

**PUBLIC HEARING ON THE ISLAND WIDE POWER FAILURE  
OCCURRED IN THE TRANSMISSION LICENSEE'S NETWORK  
(CEYLON ELECTRICITY BOARD) ON 3<sup>rd</sup> December 2021**

(scheduled to be held on 3<sup>rd</sup> and 7<sup>th</sup> of March 2022 at BMICH)

**Report to the Commission** (in terms of paragraph 22 of the Public Hearing Procedures)

I wish to inform the following to the Commission

**A. List of Participants**

**As witnesses**

1. Ms. Wasantha Perera - Secretary, Ministry of Power
2. Mr. M.M.C. Ferdinando – Chairman Ceylon Electricity Board
3. Mr. M.R. Ranatunga- Former General Manager - Ceylon Electricity Board
4. Mr.P.W. Hendaheva Addl. General Manager -Transmission Operation & Maintenance
5. J.P.C.N.J. Patabendi- Electrical Superintendent, Biyagama GSS ,CEB
6. Mr. M. Chanaka -Electrical Engineer In charge of Biyagama GSS ,CEB
7. Mr. D.D.U. Dompaga DGM Transmission Operation & Maintenance
8. Mr. K.H.K. Kondasinghe- Shift Engineer, Kotmale PS
9. Mr. K.M.I.N. Kuruppu - Chief Engineer (Officer In charge), Kotmale PS
10. Mr. K.A.N. Perera - Chief Engineer, Shift In charge –Lakvijaya PS, Norochcholai
11. Mr.P.W.M.N.A.B. Wijekoon- Power Plant Manager , Lakvijaya PS, Norochcholai
12. Mr. E. Kudahewa - Chief Engineer, System Operation Centre, CEB
13. Mr. D.S.R. Alahakoon - DGM, System Control Centre, CEB
14. Mr. N.S. Wettasinghe - DGM, Transmission Protection & Control
15. Mr. D.N. Nawaratne - DGM, General Protection
16. Mr. J.M.K. Jayasekara - DGM, Asset Management (Thermal Electrical)
17. Mr.P K N I Weeraratne - DGM,Corporate Strategy & Regulatory Affairs
18. Ms. U.P.A.H. Seneviratne - DGM, Occupational Health & Safety
19. Mr. K K S Dasanayaka - AGM Corporate Strategy & Regulatory Affairs
20. Mr. G.D.N.S. Garusinghe - DGM, Communication Branch
21. Dr. Rohantha Abeyssekara - General Manager, CEB
22. Professor Lilantha Samaranyake - Chairman of the Expert Committee appointed by the Ministry of Power to investigate into the Power Interruption

**B. Submissions from General Public**

1. ලංකා විදුලිබල මණ්ඩලීය තාක්ෂණික ඉංජිනේරු හා අධිකාරි සංගමය
2. ලංකා විදුලි පොදු සේවක සංගමය
3. ආපන ශාලා හිමියන්ගේ සංගමය



### **C. Documents**

- To be submitted by the Secretary, Ministry of Power

Report of the Expert Committee appointed by the Ministry of Power to investigate in to the island wide power failure occurred in the transmission licensee's network (Ceylon Electricity Board) on 3<sup>rd</sup> December 2021

- To be submitted by the General Manager –Ceylon Electricity Board
- 1) BEN recorders log files (including graphs) obtained from Kotmale GSS and Biyagama GSS and relevant viewing software.
  - 2) Fault record files in line protection equipment of Kotmale GSS and Biyagama GSS with relevant viewing software.
  - 3) Fault record files in busbar protection equipment of Kotmale GSS and Biyagama GSS with relevant viewing software.
  - 4) All event logs obtained from Biyagama GSS busbar protection equipment (7SS525,7SS522) in .xlsx format.
  - 5) All event logs obtained from Kotmale GSS busbar protection equipment (in .xlsx format).
  - 6) Protection settings obtained from Biyagama GSS busbar protection equipment.
  - 7) Protection settings obtained from Kotmale GSS busbar protection equipment.
  - 8) Technical manuals of Biyagama GSS busbar protection equipment (in .pdf format).
  - 9) Technical manuals of Kotmale GSS busbar protection equipment (in .pdf format).
  - 10) Event logs obtained from breaker trip relays (RXMVB4, RXMS1,RXMVB2) at Biyagama GSS (in .xlsx format).
  - 11) Event logs obtained from breaker trip relays (RXMS, RXMVB2) at Kotmale GSS (in .xlsx format).
  - 12) Technical manuals of breaker trip relays (RXMVB4, RXMS1,RXMVB2) at Biyagama GSS (in .pdf format).
  - 13) Technical manuals of breaker trip relays (RXMS, RXMVB2) at Kotmale GSS (in .pdf format).
  - 14) Protection wiring diagrams signal diagrams of DDRs (to clarify digital inputs received by the BEN) at Kotmale GSS and Biyagama GSS (in .pdf format).
  - 15) Protection documents indicating the mapping between DDR input terms and protection equipment outputs related to Biyagama GSS and Kotmale GSS (in .pdf format).
  - 16) Latest versions of transmission line protection philosophy of handling frequency stability, voltage stability and cascade tripping etc. (in .pdf format).
  - 17) Protocol followed by the persons accessing the protection relays of transmission system and generating plants (at the time of the blackout incident on 03<sup>rd</sup> Dec 2021).
  - 18) Operational log, Ground fault log, Security Log and setting history log obtained from Biyagama-Kotmale Lines main protection relays (7SL87) at Biyagama end and Kotmale end (in .xlsx format).



- 19) Single line diagrams of Kotmale GSS and Biyagama GSS (indicating the open/close status of breakers and isolators, as at 11.27.14 on 03<sup>rd</sup> Dec 2021) (in .pdf format).
- 20) Physical evidence indicating the occurrence of ground fault in Kotmale-Biyagama Line 02.
- 21) Evidence from protection equipment indicating the location of ground fault of Kotmale-Biyagama line 02.
- 22) Reasons for tripping Phase Y and Phase R of Kotmale-Biyagama Line 02 (after tripping of Phase B), and the evidence from relevant protection equipment log files indicating the protection function that operated to trip the phase Y and Phase R.
- 23) Reasons on why the fault locator function of the 7SL87 relays (at both ends) of Kotmale-Biyagama line-2 have not identified the fault location.
- 24) Clarification on the following fault log entry in 7SL87 relay (Line-02 Main 1 protection) at Kotmale GSS, at 11.27.14.688  
*“Line 1: Fault locator FLO invalid. On”*
- 25) Clarification on the following fault log entries in 7SL87 relay (Line-02 Main 1 protection) at Biyagama GSS, at 11.27.14.382,  
*“Line 1:85-67N Dir. Comp.:85-67N Dir.com Pickup 3I0 phs A phs B phs C gnd dir. Unknown”*  
 at 11.27.14.675, *“Line 1: Fault locator FLO invalid. On”*
- 26) Explanation regarding who have accessed and logged out as indicated in the event record of line protection relay MiCOM P545 (Line Main 2 protection) of Kotmale-Biyagama Line-2, and clarification on what purpose the users have accessed the relay. (on below mentioned event records)
  - Friday 03 December 2021 08:33:58.534 : User Logged Out On UI Level 1
  - Friday 03 December 2021 08:33:55.485 : User Logged Out On UI Level 1
  - Friday 03 December 2021 08:33:52.383 : User Logged Out On UI Level 1
  - Friday 03 December 2021 08:33:13.883 : User Logged Out On UI Level 1
  - Friday 03 December 2021 08:33:11.534 : User Logged Out On UI Level 1
  - Friday 03 December 2021 08:33:03.882 : User Logged Out On UI Level 1
  - Friday 03 December 2021 08:33:00.784 : User Logged Out On UI Level 1
- 27) Reason for the neutral overcurrent on Kotmale-Biyagama Line 1, with supporting evidence.
- 28) Zero sequence current appearing in normal operation of all 220kV transmission lines and their respective relay threshold settings for neutral time overcurrent protection (51N) and the basis for the relevant 51N protection threshold settings of those lines.

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## D. Agenda

Day 1- 03<sup>rd</sup> of March 2022

SR #	Ref	Witness	Designation	Time
1.	PUCSL/PH 2022-01/W1	Ms. Wasantha Perera	Secretary, Ministry of Power	9.30 AM
2.	PUCSL/PH 2022-01/W2	Mr. M.M.C. Ferdinando	Chairman-Ceylon Electricity Board	9.45 AM
3.	PUCSL/PH 2022-01/W3	Mr. M.R. Ranatunga	Former General Manager - Ceylon Electricity Board	10.15 AM
4.	PUCSL/PH 2022-01/W4	Mr.P.W. Hendaheva	Addl. General Manager - Transmission Operation & Maintenance	10.45 AM
<b>Tea Break 10.45-11.00</b>				
5.	PUCSL/PH 2022-01/W5	J.P.C.N.J. Patabendi	Electrical Superintendent, Biyagama GSS ,CEB	11.00 AM
6.	PUCSL/PH 2022-01/W6	Mr. M. Chanaka	Electrical Engineer In charge of Biyagama GSS ,CEB	11.30 PM
7.	PUCSL/PH 2022-01/W7	Mr. D.D.U. Dompaga	DGM Transmission Operation & Maintenance	12.00 noon
8.	PUCSL/PH 2022-01/W8	Mr. K.H.K. Kondasinghe	Shift Engineer, Kotmale PS	12.30 PM
<b>1.00 - 2.00 PM Lunch Break</b>				
9.	PUCSL/PH 2022-01/W9	Mr. K.M.I.N. Kuruppu	Chief Engineer (Officer In charge), Kotmale PS	2.00 PM
10.	PUCSL/PH 2022-01/W10	Mr. K.A.N. Perera	Chief Engineer, Shift In charge - Lakvijaya PS, Norochcholai	2.30 PM
11.	PUCSL/PH 2022-01/W11	Mr.P.W.M.N.A.B. Wijekoon	Power Plant Manager , Lakvijaya PS, Norochcholai	3.00 PM
12.	PUCSL/PH 2022-01/W12	Mr. E. Kudahewa	Chief Engineer, System Operation Centre, CEB	3.30 PM
<b>Tea Break 4.15- 4.30 PM</b>				
13.	PUCSL/PH 2022-01/W13	Mr. D.S.R. Alahakoon	DGM, System Control Centre, CEB	4.00 PM
14.	PUCSL/PH 2022-01/W14	Mr. N.S. Wettasinghe	DGM, Transmission Protection & Control	4.30 PM



Day 2- 7<sup>th</sup> of March 2022

SR #	Ref	Witness	Designation	Time
1	PUCSL/PH 2022-01/W15	Mr. D.N. Nawaratne	DGM, General Protection	9.30 AM
2.	PUCSL/PH 2022-01/W16	Mr. J.M.K. Jayasekara	DGM, Asset Management (Thermal Electrical)	10.00 AM
3.	PUCSL/PH 2022-01/W17	Mr.P K N I Weeraratne	DGM, Corporate Strategy & Regulatory Affairs	10.30 AM
4.	PUCSL/PH 2022-01/W18	Ms. U.P.A.H. Seneviratne	DGM, Occupational Health & Safety	11.00 AM
5.	PUCSL/PH 2022-01/W19	Mr. K K S Dasanayaka	AGM Corporate Strategy & Regulatory Affairs	11.30 AM
<b>Tea Break 11.30-11.45</b>				
6.	PUCSL/PH 2022-01/W20	Mr. G.D.N.S. Garusinghe	DGM, Communication Branch	11.45 AM
7.	PUCSL/PH 2022-01/W 21	Dr. Rohantha Abeysekara	General Manager, CEB	12.15 PM
<b>1.15 - 2.15 PM Lunch Break</b>				
8.	PUCSL/PH 2022-01/W22	Professor Lilantha Samaranayake	Chairman of the Expert Committee appointed by the Ministry of Power to investigate into the Power Interruption	2.15 PM
9.		Submissions from General Public		2.45 PM
<b>Tea Break 4.00- 4.15 PM</b>				
10		Conclusion Remarks from the Commission		4.15 PM
11		Closure of the event		4.30 PM

Submitted for your information and approval please



Janaki Vithanagama

Secretary to the Commission