
# WORK STUDY REPORT

ON

REVIEW OF GROUP 'D' STAFF

WORKING UNDER

SSE/Elect (Power) & SSE/Coaching (TL/AC)

ELECTRICAL DEPARTMENT

OVER

AMBALA DIVISION

2019-20

WORK STUDY TEAM

| | | |
|---|---|---|
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GUIDANCE

BY

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SWSO

DATE OF COMMENCEMENT: 02.04.2019
DATE OF COMPLETION : 18.04.2019

No. 16-CP/13/WS/2019-20

Central Planning Cell
Northern Railway
Headquarters Office,
Baroda House,
New Delhi

EXECUTIVE SUMMARY

This study was allotted to Central Planning Cell, HQ Office, to identify redundant/unproductive/ wasteful activities in Electrical power, TL/AC Group 'D' staff working over Ambala Division with a view to improve the manpower productivity and economy.

STAFF POSITION

The total sanctioned and on roll strength of Group 'D' Electrical power, TL/AC staff in electrical (G) department over Ambala Division is as under:-

| Deptt | Group 'D' | | |
|---|---|---|---|
| | S/S | O/R | Vacancy |
| Power | 175 | 119 | 56 |
| T/L | 87 | 71 | 16 |
| AC | 111 | 54 | 57 |
| Total | 373 | 244 | 129 |

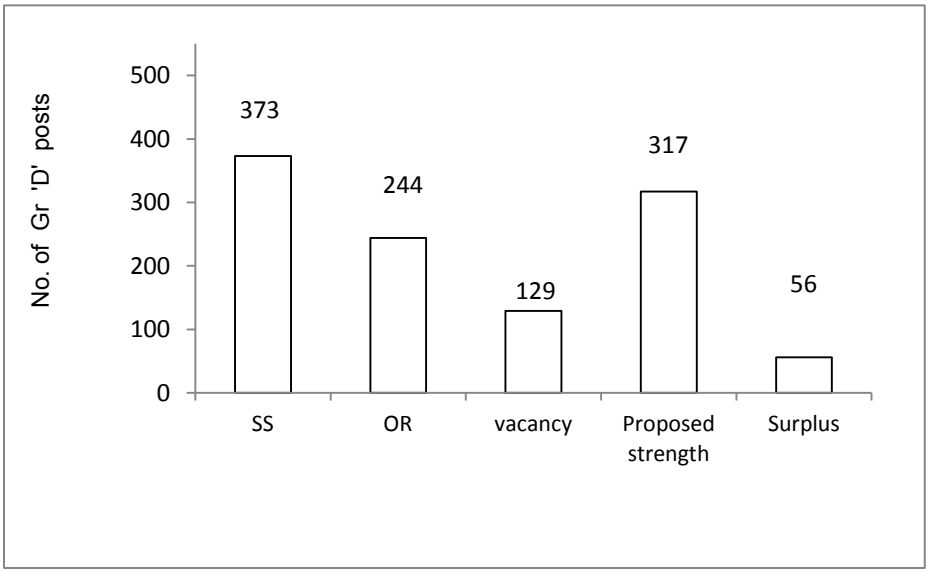
No. of posts identified as surplus and recommended for surrender: -

Gr. 'D' = 56 posts
Total = 56 posts

FINANCIAL IMPLICATIONS

Anticipated recurring savings = ■ 281.86 lakh per annum.
Capital saving = Nil
Total = ■ 281.86 lakh per annum

Group 'D' staff



# I N D E X

# SYNOPSIS

Indian Railway is one of the largest government organization which transports passenger and freight traffic from one place to another at an optimum level of safety, security, reliability and punctuality. Railways constant endeavor has been to transform the benefits of improved performances to reach the people and national economy. Railways have been making all possible efforts to make journey more affordable and comfortable through adoption of modernization and system improvements

IR has introduced high speed sophisticated & LHB AC coaches to provide comfortable journey to rail users in Rajdhani, Shatabdi, Humsafar and Gatiman trains. The coaches are attended during preventive maintenance in shops/depots for fitness of AC equipments, fans and lights to avoid inconvenience to rail users. The least maintenance/ maintenance-free batteries have been provided by replacing old frequently attended/maintenance batteries. The End-on-Generation (EOG) is being used requiring least maintenance and ensures un-interrupted electric supply in Shatabdi/Rajdhani/Duronto trains. All the FL/CFL fittings in coaches are being replaced with LED maintenance free light fittings.

Electrical power supply section ensures the power supply in residential and service buildings and maintenance of electrical equipments in sub station e.g. HT panels, LT panels etc further it provides LED light fittings energy saving ceiling fans star rating equipments etc in railway premises. In the series of modernization energy saving and maintenance free equipments are being introduced in the system, which has not only reduced the workload of electrical staff but also reduction in non traction energy.

Keeping in view above, SDGM/NR assigned the work study on "Review of Group 'D' staff working under SSE/Power and SSE/Coaching (TL/AC) of electrical Department over Ambala Division" to the Central Planning Cell, HQ Office, with a view to reduce wastage/redundant activities to effect economy and manpower productivity. The team reviewed the power and coaching (TL/AC) staff vis-à-vis existing workload to assess the requirement of staff economically by reducing wastages in the system. The team held discussions at various levels to arrive at actual status of requirement of staff keeping practical ability in consideration. The requirement of Power, AC & train lighting Group 'D' staff over Ambala Division comes to 317 posts against the sanctioned strength of 373 posts and have identified 56 posts as surplus. The acceptance/implementation of the recommendations contained in the report yield a net recurring saving of about ₹281.86 lakh per annum will be achieved by the administration.

SUMMARY OF RECOMMENDATIONS

<table>
<tr><th>S N</th><th>Recommendations</th><th>Refer Para No</th><th>Implementing/Accepting Authority</th></tr>
<tr><td></td><td>It is proposed that 56 posts of Group ‘D’ staff working under SSE/Power and SSE/Coaching (TL/AC) of electrical Department over Ambala Division identified as surplus and recommended for surrender as follow:-
<table>
<tr><th>S.N</th><th>Category</th><th>Pay scale & grade pay</th><th>No. of surplus posts</th></tr>
<tr><td>1</td><td>Group ‘D’ Power Khallasi Staff</td><td>5200-20200-1800</td><td>26</td></tr>
<tr><td>2</td><td>Group ‘D’ AC/TL Khallasi staff</td><td>5200-20200-1800</td><td>30</td></tr>
<tr><td colspan="3">Total</td><td>56</td></tr>
</table></td><td>2.8.2</td><td>ADRM/UMB<br>Sr DEE/G/UMB<br>Sr DPO/UMB</td></tr>
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ACKNOWLEDGEMENT

The Work Study team is highly grateful to Sh. Karan Singh, ADRM/UMB, Sh. Ankush Jain Sr.DEE/G/UMB, & Sh Nikhil Dhongri, Sr. DPO/UMB for giving their valuable guidance for conducting the study. The team is also thankful to all other functionaries for extending their cooperation for providing necessary data/information during the course of study.

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1.0.0 INTRODUCTION

1.1.0 In its endeavor to provide comfortable and affordable journey to rail users, Railways have adopted modern technologies due to modernization and upgraded systems. Modernization and improved services have resulted in increase the revenue expenditure. Consequently reduction in avoidable expenditure against wasteful/redundant activities should be explored.

1.1.1 The entire electrical network of power supply is spread over in the form of different activities at sub-station, pump houses, HT panels, LT panels, overhead spans, electrical poles, street lights etc. the electrical deptt is involved in day to day maintenance of electrical assets and power supply distribution in Railway service/residential buildings. In the series of modernization energy saving and maintenance free equipments are being introduced in the system, which has not only reduced the workload of electrical staff but also save the electrical energy.

1.1.2 The electrical maintenance of coaches is a vital activity as it is comfort oriented. A coach through fit to run but may not be electrically fit becomes a cause of complaint and a major factor for leakage of railway revenue as well as cause of detention.

1.1.3 A considerable number of staff is engaged for carrying out the electrical maintenance of coaches. Due to modernization, certain activities have either been closed or modified, but the staff is still engaged on old pattern.

1.1.4 Keeping in view above, SDGM/NR desired to conduct a work study on "Review of Group 'D' staff working under SSE(Elect Power) SSE/Coaching (TL/AC) of electrical Department over Ambala Division" with a view to effect economy in expenditure by reducing wasteful/redundant activities in view of technological upgradations made in AC & train lighting maintenance system.

1.2.0 TERMS OF REFERENCE:

The following terms of references were adopted for conduct of the study:-

1. To review staff strength vis-à-vis existing workload.
2. To identify redundant/unproductive activities with a view to eliminate wasteful expenditure
3. To suggest ways and means to improve the efficiency and productivity of the system

1.3.0 METHODOLOGY ADOPTED

Method and work measurement techniques of work study were adopted to arrive at fruitful results as follows:-

1. Data Collection and its critical analysis.
2. Work sampling/activity sampling to compare actual performance
3. Held discussions at various levels.

2.0.0 BRIEF DESCRIPTION, STAFF POSITION, WRKLOAD, CRITICAL ANALYSIS, PROPOSED STAFF, GENERAL OBSERVATIONS AND RECOMMENDATIONS.

2.1.0 Ambala division is an important Division of Northern Railway. It has popular tourism places. It is strategic due to defence needs and train operation, it is a major food grains loading division. It is spread over the states of Punjab, Haryana, Himachal Pradesh and Uttar Pradesh.

2.1.1 By virtue of modernization and technological up-gradations, lots of changes have been introduced to effect comfort, convenience to rail users and improved train operations. A large number of mail, express, passenger and good trains are maintained by Ambala Division at an optimum level of safety, security, reliability and punctuality.

2.1.2 This work study is limited to the review of Group 'D' staff working under SSE(Elect Power) & SSE/Coaching (TL/AC) of electrical Department over Ambala Division.

2.1.3 The present day train lighting system has evolved from the erstwhile conventional double battery, conventional heavy copper switch gear system. The basic problem is that system was heavy theft of copper parts of various electrical appliances/equipments. The Electrical train lighting system has improved owing to the gradual improvement in the standards of amenities viz light, fans and developments of indigenous dynamos, brushless alternators and associated switchgears. The system of *End on Generation* (EOG) got evolved to overcome the problem of non generation on slow speeds on branch line train as well as interference with generating equipments, batteries and other under gear equipments by antisocial elements. Due to technological developments and modernization, the under-slung AC equipments are being converted into RMPU AC equipments.

2.1.4 The major achievements made by the Railway have been converting the electric supply in conventional coaches from 24V to 110V by changing the generation system. Certain other changes have also been made by the Railways to minimize avoidable activities for reducing excess staff being engaged against unproductive activities.

2.1.5 Ambala Division has deployed the AC/TL staff at different locations viz SRE, UMB, KLK (BG), KLK (NG), SML, CDG, BTI, NLDM & DUI depots. The existing pattern of workload is to be rationalized for effective and economical maintenance due to modernization of conventional coaches.

2.2.0 EXISTING SET UP

2.2.1 To cater the needs of AC/TL activities over Ambala Division the AC/TL depots are working under the overall control of Sr. DEE/G/UMB are as under:-

1. SAHARANPUR (SRE)
2. AMBALA (UMB)
3. KALKA (BG) (KLK)
4. KALKA (NG) (KLK)
5. SHIMLA (SML)
6. CHANDIGARH (CDG)
7. BATHINDA (BTI)
8. NANGALDAM (NLDM)
9. DHURI (DUI)

2.2.2 The group 'D' staff are deployed to help the technician staff. The activities broadly required to be carried out by AC/TL branch are as under:-

1. Primary maintenance at base depots
2. Secondary maintenance at destination/terminals.
3. Sick line attention of coaches.
4. Passing through train attention (STR)
5. Escorting important/nominated trains.

2.2.3 PRIMARY MAINTENANCE

The nominated trains on completion of their trip are given primary maintenance by electrical train lighting staff in base depots in which dynamos/alternators are given extensive maintenance. In the present scenario 24 V dynamos have been replaced by 110 V alternators which require less time for maintenance as compared to conventional dynamos. To ensure un-interrupted electric supply distribution, the regulators, main fuses and junction boxes are checked and changed if required. The axle pulley is checked and optimum belt tension is maintained. Battery is checked by measuring voltage and specific gravity. The battery is checked and distilled water is added whenever required. Lighting system is checked to ensure that all Tube lights & fans are in working order. Defective switches and tube lights are repaired/replaced. Every tube light reflector is opened and cleaned. The complete examination of fan blades/carbon brushes is carried out if required. It is ensured that all fans are in working order. Simultaneously, the extensive wiring examination is also carried out and repaired as required.

2.2.4 SECONDARY MAINTENANCE

All the activities carried out during primary maintenance carried out during secondary maintenance. The difference is that during primary maintenance the requirement is repaired as well as replaced wherever required but during secondary maintenance only repair is carried out. The other difference is that the schedules are adhered to during primary maintenance.

2.2.5 SCHEDULE MAINTENANCE

The primary based coaches are given thorough examination and repair carried out periodically i.e., fortnightly/monthly schedules as per extent instructions by the concerned department in addition to the regular primary maintenance. Keeping in view the safety and public amenity, special attention is given to all equipments.

2.2.6 Heavy repairs are undertaken at important depots for under gear equipments, alternators, carriage fans, train lighting, batteries, switch gears, wiring etc. Such works arise at major primary based depots. There have been changed with development of brushless alternators and electronic regulators. Over the years, there have also been improvements in the types of tools available for undertaking repair works.

2.2.7 PLATFORMS

On arrival of trains at the terminating stations, the lamps and fans are switched off after examining electric equipments. In case of any deficiency, a joint note is prepared along-with security staff and submitted to the AC & TL incharges. On placement of trains at originating station on the platform, the staff attends Air-conditioning system of AC coaches, lamps, lighting points and fans by switching them on load according to the weather and is kept in working order.

2.2.8 ESCORTING STAFF

The staff is required to be sent to escort nominated trains in AC coaches so as to attend air conditioning system & electric train lighting defects if any, enroute/during the run of train.

2.2.9 Topping of distilled water is necessary in the battery of coaches to meet the requirement of deficient distilled water in battery cells. For this purpose, the distilled water generating plants are installed at major electric train lighting depots.

2.3.0 Activities of Electrical Power Supply are as follow:

a) Maintenance of sub stations, equipments i.e. transformer, HT/LT panels, earthing etc.
b) Maintenance of HT/LT lines and maintenance of lighting in residential buildings, service building and welfare building etc
c) Maintenance of water pumping sets, diesel generator sets
d) Maintenance of i.e. light fittings, ceiling fans, power points, water coolers, air coolers, street lights, decorative lights and any other electrical equipment in service buildings and railway quarters.

2.4.0 STAFF POSITION: Depot wise staff position of AC/TL staff and Electrical power Supply Group 'D' staff over UMB division.

A. AC/TL COACHING Khallasi Staff (GP ■5200+20200+ GP 1800):

| S N | Depot | TL Kh | | | AC Kh | | | Total | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | S/S | O/R | Vacc | S/S | O/R | Vac | S/S | O/R | Vac |
| 1 | SRE | 09 | 08 | -01 | 05 | 02 | -03 | 14 | 10 | -04 |
| 2 | UMB | 17 | 16 | -01 | 13 | 06 | -07 | 30 | 22 | -08 |
| 3 | KLK(NG/BG) | 15 | 06 | -09 | 18 | 12 | -06 | 33 | 18 | -15 |
| 4 | SML | 03 | 03 | 0 | 0 | 0 | 0 | 03 | 03 | 0 |
| 5 | CDG | 18 | 19 | +01 | 56 | 26 | -30 | 74 | 45 | -29 |
| 6 | BTI | 15 | 11 | -04 | 08 | 03 | -05 | 23 | 14 | -09 |
| 7 | NLDM | 09 | 07 | -02 | 11 | 05 | -06 | 20 | 12 | -08 |
| 8 | DUI | 01 | 01 | 0 | 0 | 0 | 0 | 01 | 01 | 0 |
| *Total* | | *87* | *71* | *-16* | *111* | *54* | *-57* | *198* | *125* | *-73* |

B. Electric Power Supply Khallasi Staff (GP ■5200+20200+ GP 1800):

| S N | Depot | | S/S | O/R | Vacc |
|---|---|---|---|---|---|
| 1 | Saharanpur | SRE | 27 | 15 | -12 |
| 2 | Ambala cantt. | UMB, OE&P, RV | 34 | 27 | -07 |
| 3 | Kalka | KLK(NG/BG) | 15 | 09 | -06 |
| 4 | Shimla | SML | 08 | 06 | -02 |
| 5 | Chandigarh | CDG | 12 | 11 | -01 |
| 6 | Bathinda | BTI | 20 | 16 | -04 |
| 7 | Nangaldam | NLDM | 06 | 04 | -02 |
| 8 | Dhuri | DUI | 18 | 13 | -05 |
| 9 | Jagadhri | JUDW | 14 | 05 | -09 |
| 10 | Rajpura | RPJ | 11 | 06 | -05 |
| 11 | Sirhind | SIR | 10 | 07 | -03 |
| Total | | | *175* | *119* | *-56* |

C. Summarized position of Group 'D' staff working under SSE (Elect Power) SSE/Coaching (TL/AC) :

| Deptt | | Group 'D' | | |
|---|---|---|---|---|
| | | S/S | O/R | Vacancy |
| Electrical Power Supply | Power | 175 | 119 | -56 |
| Train Lighting | T/L | 87 | 71 | -16 |
| Air Conditioning | AC | 111 | 54 | -57 |
| Total | | 373 | 244 | -129 |

## 2.5.0 WORKLOAD OF AC/TL:

Depot wise workload in terms of Coaches i.e. primary, secondary and terminal trains:

| Depot | Work Load in terms of Coach Holding (Primary) | | | Work Load in terms of Coach (Secondary) | | | Work Load in terms of Coach (Terminal) | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | AC | Non AC | Total | AC | Non AC | Total | AC | Non AC | Total | Grand Total |
| SRE | 3 | 30 | 33 | 0 | 70 | 70 | 0 | 136 | 136 | 239 |
| UMB | 3 | 48 | 51 | 0 | 0 | 0 | 0 | 241 | 241 | 292 |
| KLK (BG) | 7 | 57 | 64 | 11 | 44 | 55 | 17 | 0 | 17 | 136 |
| KLK (NG) | -- | 86 | 86 | 0 | 0 | 0 | 0 | 0 | 0 | 86 |
| SML | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| CDG | 55 | 100 | 155 | 50 | 134 | 184 | 41 | 132 | 173 | 512 |
| BTI | 2 | 90 | 92 | 18 | 90 | 108 | 0 | 45 | 45 | 245 |
| NLDM | 15 | 54 | 69 | 2 | 15 | 17 | 8 | 18 | 26 | 112 |
| DUI | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total | 85 | 465 | 550 | 81 | 353 | 434 | 66 | 572 | 638 | 1622 |

## 2.6.0 WORKLOAD OF ELECTRICAL POWER:

Depot wise workload in terms of power consumption (in KWH units) for FY 2018-19:

| S. No. | Name of the major load centers/sub-zones | | 2018-19 (in KWH units) |
|---|---|---|---|
| 1 | Saharanpur | SRE | 5736505 |
| 2 | Jagadhri | JUDW | 5526165 |
| 3 | Ambala Cantt | UMB | 12148315 |
| 4 | Rajpura | RPJ | 1655362 |
| 5 | Sirhind | SIR | 1832226 |
| 6 | Nangaldam | NLDM | 883194 |
| 7 | Shimla | SML | 811249 |
| 8 | Kalka | KLK | 3010783 |
| 9 | Chandigarh | CDG | 3438122 |
| 10 | Dhuri | DUI | 2954640 |
| 11 | Bathinda | BTI | 6076212 |
| Total | | | 44072773 |

2.7.0 CRITICAL EXAMINATION

2.7.1 This study is limited to the review of Electric power supply, AC & TL Group 'D' staff over Ambala Division. The team collected staff position, workload from divisional headquarter and critically analysed the data/informations regarding maintenance practices.

2.7.2 Due to improve technological up-gradations in almost every sphere over Indian Railway, the services have improved considerably and image among rail users is also improved. To bring improvements in Railway working system a lot of expenditure has to be incurred. In the process of technological up-gradations, certain activities have become redundant/ unproductive/wasteful. Adoption of 110V batteries in place of 24V batteries, 110V alternators in place of 24V dynamos, V-belts instead of flat belts, introduction of RMPU LHB coaches in place of under slung coaches and EOG power cars etc; has reduced the efforts routine maintenance activities considerably and the system has become more reliable. Consequently, the manpower requirements have also reduced. So as to enhance economy, the redundant activities must be eliminated and the wastages over excess staff/stores must be checked.

2.7.3 In the series of modernization energy saving and maintenance free equipments e.g. LED light fittings, use BEE rated equipments etc are being introduced in the system, which has not only reduced the workload of electrical staff but also reduction in consumption of non traction energy.

2.7.4 Due to technological developments and modernization, introduction of RMPU LHB coaches in place of under slung coaches and EOG power cars etc; has reduced the efforts routine maintenance activities considerably.

2.8.0 Requirement of power khallasi staff working under SSE/Power over Ambala division:

The proposed requirement of power khallasi staff working under SSE/Power supply has been assessed on the basis of reduction of workload due to modernization and technological advancement. The team critically analysed the existing workload of power supply depots. The work study team has taken into consideration the reducing workload due to modernization and technological advancement, held discussion at various levels, while proposing the requirement of staff.

Due to implementation of the following energy conservation measures in non traction application in service buildings, Railway stations, residential quarters etc work load has been reduced to some extent.

i. Replacement of fluorescent tube light with maintenance free LED tube lights with longer life.
ii. Replacement of 90W ceiling fans with energy efficient ceiling fans.
iii. Automation of pumps with Global system communication (GSM) based techniques.
iv. Use of energy efficient star rated pumps.
v. Micro controller based automatic platform lighting management system with segregation of 70/30% circuits.
vi. Use of three stars and above labeled electrical equipments.
vii. Solar based LED lighting system for level crossing gates.
viii. Use of solar water heaters in place of electric geysers in running rooms, ORH and hospitals.
ix. Use of occupancy sensors in offices.
x. 100% LED lighting at Railway stations.
xi. Conventional electrical equipments e.g. Transformers, HT/LT panels, pumps etc are being replaced with less maintenance electrical equipments which requires less maintenance thereby requiring less manpower.

From the perusal of the above developments and technological advancements the work study team is of the opinion that work load has been reduced about 15% and the requirement of Group 'D' Electrical power staff is required to be reduced about 15%.

i. Sanctioned Strength of Group 'D' Electrical power staff=175
ii. Reduced workload of Group 'D' staff @ 15%
iii. Surplus Group 'D' staff = 175*15% =26.25 say 26
iv. Proposed requirement of Group 'D' staff (175-26) = 149

2.8.1 Requirement of AC/TL khallasi staff working under SSE/Coaching (/AC/TL) over Ambala division:

The proposed requirement of AC & TL staff has been assessed on the basis of reduction of workload due to modernization and technological advancement. The team critically analysed the existing workload of all AC & TL depots. The work study team has taken in to consideration the reducing workload, held discussion at various levels, taken into consideration modernization and technological development, spot observations while assessing the requirement of staff.

Due to implementation of modernization and technological advancement in electrical coaching depots, work load has been reduced to some extent.

i. Introduction of maintenance free Valve Relief Lead Acid Batteries (VRLA) in place of old conventional lead acid batteries in AC train light coaches.
ii. Introduction of LED tube lights in place of conventional fluorescent tube light in all types of coaches.
iii. AMC of DG sets in EOG type rakes.
iv. Phasing out of SG (self generated) AC coaches having AC equipments installed under-slung and introduction of RMPU (Roof Mounted Packaged Unit) AC coaches which have less maintenance.
v. Introduction EOG (End on Generation) LHB type RMPU AC coaches which requires less maintenance.
vi. Introduction of HOG (Head On Generation) rakes in Shatabdi trains thus the use of power cars is reduced.
vii. The maintenance of inverters of AC coaches are under AMC.
viii. Use of ERRU (Electronic Rectifier cum Regulator Units) in non AC coaches in place of RRU (Rectifier cum Regulator Units)
ix. Flat belts of alternators have been replaced with V belts which have long life and less maintenance.
x. Non core activities such as cleaning of batteries, fans, AC filters may be outsourced.
xi. Conventional coaches are being replaced by LHB coaches.

From the perusal of the above developments and technological advancements the work study team is of the opinion that work load has been reduced about 15% and the requirement of Group 'D' AC/TL staff is required to be reduced about 15%.

i. Sanctioned strength of TL/AC Group 'D' staff= 198
ii. Reduced workload of Group 'D' TL/AC staff @ 15%
iii. Surplus Group 'D' staff = 198*15%= 29.7 say 30
iv. Proposed requirement of Group 'D' staff (198-30) = 168

2.8.2 The summarized position of existing Sanctioned, proposed and surplus staff of Power Supply and TL/AC staff over UMB division is as under:

| SN | Depots | S/S | Proposed Staff | Surplus posts |
|---|---|---|---|---|
| 1 | Power supply | 175 | 149 | 26 |
| 2 | TL/ AC | 198 | 168 | 30 |
| Total | | 373 | 317 | 56 |

The above table reveals that the proposed requirement of Power supply and AC/TL Group 'D' staff comes to 317 against the sanctioned strength of 373 and 56 posts identified as surplus and recommended for surrender

*RECOMMENDATION NO.1*

It is proposed that 56 posts of Group 'D' staff working under SSE/Power and SSE/Coaching (TL/AC) of electrical Department over Ambala Division identified as surplus and recommended for surrender as under:-

| S.N | Category | Pay scale & grade pay | No. of surplus posts |
|---|---|---|---|
| 1 | Group 'D' Power Khallasi Staff | 5200-20200-1800 | 26 |
| 2 | Group 'D' AC/TL Khallasi staff | 5200-20200-1800 | 30 |
| Total | | | 56 |

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3.0.0 FINANCIAL IMPLICATIONS

| S N | Category | Pay scale + Grade pay in ■ | No. of posts | Rec. No | Monthly value per posts ■. | Total annual recurring saving in■. |
|---|---|---|---|---|---|---|
| 1 | Khallasi Group 'D' Staff | 5200-20200+1800 | 56 | 1 | 41944/- | 2,81,86,368/- |
| Total | | | 56 | | | 2,81,86,368/- |

No. of posts identified as surplus: -

Group 'D' = 56 posts
Total = 56 posts

Anticipated recurring saving = ■ 281.86 lakh per annum
Capital saving = Nil
Total saving = ■ 281.86 lakh per annum

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4.0.0 PRODUCTIVITY

4.1.0 The total annual expenditure incurred on the sanctioned strength of 373 posts of Power supply, Train lighting & AC staff of UMB Division is tabulated below:-

| SN | Category | Pay Scale + Grade Pay | Monthly value per posts | S/S | Total annual expenditure in ■ |
|---|---|---|---|---|---|
| 1 | Khallasi Group 'D' Staff | 5200-20200+1800 | 41944/- | 373 | 18,77,41,344/- |
| Total | | | | 373 | 18,77,41,344/- |

The above table reveals that ■18,77,41,344/- has to be incurred on the existing sanctioned strength of Power supply, Train lighting & AC staff over UMB Divn.

4.2.0 Expenditure to be incurred on the proposed requirement of Power supply, Train lighting & AC staff over UMB Divn.

| SN | Category | Pay Scale+ Grade Pay | Monthly value per posts | Proposed strength | Total annual expenditure in ■ |
|---|---|---|---|---|---|
| 1 | Khallasi Group 'D' Staff | 5200-20200+1800 | 41944/- | 317 | 15,95,54,976/- |
| Total | | | | 317 | 15,95,54,976/- |

The above table reveals that the expenditure on proposed staff of Power supply, Train lighting & AC staff will come from ■ 18,77,41,344/-to ■15,95,54,976/- over UMB Division.

WORK STUDY REPORT DETAILED CHART

Department : - Electrical Deptt

Name of study : - Review of Group 'D' staff of Power supply, Train lighting & AC staff over UMB Divn.

Activity centre :- Power supply, Train lighting & AC Depot over UMB Divn.

| S N | Sub activity Center | Brief description of Staff | Work Study Recommendation | Representative workload |
|---|---|---|---|---|
| 1 | SRE, UMB, KLK (BG), KLK (NG), SML, CDG, BTI, NLDM & DUI | S/S -373<br>O/R –244<br>Vacc - 29 | S/S -373<br>Proposed – 317<br>Surplus -56 | Maintenance of electric power equipment and power supply in residential and service buildings in Railway premises by power Supply staff.<br><br>Primary/secondary maintenance, train passing and sick line activities for maintenance of fans, bulbs/ tube lights, dynamos/ alternators, batteries and switch gear etc. of AC & non AC coaches by AC/TL staff. |

LIST OF ANNEXURES

| S. N. | Description | Annexure No. |
|---|---|---|
| 1 | Authority letter No. 16-CP/13/WS/2019-20 dt.02.04.2019 to conduct the work study | I |
| 2 | Statement showing category and grade wise sanctioned and on roll position of power supply, train lighting & AC staff of Electrical Deptt over UMB Divn. | II |

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Annexure No II

**Salient features of work study report No. 16-CP-13/WS/2019-20**

Sub: "Review of Group 'D' staff working under SSE/Power and SSE/Coaching (TL/AC) of electrical Department over Ambala Division"

Staff Position:

Sanctioned Strength of C&W Cleaner = 373
On Roll strength of C&W Cleaner = 244
Vacancy = 129

1. In the series of modernization energy saving and maintenance free equipments e.g. LED light fittings, use of BEE star rated equipments etc are being introduced in the system, which has not only reduced the workload of electrical staff but also reduction in consumption of non traction energy.

2. Due to technological developments and modernization, introduction of RMPU LHB coaches in place of under slung coaches and EOG power cars etc; has reduced the efforts routine maintenance activities considerably.

3. 15% Gr 'D' staff supposed to be reduced due to Technological development of Electrical deptt.

No. of posts identified as surplus and recommended for surrender: -

Gr. 'D' Power, AC/TL Khallasi =56 posts

FINANCIAL IMPLICATIONS

Anticipated recurring savings = ₹281.86 lakh per annum.
Capital saving = Nil
Total = ₹281.86 lakh per annum