

S.No 79

GOVERNMENT OF INDIA (भारत सरकार)
MINISTRY OF RAILWAYS (रेल मंत्रालय)
RAILWAY BOARD (रेलवे बोर्ड)

No. 2010/Sig/SGF/EI (Ansaldo)

New Delhi, Dated 26.12.2012

The CSTEs
All Indian Railways

Sub: Improvement of configuration for Microlok II Electronic Interlocking.

Ref: RDSO's letter no. STS/L/SSI/CA/US&S Vol XXXVII dated 24.8.12

To improve performance of Microlok II (Ansaldo make) Electronic Interlocking system, especially during Monsoon season, RDSO scrutinized the changes in configuration & system design and vide above letter, has recommended to provide Hot Standby architecture and Panel Processor wherever Control-Cum-Indication Panel (CCIP) is installed or being installed.

On scrutiny of financial implication part of the proposal, Finance Directorate of Railway Board has observed as under:

- The issue involved here is pertaining to technical snags being faced in the working of the Electronic Interlocking (EI) systems. The issues have been resolved by holding technical consultations between the equipment suppliers, the RDSO and the signalling directorate of Railway Board. At this stage, it is fully within the competence of the concerned technical directorate to issue instructions on amendments required in the technical specs. Zonal Railways who are entrusted with the responsibility of executing the works may take suitable action following extant procedures. Signalling Dte is fully competent to advise the zonal railways accordingly.
- Since the issues involved in revision of technical specifications are purely technical, F(X) Dte has no comments to offer on the same.

Railways are, therefore, advised to follow the directives as under:

- Adopt configuration for Microlok-II/EI, recommended by RDSO for all future works and for all on-going works, where the system has not been commissioned, within the framework of existing contracts.
- The cost given by RDSO is only indicative one and the actual cost will depend on the site conditions, configuration deployed or proposed and contractual provisions. The cost of implementation of these changes has to be assessed on case to case basis.

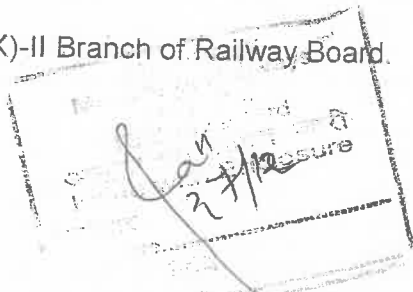
Copy to:

- Sr.ED(Sigani), RDSO, Lucknow for necessary action.
- EDF(X)-II Branch of Railway Board.

(राजमल खोईवाल)

निदेशक(संकेत)

o/c



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No. STS/L/SSI/CA/US&S Vol XXXVII

24.08.2012

Secretary (Signal),
Railway Board,
Rail Bhawan,
New Delhi.

Sub: Improvement of configuration for Electronic Interlocking(EI) being supplied by M/s ASTS.

There has been number of meetings in the Railway Board in which various problems and failures of EI being supplied by M/s Ansaldo has been discussed. Some of the improvements like earthing of EI has already been resolved and is being implemented for all installations being commissioned since last one year. M/s ASTS is also implementing some of the improvements in regard to damages due to lightning on 10 existing installations in SCR, SECR and ECoR.

The major problems being faced are broadly due to following reasons:

- Damages to non-vital cards and communication ports during lightning.
- Transient problem like flip and Echo error resulting in resetting.
- Failures of DC to DC converters.
- Earthing arrangements - revised arrangement take care of this problem.

To improve the performance of DC to DC converter, it has already been advised to M/s Ansaldo to use separate DC to DC convertor for main and standby system and also to use reliable DC- DC converter either from M/s Phoenix or from M/s Power One. In addition, new design of DC to DC converter from M/s Gallant is proposed which will be type tested by RDSO before permitting use of the same.

RDSO has been under discussion with M/s Ansaldo regarding the remaining two problems, i.e., damage of non-vital card, communication ports due to surge and lightning and transient failures which results in changeover of system from main to standby and causes failure for 10 to 15 minutes. The solution for these failures is as given below:

- Damage to non-vital card - Use of panel processor with CCIP or use dual VDU and with OFC connectivity.

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- b) Transient failures and resetting – Adopt hot standby configuration. This will also take care of damage of communication port on CPU card also.
5. At present, already about 430 installations of M/s Ansaldo are in operation and most of these are without the above modifications. Further, order for about 180 more stations already exist on M/s Ansaldo which are in various stages of commissioning. At about 40 installations wiring has been completed and is awaiting commissioning. RDSO has already issued instructions to zonal railways to use panel processor and hot standby configuration in all future tenders which are being invited for EI. During the meeting in Railway Board, it was decided that all new commissioning should be with hot standby and other modifications. This is necessary, otherwise we will add another 180 more installations which will have known problems and any modification at a later date will not only cost very high but will also result in traffic disruption due to non-interlocking for commissioning the modification.
6. Railway Board has asked RDSO to discuss with M/s Ansaldo to take care of these modifications in all future installations and also advise budgetary cost so that it will be possible to implement revised architecture by Railways. It was also directed that M/s ASTS shall bear cost of any design defect which exists in the system being supplied and Railways shall pay only for improvements which have been done to enhance the reliability.
7. We have asked proposal from M/s Ansaldo for changing the existing configuration of warm standby to configuration with panel processor and hot standby. They had submitted the revised configuration which is based on architecture commissioned at Juhi station of NCR and also incorporates network monitoring of various communication equipments with proper connectivity to maintenance console. The arrangement is placed at Annexure 'A' and the same was agreed to by RDSO.
8. Based on the above guidelines, difference in cost for 2+2 EI as included in one of the tender awarded recently and as per revised configuration has been worked out. The details of the difference in quantity and increase in cost is available at Annexure 'B'. In this, the cost of new items for hot standby has been taken from tender awarded by E.Rly for hot standby system. The approximate increase in cost comes out to be Rs. 27.84 Lakhs i.e. 6.96 lakhs per card file.
9. The above increase in cost is considered very high and as such, a meeting was held with M/s Ansaldo on 22.08.2012 in which it was advised to M/s Ansaldo that railways can consider additional payment only for items which are enhancing performance and as per RDSO these items are optical fiber networking and its modules. After detailed discussions and based on cost of networking equipment (placed at Annexure 'C') which is bought out item for them, M/S ASTS had agreed to reduce the increase in cost to Rs. 5.4 lakh for a station with 2+2 configuration i.e. Rs. 1.35 lakhs per card file. Further, they had also agreed that

in case with the provision of proposed configuration, there is any increase in card file or any other items, it will be on their account. They had also agreed that existing cards if not used in the revised configuration shall be given as spare to railways. However, they had indicated that for new cards being supplied, spares, if any, required by Railways will not be given free of cost and price shall be based on LAR. (Minutes duly signed are placed at Annexure – 'D').

10. M/s Ansaldo has also agreed that pending the approval of Board and necessary amendment in tender by railways, they will offer the equipment for inspection against pending orders as per configuration agreed by RDSO.
11. In view of above, I would request Railway Board to approve the proposed additional cost for overcoming existing problems and enhancing the performance of EI. Board may also advise all Railways to expeditiously modify the schedule.

Encl: ~~Four~~ no. of Annexures.


(Mahesh Mangal) 24/8
Senior Executive Director/Signal