

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

सं/No. Track/21/2002/ 0905/7 Vol.III

दिनांक/Date: 15.01.2020

Director General,
RDSO,
Manak Nagar, Lucknow.

विषय/Sub: USFD testing on IR - Policy Guidelines.

संदर्भ/Ref: 1. Board's letter of even No. dated 01.07.2019. ✓

2. RDSO's letter No. CT/USFD/Outsourcing dated 30.12.2019 ✓

3. Board's letter No. Track/21/2004/0902/7 dt. 06.11.2007. ✓

4. Board's letter No. Track/21/2004/0902/7 dated 26.03.2014 ✓

5. RDSO letter No. CT/USFD/Outsourcing dated 17.10.2014. ✓

6. Board's letter No. 2017/Track-P/9(2) Vol.III dt. 07.03.2019. ✓

In regard to the above mentioned subject, Board (ME) has decided the following:

1. The instructions contained in Board's letter dated 01.07.2019 is amended and the condition that, *the machine to be used for SRT/DRT has to be same for both departmental manual testing and outsourced testing*, is deleted. Henceforth, the certification of machines of various firms including firms of foreign origin (which is not approved for manufacturing) is to be done as per procedure order of certification of USFD machine issued vide ref-5.

a. After the certification of the USFD Machine, Operator and approval of QAP, the firm shall be included in approved list for manual outsourcing. This shall increase the number of firms (of outsourcing) for USFD testing and hence it will result in more competition including induction of machine with proven technology for manual outsourcing of UT testing.

b. Existing vendor list for Ultrasonic Testing (by SRT&DRT) by outsourcing is updated twice a year by RDSO with an undertaking to switchover for 'A' Scan to 'B' Scan. New vendors should also be considered by RDSO for adding to the present list (with similar undertaking) with A-Scan. A-Scan is likely to continue for few years on other than 'A' routes.

Implementation of UT testing with B-scan by departmental USFD team may be done first on 'A' routes and UT testing on B, C, D, D-Spl routes may be continued till life of 'A' Scan machine is available or contract for outsourcing testing are available.

a. For this sufficient number of Machines will be required by both Departmental testing and Ultrasonic Testing by Outsourcing. Presently, three firms are


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approved for manufacturing of these kinds of machines. Vendors may take around 2 years to procure the machines as per required specification and these three Vendors. RDSO should try to increase the Vendor Base for Manual Machines (for Departmental use) having 'B'-Scan features.

- b. For Outsourcing work, after approval of QAP by RDSO with B-Scan machines, B-Scan testing can be introduced, subject to conformance to Specification which is being revised by RDSO. The cutoff date for starting of B-Scan (on 'A' route) on outsourcing can be kept as 01.12.2020, with a Mid-term review to be done in July'2020 to assess the vendor base for departmental machines and approved vendors in Manual outsourcing.
- c. For outsourcing work of Ultrasonic testing on other routes, testing with A-Scan Machines shall continue till the validity of existing A-Scan contracts.
3. Manual Ultrasonic Testing is also required in connection with Vehicular Ultrasonic Testing for spot checks & leftover patches due to unforeseen reasons as per schedule of testing of IR.
 - a. Herein also, the OEM can use Manual Machines (after approval of RDSO).
 - b. Operator of Vehicular UT System and Operator of Manual UT by SRT/ DRT (to work on Indian/foreign OEMs Machine) will be required to have requisite Competency Certificate issued by RDSO.
 - c. RDSO needs to develop facilities for approval of Machines, training and certification.
 - d. Presently no limit has been imposed on Railways as to how much portion of their requirement is to be outsourced by Vehicular Testing (which is the future). This technology shall take time to establish by using Deptt. (Vehicular) & Outsourcing (Vehicular) means. Gradually, the present method (Manual SRT&DRT) shall be phased out with passage of time.
4. It is to be ensured that there is no duplicity of Ultrasonic testing (either in Manual or in Vehicular Mode) on any given section of the Zonal Railways.
5. Prompt action for increasing the Vendor Base for both departmental & Outsourcing USFD Testing needs to be taken so that the competition shall be better.

RDSO is advised to take action accordingly under advice to Board.


15/01/2020
(Anurag Yadav)
Director/Track (P)
Railway Board
Phone: 011-23305852

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

दिनांक/Dated: 01.07.2019

सं./No.Track/21/2002/0905/7Vol.III

Executive Director (Track I),
R.D.S.O.,
Lucknow

विषय/Sub: Revision of IRS specifications for ultrasonic testing of rails and welds for outsourcing.

संदर्भ/Ref: Indian Railways Standard Specifications for Ultrasonic Testing of rails/welds (Provisional) - Revised 2012.

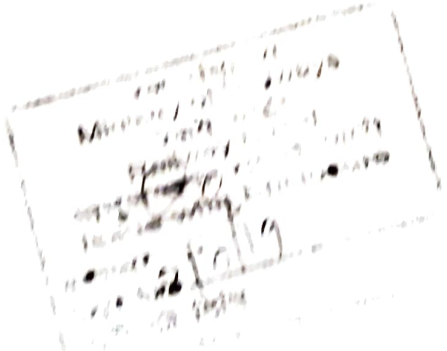
Specifications of SRT & DRT machines for manual rail testing were revised by RDSO and vendor development was also being done. It is understood that 2 vendors for SRT have also been developed. Further development of vendors for both machines is under progress.

2. Document under reference above lays down the specifications for ultrasonic testing of rails/welds to be used for outsourcing of these activities by manual testing. The basic difference between departmental testing and testing through outsourcing is that the USFD operator, instead of being the Railway person, is deployed by the outsourced agency. The technical work to be carried out remains the same and has to be with the same technical capability & reliability. Therefore, the SRT/DRT machine to be used in case of outsourcing has to be with same capability and reliability whether testing is done departmentally or through outsourcing. Present specifications revised in 2012 for outsourcing of manual USFD testing do not specify proper type of machine to be used. Thus, it is needed that the machine to be used for SRT/DRT has to be same for both departmental manual testing and outsourced testing. In view of this, RDSO may revise the specifications for outsourcing of manual ultrasonic testing of rails/welds.

(Anurag Yadav)
Director/Track(P),
Railway Board

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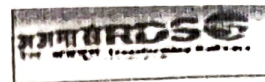
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Government of India
Research Designs & Standards
Department
Lucknow -
DID (0522)
DID (0522)



Dated: 30.12.2019

No. CT/USFD/Outsourcing

Executive Director Track (M),
Railway Board, Rail Bhawan,
New Delhi-110001

Sub: Revision of IRS specification for Ultrasonic Testing of Rails/Welds
(Provisional), Revised-2012

Ref: Rly. Board's letter no. Track/21/2002/0905/7/Vol.III dated 01.07.2019

...

Revision of the specification "IRS specification for Ultrasonic Testing of Rails/Welds (Provisional), Revised-2012" has been undertaken for introduction of B-Scan Ultrasonic testing of Rails/Welds on Indian Railways. The present Specifications don't specify the "Make and Model" of the Ultrasonic testing equipment to be used for the outsourcing of USFD testing of Rails / welds. Firms can use any "Make and Model" of the Ultrasonic testing equipment subject to compliance to tests stipulated in the IRS specification for Ultrasonic Testing of Rails/Welds by the RDSO for the outsourcing work.

Railway Board vide letter referred above had advised that the machine to be used for ultrasonic testing shall be same for both departmental manual testing and outsourced testing, and accordingly the IRS specification for Ultrasonic Testing of Rails/Welds (Provisional), Revised-2012 shall be revised by RDSO.

As per ISO guidelines for "change of specification of items" the above specification has been revised and put up on RDSO website for comments and suggestions from the existing approved sources, Zonal Railways and other stake holders on 03.12.2019 for the period of one month. Suggestion from many existing vendors and stake holder had been received.

Most of the vendors have suggested that Ultrasonic equipment (SRT/DRT) from sources other than the RDSO approved list "Make and Model" as per RDSO specification "RDSO/M&C/NDT/128/2007 (B-Scan), Rev-III, July 2017 for SRT and RDSO specification "RDSO/M&C/NDT/130/2007 (B-Scan), Rev-III, July 2017 for DRT shall be permitted in the outsource ultrasonic testing citing mainly the following reasons:

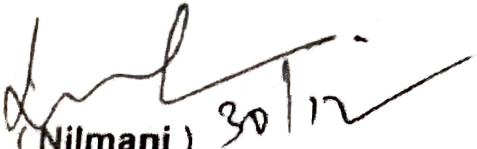
- Manufacturer of USFD machine are limited and also these manufacturers are working with Indian Railways as USFD vendors and they are not able to provide USFD machines to others vendors.
- This effectively rules out any advanced foreign technology of Ultrasonic Testing coming to India.

Apprehension of the firms on this issue needs to be taken into account while revising the specification. Therefore, permitting Ultrasonic equipment (SRT/DRT) from sources other than the RDSO approved list "Make and Model" as per RDSO specification "RDSO/M&C/NDT/128/2007 (B-Scan), Rev-III, July 2017 for SRT and RDSO specification "RDSO/M&C/NDT/130/2007 (B-Scan), Rev-III, July 2017 for DRT for the outsourcing work of ultrasonic testing of Rails/Welds may be considered.

These equipments would be subject to the tests being stipulated in the IRS specification for Ultrasonic Testing of Rails/Welds by RDSO. Railway Board decision on the above would be included in the final Draft of the revised specification, which will be uploaded on the RDSO website for further 15 days as per ISO guidelines for "change of specification of items", for comments and suggestions.

Based on the comments and suggestions received and their technical justifications, RDSO will finalise the revised specification and send the revised specification to the Railway Board for approval.

DA: Nil


(Nilmani) 30/12

Executive Director/Track-1

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GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)

No. Track/21/2004/0902/7

New Delhi, dated 06/11/2007

The Principal Chief Engineers
All Indian Railways

Sub: Outsourcing of USFD testing of track.

Ref: Board's letter of even number dated 02/02/2006.

To facilitate Indian firms intending to carry out USFD Testing of track by outsourcing, with machines of imported origin, it has been decided to amend the existing Para (i) circulated vide Board's letter referred to above with the following Para:

The tenderer should either be a manufacturer of USFD machines as per the approved list of RDSO, or the tenderer should have carried out the USFD testing for at least 500 kms length of track with satisfactory performance, or in cases where tenderers intend to carry out USFD testing of track by outsourcing, with machines of imported origin, the machine proposed to be used, should be in use on some railway network for the USFD testing of running track and should have carried out USFD testing of at least 500 kms length of track with satisfactory performance. The certificate regarding use of the machine on the railway network for main line track and the test certificate for satisfactory performance on 500 kms length of track should be enclosed with the tender.

This has the concurrence of the Finance Directorate of the Ministry of Railways.


(S.K. AGRAWAL)

EXECUTIVE DIRECTOR/ TRACK(P)
RAILWAY BOARD

✓ py, to

The Director General Track, RDSO, Main, Nagar, Lucknow. The proposal submitted by the Director General Track, RDSO, Main, Nagar, Lucknow, for outsourcing of USFD testing of track, has been approved by the Board (ME) and the approval has been advised to RDSO vide Board's letter of even number dated 06/10/2007. This circular is being circulated to Zonal Railways, which would be part of technical specification for outsourcing of USFD activities.

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GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)

No. Track/21/2004/0902/7

New Delhi, dated 26.03.14.

Principal Chief Engineers,
All Indian Railways.

Sub: Review of eligibility criteria and other technical conditions for calling tenders for outsourcing of USFD testing.

Ref: This office letter of even no. dt. 02.02.2006, 06.11.2007, 12.03.2009 and 08.02.2012

Board (ME) has approved following eligibility criteria and other technical conditions and instructions for calling tenders for outsourcing of USFD testing:

- (i) Railway should make all out efforts to strengthen the in house capabilities of USFD testing so that bare minimum quantity of USFD testing is outsourced.
- (ii) ✓ Minimum technical and financial eligibility criteria recommended by Sudhir Chandra committee and circulated vide Railway Board's letter no. 94/CE-I/CTE/4 dated 17.10.02 should be followed for tenders of USFD outsourcing. If required, eligibility criteria may be suitably modified to attract better competition.
- (iii) To encourage new agencies for works of outsourcing of USFD testing open tenders upto Rs.50 lakh values can be invited without any other technical eligibility criteria like testing of 500Tkm etc. But these agencies should have first got their machines, operators and QAP approved from RDSO before participating in the tenders.
- (iv) Generally, all tenders for outsourcing of USFD testing should be called from Zonal HQ level combining the quantities of divisions. However, if tenders are called at divisional level, approval of PCEs should be taken in advance before inviting such tenders. Combined tenders for rail/weld testing can be invited.
- (v) Any agency considering the USFD work shall be allowed to offer USFD Machines, operators and QAP for verification by RDSO. The list of agency whose system has been examined by RDSO shall be maintained and regularly updated. After verification of machines, operators and QAP by RDSO, any agency can participate in the tenders.
- (vi) Period of validity of the QAP of the firms should be 3 years and after that it should be renewed based on the machines available with the firms, operators qualified etc. The details of machines deployed by agency shall also be included in QAP. In case, the agency wants to induct additional

machines of already approved specification/ category, same shall be done after approval of Zonal railway. Such changes shall be advised to RDSO for record.

- (vii) Approval of the operator should be done by RDSO in three different categories a) Rail testing b) weld testing and c) rail and weld testing both. The competency certificate shall also clearly indicate the machines, which are worked by operator. Clear mention of operators in type of testing should be made in the QAP. In order to avoid multiplicity of QAP for particular firm, only one QAP shall be approved to a firm for all type of testing viz. Rail testing, Weld testing by hand probing, Flash Butt weld testing.
- (viii) Performance review of USFD operator of contractors shall also be taken by Zonal Railways at regular interval during the currency of the contract in addition to their performance review at the level of quality in-charge of agency. Similar system of review for quality supervisor of agency shall be introduced by zonal railways for better reliability in implementation of QAP.
- (ix) Based on assessed performance by zonal railways and other relevant inputs, the performance of all the operators of agency shall be critically reviewed by RDSO at the time of validation of competency certificate.
- ✓ (x) The detailed procedure order will be issued by Track-1 directorate of RDSO in consultation with M&C directorate in view of change in the system of approval of machine, operator and QAP.
- (xi) Maximum delay permitted in testing of a section after it has become due for USFD testing is 25% of frequency of testing of that section or one month whichever is earlier. For further delay penalty of Rs.1000/- per km per day will be levied on the contractor."
- (xii) Test check of 5% by railway should be carried out within 25% time period of frequency of USFD testing in that section or one month whichever is earlier.
- (xiii) Railways personnel deputed along with the contractor's USFD team should jointly sign daily progress report of USFD testing with operator of the contractor.
- (xiv) In test check provisions if any new flaw is detected which was left out by the contractor during testing, the whole length of track (Track length of 50kms) will have to be tested again by the contractor without getting any extra payment for the same.
- (xv) M&C Directorate of RDSO shall act as third party to investigate whether the defect was detectable at the time of USFD testing or not. The decision of RDSO shall be final and binding on both the parties and this decision is not arbitrable.

- (xvi) The present USFD Manual and contract conditions do not lay down any provision regarding GCC marking and its subsequent redressal. In this connection RDSO is required to develop suitable guidelines for GCC marking and subsequent course to be adopted for these markings in order to avoid sudden Rail Fracture.

S.S. Gupta
(S.S. Gupta)
Executive Director/Track(P)
Railway Board.

c/c

Copy to : ED/Track-I/RDSO & ED/M&C/ RDSO for necessary action.

Please Issue
Shr
26/3/2011

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Lucknow - 226 011
DID (0522) 2450115
DID (0522) 2465310



Dt 17.10.2014 S.N.42

No CT/USFD/Outsourcing

The Principal Chief Engineers

- ✓ 1. Central Railway, CST, Mumbai - 400 001.
2. Eastern Railway, Fairlie Place, Calcutta - 700 001
3. East Central Railway, Hajipur - 844 101.
4. East Coast Railway, Chandrasekharpur, Bhubaneswar - 751 016.
5. Northern Railway, Baroda House, New Delhi - 110 001.
6. North Central Railway, Allahabad - 211 001.
7. N.E.Railway, Gorakhpur - 273 001.
8. N.F.Railway, Maligaon, Guwahati - 781 011.
9. North Western Railway, Jaipur - 302 001.
10. Southern Railway, Park Town, Chennai - 600 003.
11. S.C.Railway, Rail Nilayam, Secunderabad - 500 371.
12. S.E.Railway, Garden Reach, Calcutta - 700 043.
13. South East Central Railway, Bilaspur 495 004
14. South Western Railway, Hubli- 580 023.
15. Western Railway, Churchgate, Mumbai - 400 020
16. West Central Railway, Jabalpur - 482 001

Sub: Procedure order for Certification of USFD Machines, USFD Operators & Quality Control Supervisors and verification of Quality Assurance Plan in connection with outsourcing of USFD testing of Rails / Welds by Zonal Railways.

Ref.: Railway Board's letter no. Track/21/2004/0902/7 dt. 26.03.2014.

1. Railway Board vide letter referred above has issued eligibility criteria and technical conditions for calling tenders for outsourcing of USFD testing. As desired by Railway board vide para x) of letter referred above, a detailed procedure order has been prepared in consultation with M&C Dte./RDSO. The copy of the same is being sent herewith for information and necessary action.
2. The soft copy of the procedure order has been uploaded on RDSO's website also at following button activity :

www.rdsos.indianrailway.gov.in → Directorates → Track Design →
Publication → Guidelines/ Instruction issued by Track Design Dte.

3. It is requested that further action be taken by Railways as per this procedure order on subject matter.

संलग्न- उपरोक्त ।

(एस.के. पाण्डेय)
कार्यकारी निदेशक/रेलपथ-।
कृते महानिदेशक/रेलपथ

Copy for kind information to:

- i) Executive Director Track /Procurement, Railway Board, Rail Bhavan, New Delhi 110 001 in reference to Railway Board's letter referred above.
- ii) The Director, IRICEN, Pune- 411 001.

Procedure order for Certification of USFD Machines, USFD Operators & Quality Control Supervisors and Approval of Quality Assurance Plan in connection with outsourcing of USFD testing of Rails / Welds by Zonal Railways

1. Background:

- 1.1 In view of increased workload of USFD testing of Rails/Welds, Railway Board through instructions from time to time has permitted limited outsourcing of work. The agency awarded the work approaches RDSO for certification of USFD machines, operators and approval of Quality assurance Program. The provisions have been reviewed by Railway Board. Railway Board vide letter no. Track/21/2004/002/7 dated 26.03.2014 issued instructions on "Review of eligibility criteria and other technical conditions for calling tenders for outsourcing of USFD Testing". As per these instructions, any agency considering the USFD Work shall be allowed to offer USFD Machines, operators and QAP for verification by RDSO. The list of agency whose system has been examined by RDSO shall be maintained and regularly updated. After verification of machines, operators and QAP by RDSO, any agency can participate in tenders.
- 1.2 'IRS Specification for Ultrasonic testing of Rails/ Welds (Provisional), Revised- 2012' here after referred as Specification and " Manual for Ultrasonic Testing of Rails & Welds, 2012 " herein after referred as Manual shall be reference document. The document with latest correction slip shall be considered while referring to them.
- 1.3 Railway Board has also directed that detailed procedure order will be issued by Track directorate in consultation with M&C directorate of RDSO in view of change in the system of approval of machines, operator and QAP. Accordingly, this detailed procedure order is being issued for information of all zonal railways, agencies considering outsourcing works and other concerned.
- 1.4 Railway Board letter mentions that minimum technical and financial eligibility criteria recommended by Sudhir Chandra committee and circulated vide Railway Board's letter no. 94/CE-I/CTE/4 dated 17.10.02 should be followed for tenders of USFD outsourcing. If required. Eligibility criteria may be suitably modified to attract better competition. It is also stipulated that to encourage new agencies for work of outsourcing of USFD testing, open tenders upto Rs. 50 Lakh value can be invited without any other technical eligibility criteria like testing of 500Tkm etc., but these agencies should have first got their machines, operators and QAP approved from RDSO before participating in the tender.
- 1.5 As the role of RDSO is limited to approval of machine, operator and QAP, the concerned authority inviting tenders shall be responsible for checking and ensuring that the firm meets the minimum technical and financial eligibility criteria as stipulated. The eligibility criteria are not the part of QAP, as QAP is meant basically to regiment Quality control system. As such, Availability of RDSO approved QAP with firm shall in no way be taken that RDSO has checked and verified eligibility criteria and other details of firm. It is reiterated that assessing the capability of firm, meeting eligibility criteria and other relevant factors will be the sole responsibility of Tendering authority.

2. Approval of USFD Machines and other equipments:

- 2.1 The testing system offered by the contractor shall meet the minimum detection levels commensurate with the provision of Para 5 and Para 9 of Indian Railway Standard Specification for Ultrasonic Testing of Rails/Welds (Provisional), Revised-2012.

2.2 The agency considering the verification of system, meeting the requirement by RDSO will approach M&C directorate of RDSO. The agency shall deposit requisite fee for the same in advance as advised by RDSO. The details of already approved machines, calibration blocks shall also be furnished.

2.3 The performance of testing equipment along with data logger shall be verified by Metallurgical & Chemical (M&C) Directorate of RDSO.

(a) The equipment offered by contractor and RDSO approved standard equipment will be calibrated to the same level of sensitivity on simulated flaws in the rail as prescribed in the 'Manual for Ultrasonic Testing of Rail and Welds – Revised, 2006' or latest. The equipment shall also be tested for coverage of the rail section (As per provisions of clause 5.2.1.3/5.2.2.3).

(b) The equipment under test shall exhibit equal or better signals from flaw as compared to the approved standard equipment when tested on rail test piece having simulated flaw as per requirements above.

(c) The equipment under test shall exhibit equal or better coverage of rail/weld sections in detection of flaw as compared to the provisions of clause 5.2.1.3/5.2.2.3 of specification.

(d) The equipment under test shall also exhibit equal or better (up to +10% more vertical height) results as compared to approved standard equipment while testing rail pieces having natural defects of OBS/IMR category.

After verification, the approval certificate with unique number indicating machine make & number, capability of machine etc will be issued by RDSO.

This approval certificate will be valid for four year after which, the machine shall be offered for recertification. The service life is 8 years for USFD Machine. As such, recertification will be done only once in service life of machine.

2.4 The calibration test pieces meant for sensitivity setting of testing equipment should also be certified by M&C Dte. of RDSO before the same is taken to field for sensitivity setting purpose. The certificate of authenticity shall be issued to each calibration test piece and certificate number with RDSO stamp be engraved on the test piece.

3.0 Certification of USFD Operators and Quality Control Supervisors:

3.1 The certification of USFD operators should be done at RDSO in three different categories viz. Rail Testing, Weld Testing and Rail and weld testing both.

3.2 The agency considering the certification of USFD operators will approach M&C directorate of RDSO for the same. The requisite charges and slot available for training and certification will be advised. It will be responsibility of agency to depute only the properly qualified personal possessing the qualification as per Para 7, of 'IRS Specification for Ultrasonic testing of Rails/ Welds (Provisional), Revised- 2012'.

3.3 After checking the capability & qualification, the provisional competency certificate will be issued by RDSO, valid for six months.

3.4 For regular competency certification in through pedestrian USFD testing of rail and weld, the operator shall have an experience of satisfactory performance in 'through pedestrian USFD testing' of 100 track Kms (200 rail Kms). For regular competency certification in USFD testing of welds by hand probing, the operator shall have an experience of ultrasonic testing of 100 no. of rail weld joints satisfactorily. The certification to this effect shall be from the officer – in – charge

of the section (Asstt. Engineer or higher). where the operator has performed testing. The testing certificate along with relevant testing reports shall be produced by the contractor while applying for regular competency certificate for the operator. The regular competency certificate shall be valid for three years.

- 3.5 The agency shall also have a proper quality control supervisor having minimum academic qualification of Bachelor in Science or equivalent with Physics as one of the subject or Diploma/Degree in Engineering from any national/international institute/University. He shall possess the requisite qualification in NDT testing as per Para 7 of specification. After verification, the certificate in this regard will be issued.
- 3.6 The certification of USFD operators and supervisors will be valid only for the firm, which is offered them for certification by RDSO. The unique numbered competency certificate will be issued containing following:
 - (a) Particulars of Operator/ supervisor
 - (b) Qualification
 - (c) Competency in Rail testing/ Weld Testing
 - (d) Competency to work machines
 - (e) Agency for which competency is valid
 - (f) Validity of competency certificate
- 3.7 Performance of USFD operators will be reviewed by Zonal Railways at regular interval during currency of contract. Similar system of review of quality supervisors shall also be followed by Zonal Railways. Based on assessed performance by zonal railways and other relevant inputs, the performance of the operators shall be critically reviewed by RDSO at the time of validation of competency certificate. It will be responsibility of agency to furnish the contract wise performance report of operators/ supervisors as assessed by concerned zonal railway at the time of requesting for revalidation of competency certificate. No request will be considered without detailed performance report.

4.0 Quality Assurance Program (QAP):

- 4.1 The QAP for Ultrasonic testing of Rails/ Welds shall necessarily have following contents:
 - i) Covering page clearly bringing out
 - (a) Whether the QAP is for Ultrasonic testing of Rails/ Welds (by pedestrian testing) OR Weld testing (by Hand probing) OR Both
 - (b) Number of USFD machines, operators and number of teams for each type of testing
 - (c) Self assessed capacity of agency to undertake the quantum of work
 - ii) Index page giving Contents of QAP
 - iii) Brief details about agency covering infrastructural facilities, capability, Details of address along with contact numbers for Office & Training Centre etc.
 - iv) Details of ISO certification of firms
 - v) Organization chart emphasizing Quality Control set up
 - vi) Qualification of key personnel and officials deployed for Quality control

- vii) List of USFD Machines available, which are approved by RDSO separately for Rail testing, weld testing(Hand probing) and Flash Butt Weld testing giving following details:

Make & Model of USFD Machine. Unique SN of machines assigned by Manufacturer, Code assigned by contractor, Year of Manufacture, Approval certificate details issued by RDSO, Validity of approval of Machine.

(Copies of Approval certificates issued by RDSO shall be attached.)

- viii) List of Standard test piece, calibration Block etc. containing S.No., approval Certificate no. with date & Validity
(Copies of Approval certificate issued by RDSO shall be attached)

- ix) List of USFD operators separately for Rail testing (by pedestrian testing) , Weld testing (by hand probing) , Flash Butt Weld testing with following details :

Name, Father's name, Date of birth, Qualification, Details of Medical certificate with category, competency Certificate no. with Date, Machines for which competent to work, Date when competency certificate was originally issued, Years of experience, Validity of approval of competency certificate.

(Copies of Approval certificate issued by RDSO shall be attached)

- x) List of quality control supervisor with following details

Name, Father's name, Date of birth, Qualification, Details of Medical certificate with category, competency Certificate no. with Date, Date when competency certificate was originally issued, Years of experience, Validity of approval of competency certificate
(Copies of Approval certificate issued by RDSO shall be attached)

- xi) Availability of required reference documents viz. Manual and Specification with proof of purchase.
- xii) Self assessed capacity by firm for undertaking USFD work along with the calculations.
- xiii) Quality control regime adhered by firm giving frequency of performance review of USFD operators, Training needs, Check on calibration of machines & equipments etc.
- xiv) Formats for performance review of USFD operators
- xv) Formats for Calibration check by USFD operators and quality supervisors
- xvi) Other Relevant information.

Each page shall have following information on the header & footer :

On the header : Name of the document i.e. QAP for, Rev., Effective from

On the footer : Prepared by, Approved by, Page of

- 4.2 Period of validity of the QAP will be Three (3) Years. After this period, it shall be renewed based on machines available with firms, operators qualified, performance of operators and other relevant factors.

- 4.3 In order to avoid multiplicity of QAP of a particular firm, only one QAP shall be approved to a firm for all type of testing viz Rail testing, Weld testing by hand probing, Flash Butt Weld testing.

5.0 Approval of Quality Assurance Plan (QAP):

- 5.1 The agency possessing the requisite USFD machines and manpower, duly certified by RDSO, shall submit the QAP for Ultrasonic testing of Rails/ Welds containing requisite information in four copies to Track Design Dte of RDSO along with requisite charges.
- 5.2 After initial scrutiny by Track Design Dte. about adequacy of information and being found prima-facie in order, the three copies will be forwarded to M&C directorate for scrutiny. In case it is considered that information provided is not complete, the discrepancies will be advised to Firm with copy to M&C directorate.
- 5.3 The QAP forwarded by Track design directorate will be examined by M&C directorate as per requirements of specifications Para 7.5. The M&C directorate will certify the machines & equipments as per Para 6.0 and operators/ quality supervisors as per Para 7.0 of specification. The discrepancies observed shall be communicated by M&C Dte. to the agency directly under intimation to Track Design Dte. The agency shall submit the clarification to M&C Dte. under intimation to Track Design Dte.
- 5.4 If QAP is found in conformance to Para 6, 7 & 7.5 of specifications, M&C Dte. shall certify the QAP with comments " QAP is verified and found in conformance to Para 6, 7 & 7.5 of IRS Specification for Ultrasonic testing of Rails/ Welds (Provisional), Revised- 2012". The certificates of machines and USFD operators will also be enclosed with the QAP. The so certified copies of QAP (retaining one copy for their record) will be forwarded to track design directorate for issue of the QAP to the agency. The one copy of QAP so verified with Unique RDSO number will be issued to agency by the Track Design Dte.
- 5.5 The details of approved QAP will be maintained in Track Design Directorate and will be uploaded at RDSO Website. The position will be updated every six months in January and July. The following Details will be uploaded:

S.N.	Name and address of firm	Firm's QAP No.	Type of testing viz. Rail/ Weld/ FBW	No. of Machines	No. of operators	Self assessed capacity of firm	Approved QAP No.	Validity of Approval of QAP	Remarks

- 5.6 In case, the agency wants to induct additional machines of already approved specifications/ category, same can be done after approval of Zonal Railway. Such changes shall be advised to Track Design Dte and M&C Dte. of RDSO for record.
- 5.7 Any changes in details of QC head, Type of testing i.e. Rail/ Weld testing (by Pedestrian testing) / Weld testing (by Hand probing), machines of different category, shall call for revision of QAP for which agency shall apply to RDSO giving the details of changes made.

6.0 General Items to be ensured by Zonal Railways:

- 6.1 The certification of machine/ system is done by RDSO initially. Regular check as required as per specification shall be ensured by Zonal Railways. Any deterioration in performance shall be advised to RDSO (M&C Directorate and copy to Track directorate).
- 6.2 The certification of operators/ quality supervisors is done by M&C directorate. Performance review at regular interval shall be done as per specification/ Railway Board instructions. Any adverse performance shall be brought to notice of RDSO (M&C directorate and copy to track directorate) immediately.
- 6.3 Zonal Railways shall test check the capability of the operator and ultrasonic test system from time to time. These test checks can be carried out in accordance with specification.
- 6.4 The operator shall possess original copy of the valid Competency Certificate issued by RDSO while performing testing of rails/welds in the field and produce the same to railway officials when demanded. Zonal Railways shall put in place a mechanism to maintain day to day records of operators employed by the contractor along with equipment used (Sr. No. of machine etc.).
- 6.5 The approval of QAP by RDSO does not certify the agency's eligibility for meeting required norms. The zonal railway shall ensure the compliance about firm's capability, eligibility criteria and other requirements as per extant instructions.

7. Other details:

- 7.1 The firm's while approaching RDSO for approval/ re-approval of QAP shall furnish the details of USFD testing work done by them earlier against approved QAP along with performance certificate issued by concerned contracting authority. The request will not be considered unless the details are furnished.
- 7.2 Similarly, Firms while approaching RDSO for Re-certification of USFD Operators shall give the complete performance report issued by Concerned Zonal Railway where operator has worked during currency of earlier approval. The request will not be considered unless the details are furnished.
- 7.3 On the basis of advise/ complaint raised by railway, RDSO shall critically review/ check the QAP of agency.
- 7.4 The testing charges for certification of machines/ equipments, operators and approval of QAP will be worked out by M&C Directorate and advised.
- 7.5 All payments shall be made in advance through RTGS.
- 7.6 M&C Directorate of RDSO shall act as third party to investigate whether the defect was detectable at the time of USFD testing or not. The decision of RDSO shall be final and binding on both the parties and this decision is not arbitrable.

This Procedure order will be applicable w.e.f. 15.10.2014.

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सं./No.2017/Track-P/9 (2) Vol. III

दिनांक / Date: 07.03.2019

The General Managers, All Indian Railways;
The Director General, RDSO, Lucknow;
CMDs/MDs, RVNL, IRCON, CONCOR & RITES;
PCEs, All Indian Railways;
CAOs, All Indian Railways;
Director, IRICEN.

**विषय/Sub: Technical Eligibility Criteria for Carrying Out Works of
'USFD Testing of Rails/Welds' or 'AT Welding'.**

संदर्भ/Ref.: Rly Board's letter No. 2017/CE-I/CT/8/GCC/Committee
dated 05.11.2018.

Indian Railways Standard General Conditions of Contract, issued vide Board's letter under reference defines the minimum technical eligibility criteria for Works tenders.

The works of 'USFD testing of Rails/Welds' by SRT/DRT or 'AT Welding' are executed by the Firms whose technical capabilities have already been established by RDSO as under:

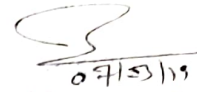
- (a) USFD Testing of Rails/Welds by SRT/DRT/Handheld Testers – The SRT/DRT/Handheld Testing equipments are approved/certified by RDSO for USFD testing, USFD machine operators are tested & certified by RDSO and QAP for such USFD testing submitted by the Firm is approved by RDSO.
- (b) Execution of AT Welding by Agency - RDSO approves the AT Welding technique of the firms alongwith QAP for portion manufacturing and tests & certifies firm's welders for AT Welding.

As such, the requirement of incorporating Technical Eligibility criteria in tenders for the work of 'USFD Testing of Rails/Welds' and 'AT Welding' has been reviewed in Board's office and **Board (ME & FC) have decided to dispense with the Minimum Technical Eligibility Criteria mentioned in Indian Railways Standard General Conditions of Contract for works tender related to "USFD Testing of Rails/Welds by SRT/DRT/Handheld Testers" and "Execution of AT Welding by agencies whose technical capabilities have already been established by RDSO".** However, Financial

Eligibility criteria as given in Standard General Conditions of Contract will remain unchanged.

This issues with the concurrence of the Finance Directorate of Railway Board.

Please acknowledge receipt.



(Anurag Yadav)
Director Track (P)
Railway Board.

सं./No.2017/Track-I (P)/9 (2) Vol. III

दिनांक/Date: 07.03.2019

Copy forwarded for information to:

1. The PFAs, All Indian Railways.
2. The Deputy Comptroller & Auditor General of India (Railways), Room No. 224, Rail Bhawan, New Delhi.



For Financial Commissioner/Railways

सं./No.2017/Track-I (P)/9 (2) Vol. III

दिनांक/Date: 07.03.2019

Copy forwarded for information to:

1. PSO to ME.
2. Sr PPS to AM (CE) & AM (Works).
3. PED/Bridges & PED/SD