QC testing
- ▲ Gear oil drums are mixed prior to shipment. Homogenization may be limiting the impact that this has on the performance of the oil.

## From November 2017 meeting:

- ▲ Not possible to make new drum of TMC 113
  - 52 USG remaining – 104 tests worth
- ▲ Afton and Lubrizol to research possible new discrimination oils

## From May 2018 meeting:

- ▲ Lubrizol has direction towards potential new discrimination oil
- ▲ The SP clarified that the new oil needs to consistently have double the scoring of the current passing oil

## From August 2018 meeting:

- ▲ Lubrizol to blend 55 USG drum and send to TMC
- ▲ Each lab will run this oil on a currently referenced test stand and report results

## From November 2018 meeting:

- ▲ A drum of oil was sent to the TMC the week of 11/5/18
- ▲ D. Beck will let E. Donovan know when the oil is ready to be shipped to labs

## February 2018 meeting:

- ▲ Acceptance testing for TMC 119
  - 1 test on a currently referenced test stand per lab?



Passion for Solutions™

# Spray Nozzle Angle Tolerance

- It has been noted that the L-42 spray nozzle diagram lacks a tolerance like the L-37 diagram
- Updated drawing has been sent to the TMC. The procedure is being updated.

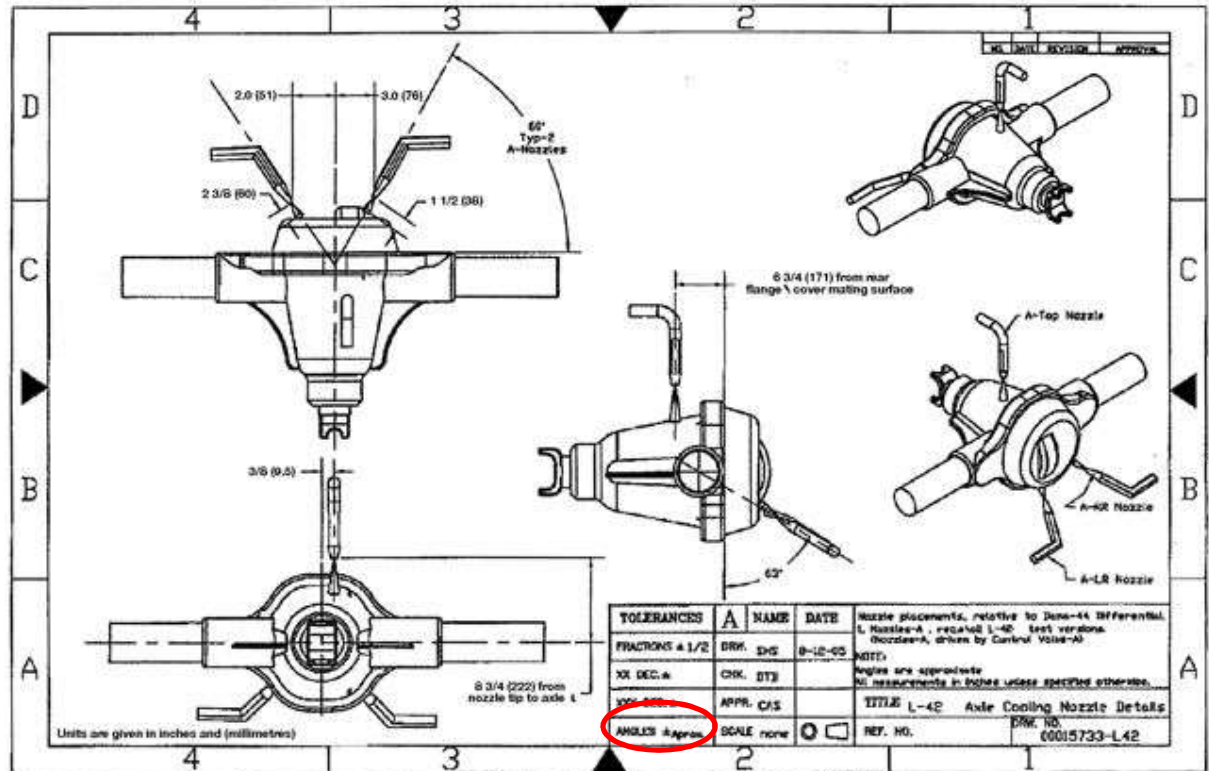


FIG. A6.3 Drive Shaft Torque Meter Assembly

# New/Open Issues

Thanks!



*Passion for Solutions™*

# L-42 SP Meeting



February 13<sup>th</sup>, 2019

*Test Monitoring Center*

<http://astmtmc.cmu.edu>



A Program of ASTM International

# Current Procedural Wording

9.6 *In-Service Stand Calibration*—Calibrate previously referenced test stands according to instructions provided in 9.4; that is, after every twentieth non-reference oil test, or after three months since the last acceptable reference oil test sequence.

9.6.1 Also, if any of the special circumstances described below are involved, calibrate with a new three reference oil test calibration sequence:

9.6.1.1 After a test stand is moved, or

9.6.1.2 After changing axle batches, or

9.6.1.3 After changing throttle settings, or

9.6.1.4 After changing torque settings, or

9.6.1.5 After major computer changes, or

9.6.1.6 After a test not conforming to this test method was run in the stand since the last acceptable reference test, or

9.6.1.7 After 6 months since the last valid L42 calibration test, or

9.6.1.8 After two reference oil calibration attempts are made resulting in the end-of-test pinion coast side scoring not meeting the Shewhart limits as published by the Test Monitoring Center, or the tests are statistically unacceptable or operationally invalid.

# Current Procedural Wording

9.6 *In-Service Stand Calibration*—Calibrate previously referenced test stands according to instructions provided in 9.4; that is, after every twentieth non-reference oil test, or after three months since the last acceptable reference oil test sequence.

9.6.1 Also, if any of the special circumstances described below are involved, **calibrate with a new three reference oil test calibration sequence:**

9.6.1.1 After a test stand is moved, or

9.6.1.2 After changing axle batches, or

9.6.1.3 After changing throttle settings, or

9.6.1.4 After changing torque settings, or

9.6.1.5 After major computer changes, or

9.6.1.6 After a test not conforming to this test method was run in the stand since the last acceptable reference test, or

9.6.1.7 After 6 months since the last valid L42 calibration test, or

9.6.1.8 After two reference oil calibration attempts are made resulting in the end-of-test pinion coast side scoring not meeting the Shewhart limits as published by the Test Monitoring Center, or the tests are statistically unacceptable or operationally invalid.

If any of these major changes occur a new discrimination run would also be required.

# Proposed Procedural Revision

9.6 *In-Service Stand Calibration*—Calibrate previously referenced test stands according to instructions provided in 9.4; that is, after every twentieth non-reference oil test, or after three months since the last acceptable reference oil test sequence.

9.6.1 Also, if any of the special circumstances described below are involved, calibrate with a new **four** reference oil test calibration sequence, **including a new discrimination oil run**:

9.6.1.1 After a test stand is moved, or

9.6.1.2 After changing axle batches, or

9.6.1.3 After changing throttle settings, or

9.6.1.4 After changing torque settings, or

9.6.1.5 After major computer changes, or

9.6.1.6 After a test not conforming to this test method was run in the stand since the last acceptable reference test, or

9.6.1.7 After 6 months since the last valid L42 calibration test, or

9.6.1.8 After two reference oil calibration attempts are made resulting in the end-of-test pinion coast side scoring not meeting the Shewhart limits as published by the Test Monitoring Center, or the tests are statistically unacceptable or operationally invalid.



**L-42 Surveillance Panel Membership/Attendance**  
**PRI - Warrendale, PA**  
**February 13, 2019**

Initials	Name	Voting Non-Voting	Company Name Company Address	Contact information	
	Aguirre, Nancy	NV	Intertek Automotive Research	Phone:	
			5404 Bandera Rd. San Antonio, TX 78238	E-mail:	<a href="mailto:nancy.aguirre@intertek.com">nancy.aguirre@intertek.com</a>
RB	Banas, Rob	V	ExxonMobil Fuels, Lubricants & Specialties	Phone:	678-493-3930
			114 Arcadia Park Dr. Canton, GA 30114	E-mail:	<a href="mailto:rob.a.banas@exxonmobil.com">rob.a.banas@exxonmobil.com</a>
	Barrera, Tony	NV	Intertek Automotive Research	Phone:	210-523-4653
			5404 Bandera Rd. San Antonio, TX 78238	E-mail:	<a href="mailto:tony.barrera@intertek.com">tony.barrera@intertek.com</a>
DB	Beck, Dylan	V	ASTM Test Monitoring Center	Phone:	724-355-1854
			6555 Penn Ave Pittsburg, PA 15206	E-mail:	<a href="mailto:djb@astmtmc.cmu.edu">djb@astmtmc.cmu.edu</a>
RB	Bell, Don	NV	Afton Chemical	Phone:	804-788-6332
			500 Spring St. Richmond, VA 23219	E-mail:	<a href="mailto:don.bell@aftonchemical.com">don.bell@aftonchemical.com</a>

**L-42 Surveillance Panel Membership/Attendance**  
**PRI - Warrendale, PA**  
**February 13, 2019**

Initials	Name	Voting Non-Voting	Company Name Company Address	Contact information	
	Bubonic, Brad	NV	The Lubrizol Corporation	Phone:	
				E-mail:	<a href="mailto:babu@lubrizol.com">babu@lubrizol.com</a>
<i>ABC</i>	Comfort, Allen	V	US Army TARDEC <i>Ground Vehicle Systems Center</i>	Phone:	586-282-4225
				E-mail:	<a href="mailto:allen.s.comfort.civ@mail.mil">allen.s.comfort.civ@mail.mil</a>
<i>JAC</i>	Clark, Jeff	NV	ASTM Test Monitoring Center	Phone:	412-365-1032
			6555 Penn Ave Pittsburg, PA 15206	E-mail:	<a href="mailto:jac@astmtmc.cmu.edu">jac@astmtmc.cmu.edu</a>
	Dharte, John	<i>Remove</i> V	AAM	Phone:	313-758-4687
			1 Dauch Drive Detroit, MI 48211	E-mail:	<a href="mailto:dhartej@aam.com">dhartej@aam.com</a>
<i>ED</i>	Donovan, Eric	V/Chair	Afton Chemical	Phone:	804-788-5097
			500 Spring St. Richmond, VA 23219	E-mail:	<a href="mailto:eric.donovan@aftonchemical.com">eric.donovan@aftonchemical.com</a>

**L-42 Surveillance Panel Membership/Attendance**  
**PRI - Warrendale, PA**  
**February 13, 2019**

Initials	Name	Voting Non-Voting	Company Name Company Address	Contact information	
K.O.	Drlja, Kristijan	NV	The Lubrizol Corporation	Phone:	440-391-6374
			29400 Lakeland Boulevard Wickliffe, OH 44092	E-mail:	<a href="mailto:krdr@lubrizol.com">krdr@lubrizol.com</a>
	Duho, Kwame	NV	Valvoline	Phone:	
				E-mail:	<a href="mailto:jkduho@ashland.com">jkduho@ashland.com</a>
	Dwornick, Bridget	NV	US Army TARDEC	Phone:	586-282-4221
			6501 E. 11 Mile Rd. RD TA-DP MS 110 Warren, MI 48397	E-mail:	<a href="mailto:bridget.l.dwornick.civ@mail.mil">bridget.l.dwornick.civ@mail.mil</a>
	Ebner, Alex	NV	The Lubrizol Corporation	Phone:	440-347-2664
			29400 Lakeland Boulevard Wickliffe, OH 44092	E-mail:	<a href="mailto:alex.ebner@lubrizol.com">alex.ebner@lubrizol.com</a>
BTF	Foecking, Brian	NV	The Lubrizol Corporation	Phone:	440-347-2130
			29400 Lakeland Boulevard Wickliffe, OH 44092	E-mail:	<a href="mailto:lojf@lubrizol.com">lojf@lubrizol.com</a>

**L-42 Surveillance Panel Membership/Attendance**  
**PRI - Warrendale, PA**  
**February 13, 2019**

Initials	Name	Voting Non-Voting	Company Name Company Address	Contact information	
	Gottwald, Thomas	NV	Afton Chemical	Phone:	804-788-5230
			500 Spring St. Richmond, VA 23219	E-mail:	<a href="mailto:thomas.gottwald@aftonchemical.com">thomas.gottwald@aftonchemical.com</a>
<i>Amj</i>	Goyal, Arjun	V	BASF	Phone:	914-785-2083
			500 White Plains Rd Tarrytown, NY 10591	E-mail:	<a href="mailto:arjun.goyal@basf.com">arjun.goyal@basf.com</a>
	Jackson, Matt	NV	Southwest Research Institute	Phone:	210-522-6981
				E-mail:	<a href="mailto:matt.jackson@swri.org">matt.jackson@swri.org</a>
<i>PHONE</i>	Joy, Tisha	NV	BASF	Phone:	914-785-2206
				E-mail:	<a href="mailto:tisha.joy@basf.com">tisha.joy@basf.com</a>
<i>PRI</i>	Kanga, Percy	NV	ExxonMobil Research & Engineering	Phone:	908-335-3780
			1545 Rte. 22 East Clinton, NJ 08801	E-mail:	<a href="mailto:percy.r.kanga@exxonmobil.com">percy.r.kanga@exxonmobil.com</a>

**L-42 Surveillance Panel Membership/Attendance**  
**PRI - Warrendale, PA**  
**February 13, 2019**

Initials	Name	Voting Non-Voting	Company Name Company Address	Contact information	
WAK	Kearney, Bill	NV	Afton Chemical	Phone:	248-350-0640
			2000 Town Center, Suite 1160 Southfield, MI 48075	E-mail:	<a href="mailto:bill.kearney@aftonchemical.com">bill.kearney@aftonchemical.com</a>
	Koehler, Brian	NV	Southwest Research Institute	Phone:	210-522-3588
			P.O. Drawer 28510 San Antonio, TX 78228-0510	E-mail:	<a href="mailto:Bkoehler@swri.org">Bkoehler@swri.org</a>
	Kvasnicka, Kevin	NV	Afton Chemical	Phone:	804-788-5320
			500 Spring St. Richmond, VA 23219	E-mail:	<a href="mailto:kevin.kcasnicka@aftonchemical.com">kevin.kcasnicka@aftonchemical.com</a>
	Lonsway, Chris	NV	The Lubrizol Corporation	Phone:	440-347-4517
			29400 Lakeland Boulevard Wickliffe, OH 44092	E-mail:	<a href="mailto:chris.lonsway@lubrizol.com">chris.lonsway@lubrizol.com</a>
	Minke, Andreas	NV	BASF	Phone:	
				E-mail:	<a href="mailto:andreas.minke@basf.com">andreas.minke@basf.com</a>

**L-42 Surveillance Panel Membership/Attendance**  
**PRI - Warrendale, PA**  
**February 13, 2019**

Initials	Name	Voting Non-Voting	Company Name Company Address	Contact information	
	Marsic, Vera	NV	The Lubrizol Corporation 29400 Lakeland Boulevard Wickliffe, OH 44092	Phone: E-mail:	440-347-8024 <a href="mailto:vera.marsic@lubrizol.com">vera.marsic@lubrizol.com</a>
	Milner, Jeff	NV	Tianhe Chemical	Phone: E-mail:	804-252-6928 <a href="mailto:jmilner@tianhe-us.com">jmilner@tianhe-us.com</a>
	Mosher, Donna	NV	BASF 100 Park Ave Florham Park, NJ 07932	Phone: E-mail:	269-217-1715 <a href="mailto:donna.mosher@basf.com">donna.mosher@basf.com</a>
	Opperman, Rob	NV	Meritor 2135 W. Maple Rd Troy, MI 48084	Phone: E-mail:	248-435-1544 <a href="mailto:Robert.opperman@meritor.com">Robert.opperman@meritor.com</a>
	Parke, Scott	NV	ASTM Test Monitoring Center 6555 Penn Ave Pittsburg, PA 15206	Phone: E-mail:	412-365-1036 <a href="mailto:sdp@astmtmc.cmu.edu">sdp@astmtmc.cmu.edu</a>

**L-42 Surveillance Panel Membership/Attendance**  
**PRI - Warrendale, PA**  
**February 13, 2019**

Initials	Name	Voting Non-Voting	Company Name Company Address	Contact information	
	Prengaman, Chris	NV	The Lubrizol Corporation 29400 Lakeland Boulevard Wickliffe, OH 44092	Phone:	440-347-4225
				E-mail:	<a href="mailto:crpr@lubrizol.com">crpr@lubrizol.com</a>
	Rucker, Jule	V	Meritor 2135 W. Maple Rd Troy, MI 48084	Phone:	248-435-1430
				E-mail:	<a href="mailto:jule.rucker@meritor.com">jule.rucker@meritor.com</a>
ES	Sattler, Eric	NV	US Army Warren, MI	Phone:	586-282-2272
				E-mail:	<a href="mailto:eric.r.sattler.civ@mail.mil">eric.r.sattler.civ@mail.mil</a>
	Schwenk, Daniel	NV	Afton Chemical 500 Spring St. Richmond, VA 23219	Phone:	804-788-6326
				E-mail:	<a href="mailto:daniel.schwenk@aftonchemical.com">daniel.schwenk@aftonchemical.com</a>
DS	Smith, Dale	V	Intertek Automotive Research 5404 Bandera Rd. San Antonio, TX 78238	Phone:	412-855-6854
				E-mail:	<a href="mailto:dale.smith@intertek.com">dale.smith@intertek.com</a>

**L-42 Surveillance Panel Membership/Attendance**  
**PRI - Warrendale, PA**  
**February 13, 2019**

Initials	Name	Voting Non-Voting	Company Name Company Address	Contact information	
	Slocum, Robert	V	The Lubrizol Corporation	Phone:	440-347-5102
			29400 Lakeland Boulevard Wickliffe, OH 44092	E-mail:	<a href="mailto:robert.slocum@lubrizol.com">robert.slocum@lubrizol.com</a>
MS	Stevens, Mary	V	Southwest Research Institute	Phone:	210-522-2208
				E-mail:	<a href="mailto:mary.stevens@swri.org">mary.stevens@swri.org</a>
	Thrash, Steven	NV	US Army TARDEC	Phone:	586-282-5170
			6501 E. 11 Mile Rd. Warren, MI 48397	E-mail:	<a href="mailto:steven.i.thrash.civ@mail.mil">steven.i.thrash.civ@mail.mil</a>
	Tian, Johnny	NV	Afton Chemical	Phone:	+86 18251155728
			26 Pingsheng Road Suzhou, China	E-mail:	<a href="mailto:gangqiang.tian@aftonchemical.com">gangqiang.tian@aftonchemical.com</a>
	Trader, Angela	NV	Intertek Automotive Research	Phone:	210-706-1533
			5404 Bandera Rd. San Antonio, TX 78238	E-mail:	<a href="mailto:angela.trader@intertek.com">angela.trader@intertek.com</a>



**L-42 Surveillance Panel Membership/Attendance**  
**PRI - Warrendale, PA**  
**February 13, 2019**

Initials	Name	Voting Non-Voting	Company Name Company Address	Contact information	
				Phone:	E-mail:
WV	Venhoff, Wes	NV	The Lubrizol Corporation	Phone:	440-347-4879
			29400 Lakeland Boulevard Wickliffe, OH 44092	E-mail:	<a href="mailto:wve@lubrizol.com">wve@lubrizol.com</a>
	Warden, Rebecca	NV	Southwest Research Institute	Phone:	210-522-6266
				E-mail:	<a href="mailto:rebecca.warden@swri.org">rebecca.warden@swri.org</a>
	Zreik, Khaled	NV	General Motors	Phone:	248-977-9214
			823 Joslyn Ave Pontiac, MI 48340-2925	E-mail:	<a href="mailto:khaled.zreik@gm.com">khaled.zreik@gm.com</a>
				Phone:	
				E-mail:	
				Phone:	
				E-mail:	

**L-42 Surveillance Panel Membership/Attendance**  
**PRI - Warrendale, PA**  
**February 13, 2019**

Initials	Name	Voting Non-Voting	Company Name Company Address	Contact information	
AL	Anthony Lange	N - V	Intertek	Phone:	
			5404 Bandera Rd San Antonio, Tx 78238	E-mail:	anthony.lange@intertek.com
JM	Troy Muransky	V	AAM	Phone:	734 564 8406
			1840 Holbrook, Detroit, MI	E-mail:	troy.muransky@aam.com
JB	JONATHAN BURNETT	NV	LUBRIZOL	Phone:	440-347-7742
			5500 LAKELAND BLVD 1250 WILLOW, OH 44092	E-mail:	JOB@LUBRIZOL.COM
				Phone:	
				E-mail:	