भारत सरकार Government of India
रेल मंत्रालय Ministry of Railways
(रेलवे बोर्ड) (Railway Board)

No. 2019/CEDO/SR/21(2) **New Delhi, dated** 02.07.2020

The Director General
Research Designs & Standards Organisation
Manak Nagar, Lucknow-226011

Sub:- Improvement in 12000 HP WAG11 (Twin Co-Co Electric Locomotives converted from WDG4, Maximum Axle Load 21.0t) to RDSO General Arrangement Drawing No. SK.DL- 4796 Alt.1 & SK.DL-4793 Alt.1 .

Ref:- (i) Railway Bd's letter No. 2019/CEDO/SR/21(1), dated 02.07.2020
(ii) RDSO's letter No. EL/11.5.5/20, dated 17.05.2019.
(iii) CCRS's letter No. Q.12011/01/2019-20-त.वि., दिनांक - 02.09.2019

With reference to your above application, sent through the Chief Commissioner of Railway Safety, Lucknow; sanction of the Ministry of Railways, Railway Board has been communicated for Introduction of operation of 12000 HP WAG11 (Twin Co-Co Electric Locomotives converted from WDG4, Maximum Axle Load 21.0t) to RDSO General Arrangement Drawing No. SK.DL- 4796 Alt.1 & SK.DL-4793 Alt.1 up to a maximum speed of 95 kmph on various electrified sections of IR trackvide Railway Board's letters under reference (i) above. CCRS, while recommending for introduction of these Rolling Stock to Railway Board has suggested following further improvements in present 12000 HP WAG11 locomotive to the extent possible before its commercial introduction, and in future 12000 HP WAG11 locomotive:

(i) There are lots of equipments on the roof of the locomotive and equipment layout in machine rooms is also having scope for improvement. Design and equipment layout of WAG-12 (Alstom) should be studied. Similar arrangement should be provided in the converted locomotives to the extent possible. In case of any difficulties or deviations, Commission should be informed.

(ii) Standard HV coupler must be provided for the electrical connection between the coupled locomotives.

(iii) Possibility of transformer arrangement similar to WAG-9 should be explored so that proper protection from transformer terminal, HV bushing is achieved. If WAG9 type arrangement is not possible then closed HT compartment having door interlocking with shut down and earthing of the loco should be provided.

(iv) The CO2 fire extinguishing arrangement of the WAG-9 loco has its activation

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mechanism based in the loco cab itself. The loco-pilot need not enter the HT compartment area in case of fire to activate the mechanism. However, the mechanism in WAG-11 loco is activated once the loco-pilot enters the HT compartment. Necessary modification should be incorporated to make similar arrangements as in WAG-9.

(v) The walkway in the machine room may be made uniform for comfortable walking. Further, floor of the vestibule should properly cover complete vestibule area.

(vi) HV cables connecting coupled units are presently fitted on the roof. In case coupled units are to be uncoupled due to any problem in emergent situations, the person is required to climb over the roof, thus, requiring power shut down of OHE, which is a time consuming process. In order to avoid this problem, possibility of relocating HV couplers connecting the units should be explored so as to eliminate requirement of power shut down of OHE.

(vii) An arrangement of platform in front of the cab as available in WAG-9/WAP-7 should be provided which shall ease the process of cleaning of front glass for LP/ALP.

(viii) Presently, speed of the locomotive gets displayed in DDU only. Provision of a separate speedometer may also be incorporated.

RDSO is requested to examine above and take necessary action for improvements in the present locomotive to the extent possible before its commercial introduction, and in future locomotives. The compliance of the same should also be submitted to CCRS.

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02.07.20
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Copy forwarded for information to :

1. The Chief Commissioner of Railway Safety, Office Compound of DRM/NER, Ashok Marg, Lucknow, w.r.t. his endorsement no. Q.12011/01/2019-20-त.वि., दिनांक – 02.09.2019.
2. Executive Director (Standards)Motive Power RDSO, Lucknow.
3. Executive Director Standards (Track-I), RDSO, Lucknow.
4. Executive Director/EE(RS), Railway Board.

(प्रेम सागर गुप्ता)
कृते, सचिव रेलवे बोर्ड