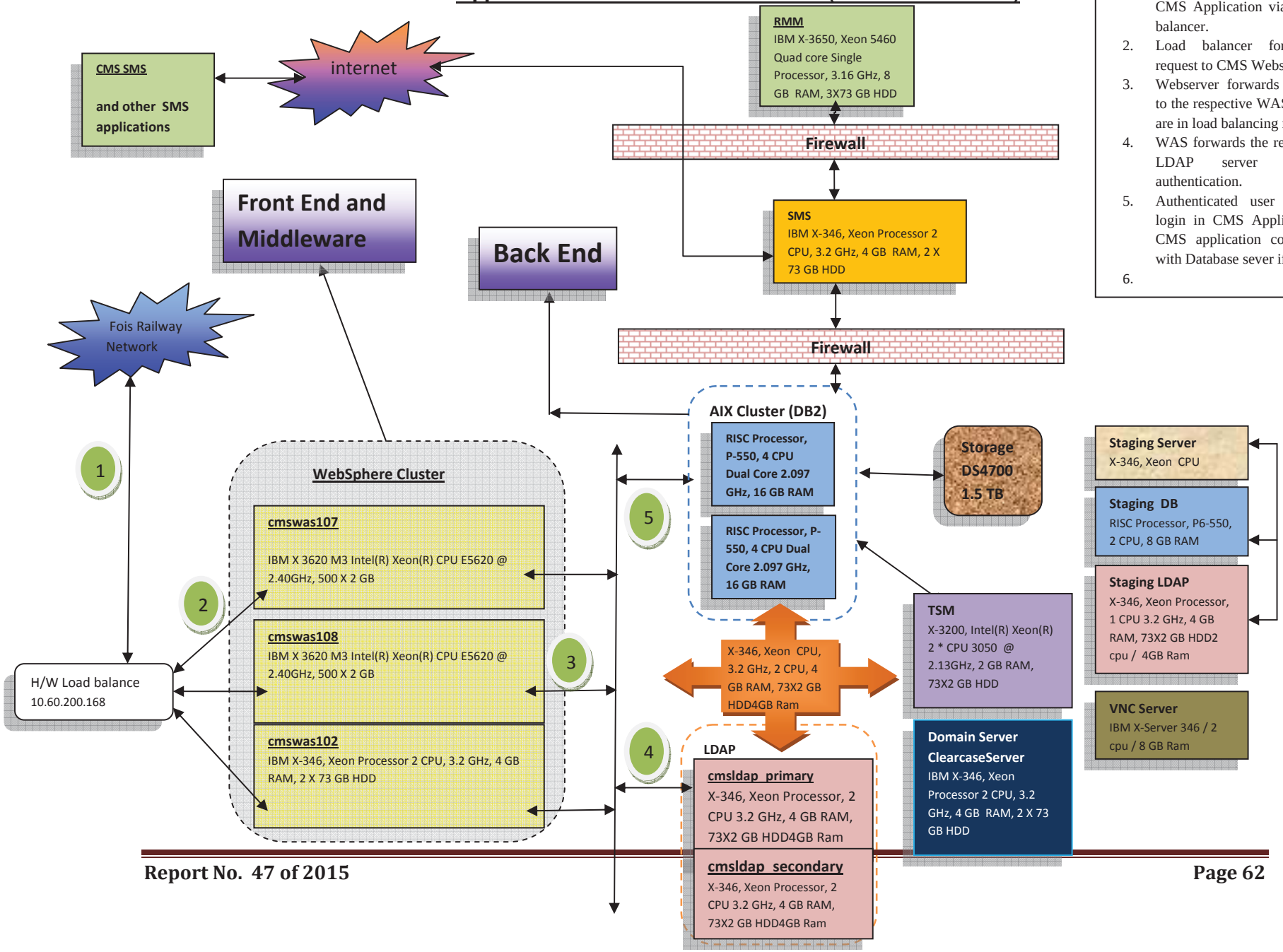
Appendix I - CMS Server Architecture (Reference Para 1.2)



1. CMS User makes a request to the CMS Application via H/w Load balancer.
2. Load balancer forwards the request to CMS Webserver.
3. Webserver forwards the request to the respective WAS server that are in load balancing mode.
4. WAS forwards the request to the LDAP server for user authentication.
5. Authenticated user is allowed login in CMS Application .The CMS application communicates with Database sever if required.
6.

Appendix – II
[Reference Para 2.1.2]

Statement Showing Discrepancies in the Crew Bio-data

Analysis of CMS database of 16 zonal railways (ZRs), available as on 5 December 2014 revealed as under:-

i. The data of active crew had 483 records where age of the crew was less than 18 years (Boy Service).

ii. In respect of seven crew members, the difference between date of birth and date of appointment was more than 38 years and in respect of 31 crew members it was more than 50 years.

iii. There were 1161[1] crew members whose dates of appointment and promotion were same (NR, ECoR[2]).

iv. In six cases, dates of birth and dates of appointment were same.

v. There were 712[3] crew members who had crossed their retirement age but were still found to be active in CMS.

vi. Out of 142 active crew of NR who had attained their superannuation age, seven crew of NR were booked for duty between 1 to 55 times during 5 September to 5 December 2014.

A comparison of CMS data pertaining to date of birth, date of appointment and date of promotion of crew of Delhi division with their manual records revealed difference of a period upto 29 years between the two sets of records.

(Annexure – 3)

[1] ***NR=1146, ECoR=15***
[2] ***See Glossary***
[3] ***Pertaining to all ZRs except SR***

Appendix – III
[Reference Para 2.1.3]

Statement Showing Cases of Important Details of Crew Not Being Captured

i. The data analysis of 23 fields of 85301 records of all ZRs revealed that overall there were 7,97,932 blank fields.

ii. Correct/updated mobile number/address were not captured which may result in call not being served in time.

iii. Updated/Correct promotion dates were not captured which may lead to wrong generation of reports.

iv. Blank Traction details may lead to non-validation of crew competency.

v. Blank Loco Inspector (LI) name may result in non-updation of grading and counseling data of a crew as a crew was linked to a particular Loco Inspector.

(Annexure - 4)

Appendix – IV
[Reference Para 2.1.6]

Statement Showing Incomplete/Incorrect Family Details

i. As per crew Bio-data details, out of 70300 active crew members over 15 ZRs, 43490 active crew members had 1-10 dependents. As against this, family details of only 2109 crew members were available in CMS.

ii. CMS lacked adequate controls to validate gender and marital status data of family member, crew name/father name as is evident from the following instances noticed over different zones[4]:-

Crew Id	Dependent's Relation	Gender	Marital status
BHC 7066	Wife	Male	Unmarried
BHC7066	Son	Female	----
HWH1182/GZB1872	Wife	Female	Unmarried
JMP1328/MTC1120	Daughter	Male	--
NH1100	Sister	Male	---
DDN1028	Widow Mother	Male	

iii. Data analysis revealed that CMS neither validated crew name, father name nor ensured completeness of data as it accepted single character crew name, father name field were found blank/contained value like '-'.

(Annexure - 7)

[4] ***ECoR, ER, NR, WR, SECR, SCR, NCR, WCR, SER***

Appendix V
[Reference Para 2.1.7]

Statement Showing Details of Locos Having No Corresponding Zone Codes

Loco Traction/Gauge →	3PH	DSL	ELEC	MG	NG	**TOTAL**
No. of Locos →	500	699	413	5	83	**1700**

Appendix VI
[Reference Para 2.1.8]

Statement Showing Incomplete/Inconsistent Data of Station, Routes, Distance etc.

i. Zone and division codes for 257 stations were not available in CMS database.

ii. On ER, NWR, SECR, NER and SWR[5], 226 stations were not available in CMS.

iii. On ER, NFR, SCR[6] and SWR, codes of 43 stations were found to be incorrect in CMS.

iv. On CR, ECR, ER, SCR, SER and ECoR[7], 159 routes were not available in CMS.

v. Over ER, NCR and SCR, on comparison of distances recorded in CMS and as available in Working Time Tables, Audit found that in respect of nine routes, the distances recorded in CMS were lower by 0.08 kms. to 408.76 kms. whereas in respect of 20 routes, the distances recorded in CMS were higher by 0.15 kms to 57.3 kms. Capturing of wrong distances leads to manual corrections of mileage reports.

vi. Audit also found that the distances recorded in CMS in respect of the above 23 routes were higher than the distances recorded in Rate Branch System (RBS) by 0.14 kms to 229.80 kms. Whereas in respect of six routes they were lower than the distances recorded in RBS by 0.08 to 46.08 kms. Capturing of wrong distances leads to manual corrections in mileage reports.

vii. CMS did not contain the route Ghorpuri (GPR) to Kolhapur (KOP) via Pune, whenever the crew was booked from GPR lobby of CR to work the train from Pune to KOP, the crew gets the mileage of 323 kms instead of 326 kms. The train leaves from Pune station and the crew has to bring the engine from GPR which is three kms. away from Pune. Hence, the crew gets three kms. less mileage and every time this needs to be corrected manually in the mileage reports.

(Annexure - 9)

[5] *North Western Railway (NWR), South East Central Railway (SECR), South Western Railway (SWR)*
[6] *North East Frontier Railway (NFR), South Central Railway (SCR)*
[7] *Central Railway (CR), East Central Railway (ECR), South Eastern Railway (SER), East Coast Railway (ECoR)*

Appendix – VII

[Reference Para 2.1.9]

Statement Showing Details of Transactions/Discrepancies Where Crew Were Booked with Fetch All Option

i. A review by Audit of the 2713032 finalized transactions/records[8] of tables containing historical data for the period 5 September 2014 to 4 December 2014 of the 15 ZRs revealed that crew members (74 *per cent*) in 2009077 transactions were booked by choosing 'Fetch Crew All' option rather than 'Fetch Crew as per Rule' option.

ii. During test analyses of reasons recorded for using 'Fetch Crew All' Option for crew booking, Audit found that out of 734925 transactions analyzed by six ZRs[9], in respect of 145752 transactions, reasons were not recorded for using 'Fetch Crew All' option.

iii. As per the analysis of 115538 transactions (NR), 8353 types of codes (reasons) were used for booking crew by using 'Fetch Crew All' option including 71 types of codes (reasons with minor variations) pertaining to LR (LR Due/LR not-updated etc. with minor changes) and 40 types of codes (reasons) pertaining to rest (Rest due/Rest Cancelled etc. with minor changes) and in respect of rest of the records, in majority of the cases, reasons recorded did not convey actual and meaningful information as some numeric/alpha numeric like AA, BB etc. were recorded for using 'Fetch Crew All' option. Similar position was observed in respect of the booking transaction using 'Fetch Crew All' option pertaining to other ZRs[10].

iv. During test analysis of 'Crew Booked With/Without Rules Reports' of Delhi division lobbies for December 2014, audit found that almost all the loco crew at DLI lobby and majority of Guards at DLI, Ghaziabad (GZB), Jhakal (JHL), Jind, Shakurbasti (SSB) and TKD[11] lobbies were booked by opting 'Fetch Crew All' option rather than 'Fetch Crew as per Rule' option. However, during February 2015, the percentage of Loco crew booked by using 'Fetch Crew All' option at DLI lobby was nearly 50 percent but almost all/majority of the Guards at DLI, GZB, JHL, Jind, TKD & SSB lobbies were still booked by using 'Fetch Crew All' option.

(Annexure - 10)

[8] ***A transaction/record contains details of TA, call book/receive time, sign on/off time etc. of one crew.***
[9] ***NWR, NFR, NR, SCR, ECoR and SER***
[10] ***NWR, NFR, SR, SCR and SER***
[11] **See Glossary**

Appendix VIII

[Reference Para 2.1.10]

Statement Showing Results of Analysis of Data of Call Made to Crew

An analysis of 2599975 transactions of 16 ZRs pertaining to Crew Calling Time relevant to 5th September 2014 to 5th December 2104 revealed as under:-

i. Calls were found to be made in 173311 transactions after train scheduling/ordering time.

ii. In respect of 559558 transactions, calls were found to be made more than 165 minutes before/in advance of train ordering time.

(Annexure - 11)

Appendix – IX

[Reference Para 2.1.11]

Statement Showing Results of Analysis of Data Pertaining to Call Serve Time and Receive/Acknowledge Time

An analysis of the call serve time and call receive/acknowledge time of 2745140 transactions (historical data) of 16 ZRs pertaining to 5 September 2014 to 5 December 2014 revealed as under:-

i. In two cases (one each from NR and SER), calls were found to be received even before the calls were made indicating weak application control.

ii. In 441317 cases, calls were found to be acknowledged 165 minutes after call were made.

iii. In 1488253 cases, calls were acknowledged within 30 minutes.

(Annexure - 12)

Appendix – X

[Reference Para 2.1.12]

Statement Showing Results of Analysis of Data Pertaining to Crew Sign On Time

An analysis of 2771169 transactions of 16 ZRs revealed as under:-

i. In 724513 cases, crew were found to have signed on or after train ordering time.

ii. In 338653 cases, crew were found to have signed on less than 10 minutes before train ordering time against the requirement of 10 to 45 minutes before expected departure (ordering) time of the train.

(Annexure - 13)

Appendix XI

[Reference Para 2.1.13]

Statement Showing Results of Analysis of Data pertaining to Supervisory Approval of Crew Sign on Time

Analysis by Audit of 3070897 transactions of 16 ZRs revealed that:

i. In 1425 cases, Supervisor approval of 'crew sign on' time was prior to the 'crew sign on' time.

ii. In 2096485 cases, 'crew sign on' time was approved by Supervisor after 30 minutes or more from 'crew sign on' time.

(Annexure - 14)

Appendix – XII

[Reference Para 2.1.14]

Statement Showing Discrepancies in Supervisor Approval of Crew Sign off Time

An Analysis of 1642377 transactions of 15 ZRs[12] revealed that:

i. In 143062 transactions, crew sign off approval time indicated lack of data input validation control.

ii. In 612965 transactions, Supervisor was found to have approved 'crew sign off' time after a delay of more than one hour.

(Annexure – 15)

[12] ***All zones except NER***

Appendix – XIII

[Reference Para 2.1.15]

Statement Showing Irregularity in Crew Sign on *vis-à-vis* Sign off Time

An analysis by Audit of crew sign on time and crew sign off time of 1367760 transactions approved by Supervisor pertaining to 15 ZRs[13] revealed that:

i. In 160 transactions, 'crew sign on' and 'sign off' time was same, i.e. the sign on/off transactions were wrongly conducted.

ii. A difference of more than 20 hours between the 'sign on' and 'sign off' times in 38541 transactions indicated that either the crew had not timely performed his sign off duties or dummy sign off times were approved.

(Annexure – 16)

[13] *All zones except NER*

Appendix – XIV

[Reference Para 2.2.1]

Statement Showing Status of Usage of SMS over Different Zones

A review of CMS database pertaining to crew and SMS from 5 September 2014 to 5 December 2014 revealed the following:

i. Position of SMSs communicated on all ZRs except SR with active crew members was as under:

TYPE OF SMS	NO. OF SMS
Sent	644079
Acknowledged/Replied	68454
Pending	349759

ii. Only 10.63 *per cent* of the SMSs sent were acknowledged/replied by the crew which was very low and 54.30 *per* cent of the SMSs sent to the crew were shown as 'Pending', which was too high.

iii. The SMS service was not used at 43 lobbies (ten lobbies of SCR, seven lobbies each of CR and WR, five lobbies each of NFR and WCR, four lobbies each of NR and SER and one lobby of NER).

iv. In 13983 cases, even though Closed User Group (CUG) mobile status was shown as Y, the mobile number was shown as zero on 13 ZRs.

v. In 45062 records of nine ZRs, though CUG mobile was available with the crew, the CUG status was shown as blank.

vi. On CR, NR, NWR and SCR, 170683 SMSs were sent against 1066202 sign on transactions which was only 16.01 *per cent* of total sign on transactions.

vii. On NR, just 178 SMS were utilized by 11 lobbies for serving calls to crew.

(Annexure - 17)

Appendix – XV

[Reference Para 2.4.1]

Statement Showing Cases Where LR Due Date Was Not Computed Correctly

A. An analysis of LR related data, **having total number of LR trips as zero,** pertaining to the period 1 December 2013 onwards[14], revealed as under:-

i. In 153264 records, due dates of LR were prior to last drive date.

ii. In 93137 records, last drive dates and due dates of LR were same.

iii. In 4503 records, due dates of LR were greater than last drive dates but the difference was less than 89 days *viz.* CMS did not correctly compute due date of LR with a gap of three months.

iv. In 236145 records, the difference between due dates of LR and last drive dates was more than 92 days *viz.* CMS computed LR due date after a gap of more than three months.

B. An analysis of LR related data, **having total number of LR trips more than zero,** pertaining to the period 1 December 2013 onwards[15], where LR due date had not expired[16], revealed as under:-

i. In 29563 records, the difference between Last Drive dates and LR Due dates was less than 89 days *viz.* CMS computed LR due dates within a period of three months.

ii. In 15955 cases, though trips of LR were pending but CMS computed due dates for a period of three months which was irregular.

iii. In 255 cases, where number of LR trips due were more than zero, CMS computed LR due dates after a period of three months (i.e. between 95 days to 180 days) which was irregular.

iv. In 2767 cases, where LR due dates had expired *viz.*LR due dates were prior to 6 December 2014 and LR trips were due, CMS computed LR due dates after a period of more than three months.

(Annexure - 19)

[14] ***Last Drive Date from 1 December 2013 and onwards***
[15] ***Last Drive Date from 1 December 2013 and onwards***
[16] ***Last Drive dates were prior to 5 December 2014 and LR Due Dates pertained to period beyond 5 December 2014***

Appendix – XVI

[Reference Para 2.4.2]

Statement Showing Discrepancies in Training Reports/Data

i. An analysis of the CMS database as well as Training Reports on CMS revealed that CMS was depicting next due date for different types of training courses like Refresher Training Courses for Diesel and Electric Traction (REFD & REFE), Automatic Signaling (ASIG) training for Shunter etc. even though these were not required.

ii. During review, Audit noticed instances where concerned officials of Delhi division lobbies (ANVR, NZM etc.) were not deputed for training on due dates. In response, lobby officials informed that a crew working on Diesel traction does not require refresher training of Electric traction and vice versa. Moreover, a crew who had attended REFE and REFD courses did not require 3PH and WDG4/WDP4[17] training respectively and a Shunter does not require signaling training.

iii. During analysis of training data, Audit found that CMS database depicted next due dates of ASIG training in respect of 24254 cases pertaining to 12 lobbies of NR whereas in respect of 73 cases of same lobbies, database did not indicate due dates of next ASIG training. As per Indian Railway General and Subsidiary Rules (NR-2011), Automatic Signaling training becomes due after one year and as per CRIS documentation on Business Logic for CMS (2006), Automatic Signaling training becomes due in six months. In Delhi division, in three cases, due dates of next ASIG training pertaining to the year 2014 were after six months and during the same year the due dates were after one year in respect of 3214 cases.

iv. In SECR, CMS database depicted next due dates of ASIG training in respect of 2526 cases pertaining to 15 lobbies of SECR. Out of 2526 cases, in 316 cases, due dates of next ASIG training pertaining to the year 2014 (BSP Division) were after six months and during the same year it was after one year in respect of one case (BSP Division). Over ER, CMS database depicted next due dates of ASIG training in respect of 1070 cases pertaining to 14 lobbies of ER whereas in respect of one case, database did not indicate due date of next ASIG training.

[17] **Training pertaining to Locomotives of different types**

Appendix – XVII

[Reference Para 2.4.3]

Statement Showing Discrepancies Noticed in Loco Details used in TA

i. Review of the Traffic Advice (TA) data pertaining to nine[18] zones for the period 5 September 2014 to 5 December 2014 revealed that in respect of 28305 TAs of General type where crew were booked for working/spare type duty and their 'sign on' time was approved by Supervisor, the loco type was recorded as zero. However, audit found that no loco of such type was available in the master tables.

ii. From an analysis of CMS data of TA, Audit found that most of the lobbies were using dummy numbers of locos for generation of multiple TAs as is evident from the following:

a. Invalid loco numbers were used for generation of multiple TAs with loco number as 123 and 11111 in four lobbies[19] of SECR.

b. Four lobbies[20] in Jaipur division of NWR attached loco number 111 with their multiple TA for booking of 291, 1719, 17 and 1414 crew respectively in September and October 2014. In fact, loco number 111 was attached with 54 trains of above four lobbies of Jaipur division on 2 October 2014.

c. Over CR, in 2829 records for generation of TA, invalid loco number i.e. 11111 was entered.

d. Over NR, Lucknow (LKO) lobby attached loco number 147 of type '0' with their 25 TAs on 14 October 2014, DLI lobby attached loco number 1111 of type '2' with their 65 TAs on 8 November 2014.

e. Over NR, multiple lobbies[21] used loco number 1111 on 30 November 2014 with their multiple TAs.

f. Over ER, on 20/11/2014 loco number 100 was used for 128 times in different lobbies of ER[22].

g. Over WR, in respect of 93452 records, four fields of loco number and one field of loco type for capturing loco details contained zero. Over ER and NFR loco number 100/1000/10000 was used in 33756 cases[23].

h. Over ER & SCR, no loco number was used in 145521 cases[24].

i. Over SCR, in 1714 cases, loco number 111 and in 5163 cases, loco number 123 was used. Over ER, loco number '0' was used in 39 cases and loco number '1' was used in six cases.

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[18] NFR=53, NWR=11646, SWR=2376, NR=2376, CR=830, ER=819, SECR=3361, SER=323, WR= 5676, SCR=845 (Total=28305)
[19] Raipur, MIB, CWA, DGG
[20] Bandikui, Phulera, Jaipur & Rewari
[21] DLI, Ludhiana (LDH), Ferozepur (FZR), Delhi Sarai Rohilla(DEE), Amritsar(ASR), Pathankot PTK), Bathinda (BTI)
[22] (AZ-53 times, HWH-47 times, KOAA-6 times, MLDT-7 times, PKR-14 times, RPH-1 time)
[23] ER=13834, NFR =19922
[24] ER=36385, SCR=109136

Appendix – XVIII

[Reference Para 2.4.8]

Statement Showing Discrepancies in the Crew Counseling Data

i. In order to increase the knowledge base of a crew, various methods are used like deputing crew to various training, their counseling by their LIs etc. In this regard, RB issued its orders[25] on 28.10.2014 giving norms for periodicity of crew counseling. On the same date, NR[26] issued orders in this regard. As per NR order dated 28 October 2014, loco pilots of safety grade 'A' were to be counseled once in two months, of safety grade 'B' were to be counseled once in one month and of safety grade 'C' were to be counseled once in a fortnight. As per RB orders, 'A' Grade crew to be counseled once in three months, 'B' grade crew to be counseled once in two months and 'C' grade crew to be counseled once in a month. Thus, the periodicity of counseling in both the orders was not same.

ii. Audit has done the data analysis in the light of the orders of NR to review the position of counseling. In order to see the last counseling imparted to the crew, reference had to be made to the data prior to 28th October 2014. Audit found during the review of the CMS data for the period prior to 6 December 2014 pertaining to periodicity of the counseling of crew (Grade A, B and C) by their Chief LI/LI that around 29 percent crew over NR, 88 per cent crew over NFR and six per cent crew over NWR were not counseled at the periodicity prescribed by NR.

iii. It was further noticed over NR from the analysis of CMS data for the period prior to 6 December 2014 that 23 per cent crew were not found counseled as per the periodicity prescribed by RB.

iv. Analysis of counseling data available at kiosks of various lobbies of Delhi division[27] in January 2015 to March 2015 also confirmed that crew grading and counseling was not being done at the prescribed periodicity.

v. Out of total 7840 active crew on CR, data pertaining to counseling of only 1593 crew had been captured in CMS. The number of times the counseling had been done ranged between one to 157.

vi. Over six zones[28] there were 2167 instances where crew were counseled by Loco Inspector, but IDs of Loco Inspectors, who counseled the crew, were not available on CMS record.

(Annexure - 21)

[25] ***Letter Number 2012/Safety(DM)/7/25 dated 28.10.2014(As per RB letter dated 28.10.2014)***
[26] ***No. 45RS/9/Train Operation dated 28.10.2014***
[27] ***MTC, DEE, Jind, SSB etc,***
[28] ***CR=529, ECOR=773, SECR=446, NR=101, NFR=98, NWR=220 (Total =2167)***

Appendix – XIX

[Reference Para 2.4.10]

Statement Showing Status of Breath Analyzer Devices over Different Zones

i. Breath Analyzer (BA) could not be integrated with the system in 12 ZRs[29]. Integrated BAs were installed over three lobbies of Delhi division (NR), five lobbies of ECoR, three lobbies of WR and two lobbies of NWR test checked during audit. In PSA lobby of ECoR, though BA has been integrated with CMS, the integration was not functioning. BA unit installed and integrated into the CMS/kiosk at MAS lobby during 2012 was deactivated due to software problems. In other lobbies of SR, the entire BA testing of crew was being done using hand-held BA units.

ii. In other selected lobbies in IRs, the kiosk was not having an integrated BA unit. The entire BA testing of crew was being done using hand-held BA units, supervised by Chief Crew Controller/Crew Controller. The results were then recorded in CMS by clicking on the relevant check box. As the process taking the BA test by crew is manual, it lacks vital safety related system control. Hence, possibility of misuse of this feature cannot be ruled out.

iii. An analysis of the crew's Breath Sign on data pertaining to 5 September to 5 December 2014 revealed that in 246 cases over seven ZRs[30], the Supervisor approved 'crew sign on' though the value of 'breath sign on' was 'N' *viz.* crew had not performed 'breath sign on' and CMS allowed approval of crew sign on which indicates weak controls to validate crew sign on.

(Annexure - 23)

iv. As per the value recorded in the Supervisor's approval field of crew 'sign on', in 27[31]cases of crew 'sign on' over NR, NFR and CR respectively, Breath Test failure (Code BF) was recorded as reason for non-approval of crew 'sign on' by the Supervisor during 16 October to 5 December 2014 but the value of 'breath sign on' field in all the cases was found to be zero (*viz.* crew had cleared BA test). This indicates inadequate controls to validate crew sign on.

v. At DEE lobby of NR, results of BA test were stated to be directly recorded in CMS and no manual register for recording results of BA test was maintained. In the absence of Bio-metric and integrated BA devices, it could not be ascertained whether the BA test of all crew was being conducted at all at DEE lobby.

vi. Maula Ali (MLY) lobby of SCR is a crew changing point between Hyderabad (HYB) and Secunderabad (SC) divisions. Audit found that this lobby is not functional and the activities relating to sign on/off, breath analysis at MLY lobby were not monitored as no staff was posted at MLY lobby. The data entry work pertaining to crew operations of MLY lobby like sign on/off, breath

[29] ER, CR, WCR, ECR, NCR, SER, SECR, NCR, NFR,NER, SCR and SWR
[30] NR, SCR, SER, WCR, SECR, NCR and CR
[31] NR=23, NFR=2, CR=2

analysis etc. was being done at its sister lobbies[32] at KCG & SNF which were around 13-14 kms. away from MLY lobby.

vii. In CR, it was noticed by AEME[33] (Fuel) during his inspection of Daund lobby that out of 372 staff signed on/off on 29 December 2014, 109 crew did not take the BA test. Failure to ensure BA test results for all the crew shows lackadaisical attitude of the Railway administration to this vital safety aspect. There was an incident on CR during January 2015 (press clipping) where one Motorman of suburban train was caught in a drunken state which could be a result of failure of BA test at the time of sign on. He had hit the emergency brake causing the train to halt after it was pulling out of the station. The mandatory BA test through integrated BA device at the time of sign off will mitigate the risk of crew consuming alcohol en route or during the trip.

[32] Sister lobby concept is applicable where CMS user wants to serve call to Lobby "A" crew but the crew need to sign ON at Station "B". Similarly on returning, the crew signs OFF at station "B" but he has to be made available at station A for further crew booking.

[33] See glossary

Appendix – XX

[Reference Para 2.5.1]

Statement Showing Details of Discrepancies in the Configuration of Mileage Allowance

i. A review of the allowances configured in the CMS by various lobbies of 10 ZRs[34] revealed that in violation of the extant rule, CMS was configured to allow charging of 80/120/160 kilometrage per day (depending upon the type of duty to be performed) to crew for attending non-running duties/training at their headquarters. Between 9 March and 4 December 2014, CMS allowed mileage allowance of 21136799 kms. valuing around 485 lakh to crew of ten ZRs for attending various non-running duties/training courses[35] at their Headquarters.

ii. Over CR and NR, in 111 cases[36], even though crew was shown to perform non-running duties at other than headquarter, his headquarters locations and outstation locations were exactly the same, however, CMS allowed outstation allowance of 13,560 kms.[37] This indicated inconsistent data.

iii. In CMS, 98 types of non-running duties were defined in the master data of CMS. However, one to 100 types of non-running duties[38] were found processed under CMS by different ZRs. The list also included non-running duties such as NREST, CREST, WOFF etc. which were not found in the master list. It was observed that non-running allowance in terms of kms. was computed by CMS for non-running duties such as Absent, LAP, CL etc. for which it was not allowed.

iv. Based on the results of CMS data analysis, test check of physical records was conducted at TKD (NR), Bilaspur (BSP) and Brajrajnagar (BRJN) (SECR) lobbies and during test check audit found instances where payment for mileage allowance @ 160 kms. was made to officials for performing non-running duties at their headquarters (NR, SECR) instead of payment of pay element equivalent to 30 per cent of the basic salary.

(Annexure - 24)

[34] ***CR, ER, ECR, ECoR, NR, NWR, SCR, SECR, WCR, WR, NCR***
[35] ***such as REFE, PD, SHDT, PCR, REFD, REFSC, SFCM, CTCC, CTLC, PME, TCC, STDTO etc.(see glossary)***
[36] ***CR=106, NR=5***
[37] ***CR=12800, NR=760***
[38] ***such as REFE, PD, SHDT, PCR, REFD, REFSC, SFCM, TCC, CTCC, CTLC, PME, STDTO etc.***

Appendix – XXI

[Reference Para 2.5.2]

Statement Showing Details of Discrepancies in Admissible Kilometrage

i. At DEE lobby, Audit noticed during test check of mileage reports that when a crew (DEE1089) was relieved at 19:15 hrs on 9 November 2014 for Safety Camp training at Dhampur, he was immediately booked in CMS as 'on training' and the crew returned back on 16 November 2014 at 08:00 hours. He was allowed 1440 kms. by CMS which included 'admissible kms.'of 320 as CMS has been configured for DEE lobby to pay 320 kms. (160x2 for to and fro) as admissible kms. for attending non-running duties at Dhampur and additional 160 kms. for one additional day. However, his mileage allowance for training period was corrected manually by lobby and he was paid mileage allowance of 1120 kms. (160x7) for seven days, i.e. six days of training and one additional day. Thus, the mileage allowance paid was not as computed by the CMS.

ii. Over ER, it was noticed that crew of two lobbies[39] were deputed during the month of November 2014 and March 2015 for PME training at Howrah (HWH) for two and three days respectively. However, the CMS allowed 536 kms. and 800 kms. respectively to crew as mileage allowance which comprised 320 kms. and 480 kms. for attending training and another 216 kms. and 320 kms. as admissible kms. as these lobbies were configured in CMS for charging additional 216 kms. and 320 kms. as admissible kms.

(Annexure - 25)

[39] *AZ (ID AZ1176) and RPH (ID RPH7176) lobbies*

Appendix – XXII

[Reference Para 2.5.6]

Statement Showing Details of Discrepancies/Irregularities in Crew Sign on Time *vis-a-vis* Train Departure/Arrival Time

Zone Names	Discrepancies/Audit observations
SECR, ER, CR, SER, NFR, SR & NCR	In 1349 cases, crew signed on after FOIS train departure time with a gap of one minute to 93 hours 10 minutes.
SECR, ER, CR, SR & NCR	In 3073 cases, crew signed on before FOIS train departure time with a gap of 31 minutes to 2635 minutes.
SCR	In 2022 cases, crew signed off before FOIS arrival time of the train and in 2020 cases, crew signed on after FOIS departure time of the train.
CR, ER & SER	In 33 cases, FOIS train departure time and crew's sign-on time was same *viz.* there was no gap though as per rules, crew had to signon 10-45 minutes prior to the departure of the train.
NR & SER	in 6549 cases, CMS train departure time was after train ordering time and the gap was in the range of 30 minute to 599 minutes.
NR, CR, SER & NWR	In 9570 cases, crew signed on after train ordering time and the gap was in the range of one minute to 1485 minutes.
NR, CR, WR, NWR & NFR	In 1183 cases, crew signed on after CMS train departure time and the gap was in the range of one minutes to 104 hours.
SCR	Comparison of CMS data with COA data revealed that in 45 cases, where train was late, the 'sign on' time was just 15 minutes to two minutes before the actual departure time of the train. In three cases the crew 'sign on' time was same as the scheduled departure time of the train and in 62 cases the crew 'sign on' time was later to the scheduled departure time. In all the 65 cases the train got delayed.
	In 17 cases, crew 'sign on' time was later than the actual departure time (COA time). The time difference ranged from one minute to 29 minutes in 16 cases and in one case the time difference was 985 minutes.

(Annexure - 30)

Appendix – XXIII

[Reference Para 3.2]

Statement Showing Discrepancies in Particulars of Traffic Advice

Train Number/Name & Lobby Name	Particulars of discrepancies noticed
14095 (Himalyan Queen) **(DEE)**	In one TA of 30.11.2014, train ordering time was 05:35 and in second TA of 30.11.2014, train ordering time was 05:40.
14086 (Haryana Express) **(SSB)**	On 26.10.2014, TA was prepared from SSB to DBSI, on 27.10.2014, TA was prepared from SSB to NZM and on 30.10.2014, TA was prepared from SSB to DLI station.
12455 (DEE-SGNR S.F. Express) **(JHL)**	On 16.09.2014, TA was prepared for Mail service type train of Train Number 12455Exp and on 18.09.2014, TA was prepared for Freight service type train of Train number 12455Exp, though on both the days, other particulars like From station, To station, Loco Number, Loco Type, Ordering Time, Route name etc. were same. On some days, this train was operated with train number 12455Exp and on other days , this train was operated with train number 12455.
14006 (Lichchavi Express) **(ANVR)**	On 25.11.2014, TA of train number 14006 was prepared for Freight type train and on 26.11.2014, TA of train number 14006 was prepared for Passenger type train On 2.11.2014, TA of train number 14006 was from ANVR to CNB for Mail service type train and on 3.11.2014, TA of train number 14006 was from ANVR to TDL for Passenger service type train In one TA of train number 14006 of 23.9.2014, Train ordering time was 21:45 and in other TA of train number 14006 of 23.09.2014, train ordering time was 23:30.
18409 (Sri Jagannath Express.) 18625 (Patna Hatia Super Express) and 18619 (Ranchi Dumka Intercity Express)	Over SER, no uniformity as to service type was maintained while preparing TAs. On some days, a train operated as express train, was operated as passenger/ freight train on other days.

Appendix – XXIV

[Reference Para 3.10]

Statement Showing Details of Cases Having Inconsistencies in CMS Reports

i. A review of the Crew Due for Periodical Rest (PR) Report revealed that the report was not giving correct output. For example, 'Crew Due for PR Report' of ANVR lobby of 3 March 2015 depicted that two crew (ID ANVR1041 and ANVR1062) had taken their last rest on 28 February 2015 and 1 March 2015 but the same report indicated that the crew had not taken any rest during the last seven days from the report date i.e. 3 March 2015.

ii. As per CMS 'Crew Training History Report[40]' of 3 March 2015, Crew (ID ANVR1046) was due for PME on 14 September 2014 but the 'Crew Training Particular Report[41]' generated at the same time indicated that the Crew ID ANVR1046 was due for PME training on 12 September 2018. The above facts were also verified at ANVR Lobby and it was found that report was giving wrong output. (NR)

iii. A comparison of different reports at PNP lobby revealed that as per Crew Mileage Summary Report for the month of February, there was a BoR of 36 hours but as per BoR Report for the month of February 2015, there was a BoR of 29 hours. (NR)

[40] ***The report depicts details of various training of a crew like training name, training due date and done date etc.***
[41] ***The reports depicts details of a specific training course like training name, crew names, their training due date and done date etc.***

Appendix – XXV

[Reference Para 4.1]

Statement Showing Deficiencies in Security Measures Noticed over Different Zones

i. Over nine ZRs[42], CCTV cameras were not installed at lobbies test checked during audit. Only at three out of seven lobbies of WR, CCTV cameras were installed on KIOSK machines.

ii. Over SWR, CCTV camera installed at Hubli lobby was not connected to any monitor for effective monitoring on real time basis.

iii. Over ECR, some lobbies such as Barwadih, Dhanbad and Patratu had single CCTV camera installed which was not sufficient to monitor the activities of a large number (200 to 300) of crew.

iv. Over ER, two lobbies were located beside the 2nd Class Waiting Room in Howrah Station, thereby exposing the lobbies to the risk of unauthorized entry.

v. Over CR and WCR, CMS equipment were placed in a controlled atmosphere at lobbies of CR and WCR and CCTV surveillance was available in all the lobbies of Pune division of CR but not at the lobbies of WCR.

[42] *NMP and ADL lobbies of SER (CCTV cameras available at KGP and SRC lobbies over SER were not functional), six lobbies of SECR, four lobbies of NWR, 14 lobbies of SCR, five lobbies of ECoR, all CMS lobbies of Delhi division of NR, NFR lobbies, NCR lobbies (except Allahabad lobby) and NER lobbies (Except Gorakhpur Lobby)*

Appendix – XXVI

[Reference Para 4.3]

Statement Showing Deficiencies/Irregularities Noticed in the Management of Railway CMS Users at Different Levels

i. Over NR, at DLI lobby, five CMS users were assigned administrative (DRMN)[43] privileges, one of them was in the name of 'Test' with designation as 'Mobile'. At SSB, NZM and GZB lobbies, two users had administrative (DCMN)[44] privileges and one of the two users having administrative privileges was either an Assistant Driver or Guard *viz*. the user was not a Supervisor.

ii. Over ER, four users having administrative privileges (DRMN) were created in division name and division name was recorded as designation i.e. ÁSN', 'HWH', 'MLDT' & 'SDAH''

iii. Over SECR, four DCMN (Administrative) users were created in the name of 123, ABCD, GGSGS, CCC. Over SWR, one Administrative ID was created in the name of 123 and one official had two IDs with administrative privileges. Over ECoR, at TLHR lobby, two users had administrative privileges and one of them was in the name of TLHR Console. Over NER, one TNC had DCMN (Administrative) privilege. At Rourkela of SER, two active users had DCMN (Administrative) privilege. Over LKO Lobby of NER, three users had DCMN/DRMN (Administrative) privilege.

iv. Over NR, ER, NER, SER, SCR, WCR, NWR, CR, SR, ECoR and NFR[45] ZRs, user IDs were created in the name of lobbies/obscure names and over SECR, user ID was in the name of zone. Over CR, 16 different user IDs were created with names of the users as "Lobby"**.**

v. Over NER, one user created for the representative of Annual Maintenance Service provider firm was designated as Assistant Loco Pilot.

vi. On WR, four records of duplicate lobby name and user ID were found at the lobbies test checked.

vii. Over 13 ZRs[46], 888 TNC/ALP/Box Porter/Cleaner/ Call boy, Gangman/RR Bearer/Private operators/Contractor/SLI etc. were assigned Supervisory privileges.

(Annexure – 38)

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[43] Divisional Report Manager Privileges
[44] Divisional Console Manager Privileges
[45](ALH & RBL with designation as Kiosk, AMGGTNC and AMGLTNC at AMG Lobby, DDNLS and DDNGS at DDN Lobby, N (JUC lobby), NI(FD lobby), FDGS of FD over NR), Bandikui over NWR, GD & MLN over NER, BWNA, BWNB, BNNO, AMLA, GPR, BWBI at BWN Crew Lobby, JMP at JMP Lobby, HWH DC, HWH SD, HWH GTNC at HWH Lobby, MLDT CMS, PSA with name as RRR (ECoR), MLDT DC at MLDT Lobby etc.
[46] NR, NWR, SER, NER, ER, NFR, NCR, SECR, CR, WR, SWR, SR, WCR

Appendix – XXVII

[Reference Para 4.3]

Statement Showing Details of Irregularities in the Management of CMS Users

Nature of irregularity	Particulars
Multiple Profile/User ID	466 CMS users[47] over six ZRs, having same Lobby Name, User Name and Phone Number had two to 10 user profiles and multiple types of authority.
	40 users over NFR had IDs in the range of two to nine and over SER, 24 crew had 2-3 active crew IDs.
	Over SWR, two users had user IDs in two different lobbies.
	Over Pune division of CR, 14 different user IDs were created for single person.
Users created in excess of requirement	Over CR, 544 user IDs were created for 201 user names. Many of the user IDs created were not being used by the lobbies as verified during the lobby inspections.
	Over SCR, as many as 856 user ids were created for 42 lobbies on SCR, which seems to be very much in excess of the actual requirement and indicates that the un-used user IDs of the retired and outsourced staff were not being deleted from the system.
	The CMS users created for seven lobbies of SR visited by Audit were found higher than the actual requirement as against the requirement of around 12 users[48], all the lobbies (except MSB) had more than 25 users.
Active User ID of ex-officials	Profile Analysis and scrutiny of records at ANVR, MTC, ROK, Jind, Jhakhal lobbies over Delhi division of NR, Kashipur and Farrukhabad lobbies of NER and NCB lobby of NFR revealed that user IDs of ex-officials/transferred officials, who were no longer associated with CMS, were still found to be in use/active.

[47] NR=132, NER=8, SECR=70, ECR=113, ER=26, SCR=117

[48] Calculated on the basis of each lobby working on three shifts for four users (3 TNC+1 Supervisor).

Appendix – XXVIII

[Reference Para 4.6]

Statement Showing Deficiencies in Infrastructure/Business Continuity Plan at Lobbies

i. Connectivity/link failure, slow speed of network between central server and CMS client machines were the main reasons for disruption of continuous CMS operations over lobbies of 13 ZRs[49]test checked during audit. Though RB had issued instructions for maintenance of route and media diversity/alternative communication channels for ensuring 24x7 connectivity but the same was not ensured for the lobbies of seven ZRs[50] test checked during audit. Route and media diversity/alternative communication channels were found available during test check of selected lobbies over SR.

ii. The arrangements for alternative power supply at lobbies of eight ZRs[51] were not adequate. Power backup equipments supplied for GHY and NGC lobbies of NFR were not installed and were lying idle for more than two year. Adequate Power backup facility was available at the lobbies of SECR and WCR.

iii. CMS equipments/devices of lobbies at 13 ZRs[52] test checked during audit were not covered under AMC. CMS equipments/devices were covered under AMC at ECoR, SECR, NR (Electric lobbies of Delhi division), and equipment/devices of WCR were under warranty.

iv. Working spare equipment/devices were not available for immediate replacement of defective equipment for ensuring continuous operations at lobbies of 11 ZRs[53]. Working spares were available at the lobbies of ECoR and WR.

v. Fire Extinguishers were found to be expired/not installed at SR[54], SWR (Castlerock), NWR (Jaipur), NFR Lobbies, ER (four lobbies), ECR(were not adequate at ECR). Fire Extinguisher were available at lobbies of WR, NR, CR, SER, SECR, WCR.

vi. Smoke Detector/Fire Alarm System were not found installed at the lobbies of all ZRs test checked by Audit.

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[49]CR, NR, SR, SCR (13 lobbies), ECoR, SECR, ER, ECR, NFR, NCR, NWR, WCR, SER
[50] Delhi Division (NR), SECR, NFR, ECR, SCR (available only at two lobbies), ER, WCR
[51] WR (three lobbies), SR (11 lobbies), SCR(one lobby), ECoR (two lobbies), SWR, ER (five lobbies), NR(one lobby only-GZB), NWR
[52] ECR, ER, SER, SCR, NFR, NER, CR, NWR, SWR, SR (UPS/Inverter of only two out of 26 lobbies covered), WR and NR (Diesel lobbies of Delhi division).
[53]ECR, ER, SER, NWR, SECR, CR ,NR(MTC, ROK, NZM, JHL, Jind, GZB, DEE lobbies), SR, SCR, WCR
[54]Expired at Tambaram lobby in January 2015 and were also not located at a place which could facilitate their immediate usage during emergency

Appendix – XXIX

[Reference Para 5.3]

Statement Showing Cases of Delay in Commissioning of Lobbies over Different ZR

i. The work of supply and commissioning of TSS equipment in 39 locations was awarded to a firm in January 2012. The date of completion of commissioning was fixed as 25 April 2012. There was delay in commissioning initially due to development work at CRIS and later-on due to non-availability of site readiness. As of April 2014, only 15 lobbies could be commissioned and 24 lobbies were still pending as site was not ready.

ii. Against the target of implementation of CMS under phase-I over 40 lobbies of NR by 31 March 2007, all the lobbies were either not commissioned or were commissioned without populating referential data work during February 2008. Six lobbies did not commission/start booking of crew even by the end of July 2008. The basic reason for not achieving target of implementation was non-completion of civil/electrical/S&T (Network infrastructure) related work.

iii. Even during the final/third phase, the target of implementation of CMS was yet to be achieved as CMS was not implemented at 16 lobbies over NR (till 31 March 2015) due to lack of connectivity, site readiness, non-availability of CMS equipment.

iv. Over SR, no target date had been planned/fixed for full implementation of CMS.

Appendix – XXX

[Reference Para 5.5]

Statement Showing Details of Non-usage of CMS over Different Zones

i. Over SCR, in Secunderabad lobby, Guards' were manually signing on/off their duties.

ii. Over SR, data of 162 diesel crew of MAS lobby was not captured in CMS and their operations were not covered under CMS.

iii. Over SER, in SRC lobby, booking of guards was being done through manual system.

iv. Over NR, at NDLS, GZB, PNP and ANVR[55] lobbies, Guards were not using CMS for sign on/sign off purpose.

v. Over WCR, in Beohari and Rewa lobbies, system was lying in operative due to non-availability of proper operator and defective system.

vi. Over SR and ER, CMS lobbies at MSB (Guard lobby) and BDC were lying inoperative since their commissioning and hardware remained idle. Over ER, one set of hardware of BDC lobby was shifted to HWH lobby.

vii. Over CR, in 12 lobbies of Mumbai Division, CMS usage was poor even after a lapse of nine years. While accepting the contention of Audit, Railway Administration stated that poor usage was due to various problems (mainly due to non-availability of slate system of booking in CMS, equipment with outlived codal life etc.).

[55] *See glossary*