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

No. 2015/M (N)/951/1

रेल भवन, नई दिल्ली- 110001, तिथि
Rail Bhavan, New Delhi-110001, **Dated 10.01.2019**

Principal Chief Mech. Engineers
All Indian Railways

Sub: **Operation of BMBC fitted BOXNHL/BCNHL/other wagons**
Ref: 1) RDSO's letter No.MW/APB/BMB dt.23.08.2018
2) WCR's letter No.WCR/M/N/03116 dt.08.01.19

. . .

Railways from time to time have been reporting detention of BMBC fitted wagons during night time in winters on account of BP pressure not being maintained. Such detention had also been reported during the previous years from various railways. Some of the issues that have been brought by checking of such rakes are as:

i) In most cases such wagons have been found to have overdue overhaul BMBCs.
ii) The wire mesh filter provided in breather valve is non-existent/chocked, which leads to dust accumulation at the non-working side of the piston. For prevention of dust entry, the wire mesh filter must be replaced in all ROH and POH as per RDSO advice vide Ref (i).

In light of above, it is advised that necessary action be taken ensuring the following two activities:

(a) Workshops must have either an adequate quantity of BMBC and APM overhaul kits available or adequate contractual arrangement with OEM for overhaul of BMBS components, so as to ensure that all wagons received for POH are turned out only after completion of overhaul of BMBC and APM.
(b) All ROH depots must ensure that after ROH, the wagons are always fitted with BMBC and APM so that the due date of overhaul of BMBC equipments as far as possible coincides with the date of POH due date of the wagons.
(c) Ensuring fitment/replacement of new wire mesh filter in breather valve during ROH/POH as per RDSO advice.

Railways may take necessary action to ensure immediate implementation of the (a), (b) & (c) above. The above requirement shall be NTXR rejectable item w.e.f.1-4-19 for item (a) above and 1/2/19 for item (b) and (c).

(AJAY NANDAN)
Exec. Director Mech. Engg. (Fr)
Railway Board

Copy to:
PED/W, RDSO, Lucknow – for suitable modification (if needed) / updation of WMM and review of manufacture/overhauling marking scheme on BMBS components for proper tracking.
DIR/NCO – for information and necessary action.

WEST CENTRAL RAILWAY

Office of the
General Manager,
Mechanical Branch,
Jabalpur (M.P.)

WCR/M/N/03/116

Dated: 08.01.19

EDME (Frt)
Railway Board
New Delhi

Sub: - Brake Cylinder leakage in BMBS Wagons.

During Nov- Dec 2018 there have been about 27 cases of detention to trains on account of Brake cylinder leakage in BOXNHL (MBS wagons) over JBP division.

To ascertain the problem the brake cylinder leakages found during examination at NKJ in the month of Dec-18 (upto 21.12.18) has been investigated and the details are attached in annexure-A for 47 wagons which have been checked. The majority of the cases are of brake cylinder leakage from the piston packing and about 3-4 cases of brake cylinder leakage due to other reasons like leakage from brake cylinder plug/brake cylinder jam. Most of the wagons in which leakage has been found have been turned out from POH in the last 24 months and the leakage is mostly in KNORR make brake cylinder. The checks on wagon no. at S. No. 20, 40 & 41 are as follows.

Wagon at S. No. 20. Wagon was manufactured by JRIL on 26.06.2016. it was ROHed at UMB on 02.08.2018; however, during ROH trolleys got interchanged and BC piston packing found in service in this wagon was manufactured in 2011.

Wagon at S. No. 40. Wagon was POHed at JMPW at 17.09.17. BC was overhauled at JHSW (784 in 08/18), but the BC piston packing found in service was manufactured in 2012

Wagon at S. No. 41. Wagon was POHed at JHSW at 20.07.17. BC was overhauled at JHSW (638in 07/17), but the BC piston packing found in service was manufactured in 2011

Based on the above, the following observations are put up for consideration.

(i) Mandatory changing of piston packing during POH.
(ii) Improvement in material of the piston packing
(iii) Due to interchanging of trolley during ROH or sick line attention, it is necessary to provide traceability for the brake cylinder (BMBC) so that they are not allowed overdue POH. The system followed for CTRBs for traceability and changing in open line with overhauled ones by workshop or OEMs may be put in place for BMBC also.

Photographs of some BC piston packing found leaking in service are attached in annexure-B.

This is for your kind information please.

8/1/19
(Niraj Kumar)
CRSE/WCR

Annexure-A

Bk. Cylinder leakage cases found in NKJ Yard during Examination

S. No.	Date	Wagon No.	Rly	Type	POH Shop	POH Date	R Date	Remarks	Make
1	1-12-18	22131580312	NCR	MBS	MISBB	10-12-15	12/21	K/E-BCL	JE BC CHG KNORR
2	1-12-18	22161714145	WCR	MBS	CIMCO	28-6-17	06/23	BCL	KE BC CHG ESCORT
3	01.12.18	22141145747	SECR	MBS	RWS	09.06.17	01/22	K/E BCL	KE BC CHG KNORR
4	01.12.18	22131128415	NCR	MBS	KOTO	19.08.17	03/22	K/E BCL	KE BC CHG KNORR
5	01.12.18	22141593630	SECR	MBS	SPJS	05.08.15	08/21	J/E BCL	JE BC CHG KNORR
6	3-12-18	22101152181	ECR	MBS	JHSW	13-9-13	04/22	K/E-BCL	KE BC CHG KNORR
7	4-12-18	22011717944	CR	MBS	BSH	17-8-17	08/23	J/E BC JAM	JE BC CHG KNORR
8	04.12.18	22091625245	SCR	MBS	TEXMA	24.12.16	01/22	J/E BC JAM	BC OK/ BC DRAIN PLUG FIT DV F/ CHG
9	04.12.18	22101155137	ECR	MBS	RWS	02.10.17	05/22	K/E BCL	KE BC CHG KNORR
10	5-12-18	22161349323	WCR	MBS	HEI	10-6-13	06/19	BCD	JE BC CHG KNORR
11	6-12-18	22071568586	SER	MBS	TEXMA	9-2-15	02/21	K/E BC JAM	KE BC CHG ESCORT
12	6-12-18	22121124571	ECOR	MBS	KGPW	23-7-17	08/23	J/E BCL	JE BC CHG ESCORT
13	6-12-18	22141142388	SECR	MBS	JHSW	29-11-17	07/22	B/S BCL	B/S BC CHG KNORR
14	8-12-18	22091616106	SCR	MBS	ASRW	14-3-16	02/22	K/E BCL	KE BC CHG KNORR
15	08.12.18	22091584405	SCR	MBS	TEXMA	16.12.15	12/21	K/E BCL	KE BC CHG KNORR
16	10-12-18	22151172153	SWR	MBS	JMPW	30-1-18	09/22	B/S BC DEFFECTIVE	KE BC CHG KNORR
17	11-12-18	22121186555	ECOR	MBS	JHSW	9-6-17	01/22	J/E BCL+DVL	JE BC CHG ESCORT
18	11-12-18	22101136631	ECR	MBS	JHSW	17-5-17	12/21	BCL	JE BC CHG KNORR
19	11.12.18	22131128934	NCR	MBS	RYPS	10.08.17	03/22	BCL	JE BC CHG KNORR
20	**12.12.18**	**22121616731**	**ECOR**	**MBS**	**JRIL**	**26.06.16**	**06/22**	**BC DEFECTIVE**	**KE BC CHG KNORR**
21	13.12.18	22141142043	SECR	MBS	RWS	26.04.17	11/21	BCL	KE BC CHG KNORR
22	13.12.18	22101132602	ECR	MBS	RYPS	08.01.18	08/22	BCL	KE BC CHG KNORR
23	13.12.18	22141711676	SECR	MBS	SR	22.12.17	12/23	BC JAM J/E	BC OK
24	13.12.18	22121620127	ECOR	MBS	JWL	31.03.16	03/22	K/E BCL	KE BC CHG KNORR
25	14-12-18	22101732956	ECR	MBS	CIMCO	10-6-17	06/23	K/E BCD	KE BC CHG ESCORT (interchange)
26	14.12.18	22121620448	ECOR	MBS	JWL	06.04.16	04/22	J/E BCL	KE BC CHG KNORR
27	15.12.18	22101544160	ECR	MBS	MISBB	05.03.15	03/21	BC DEFECTIVE	JE BC CHG ESCORT
28	15.12.18	22161348999	WCR	MBS	HEI	27.05.13	05/19	BD JAM	KE BC CHG KNORR
29	15.12.18	22121127275	ECOR	MBS	DHD	10.10.17	05/22	J/E BC DEFECTIVE	JE BC CHG KNORR
30	17-12-18	22131236660	NCR	MBS	JMPW	10-2-18	09/22	BCL	JE BC CHG KNORR
31	17.12.18	22101297950	ECR	MBS	TEXMA	10.10.12	10/18	K/E BCL & BC JAM	JE BC CHG KNORR
32	17.12.18	22121119621	ECOR	MBS	JHSW	01.09.17	04/22	J/E BCL	JE BC CHG KNORR
33	18-12-18	22091363406	SCR	MBS	JWL	17-5-13	05/19	K/E BCL	KE BC CHG KNORR
34	19-12-18	22101536585	ECR	MBS	CIMCO	29-4-15	04/21	K/E BCL	KE BC CHG KNORR
35	19-12-18	22121620318	ECOR	MBS	JWL	4-4-16	04/22	B/S BCL	JE BC CHG KNORR
36	19-12-18	22101148920	ECR	MBS	JHSW	20-7-17	03/22	B/S BCL	BS BC CHG KNORR
37	19-12-18	22141620008	SECR	MBS	HEI	26-9-16	09/22	K/E BCD	KE BC CHG KNORR
38	19-12-18	22161124425	WCR	MBS	JHSW	13-10-17	05/22	K/E BCL	KE BC CHG KNORR
39	19-12-18	22101616195	ECR	MBS	BESCO	24-12-16	02/22	J/E BCL	JE BC CHG KNORR
40	**19.12.18**	**22101172066**	**ECR**	**MBS**	**JMPW**	**17.09.17**	**04/22**	**BCL**	**BS BC CHG KNORR**
41	**19.12.18**	**22101164566**	**ECR**	**MBS**	**JHSW**	**20.07.17**	**02/22**	**K/E BCL**	**KE BC CHG KNORR**
42	20-12-18	22131339293	NCR	MBS	BWT	31-3-13	03/19	J/E BCL	BS BC CHG KNORR
43	20-12-18	22131128903	NCR	MBS	KGPW	28-10-17	11/23	BCL	KE BC CHG KNORR
44	20-12-18	22141123455	SECR	MBS	JMPW	29-1-17	03/22	BCL	KE BC CHG KNORR
45	20-12-18	22161117090	WCR	MBS	JMPW	18-7-17	02/22	K/E BCD	KE BC CHG KNORR
46	20-12-18	22101027410	ECR	MBS	JMPW	19-11-16	06/21	BCL	JE BC CHG KNORR

47	21-12-18	22091466688	EC	MBS	BWT	31-1-14	07/20	BCL	JE BC CHG KNORR

Apart from this, some wagons were jointly checked in the presence of representative of M/s KBI and SSE/C&W/SGO at SGO, detals of which are as follows:

Bk. Cylinder leakage cases found at SGO

S. No.	Date	Wagon No.	Rly	Type	POH Shop	POH Date	R Date	Remarks	Make
1	28.12.18	22161114679	WCR	MBS	JHS	30.05.17	1/22	Leakage from BK. Cylinder plug	KBI, S. NO. 891
2	28.12.18	22141612492	SEC	MBS	BWT	10.05.16	5/21	Leakage from BK. Cylinder plug	PRI, S. No. 2360
3	31.12.18	22121185619	ECoR	MBS	RWS	07.09.17	11/21	Leakage from BK. Cylinder plug	KBI, S. No. 05589

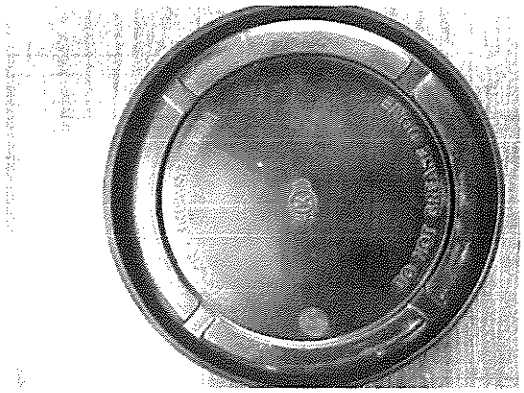
Annexure B





Wagon No. 22121616731 ECoR





Wagon No. 22101172066 ECR





Wagon No. 22101164566 ECR

सत्यमेव जयते

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Organisation Lucknow – 226011
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DID (0522) 2465310

रेल आधुनिक Transforming Railways

jdwp.rdso@gmail.com

No. MW/APB/BMB

Dated: 20.08.2018
23

Principal Chief Mechanical Engineers(As per list)

Sub: Pressure trouble in BOXNHL wagons in winter season
Ref: Railway Board's Letter No. 2015/M (N)/951/1 dt. 06.7.18 S.N. 2215

Board vide letter under reference informed that SECR has reported problem of leakage of air from brake cylinder of BOXNHL (MBS) wagons during extreme winter seasons. The problem of leakage from Brake Cylinders in BOXNHL (MBS) wagons during extreme winter season has been examined by this office and it is observed, it occurs only in Knorr make BMBS due to ingress of dust inside the cylinders through breather valve.

The breather valve is fitted with a wire mesh filter to prevent the ingress of dust particles inside cylinders. Maintenance Manual of M/s Knorr recommends change of wire mesh filters during every ROH and POH. Maintenance Manual is available at following location on RDSO website.

rdso.indianrailways.gov.in →Directorates→ Wagon Design→ Codes & Manuals

To prevent such incidences, it is advised to that these filters are 100% replaced during ROH and POH of BOXNHL wagons having Knorr make BMBS

20/8/18
(A.N. Siddiqui)
Director/Wagon/RDSO
For Director General Wagon

O/C

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भारत सरकार रेल मंत्रालय
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Government of India - Ministry of Railways
Research Designs & Standards Organisation
Lucknow – 226011
DID (0522) 2450115
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MW/APB/BMB/Knorr

Date: 02.08.17

M/s Knorr Bremse India Ltd.
51/4 km Stone, Vill. & PO Baghola,
Delhi Mathura Road (NH-2),
Palwal – 121102 (Haryana)

Sub: Theft of Brake cylinder piston stroke Indicators in BOXNHL wagons
Ref: (i) Your letter no. KBI/BMBS/AG dated 16.01.17
(ii) Your letter no. KBI/BMBS/AG dated 17.07.17

Reference above, vide your letter under reference (i) your proposal, to prevent the theft of Piston stroke indicator and Indicator housing has been approved by the competent authority. Now you can supply brake cylinders of bogie mounted brake system with changed material of Piston stroke indicator and Indicator housing as detailed below –

Component	Old Material	New Material
Piston Stroke Indicator	Aluminium	Stainless steel
Indicator Housing	Brass	Steel with Geomet Coating

Vide letter under reference (ii), revised page (page no. 40 of 82) of QAP (No. QAP/BMBS/02 Issue No.-04) for Bogie mounted brake system of freight stock, submitted by you were found in order and have been approved by this office. One copy of approved QAP page is enclosed here with.

Encls.- As above

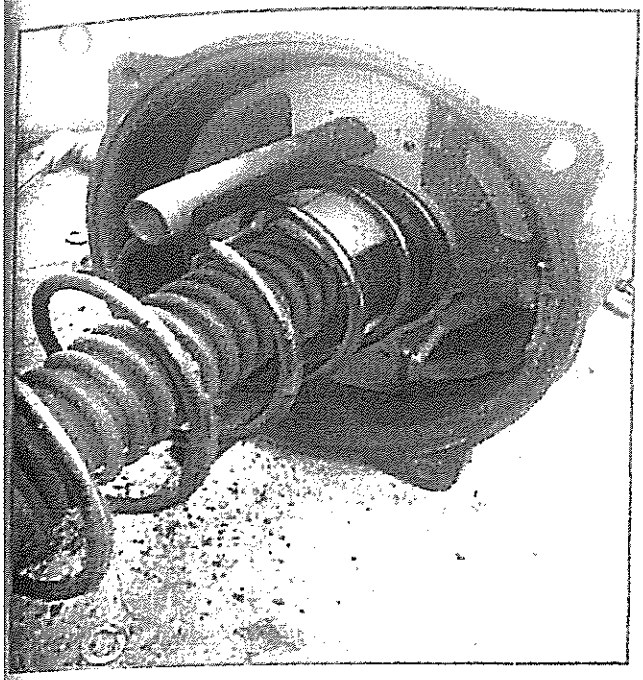
(A.N. Siddiqui)
Director/ Wagon
For Director General / Wagon

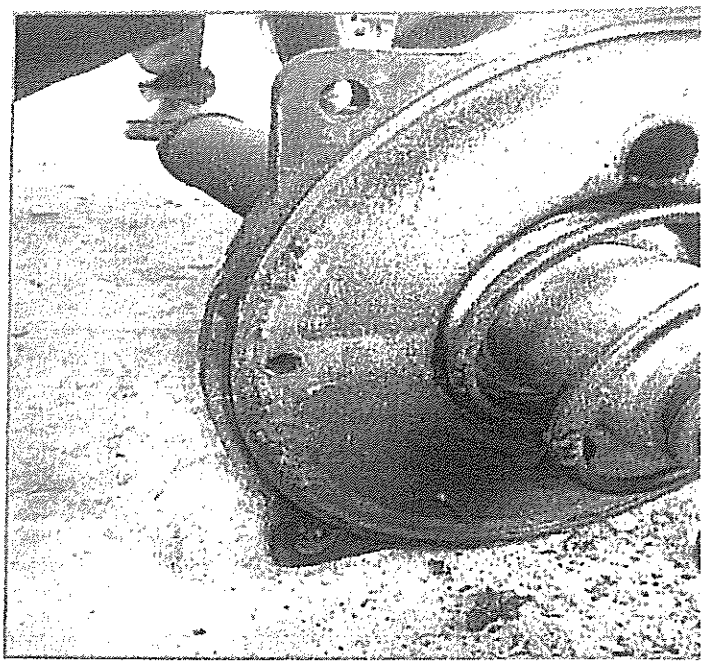
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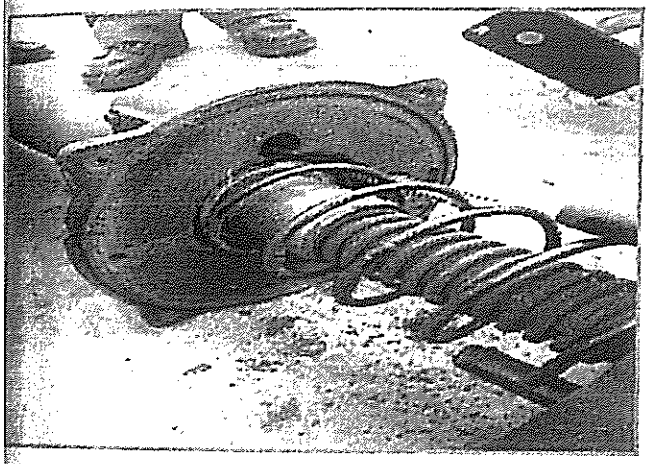
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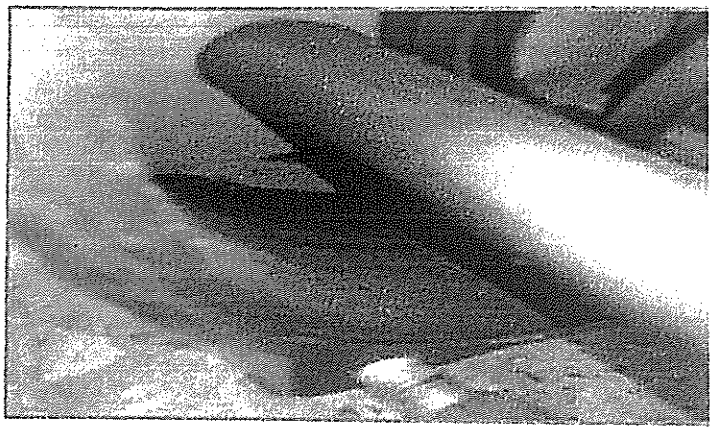
1) ED/QA(Mech.), RDSO, Lucknow
2) Director /I&L (Mech.), RDSO, IRCOT Complex, Behind Shanker Market, Shivaji Bridge, New Delhi – 110 001

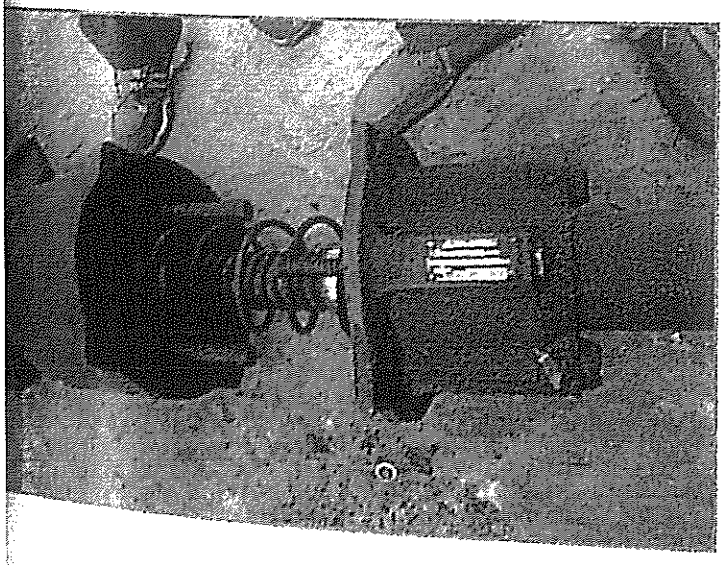
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DIRT DEPOSITED INSIDE BRAKE CYLINDER

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JOINT INSPECTION NOTE

Depot: NKJ Depot, WCR
Date: 06.01.2017
Ref: Poor brake power cases in BOXNHL MBS WAGONS at night in winter season reported by WCR NKJ Depot.

In reference to above a joint inspection of two BOXNHL MBS rakes was conducted in association with the representatives of RDSO, M/s knorr Bremse and NKJ Depot on 06 Jan. 2017. Approximately 26 BOXNHL wagons were checked in night between 1.00 Am to 4.00 AM in NKJ departure yard on 06.01.2017. During inspection BC pressure in all the wagons was checked and following observation were made.

s.no	wagon no.	wagon builder	built year	brake cyl make	no. of BC leak	remarks
1	SECR 22141222745	HEI	2012	knorr	01	Leakage from Breather
2	ECR 22101141017	HEI	2011	knorr	01	Leakage from Breather
3	05 wagons	-	-	Knorr	Nil	BC pressure 3.7 kg/cm^2 in empty condition
4	19 wagons	-	-	Knorr	Nil	BC pressure between 2.0-2.2kg/cm^2 In empty

BC Leakage of Wagon No. ECR 22101141017 was rectified on the spot by blocking 01 BC and sending full pressure to leaked BC through DV.
Wagon no SECR 22141222745 rechecked in departure yard in the morning at 15:40 Hrs on 06.01.2017 and no leakage was noticed in that BC. The same BC was removed from the wagon and opened, large amount of dust was noticed inside the cylinder (photograph enclosed).
Observations and other problems highlighted by depot staff:

- Leakage in Brake Cylinders may be due to dust entered through breathers & stiffened/worn rubber piston packing in winter season. As six years in service completed (Approx.) BC and APM needs proper overhauling/maintenance.
- BC pressure 3.7 kg/cm^2 in empty condition is due to improper APM clearance.
- BC piston stroke indicator found deficient/jam(Data enclosed).

In view of the above, M/s Knorr may be asked to examine above mentioned problems and come out with some corrective actions to sort out these problems.

06-1-17
Arvind Kumar
SSE C&W NKJ

06/01/17
B.N. Maurya
JE/Wagon Dte.
RDSO Lucknow

6/01/17
Pardeep sharma
D.M-KBI

06.01.17
V.K. Chouksey
D.M- KBI

1.1.17

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