

MEETING MINUTES: ROBO SURVEILLANCE PANEL

Meeting: ROBO SP Meeting

Date: December 1, 2022

Location: MS Teams (virtual)

Minutes by: Justin Mills – SP Chair

Meeting Outcome and Actions:

1. Justin Mills to prepare comparison of precision and bias between concentrated (liquid) nitrogen dioxide and dilute nitrogen dioxide. Comparison to be shared at next meeting.
2. Surveillance Panel will be seeking a new chair as Justin Mills to step down – Will seek/discuss nominations at the January meeting.
3. Next meeting tentatively scheduled for January 19th.

Membership and Attendance:

ASTM TMC	Jeff Clark, John Loop*, Sean Moyer
Afton	Shelia Thompson, Jeff Yang, Todd Dvorak
BG Products	Madeleine Dellinger*
Chevron Oronite	Robert Stockwell
Evonik Oil Additives	Justin Mills*, Gabe Walkup*, Justin Kontra*
ExxonMobil	Dennis Gaal**
Infinium	Andy Richie, Sapna Eticala
Intertek	Joe Franklin*, Matt Schlaff*, Rachel Stone
Lubrizol	Aimee Shinhearl, Jerimiah Westbrook
PetroChina	Li Shaohui , Sun Ruihua, Peng Wang, Xiaogang Li, Xu Li
SwRI	Becky Grinfield*, Joe De La Cruz, Mike Birke, Yong-Li McFarland
Valvoline	Amol Savant, Amy Ross*, Bruce Tonkel*
Vanderbilt Chemicals	Al Filho, Christine Katrenya
Ace Glass	Dave Lawrence, Tom Petrocella*
Koehler Instruments	Raj Shah, Vincent Colantuini
Tannas/Savant	Greg Miller
General Interest	Alan Flamberg*
Guests	

* Denotes attendance

MEETING MINUTES: ROBO SURVEILLANCE PANEL

Summary:

- Meeting convened at 10:02EST on December 1, 2022.
- No modifications to agenda
- ASTM Antitrust and Recording Policy reviewed
- Membership review and update
 - TMC – John Loop added as primary contact for TMC. Sean Moyer will be his primary backup.
- Meeting minutes from May 12th SP meeting were accepted (Motion made by Joe Franklin, Seconded by Alan Flamberg)
- Actions and outcome from the May 12th meeting were reviewed. Actions included:
 - Justin to tentatively add two topics to next meeting: Flow meter calibration and update on proposed SAE J300 MRV limit changes.
- ROBO Status
 - Previous semester (April 1, 2022 – September 30, 2022) ended with no bias and an improvement to precision vs prior semesters.
- Dilute NO2
 - Reminder that dilute NO2 was effective December 1 ,2021 via information letter and updated method was published April 2022.
 - A request was made to compare the precision and bias between the liquid NO2 and the dilute NO2 using the calibration data tracked via the LTMS. An action was taken to prepare and present this at our next meeting.
 - Matt Schlaff did a quick analysis during the meeting. Over the relevant time periods, tests using dilute NO2 ran slightly more severe than those using concentrated (liquid) NO2; however it is possible that there are also other factors that effect bias, such as lab-to-lab variation.
- ASTM meeting in Orlando
 - Justin Mills shared slides prepared for upcoming D02.B0.07 meeting in Orlando. Overall, the ROBO test is in very good standing from all aspects (method, parts, reference oils, availability, and precision).
 - Justin Mills will not be attending ASTM, but Alan Flamberg agreed to present on his behalf – Thanks Alan!
- Additional topics
 - Briefly discussed the recent proposal at SAE EOVC to change the SAE J300 limits from 60,000cP to 40,000cP. Denny provided an update on the SAE EOVC Task Force Sub-Group.
 - Over the past couple of SP meetings there has been some discussion regarding calibration of flow meters. Maddie Dellinger of BG Products said her company recently achieved ISO 17025 accreditation and would be happy to share their best practices for calibrating flow meters.
- Surveillance Panel Chair - Surveillance Panel will be seeking a new chair as Justin Mills to step down – Will seek/discuss nominations at the January meeting.
- Next meeting tentatively scheduled on for January 19, 2023. Date may be postponed if necessary.
- Meeting adjourned.

-End report-

ASTM D7528: Bench Oxidation of Engine Oils by ROBO Apparatus

ROBO Surveillance Panel Meeting

December 1, 2022

Justin Mills

Agenda

- Welcome, ASTM statement
- Review of surveillance panel membership
- Minutes and actions from prior meeting (May 12, 2022)
- Current status of ROBO including statistics
- TMC update
- ASTM in Orlando update
- Additional business
- Set next meeting

ASTM Antitrust and Recording Policy

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The purpose of antitrust laws is to preserve economic competition in the marketplace by prohibiting, among other things, unreasonable restraints of trade. In ASTM activities, it is important to recognize that participants often represent competitive interests. Antitrust laws require that all competition be open and unrestricted.

It is ASTM's policy, and the policy of each of its committees and subcommittees, to conduct all business and activity in full compliance with international, federal and state antitrust and competition laws. The ASTM Board of Directors has adopted an antitrust policy which is found in Section 19 of ASTM Regulations Governing Technical Committees. All members need to be aware of and compliant with this policy. The Regulations are accessible on the ASTM website (<http://www.astm.org/COMMIT/Regs.pdf>).

Electronic recording of ASTM meetings is prohibited.

Membership

ASTM TMC	Jeff Clark, John Loop , Sean Moyer
Afton	Shelia Thompson, Jeff Yang, Todd Dvorak
BG Products	Madeleine Dellinger
Chevron Oronite	Robert Stockwell
Evonik Oil Additives	Justin Mills, Gabe Walkup, Justin Kontra
ExxonMobil	Dennis Gaal
Infineum	Andy Richie, Sapna Eticala
Intertek	Joe Franklin, Matt Schlaff, Rachel Stone
Lubrizol	Aimee Shinhearl, Jerimiah Westbrook
PetroChina	Li Shaohui , Sun Ruihua, Peng Wang, Xiaogang Li, Xu Li
SwRI	Becky Grinfield , Joe De La Cruz, Mike Birke, Yong-Li McFarland
Valvoline	Amol Savant, Amy Ross, Bruce Tonkel
Vanderbilt Chemicals	Al Filho, Christine Katrenya
Ace Glass	Dave Lawrence, Tom Petrocella ,
Koehler Instruments	Raj Shah, Vincent Colantuini
Tannas/Savant	Greg Miller
General Interest	Alan Flamberg
Guests	

Summary of changes:

1. John Loop added for TMC as our primary – Added Sean Moyer as backup.



Motion to accept May 12, 2022 meeting minutes

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Meeting: ROBO SP Meeting

Date: May 12, 2022

Location: MS Teams (virtual)

Minutes by: Justin Mills – SP Chair

Meeting Outcome and Actions:

- Dylan Beck will replace Tom Schofield as the TMC representative.
- Revisions to the method, ASTM D7528, successfully went through balloting. Therefore, the revised method has been approved with only minor editorial changes.
- Justin to tentatively add two topics to next meeting: Flow meter calibration and update on proposed SAE J300 MRV limit changes.
- Next meeting tentatively scheduled for July 28th.

Membership and Attendance:

ASTM TMC	Dylan Beck
Afton	Shelia Thompson, Jeff Yang, Todd Dvorak
BG Products	* Madeleine Dellinger
Chevron Oronite	* Robert Stockwell
Evonik Oil Additives	* Justin Mills , Gabe Walkup, Justin Kontra
ExxonMobil	* Dennis Gaal
Infineum	Andy Richie, Sapna Eticala
Intertek	* Joe Franklin , Matt Schlaff, * Rachel Stone
Lubrizol	* Aimee Shinheart , Jeremiah Westbrook
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Vanderbilt Chemicals	Al Filho, Christine Katrenya
Ace Glass	Dave Lawrence, * Tom Petrocella ,
Koehler Instruments	Raj Shah, Vincent Colantui
Tannas/Savant	Greg Miller, Ted Selby
General Interest	* Alan Flamberg
Guests	* Jeff Clark (representing TMC)

* Denotes attendance

ASTM D7528

ROBO SP Meeting

May 12, 2022

MEETING MINUTES: ROBO SURVEILLANCE PANEL

Summary:

- Meeting convened at 10:02EDT on May 12.
- No modifications to agenda
- ASTM Antitrust and Recording Policy reviewed
- Membership review and update
 - Tom Schofield to retire on March 1st. Dylan Beck will be new TMC representative.
- Meeting minutes from February 3rd SP meeting were accepted (Motion made by Joe Franklin, Seconded by Alan Flamberg)
- Actions and outcome from the February 3rd meeting were reviewed.
 - Tom Schofield to update LTMS to require 2-test calibration when switching between NO2 delivery options (e.g. concentrated to dilute NO2)
 - Tom Schofield to add TVTM for the data dictionary for MRVVEOT to align with reporting in MRV method (ASTM D4684).
 - Complete
 - Next meeting tentatively scheduled for April 14th.
 - Postponed to May 12 due to no urgent topics.
- ROBO Status
 - Previous semester (October 1, 2021 – March 31, 2022) ended with a slight mild bias and precision was slightly worse than target. Stats can be found here <https://www.astmtmc.org/files/data/bench/robo> on the recently moved TMC website.
 - LTMS updated for ROBO at the request of the SP. Current and historic reference oils are now differentiated in two charts. The list of reference oils also added to the appendix (A-53)
 - As agreed at February SP meeting, the data dictionary was updated to add "TVTM" for "MRVVEOT"
 - Dylan Beck added to the roster as new TMC representative (Email: djb@astmtmc.org, Phone: 412-365-1037)
- Dilute NO2
 - Information letter (IL21-01) went to ballot in D02 (22-01) on January 24th and will close February 23rd (30day ballot). Ballot closed with no negatives, but several editorial comments to implement from Alan Flamberg and Terry Bates.
 - The editorial comments were incorporated and resubmitted to ASTM. Method expected to be published shortly.
- ASTM meeting in Seattle
 - Justin Mills provided an update on what he plans to share at the upcoming D02.B0.07 meeting in Seattle. Overall, the ROBO test is in very good standing from all aspects (method, parts, reference oils, availability, and precision)
- Additional topics
 - Alan Flamberg brought up the recent proposal at SAE EOVC to change the SAE J300 limits from 60,000cP to 40,000cP. SP agreed this topic of interest, so it will be included as a topic in the next agenda.
 - Over the past couple of SP meetings there has been some discussion regarding calibration of flow meters. Maddie Dellinger of BG Products said her company recently achieved ISO 17025 accreditation and would be happy to share their best practices for calibrating flow meters. SP agreed to tentatively add this as a topic for our next meeting.
- Next meeting tentatively scheduled on for July 28. Date may be postponed if necessary.
- Meeting adjourned

-End report-

ASTM D7528

ROBO SP Meeting

May 12, 2022

Actions from May 12, 2022 meeting

1. Justin to tentatively add two topics to next meeting: Flow meter calibration and update on proposed SAE J300 MRV limit changes.

Current status of ROBO

ROBO Industry Statistics

Period	N-size	Degrees of Freedom	Pooled s	Mean Δ/s
Current Targets	80	77	0.1551	-----
4/1/19 through 9/30/19	95	91	0.2492	-0.32
10/1/19 through 3/31/20	158	153	0.2723	-0.10
4/1/20 through 9/30/20	119	113	0.2264	-0.76
10/1/20 through 3/31/21	113	108	0.3188	-0.11
4/1/21 through 9/30/21	116	110	0.1992	-0.37
10/1/21 through 3/31/22	106	102	0.2103	-0.35
4/1/22 through 9/30/22	105	101	0.1868	-0.06
10/1/22 through 3/31/23	28	25	0.2557	0.12

- Last semester finished with no bias and an improvement in precision vs prior semesters.

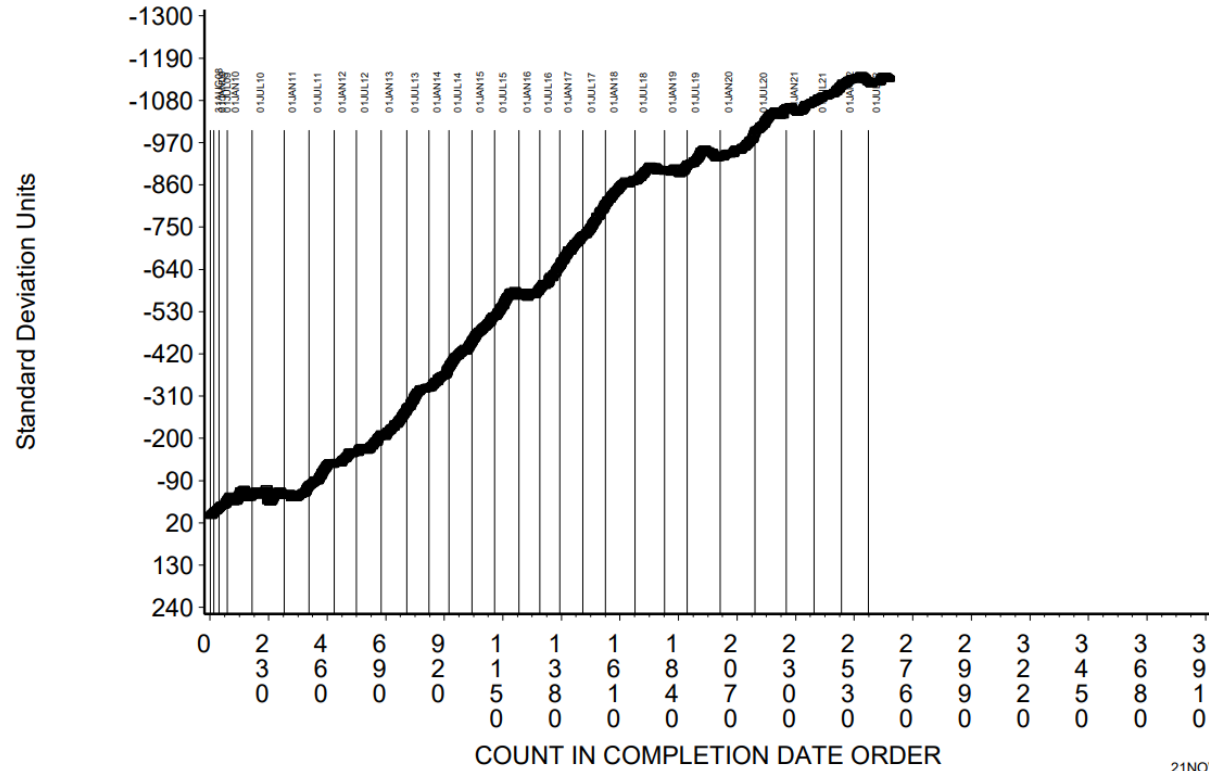
Source <https://www.astmtmc.org/ftp/refdata/bench/robo/data/statistics.txt> (November 28, 2022)

CUSUM severity analysis

ROBO TEST INDUSTRY OPERATIONALLY VALID DATA
 AGED OIL MRV APPARENT VISCOSITY



CUSUM Severity Analysis



21NOV22:16:08

Source: <https://www.astmtmc.org/ftp/refdata/bench/robo/plots/mrv%20INDUSTRY.pdf> (November 28, 2022)

LTMS updates

- No updates to report since our last meeting.

<https://www.astmtmc.org/ftp/docs/ltms/ltms.pdf>

Dilute NO₂






Dilute NO₂ update

- Information letter effective December 1, 2021
- Method published April 27, 2022

ASTM in Orlando

ASTM D7528: ROBO

Summary for D02.B0.07 – December 5, 2022

Status	Test Aspect	Comments
	Method	Test method is in good standing. <ul style="list-style-type: none">Method incorporating dilute NO2 published in April 2022.
	Parts Availability	All ROBO hardware and test materials are available <ul style="list-style-type: none">Concentrated and diluted nitrogen dioxide available from multiple suppliers
	Reference Oils	All current reference oils are in good supply at TMC: multiyear supply of each oil <ul style="list-style-type: none">No reference oil activities this past semester
	Test Availability	Test is available with no significant queues to report. <ul style="list-style-type: none">Less activity than prior semesters, less calibrated stands (27 → 9); reflecting less demand.
	Severity and Precision	In last semester (April 2022 – September 2022) there was minimal bias and precision was close to target <ul style="list-style-type: none">N = 105, Pooled s = 0.19 and Mean Δ/s = -0.06

Placeholder for discussion on proposed SAE J300 limit changes.

Placeholder for discussion on flow meter calibration.

Next Meeting

- Justin Mills to step down as SP chair, so will be seeking nominations for a new one.
 - No decision needed today.
- Recommend next meeting to occur in January.