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|-------------------------------------------|-----------------------------------------------------------------------------------|------------------------------------------------------------|
|                                           |  | General Managers' Office<br>Engineering Branch<br>Jabalpur |
|                                           | <b>West Central Railway</b>                                                       |                                                            |
| No. W-HQ/W-4/Track-II/Policy/Circulars/11 |                                                                                   | Date : 28.11.2019                                          |

**CTE PROCEDURE ORDER NO. 11/2019-20**

**CAO(C)/WCR/JBP**

**ED/CPM – IRCON/Katni**

**ED/CPM – RVNL/BPL-I & II & Kota**

**Sub : USFD testing of welds in new line/doubling/third line projects by RVNL on  
BINA- Kota project and other Construction/RVNL/IRCON.**

Ref : (i) CRS/CC's letter No. C-12(219)/2019/1015 dtd. 25.11.2019 (Copy enclosed)  
(ii) Rly Bd's letter No. Track/21/2009/0110 dtd. 18.11.2019 (Copy enclosed)  
(iii) This office letter No. W-HQ/W-4/Track/AT welding/9-VI dtd. 25.11.2019 (Copy enclosed)  
(iv) RDSO letter No.CT/JW/MFBWP dtd. 07.07.2015 (Copy enclosed)

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- 1.0 CRS/CC while scrutinizing the opening documents of BINA- Kota project, submitted by RVNL, has raised following important points pertaining to the welding and its USFD testing:
- QAP and welding procedure approval from RDSO.
  - Proper procedure for welding is to be followed at all stages and proper records to be maintained.
  - 100% check on USFD testing by Open line on all welds for new line, doubling and third line projects.

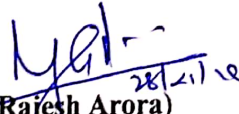
On this subject certain instructions of Railway Board were reiterated vide letter under ref.(iii) above.

- 2.0 RVNL is using 13m rails in different projects of BPL & Kota unit, which are being welded by mobile flash butt welding plant. Recently, Railway Board, vide letter under ref.(ii) above, has circulated policy guidelines for adoption on Construction Projects, as per which, only long rail panels of 260m are to be used in the field, and FB Welding by mobile plants is permitted only for In-situ welding of 260m rail panels into LWR/CWR. On turn-outs also, panels should be cut to get the rails of desired length and AT welds are not to be provided.
- 3.0 Covering all the above observations, following comprehensive guidelines are issued on the subject, which shall be applicable to all the executive agencies including the project under reference in CRS letter dtd. 25.11.19.
- FB Plant to be used should have valid, approved QAP, and welding procedure approved by RDSO be uploaded on TMS.
  - The field procedure should be approved by CTE.
  - The Welders Competency Certificate should be got issued by CTE or by nominated officer of PSUs as per reference (iv) above.
  - The procedure of welding of rails as given in Manual for 'Flash Butt Welding of Rails' should be followed and all records should be maintained by executing agency and shared with openline authorities from time to time ( not at the end of the work).

5. All welds shall be FB welds only. Prior permission of PCE shall be taken for carrying out any AT weld, if unavoidable, duly citing the reasons.
6. The finished weld tolerances should be got test checked 100% from open line authorities, block section wise. In case deviation is noticed in initial 40 welds, all the weld measurements shall be recorded again by RVNL before proceeding further for joint dimensional check.
7. USFD testing of welds shall be done by an agency other than the welding firm and the firm should be on RDSO approval list.
8. AT Welds, shall be test checked 100% by open line ultrasonically.
9. FB welds shall be test-checked 10% by open line ultrasonically. In case of any deviation from testing done by RVNL, all the test results will be considered as doubtful, and RVNL will get them retested and offer again for test check by open line.

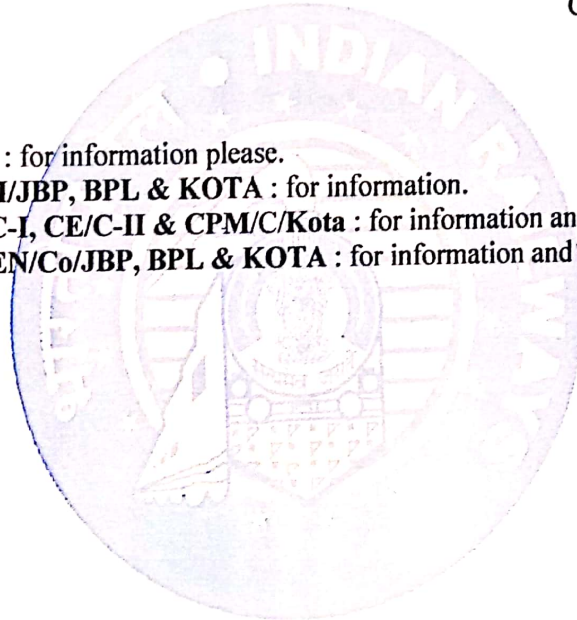
This is issued with the approval of PCE.

DA: As above,

  
(Rajesh Arora)  
Chief Track Engineer

**Copy:-**

1. PCE : for information please.
2. DRM/JBP, BPL & KOTA : for information.
3. CE/C-I, CE/C-II & CPM/C/Kota : for information and n/a.
4. SrDEN/Co/JBP, BPL & KOTA : for information and n/a.



Summary of USFD testing of flash butt Welding and SKV welding joints in section PIGT-ASKN (Proposed UP line)

| S. No | Block Section | Type of Weld | Population | USFD Tested                    |         | No. of Defective Joint found in USFD testing | Action                       | Defective joints in track on Dt. 17.08.2019 | Remarks |
|-------|---------------|--------------|------------|--------------------------------|---------|----------------------------------------------|------------------------------|---------------------------------------------|---------|
|       |               |              |            | RVNL                           | Railway |                                              |                              |                                             |         |
| 1     | ASKN-PIGT     | FBW          | 4196       | 4196                           | 4196    | NIL                                          | -                            | -                                           | -       |
|       |               | AT           | 109        | All 109 Jts checked by Railway |         | NIL                                          | All Defective joints removed | NIL                                         |         |

Rail - Rails supplied 100% Ultrasonically tested from SAIL

*[Signature]*

D.K. PANDEY  
CPM/RVNL/BPL

*[Signature]*  
28/1/19

SANJEEV KUMAR  
Sr.DEN (Co) BPL

*[Signature]*  
RISHI KADAV  
DEN/NJ BPL  
*[Signature]*  
RAMESH ARORA  
CTE VCR JBP

MINISTRY OF CIVIL AVIATION  
(COMMISSION OF RAILWAY SAFETY)



W.C.R.

रेल संरक्षा आयुक्त  
मध्य परिमंडल  
2री मंजिल, चर्चगट स्टेशन उप भवन,  
एम. के. रोड, मुंबई - 400020  
टेली. फैक्स : 022 - 22056058

Commissioner of Railway Safety  
Central Circle  
2nd Floor, Churchgate Str. Bldg.  
Annexe, M. K. Road, Mumbai - 400020  
Tele Fax : 022 - 22056058

Sample

CA

No.C-12(223)2019/1016.

Dated : 25.11.2019.

PCE & CAO(C),  
Central Railway,  
Mumbai CSMT.

Sub : USFD testing of welds in new line/doubling/3<sup>rd</sup> line projects Daund-Gulbarga project.

Ref : 1. Your office letter No.W.828.T.FBW.QAP.18-19 dt.25.11.2019.  
2. Commission's letter No.C-12(219)/2019/928 dated 31.10.2019.

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Kindly refer to above letters. The issue of USFD testing of field welds was highlighted, especially in reference to Daund-Gulbarga project. Railway Board vide their letter No.Track/21/2009/0110 dated 18.11.2019, has circulated policy guidelines, according to which only long rail panels of 260m are to be used. In Daund-Gulbarga projects 13m rails have been used with flash butt welding done in the field. The issue of testing of USFD of welds 100% by Open Line, was raised by the Commission during inspection of Balwani-Wadsinge Doubling.

However, your above letter addressed to M/s RVNL, indicates that the USFD testing will be done by RDSO approved firm, and only 10% of the welds will be test checked by Open Line. It may be appreciated that the arrangement between RVNL and Railway, is an internal arrangement, and as far as certification of welds are concerned, the Open Line has to certify all welds.

Regarding the requirement of 10% of test check by Open Line, instructions of Railway Board if any, may be linked.

(A K JAIN)

Commissioner of Railway Safety  
Central Circle, Mumbai.

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

सं/No. Track/21/2009/0110/7

दिनांक/Date: 18.11.2019

General Managers,  
All Indian Railways.

Chairman & Managing Director,  
M/s IRCON International Ltd.,  
C-4, District Centre, Saket,  
New Delhi-110017.

Chairman & Managing Director,  
M/s RITES,  
RITES Bhawan, Plot No.1, Sector 29,  
Gurgaon -122001.

Chairman & Managing Director,  
Rail Vikas Nigam Limited,  
August Kranti Bhawan,  
Bhikaji Cama Place,  
New Delhi.

Managing Director,  
Konkan Railway Corp. Ltd.  
Design Office, 4th Floor,  
DFCCIL Building, Mathura Rd,  
Pragati Maidan,  
New Delhi-110001.

विषय/Sub: Planning for Flash Butt Welding infrastructure on Indian  
Railway.

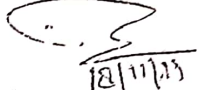
संदर्भ/Ref: 1. Railway Board's letter of even number dated 17.09.2019.  
2. Railway Board's letter No. Track/21/2005/0110/AT Welding  
dated 16./28.08.2019.

In supersession of letter issued vide ref.1 on the above mentioned subject,  
now following has been decided by Board (ME) :-

1. Only long rails are to be supplied to field for all purposes including regular track maintenance, except for fabrication of switches, SEJs and Glued Joints. These long rails to be supplied either from rail manufacturing plants or from FBW Depots (Regular/Temporary Depots with stationary FBW plants or Mobile plants in stationary mode).
2. No further contract to be invited for in-situ Flash Butt Welding for converting new 13m/26m rails into long rail panels (5/10/20, etc. rail panels) either in open line or in construction.
3. Contract for in-situ FB Welding by mobile plants for welding of 260m rails panels into LWR/CWR, for TWR work and for welding secondary rails in loop lines, etc. can be done by open line and construction units.

Could/-..

4. Trend of long rails supply from SAIL is on increasing side and it is expected that in times to come the position of long rails supply
5. will improve necessitating lesser need of welding in FBW Depots. Therefore, for Mobile FBW in stationary mode in Temporary FBW Depots at Chalisgaon & Wairora (CR), Subedarganj (NCR), Roza (NR), New Bongaigaon (NFR/Con.) & Itarsi (WCR), any further contract to be invited only after taking Railway Board's approval.
6. Contract if any for FB welding operation &/or maintenance in 7 Regular FBW at Mughalsarai (ECR), Meerut (NR), Gonda (NER), Arakkonam (SR), Moula Ali (SCR), Jharsuguda (SER) & Sabarmati (WR) can be done by Railways without seeking Boards approval.
7. The stationary FBW plants of NER (Gonda), NR (Meerut), SCR (Moula-Ali) and WR (Sabarmati) may be replaced as sanctioned and planned. The work of replacement of stationary FBW plants of ECR (Mughalsarai), SER (Jharsuguda) and SR (Arakkonam) to be closed and dropped.

  
(Anurag Yadav)  
Director/Track(P)  
Railway Board  
Phone No: 011-23073358  
Email: [dtkprb@gmail.com](mailto:dtkprb@gmail.com)

**प्रतिलिपि/Copy to:**

1. PSO/Sr. PPS to ME for kind information of ME.
2. Principal Chief Engineer(s), all Indian Railways for necessary action.
3. Chief Administrative Officer(s)/Con., all Indian Railways for necessary action.
4. AM/CE, AM/Works, AM/Planning, Railway Board.
5. PED/Bridge, PED/SD, PED/SPV, Railway Board.
6. ED/CE(P), EDCE(G), EDCE(B&S), ED/SD(Engg.), ED/Works, EDW(P), ED/Project Monitoring, EDTK(M), EDTK(MC), ED/L&A-I, ED/Infra/Civil, ED(MTP) & ED/E(Co.ord), Railway Board.

राजेश अरोरा, आई.आई.टी. दिल्ली  
मुख्य रेलपथ इंजीनियर



महाप्रबंधक कार्यालय  
इंजीनियरिंग विभाग, जबलपुर

Rajesh Arora, I.R.S.E.  
Chief Track Engineer

पश्चिम मध्य रेल  
West Central Railway

General Manager's Office  
Engg. Department, Jabalpur

No.: W-HQ/W-4/Track/AT Welding/9-VI

Date: 25.11.2019

CAO(C)/WCR/JBP  
ED/CPM/RVNL/BPL,Kota  
ED/CPM/IRCON/KTE

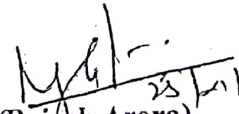
Sub.: USFD testing of welds executed by construction executing agency.  
Ref.: (i) Railway Board's letter No. 2018/Track-I/11//1/AT Welding/Vol-1 dtd. 03.06.2019 circulated vide this office letter W-HQ/W-4/Track/AT Welding/9-V dtd. 21.06.2019.  
(ii) CRS/NE circle letter no 507/I/H/OPG/PT dated 28.10.19 ( enclosed)

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1. Vide letter under reference above , it was clearly highlighted that the contract for execution of AT welds and USFD testing should not be awarded to the same agency.
2. Vide CTE Procedure order No. 07 of 2019-20 dtd. 21.06.2019, above instruction were retreated in details & SrDEN/DENs was asked to ensure no welding (AT or FB) at site unless different agency for USFD testing is fixed/ available with executing agency.
3. As per the Railway Board guidelines , only (mostly) LPs would be supplied to all executing agency (Construction, RVNL, IRCON) and few AT welds would be required to be executed at the site. However, for certain reasons, if LPs are not available /supplied to executing agencies and valid MFBW plant (QAP uploaded on TMS & competency certificate issued by CTE ) is permitted , the agency for USFD testing has to be different from the FB welding agency. Also the results of FB welding (AT welding also) must be shared in proper register with divisional open line authorities from time to time ( and not at the end of work) to ensure proper quality control.
4. In one of the CRS inspection for opening of new Gauge conversion line ,under reference (ii) above, serious concern for safety on the above aspects was highlighted and Railway was advised to follow the Railway board instructions for outsourcing of initial testing of welds

From the above, it is once again highlighted that agency for USFD testing has to be different from weld (AT or FB) execution agency. Sectional DEN/SrDEN to please ensure it. SrDEN/Co to monitor it closely and coordinate with above executing agencies.

DA: as above

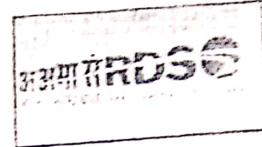
  
(Rajesh Arora)  
Chief Track Engineer

C/- PCE for information please  
SrDEN/Co/JBP. BPL. Kota for necessary action pl



भारत सरकार - रेल मंत्रालय  
अनुसंधान अभियन्ता और मानक संगठन  
लखनऊ - 226 011  
EPBX (0522) 2451200  
Fax (0522) 2456500

Government of India-Ministry of Railways  
Research Designs & Standards Organisation  
Lucknow - 226 011  
DID (0522) 2450115  
DID (0522) 2456310



No. CT/JW/MFBWP

Date: 07.07.2015

UTHS Dis.

8/12/15  
4.10 PM

Chairman Cum Managing Directors,

1. Rail India Technical & Economic Services Ltd., 27, Barakhamba Road, New Delhi.
2. IRCON International Ltd., C-4, District Centre, Saket, New Delhi - 110017.
3. Konkan Railway Corporation Ltd., Belapur Bhawan, Plot No.6, Sector 11, CBD, Belapur, New Mumbai - 400 614.
4. Rail Vikas Nigam Ltd., Plot no. 25, First Floor, August Kranti Bhawan, Bhikaji Cama Place, R.K. Puram, New Delhi-110066.
5. Dedicated Freight Corridor Corporation of India Ltd., 5th Floor, Pragati Maidan, Metro Station Building Complex, New Delhi - 110001.
6. Mumbai Rail Vikas Corporation (MRVC), Churchgate Station Bldg., 2nd floor, Mumbai - 400020.

**Sub: Issue of competency certificate to the operators and supervisors of Mobile Flash Butt Welding Plants owned by private firms and working under PSUs/Metros.**

Ref: Railway Board's letter no. 2011/Track-I/19/1 dated 16.04.2015.

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- 1.0 PSUs/Metros have raised the issue of practical difficulty in getting the Competency Certificate for operators/supervisors of MFBWP by Zonal Railways. The matter was reviewed.
- 2.0 Railway Board vide letter referred above has approved following procedure for issue of competency certificates to welding team of mobile flash butt welding plants of firms working for execution of flash butt welding work awarded by PSUs/Metros:
  - 2.1 For flash butt welding works by MFBWPs awarded by PSUs/ Metros, the competency certificates to the welding operators and supervisors for flash butt welding of rails shall be issued by nominated official of concerned PSU/Metro after duly following the procedure given in "Manual for Flash Butt Welding of Rails (Revised January, 2012) with latest correction slips" with following stipulations: