GOVERNMENT OF INDIA
MINISTRY OF RAILWAYS
(RAILWAY BOARD)

No. 2015/M(L)/466/1 (4) 'A'

New Delhi, 25.10.2016

Chief Administrative Officer (R),
Diesel Modernisation works,
Patiala.

Executive Director Standards (MP),
RDSO, Manak Nagar,
Lucknow.

Chief Electrical Engineers,
All Indian Zonal Railways.

Sub: Minutes of meeting of 'Customer Interaction Meet' held on 05.10.2016 at DMW, Patiala.

A meeting was held on 05.10.2016 at DMW/PTA to discuss quality issues of re-built locos and supply related issues. Minutes of the meeting is enclosed herewith.

All concerned are advised to take necessary action accordingly.

DA: As above (15 pages).

25.10.16

(Vivek Kumar)
Exe. Dir. Mech. Engg. (Tr.)
Railway Board

भारत सरकार
GOVERNMENT OF INDIA
रेल मंत्रालय
MINISTRY OF RAILWAYS
डीज़ल रेल इंजन आधुनिकीकरण
कारखाना
DIESEL LOCO MODERNISATION WORKS

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पटियाला 147003 भारत
PATIALA - 147 003, INDIA

No. : DMW/Dy. CME/Plg./Customer Meet/48 Dated : 19.10.16

EDME/Traction
Railway Board,
New Delhi.

Sub: - Customer interaction meeting held at DMW on 5th Oct. 2016

Reference to above subject matter, minutes of the meeting of Customer Meet held at DMW Patiala on 05.10.2016, are enclosed herewith for kind information of Board.

DA :- As above.

(Satish Kumar)
CPLE

D.M.W.

Minutes of 2nd Customer Meeting held at DMW on 5th Oct 2016

A Mid-year Customer Meet was held on 5.10.2016 in CAO/R conference hall at DMW/PTA to discuss quality issues of RB locos and Supply related issues. Sh. S.K Luthra, CAO/R chaired the meeting . Sh. Vivek Kumar, EDME/Traction, Railway Board, Sh. Bhushan Patil CME/C. Rly, officers of 08 Zonal Railways, Directors from RDSO and DMW officers attended the meeting.

Officers Present :

S.N	Name (Sh.)	Designation	S.N.	Name(Sh.)	Designation
1	S.K. Luthra	CAO/R	24	Devarshi Srivastva	ADME/DSL/GD/NER
2	Vivek Kumar	EDME/Traction	25	Devish Sharma	ADME/DSL/ET/WCR
3	Bhushan Patil	CME/ C.Rly.	27	Sulabh Bisht	ADME/DSL/NGC/NFR
4	Samarendra Kumar	CME	26	Gagandeep	Dy. CMgM/DMW
5	Bimal Routji	COS	28	Atul Arya	Secy. To CAO/R
6	C.L Bharti	CPO	29	R. S Bhatia	Dy. CME/R
7	Dawa Chhering	FA&CAO	30	Krishan Kumar	Dy. CME/Ph-II
8	Satish Kumar	CPLE	31	Avdesh Kumar	Dy. CME/Design
9	Ravi Kumar	CWE/R	32	G.S Khagta	Dy. CVO
10	S. K Bansal	CWE/P	33	Arvind Dutta	Dy. CME/Ph-I
11	Rajiv Kumar Vyas	CMM	34	R.L. Khullar	Dy. CME/Planning
12	P. Srinivasu	Director RDSO/EC	35	Manoj Kumar	Dy. CME/M
13	Vivek Bajpai	Director/RDSO/VDG	36	S. K. Babbar	Dy. CME/P
14	Vaibhav Sohane	Jt. Dir./RDSO/ES	37	J.S. Arora	Dy. CMM-III
15	Anurag Misra	Jt. Dir. /RDSO/LD	38	Harbans Singh	Dy. CMM/D-II
16	S.P Govil	Jt. Dir./RDSO/Brake	39	S.S. Yadav	Dy. CMM/D-I
17	Pankaj Saxsena	Dy. Dir./RDSO/EM	40	Vaneet Kumar	Dy. CMM-I
18	Shivender Singh	Sr. DME/DSL/AMV/NR	41	P.K. Arora	SMM-II
19	Onkar Saran Singh	Sr. DME/DSL/SPJ/ECR	42	R.S.Rawat	SMM-III
20	R.N. Bharadwaj	DME/DSL/VTA/WR	43	UC Srivastva	WM/Design
21	Pankaj Kumar	DME/DSL/PTRU/ECR	44	A.K Bhardwaj	WM/P&D
22	M.Ravikiran	DME/DSL/KZJ/SCR	45	C.S Chaudhary	WM/Spare
23	Tirlochan Arora	ADME/DSL/AMV/NR	46	V. K. Gupta	AWM/HMS

Address by CME/DMW

CME welcomed EDME/Traction and other officers from Board, RDSO and Zonal Railways. He mentioned that customer meet is useful for direct interaction of sheds with DMW and thereby knowing customer needs more closely. He assured sheds that DMW is committed to meet sheds expectations and continuous efforts will be taken to improve supply position as per their requirement.

Address by COS/DMW

COS mentioned that ZR should assess requirement correctly and send demand in time. He further assured that ZR requirement is dealt on priority and all efforts are made to meet demand.

Address by CAO(R)/DMW

CAO(R)/DMW warmly welcomed EDME/Traction and other officers from Board, RDSO and Zonal Railways. He stated that customer meet is excellent platform to to exchange views on the problems being faced by Zonal Railways related to

supply, quality, warranty and other technical aspects of ALCO locos. He further informed that customer meet in mid-year after BIM meeting in March helps to review the path and enables us to take corrective action in between. He mentioned that since last BIM which was held on 18th March 2016, DMW has placed PO for 500 nos. of APU, PO for CAB AC, PO for AMC of PTLOC, PO for AMC of MEP etc. DMW is committed to meet shed demand and is prepared to use all power at their disposal to ensure that ALCO diesel loco availability and reliability is improved.

Address by EDME (Traction)

EDME (Traction) stated that reliability of Locomotives is the biggest concern. We need to drastically improve reliability.

Sheds should take immediate action on this aspect in co-ordination with PUs.

APU utilisation needs to be monitored and improved. Drivers' training is to be improved so that fuel consumption can be reduced. EDME/Traction has expressed satisfaction on DMW quick response in meeting ZR demand e.g. PO for 500 nos. of APU, 500 nos. of compressors under RSP, 500 nos. of Cab Heaters, REMMLOT etc.

(145)

A. Quality Issues :

SN	Item	Action by
1	**[Item no. 8 of technical agenda – 4th BIM minutes]** Quality of camshaft gear and split gear is causing concern to ZRs and almost all sheds have raised this issue. Sr.DME/AMV has submitted earlier that there is sharp edge at the root of the gear teeth which is a stress raiser. This sharp edge is leading to premature failure of cam gear from root. CPLE/DMW agreed that the breakage of cam and split gear was a cause of concern ever since horse power was increased from 2600 HP to 3100 HP. Case carburised gears were to replace through hardened Cam and Split gear, but this change could not be implemented on IR so far due to various development hurdles. Failures of gears within 2-3 months, in some cases, need to addressed and improvement in existing process need to be done at the earliest. In this context DMW has taken following action after 4th BIM held on 18-03-2016 :- a) DLW team audited process of manufacturing of Cam Gear and Crankgear at DMW and they have found that DMW is using double start hob which may be cause of less protuberance. DMW has taken decision to switch over to DLW design single-start hob and henceforth Cam gear and Split gear at DMW will be made using single start hob. b) DMW has placed PO for 1200 nos. of cam gears on reputed private manufacturers *(Trina Gears, G.G.Auto, Shanti Gears)*. The supplies of these cam gears are expected from Dec,2016. The quality of cam gears from trade be monitored by DMW and ZRs. c) Case Carburised Cam Gear & Split Gear :- DMW has placed PO for 96 sets of cam and split gear forged blanks for case carburising. The final machining of these gears forging need to expedited and all 96 sets (*1 set is of 2 nos. of Cam Gear & one no. of Split Gear*) be manufactured during remaining period of 2016-17. The performance of these case carburised gears be closely monitored. As currently 96 sets will be available, DMW should fit in 50 locos and remaining 46 sets be given to sheds (where locos fitted with case carburised gears will be sent) as spare so that locos once fitted with case carburising gears do not have to wait for spare carburised cam gears. d) DLW team also observed that split gear process need to be modified as a. Shot blasting after grinding as against after hobbing b. Currently DMW is not dismantling split gear after hobbing and DLW team suggested that the two half of split gear be dismantled after hobbing and assembled	**DMW**

SN	Item	Action by
	therafter before bore grinding operation. This will enable stress release and will simulate actual fitting situation.	
2	The quality of rebuilt engine block is one of the major concern of sheds. There is problem of leakage and working out of R9/L9 cam bush. The average yearly complaints on rebuilt block (requiring rework or finally failed) is approx. 10%, which is very high. DMW has strengthened R9/L9 cam bush by providing extra support on cam bearing toward side sheet side. This is now done on all blocks leaving DMW. Special attention is also paid on weld leakages. The following need to done for improving block performance :-	**DMW**
	a) Technical Audit of weld repair from an external expert agency e.g. Weld Research Institute, Trichy be organized so that weld after repair does not fail.	**DMW**
	b) Technical Consultancy should also be looked into wherein expert welders across globe may be called to train welders for block repair. The consultancy should be from overseas agency engaged in ALCO block repair only.	**DMW**
	c) Strict quality control during rebuilt be ensured and blocks should be released after it meets quality requirement.	**DMW**
	d) As the leakages from cam block areas are more in Non-Retro blocks (*older version of blocks in which cam bearing was welded to outside sheet*), such blocks should be inspected more critically and should be taken for rebuild, only if it is in sound condition.	
	e) Replacement of older blocks by newer blocks should be expedited. There is a already RSP for 314 nos. of Engine Blocks and till date only 75 nos. Engine Blocks have been dispatched, although all Rebuilt Locos are leaving with new blocks since last 2½ years. DMW has following plan to liquidate this demand :-	
	▪ Tender for 314 nos. of Fully Finished Fabricated Blocks is under consideration at DMW. The supplies from this should be expedited.	**EDSMP**
	▪ DMW has to float tender for approx. 125 nos. of cast engine blocks. However, this is pending for finalisation of specification of cast block by RDSO. RDSO to expedite the same.	
	▪ Supply of balance Cast Blocks from existing order is delayed on account of inspection by RDSO. Processing of case for inspection team to visit China needs to be expedited.	**EDME/Traction /RDSO**
	f) Sr.DME/AMV has expressed need to get 4-5 engine blocks repaired by DMW/DLW welders. It was decided that team of DLW/DMW welders will be sent to AMV shed and blocks which can be repaired at shed level will be repaired.	**DMW/DLW**

SN	Item	Action by
3	**[Item no. 7 of technical agenda – 4th BIM minutes]** SUCS issues : ZRs have raised the issue of SUCS life, breakages and less lift. SUCS issues are as under :- ▪ FIP bottom broken and FIP support cross head spindle broken. ▪ SUCS stiffer cam flange radius is less than 1/16". ▪ Low hardness is found on SUCS cam lobe. Stiffer cam shaft lobes are damaged mostly in WDM 3D locos. The above issues were also discussed during last BIM and DMW has taken following action for addressing SUCS issues –	
	a) The breakages of SUCS was on account of less flange radius and as decided in last BIM, in first phase R8/L8 segment was to be changed to higher radius design. DMW has already manufactured high radius SUCS and now these are waiting for backspot facing for which DMW has placed contract. DMW assured that they will start fitting higher radius SUCS (R8/L8 Segment) in all RB Locos from 1st Nov,2016. In addition DMW has floated tender for 4000 nos. of SUCS (*2000 nos. of right hand and 2000 nos. of left hand)* and tender is due on 7-OCT-2016. These are expected by March,2017 and will be supplied to ZRs. ZRs should change existing lesser radius R8/L8 SUCS segment by higher radius SUCS.	**DMW/Sheds**
	b) VTA and RTM has pointed out that life of SUCS is coming about to 2 years. However, PTRU shed has told that they have very less failures of SUCS. It is suggested that good practices of sheds where failures are less be studied by ZRs for improving maintenance practices.	**Sheds**
	c) Sheds have also raised the issue of less lift of Cam Lobe in SUCS locos. DMW has already had interaction sessions with VSKP and KZJ sheds and based on input from these sheds, it was decided to advance cam gear teeth by 1 to 1.5 teeth so that correct lift is achieved. DMW has turned out 36 nos. of power pack with proper lift. A design bulletin no. DMW/Design Bulletin/2016/001 dated 08.07.2016 had also been issued.	**DMW/Sheds**
4	**Failure of CGL make Traction Motor:** Sheds have complained about failures of CGL make 4907 TMs. M/s CGL has analysed failure and summary of failures are as under –	**DMW**

Year	No. of Motors Manufactured	Failed Qty 14-15	Failed Qty 15-16	Failed Qty 16-17	Total Failed	% of failures
10-11	79	1	1	2	4	5.06
11-12	395	2	1	2	5	1.27
12-13	54	7	0	0	7	12.96
13-14	325	4	9	4	17	5.23

SN	Item	Action by

14-15	68	1	14	8	23	33.82
15-16	180	0	0	0	0	
16-17	200	0	0	0	0	

CGL has analysed failures and large no. of failures have been attributed to motors manufactured 12-13 and 13-14. The reason of failures is on account following reasons :-

a) Brazing failures resulting stresses in Brazing joint. Stresses are developed due to uneveness in the connecting terminal leads of the coils and following corrective action have been taken by firm :-
   - Gauges introduced to check position of connection leads
   - Stage inspection is cleared using these gauges
   - Checked again prior to mounting the pole
   - In addition high current injection test introduced to check soundness of brazing joints

b) Another reason of failure was on account of reduced clearance between Main Pole (MP) and Intermediate Pole (IP) coils after mounting, resulting in interpole failures. Following corrective action has been taken by CGL :-
   - MP and IP coils width being checked using gauges during stage inspection.
   - A minimum of 2 mm of clearance through out the axial length is being maintained between the IP and MP coils. This gap is being checked

c) Interpole loose on account of improper tapping depth of pole bricks. Following corrective action has been taken by CGL
   - 100% check of the pole brick tapping by tap gauges to verify the tapping depth instead of checking only depth check.
   - Disk lock washers introduced for MP and IP coil mounting

d) Grease oozing out due to uneven clearance between Bearing Cover and retaining collar and following corrective action has been taken by CGL :-
   - Method of dialing of bearing cover modified & 100% inspection introduced.
   - Fixture Modified for retaining collar & 100% inspection introduced.

DMW stressed that CGL should work out methodology so that possible defective motors out of lots having possible quality issue (12-13 – 54 nos., 13-14 -325 nos., 14-15 – 58 nos.) can be identified in the field. M/s CGL has agreed to workout possible solution. RDSC to coordinate on this issue.

5	Failure of Fuel tanks were reported by VTA diesel shed. These fuel tanks were of CRG make. DMW has already recovered warranty claims. DMW is now procuring fuel tank from DLW approved vendor.	**DMW**
6	VTA diesel shed has reported cases of improper buffer height in loco no.14878 WDG3A received from DMW on 15-JUN-2016. DMW has explained that recently there has been change over from equalizer less type design to equalizer type design bogie and due to difference in bottom plate thickness, buffer height variation is observed.	**DMW**

SN	Item	Action by
	The issue has now been addressed. It was also decided in meeting that DMW will sent their team to VTA and methodology will be finalised for correction of buffer height.	
7	Kazipet shed has reported that they have found hand brake chain excess in length in Re-built locos due to which hand brake application cannot be done easily. It was clarified that DMW is providing chain of 85 links as per RDSO drg no. SKDP 3947 as per IS2429. KZJ shed's SSE was explained about it and they were shown on the shop floor about correctness of chain being used in DMW during their visit last month. However, this issue be brought to logical conclusion by DMW and confirmation to be taken from KZJ.	**DMW**
8	KZJ shed mentioned that in fast coupling, cardium compound is being provided instead of Molykote grease as suggested by RDSO MP.IB.ES.07.48.09 dt 31-07-09. DMW clarified that DMW has discontinued use of Molykote wef 2013 as it oozes out quickly. The cardium compound remains for long. RDSO to examine this issue.	**EDSMP/RDSO**
9	KZJ shed mentioned that Loco guard is not being provided on Exhaust manifold. DMW clarified that DMW was providing exhaust manifold cladding on 75 % locos as few sheds like TKD remove cladding on first opportunity. Few sheds also complained that Exhaust manifold cladding is not maintenance friendly. EDME/Traction has directed that in view of fire instances, loco guard to be fitted in all locos. DMW is also procuring 810 sets of Exhaust Manifold under RSP for ZR, the same be expedited.	**DMW**
10	KZJ has mentioned that they have observed worn out knuckle in loco no. 14619. As this item is RDSO inspected. DMW should randomly check the quality of CBC coupler and the issue be reported to RDSO.	**DMW**
11	KZJ shed also mentioned that in loco no. 14575 Battery Ammeter showing fluctuating in higher notches due to Auxiliary Generator was defective. This was of M/s Daulatram (DRESPL).There has similar cases of auxiliary generator failures supplied by M/s Daulatram (DRESPL). RDSO should audit the firm for addressing the quality issues.	**DMW** **EDSMP/RDSO**
12	KZJ has also mentioned following issues ❑ The burrs left over after machining of upper sleeve / lower sleeve and cam eye are not cleaned. These burrs get into lube oil and chokes the filter. ❑ The anti corrosive red oxide used for painting engine blocks also finds its way into lube oil and chokes the filter. ❑ Provision of over size studs and bolts as spares for mounting of TA if the engine block holes are of oversize. ❑ Surface finishing of water outlet from engine block to cylinder	**DMW**

SN	Item	Action by
	head for removal of surface pitting. ❑ Provision of S pipes as spare with modified engine blocks (ST – 0.050") as these smaller length S pipes are not available with shed. DMW will immediately look into the above quality issue.	
13	RTM shed has reported following issues :- a) Compressor foundation strengthening work must be done by using excessive thickness of plate by POH shop. **DMW to take action on the issue.** **b)** New reclaimed block get cracked at different locations i.e. supporting plate, top plate near gallery, block top bore near cylinder head stud hole etc. **DMW to take action on this issue.** c) New modified extension shaft gear dowel hole is out, hole not matched. **DMW to take action on this issue.** d) Block bottom bore collar diameter is under size and reclaimed block's fuel gallery supporting holes from both the side are out. **DMW to take action on this issue.** e) KEPCO make 200/150 amp. Circuit breaker are purchased from DWM/PTA only. In recently received lot of 30 nos. circuit breakers , 20 nos. were having stuck up problem and open circuit problem. **Although this is not a RDSO item, in view of quality problem, RDSO to suggest good vendors for circuit breakers**.	**DMW** **DMW** **DMW** **EDSMP/RDSO**
14	Sheds have reported some Cylinder Liner Breakages. This issue was discussed during last BIM also. RDSO has issued detailed guidelines on the issue. DMW has raised issue of difficulty in investigation of liner failures. In a specific case of liner collar breakage of MLDT shed, the failed liner was sent to RDSO for testing. RDSO in their test report has confirmed conformance of material to specification and attributed failure to fitment issue. As liner failure cases after 2 years are also taking place, there is difficulty in investigation as after running for a long time the issue of fitment should is ruled out. RDSO and DMW should further investigate the issue.	**DMW** **RDSO/DMW**
15	Itarsi shed has complained of cylinder head failures. The cylinder head failures are largely failing from exhaust bridge, valve seat insert breakage and liner sleeve breakage. DMW has told that M/s Cooper is not accepting warranty failures and has advised DMW to call for joint inspection of cylinder head with inspecting agency (RITES) as mentioned in recent warranty procedure issued by Railway Board. EDME/Traction advised that this issue be brought into notice of Railway Board.	**DMW** **EDME/Traction**

SN	Item	Action by
16	Railways has also raised the issue of some defects observed in DMW overhauled motors. The major defect are on account of heavy flash over commutator, traction motor shifted on account of loose bolt , Inter Pole IR zero, axle lock, pinion slip cases. DMW has explained that they have taken action on these issue and these are under implementation for long time. However, as failures have been reported, DMW shall re-validate various instructions and find out gap in instruction and actual work and prepare a report.	**DMW**
17	PTRU shed has reported two cases of failure of TA, one TA is of BHEL and other is DMW overhauled TA. DMW overhauled TA failed within 2 days due to spread of grease material on slip ring of alternator which damaged the slip ring and carbon brush got consumed quickly & loco failed no power message. DMW to examine this failure and take corrective action.	**DMW**
18	Sheds have complained of issue of failures of locos on account of Master Controller failures. Main reason of failures are on account of Throttle handle stuck-up, Reverser key jam/reverser key not inserted, Throttle handle free. RDSO has stated in the meeting that a detailed study will be conducted at LDH shed on the issue.	**EDSMP/RDSO**
19	**[Item no. 16 of technical agenda – 4th BIM minutes]** APU Failures : CPLE/DMW presented that sheds have been reporting failures on various account e.g. failures on account of water leakage from APU engine tank, battery burst cases etc. During interaction with M/s Medha, firm has stated that they have identified problem in float valve of water tank of APU engine, bursting of Amara Raja batteries. As such it is important that the failures of APU be put on website so that ZR are aware of the problem and can plan for corrective action. RDSO should coordinate with firm. There is immediate need of proper maintenance of APU after warranty and this issue need immediate attention. ZR should give feedback to DMW for the same so that modalities for maintenance either by shed or AMC can be decided by DMW. RDSO should also give input on this issue.	**RDSO** **DMW** **CMPE/IR** **EDSMP/RDSO**
20	**[Item no. 19 of technical agenda – 4th BIM minutes]** Bogie Frame Cracks The issue of bogie frame cracks was discussed in BIM. Status of action plan decided in BIM are given below :- 1. DMW to procure Strengthening Kit for supply to ZR so that these can be used for strengthening existing bogies. **Status – DMW has supplied 80 kits for Equaliser Less Design and 39 kits for Equaliser Design type bogie to ZR for repair.** 2. DMW to dispatch locos with duly strengthening bogies only. **Status:**	**DMW**

SN	Item	Action by
	DMW is dispatching duly strengthened bogies to ZR.	
	3. As an immediate help DMW has floated a tender (TOD 10-03-2016) for 24 Nos. of bogies for Conversion of Equaliser Type to Equaliser Less Type bogie. **Status : PO has been placed by DMW. The and 16 bogies to ZR have been supplied and remaining 8 nos. are expected shortly. Further AMV shed has given requirement of 6 bogies during meeting, DMW will take necessary action to cover this demand.**	**DMW**
	4. Procurement of new equaliser bogies for meeting current requirement. **Status: Tender will be floated shortly.**	**DMW**
	Other Issue : VTA shed has complained that M/s Simplex has refused to repair equaliser less bogies under warranty. The issue be taken by RDSO.	**RDSO**
	During last BIM, Erode Shed had reported cracks in ATHS bogie. RDSO mentioned that details of the same are still awaited from SR. These details be provided by SR on priority.	**CMPE/SR**

B. Review of BIM Meeting Important Issues

SN	Item	Action by
1	**[Item no. 2 of General agenda – 4th BIM minutes]** The progress of rebuilt of WDP1 locomotive was reviewed and DMW has plan to turn out first WDP1 loco in Oct,16. After release of this loco DMW should speed up the rebuilt of remaining 7 WDP1 locos during current year. As the current WDP1 loco is WDP1M and reference be made to RDSO regarding speed certificate issue.	**DMW**
2	**[Item no. 3 of General agenda – 4th BIM minutes]** Information required for WDP3A is still pending from RDSO and the same be provided to DMW so that rebuilt plan can be made by DMW.	**EDSMP**
3	**[Item no. 5 of General agenda – 4th BIM minutes]** **Retrofitment of APU on ZR** ❑ PO for 474 Nos. of APU fitment on ZR has been placed on M/s Medha. DMW has already advised all ZR workshops regarding modalities of execution of contracts. Till date 10 nos. APU at CB, 2 nos. of APU at ABR and 3 nos. of APU have been received at Raipur. Medha has advised that APUs can be fitted only in version-3 MEP locos, as this will seriously affect proliferation rate of APU and RDSO to address this issue on priority. EDME/Traction directed RDSO to get the issue of MEP version resolved. RDSO has explained that they have fixed up meeting soon to resolve this issue.	
4	**[Item no. 6 of General agenda – 4th BIM minutes]** Fitment of new items	

SN	Item	Action by
	CRDel : Status : Supplies from Medha awaited. Firm will offer Prototype to RDSO by 10th Oct'16. Regular supply will start after completion of trial for 3 months.	**DMW** **ED(ED) RDSO**
	Cab AC DMW has placed regular as well as developmental PO for Cab AC. Bulk Order supplier M/s Parag Ploymer has already offered prototype inspection is ready. Railway Board has already given consent for simultaneous trial of 5-6 CAB AC so that development can be expedited. RDSO to expedite inspection.	**EDSMP**
	Loco Voice Recorder (LCVR) and Cab AC DMW has floated tender for 25 nos. of LCVR. **Status : Tender is with TC.**	
	Variable Turbine Geometry (VTG) Turbo Status: DMW has placed PO for 1 no. of VTG turbo which is extendable to 10 nos. Supply of 1 no. of VTG turbo is expected in Dec,2016, which will be given to RDSO for testing. The trials of this turbo be expedited.	**ED/ED, RDSO**
	Miller Cycle Turbo Status : Currently Miller Cycle Turbo has been fitted on loco No. 11260 WDM3D on 30.05.16 for trial purpose. RDSO test bed is out of order and need to be attended on priority by RDSO.	**ED/ED, RDSO**
5	**[Item no. 12 of Technical Agenda 4th BIM Minutes]** PTLOC : DMW has placed AMC, PO for 200 nos. of ALFA LAVAL and 148 nos. of TRANTER make PTLOC. As the current quantities will suffice only for 6 months. Action for AMC on regular basis be taken by DMW.	**DMW**
6	**[Item no.10 of Supply Agenda 4th BIM Minutes] :** DMW has taken action for overhauling of VTC 214 turbocharger. The TOD is 05-11-2016.	**DMW**
7	**[Item no.1 of Technical Agenda 4th BIM Minutes] :** It was decided in last BIM that ZR should convert 5RV to 3RV design in shed. Due to large amount of work involved in conversion, sheds are finding difficulty in conversion. Further. DMW should process case of laser hardened liners. CPLE explained that DLW has 1760 liners ready for laser hardening. These will be laser hardened and immediately put on extended trials. DLW already has matching rings for laser hardened liners.	**DMW**
8	**Item no. 5 Technical Agenda 4th BIM Minutes]** Reclaimed crankshaft : As decided in last BIM, DMW is rehabilited only those crankshaft for reclaimation which do not have crank pin defect.	

SN	Item	Action by
9	**[Item no. 4 Technical Agenda 4th BIM Minutes]** **Piston Failures :** RDSO audit of piston manufacturer and their QAP is pending. This need to expedited. VTA/RTM diesel shed raised the issue of M/s Dalian Hellon Co., China Make pistons as WR has experienced large scale failures of these make of pistons in past. As such VTA/RTM shed is not using these make pistons. It was decided during the meeting that RDSO alongwith with firm will examine the stock available at VTA/RTM and revalidate these pistons for further taking necessary decision.	**RDSO**
10	**[Item no. 13 Technical Agenda 4th BIM Minutes]** Exhaust manifold Failures : RDSO audit by RDSO and DMW team for addressing exhaust manifold failures is pending. This need to expedited.	**DMW**
11	**[Item no. 24 Technical Agenda 4th BIM Minutes]** LWS failures: Action for addressing LWS failures and vendor development is pending at DMW. This need to expedited.	**DMW**
12	**[Item no. 33 Technical Agenda 4th BIM Minutes]** MEP card failures: RDSO advised that JHS shed was to send MEP card to M/s Medha for investigation, however, the same is still pending. JHS diesel shed to send failed card to M/s Medha. RDSO to further coordinate.	**RDSO** **CMPE/NCR**
13	**[Item no. 23 Technical Agenda 4th BIM Minutes]** Interchangebility of Air Dryers: It was decided in last meeting that the issue of interchangeability is to be resolved by RDSO. Although RDSO has started investigation, the issue is still not closed. RDSO should expedite the action plan and corrective action be quickly finalised.	**RDSO**
14	**[Item no. 10 Technical Agenda 4th BIM Minutes]** Water Pump Failures: There has been reduction in failures of water pumps. Status of action planned is given below :- 1. Lubrication of Water Pump Gear as per RDSO IB MP. IB. ES.09.81.09, November 2009 has been ensured by DMW in all locos turned out since Aug,2015. – ***Status : It is ensured.*** 2. DLW has revised drawing of impeller which has incorporated casting by CO2/NO bake shell moulding process, in addition static and dynamic balancing has also been incorporated in drawing. ***Status***	**DMW**

SN	Item	Action by
	: DMW has placed PO for 230 nos. of such Water Pump Impellers. 10 nos. received. Henceforth, supplies to ZR will be done as per revised drawing.	
	3. 100 % checking of hardness of water pump gear. **Status - Ensured**	**Sheds/DMW**
	4. Maintaining proper backlash as per MI-11026 E. **Status - Ensured.**	**Sheds/DMW**
	5. Control vendor quality on water pump gear. **Status – Procurement is done from good vendors.**	**DMW**
15	**[Item no. 10 Technical Agenda 4th BIM Minutes]** **FIP Damages :** Sheds have reported cases of FIP. M/s Bosch has refused to agree to warranty in case of FIP collar breakages. As this kind of failures are on account of improper setting of SUCS. ZRs should immediately take action for ensuring correct lift.	**Sheds**
16	**[Item no. 8 Supply Agenda 4th BIM Minutes]** Based on feed back from ZR. Improvement in crew friendly cab has been incorporated in specification :- ❑ Modular in design – Easy Fitment & Maintainability –FRP interiors is a modular design which provides better aesthetics, maintenance friendly and ergonomic design. Easy and quick installation of products. Modules can be modified or replaced without changing anything else on the product. Easy Replacement of worn parts which makes the cab maintenance friendly. Neutral colour NPG/Clear iso-pthalic acid based "UV stabilized" epoxy resin added to prevent discolouration of FRP interiors and to improve surface finish. ❑ Stainless steel nuts of size M6 & M8 to IS:6911 provided instead of stainless steel inserts to IS: 6911, to avoid loosening during service. ❑ Anti slip floor mat as per DLW spec. No. Misc-101 added on the pattern of GM loco. ❑ LED type cab lights. ❑ EMD type Driver seat to part No. 11811717 for more comfort. ❑ Fixing screws- Countersunk head screws with Hexagonal socket to IS: 6761 to be provided for all sides and roof for better gripping. ❑ Helps in noise reduction – by 10 db ET and GD sheds have expressed satisfaction over its performance. ET has also mentioned that there has been reduction in noise level by 10 db. DMW has floated a tender for 216 nos. of crew friendly cab for fitment over ZR. This should be expedited.	**DMW**

C. Supply Issues

SN	Item	Action by
1	Although there has been substantial improvement in supply position of Crank Gear, Cam Gear, Water Pump Gear and Extension shaft gear, but still there is a shortfall compared to demand. Due to short supply, POH shops are not in a position to replace these items during POH. DMW has also placed PO for finished Gears (Cam Gears-1200 Nos., Water Pump Gears-450 nos., Extension Shaft Gear – 450 nos., Drive Gear LOP – 450 nos.). The supply of these gears will further improve in coming months as trade supplies will commence from Dec,16. With expected improvement in supply, instructions for compulsory periodicity for change during POH 4-Yly need to be issued for long-term, sustained reduction in future.	**DMW**
2	Supply of WDS6 cam shafts to ZR is NIL. WDS6 camshaft have been offloaded to trade and DMW has already placed PO for 101 loco sets of WDS6 camshaft for WDS6 loco production. There is demand of 177 sets of WDS6 camshaft set for ZR spares. DMW should supply 50 sets of camshaft to ZR on priority. Further, shortfall be immediately covered so that supplies can further be improved by the end of this financial year.	**DMW**
3	Supply of new Engine Blocks is still less ZRs have no option but to use cracked engine block in service. DMW has already floated a tender for 314 nos. of fully finished engine blocks. In addition a case of approx. 125 nos. of cast engine block is expected to float shortly. These supplies of new engine blocks is expected to improve in coming months.	**RDSO**
4	Some of the sheds have wanted spare fuel pump motors. ZR should sent their indent to DMW for procurement of HHP design of fuel pump motor. Sheds have expressed satisfaction over performance of HHP design fuel pump motor on ALCO loco. Sheds should submit their vetted indents for HHP type fuel pump motors to DMW for procurement.	**DMW/Sheds**
5	Supply of SUCS KIT, SUCS SET and FE is 87%,60% and 22% respectively. As supplies of FE set is less, the same need to be improved in remaining period. DMW mentioned that ZR demand for loose segments and bearing spacers will be met during the current year as tender for 2000 nos. of loose segment and corresponding items like spacer is in process and has opened on 07-10-2016.	**DMW**

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6	**[Item no. 32 Technical Agenda 4th BIM Minutes]** DMW has already taken action for overhauling of DEMU TA/TMs. Since last BIM, PO for TA-7003 CW for 18 nos. have been placed on BHEL. Tender cases for other makes of TA/TM is in process. ZRs should continue to send DEMU TA/TM to DMW for rehabilitation. DMW to expedite the same.	**DMW**
	It is to further mentioned that overhauling of DEMU TM/TA will be organised by ZR in workshops. As per 4th BIM minutes, ZR were to give list of items required for overhauling to DMW. The requirement of material for various types of DEMU TA/TM is pending from ZR. ZR to expedite the same.	**CMPE/IR**

(SATISH KUMAR)
CPLE

No.DMW/M/CRS/Customer Meet (2016-17) 17-10-2016

Copy to :-

CEE/IR :- For kind information.
CME/IR :- For kind information.
EDME/Traction, EDSMP/RDSO,ED(ED) RDSO :- For kind information.
CMPE/IR, Sr.DME(Diesel) IR :- For kind information.

PPS to MRS :- For kind information of MRS.
PPS to MTR :- For kind information of MTR.