

CEC ACTIVITY REPORT JULY – DECEMBER 2021

1. Chairman's Introduction

As 2021 draws to a close it is appropriate to reflect upon how CEC has operated during the year. Once again, I have been immensely impressed how CEC can operate effectively in a virtual environment. Everyone involved in CEC activities have all worked very hard to make sure that their various activities progressed whilst working remotely. I personally would like to thank everyone involved in CEC activities for their efforts and I do hope that Face-to-Face CEC meetings do return in 2022.

Further progress has been made on the CEC strategic review. The Future Scope of CEC has led to some very interesting discussions relating to topics such as Electric Vehicle Fluids, E-Fuels for ICE, engine test development without OEM sponsorship, new CEC stakeholders and global co-ordination with ASTM. In all instances these topics were focused towards answering the question *"How can CEC be proactive in these areas?"*. There is further discussions required within the CEC Management Board and the wider CEC community (and beyond CEC) in 2022 to help answer this very important question, but it is very encouraging that CEC is having these discussions as significant change in the Transportation industry will happen over the next 10 years.

The new CEC website went live in September which was a significant achievement. It has taken a large amount of effort from many people to completely re-design and launch this new website. All the CEC Management Board hope that we now have a platform that will allow for greater collaboration within the various CEC groups. I would encourage anyone using the CEC website to provide feedback (e.g. what is good, any proposed enhancements) because the CEC website is there to help the CEC community. I see the CEC website as being owned by the CEC community, with the CEC Management Board merely facilitating its creation and co-ordination of its improvement over time.

The new CEC guidelines (the main working document for all CEC activities) have been provided to the Industry Associations for review and comment. The CEC Management Board has presented the main improvements / changes to the CEC guidelines to two Industry Associations so far. It is expected that the new CEC guidelines will be published during Q1 2022.

Our lubricant TDG's L-115 (bearing wear test) and L-116 (ring liner wear test) both experienced discrimination issues which unfortunately the TDG's were unable to resolve. Both TDG's presented their findings to the CEC Management Board in September and the TDG's were informed that the relevant Industry Associations had decided that both TDG's should be closed. On behalf of the CEC Management Board I would like to thank everyone involved in TDG L-115 and TDG L-116 for the time and effort spent on these activities. A Special Projects Group (SPG) was set up to enable the Daimler OM471 to become a CEC test method. The SPG worked very quickly and efficiently and I am pleased to report that the Daimler OM471 became a CEC test method in December 2021 and was given the CEC Code of SG-L-118. SG-L-118 will replace SG-L-101.

On the fuels side TDG-F-113 (direct injection injector fouling) has experienced test reproducibility issues. The Chair of the TDG has been tasked to present ways to progress the test development to the TDG. The TDG-F-110 (injector deposits) successfully completed its activities and returned to SG status. All members associations have validated the needs statement for a replacement of the F-098 (injector nozzle coking) method, however no OEM sponsor has been identified. It has been agreed by the CEC Management Board that a Special Projects Group (SPG) should be set up to evaluate ways to develop a replacement for F-098 without OEM sponsorship.

The CEC Management Board made the difficult decision to postpone the planned November Virtual CEC Workshop. The reason for this decision was the desire to allow the CEC Management Board to concentrate on the CEC Strategic Review.

CEC joined the Global Lubricants Test Standards Team (GLTST) in November 2021. This activity fits with the requirement from the CEC Future Scope initiative for global co-ordination with ASTM.

Looking forward to the first half of 2021 CEC will concentrate on organising the 2022 CEC Workshop (planned to be Face-to-Face) and further progress the CEC Strategic Review items.

2. List of Board Members and Responsibilities

2.1. List of Board Members

Craig Jones	ATC, Chair
Mike Conroy	CONCAWE, Vice-Chair
Paul Decker-Brentano	ACEA
Mattias Berger	ACEA (replacing Bengt Otterholm as of September 2021)
Nigel Britton	ATC (to be replaced by Walter Kudlich as of January 2022)
Toby Stein	ATC, Treasurer
Andrew Bailey	ATIEL
Nikolay Doroshenko	ATIEL
Angela Spieckermann	CONCAWE (to be replaced end of January 2022)

2.2. Management Board Responsibilities

Issue	Leader	Backup	Admin, Secretariat
General Administration	Craig	Mike	Kellen
Finance/Compliance	Toby		Kellen
Website	Nigel		Kellen
Monitoring Lubricants Groups (SG)	Nikolay (engine)/Andrew (Bench)	Andrew/Nikolay	Kellen
Monitoring Fuels Groups (SG)	Mike	TBD	Kellen
Monitoring Transmissions (SG)	Toby	Mattias	Kellen
Monitoring Reference Fluids Groups + Rating	Nigel (Lubes)/Mike (Fuels)		Kellen
Articles of Association / Guidelines	Craig	Mike	Kellen
External Communications	Craig		Kellen
Quality/SDG	Nigel (Lubes)/Mike (Fuels)		Kellen
Lubricant Tests:			
TDG-L-115 – Bearing Wear Test	Mattias	Nigel	Kellen
TDG-L-116 – Ring Liner Wear Test	Nigel	Mattias	Kellen
TDG-L-117	Paul	Andrew	Kellen
Fuel Test Development:			
TDG-F-113 - IDID	Mike	TBD	Kellen
Confidentiality Issues	Craig	Mike	Kellen
CEC Strategic items	Craig	Mike	Kellen

3. Update on TDG's - Activity report – timeframe July – December 2021

3.1. TDG-F-110

In 2021 Round Robins were carried out with the new contaminant showing a strong improvement of the test severity control. The SDG confirmed that the test now complies with SG Status Requirement and the TDG has also adopted a modification of the rating methodology.

Following the RR, some corrective actions were taken

- Cold Soak operating conditions have been tightened
- A new Na Naphtanate contaminant solution is now produced to eliminate potential solubility issue
- The rating method has been improved for a better discrimination without affecting SDG Criteria
- The SDG confirms that test results from 2021 RR meets SG Status requirements

The TDG Chair and SDG representative have presented the results of the Round Robin tests to the CEC MB on 23 June and all associations approved the transition back to SG status;

The TDG was thanked for the huge amount of work that went into this test to make it work.

3.2. TDG-F-113 – DISI test

The TDG had a conference call on 22 June. It is beginning to seem unlikely that a clear route to better reproducibility can be identified. It appears that within a same lab, when changing test bed, test installation or injector batch, the test variability remains a concern.

The Chair has been asked to propose three options to the TDG

- Abandon the method since no clear route exists to develop a method meeting the CEC quality criteria
- Continue trying to resolve the R&R problems
- Identify potential solutions meeting the majority of the needs of the stakeholders

There remains a clear interest from the stakeholders to develop a method, there is already a significant amount of candidate testing ongoing (using the draft CEC method or closely related in-house methods).

3.3. TDG-L-115 – Low Soot Bearing Wear Test and TDG-L-116 –Low Soot Ring Liner Wear Test

Both tests have found difficulty in achieving discrimination, either due to the test method itself or the difficulties in obtaining appropriate high and low performance reference lubricants.

After several meetings and discussion, it was decided that both TDG's should be closed. The group chairs were thanked for the efforts that both groups had invested and this decision should not be seen as a failure.

The chairs of both groups presented the results and feedback to the Management Board and the Management Board will address the questions raised and will have a discussion with ACEA HD group.

3.4. OM471 Daimler test

An SPG was setup to put the procedure into the CEC format and to have the data analyzed by the SDG. The Terms of Reference were approved by ATIEL, ACEA and ATC (no vote for CONCAWE as this is a purely lubricant topic) and the statistical analysis was carried out by the SPG.

This data comprises 10 results from 3 laboratories and the raw data shows good discrimination and good precision. Precision estimates are limited in their accuracy and the control limits do not overlap. The overall reproducibility target is met.

ACEA, ATC and ATIEL endorsed the SPG recommendations and the OM471 has been converted from SPG to SG status. The test has been given the CEC Code of SG-L-118. SG-L-118 will replace SG-L-101.

The CEC Chair thanked the SPG on behalf of the Management Board for its excellent work. The group operated efficiently and met all the deadlines.

4. Update on SG's - Activity report – timeframe July – December 2021

4.1. SG-F-005

The CEC-F-005 working group decided to change group status from SG to TDG, due to issues with the test precision. The test development activities, to solve this issue, are scheduled for a timespan of one year. During this period, the test is not available as official CEC test.

4.2. SG-F-098

The SG identified the end of test life quite some time ago (before the end of 2019). End of Life is foreseen in 2022.

A Needs Statement for a replacement test was validated in late 2020.

ACEA have since looked for a hardware sponsor. There have not been any volunteers from the ACEA community.

The consequence is that if a test method is to be developed then it will need to be done without a Hardware Sponsor. This is seen as a blocking issue for initiating an SPG to write the Terms of Reference.

A subgroup within the Management Board has identified the need to work on the issue of developing test methods without a Hardware Sponsor and have proposed to initiate an SPG to address the question, in general terms, of how we might be able to develop new engine test methods without a Hardware Sponsor. For F-098 the Management Board is active discussion with ATC-FAG about creating an SPG to look at the feasibility of developing this specific test without a Hardware Sponsor and if it is seen as feasible then a Terms of Reference can be developed for the replacement test for F-098.

4.3. SG-L-040

The group has been working on setting up a new hardware by TANAS and has developed statistical results which were presented to the Management Board in September. They looked at alternative solutions and came up with a TANAS apparatus which proved satisfactory. Several studies were run on both apparatus and the statistics analyses showed that the new apparatus can be used in the test method. A third reference oil will at least temporarily be added to follow a potential drift between the two apparatuses.

The Management Board approved the inclusion of the TANAS apparatus into the test method which will be updated accordingly.

4.4. SG-L-078

The group chair informed that there is only one lab running the test and still has about 80 tests planned for 2021, all slots are already assigned to customers. It seems that technically the test is still available, but in reality, there is no availability for new unplanned needs. All other labs reported that they either have de-installed the installation or do not have sufficient hardware on stock to offer the test.

In the meantime, the group Chair confirmed availability of approximately 70 tests and there is no indication that customers plan to cancel slots. The group Chair will be requested to setup a discussion on this within the SG to make the SG aware that there are parts available that could be purchased and getting this documented.

4.5. OM646LA status (CEC L-099 and CEC L-104)

The hardware availability has been extended for 2 years (until 2024) for both tests.

A decision now needs to be made if further hardware gets produced and this mainly depends on the fact if the test will go back into the ACEA LD specification or not.

Regarding L-104, at the last main group meeting it was recognized that piston cleanliness has shifted towards mild, a number of results were even outside the acceptance limits. This observation was made across all operating labs for both reference oils, high and low. It was agreed to form an operators group to investigate the problem. The operators group is continuously working on the severity shift and a Round Robin has been completed. The next step is now to organise an extraordinary SG meeting to present the finding and the results to all members and to ask them for the approval of a procedure update. This will include tighter limits for the operational conditions as well as an increase of the fuel flow by 10 %.

5. Update on TMS

Integration of the TMS into the new CEC website

The overarching action over the past six months has been the integration of the TMS into the main CEC member's area. This has made the addition of new TMS users a more streamlined process linked to the user's CEC account. As part of maintenance procedures after the merge, PDC have also addressed any server-related issues and assisted site users with any new procedures.

Login Procedures

The new CEC site, as detailed above, is now integrated with the TMS, meaning that TMS users must log in using the same procedure as for the Member's dashboard. This has eliminated the sharing of passwords among TMS users.

Major Actions on Test Types

- New proforma uploads
- Ongoing support with new DISI113 template
- Updated a data flagging issue with OXI109
- Control limits issue resolved with KRL
- New fluid and batches, limits, users and roles added among all test types

6. Progress with CEC's New Website

The new CEC website and members area has been launched on 1 September. The new members area aims to improve online working for CEC groups. To facilitate this, we have developed new features, which include:

- Live document working - enabling you to collaborate with other members on group documents
- Improved authentication and profile management
- Meeting maker and calendar functionality on selected groups
- Single sign-on for CEC TMS users - after signing into CEC, you will also be authenticated to use the TMS

If you have not received your new login details, please inform the secretariat accordingly – info@cectets.org.

If you have any difficulties or queries regarding the new system or any feedback or suggestions, please contact cec@pdc.is.

7. Strategic items

Further progress has been made on the strategic review of CEC. Further discussions within CEC and with CEC key stakeholders is required to answer the question of "How can CEC be proactive?" in areas like EV fluids and E-fuels for ICE. CEC joined the Global Lubricants Test Standards Team (GLTST) in November 2021, which fits with the requirement from the CEC Future Scope initiative. The new CEC website was launched in September 2021. Further progress has been made on the revised CEC guidelines and these are expected to be published in early 2022.

8. Upcoming events and activity for 2022

- Management Board Meeting on 02 February by teleconference
- Management Board Meeting on 11 May in Brussels
- CEC Workshop on 12 May in Brussels
- Management Board Meeting on 22 June in Brussels
- Management Board Meeting on 14 September by teleconference or F2F
- Management Board Meeting on 23 by teleconference
- Daimler engines test meetings on 30 & 31st March at APL or by teleconference
- SG-F-005 + SG-F-016 + SG-F-020 combined M102E / M111 / Water Boxer meetings in September 2022 at DTC Vienna or by teleconference
- SG-L-114 meeting on 22nd February 2022 to be hosted by TotalEnergies ASF in Givores, France, or via telecon
- SG-L-117 Main Group meeting on 16th of March 2022, face-to face meeting, if COVID-19 situation allows.

It is important the all working groups meet at least once a year either physically or virtually.