

भारतीय रेल
डीजल रेल इंजन कारखाना
वाराणसी-221004



कार्यालय:
उप मुख्य यांत्रिक इंजीनियर/अति.पुर्जा
दूरभाष रेलवे: 42602
टेलिफैक्स : 0542-2270224

स.SP/M/HHP BIM 2017-18/agenda

दिनांक : 23.10.2015

CMPE/Dsl
All Indian Railways
ED(MP)/RDSO

विषय: Agenda for HHP Bulk Indent Meeting (BIM)2017-18.

Agenda for HHP BIM meeting scheduled to be held at DLW on 20th & 21st Nov.2015 is uploaded on DLW website.

DLW Website → Diesel Portal → HHP BIM SPARES → Agenda for HHP BIM 2017-18


Dy.Chief Mech. Engineer/Spares

प्रतिलिपि : EDME/Traction/Rly.Bd,

Agenda for HHP Bulk Indent Meeting (BIM) 2017-18.

Please note down the agenda for HHP Bulk Indent Meeting (BIM) 2017-18.

Spares Supply Related Agenda

1. Submission of Indents of BIM items & additional 133 Imp items
2. Supply performance of HHP BIM items & RSP items.
3. Supply performance of tooling items.
4. Supply of Initial Spares.
5. Non acceptance of debits against material supplied in assistance.

Warranty Related Agenda

1. Status of pending warranty claims
2. Action taken for settlement of above warranty claims.
3. Problem faced in expeditions disposal of warranty claims and cases for which cost has been deducted.

**DIESEL LOCOMOTIVE WORKS
VARANASI**

No. dlw.m.36.4g

Date: 20.10.2015

**CME/M
DLW**

Sub: Technical agenda for HHP BIM to be held on 20th and 21st Nov 2015

1. Performance of GE make Power Assemblies in terms of LOC & LOFR:

DLW has fitted GE make Power Assemblies on following 10 locomotives.

SN	Road No.	Shed /Rly.	Dt of Dispatch	Remark
1	70069	Pune/CR	16/12/2014	Fitted with low lube oil piston rings
2	70345	SBI/WR	16/12/2014	
3	40210	JMP/ER	16/01/2015	---
4	40213	Pune/CR	27/01/2015	---
5	40219	BGKT/NWR	30/03/2015	---
6	Spare	UBL/SWR	11/12/2014	---
7	40212	Pune/CR	15/01/2015	---
8	70349	IZN/NER	27/01/2015	---
9	70348	NKJ/WCR	24/01/2015	---
10	40214	VSKP/ECOR	27/01/2015	---

As stated above, out of 10 sets, 02 loco sets are fitted with low lube oil piston rings. Besides field performance of these power assemblies, LOC & LOFR should also required to be monitored. ZRs are requested to provide the comprehensive data of LOC & LOFR of these locomotives.

2. Performance of improved design piston rings of HHP Locos

A new ring pack design offered by EMD had been fitted to reduce lubricating oil consumption in HHP locomotives. The fitment of EMD supplied improved design piston ring is as under.

SN	Shed/ Rly	DOD/ DOC	Loco No.	Location	Last Data received
1	NKJ/ NCR	12.06.13	12824	All location power assly fitted with new design piston rings sets.	Feb'2015
2	ED / SR*	30.06.13*	12808		Oct'2013
3	SGUJ/ NFR	07.07.13	12812		Feb'2014
4	IZN/ NER	27.07.13	40132		June'2015
5	KJM/ SWR	24.09.13	20019		June'2015
6	IZN/ NER	20.10.13	40154		Mar'2015

7	SBI/WR RTM	09.06.14	40177		Not received
8	SBI/WR RTM	21.05.14	40176		Not received
9	BGKT/ NWR	12.08.13	12835	Fork side fitted with new design piston rings sets & Blade side fitted with existing piston rings sets.	Nov'2014
10	BGKT/ NWR	23.08.13	12839		Oct'2014
11	BGKT/ NWR	23.08.13	12841		Dec'2014
12	ET/ WCR	09.10.13	40168		Not received
13	UBL/ SWR	03.11.13	12073		Oct'2014
14	TKD/ NR	10.12.13	40010		Not received

* Loco transferred from GOC on 22.10.2013.

Above data shows that, many Diesel sheds are not sending the comprehensive data of LOC/LOFR regularly.

ZRs are requested to provide the same as per RDSO's trial scheme No.MP.TP-49, March-2013.

3. Performance of EMD make Cylinder Liner of serial no. 13A 0001 onwards:

Field failure of HHP cylinder liners was a matter of big concern since long. After taking of corrective actions, EMD has started supply of liners of serial no. 13A 0001 onwards are with improved quality. DLW had already requested to Zonal Railways to monitor field performance of improved lot liners. Till date 22 failures have been reported.

ZRs are requested to comment on it and provide comprehensive feedback.

4. Field Failures of Expansion Joints:

Presently DLW is procuring Expansion Joints (10" & 14") from M/s EMD (Part-I source), M/s V-Flex/Vadodara and M/s Vikrant/Kolkata (both Part-II source). Failure of both of the Expansion Joints is an agenda item in BIM since more than 05 years. Due to high failure rate of Expansion Joints supplied by indigenous vendors, DLW had switchover to import only from 2010 to 2013. Further, M/s V-Flex/Vadodara and M/s Vikrant/Kolkata are enlisted in approved vendor list on their supply/performance credential to improve supply chain.

To monitor the performance, DLW has requested vide letter no. dlw.m.65.57G dated 14.08.2015 to UBL, KJM, GY, SGUJ, SBI, ET, TKD, BGKT, IZN, NKJ, UDL, VSKP, AMV, Pune, Raipur, BNDM and PTRU Diesel Sheds for failure data of Expansion Joints for last 02 years in the following format.

SN	Loco No.	Dt. of fitment	Date of failure	Life in months	Reason of failure	Make

Till date only Gooty Diesel shed has responded.

ZRs are requested to provide comprehensive failure data of both Expansion joints (10" & 14").

5. Radiator Fan Contactors used in HHP Locomotives:

- a. Initially, 3 type of contactors were used in ECC-3 for making slow and fast speed of radiator fan, which details are as under:

S N	Description	PL. Nos
1	Contactora AC-3 Pole-325 Amp	18140038
2	Contactora AC-2 Pole-150 Amp	18140040
3	Contactora AC-3 Pole-150 Amp	18140051

- b. Due to implementation of 54" Radiator Fan in HHP locomotives, failures of above 150 Amps AC-2 Pole & AC-3 Pole contactors increased, RDSO has issued IB no.MP.MOD.EM.03.04.11 dated 26.04.2011 to implement higher rating contactor i.e. 250 Amp in place of above 150 Amp Contactors.
- c. Accordingly, DLW has revised ECC#3 drawings/spec to procure higher current rating contactors. Now ECC3 is being procured with higher current rating contactor with following parts nos:

SN	Description	DLW Part No.
1	AC Contactora 3P 250 Amp	18140117
2	AC Contactora 2P 250 Amp	18140130

Higher current rating contactors have been fitted in DLW manufactured locomotive since April'2013 and has been dispatched to Zonal Railways.

In this regard, it is to mention that with above implementation, Siemens are supplying Schaltbau make 250 Amps where as Medha & EMD is supplying 325 Amps cutler hammer make in ECC-3. Failures of Schaltbau make 250 A & Eaton make 325 A contactora supplied by Siemens has been reported from SBI, GOC, IZN, PA, GY & BGKT/shed. The matter has been referred to RDSO for taking necessary action.

Further, a delay of 2 seconds between switching on/off (slow to fast and fast to slow) moment of Contactora has implemented with all three suppliers i.e. M/s EMD, Siemens & Medha.

Zonal Railways are requested to give their feedback on above implementation. Zonal Railways to share their experiences on failures type i.e contact tip flashing, coil burning, contact tip welding etc.

6. Computer Cards/Modules

- a. Computer modules are vital parts of LCC and they bear responsibility for smooth operation of locomotives. Presently there are three AC-AC Traction System supplier i.e. M/s EMD, M/s Siemens and M/s Medha. Till date more than 1500 HHP Locos with three systems are running in field.

- b. Zonal Railways has reported failures of CPM, PRG, DIO, PSM, ADA & Interface Module (used in EMD system).
- c. The reported issues are communication link failures, no out-put in cards, premature failures, warranty pending and less average life of cards.

The failure reported by zonal Railways in year 2015-16:

EMD	Siemens	Medha
27	4	4

Zonal Railways are requested to share their views on performance of EMD modules with nature of failures and average life of computer cards /modules.

7. Failure of Rectifier diode fitted in HHP locomotive Traction Alternator:

Large numbers of failures of Rectifier diodes of traction alternators are being reported by Zonal Railways. But location of the diodes failed are not being reported which is important for failure analysis. EMD has provided their format for diode failures reporting to RDSO on 24.07.15 and same is already circulated to Zonal Railways by RDSO.

Zonal Railways are requested to kindly provide the diode failure cases in given format.

8. HVAC Performance monitoring:

DLW has turned out 121 HHP locomotives fitted with HVAC units. A total of 193 HVAC units have been fitted by DLW till Sep'2015. The locos have been dispatched to various diesel sheds. The population of HVAC units in service on HHP locos is going to increase rapidly in future.

Presently, DLW is nodal agency for performance monitoring of HVACs. Performances of HVAC are not provided by Zonal Railways on time and DLW depends on the telephonic call to sheds supervisors for collecting performance.

Since the population of HVAC units in service is going to increase rapidly, it is proposed that sheds to provide performance feedback to Railway board directly with a copy to DLW for having record of field performance.

- 9. AMC of HVAC units:** As decided in last BIM, DLW prepared AMC specification and same was included in the purchase specification of HVAC for ensuring AMC in purchase order. But, due to higher cost of AMC, DLW decided to purchase HVAC without AMC and float tender for AMC separately. Now, tendering process for AMC of HVAC has already initiated by DLW for 1535 HVACs.

10. Overhaul of AC traction motors: As decided during last BIM, DLW has initiated rate contract for Over Hauling of AC Traction motors, but as the rate of new traction motor has now drastically reduced and considering the finance observation on the issue, the same will be re-initiated after getting clarification of following finance observations:

- a. Technical vetting of specification prepared for over hauling of Traction motor by RDSO since same is RDSO controlled item.
- b. Concurrences of Finance Director of Railway Board for incurring expenditure on this work.
- c. Confirmation from Zonal Railways regarding centralized tender by DLW as ZRs are already empower to take decision on their own as there is much emphasis is being given on decentralization of power by Railway Board.
- d. Fresh Budgetary quotation has been asked from M/s Siemens as the rate of new TM has drastically reduced in recent tender, there may be a corresponding impact on the rate of overhauling.

11. Performance of Improved Indigenous Thrust pad

As per RDSO report No. MP.INV-53 Rev-00 dated June-2012 quality of Pad ASM Lateral Thrust of EMD locomotives of Indigenous make is not yet established. Indigenous manufacturers are M/s Basant/ Rubber/CSTM, M/s Prag Industries/LKO, M/s Manisha /CSTM & M/s GMT/Banglore.

As per BIM 2016-17 record notes-

Zonal Railways emphasized that RDSO should clearly define boundary condition with regard to usage of bogie suspension items like imported thrust pad , indigenous spring coil springs , side bearer pads (secondary rubber springs) etc to maintain maximum speed potential of passenger HHP locomotives. It was pointed out by CMPE(D)/NWR that M/s Lord is not quoting in their tenders issued for procurement of lateral thrust pad. DLW was advised to assist Zonal Railways in this regard. It was decided that

- (a) RDSO will issue a document clearly defining the boundary conditions with regards to use of lateral thrust pads, coil springs , secondary rubber springs etc.
- (b) DLW will arrange to fit 20 loco sets each of indigenous thrust pads on WDP4D series locomotives.

DLW has prepared a separate drawing for Pad ASM Lateral Thrust to part no. 17022708 to be used on freight services & further procurement is being done for freight services.

DLW has fitted Prag & GMT make Thrust Pad on WDP4D locomotives. Fitment details have been furnished to RDSO & Zonal Railways for performance feedback. Details of fitment is as under-

Fitment details of M/s Prag/LKO make Thrust pad

Sl. No.	Loco	Loco. No.	Road No.	Railway	Shed	Date of Dispatch	M/s Prag
1	WDP4B	173	40080	NR	TKD	30.01.2014	Prag-1
2	WDP4B	174	40081	NR	TKD	06.02.2014	Prag-2
3	WDP4D	266	40173	WCR	ET	19.03.2014	Prag-3
4	WDP4D	268	40175	SR	GOC	04.04.2014	Prag- 4
5	WDP4D	277	40184	NWR	BGKT	13.08.2014	Prag- 5
6	WDP4D	271	40178	WR	SBI	16.08.2014	Prag- 6
7	WDP4D	280	40187	NFR	SGUJ	21.08.2014	Prag- 7
8	WDP4D	282	40189	NFR	SGUJ	15.09.2014	Prag (Front)
9	WDP4D	283	40190	WCR	ET	04.10.2014	Prag 8
10	WDP4D	285	40192	SCR	KZJ	04.10.2014	Prag 9
11	WDP4D	287	40194	WCR	ET	09.10.2014	Prag. (Front)
12	WDP4D	288	40195	WCR	ET	09.10.2014	Prag 10
13	WDP4D	292	40199	SR	ED	14.10.2014	Prag 11
14	WDP4D	289	40196	NCR	JHS	20.10.2014	Prag 12
15	WDP4D	290	40197	SR	ED	22.10.2014	Prag 13
16	WDP4D	291	40198	SR	ED	22.10.2014	Prag 14
17	WDP4D	293	40200	NR	TKD	17.11.2014	Prag 15
18	WDP4D	294	40201	NR	TKD	18.11.2014	Prag 16
19	WDP4D	295	40202	SCR	GY	18.11.2014	Prag – (Front
20	WDP4D	297	40204	SCR	GY	23.12.2014	Prag - Front
21	WDP4D	314	40221	SCR	GY	16.03.2015	Prag - Front
22	WDP4D	321	40228	SWR	KJM	18.03.2015	Prag-17
23	WDP4D	322	40229	SCR	GY	02.04.2015	Prag 18
24	WDP4D	320	40227	WCR	ET	07.05.2015	Prag-19

Fitment details of M/s GMT/Banglore make Thrust pad

1	WDP4B	176	40083	NR	TKD	17.02.2014	GMT -1
2	WDP4D	264	40171	SR	GOC	27.02.2014	GMT 2
3	WDP4D	262	40169	NER	IZN	28.02.2014	GMT 3
4	WDP4D	263	40170	NER	IZN	28.02.2014	GMT4
5	WDP4D	265	40172	SR	GOC	08.03.2014	GMT 5
6	WDP4B	177	40084	NWR	BGKT	14.03.2014	GMT 6
7	WDP4B	178	40085	NWR	BGKT	14.03.2014	GMT 7
8	WDP4D	267	40174	SR	GOC	26.03.2014	GMT 8
9	WDP4D	272	40179	WR	SBI	21.06.2014	GMT 9
10	WDP4D	273	40180	SR	GOC	21.06.2014	GMT 10
11	WDP4D	281	40188	SCR	GY	12.08.2014	GMT 11
12	WDP4D	278	40185	NWR	BGKT	13.08.2014	GMT 12
13	WDP4D	279	40186	SCR	GY	21.08.2014	GMT 13
14	WDP4D	276	40183	WR	SBI	21.08.2014	GMT 14
15	WDP4D	275	40182	WR	SBI	27.08.2014	GMT 15
16	WDP4D	282	40189	NFR	SGUJ	15.09.2014	GMT Rear
17	WDP4D	284	40191	SCR	KZJ	26.09.2014	GMT 16
18	WDP4D	286	40193	WCR	ET	29.09.2014	GMT 17
19	WDP4D	287	40194	WCR	ET	09.10.2014	GMT- Rear
20	WDP4D	324	40231	ECR	PTRU	22.04.2015	GMT-18

Railways are advised to bring the latest performance to take a call on indigenization.

12. Performance of Indigenous Coil springs

RSK/ Sithauli /Gwalior has developed & supplied Spring single coil for HHP locomotives. Which have been fitted on 5 WDG4D locomotives (both bogies in 3 locomotives & one bogie each in 2 locomotives), 64 WDG4 locomotives (17 locomotives with one bogie & 47 locomotives with both the bogies) & 15 WDP4B/WDP4D locomotives (13 locomotives with both the bogies & 02 locomotives with one bogie). No failure has been reported so far.

Other source i.e. B.P. Springs has also supplied WDG4/WDP4 series locomotive springs to DLW. 05 WDG4 & 3 WDP4D locomotives have been fitted with BP spring make spring.

Fitment details of RSK make spring is at annexure-I & BPS make spring is at annexure-II.

Considering the importance of this item, Railways are advised to provide the performance feed back of these springs.

13. Performance of T M Air Duct

- During HHP BIM 2011 held at DLW, it was decided to induct 15% of the total DLW requirement with the leather bellows design.
- As per BIM 2013-14, a new part no. 17022460 was introduced for T M Air Duct ASM (Leather bellow).
- CME/DLW has approved to enhance the quantity of T M Air Duct ASM (Leather bellow) to DLW part no. 17022460 from 15% to 50% for further procurement.
- DLW has placed P.O. during current procurement cycle 2015-16 for T M Air Duct ASM with Leather bellow to DLW part no. 17022460 for HHP locomotives.
- During the year 2014, a total of 61 HHP locomotives have been fitted with T M Air Duct ASM with Leather bellow to DLW part no. 17022460.
- DLW has started fitment of leather bellow since Jan'2011. A total of 05 nos. failures (spring broken) have been reported so far by Zonal Railways
- As this item is having only one DLW approved source, a developmental tender is also in process for 120 nos.

Fitment details of TM Air duct (leather) AS leather make is at annexure-III

Considering the importance of this item, Railways are advised to provide the performance feedback of T M Air Duct ASM with Leather bellow to part no. 17022460 & T M Air Duct ASM with Rubber bellow to part no. 17031904.

14. Failures of Bogie Frames of HHP locomotives

A total of 55 nos. failures have been reported till date by Zonal Railways. Out of these 55 failed bogie frames, 50 are of M/s Ved make & 4 are of M/s Simplex & 01 no of M/s ECBT noticed in the WDP4D locomotives & in the middle axle area near to damper bracket of bogie frame.

A meeting was held in AM (ME)'s chambers at Railway Board on 30th June 2014. Following line of actions was decided during the meeting-

- RDSO will issue a Mod sheet for strengthening of HTSC fab-II bogie frame for HHP locomotives.
- For repairing of fab-II bogie frames, the sheds should follow repair procedure circulated by RDSO.
- DLW will provide spare fab-II strengthened bogie frames (around 25 bogie frames) to affected sheds for replacement
- Production of WDP4D locomotives with strengthened fab-II bogie frames should continued. Meanwhile, RDSO should design a new improved fabricated bogie frame design in 4 month.

RDSO vide their letter no.SV.WDG4D dated 10.07.2014 has issued following instructions-

- RDSO has issued Mod sheet no. MP.MOD.VL-04.09.14 dated 07.07.14 on modification for strengthening of HTSC fab-II bogie frame for HHP locomotives.
- Repair of cracked bogies will be carried out by concerned manufacturer, including provision of gusset plates as per RDSO Mod sheet no. MP.MOD.VL-04.09.14 dated 07.07.14.
- Modification to the good HTSC fab-II bogie frame in service shall be undertaken by the sheds.
- DLW has started strengthening of Fab-II bogie frames as per Mod sheet no. MP.MOD.VL-04.09.14 dated 07.07.14. A total of 29 nos. Fab-II bogie frames have already been strengthened at DLW till 02.08.2014.

Compliance of instructions-

- A total of 99 bogie frames have been strengthened at DLW.
- A total of 97 sets of strengthening plates have been supplied to Zonal Railways for strengthening of Fab-II bogie frames.
- Modified drawings have been issued by RDSO in Jan-2015.
- Accordingly DLW has revised the drawing & P.Os. have been placed on M/s Ved/CNB, M/s Simplex/Bhilai & BEC/Bhilai in May/June-2015 with new drawings.
- QAP of M/s Simplex (for revised design) has been approved by RDSO & firm has started supply (04 nos. in Sept'15) as per revised drawing.
- QAP of M/s BEC/Bhilai has also been approved by RDSO in Sept'2015.
- QAP of M/s Ved/CNB has also been approved by RDSO in this month i.e. Oct'2015.

Recently DrDME(D) /NKJ have reported the **cracks of casted bogie frame** in BEC Make casted bogie. The cracks observed in Loco no. 70106, 70122,70135, 70134, 70136 & 70390 locomotive.

Zonal railways may like to discuss.

Dy CDE/Veh-II

Annexure-I

Fitment details of RSK/Gwalior make spring

S.N	Loco Type	Loco No	Railway	Shed	Dispatch Date	Qty
1	WDG4	12851	SCR	KZJ	12.09.2013	24
2	WDG4	12891	ER	UDL	11.10.2013	24
3	WDG4	12892	NR	AMV	21.10.2013	24
4	WDG4	12865	ECR	PTRU	22.10.2013	24
5	WDG4	12866	ECR	PTRU	24.10.2013	24
6	WDG4	12893	ER	UDL	26.10.2013	24
7	WDG4	12894	NR	AMV	26.10.2013	24
8	WDG4	12868	SER	BNDM	28.10.2013	12
9	WDG4	12869	SER	BNDM	29.10.2013	24
10	WDP4D	40157	CR	PA	30.10.2013	24
11	WDP4D	40156	CR	PA	31.10.2013	24
12	WDG4	12895	ECoR	VSKP	05.11.2013	12
13	WDG4	12870	SR	GOC	11.11.2013	12
14	WDP4D	40159	WCR	ET	11.11.2013	24
15	WDG4	12897	ECR	PTRU	15.11.2013	24
16	WDG4	12872	SER	BNDM	15.11.2013	12
17	WDG4	12896	ECoR	VSKP	18.11.2013	12
18	WDP4D	40161	SECR	RYPS	18.11.2013	24
19	WDP4D	40158	CR	PA	18.11.2013	24
20	WDG4	12871	SR	GOC	22.11.2013	12
21	WDP4D	40162	SECR	RYPS	26.11.2013	24
22	WDP4D	40163	WCR	ET	29.11.2013	24
23	WDP4D	40167	WCR	ET	30.11.2013	24
24	WDP4D	40164	WCR	ET	30.11.2013	24
25	WDG4	12880	SCR	GY	02.12.2013	24
26	WDG4	12881	SCR	GY	02.12.2013	24
27	WDG4	12877	ECR	PTRU	09.12.2013	24
28	WDP4D	40165	CR	PUNE	11.12.2013	24
29	WDP4D	40166	WCR	ET	14.12.2013	24
30	WDG4	12911	SER	BNDM	14.12.2013	24
31	WDG4	12909	WR	SBI	18.12.2013	12
32	WDP4B	40079	NR	TKD	11.01.2014	24
33	WDP4B	40080	NR	TKD	30.01.2014	12
34	WDP4B	40081	NR	TKD	06.02.2014	12
35	WDG4	70057	WCR	NKJ	28.11.2014	12
36	WDG4	70058	WCR	NKJ	30.11.2014	12
37	WDG4	70059	WR	SBI	30.11.2014	24
38	WDG4	70061	WR	SBI	05.12.2014	24
39	WDG4	70060	WR	SBI	08.12.2014	24
40	WDG4	70062	CR	PA	08.12.2014	24
41	WDG4	70063	CR	PA	09.12.2014	24
42	WDG4	70071	CR	PA	15.12.2014	24
43	WDG4	70069	CR	PA	16.12.2014	24
44	WDG4D	70345	WR	SBI	16.12.2014	24
45	WDG4	70079	ECoR	VSKP	18.12.2014	24
46	WDG4	70081	ECoR	VSKP	22.12.2014	24
47	WDG4	70082	SER	BNDM	26.12.2014	24

48	WDG4	70080	ECoR	VSKP	27.12.2014	24
49	WDG4	70089	SER	BNDM	27.12.2014	12
50	WDG4	70083	SER	BNDM	02.01.2015	24
51	WDG4	70090	ER	UDL	07.01.2015	24
52	WDG4	70091	ER	UDL	21.01.2015	24
53	WDG4D	70348	WCR	NKJ	24.01.2015	24
54	WDG4	70067	ER	UDL	10.02.2015	24
55	WDG4	70068	ER	UDL	11.02.2015	12
56	WDG4	70072	SWR	UBL	18.02.2015	24
57	WDG4	70074	SWR	UBL	23.02.2015	12
58	WDG4	70076	ER	UDL	23.02.2015	12
59	WDG4	70077	ER	UDL	25.02.2015	24
60	WDG4	70073	SWR	UBL	28.02.2015	12
61	WDG4	70078	ER	UDL	28.02.2015	24
62	WDG4	70084	ER	UDL	28.02.2015	12
63	WDG4	70085	ECR	PTRU	01.03.2015	24
64	WDG4	70086	ECR	PTRU	11.03.2015	24
65	WDG4	70087	NFR	SGUJ	11.03.2015	24
66	WDG4	70088	NFR	SGUJ	12.03.2015	12
67	WDG4	70092	NFR	SGUJ	13.03.2015	24
68	WDG4	70096	ER	UDL	17.03.2015	24
69	WDG4	70097	ER	UDL	17.03.2015	24
70	WDG4	70093	NFR	SGUJ	20.03.2015	24
71	WDP4D	40223	SECR	Raipur	20.03.2015	24
72	WDG4	70098	ER	UDL	22.03.2015	24
73	WDG4	70099	ER	UDL	23.03.2015	24
74	WDG4	70094	SER	BNDM	28.03.2015	24
75	WDG4D	70356	SWR	UBL	10.04.2015	24
76	WDG4	70110	SCR	KZJ	22.04.2015	24
77	WDG4	70111	SCR	KZJ	25.04.2015	24
78	WDG4	70113	ER	UDL	26.04.2015	24
79	WDG4	70116	SECR	Raipur	28.04.2015	24
80	WDG4	70117	SECR	Raipur	01.05.2015	24
81	WDG4	70118	SECR	Raipur	02.05.2015	24
82	WDG4	70115	ER	UDL	07.05.2015	12
83	WDG4D	70373	NER	IZN	15.06.2015	12
84	WDG4D	70372	NER	IZN	18.06.2015	12

Annexure-II

Fitment details of BP spring make spring

S.N	Loco Type	Loco No	Railway	Shed	Dispatch Date	Qty
1	WDG4	70021	ECR	PTRU	29.08.2014	24
2	WDG4	70036	SR	GOC	24.09.2014	24
3	WDG4	70095	SER	BNDM	15.03.2015	24
4	WDG4	70065	ECoR	VSKP	30.01.2015	12
5	WDG4	70052	ECoR	VSKP	19.11.2014	12
6	WDP4D	40184	NWR	BGKT	13.08.2014	24
7	WDP4D	40178	WR	SBI	16.08.2014	12
8	WDP4D	40183	WR	SBI	21.08.2014	24

Annexure-III

Fitment details of TM Air duct (leather) AS leather make

SN	Loco Type	Loco No	Railway	Shed	Dispatch Date
1	WDG4	12599	CR	PA	28.06.2012
2	WDG4	12622	NWR	BGKT	30.06.2012
3	WDG4	12623	SCR	GY	05.07.2012
4	WDG4	12627	NWR	BGKT	29.07.2012
5	WDG4	12629	SCR	GY	30.07.2012
6	WDG4	12634	SCR	GY	13.08.2012
7	WDG4	12635	SCR	GY	13.08.2012
8	WDG4	12547	SCR	GY	14.08.2012
9	WDG4	12637	SWR	UBL	18.08.2012
10	WDG4	12645	SECR	RYPs	24.08.2012
11	WDP4D	40090	NFR	SGUJ	28.08.2012
12	WDG4	12650	SR	GOC	30.08.2012
13	WDP4D	40091	NFR	SGUJ	30.08.2012
14	WDG4	12653	WR	SBI	05.09.2012
15	WDG4	12657	NER	IZN	06.09.2012
16	WDG4	12548	SCR	GY	07.09.2012
17	WDG4	12652	SR	GOC	10.09.2012
18	WDG4	12661	NWR	BGKT	10.09.2012
19	WDG4	12658	WR	SBI	12.09.2012
20	WDG4	12664	SECR	RYPs	12.09.2012
21	WDG4	12655	WR	SBI	14.09.2012
22	WDG4	12666	NFR	SGUJ	15.09.2012
23	WDG4	12659	WR	SBI	20.09.2012
24	WDG4	12933	SER	BNDM	15.01.2014
25	WDG4	12927	NWR	BGKT	16.01.2014
26	WDG4	12918	ECR	PTRU	16.01.2014
27	WDG4	12919	ECR	PTRU	18.01.2014
28	WDG4	12915	SCR	KZJ	20.01.2014
29	WDG4	12916	WR	SBI	20.01.2014
30	WDG4	12907	SCR	BNDM	21.01.2014
31	WDG4	12935	ER	UDL	21.01.2014
32	WDG4	12934	NFR	SGUJ	23.01.2014
33	WDG4	12920	SER	BNDM	23.01.2014
34	WDG4	12921	NWR	BGKT	27.01.2014
35	WDG4	12948	WCR	NKJ	27.01.2014
36	WDG4	12936	ER	UDL	29.01.2014
37	WDG4	12922	ECR	PTRU	29.01.2014
38	WDG4	12937	ER	UDL	30.01.2014
39	WDP4B	40082	NR	TKD	06.02.2014
40	WDG4	12941	ECR	PTRU	09.02.2014
41	WDG4	12951	SCR	GY	12.02.2014
42	WDP4B	40083	NR	TKD	17.02.2014
43	WDP4B	40084	NWR	BGKT	14.03.2014

44	WDP4B	40085	NWR	BGKT	14.03.2014
45	WDG4D	70324	CR	PA	22.06.2014
46	WDG4	12975	SECR	Raipur	23.06.2014
47	WDG4	12976	SECR	Raipur	23.06.2014
48	WDG4	12973	NCR	JHS	30.06.2014
49	WDG4	12974	NCR	JHS	30.06.2014
50	WDG4	12989	ECoR	VSKP	30.06.2014
51	WDG4	12988	CR	PA	30.06.2014
52	WDG4	12990	ECoR	VSKP	07.07.2014
53	WDG4	12991	ECoR	VSKP	07.07.2014
54	WDG4	12992	NCR	JHS	08.07.2014
55	WDG4	70001	SECR	Raipur	15.07.2014
56	WDG4	70002	SECR	Raipur	15.07.2014
57	WDG4	70003	SECR	Raipur	24.07.2014
58	WDG4	70004	NCR	JHS	24.07.2014
59	WDG4	70005	NCR	JHS	25.07.2014
60	WDG4	70025	CR	PA	26.07.2014
61	WDG4	70024	NER	IZN	28.07.2014
62	WDG4	70030	CR	PA	31.07.2014
63	WDG4	70007	ECR	PTRU	31.07.2014
64	WDG4	70027	ECR	PTRU	31.07.2014
65	WDG4D	70323	CR	PA	11.08.2014
66	WDP4D	40186	SCR	GY	21.08.2014
67	WDP4D	40183	WR	SBI	21.08.2014
68	WDG4	70031	NCR	JHS	21.08.2014
69	WDG4	70020	ECR	PTRU	22.08.2014
70	WDG4	70032	NWR	ABR	27.08.2014
71	WDG4D	70327	CR	PA	27.08.2014
72	WDG4	70029	CR	PA	30.08.2014
73	WDG4	70045	NWR	ABR	04.09.2014
74	WDG4D	70329	NR	AMV	06.09.2014
75	WDG4	70044	NWR	ABR	11.09.2014
76	WDP4D	40189	NFR	SGUJ	15.09.2014
77	WDG4	70052	ECoR	VSKP	19.11.2014
78	WDG4	70053	CR	PA	26.11.2014
79	WDG4	70061	WR	SBI	05.12.2014
80	WDG4	70060	WR	SBI	08.12.2014
81	WDG4	70062	CR	PA	08.12.2014
82	WDG4D	70343	NR	AMV	09.12.2014
83	WDG4	70063	CR	PA	09.12.2014
84	WDG4	70069	CR	PA	16.12.2014
85	WDG4	70091	ER	UDL	21.01.2015