सत्यमेव जयते

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No. EL/3.1.3/DPWCS

Dated: 12.06.2019

1. M/s Lotus Wireless Technologies India Pvt. Ltd., B-7, EEIE, IDA, Autonagar, Vishakhapattanam - 530 012
2. M/s Medha Servo Drives Pvt. Ltd, P-4/5B, IDA, Nacharam, Hyderabad-500 076
3. M/s Advanced Rail Control Pvt. Ltd., 59/1&2, Above Bank of India, G-Block, Sahakara nagar Bangalore -560092
4. M/s GE Transportation, Building no.7A, 4th Floor, DLF Cyber City, DLF Phase III, Sector 25A, Gurgaon- 122 002, Haryana.
5. M/s. Knorr-Bremse India Pvt. Ltd., 51/4 KM Stone, Village & P.O. Bhagola, Delhi Mathura Road (NH-2), Palwal-121102 (HARYANA)
6. M/s. Faiveley Transport Rail Technologies India Limited, P.B. No. 69, Harita, HOSUR, Tamil Nadu- 635 109
7. M/s ABB Limited, NelamangalaTaluk, Bangalore – 562 123
8. M/s C-DAC, P.B. No. 6520, Vellayambalam, Thiruvananthapuram – 695033, Kerala.
9. M/s. BTIPL, ERDA Road, Maneja, Vadodara-390 013
10. M/s. BHEL, EDN, PB.No.2606, Mysore Road, Bangalore-560 026
11. M/s. CGL, Plot No. 9, New Industrial Area, Mandideep – 462 046

Sub: **Minutes of Meeting** held at RDSO on 11/06/2019 to discuss the interfacing of Distributed Power Wireless Control System (DPWCS) with brake system & TCN VCU.

Please find enclosed herewith the copy of subject Minutes of Meeting for your information & further necessary action, please.

12.06.2019

(Aseem Kumar)
for Director General Std. /Electrical

Encl: As above

Copy to:

i). Secretary (Electrical),Railway Board, Rail Bhavan, New Delhi-110001(Kind Attn. : Shri A.K.Goswami,DEE/RS/RB)
ii). Secretary to DG/RDSO
iii). Principal Chief Electrical Engineer, Chittaranjan Locomotive Works, Chittaranjan-713 331.(Kind Attn.: Shri A.K.Singh,CEE/D&D)
iv). Principal Chief Electrical Engineer, South Eastern Railway, Garden Reach, Kolkata-700 043(Kind Attn.: Shri R.K.Tiwari,CELE/SER

for kind information please.

12.06.2019

(Aseem Kumar)
for Director General Std. /Electrical

Encl: As above

Minutes of meeting at RDSO on 11/06/2019 to discuss the Interfacing of DPWCS with brake system (E-70/CCB) & TCN VCU

Members Present

RDSO
(S/Shri)
1. O.P.Kesari, PEDSE
2. Suresh Kumar,DSE/TPS
3. Aseem Kumar,DSE/Pn
4. Arvind Pandey, DDSE/Sys
5. JPS Kutiyal,SSE/Sys
6. Mahendra Pal,JE/Pn
7. Shivesh Krishna Mishra,JE/TPS

Railways
(S/Shri)
1. R.K.Tiwari, CELE/SER
2. Atul Kumar, Sr.DEE/ELS/BNDM/SER
3. Pankaj Kumar,SEE/D&D/CLW

FIRMS
(S/Shri)
1. Binu S Pillai, M/s Lotus Wireless Technologies
2. Santhana Krishnan/s GE
3. V.Sadasivan,M/s ARC
4. A.N.Venketswara Rao, M/s Medha
5. Srinivas D,M/s CGPISL
6.Sudipto Kali, M/s FTIL
7. G.J.Natraj, M/s FTIL
8. Avinash Kumar, M/s KBIL
9.Yogesh Kumar,M/s KBIL
10. Ranji Chacko, M/s CDAC
11. Ankur Somany, M/s BT
12. Pradip Savaliya, M/s ABB

A meeting was convened at RDSO to discuss the interfacing of DPWCS with Brake system (E-70 & CCB) and TCN VCU besides reliability issues of DPWCS.

At the outset, PEDSE welcomed all the members for attending the meeting. PEDSE asked firms to furnish their views on interfacing of DPWCS with Brake system (E-70 & CCB) and possibility of interfacing the TCN VCU with DPWCS.
The summary of discussions was as under.

1. The indigenously developed Radio by M/s Bharat Electronics Limited (BEL), a Govt. of India Enterprise has been successfully integrated in one of the 3-phase locos at ELS/KJZ having M/s ARC make DPWCS. This is a very good effort under 'Make in India' objective. Further, the BEL make radio was successfully integrated with M/s LWT DPWCS system in lab. Other OEMs of DPWCS were advised to integrate the BEL make radio in their system to prove interoperability at the earliest. This will enable Radio equipment Made in India available for use.
   The field trials with BEL make radio shall be done as under:

SN	Firm	Target date for field trial
i).	M/s Lotus (conventional & 3-phase locos)	30th June'2019
ii).	M/s GE(3-phase locos)	
iii).	M/s Medha(Conventional Loco)	

2. M/s LWT & M/s ARC shall test their systems for brake interoperability between locos having FTIL brake system and other loco having CCB of M/s KBIL by 30th June'2019 at TATA/SER. However, System of M/s ARC & M/s LWT supplied with existing specification should be commissioned on either M/s FTIL or M/s KBIL brake system as per loco availability of the railway concerned.

3. MU formation of M/s CGL & M/s ABB TCN VCU locos to be tested by 25th June'2019 at BNDM/TATA of SER.

4. CLW informed that M/s GE has yet not offered for prototype inspection. M/s GE was advised to offer the prototype unit for inspection to CLW at the earliest. Further, it was also advised that M/s GE may explore the possibility of using indigenously developed M/s BEL make radio in their system.

5. OEMs of brake system for 3-phase loco shall interface their brake system with DPWCS as & when procured by ZR/PUs.CLW shall make provisions as special conditions of contract for supply of necessary software, hardware, electrical & pneumatics for interface with DPWCS with supply of brake system.

6. RDSO has already issued the Specification for interoperable Distributed Power Wireless Control System (DPWCS) for electric locomotives bearing no. RDSO/2019/EL/SPEC/0142(Rev.0) on 03.04.2019 .The specification is generic in nature & has been prepared duly consulting the Railways & OEMs of DPWCS. The future procurement of DPWCS by ZR/PUs may be done as per this specification.

7. CLW has already obtained the clearance from WPC for use of frequency band of 424MHz-430MHz.OEMs should procure radios as per further frequency allocation from WPC which may vary as per spectrum availability which will be informed to OEMs by CLW.

8. It was decided to hold a meeting with OEMs of VCU (M/s CDAC,M/s BT, M/s CGL ,M/s BHEL & M/s ABB) and DPWCS(M/s LWT,M/s ARC) at CLW on 21st June'2019. Effort shall be made to finalize the interfacing logic between DPWCS & VCU in this meeting itself.

9. At present M/s Medha make propulsion system does not have MVB interface which is required for connecting the DPWCS. M/s Medha confirmed that they will provide MVB interface by 14/08/2019. Thereafter, the details of interfacing logic shall be finalized by M/s Medha.

RDSO SER CLW M/s KBIL M/s FTIL

M/s LWT M/s ARC M/s BT M/s CDAC M/s GE

M/s ABB M/s CGPISL M/s Medha