Japan – Brazil EE&C Project on EE&C (FY 2022)

(DRAFT) Summary Report : Online Follow-up Workshop (Program-1) (Sept. 9, 2022)

September 20, 2022

The Energy Conservation Center, Japan (ECCJ)

(Prepared by Kazuhiko Yoshida)

Date and Time September 9th, 2022

08:00 AM – 10:40 AM (BRT) / 20:00 – 22:40 (JST)

Purpose

(1) To confirm the progress 1) in the improvements of the laboratories of CEPEL and LABELO PUCRS and 2) in the improvements of the S&L System for air conditioners

(2) To discuss and advise solutions for issues and problems

(3) To discuss the draft basic implementation plan including the draft plan of the 2nd TOT in Brazil

(4) To exchange opinion on the other matters including the direction to apply the basic principle and conditions of CSPF to the other appliances (There was little time to discuss details of this matter.)

Participants

Total 19 participants (Please refer to Attachment-1 for details.)

From Ministry of Mine s and Energy (MME), Ministry of Economy, Trade and Industry (METI), National Institute for Metrology, Standardization and Industrial Quality (INMETRO), Eletrobras, Electro Energy Research Center (CEPEL) and Specialized Electric-Electronic Laboratories PUCRS (LABELO PUCRS), Japan Air Conditioning And Refrigeration Testing Laboratory (JATL) and The Energy Conservation Center, Japan (ECCJ)

Agenda

Attachment – 2 shows the detailed program.

(1) Opening Remarks by METI /

(2) Kick-off Message by MME

(3) Self-Introduction of Participants

(4) Points of Implementation Plan of Program-1 for FY 2022

(5) Progress in the Required Improvements Identified in the 1st TOT and Issues

  (5)-1 Improvements in Testing Laboratories of CEPEL and LABELO PUCRS

  (5)-2 Preparation of Standardized Test Manual with Criteria (by CEPEL and LABELO PUCRS)

  (5)-3 Improvements in S&L System for Air Conditioners (MME and INMETRO)

(6) Draft Plan of the 2nd TOT in Brazil

(7) Summary by ECCJ and Closing Remarks by MME

The following are the main points to have confirmed and concluded.

1. Keynote through Opening Remarks and Kick-off Message

(1) Opening Remarks

Mr. Haruto Shinoda (Assistant Director, Agency for Natural Resources and Energy, METI) emphasized the importance of energy conservation (EC) under the Japan – Brazil cooperation project on EC (Project) from the viewpoints of realization of the energy security and the carbon neutrality tackled globally. He also introduced the background and achievements of the Program-1 established to date and showed his expectation for the fruits of the workshop.

(2) Kick-off Message

Mr. Gustavo Santos Masili (Director for Energy Efficiency, MME) briefed the ongoing restructuring of MME and his expected future assignment introducing himself. He declared the actual kick-off of the specific joint activities for the Program-1, explaining recent amendment and issuance of additional ordinances to enforce these ordinances on December 31, 2022 so as to introduce ISO 16358-1 CSPF for air conditioners. He shows his belief that the Program-1 under the Project will contribute to the smooth enforcement of these ordinances.

2. Progress in the improvements identified in the (STEP-2) Training – Performance Test Practice under the 1st TOT

1-1 Improvements in the testing laboratories of CEPEL and LABELO PUCRS

(1) Both CEPEL and LABELO PUCRS have completed the improvements specified in the plans of improvements identified.

(2) Issues and solutions

1) For CEPEL

- Regarding the temperature control for the test at 50% capacity of an air conditioner, they had a difficulty in strictly controlling the temperature. Therefore, CEPEL applied the method to utilize the condensed water generated by the dehumidifier for humidification to prevent the condensed water from exhausted to outside the testing system. They understand this methodology is appropriate since amount of generated condensed water is very small.

2) For LABELO PUCRS

- They could not find and purchase the urethane board with the required specifications such as thermal conductivity in Brazil. As a result, they found and purchased polystyrene board met the required thermal conductivity equivalent to that for the urethane board.
- LABELO PUCRS informed that the calorimeter type of testing facility possible to test air conditioners of a maximum capacity of 60,000 Btu/h is under construction and the construction will be completed in March 2023.

(3) Clarification and advice by JATL

1) For CEPEL

- JATL asked CEPEL to clarify the cause of the identified issue and the specific methodology of the dehumidification and humidification in the closed testing system.
- In response the clarification by CEPEL, JATL commented that this methodology is not usually used. And JATL advised to test and measure the EE performance of the master air conditioner (M-AC) to prove the appropriateness of this methodology.

2) For LABELO PUCRS

- JATL asked to inform the specifications of the polystyrene board such as thermal conductivity and thickness of the board. LABELO PUCRS will inform JATL of the specifications of the polystyrene board since they didn't have precise data at that time.
- For their reference, JATL provided LABELO PUCRS with the key specifications of the urethane board used by JATL in Japan including the thermal conductivity of 0.024 W/K/m, the bulk density of 25kg/m^3 and the thickness of the board of 3 cm.
- JATL also advised LABELO PUCRS to test and measure EE performance of the M-AC to prove the performance of the improved facility since they did not the test.

(4) As per the confirmation made in the discussion, the draft plan of the 2nd TOT was justified. Namely, as explained below, the 2nd TOT is to practice the test and measurement of the EE performance of the M-AC by using the improved testing facilities at the 2 laboratories.

1-2 Preparation of "Standardized Test Manual with Criteria (Referred to as Standardized Manual)"

(1) CEPEL is still in process of preparation of the Standardized Manual, while LABELO PUCRS completed preparation of the Standardized Manual which has been further improved.

(2) The specifics and the significance of the Standardized Manual was discussed and confirmed with ECCJ – JATL as follows.

- The test manuals should be prepared by the individual testing laboratories as per the actual testing equipment and methods. On the other hand, the Standardized Manual will include key contents, conditions and criteria as per ISO 16358-1 CSPF, which could be a template for the other testing laboratories possible to prepare the individual detailed test manuals. This is the basic concept of the Standardized Manual for the calorimeter and the enthalpy types of testing laboratories to be shared with the other testing laboratories.
- The important point is that all the laboratories shall get same results by testing the same air conditioner as per the same test standards.

1-3 Improvements in Standard and Labelling (S&L) System for Air Conditioners

(1) INMETRO has prepared and issued the amended and additional ordinances in order to enforce the original 2020 Ordinance No. 234 which was amended in 2021 as the 2021 Ordinance No. 269 by integrating the 2020 Ordinance No. 234.

(2) In addition, INMETRO issued the following.

- 2022 April 11 Ordinance No. 179
  This is the amendment to correct calculation of CSPF.

Because INMETRO found in appropriate calculation method specified in ISO 16358-1 CSPF, INMETRO prepared the paper to analyze and propose the improved method of calculation. The paper is under assessment by ISO and this ordinance will be checked in CGIEE.

- 2022 May 31 Ordinance No. 230

  This is the amendment of the date to enforce the 2021 Ordinance No. 269 for the cassette type of air conditioners with the capacity of 36,000 Btu/h and larger. The date is postponed by one year (December 31, 2023).

  The calorimeter type of testing facility newly constructed in LABELO PUCRS will contribute to testing these air conditioners under this ordinance.

(3) Measures to promote the products manufactured as per ISO 16358-1 CSPF

1) The MEPS were rivised in May 2022.
2) MME and IMMETRO have prepared videos including interviews for promotion to deepen understanding of consumers on the new standard (CSPF) and its benefits of the products manufactured as per ISO 16358-1 CSPF. INMETRO also confirmed that the Brazilian manufacturers of air conditioners well understand and will comply with the related ordinances.
3) Eletrobras – PROCEL will issue new "PROCEL Seal" and the "PROCEL Gold Seal" in November 2022. Furthermore, in November 2023, the criteria of the "PROCEL Gold Seal" will be stricter with a higher energy efficiency level of products using the R32 for the refrigerant which is more environment-friendly.

3. Draft implementation plan for the face-to-face joint activities in FY2022

(1) ECCJ explained the draft basic implementation plan of the Project for FY 2022.

The activities of the Project are only for Program-1 since Program-2 will not be implemented as per the Brazilian side's requirement announced in August 2022 to postpone implementation of Program-2 after FY 2023 due to certain reasons.

(2) The Brazilian and Japanese sides mutually agreed with the basic implementation plan which includes the face-to-face joint activities for Program-1 as follows.

- 1st Joint Activity in Brazil to implement the 2nd TOT (In November 2022 (To be coordinated))
- Training Workshop in Japan (BEC BR7) (On February 6 – February 10, 2023)
- 2nd Joint Activity in Brazil to implement the 3rd TOT (On March 6 – March 10, 2023)

The participants understand the purpose and significance of the face-to-face joint activities of which individual points were explained by ECCJ.

(Note)

The specific conditions including the quarantine – immigration conditions in Brazil and Japan to implement the face-to-face joint activities under the current conditions and status of the COVID-19 pandemic were discussed and confirmed in the online meeting held between MME and ECCJ on September 2, 2022. The draft implementation plan was also discussed and confirmed.

(3) ECCJ asked CEPEL and LABELO PUCRS for implementing the 2nd and 3rd TOTs at laboratories of

these organization as per the proposed basic plan.

(4) The 2nd TOT is to test and measure energy efficiency performance of the M-AC using the improved testing facilities at CEPEL and LABELO PUCRS by the 21 trainers who completed the 1st TOT. The 2nd TOT aims at proving better performance of the improvements in the testing laboratories and at tuning the improved facilities so as to gain better precision of the tests.

- The specific dates for the "1st Joint Activity in Brazil" specifically at CEPEL shall be decided as follows. Namely, in order to share and discuss the results of the performance tests, ECCJ required to implement the 2nd TOT at LABELO PUCRS in October prior to the TOT at CEPEL scheduled in November (specifically proposed on Nov. 6th – 11th). However, the schedule of LABELO PUCRS in October is almost occupied for the other business and activities. As a result, the specific dates of the "1st Joint Activity" shall be decided after confirming the dates available for LABELO PUCRS to implement the 2nd TOT.

  The confirmation and coordination of these dates shall be made by email after this workshop.
- Considering the case that Japanese experts cannot visit Brazil due to increased risk of activities caused by the COVID-19 situations, ECCJ will prepare the alternative plan to implement this joint activity by online measures.

(5) It is expected that the "Training Workshop in Japan (BEC BR7)" and the "2nd Joint Activity in Brazil" to implement the 3rd TOT will be more possible to actually implement based on the reducing risk caused by COVID-19 situations in 2023. The points of these joint activities are as follows.

- The "Training Workshop in Japan" to implement for 5 working days by inviting 10 Brazilian participants from MME, INMETRO, Eletrobras, CEPEL and LABELO PUCRS. ECCJ will develop the "Program Outline" which details the plan and programs
- The "3rd TOT" to implement at CEPEL for new trainees from the testing laboratories including manufacturers of air conditioners by the 1st trainers who completed the 1st and 2nd TOTs. JATL-ECCJ will assists the 1st trainers in implementing the training.

- END –

Attachment – 1 List of Participants

(Representatives of Each Organization - Brazil)

1. MME

	Name	Organization	Present Position
Mr.	Gustavo Santos Masili	MME	Director
Ms.	Samira Sana Fernandes De Sousa Carmo	MME	General Coordinator
Ms.	Alexandra Albuquerque Maciel (Absent)	MME	Infrastructure Analyst
Mr.	William de Oliveira Medeiros	MME	

2. INMETRO and Eletrobras

	Name	Organization	Present Position
Mr.	Hercules Antonio Da Silva Souza	INMETRO	Technologist Researcher
Mr.	Gregory Amaral Kyriazis	INMETRO	Senior Researcher
Mr.	Felipe Tiago Monteiro (Absent)	INMETRO	Technologist Researcher
Mr.	Davi Anders Brasil	INMETRO	Researcher
Mr.	Victor Zidan da Fonseca	Eletrobras	Mechanical Engineer
Mr.	Marcello Soares Rocha	Eletrobras	Analyst

3. CEPEL

	Name	Organization	Present Position
Ms.	Alessandra da Cost Barbosa	CEPEL	Chief of Department
Mr.	Paulo dos Santos	CEPEL	Researcher
Mr.	Pablo de Abreu Lisboa	CEPEL	Researcher Engineer

4. LABELO PUCRS

	Name	Organization	Present Position
Mr.	Israel Dulcimar Teixeira	LABELO PUCRS	Director
Mr.	Leandro José Weschenfelder	LABELO PUCRS	Laboratory Coordinator
Mr.	Rodrigo Silveira da Silva	LABELO PUCRS	Laboratory Analyst

(Representatives of Each Organization - Japan)

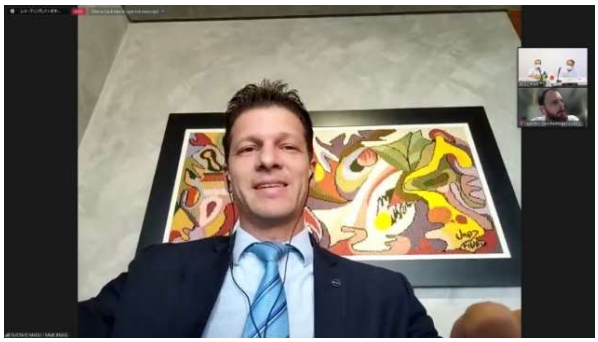
	Name	Organization	Present Position
Mr.	Haruto Shinoda	ANRE, METI	Assistant Director
Mr.	Kazuhiko Yoshida	ECCJ	Technical Consulting Adviser
Mr.	Yoshihiro Kawaguchi	ECCJ	Technical Expert
Mr.	Koji Mori	JATL	Chief Manager
Mr.	Ryota Hirata	JATL	General Manager

Attachment – 2 **Program – "Online Follow-up Workshop"**

Time	Agenda	Remarks
08:00-08:10	**1. Opening Remarks** **(Mr. Haruto Shinoda, Assistant Director, International Affairs Office, Energy Efficiency and Renewable Energy Department, ANRE, METI)**	
08:10-08:15	**2. Kick-off Message** **(Mr. Gustavo Santos Masili, Director for Energy Efficiency, MME)**	
08:15-08:25	**3. Self-Introduction (Name and Organization)** **Group Photo**	
08:25-08:40	**4. Implementation Plan of Program-1 for FY 2022 (ECCJ)**	
08:40-10:05	**5. Progress in the Required Improvements and Issues**	
08:40-09:15	**5-1 Improvements in Testing Laboratories and Issues**	
08:40-08:50	● Explanation : Status of Progress and Issues (CEPEL)	
08:50-09:00	● Explanation : Status of Progress and Issues (LABELO PUCRS)	
09:00-09:05	**Break (for an Interpreter)**	
09:05-09:15	► Discussion / Advice by JATL	
09:15-09:45	**5-2 Preparation of Standardized Test Manual with Criteria and Issues**	
09:15-09:25	● Explanation : Status of Preparation / Points of Manual (CEPEL)	
09:25-09:35	●Explanation : Status of Preparation / Points of Manual (LABELO PUCRS)	
09:35-09:45	► Discussion : Ideas of Procedure to Share the Standardized Manual with the Other Testing Laboratories in Brazil	
09:45-10:05	**5-3 Improvements in S&L System for Air Conditioners and Issues**	
09:45-09:50	● Explanation : Status of Progress and Issues (MME – INMETRO)	
09:50-10:05	► Discussion / Advice by ECCJ-JATL	
10:05-10:10	**Break (for an Interpreter)**	
10:10-10:20	**6. Proposed Plan of the 2nd TOT in Brazil** **Explanation (ECCJ) and Discussion**	
10:20-10:25	**Summary / Confirmation of the Next Actions (ECCJ)**	
10:25-10:30	**Closing Remarks** **(Mr. Gustavo Santos Masili, Director for Energy Efficiency, MME)**	

Attachment – 3 **Snapshots – Screen (Participants)**

Mr. Haruto Shinoda (Assistant Director, METI)



Mr. Gustavo Santos Masili (Director, MME)

All Participants

In addition, there were two participants whose cameras didn't work