

4E

IEA Technology Collaboration Programme
on Energy Efficient End-Use Equipment

IEA 4E SSL ANNEX Task 4 Interlaboratory Comparison – TLM Measurement

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3rd Term Work Plan

Task 4 – Objectives

- Promote a harmonised and effective global proficiency test for temporal light modulation (TLM) focusing on :
 - IEC TR 61547-1 which provides a measurement procedure for short-term light modulation (P_{LM}^{st}), and
 - IEC TR 63158 which provides a procedure for measuring stroboscopic visibility measure (SVM)
- Develop and offer a new interlaboratory comparison focusing on test methods for TLM

3rd Interlaboratory Comparison by IEA SSL Annex

Demand

- **EU Ecodesign regulation lighting omnibus** has PstLM and SVM requirements. (Sept 2021)
 - Expected to be adopted by **Aust** and **NZ** (expected late 2021 or 2022)
- **US Energy Star** requires reporting of nominated TLM metrics for dimmable lamps under dimmed conditions (2015)
- **California Energy Commission** has TLM limits for dimmable lighting products under dimmed conditions (2016)
- **UNEnvironment U4E Model Regulations** for lamps has PstLM requirements. (Pakistan, some countries starting 2021/2) Supposed to also follow EU with inclusion of SVM.
- Other countries (in Southern & Eastern Africa, SE Asia, Central & South America) supported by **CLASP** activities

3rd Term Work Plan

Planned Schedule

- Follow processes of previous two Ics
- But that has been and continues to be:
 - Pre – IC2017 issues
 - Pre – COVID-19!
 - Other metrology activities

FY1 (2019–20)				FY2 (2020–21)				FY3 (2021–22)				FY4 (2022–23)				FY5 (2023–24)			
MAM	JJA	SON	DJF	MAM	JJA	SON	DJF	MAM	JJA	SON	DJF	MAM	JJA	SON	DJF	MAM	JJA	SON	DJF
IC2017 issues																			
				COVID															

Risk Assessment

1. Reputational risk to IEA 4E SSL Annex
2. Liability risk to Annex members
3. Cost/resource risk (Annex and individuals)

Consider management of these risks.

EMPIR Project

Metrology for temporal light modulation

- Successful – 3 yrs duration
- Opportunities for IEA 4E-SSL Annex:
 - Collaboration
 - Complementary activities (non-European members?)
 - Saving of resources (No SSL Annex IC2022)
- Need to ascertain situation before decision

3rd Term Work Plan

Proposed Plan

- Stage 1: Nucleus Laboratory IC
 - Stage 2: Assess NLIC \Rightarrow decide on IC2022
 - Stage 3: IC2022
- ❖ No public announcements on IC2022 until Annex Experts & MC agree that positive NLIC outcomes indicate manageable (low) risk profile for IC2022

3rd Term Work Plan

Nucleus lab IC

Positive Nucleus Lab IC outcomes include confidence in:

- IC test protocols
- Artefact stability & integrity
- Proficiency of sufficient nucleus laboratories

Additional factors

- Capacity of sufficient nucleus laboratories
- Sufficient time remaining to complete public IC2022

While ascertaining “relationship” with EMPIR project

Engaging Potential Nucleus Laboratories

- Seek interest from Annex member laboratories
- Ascertain:
 - Capability and experience in TLM measurement
 - Capacity and availability for testing
 - Willingness to assist with sourcing and preparing artefacts
- Cost recovery standpoint
 - IC2022 may not eventuate

Capacity of sufficient nucleus laboratories

Country	Lab	Status	Capacity
Denmark	DTU	Involved in EMPIR project	Unlikely
Sweden	SEA	Preparing to physically relocate lab	No
Australia	No Gov lab.	Possibly a commercial lab??	??
France	LNE, CSTB, Laplace	??	
Canada	NRC	??	
Korea	KILT	??	
UK	No Gov lab.	??	

Need revision of the Revised Schedule

FY2 ('20)	FY3 ('21 – '22)				FY4 ('22 – '23)				FY4 ('23 – '24)				
DJF	MAM	JJA	SON	DJF	MAM	JJA	SON	DJF	MAM	JJA	SON	DJF	
Nucleus laboratories													
Nucleus labs selected. Test protocol agreed & artefacts selected & prepared		Nucleus labs intercomparison				Prepare artefacts for IC 2022		Coordinate IC 2022 laboratories					
Expert Panel & Management Committee													
				1) Experts assessment of nucleus lab IC outcomes 2) MC decision on IC2022		Public call for IC 2022							
Laboratories													
							Laboratories participate in IC 2022						
Task 4 Leaders													
					Report on Nucleus IC results		Prepare Issues paper (if no IC 2022)				Report on IC 2022 results		

