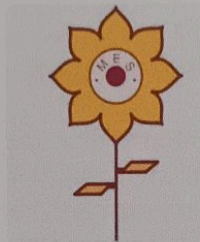




ELECTRICAL ENERGY AUDIT 2024

**Electrical Energy Audit Report
For
MAHATMA EDUCATION SOCIETY
RASAYANI - HOC**



**Presented By
NEW RB ENERGY CONSULTANCY**



Conducted on – 16 May - 2024

For NEW RB ENERGY CONSULTANCY

Authorized Signatory



ELECTRICAL ENERGY AUDIT 2024

ACKNOWLEDGEMENT

RB Energy Consultancy Electrical Safety Audit Team acknowledges with thanks the co-operation and support extended to the team members during the Electrical Safety Audit at MAHATMA EDUCATION SOCIETY (RASAYANI).

We deeply appreciate the interest, enthusiasm and commitment of MAHATMA EDUCATION SOCIETY (RASAYANI) team towards the Electrical Safety Audit activity. We would also like to place on record our sincere thanks and appreciation to all other members who helped in the Electrical Safety Audit.

We appreciate your business and take it seriously when you place your trust in us. We use calibrated instruments and also have our own Thermography camera. Since the condition of buildings and equipment changes over time, we can only report the conditions that existed at the time of our inspection.

We recommend that you have mission critical equipment re-inspected on an annual basis and that you keep previous inspection reports to help with establishing baseline conditions for any items in question. The conditions and recommended actions reported herein are merely the opinion of the Electrical Safety Audit Team and any item with an action level should be investigated and repaired by a qualified and licensed electrician.

This report does not claim to set forth all existing hazards or to indicate that other hazards do not exist. The inspection and report are performed and prepared for the use of the client. RB Energy Consultancy Services accepts no responsibility for use or misinterpretation by third parties. Our inspection of the property and the accompanying report are in no way intended to be a guarantee or warranty of any kind.

RB Energy Consultancy Services and its employees assume no liability whatsoever for any damage or loss arising from or connected with this inspection and report, including discovering, or failing to inspect or discover any condition.

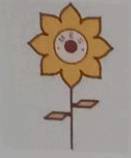
We reserve the right to refuse to open or access any equipment in cases where there is insufficient PPE (personnel protective equipment) available or an insufficient protective boundary for nearby personnel.



ELECTRICAL ENERGY AUDIT 2024

TABLE OF CONTENTS

Sr. No.	INDEX	Page No.
1	Inspection and Identification	4
2	Specifications of Instruments used	4
3	Introduction	5
4	Recommendations	6
5	Report Summary	7
6	Main Power Panels	8
7	General Observations & Recommendations	15
8	General Suggestions	19
9	Conclusion	21



ELECTRICAL ENERGY AUDIT 2024

3. INTRODUCTION

This report details the Electrical Safety Audit activity conducted for HOC MAHATMA EDUCATION SOCIETY (RASAYANI). The audit was carried out with the assistance of a member of staff whose role was to identify and locate equipment to be inspected together with opening Electrical Panel doors.

The aim of this report is to highlight the areas that do not comply with the statutory electrical safety rules. Recommendations are provided for the issues observed as per the priority of High, Medium and Low basis which will help the client to take appropriate action on the same.

Locations on the panels and other areas in the common areas of the building were visited and observations were made and images were clicked as a matter of proof. This report includes suggestions to improve upon the faulty areas and a guide to improve the systems further.



ELECTRICAL ENERGY AUDIT 2024

4. RECOMMENDATIONS

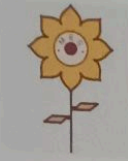
The recommendations given in this report are intended as a guide only and should be used in conjunction with advice from the maintenance services provider. The priorities are not intended to be prescriptive; recommendations will depend on individual equipment's.

The recommendation priority will very much depend on the type of components being inspected and their environment. As an example, the following priority classification that will be applied for taking action on the respective areas

Priority	Recommendations
1	Immediate action should be taken
2	Remedial action should be undertaken at the earliest opportunity
3	Remedial action should be taken at the next planned maintenance activity

The actions to be taken are completely on the client and the audit company shall not be responsible for it.

Note: Please note that the below mentioned pending/snags are recorded during our visit at sites. There can be cases where these pending snags were addressed by client in due course of time.



ELECTRICAL ENERGY AUDIT 2024

Panel Name	Equipment / Item	Observation	Recommended Action	Priority
COMMON OBSERVATIONS	First Aid / Shock Treatment Charts	Shock treatment charts not displayed in panel room	individual panel rooms to have a pictorial and explanatory shock treatment chart	1
	Fire Schematic	Fire schematic not mentioned at the entry of panel rooms	Fire schematic needs to be provided at every panel room	1

5. REPORT SUMMARY





ELECTRICAL ENERGY AUDIT 2024

The following is a list of detailed observations found during the Electrical Safety and Energy Audit activity. The recommendations for the observed issues are also mentioned in the report below.

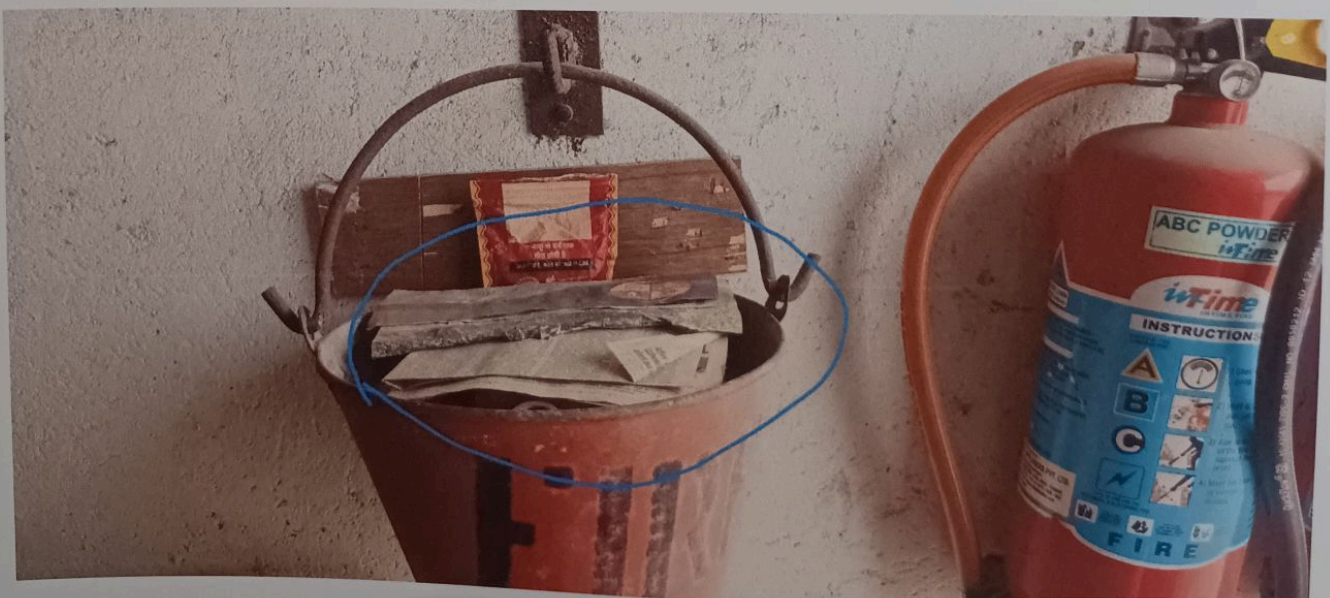
5.1 MAIN POWER PANELS

Panel Name	Equipment / Item	Observation	Recommended Action	Priority
A & B	Electrical Single line diagram	Electrical single diagram is not found in electrical room	In case of emergency Electrical single diagram will be useful to understand existing connection.	2
	Fire Extinguishers	Fire extinguisher are provided but not 5ft on wall mounted	They should be wall mounted for ease in operation during fire hazards	2



ELECTRICAL ENERGY AUDIT 2024

Panel Name	Image No.	Observation	Recommended Action	Priority
Distribution board & Sub Distribution board	A, B,C,D, E,F,G,H I,J,K,L	O/G cable tagging is required & cable entry need to be closed. so that lizard will not enter into panel. Without lug wire conductor is connected to MCB.	Kindly get the tag installed for proper identification of cables. Cable openings need to be closed. Panel cleaning is required by blower. Proper straight pin lug is required.	2
		Glanding is not done to cable. Incoming wire openings need to be closed. So that lizard will not enter into panel.	Kindly get proper glanding done.	2
		Enclosure not provided on sub distribution panel.	Kindly provide enclosure.	2
		Electrical Insulating mat is not founding on flooring	Electrical Insulating mat is provided on flooring	





ELECTRICAL ENERGY AUDIT 2024

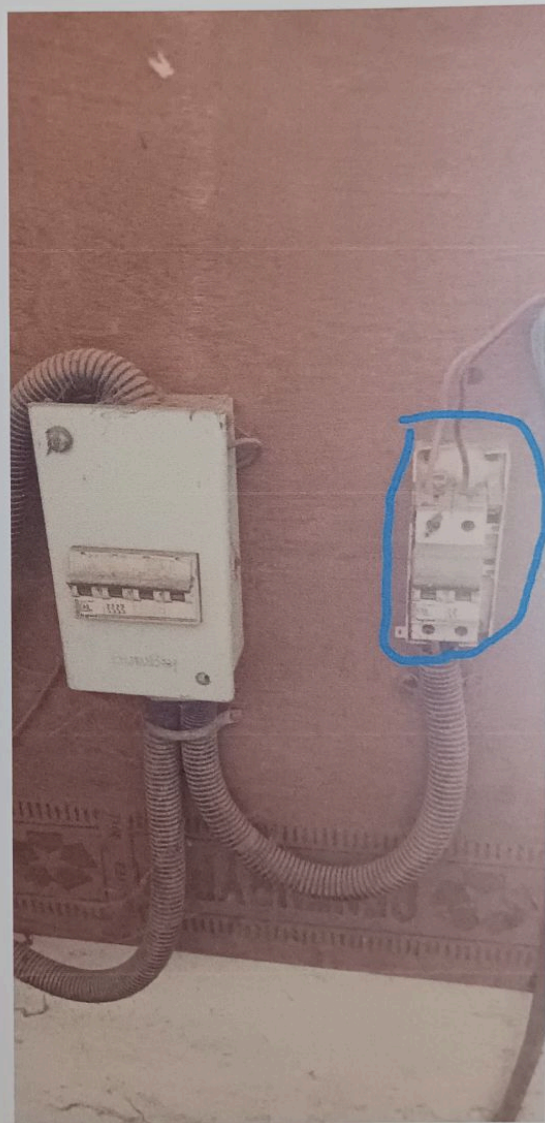
Unwanted material in sand bucket.



Shock treatment charts not displayed in panel room,
Fire schematic not mentioned at of DB
Electric room is labeled with "Electric Room" "Danger 440 Volts" "Restricted Entry
Electrical single diagram is not found.
Electrical Insulating mat is provided on flooring.
Emergency contact number is not found.



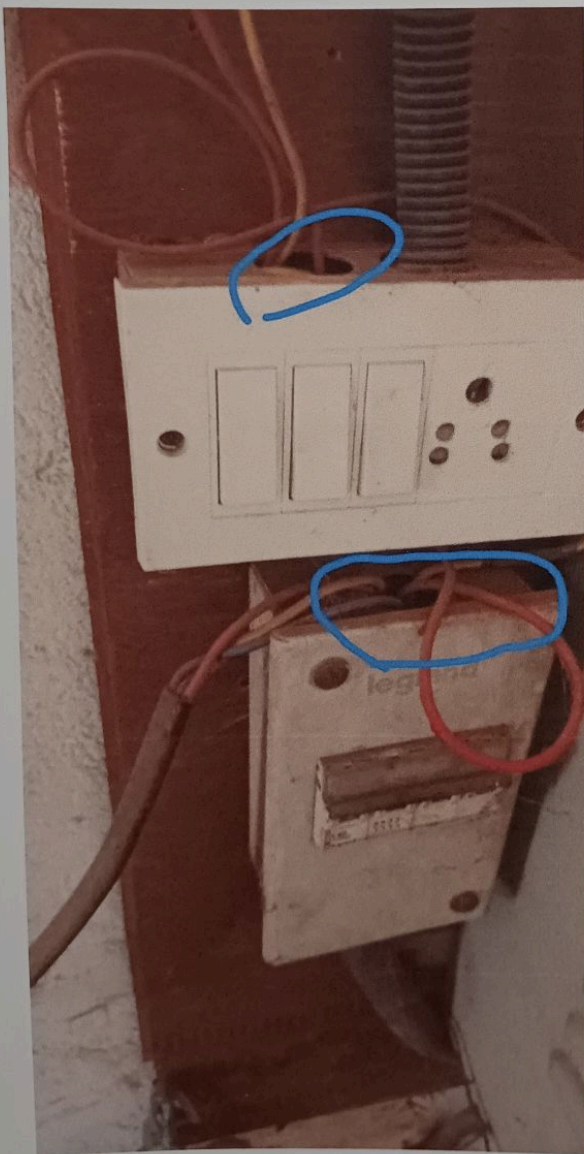
ELECTRICAL ENERGY AUDIT 2024



Electrical room is maintained clean and no unwanted material is stored in electrical room.
Electrical mcb is need to be cover properly.



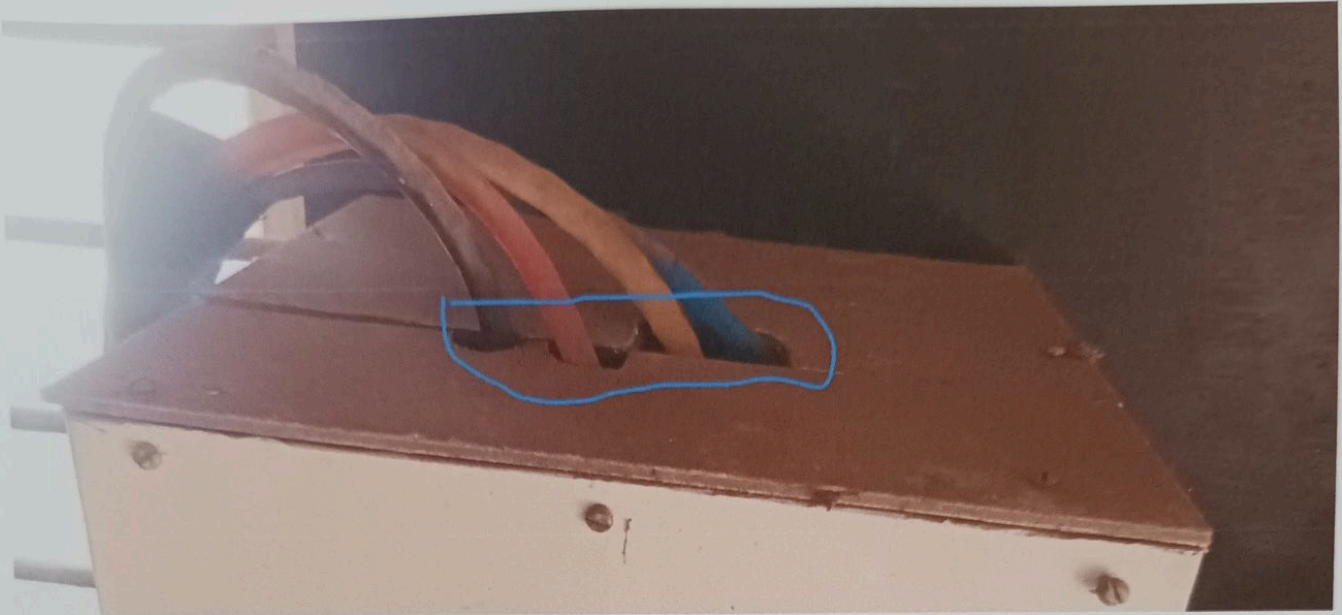
ELECTRICAL ENERGY AUDIT 2024



Cables are gland properly at terminations.
Fire extinguisher are provided but not wall mounted.



ELECTRICAL ENERGY AUDIT 2024



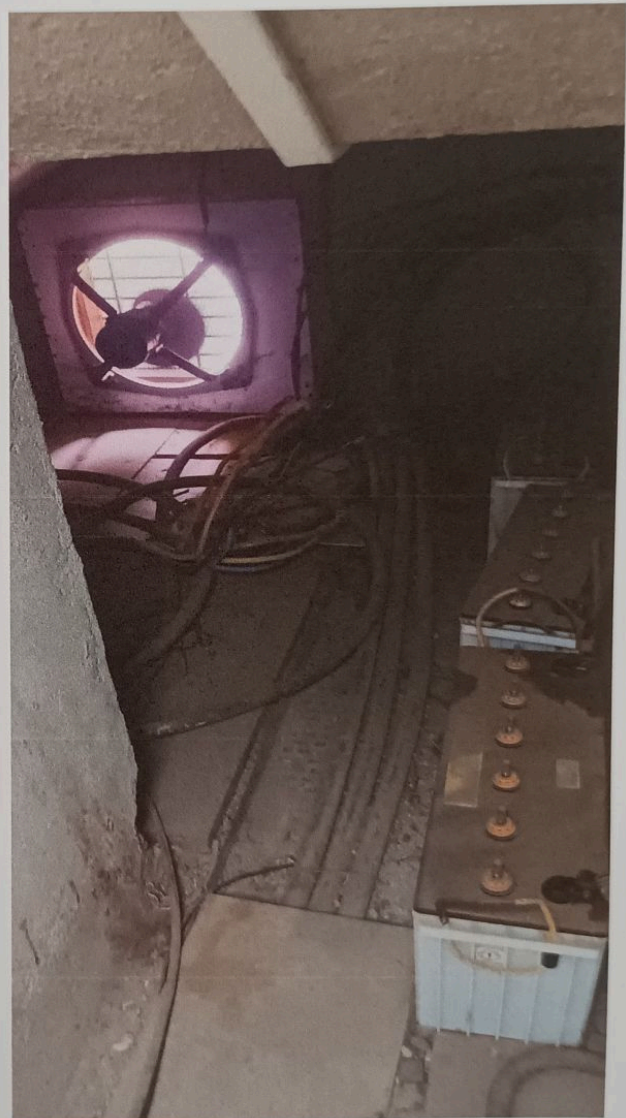
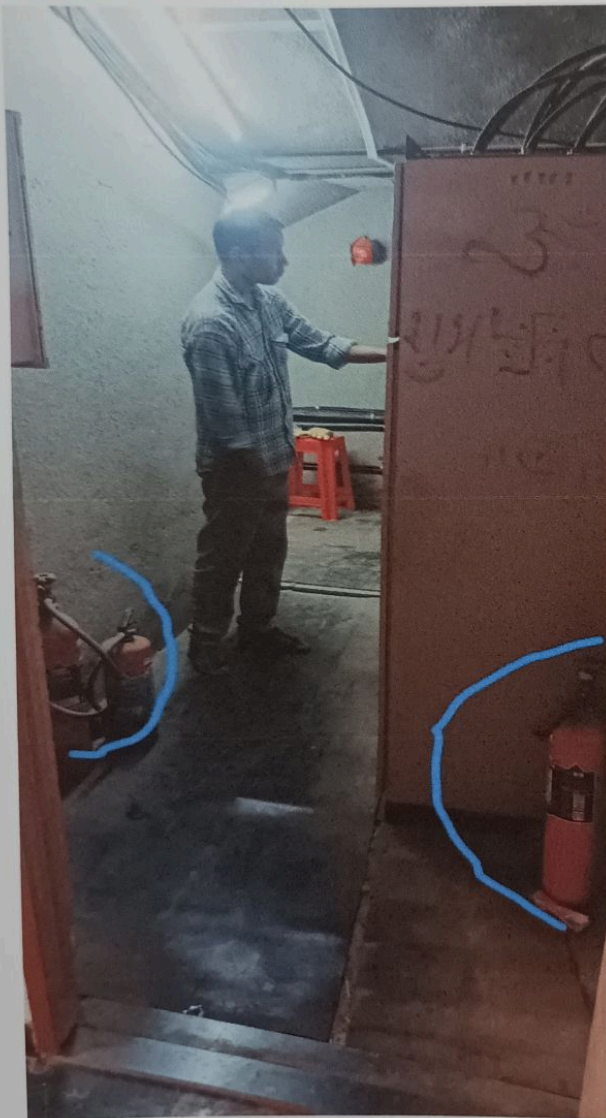
Cables are gland properly at terminations.



Cables are laid/ routed in safe manner and need to be cable tray.
Batter needs to be proper tray.



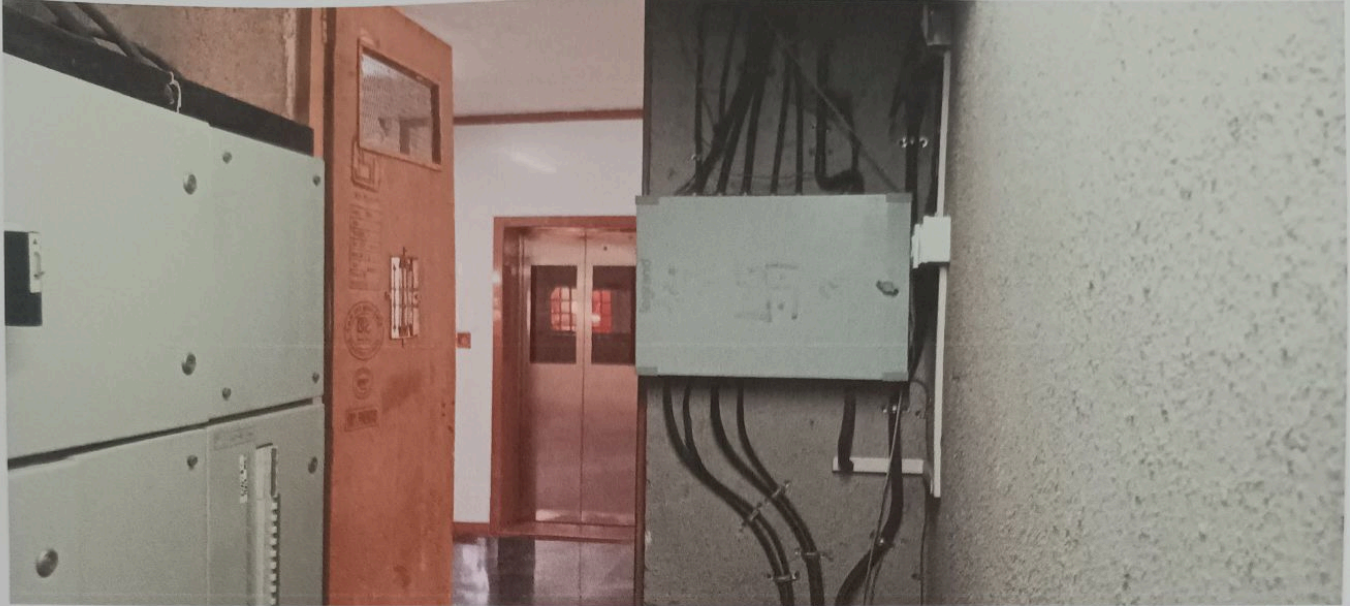
ELECTRICAL ENERGY AUDIT 2024



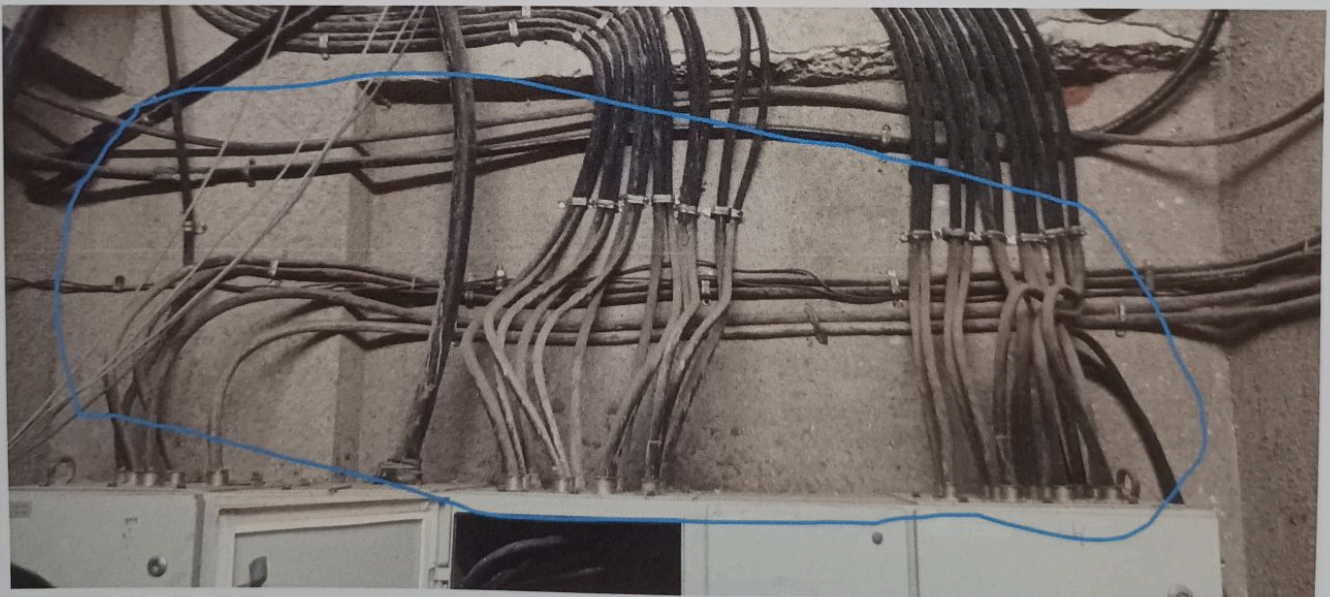
It is observed that the technicians operated Hand Gloves not used while working on electrical installations.
Tools and Equipment's are not found.
Fire extinguisher are provided but not wall mounted.
Space is sufficient to provide proper access to the switchgear for maintenance work.
Cables are laid/ routed in safe manner and need to be cable try.



ELECTRICAL ENERGY AUDIT 2024



Electric room is labeled with "Electric Room" "Danger 440 Volts" "Restricted Entry".



Electrical feeders are identified with the load they will be operating and marked accordingly. Cables are laid/ routed in safe manner and need to be cable try.



ELECTRICAL ENERGY AUDIT 2024

Location : Office are		
Parameters	Observations	Remarks
Fire Extinguisher		- Need to hang on wall at 5 feet
MCP/BGU	√	Found ok
Observation on Fire Extinguisher	√	Not renewed
Signage's	√	Found okay
Emergency Contact Details	x	Must be required
Fire related Training	√	Found ok
Responsibility Matrix availability	X	Must Required
Escape routes (hurdles in path, signage's, illumination)	X	Must Required
Sprinkler system catering all areas	√	----
Smoke/Heat detector active / inactive catering all areas	√	----
PA system working	X	Found okay
Healthiness of System	√	Found ok



ELECTRICAL ENERGY AUDIT 2024

Emergency Lighting	X	Must Required
First Aid Kit	√	Found ok
Electric Shock Treatment Chart	x	Found okay

7. General Observations & Recommendations

No's	Particulars	Comment
1	Proper entry/access is provided for electrical room	Yes
2	Proper door (lock arrangement) is provided	Yes
3	Electric room is labeled with "Electric Room" "Danger 440 Volts" "Restricted Entry"	No
4	Electrical Insulating mat is provided on flooring	Yes
5	Proper illumination is provided near distribution boards and main isolation switches	Yes
6	Proper ventilation is provided for electrical panels and switchgears	Yes
7	Space is sufficient to provide proper access to the switchgear for maintenance work	Yes
8	5Kgs, CO2 type fire extinguisher (1 no.) is provided and is within the periodic test life	No
9	Any abnormal overheating of cable, terminations and switchgear	No
10	Switchgears are enclosed from	No



ELECTRICAL ENERGY AUDIT 2024

A	Front	Found ok
B	Top cable entry	Gland & cable sport required try required
c	Bottom cable entry	Ok
11	Electrical panels, switchgears and distribution boards are clean and free from dust and moisture.	Yes (Unwanted material)
12	Cables are glanded properly at terminations.	No
13	Cables are laid/ routed in safe manner	Yes
14	Handles are provided to the switchgears and are in good working condition	Yes
15	Proper earthing is provided to electrical installations (panels/switchgears/DBs etc.)	Yes
16	There are no live conductors/ busbars in open condition	No
17	Up to date Single Line Diagram (as laid) is displayed inside the electric room	No
18	Electric supply board cutouts (Fuse Holder of ESCO) are properly enclosed	Yes
19	Electrical feeders are identified with the load they will be operating and marked accordingly.	No
20	Electrical room is maintained clean and no unwanted material is stored in electrical room	No
21	The room has proper roof and there is no possibility for water leakage/seepage.	Found Ok
22	Test reports of electrical installations like earthing test reports are valid and dated.	Yes

Parameter	Observation	Recommendations	Priority
Personal Protective Equipment's used by Technicians	It is observed that the technicians operated sans Hand Gloves while working on electrical installations	Strongly recommended to provide the technicians with safety gloves even for LT side	1



ELECTRICAL ENERGY AUDIT 2024

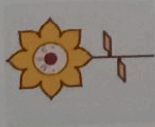
- Tools need to be protected from damage either physical or atmospheric conditions and hence need to be stored carefully.

3) Yearly calibration:

- Calibration of the Energy meters on the main power panels is of utmost importance to ensure that the readings that are being taken are appropriate and accurate.

3.4 GENERAL OBSERVATIONS

Sr. No	Equipment / Item	Observation	Recommended Action	Priority
1	Manual Call Points (MCP)	MCPs are not covered	MCPs needed to be covered by a normal cover to avoid needless tripping leading to havoc conditions.	1



ELECTRICAL ENERGY AUDIT 2024

Year	Month	Day	2nd shift Engineer	2nd shift Technicians	Sr. no.	Time	Location	Details of complainant		Details of complaint	Action taken / Details of Regular activities	Status (Job done/pending)	Attended by
								Name	Contact Details				

Table-1: Standardized Handover format

Project: MAHATMA EDUCATION SOCIETY (RASAYANY)

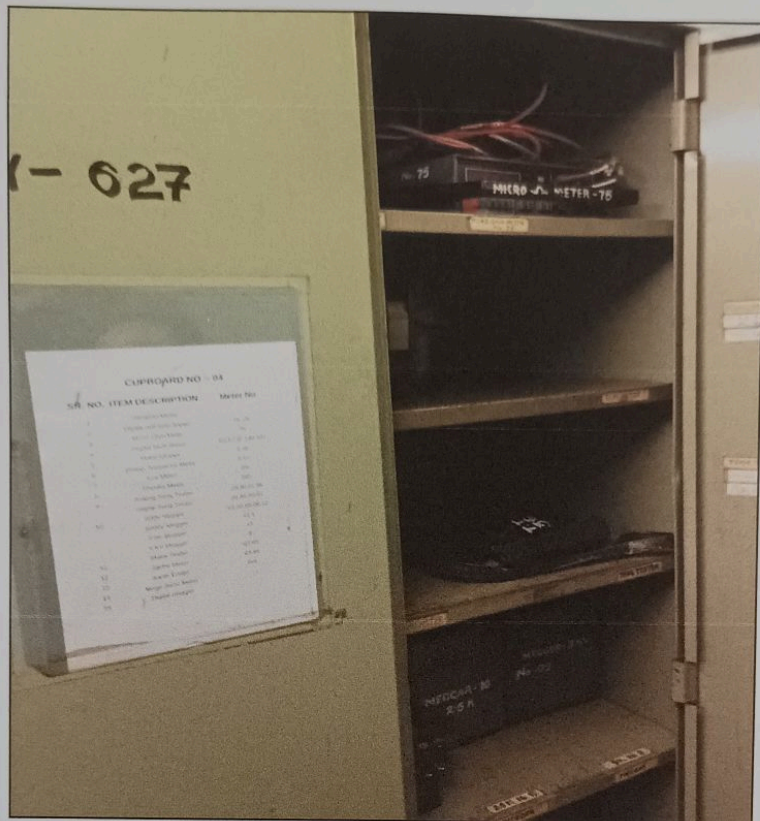


Figure-1

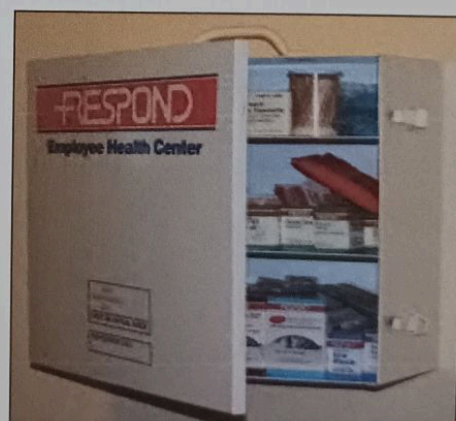


Figure-2

Project: MAHATMA EDUCATION SOCIETY (RASAYANY)

4) **Work Permit Format:**

- Kindly follow the following format that indicates a standardized Work Permit Format.

Electrical Work Permit

Date:

WP NO:

Block Ref :
Area :
Details of work :
Work suggested by :
(Company Name)

PRECAUTION OR SPECIFIC REQUIREMENTS					
	Y	N		Y	N
Availability of LOTO procedure			Usage of 3 pin sockets in all Electrical appliances		
Qualified Electricians			Availability of Electrical safety gloves		
No physical damage in wires			Electrical insulation mats in the area of work		
Area of work is free of water			Usage of proper PPEs		
Follow up of earthing practices			Warning Signage		
Usage of insulated tools					

Start Time:

Expected time of completion:

Time of completion:

The safety requirement need to be followed have been explained to me and I understood the safety requirements. We will follow the same while executing the work.

Signature of person requesting permit

Name:

Date:

The safety requirement should be followed without deviation till completion of the scheduled activity. Any deviation will lead to cancellation of this Permit. This permit is valid for the stipulated period only. Same should be renewed after the stipulated period.

Project: MAHATMA EDUCATION SOCIETY (RASAYANY)

Signature of (respective agency)

Signature of person authorizing the Permit

Name:

Date:

Designation:

9. CONCLUSION

The Electrical Safety Audit carried out, has brought to light a few critical areas that need to be rectified or replaced in order for a safer future.

The observations and recommendations are suggested in a HIGH, MEDIUM and LOW priority of compliance time required.

It is up to the client to implement the recommendations suggested by New RB Energy Consultancy