

East Central Railway

**Office of the
General Manager
(Signal & Telecomm)
ECR, Hajipur**

**No. ECR-HQ0SnT (CCP)/2/2024
(Comp.no. 279039)**

Dated: 04.12.2024

**Sr.DSTEs/
DDU/DHN/DNR/SEE /SPJ,
East Central Railway.**


Sub: Re-issue the Maintenance Schedule of the item "Automatic Fire Detection & Alarm System for Signalling and Telecom Installations (RDSO/SPN/217/2021 Ver. 3.0)".

Ref: RDSO letter no. No. STS/E/AFD&SS Vol. – V dated 21.10.2024

Please find enclosed herewith the above referred RDSO's tentative maintenance schedule of Automatic Fire Detection and Alarm System (AFDAS) for Signalling and Telecom Installations as per RDSO Spec. RDSO/SPN/217/2021 Ver. 3.0 is re-issued for the guidance.

In view of above divisions are requested to implement this maintenance schedule of AFDAS for S&T installations accordingly.

DA : As above.


(D.K.Chand)
Dy.CSTE/Signal/HJP
for GM (S&T)/ECR/HJP

No. STS/E/AFD&SS Vol. – V

Date- 21.10.2024

By E-mail

| | |
|--|--|
| सचिव (सिगनल) रेलवे बोर्ड, रेलभवन, नई दिल्ली, | Secretary/Signal, Railway Board, Rail Bhawan, New Delhi |
| प्रधानमुख्य सिगनल एवं दूरसंचार अभियन्ता मध्य रेलवे, मुम्बई सी.एस.टी.- 400 001 पश्चिम रेलवे, चर्चगेट, मुम्बई- 400 020 पूर्व रेलवे, फेयरली प्लेस, कोलकाता- 700 001 दक्षिण पूर्व रेलवे, गार्डनरीच, कोलकाता- 700 043 उत्तर रेलवे, बडौदा हाउस, नई दिल्ली- 110 001 पूर्वोत्तर रेलवे, गोरखपुर- 273 012 पूर्वोत्तर सीमान्तर रेलवे, मालीगांव, गुवाहाटी- 781 011 दक्षिण रेलवे, पार्कटाउन, चेन्नई- 600 003 दक्षिण मध्य रेलवे, सिकन्दराबाद- 500 371 पूर्व मध्य रेलवे, हाजीपुर। पूर्वतटीय रेलवे, बी-1, रेलविहार, चन्द्रषेखरपुर, भुवनेश्वर- 751023 उ०म० रेलवे, "गंगा" परिसर, सुबेदारगंज, इलाहाबाद उत्तर पश्चिम रेलवे, जयपुर- 300206 दक्षिण पश्चिम रेलवे, क्लबरोड, केशवपुर, हुबली- 23 पश्चिम मध्य रेलवे, ओ०एस०डी० कार्यालय, जबलपुर दक्षिण पूर्व मध्य रेलवे, आर०ई० ऑफिस कॉम्प्लेक्स, बिलासपुर- 495004 कोर, नवाब युसुफ अली रोड, सिविल लाईन्स, इलाहाबाद- 211 001 डी.एम.आर.सी., मेट्रो भवन, फायर ब्रिगेड लेन, बाराखम्मारोड, नई दिल्ली- 110001 | P. C.S.T.E. Central Rly., Mumbai, CST - 400001 Western Rly, Churchgate, Mumbai - 400020 Eastern Rly., Fairlie Place, Kolkata 700001 South Eastern Rly., Garden Reach, Kolkata - 700043 Northern Rly. Baroda House, New Delhi- 110001 North Eastern Rly., Gorakhpur- 273012 North East Frontier Rly., Maligaon, Guwahati - 781011 Southern Rly. Park Town, Chennai - 600003 South Central Rly., Secunderabad – 500371 East Central Railway, Hajipur. East Coast Railway, B-1, Rail Vihar, Chandrasekharpur, Bhubneshwar - 751023 N.C.Railway, Ganga Parisar, Subedarganj, Allahabad North Western Railway, Jaipur - 300206 South Western Railway, Club Road, Keshavapur, Hubli West Central Railway, OSD Office, Jabalpur South East Central Railway, R.E. Office Complex, Bilaspur - 495004 CORE, Nawab Yusuf Ali Road, Civil Lines, Allahabad- 211001. Delhi Metro Rail Corporation Ltd., Metro Bhawan, Fire Brigade Lane, Barakhamba Road, New Delhi-110001 |
| निदेशक ईरिसेट, तारनाकारोड ललागुडा, पो०ओ० सिकन्दराबाद | The Director/IRISET, Tarnaka Road, Lallaguda (P.O.), Secunderabad-500017 |

Subject: Re-issue the Maintenance Schedule of the item “Automatic Fire Detection & Alarm System for Signalling and Telecom Installations (RDSO/SPN/217/2021 Ver. 3.0)”.

The tentative maintenance schedule of **Automatic Fire Detection and Alarm System (AFDAS)** as Per RDSO Spec. RDSO/SPN/217/2021 Ver. 3.0 is re-issued for the guidance to zonal railways.

DA: As Above

**YOGENDRA
PRATAP
SINGH**

Digitally signed by YOGENDRA PRATAP SINGH
DN: c=IN, o=SOUTH CENTRAL RAILWAY,
ou=GOVERNMENT,
2.5.4.20=0b9d132276b27bfc0ba07633da275de
d3921392a57f162c23fbc3d106a9f,
postalCode=515801, st=ANDHRA PRADESH,
serialNumber=98DC68697A391510C86F05FDC9
12N6ZDEEC224F9K83DHEE88C25A43FCB49110,
cn=YOGENDRA PRATAP SINGH
Date: 2024.10.21 16:48:31 +05'30'

(Y P Singh)

Director/Sig-III
For DG/S&T



Phone : Off - 91-522-2465749

Rly: Off - 42391

Fax : 91-522-2452332

e-mail: dursig3rdsol@gmail.com,
dursig3@rdsol.railnet.gov.in

Mobile : 9794863311



Research Designs & Standards Organization

LUCKNOW – 226011

Room No. 206, II floor,
Signal Directorate, Annexe-I Building,
Manak Nagar, LUCKNOW – 226011

No. STS/E/AFD&SS Vol. - V

Date: 29.09.2022

| | |
|---|--|
| प्रमुख मुख्य संकेत एवं दूरसंचार अभियन्ता, मध्य रेलवे, मुम्बई सी.एस.टी.- ४००००१ | Principal Chief Signal & Telecom Engineer, Central Railway, Mumbai CST-400 001 |
| पश्चिम रेलवे, चर्चगेट, मुम्बई- ४०००२० | Western Railway, Churchgate, Mumbai – 400 020 |
| पूर्व रेलवे, फेयरली प्लेस, कोलकाता- ७००००१ | Eastern Railway, Fairlie Place, Kolkata – 700 001 |
| दक्षिण पूर्व रेलवे, गार्डनरीच, कोलकाता-४३ | South Eastern Rly., Garden Reach, Kolkata – 43 |
| उत्तर रेलवे, बडौदा हाउस, नई दिल्ली- ०१ | Northern Railway, Baroda House, New Delhi- 01 |
| पूर्वोत्तर रेलवे, गोरखपुर- २७३०१२ | Northeastern Railway, Gorakhpur -273 012 |
| पूर्वोत्तर सीमान्त रेलवे, मालीगांव, गुवाहाटी-११ | North Frontier Railway, Maligaon, Guwahati- 781 011 |
| दक्षिण रेलवे, पार्क टाउन, चेन्नई- ६०० ००३ | Southern Railway, Park Town, Chennai -600 003 |
| दक्षिण मध्य रेलवे, सिकन्दराबाद - ५०० ३७१ | South Central Railway, Rail Nilayam, Secunderabad-71 |
| पूर्व मध्य रेलवे, हाजीपुर - ८४४१०१ | East Central Railway, Hazipur-844101 |
| उत्तर पश्चिम रेलवे, जयपुर-३००२०६ | North Western Railway, Jaipur-300206 |
| पूर्वोत्तर रेलवे, ग्राउन्डतल, उत्तरी ब्लॉक, समन्तविहार, भुवनेश्वर-१७ | East Coast Railway, Rail Vihar, Ground floor, North Block, Samant Vihar, Bhubneshwar -17 |
| उत्तर मध्य रेलवे, गंगा कॉम्प्लेक्स, सूबेदारगंज, इलाहाबाद - २११०१२ | North Central Railway, Ganga Complex, Subedarganj, Allahabad- 211012 |
| दक्षिण पश्चिम रेलवे, क्लब रोड, केशवपुर, हुबली-५८००२३ | South Western Railway, Club Road, Keshavpur, Hubli-23 |
| पश्चिम मध्य रेलवे, जबलपुर - ४८२००१ | West Central Railway, 2 nd floor, DRM Office, Jabalpur-482001 |
| दक्षिण पूर्वोत्तर रेलवे, आर०ई० ऑफिस कॉम्प्लेक्स, बिलासपुर- ४८५००४ | South East Central Railway, R. E. Office Complex, Bilaspur-495004 |
| मैट्रो रेलवे, ३३/१, जवाहर लाल नेहरू रोड, कोलकाता- ७०० ०७१ | Metro Railway, 33/1, Jawaharlal Nehru Road, Kolkata – 700071 |
| कोर, नवाब युसुफ रोड सिविल लाइन्स इलाहाबाद- २११ ००१ | CORE, Nawab Yusuf Road, Civil Lines, Allahabad- 211 001 |
| निदेशक/इरिसेट, तारनाका रोड, लल्लागुडा, पीओ सिकन्दराबाद-१७ | Director/IRISET, Tarnaka Road Lallaguda, P.O Secunderabad -17 |

Sub: Maintenance Schedule of the item “Automatic Fire Detection & Alarm System for Signalling and Telecom Installations (RDSO/SPN/217/2021 Ver. 3.0)”.

A tentative Maintenance schedule of the item “Automatic Fire Detection & Alarm System for Signalling and Telecom Installations has been approved by the competent authority and the same is attached here with for the use of zonal railways.

This is for kind information please.

(A.K.Yadav)
Director/Signal-III
For Director General/Signal

DA: As above.

Copy – As per list (Annx.-I) attached

Digitally Signed by
Avadhesh Kumar Yadav
Date: 29-09-2022 13:03:58
Reason: Approved

Annx.-I

| | |
|-----|---|
| 1. | The Secretary (Signal), Railway Board, New Delhi- 110001: for kind information please. |
| 2. | Executive Director (Tele Dev), Railway Board, New Delhi- 110001: for kind information please. |
| 3. | Executive Director/Telecom /RDSO/Lucknow- 226 011. |
| 4. | कार्यकारी निदेशक/क्यूएन/एसएण्ड टी/अ०अ०मा०सं०, लखनऊ- २२६०११ Executive Director/QA/S&T/RDSO, 4th Floor, Annexe-II, Abhikalp Bhavan, Manak Nagar Lucknow-226011. |
| 5. | कार्यकारी निदेशक/क्यूएन/एसएण्ड टी/अ०अ०मा०सं०, नई दिल्ली- ११०००१ Executive Director/QA/S&T/RDSO, 1st Floor, IRCOT Building, Shivaji Bridge, New Delhi-110001. |
| 6. | निदेशक/क्यूएन/एसएण्डटी/अ०अ०मा०सं०, मुम्बई- ४०००२० Director/QA/S&T/RDSO, 1st Floor, New Annexe Building, Western Railway, Church gate, Mumbai-400 020 |
| 7. | निदेशक/क्यूएन/एसएण्डटी/अ०अ०मा०सं०, बैंगलोर- ५६००२३ Director/QA/S&T/RDSO, Ground Floor, DRM Office, South western Railway, Bangalore - 560 023 |
| 8. | निदेशक/क्यूएन/एसएण्डटी/अ०अ०मा०सं०, फेयरली प्लेस, कोलकाता - ७००००१ Director/QA/S&T/RDSO, 4th Floor, 17 N.S Road West Wing, Fairlie Place, Kolkata- 700 001 |
| 9. | निदेशक/क्यूएन/एसएण्डटी/अ०अ०मा०सं०, जयपुर- ३०२००६ Director/QA/S&T/RDSO, Hasanpura Road, In Front of Railway Hospital Jaipur-302006 |
| 10. | The CSTE, Konkan Railway Corpn. Ltd, Belapur Bhavan, Sector-II, CBD, Belapur, New Mumbai -00614 |
| 11. | Managing Director, DFCCIL, 5th Floor, Delhi Metro Station Building, PragatiMaidan, New Delhi- 110001 |
| 12. | The CSTE, Rail Vikas Nigam Ltd., C-2/10, Safdarjung Development area, Aurobindo Marg, New Delhi – 110016 |
| 13. | The CSTE, Mumbai Rail Vikas Corporation, II floor, Churchgate station building, Mumbai 400020 |
| 14. | M/s Honeywell Security & Fire (A Div of Honeywell International India Pvt. Ltd.), No 17, Ground Floor, Amrit House, Sant Nagar, New Delhi-110065. E mail- india.communications@honeywell.com , sheel.kumar@honeywell.com |
| 15. | M/s Ravel Electronics Pvt. Ltd.,150-a, Electronics Industrial Estate,Perungudi, Chennai, Tamil Nadu- 600096. E mail- prabhu@ravelfire.com , sales@ravelfire.com |
| 16. | M/s M/s Vighnaharta Technologies Pvt. Ltd.,5,new sadashiv peth, Alka Talkies Square,Pune, Maharashtra-411030 E mail- Sales@Vighnaharta.in , jgirme@Vighnaharta.in |
| 17. | M/s NOTOFIRE PVT. LTD. , C-146, Ground Floor, Block C, Sector 63,NOIDA, Gautam Buddha Nagar, Uttar Pradesh, India – 201301,Phone no. 09999991525, Email – indianotofire@gmail.com |
| 18. | M/s Advance HI-Tech , 1765-MIE, Part B, Bahadurgarh- Haryana -12407, Phone no. 09891823666 Email – aniljindal.sig@gmail.com |

(A.K.Yadav)
Director/Signal-III
For Director General/Signal

SIGNAL & TELECOM DIRECTORATE
RESEARCH DESIGNS AND STANDARDS
ORGANISATION MANAK NAGAR, LUCKNOW-226011

Tentative

Title: Maintenance Schedule of Automatic Fire Detection and Alarm System
for Signaling and Telecom installations.
(Spec. no. RDSO/SPN/217/2021 Ver. 3.0)

| S. no. | Issue | Version | Reason of Amendment |
|--------|-------|---------|---------------------|
| 1 | First | 0.0 | |

| Prepared by: | Approved by: |
|---|-----------------------------|
| V.K. Nayak SSE/Signal S.K. Srivastava ADE/Signal-V A.K. Yadav Director/Signal-III | Rajendra Dhambel PED/S&T |

| | | | | |
|--|------------------------------|---------------------------|---------|--------------|
| Page 2 of 5 | JOINT DIRECTOR/SIGNAL-3/RDSO | Effective from 28-08-2022 | SIG-301 | Version- 0.0 |
| Document Title: Maintenance schedule of Automatic Fire Detection and Alarm System for Signaling and Telecom installations. | | | | |

A. Automatic Fire detection & Alarm System for Signaling and Telecom Installation (Spec. no. RDSO/SPN/217/2021 Ver. 3.0)

The system consists of following major Sub-systems-

1. Probe Type BI-METALLIC HEAT DETECTOR for DG Enclosure.
2. UV and IR FLAME DETECTORS for DIESEL OIL STORAGE ROOM.
3. HEAT & SMOKE MULTI SENSOR for Various Rooms (PowerEqpt., Battery, ASM, DG & Non –Air Conditioned Relay).
4. ASPIRATING (AIR SAMPLING) TYPE SMOKE DETECTOR for Air Conditioned Relay Room.
5. LHS CABLE & its INTERFACE MODULE or
6. LHD & its INTERFACE MODULE.
7. FIRE SURVIVAL CIRCUIT INTEGRITY CABLES.
8. CONTROL PANEL.
9. MANUAL CALL POINTS for Every Entry & Exit point of various rooms.
10. AUDIO VISUAL ALARM (HOOTER and STROBE).
11. PIPING.
12. BATTERY.

| | |
|----------------------|---------------------|
| Name and Designation | Signature with date |
|----------------------|---------------------|

Document Title: Maintenance schedule of Automatic Fire Detection and Alarm System for Signaling and Telecom installations.

B. Maintenance Schedule –

1. Fortnightly Schedule-

| SN | Check the followings | Observations | Remarks if any |
|----|---|--------------|----------------|
| 1 | Date & Time of System at Control Panel | | |
| 2 | Visual Indications on | | |
| a | Control Panel (Power on LED) | | |
| b | Manual Call Points | | |
| c | Detectors | | |
| d | Other devices | | |
| e | Each device in the loop.(LED Blinking) | | |
| 3 | Check internal Buzzer(Disconnect Primary Power). | | |
| a | Mains fail indication at C/Panel | | |
| b | Mains fail LED lit at C/Panel | | |
| c | Internal Buzzer starts | | |
| d | Restore Power Supply. Control Panel will get normalized. | | |
| 4 | Press Menu on Control panel and see the conditions of device. (Failed, Fault, Fire & Disablement logs) | | |
| a | Clean the particular detector in Fault | | |
| b | Attend the fault (Detector missing, Disablement, Earth Fault , Low / No Battery Voltage, Mains Power Failure, Earth Fault , Sounder /Strobe Fault)-(Refer User manual /Troubleshooting Guide) | | |
| 5 | Clean 25% of the detectors (Clean Different detectors in each schedule) | | |
| 6 | Test at least 25% of the detectors (Test different detectors in each schedule- as per user manual) | | |

| | |
|----------------------|---------------------|
| Name and Designation | Signature with date |
|----------------------|---------------------|

Document Title: Maintenance schedule of Automatic Fire Detection and Alarm System for Signaling and Telecom installations.

2. Monthly Schedule-

| SN | Check the followings | Observations | Remarks if any |
|----|--|--------------|----------------|
| 1 | Measure Supply Voltage | | |
| a | Main Supply Voltage to System (230 / 110V AC-should be +10% and -15%) | | |
| b | SMPS O/P at Control Panel (24-27V DC) | | |
| c | Stand by Battery Voltage (24-26V DC) | | |
| d | Loop IN & Loop OUT Voltage(24-26V DC) | | |
| 2 | Self-test- On control Panel (CP) go in Level II select self-test Mode. | | |
| a | All LEDs on Control Panel (CP) lit | | |
| b | Internal Buzzer will sound | | |
| c | Panel Display get Blank | | |
| d | After 2-3 sec. CP Restored to normal working condition. | | |
| 3 | Remove any detector from the loop (Check it's address and location displays on CP) | | |
| 4 | Find me -On CP go in Level III select. | | |
| a. | Select individual device address & check status of LED changes on device. | | |
| b | If any device is not lit then check loop wiring connection/fitting/voltage | | |
| 5 | Manual Call Point(MCP)- | | |
| a | Press the button and see audio and visual indication on Control panel (CP). CP shows address & location of MCPs. The sounder sounds (if not check supply on terminal), mute it. | | |
| b | Check the Sounder/Strobe activated at every location | | |
| c | Reset The MCP using Reset Key. Also reset the CP | | |
| 5 | Clean 25% of the detectors (Clean Different detectors in each schedule) | | |
| 6 | Test at least 25% of the detectors (Test different detectors in each schedule- as per user manual) | | |

| | |
|----------------------|---------------------|
| Name and Designation | Signature with date |
|----------------------|---------------------|

Document Title: Maintenance schedule of Automatic Fire Detection and Alarm System for Signaling and Telecom installations.

3. Quarterly Schedule -

| SN | Check the followings | Observations | Remarks if any |
|----|--|--------------|----------------|
| 1 | Clean the detectors & devices connected in AFDAS. | | |
| 2 | Ensure that stable primary & secondary power supply is available to AFDAS. | | |
| 3 | Ensure proper fitting of detector/Devices. | | |
| 4 | Check the complete system wiring. | | |
| 5 | Ensure the Panel is displaying correct device name & address. | . | |
| 6 | Observe the Visual indication & message on CP. | | |
| 7 | Check Voltages Level | | |
| a | Main Supply Voltage to System(230/110V AC) | | |
| b | SMPS O/P at Control Panel(24-27V DC) | | |
| c | Stand by Battery Voltage (24-26V DC) | | |
| d | Loop IN and Loop OUT Voltage(24-26V DC) | | |
| 8 | Clean 25% of the detectors (Clean Different detectors in each schedule) Note: Ensure that all the detectors have been cleaned at least once in a quarter. | | |
| 9 | Test at least 25% of the detectors (Test different detectors in each schedule- as per user manual) Note: Ensure that all the detectors have been tested at least once in a quarter. | | |
| 10 | Simulate fire like situation (use standard device or other means as per user manual) Perform the fire test in safe & controlled manner to check healthy condition of all loop devices. | | |
| a | Reset the system after Fire test & ensure that system is restored to normal | | |

Name and Designation

Signature with date