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भारत सरकार-रेल मंत्रालय
अनुसंधान अभिकल्प और मानक संगठन
लखनऊ-226011

Government of India - Ministry of Railways
**Research, Designs & Standards
Organization, LUCKNOW - 226011**

No. EL/3.1.22/4

Dt. 31.08.2018

M/s Anantashree Engineers, Plot No. 12, Mahila Udyami Park-II, Greater Noida - 201 306.	M/s River Engineering Pvt. Ltd., Plot no. 54-55, Toy city, Ecotech-III, Greater Noida - 201 306(U.P.), India.
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Sub: Minutes of Meeting on reliability issues of M/s Anantashree & M/s REPL make Tap Changers.

A meeting was conducted with representatives Tap Changer manufacturers & Railways at RDSO, Lucknow on 24.08.2018 on subject matter. In this regard, minutes of meeting is enclosed herewith for kind information.

Encl: As above.

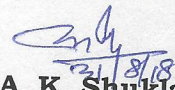
Copy. to:-

1. Secretary (Electrical), Railway Board [Kind attention: Sh. A. K. Goswami, DEE/RS/RB] - for kind information.

2. **Chief Electrical Engineer:** - for kind information.

- Northern Railway, Baroda House, New Delhi-110 001.
- Central Railway, Mumbai CST-400 001.
- Eastern Railway, Fairlie Place, Kolkata-700 001.
- East Central Railway, Hazipur-844 101(Bihar).
- South Central Railway, Secunderabad-500 371
- West Central Railway, Jabalpur- 482 001.
- South East Central Railway, Bilaspur-495 004.
- South Eastern Railway, Garden Reach, Kolkata -700 043.
- Western Railway, Churchgate, Mumbai-400 020.
- Southern Railway, Park Town, Chennai-600 003.
- East Coast Railway, ECoR Sadan, South Block, Bhubaneswar-17 (Orrisa)
- North Central Railway, Subedarganj, Allahabad- 211 033.
- North Eastern Railway, Gorakhpur-273 001.

Encl: As above.


(A. K. Shukla)
for Director General


Minutes of Meeting on reliability of N - 32 Tap Changer with Zonal Railways and Tap Changer manufacturers held on 24.08.2018 at RDSO, Lucknow.

Members Present, S/Shri

A) RDSO, Lucknow	E) M/s River Engg. Pvt. Ltd.
O P Kesari, PEDSE	Y J Joshi, Director (CS & Mktg.)
A K Shukla, EDSE	K K Singh, Sr. Manager
B) North Central Railway	Vijay Srivastava, Regional Head, Mktg.
Abhishek Singh, DEE/TRS/JHS Ravi Prakash, JE/TRS/JHS Shivam Srivastava, ADEE/TRS/CNB	F) M/s Anantashree Engineers
C) South Central Railway	S K Sharma, G M Marketing
Naresh Bandla, DEE/ELS/BZA	Ambika Prasad, Dy. Mgr. (CS)
D) Southern Railway	P K Srivastava, Sr. Mgr. Engg
P. Srinivas, ADEE/RS/AJJ	


A meeting on reliability improvements of N - 32 Tap Changer with Zonal Railways & Tap Changer manufacturers held on 24.08.2018 at RDSO, Lucknow. PEDSE welcomed all the participants in the meeting from Zonal Railways & Tap Changer manufacturers. Deliberations of the meeting and action plan is summarized as under:-

1. Representatives from ELS/CNB, JHS, BZA and AJJ have reported that yellow color CAMs are facing failure prematurely on account of high wear & tear, its breakage etc. M/s REPL has identified 293 defective CAMs. They mentioned that they have already supplied spare cams for replacement. In revamped Tap Changers, 73 sets of CAMs have already been replaced by M/s REPL. Balance 92 revamped have been working in service since more than 1½ years and shall be replaced on conditional basis. Further replacement plan shall be submitted by M/s REPL to RDSO.
In this regard, Railways are requested to inspect these yellow color CAMs strictly in schedules for their condition and replace it if required as a precautionary measure.
2. DEE/ELS/BZA reported failure of GR housing on account of crack in under warranty revamped Tap Changer. M/s REPL was advised to submit the detailed investigation report along with action plan.
3. The breakage of journal pins has also been reported after service of more than 23 months by ELS/BL and after 48 months by ELS/BKSC. Sheds are requested check this item as OEM, i.e., M/s ABB/BT manual. The alignment of Journal Pin is to be ensured with the help of fixers to eliminate this



problem. M/s REPL is advised to submit the findings of breakage of Journal Pin through lab reports to RDSO.

4. Based on suggestion of ELS/CNB, M/s REPL has agreed to adopt the design of pin of connecting rod similar to that in GANZ design .
5. based on suggestion of ELS/CNB, M/s REPL has agreed to supply drive shaft (S-1401) along-with the provision of adjustable Bevel gear complete (S-1490) in place of fix type of Bevel gear(S-1408). This complete shaft should be fitted with Bevel Gear (A 1926) fitted with roll pin to ELS/CNB for fitment trial.
6. Eastern Railway reported interlock failure of SMGR in M/s Anantashree make Tap Changer. M/s Anantashree is advised tighten their QC set up and improve the sources of interlocks.
7. Both the Tap Changer manufacturers are advised to inform RDSO in case of change/ addition and deletion of any sources for procurement of spares of Tap Changers.
8. Railways suggested to increase thickness of gasket (S-1102) from 3 mm to 6 mm for proper crushing of gasket to avoid leakage. M/s REPL & M/s Anantashree shall study the issue and take necessary action.
9. ELS/CNB suggested that M/s Anantashree should modify the contact bolts similar to that of M/s REPL. The details of same may be sent to RDSO for evaluation. M/s Anantashree has submitted their investigation for breakage and suggested to check the tightness with 35 NM torque to avoid over tightening during maintenance. Railways should ensure this.


24/03/18
(A K Shukla)
EDSE