



**LABS**

Life And Building Safety

**LABS - GOOD PRACTICES SHARING**

**25th Nov 2024**



# AGENDA

Time	Contents	PIC
11:00PM - 11:15PM	Welcome & Introduction – 15'	LABS/Brands
11:15PM - 11:30PM	LABS Assessment & Remediation Review – 15'	LABS
11:30PM – 11:45PM	Factories success stories'	Factory member
11:45PM - 12:15PM	Good Practices Sharing – 30'	LABS
12:15PM - 12:25PM	Q&A – 10'	Factories
12:25 PM – 12:40 PM	LABS Graduation – 15'	LABS
12:40 PM – 12:50PM	Update on LABS helpline-10'	LABS
12:50PM - 1:00PM	Closing – 10'	LABS

# WELCOME & INTRODUCTION





# Life and Building Safety Initiative (LABS)

Promoting a safe and secure working environment in the apparel and footwear industry



The **Life and Building Safety (LABS) Initiative** is an industry-driven program, in which multiple brands and retailers are joining forces with public organizations to operate a scalable program to eliminate preventable **structural, fire and electrical safety risks** in key apparel and footwear producing countries in a targeted way.

# Life and Building Safety Initiative (LABS)

LABS organizes activities around identifying and solving risks related to:



Fire safety



Electrical safety



Structural safety

VIETNAM



INDIA



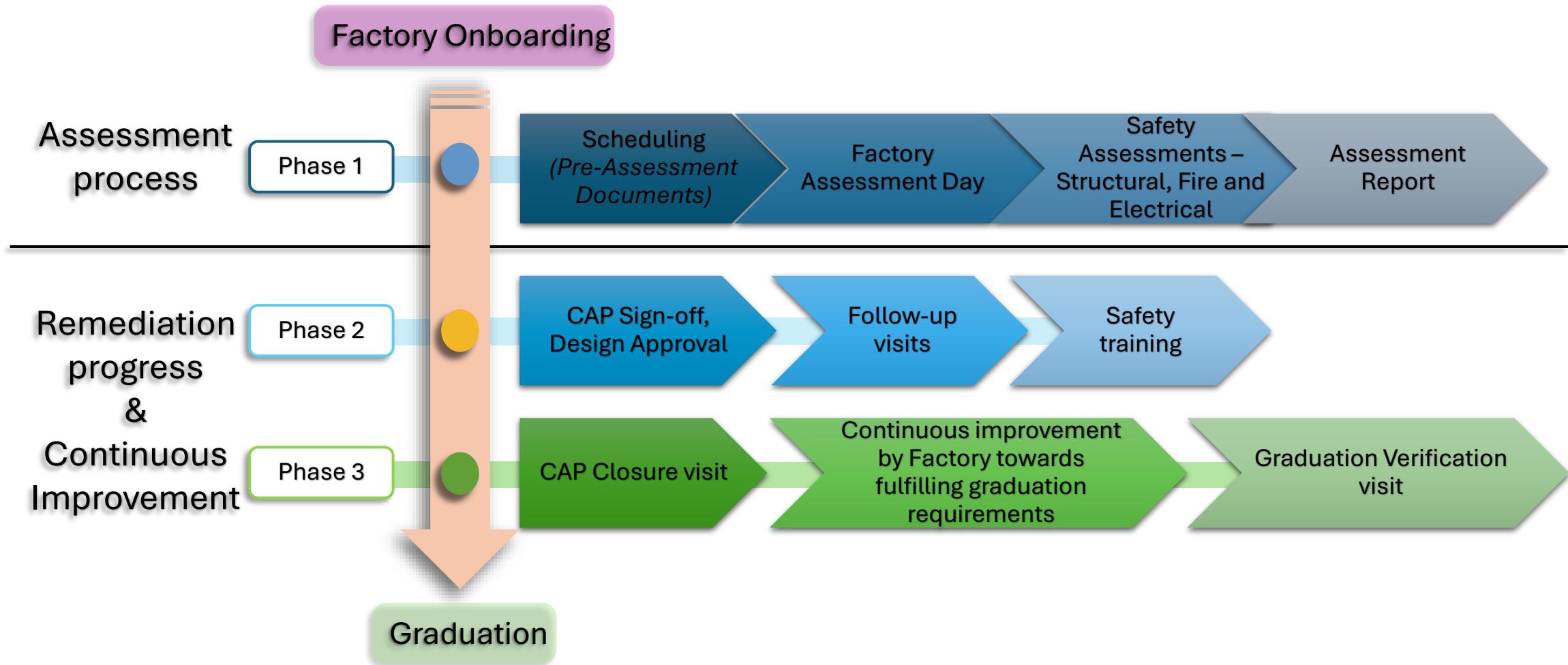
CAMBODIA



INDONESIA



# Assessment & Remediation Phases

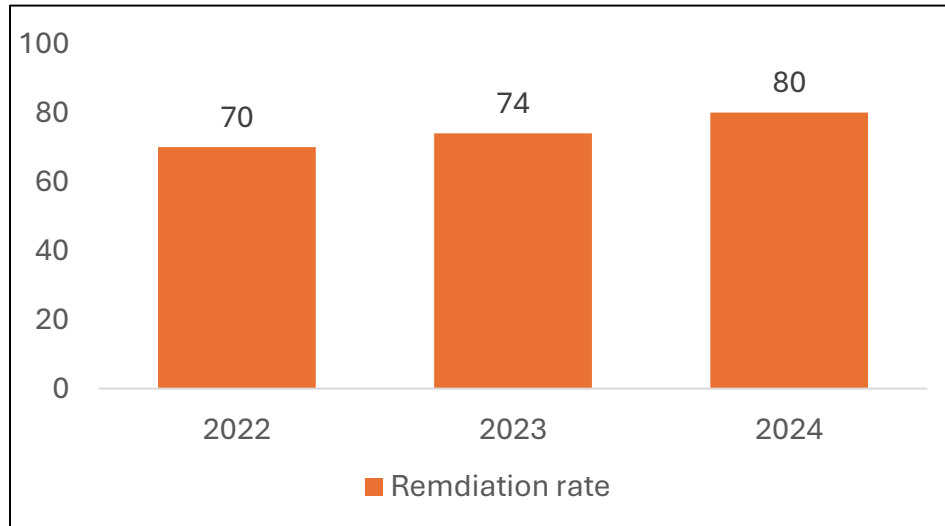


Phase 4

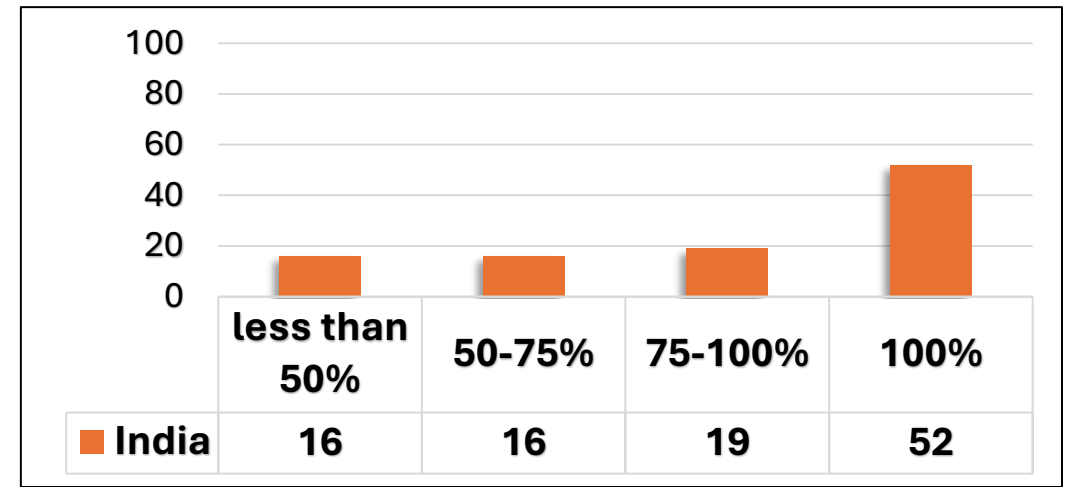
Graduated factories will be required to undergo **self-assessment twice a year** by filing the self-assessment checklist. LABS team will review the checklist and in case of any deviations identified, the information will be communicated to the respective brand participants along with the recommendations for factory to enrol back into the LABS Program.

# LABS Program India Update

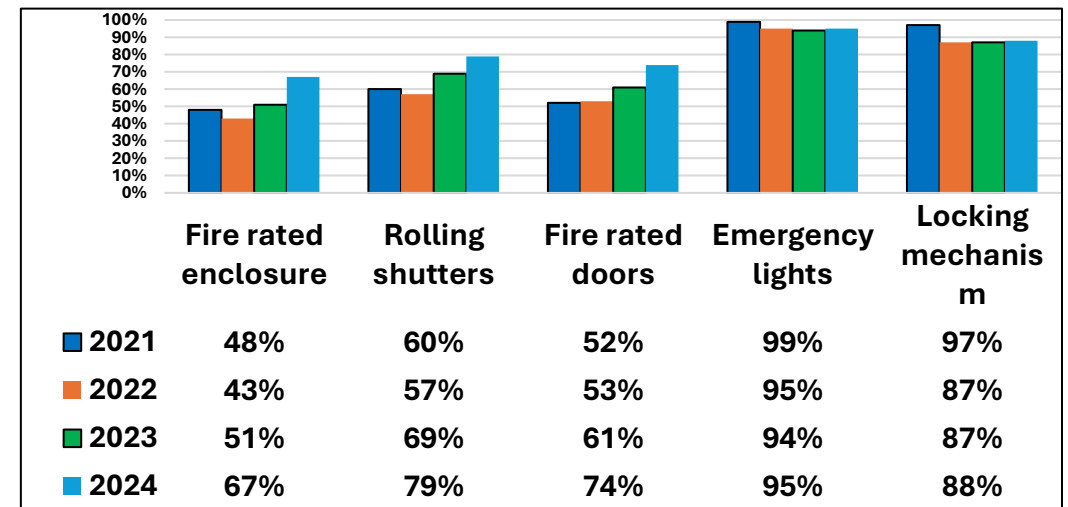
Process	India
Factories onboarded	162
Assessments conducted	162
Follow Up visit conducted	438
Safety Training Session conducted	296
Workers reached	212579
Factories graduated	37



India Remediation rate



Factories Remediation status



Key issues Remediation

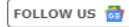
As on Nov 10



# Some fire accident of 2024

## Massive fire breaks out at textile factory in Amritsar

TOI City Desk / TIMESOFINDIA.COM / Updated: Sep 26, 2024, 10:49 IST



### Fire breaks out at jeans manufacturing factory in outer Delhi

A call regarding the fire incident was received at 7 am and eight fire tenders were pressed into service.

12 August 2024, 11:02 IST

### 7 dead in fire in paint factory in outer Delhi's Alipur

The charred bodies of the seven victims were found from the premises of the factory located in Alipur's Dayalpur Market.

11 February 2024, 13:32 IST

### Fire breaks out in two factories in UP's Ghaziabad

Police said the cause of the fire is yet to be ascertained, adding that there have been no casualties so far.

15 June 2024, 15:36 IST

## Noida: Over 80 evacuated as fire breaks out at garment factory

## Massive fire breaks out at textile factory in west Delhi, 26 fire tenders rushed to spot

TOI City Desk / TIMESOFINDIA.COM / Sep 8, 2024, 10:30 IST



### Massive fire in thermocol factory in Faridabad, 3 injured

A fire officer said the losses caused by the blaze is yet to be ascertained. He added that the building housed goods worth...

07 January 2024, 21:20 IST

### Blaze erupts at Delhi garment factory, 26 fire tenders rushed to spot

The official said there were no reports of any injuries.

08 September 2024, 10:16 IST

### Fire at fire safety equipment manufacturing unit in Delhi

The reason of the fire is suspected due to short circuit on the first floor of the two storey building, the officials said.

07 June 2024, 15:02 IST

### Himachal factory fire: Four of five deceased identified

So far, five people have been killed in the massive fire that broke out around 2:45 pm on Friday and the search for missing four...

04 February 2024, 12:26 IST

### Madhya Pradesh: Fire breaks out in textile factory in Burhanpur

ANI | Updated: Nov 02, 2024 03:28 IST

## Fire breaks out at factory in Delhi's Prahladpur, no casualties

The official said the cooling process is still on and five fire tenders are engaged in it.



Last Updated : 01 April 2024, 09:39 IST

### One killed, four injured in blasts at chemical factory in Thane district

Four fire engines from Ambernath, Badlapur and Ulhasnagar were rushed to the spot to bring the fire under control which had...

18 January 2024, 09:44 IST

### Delhi fire incidents: 39 dead, over 100 injured since January

Fire incidents led to 51 injuries in January, 42 in February and 14 until March 14, it stated.

14 March 2024, 19:44 IST

### 2 killed, 3 injured in a tyre factory explosion in Meerut

All the five are residents of Kishorpura village in Incholi in Meerut district.

27 February 2024, 14:15 IST

## Major fire breaks out in two factories at Sector 67 in Noida

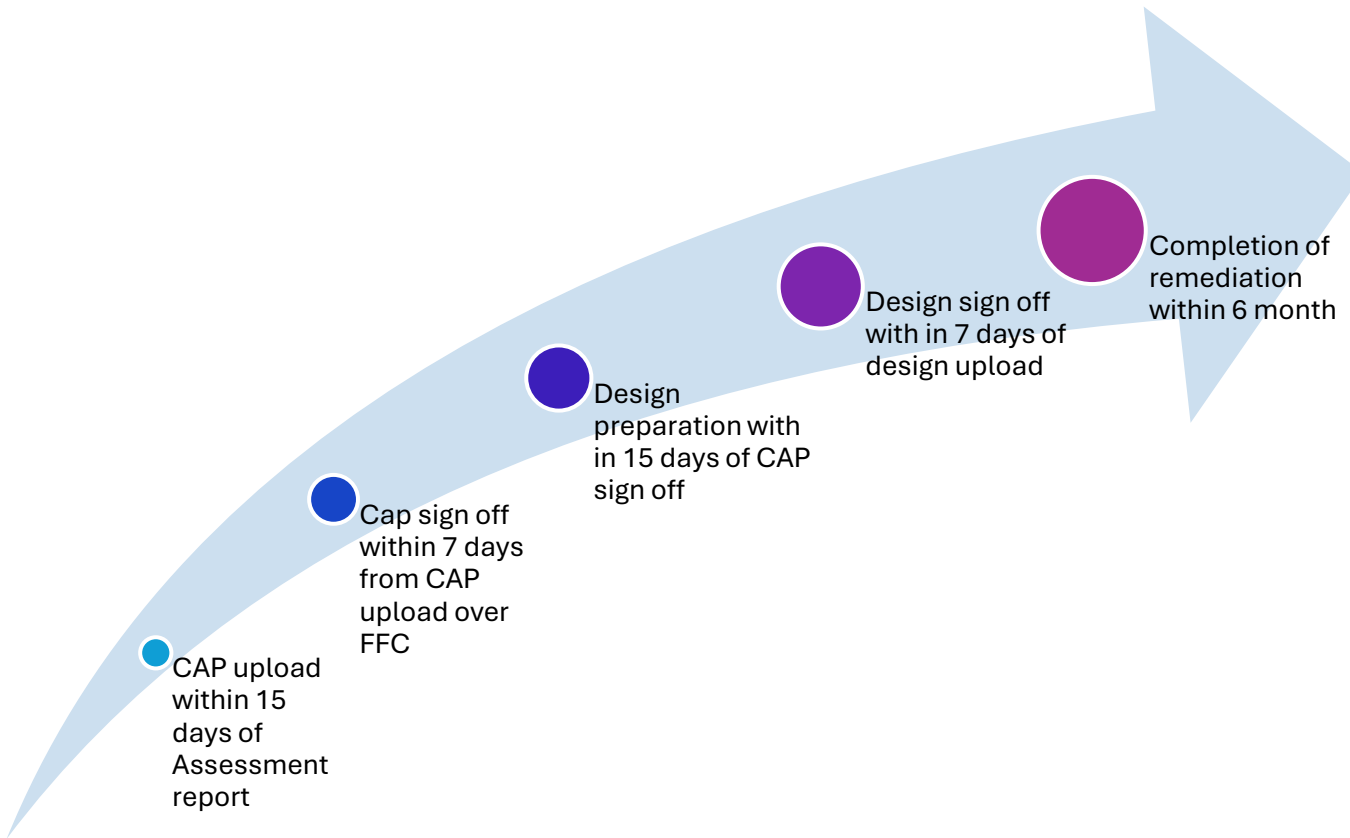
TOI City Desk / TIMESOFINDIA.COM / Updated: Jun 15, 2024, 18:26 IST



## Fire breaks out at Manesar cloth factory, no casualties



# Remediation Process



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CAP Closure by Inspection firm

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Remediation Completed by factory team in lines with agreed Design of CAP

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Design sign off between IF and Factory Team

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Factory started Remediation as per agreed CAP and starts preparing Design

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CAP sign off Between IF and Factory team to review course of action for remediation of issues Identified

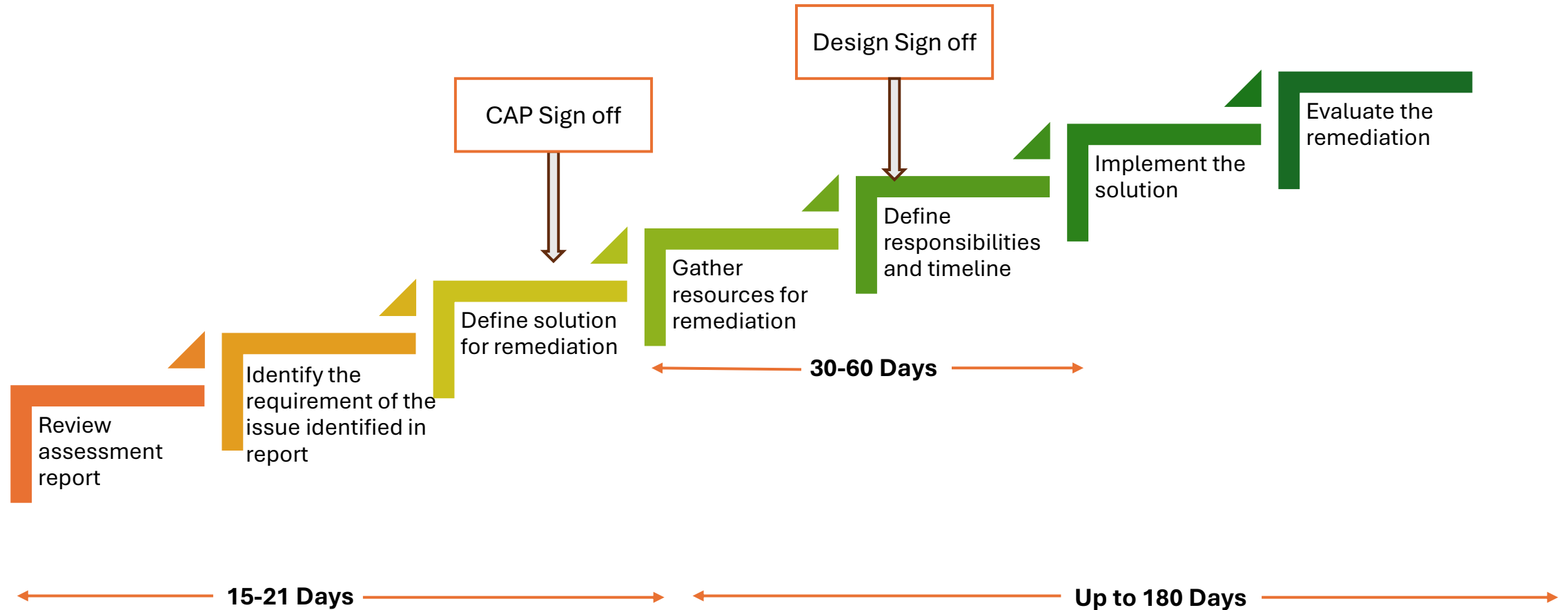
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Factory starts reviewing issues and preparing corrective actions respectively

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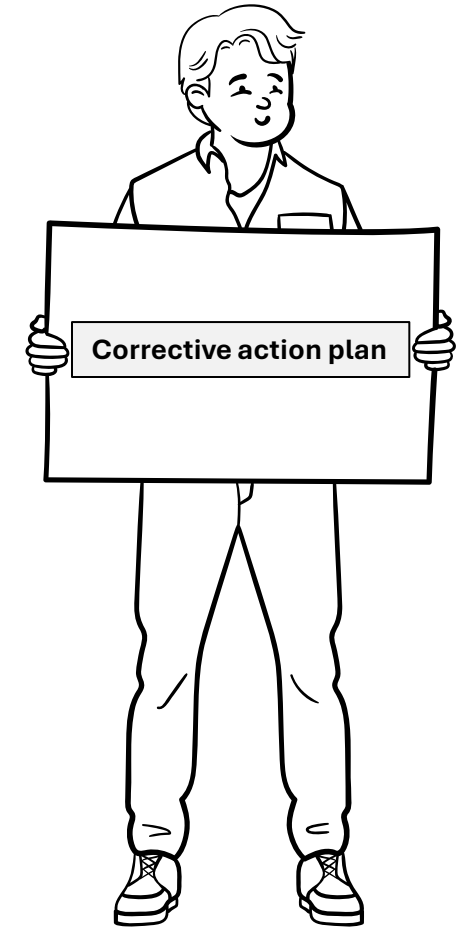
Factory are suggested to start working on graduation preparation parallely with remediation for implementation of Safety management system

# What factory should do for effective and faster remediation

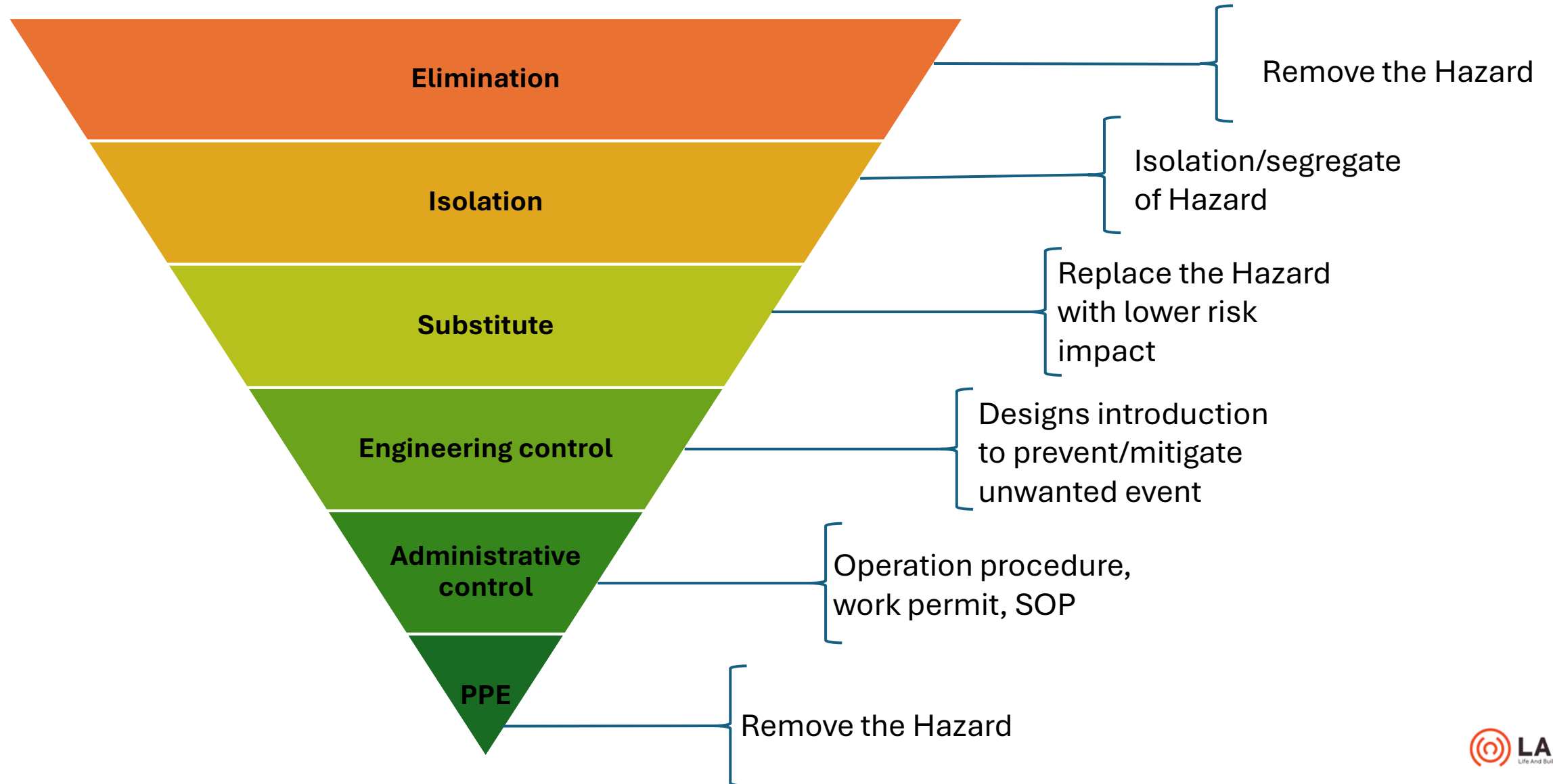




# Expectation During LABS Remediation



# Hierarchy of Risk Control





# What causes delay in Remediation

Lack of understanding of LABS program

Lack of technical expertise

Improper planning and execution

Delay in budget allocation

Improper Responsibility and resource allocation



# Factory Sharing - Yellow Jerseys LLP

Identified



Fire Pumps Not Installed



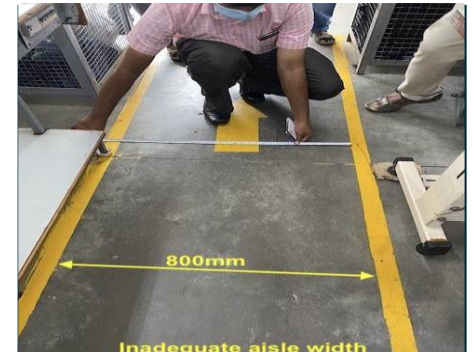
Rolling Shutter at Emergency Exit



Storage Area Without Sprinkler System

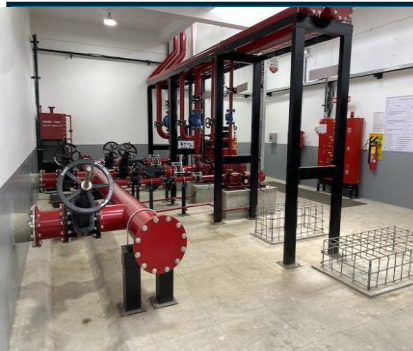


Rusted Nuts and Bolts In Electrical Installation

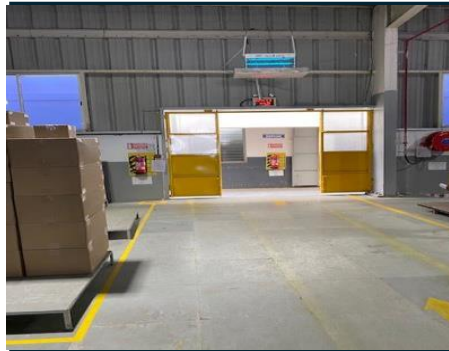


Inadequate Aisle Width

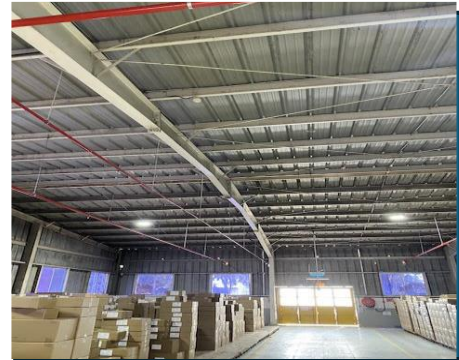
Remediated



Hydrant Pumps installed



Side Hinge door with Push bar provided for Emergency Exit



Storage Area With Sprinkler System



Replaced Rusted Nuts and Bolts in Electrical Installation



Adequate Aisle width is provided



# Factory Sharing- Orient Fashion Export Pvt Ltd A1-4

Identified



Normal Exit doors with lockable device



No separation of lift shaft



Material Storage under the staircase

Remediated



Fire rated door with push bar



Fire curtain provided



Clear staircase practices

# Orient Fashion Exports Pvt Ltd C17

Identified



Unprotected Structural column



Dampness on Roof



Lack of Building Maintenance

Remediated



Column Protection Provided



Dampness fixed with Water proofing



Preventive Building Maintenance



## Remediation Example





# Index

## 1. Fire Compartmentation

1. Staircase Compartmentation
2. Fire separation of occupancies
3. Self-closing Fire rated door

## 2. Fire detection system

1. Smoke detection system
2. Fire Alarm system
3. Smoke detector positioning

## 3. Fire Suppression system

1. Fire pumps
2. Sprinklers system
3. Water storage capacity

## 4. Exit Doors

1. Locking mechanism
2. Rolling shutters

## 5. Earthing and bonding

1. Equipotential Bonding
2. Earthing connection
3. Earth Pit
4. Earth pit drawings

## 6. Electrical Distribution

1. Current carrying capacity
2. Lint & Dust
3. Lugs & Gland

## 7. Substations & Generators

1. Danger Notice & warning Signs
2. Separation from occupancies
3. Servicing and maintenance

## 8. Structure maintenance

1. Corrosion
2. Dampness and water egress
3. Cracking

## 9. Distress in structure

1. Column stress
2. Seismic bracing
3. Torsion

## 10. Structure load management

1. Allowable load plan
2. Uncontrolled loading
3. Soil report

# Fire compartmentation



- Lack of enclosure of Stairs connecting more than 2 floors.
- Unsealed penetrations in stair enclosures



- Absence of fire-rated doors in the main exit at the production building.
- Fire-rated self-closing doors are not provided at protected staircases.
- Factory Building has more than two floors and the FR self-closing doors are not found provided on the stairs.



- Boilers installed on 2nd floor with washing without enclosure.
- Designated storage areas not separated by FR construction.
- Transformer room at Building 2 without FR-rated construction.



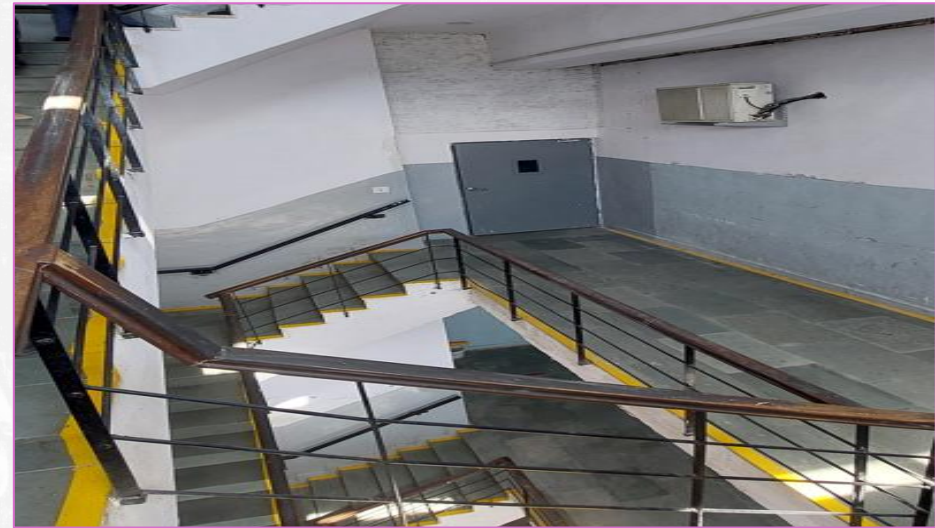
**Observation -** Factory Building has more than two floors and the enclosure for stairs is not found provided.

**CAP-** Provide an enclosure in staircase that conceals all openings with fire-rated material to ensure the safety.

**Design sign-off required –** Yes, Approval has been granted to the Factory for the fire door design. Additionally, the process of sealing window openings in the staircase has been approved.



Staircase compartmentation with Fire doors



Staircase compartmentation with Fire doors & Brick work

**Remediation-** The factory has replaced the normal doors with self-closing, fire-rated doors and sealed openings with brick walls

**LABS standard reference-:** Refer Part 4 fire protection construction(Pg 23)

**Observation-** The boiler is installed on the terrace in a tin shed enclosure with no Fire Rated Separation with canteen on the same floor.

**CAP-** Provide separate enclosure with fire-rated material of up to 120 min resistance to ensure if any incident occurs in boiler it can be contained.

**Design sign-off required –** Yes, Approval has been granted to the Factory for the fire enclosure



Boiler enclosure by Fire rated material and fire door



Panel room enclosure by fire door

**Remediation-** The factory has replaced the normal doors with self-closing, fire-rated doors and sealed openings with brick walls/fire rated material

**LABS standard reference-:** Refer 3.13 & 3.14 Use and Occupancy (Pg 14)

**Observation-** Fire-rated self-closing doors are not provided in any of the exits leading to staircase

**CAP-** Emergency exit to be provided with self-closing fire-rated door as per IS 3614

**Design sign-off required –** Yes, Approval has been granted to the Factory for the Self closing fire doors



Self-closing Fire door



Self-closing Fire door

**Remediation-** The factory has replaced the normal doors with self-closing, fire-rated doors.

**LABS standard reference-:** Refer standard 4.5(Page no -25) for more details about fire doors.



# Fire detection system



- Inadequate Fire Detector coverage.
- The provided smoke detection system is insufficient to cover the entire area of the factory.



- Audible alarms with less commute observed in the basement and ground floor.
- Fire Alarm System were not installed in few locations.



- Detectors are installed at low level from the true ceiling.
- Incorrect fire detector positioning was found at some places.

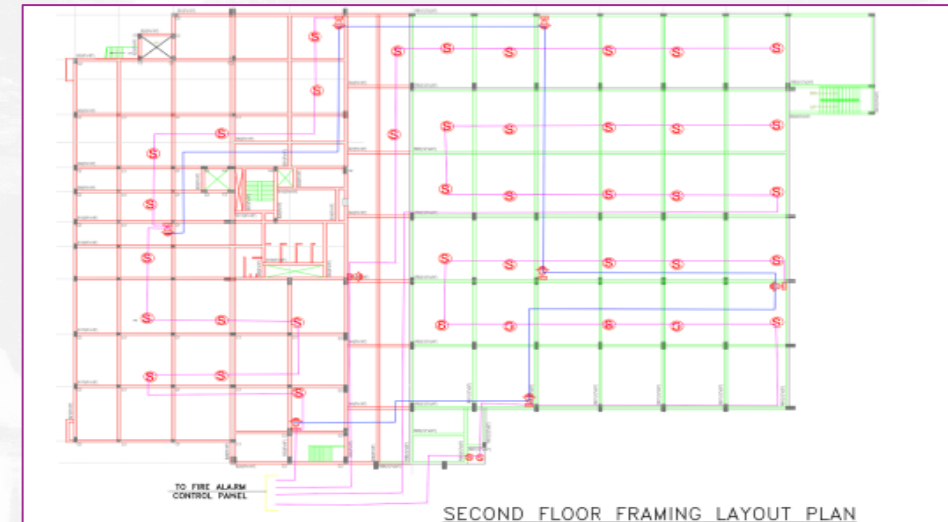
**Observation -** Factory basement section, North-East does not have any coverage of smoke detector .

**CAP-** Smoke detection coverage would be provided in every location.

**Design sign-off required –** Yes, Approval as per smoke detector specification and drawing specifying installation points in floor layout would be provided.



Smoke detector installed



Smoke detector layout Plan

**Remediation-** The factory has installed a smoke detector synchronized with fire alarm panel.

**LABS standard reference-:** Refer Part 5.10 Automatic Fire Detection and Alarm System (Pg 33)



**Observation** — Fire alarm was feeble or not audible in basement.

**CAP-** To improve the audibility of the fire alarm, an additional fire alarm will be installed.

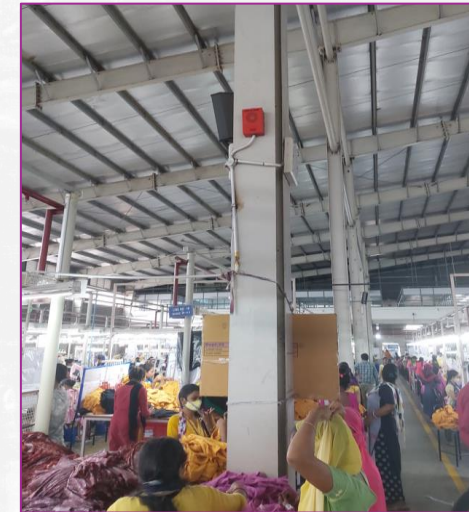
**Design sign-off required** — No, Approval is not required for installation of fire alarms



Extra hooters are added near exits



Visual hooters are added in utility area



Extra hooters are added in floor

**Remediation-** The factory has installed extra hooters to enhance the audibility of alarm system.

**LABS standard reference-:** Refer Part 5.10 Automatic Fire Detection and Alarm System (Pg 33)



**Observation —** Smoke detector positioning was inadequate and found installed below ceiling level.

**CAP-** Smoke detector would be installed over the highest and flat part of ceiling .

**Design sign-off required —** No, if required Approval as per smoke detector specification and drawing specifying installation points in floor layout would be provided.



Beam type smoke detector installed for high roof



Smoke detector positioning before and after

**Remediation-** The factory has installed beam type smoke detector over ceiling more than 20 feet and replaced smoke detector to the highest point of the ceiling in 14 ft ceiling.

**LABS standard reference-:** Refer Part 5.10 Automatic Fire Detection and Alarm System (Pg 33)

# Fire Suppression System



- Absence of fire pumps in the installed fire water line at the premises.
- Pump-set back-up not provided
- Only single fire pump installed for fire-fighting purpose.
- Diesel backup fire pump not provided.



- Insufficient water storage on premises for firefighting systems.
- Only 10 KL dedicated water available for fire fighting.



- A Non-Sprinklered storage area exists with excessive storage and is not effectively separated by FR separation with production areas.
- No fire-rated compartmentation is provided between the non-sprinklered storage area.



**Observation** — Only single fire pump installed for fire-fighting purpose. .

**CAP-** Ensure adequate fire pumps with electric and non-electric backup for firefighting.

**Design sign-off required** — Yes, Design specification of pumps and their efficiency is reviewed during design sign off.



All 3 Fire pumps are installed



Backup Fire pumps are installed

**Remediation-** The factory has installed 3 fire pump jockey pump, main pump and diesel powered pump in the premises.

**LABS standard reference-:** Refer Part 5.8.2 installation of fire pumps as per IS 15301(Pg 32)



**Observation —** Insufficient water storage on premises for firefighting systems.

**CAP-** Will ensure that the factory has a water capacity of 1.5 lakh litres specifically for fire-fighting purposes.

**Design sign-off required —** Yes, the Design specification of tanks its installation needs to be reviewed by structural and fire accessors.



Additional water tanks installed by factory



Underground water tank constructed

**Remediation-** The factory has installed additional water tanks, either overhead or underground, to address the issue of water shortage.

**LABS standard reference-:** Refer Part 5.8 water supply (Pg 32)

**Observation** — A Non-Sprinklered storage area exists with excessive storage and is not effectively separated by FR separation with production areas.

**CAP-** Provide sprinkler system in storages areas .

**Design sign-off required** — Yes, the Design specification of the sprinkler need to be reviewed by fire accessor.



Additional water tanks installed by factory



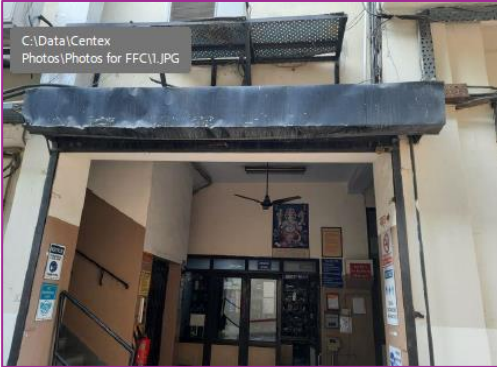
Sprinklers installed in material store

**Remediation-** The factory has installed sprinklers in storage areas.

**LABS standard reference-:** Refer to Part 3.15.4 water supply (Pg 22)



# Exit doors



- Exit doors in the factory have locking devices /have rolling shutters with the locking mechanism.
- Exit doors not side hung to swing correctly in the direction of escape.
- Lockable device installed over exit door from outside.

**Observation** — The factory exit door is equipped with a locking mechanism and a rolling shutter.

**CAP-** All rolling shutters will be removed with outward opening doors for safe evacuation.

**Design sign-off required** — No Design sign is not required for this issue.



Rolling shutter has been removed



Fire door has been installed

**Remediation-** The factory has installed Fire rated door at the final door with push bar in place of shutter or have removed shutter.

**LABS standard reference-:** Refer Part 6.9 Automatic Fire Detection and Alarm System (Pg 43)



**Observation —** The factory exit door is equipped with a locking mechanism and a rolling shutter.

**CAP-** All rolling shutters will be removed with outward opening doors for safe evacuation.

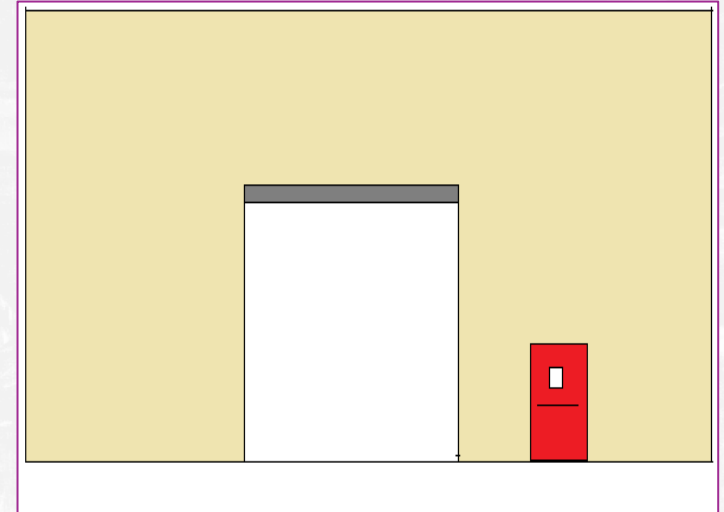
**Design sign-off required —** No Design sign is not required for this issue.



**Remediation-** The factory have removed shutter and kept exit open.



**Remediation-** The factory has installed Fire rated door at the final door with push bar in place of shutter



**Remediation-** The factory has provided outward opening door near to shutter as Emergency Exit

**LABS standard reference-:** Refer Part 6.9 Automatic Fire Detection and Alarm System (Pg 43)

**Observation** — Lockable device installed on all exit doors from outside/inside .

**CAP-** Lockable device would be removed and locking arrangement would be revised.

**Design sign-off required** — No Design sign is not required for this issue.



Push bar has been install over doors



Rotating latch mechanism installed to bypass lock

**Remediation-** The factory has installed a fire-rated door with a push bar or mechanism that allows for bypassing the outside lock from the inside.

**LABS standard reference-:** Refer Part 6.9 Automatic Fire Detection and Alarm System (Pg 43)



# Earthing and bonding



- Gate at the transformer yard is not looped with the fence for continuity of earthing
- Equipotential bonding (body earthing) to dissipate static charge not provided to Diesel day tank.



- Proper body earthing not evident in various distribution boards.
- Single body earthing provided to DG set.
- Earthing not provided to MS roof truss.



- Earth pits were found not maintained properly.
- Detail & layout plan of earth pit not available with the factory.

**Observation —** Bonding not provided over transformer gate/diesel tank .

**CAP-** Bonding will be provided over to dissipate charge safety from advised system.

**Design sign-off required —** No Design sign is not required for this issue.



Bonding provided over transformer gate



Bonding provided over LPG gas pipeline

**Remediation-** The factory has provided bonding to dissipate the static charge and to keep all conductors at the same potential.

**LABS standard reference-:** Refer Part 10.24 Earthing(Pg 84)



**Observation —** Body earthing not evident in distribution boards/Ms roof truss

**CAP-** Factory will identify missing earthing in panels and provide earthing as per electrical standards.

**Design sign-off required —** No Design sign is not required for this issue. Factory can request for design sign-off if they are designing new earthing grid for the factory.



double Earthing provided to transformer



Eearthing provided to MS truss

**Remediation-** The factory has installed copper strips for earthing in specific locations as a remedial measure.

**LABS standard reference-:** Refer Part 10.25 Earthing(Pg 84)

**Observation** — Earth pit were found poorly maintained/Earthing were found disconnected with earth strips

**CAP-** All earth pits will be maintained as per standard continuity check and resistance check will be carried out on same.

**Design sign-off required** — No Design sign is not required for this issue. Factory can request for design sign-off if they are installing new earthing pit .



Earth pit maintained and monitored

S.No.	Location Of Earthing	No. Of Earthing	Earth Resistance (VVO)	Water & Salt Filling Schedule											
				Year			Month			Day			Month		
				A	B	C	A	B	C	A	B	C	A	B	C
1	330 kVA DG Body Earthing	2	0.15	0.15	0.15	0.15	0.15	0.15							
2	220 kVA DG Natural Earthing	2	0.12	0.12	0.12	0.12	0.12	0.12							
3	500 kVA DG Body Earthing	2	0.12	0.12	0.12	0.12	0.12	0.12							
4	500 kVA DG Natural Earthing	2	0.12	0.12	0.12	0.12	0.12	0.12							
5	Busbar	2	0.12	0.12	0.12	0.12	0.12	0.12							
6	Working M/C's	2	0.12	0.12	0.12	0.12	0.12	0.12							
7	ETP pit	2	0.12	0.12	0.12	0.12	0.12	0.12							
8	LT Panel Body Earthing	2	0.12	0.12	0.12	0.12	0.12	0.12							
9	Transformer Body Earthing	2	0.12	0.12	0.12	0.12	0.12	0.12							
10	Transformer Natural Earthing	2	0.12	0.12	0.12	0.12	0.12	0.12							
11	Motor / VCB Room	2	0.12	0.12	0.12	0.12	0.12	0.12							
12	Light Arrestor	0	0.12	0.12	0.12	0.12	0.12	0.12							
ELECTRICIAN SIGNATURE				[Signatures]											
INCHARGE SIGNATURE				[Signatures]											

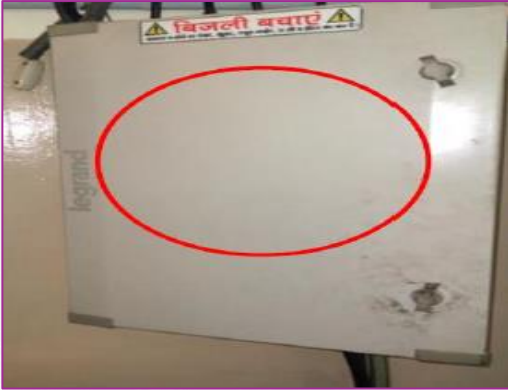
Earthing continuity carried out by factory

**Remediation-** The factory maintained earth pit , the earth pit layout is developed & regular monitoring and testing records are actively maintained.

**LABS standard reference-:** Refer Part 10.25 Earthing(Pg 84)



# Electrical distribution



- Proper identification markings were not provided on distribution boards.
- Cable current carrying capacity chart provided on distribution boards.



- Lint & Dust observed inside electrical panels.



- Cables were not terminated with proper lugs and glands
- Glands were missing inside the electrical panel, allowing access for insects.

**Observation** — Proper identification markings were not provided on distribution boards, and current carrying capacity not calculated.

**CAP-** Distribution board identification and current carrying capacity will be prepared .

**Design sign-off required** — No Design sign is not required for this issue.



Current carrying capacity calculated and posted over DB



Proper identification provided over panel

**Remediation-** The factory has provided proper identification over panel.

**LABS standard reference-:** Refer Part 10.8.14 Switchboard(Pg 76)



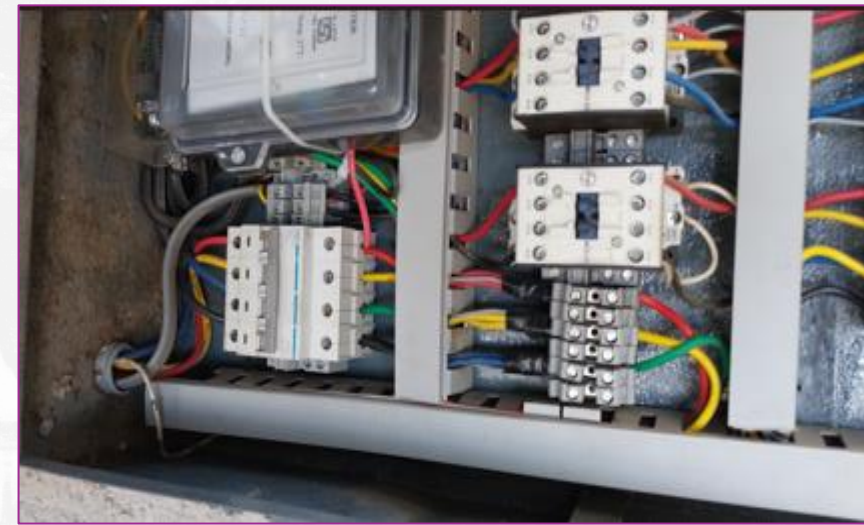
**Observation** — Lint & dust were observed inside the electrical panel.

**CAP-** Lint and dust would be cleaned and a monitoring plan would be set up.

**Design sign-off required** — No Design sign is not required for this issue.



Electrical panel has been cleaned



Electrical panel has been cleaned

**Remediation-** The factory has cleaned electrical panel and implemented a weekly checklist to prevent lint accumulation in panel.

**LABS standard reference-:** Refer Part 12.6 Housekeeping(Pg 90)

**Observation** — Cables were not terminated with proper lugs and glands.

**CAP-** Lugs and glands will be provided for electrical fitting.

**Design sign-off required** — No Design sign is not required for this issue.



Lugs provided for electrical panel



Glands provided over electrical panel

**Remediation-** The factory has provided lugs and glands in electrical panel.use of lugs and glands incorporated in SOP

**LABS standard reference-:** Refer Part 10.8.9 & 10.8.15 wiring in distribution board (Pg 77)



# Substation and Generator



- Adequate warning/danger, voltage level signage were not posted over transformer, substation.

- Hazardous installations such as compressors, PNG skid, DG etc are found installed adjacent to the production floor or in exit route.



- Testing Report, Service record/maintenance record for Transformer and MV VCB MV/LV Switchgears were not available..

**Observation** — No proper danger or warning signage near HT meter room and transformer area.

**CAP-** Proper signage would be provided over electrical installation .

**Design sign-off required** — No Design sign is not required for this issue.



Sign age provided over substation



Warning signage provided

**Remediation-** The factory has provided warning signage over hazardous electrical installation.

**LABS standard reference-:** Refer Part 10.5.4.6 Layout of substation(Pg 73)



**Observation —** Hazardous installation installed adjacent to production with glass window towards production.

**CAP-** Separation need to be provided between production and high risk installation.

**Design sign-off required —** Yes Design is required is compartmentation is being provided.



Window opening towards compressors has been closed



Wall separation provided between transformer & evacuation route

**Remediation-** The factory has provided separation between hazardous installation and production.

**LABS standard reference-:** Refer Part 3.14.6,7 Separation of occupancies (Pg 17)

**Observation** — Testing Report, Service record/maintenance record for Transformer and MV VCB MV/LV Switchgears were not available.

**CAP-** Will provided 3<sup>rd</sup> part testing Checklist and maintain maintenance record of machines and installation .

**Design sign-off required** — No Design sign is not required for this issue.

CENTEX FABRICS EXPORT UNIT												
Transformer/Servo Checklist												
Month - November 2023		Prepared by - Ajay		Verified by - Jasprit Singh		Authorized by - Sandeep Kumar						
S.no	Code	Transformer Specification	Location	Checking date	Oil & Gas	Cleaning	Oil Level	Power	Power Condition	Oil Color	Oil Smell	Oil Level
1	(1)	Main Transformer	25/11/23	Clean	OK	OK	OK	OK	OK	OK	OK	OK
2	(2)	Servo	25/11/23	Clean	OK	OK	OK	OK	OK	OK	OK	OK
3	(3)	Servo	25/11/23	Clean	OK	OK	OK	OK	OK	OK	OK	OK

Sign age provided over substation

MATRIX CLOTHING PVT. LTD. (UNIT-197)			
DG(DIESEL GENERATOR) SET INSPECTION CHECK LIST			
Name - Ajay		Date - 25/11/23	
S.no	SUBJECT	Observation	Remarks
1	Diesel Generator	25/11/23	Clean
2	Diesel Generator	25/11/23	Clean
3	Diesel Generator	25/11/23	Clean

Warning signage provided

**Remediation-** The factory has maintained service record and checklist to monitor electrical installation.

**LABS standard reference-:** Refer Part 12.10 electrical maintenance(Pg 91)



# Structure maintenance



- Significant corrosion making the structural element (beams, columns, truss) etc ineffective that may lead further structural damage.



- Dampness observed over Floor Roof and walls.



- Cracking observed over back side of building
- Cracks were observed over columns/beams

**Observation** — The structure element was found corroded.

**CAP-** Will review the corroded structure and repair it.

**Design sign-off required** — No Design sign is not required for this issue if factory wants they they get repair meathod review by structural accessor .



Corroded structure repaired and covered



Corroded bars were repaired from column

**Remediation-** The factory has repaired corroded structure members .

**LABS standard reference-:** Refer Part 8.25 maintenance(Pg 63)



**Observation** — wall cladding/backside wall observed for dampness

**CAP-** Factory will review structure with NDT test for impact of dampness over structure and repair dampness.

**Design sign-off required** — No Design sign is not required for this issue.



Dampness has been addressed



Dampness Repairs work has been done

**Remediation-** The factory has repaired dampness and removed leakages causing dampness.

**LABS standard reference-:** Refer Part 8.25 maintenance(Pg 63)

**Observation** — Cracks were observed on external wall/internal wall.

**CAP-** Will review cracks and get them repaired as per structural review.

**Design sign-off required** — No Design sign is not required for this issue.



Non structural cracks were repaired



**SWATI STRUCTURE SOLUTIONS PVT. LTD.**

Structural, Topography & Geotechnical Survey Consultants, Engineers & Project Management Consultant  
H.O. : 503, Sachdeva Corporate Tower, Plot No. 8, Community Centre, Sector-8, Rohini, Delhi-110085  
Ph. : 011-47528888, Mob. : 9811016049  
E-mail : swaticonsultant@gmail.com, Website : <http://www.swatistructuresolutions.com>  
GSTIN : 07AAKCS1882K1ZV, PAN No. : AAKCS1882K

**TO WHOMSOEVER IT MAY CONCERN**

The factory situated at Khasra no. 15/19&22, Village Begumpur, Khatola, Gurugram, Harayana was visited by our engineer on 04-03-2024. The said brick wall is a non-structural filler wall. The cracks visible are due to the poor construction methodology and workmanship, along with the wear and tear. The said cracks are repaired by introducing reinforcement to stitch the cracks and finish the area with Murga jaali, mortar and plaster.

Cracks survey report

**Remediation-** The factory has repaired cracks and initiated a structure audit to prevent reoccurrence of cracks

**LABS standard reference-:** Refer Part 8.25 maintenance(Pg 63)



# Distress in structure



- Intermediate column stress check as jacketing work with steel angle section visible over column



- Seismic bracings are not provided for added MS structures as lateral support structural system.



- Goods Lift Side walls & 2nd floor External walls at North, West Side found to be inadequate to resist later forces

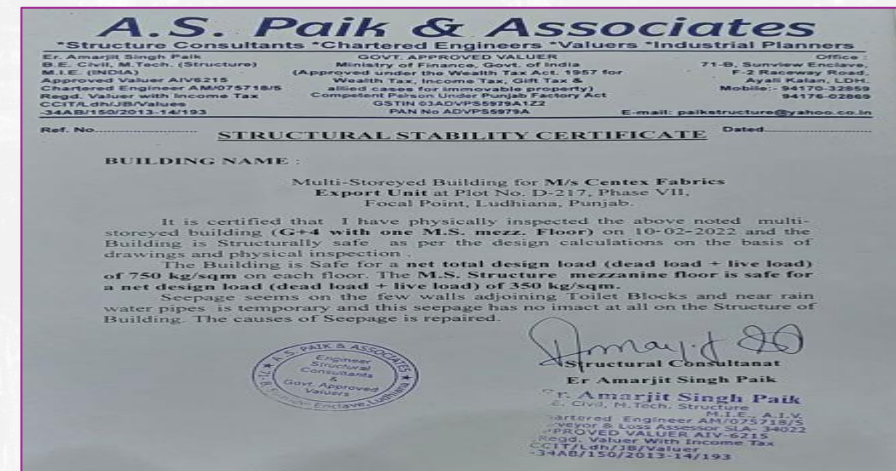
**Observation** — Intermediate column were observed stress due to overloading.

**CAP-** Factory has appointed the Structural Consultant and the consultant has provided the stability certificate for first floor and below the floor level.

**Design sign-off required** — Yes Design sign is required for this issue.



Jacketing provided for column level below



Stability certificate t

**Remediation-** The factory has assessed all column in building and provided jacketing of below column, verified through the structural engineer

**LABS standard reference-:** Refer Part 8.6 detail structural analysis(Pg 53)



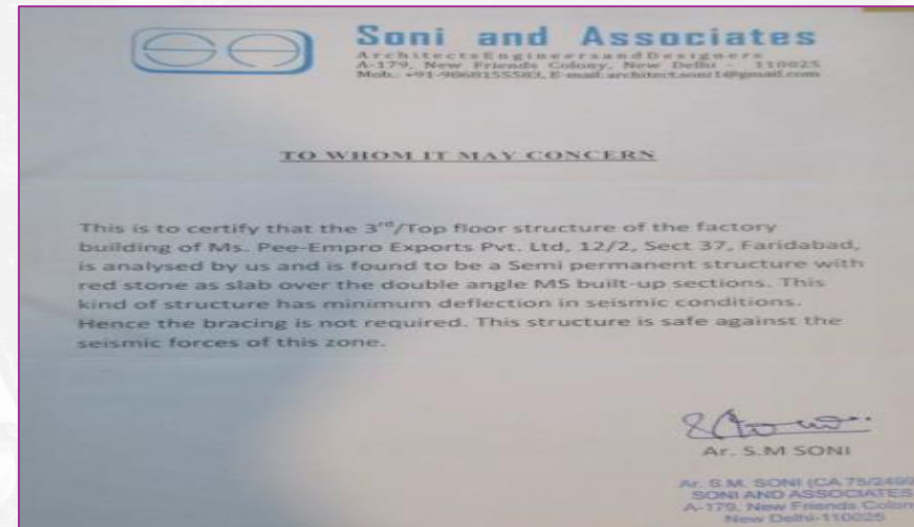
**Observation —** Seismic bracings are not provided for added MS structures as lateral support structural system.

**CAP-** Factory to appoint a Structural Engineer to review the extent

**Design sign-off required —** Yes Design sign is required for this issue.



Bracing to MS structure



Survey report

**Remediation-** The factory has appointed structural consultant and provided bracing along with survey report

**LABS standard reference-:** Refer Part 8.17 Seismic bracing of key elements (Pg 58)

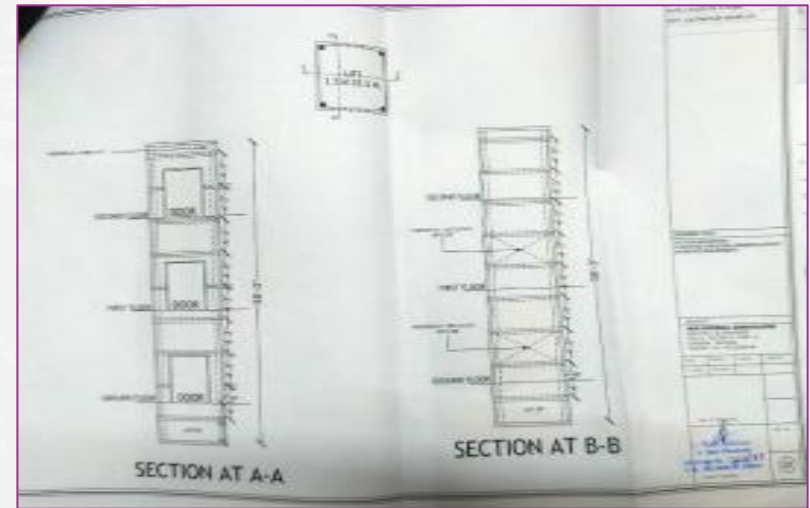
**Observation** — Goods Lift Side walls & 2nd floor External walls at North, West Side found to be inadequate to resist later forces.

**CAP-** Factory to appoint a Structural Engineer to review the extent

**Design sign-off required** — Yes Design sign is required for this issue.



Structural member has been reinforced



structural drawing of the Goods lift

**Remediation-** The factory has appointed structural consultant and provided support member in lift

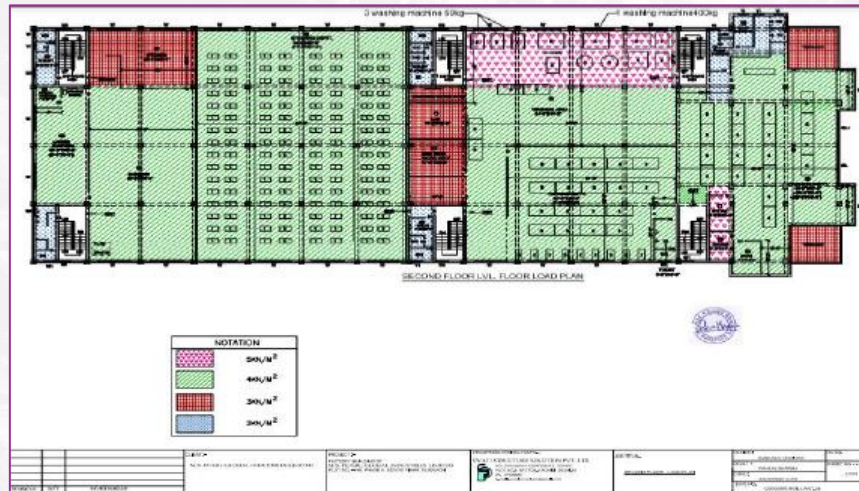
**LABS standard reference-:** Refer Part 8.25 Application of NBC(Pg 51)



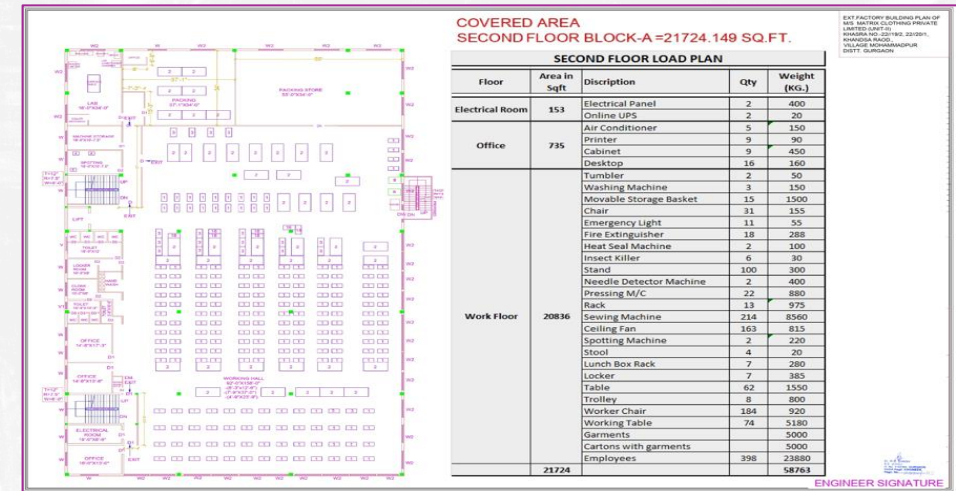
**Observation** — Finished Product -Fabric of height 2.13Mt Placed at SW corner of Factory at 2nd Floor without allowable load plans.

**CAP-** Factory to appoint a Structural Engineer to get load plans as per their structure

**Design sign-off required** — Yes Design sign is required for this issue.



Load plan



Load plan

**Remediation-** The factory has appointed structural for load plans and load is reviewed in every six months as per load plans

**LABS standard reference-:** Refer Part 8.9.3 Floor loading plans(Pg 55)

## Q & A

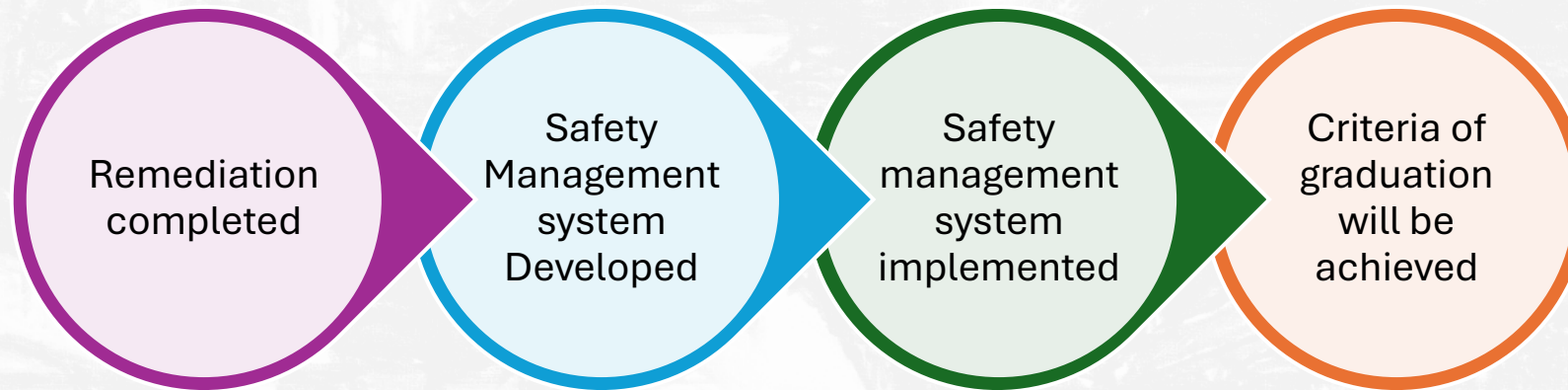


# LABS Graduation





# Graduation verification



By following the graduation checklist, you can ensure the successful implementation of sustainable safety system in your factory. This comprehensive checklist outlines the necessary steps that need to be taken to create a safe and secure work environment



# What causes delays in Graduation

- Lack of monitoring and accountability
- Lack of comprehensive Risk data base
- Insufficient training and awareness
- Lack of maintenance
- Cost cutting in safety
- Lack of interdepartmental coordination
- Lack of Standard protocol for monitoring & managing safety



# Expectation for Graduation

- To fulfill the graduation goals, it is the factory's responsibility to understand the requirements and develop a robust system to manage all aspects of the LABS graduation checklist based on their resources.
- To have a robust safety management system it is necessary to complete multiple PDCA cycle.
- Introducing the Safety procedure will not ensure effective management of safety unless and until its implementation has not been verified through several cycle.





## **Benefits of Safety Management System:**

- Encourages safety culture
- Protects and enhances an organization's reputation and credibility
- Reflects business is socially responsible
- Maximize the performance and/or productivity of employees
- Increased employees' commitment to the team/organization
- More competent, happier and healthier workforce
- Reduces business costs and disruption
- Enables organizations to meet OHS expectations
- Workforce in general to stay longer in active life

## **COMPONENTS OF SMS:**

- Safety Policy
- Safety Assurance
- Safety Risk Management
- Safety Promotion



# SMS Checklist for Factories

## SETTING UP

- Well defined policy exists
- Roles & responsibilities earmarked specifically
- Sufficient resources allocated
- Safety objectives are measurable
- Is there an effort to involve all employees and contractors

## SAFETY RISK MANAGEMENT

- Methodology for risk identification and assessment
- Regular review of risk assessment
- Timely mitigation of identified gaps
- Risk register in place
- Frequency of review of risk controls is less at least six months

## SAFETY ASSURANCE

- Well established mechanism for incident reporting
- Defined process for incident investigation and CAPA
- At least bi-annual internal safety audits
- Change management of policies and procedures
- Use of technology for assurance
- Score card for safety measurables
- Trend analysis used to prevent future incidents

## SAFETY PROMOTION

- Safety training to all employees
- SME Training for personnel allocated responsibility of safety management
- Gratifying awareness and communication campaigns
- Safety is positive culture rather activity
- Training records maintained
- Level based safety drills and simulation

## MONITORING & IMPROVEMENT

- Safety forum/committee established
- Evidence of regular meetings (preferred monthly) of safety forum
- SMS improved based on review of risks, risk control and incident trends
- Regular increase in safety scores (of measurable values)



**Key Questionnaire** - Ensuring to maintain defined safe load limit of floor and/or electrical circuits in case of any addition/removal of machinery, etc. as per design and drawings (such as single line diagram, as-built drawings etc.) approved by the competent authorities

## Objective

To prevent hazards from current overflow and electrical short circuits, it is necessary to monitor and manage electrical loads according to approved guidelines and single line diagrams. To prevent hazards from current overflow and electrical short circuits, it is necessary to monitor and manage electrical loads according to approved guidelines and single line diagrams.

## Process

It is important to develop a clear procedure that specifies responsibilities, timelines, processes, risks, and verification methods to ensure that jobs are carried out according to the specified process.

Electrical load  
management  
procedure

Checklist  
implemented

Verification  
protocol  
implemented

# Impact of Safety Management System

- Single line diagram has been bypassed.
- Factory load distribution might be imbalanced.
- High risk of short circuit.

Load plan has been developed

**Before**

Load plan has been developed and reviewed as per defined procedure/policy by Load manager

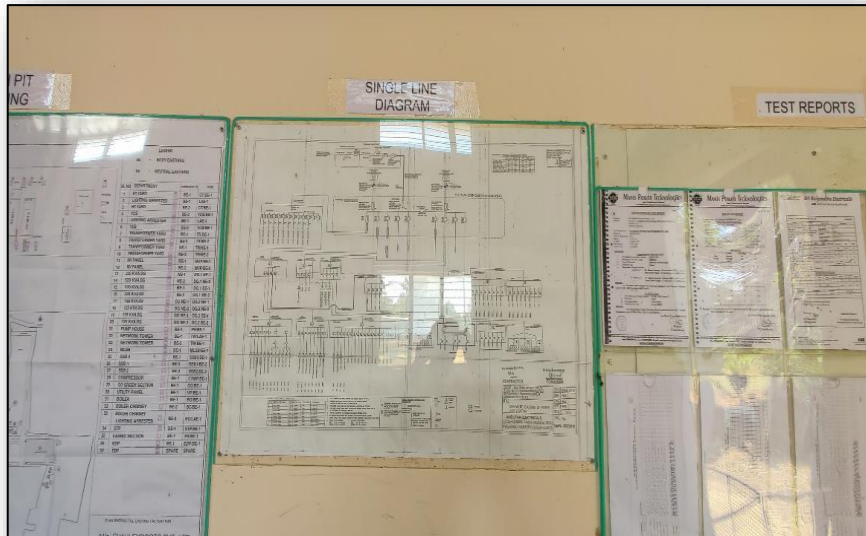
**After**

- Factory load is managed as per Approved design.
- No design change could be carried out without Load review.
- Life of electrical equipment increases.



# SMS Factories Example

LABS FIRE SAFETY CHECK LIST			
1	FIRE EXTINGUISHER ABC	Daily	Weekly
2	FIRE EXTINGUISHER CO2	Monthly once check weight	
3	Fire extinguisher 45Ltr water	Monthly once check weight cartridge	
4	FIRE EXTINGUISHER HISTORY CORD	TAG ALL CYLINDER	
5	Fire Alarm	Daily	Weekly
6	Smoke detector	Weekly	
7	Fire Sprinkler	Daily	
8	Fire Hydrant & Hose reel	Daily	Weekly
9	Walkthrough check list	Monthly once	
10	Fire Hydrant	2months once	
11	Fire fighting training	2months once	
12	Mock drill-	2months once	
13	Open door policy	Attached file	
14	SMS Training(FM.ALL Managers)	3months once	
15	Safety officer Organization chart(Report GM)	Attached file	
16	LABS SAFETY TRAINING	YEARLY ONCE FULL FACTORY TRAINING	
17	Accident injuri Investigation	Attached file	
18	Near miss incident Report	Attached file	
19	OCEP Emergency Plan	Attached file	
20	ERT TRAINING	6months once	
21	Risk assessment	6months once	
22	EHS POLICY	DISPLAYE .Notice board,canteen,sewing section	
23	Grievance Mechanism	DISPLAYE .Notice board,canteen,sewing section	
24	Visitors Instructions	attached file and handover security	
25	EHS&AI COMMITTEE meetings	Monthly once	
26	Committee formation Procedure	Attached file	
27	EYE WASH Station& Sand Bucket checklist	Daily	
28	Secondary Container Capacity	Display All Secondary Containers	
29	Training Calendar	Attached file	
30	PPE'S Inspection Check list	Monthly once	



**POWER NEEDS**  
POWER CONSULTING

Date: 19.01.2023

**LIGHTNING RISK ACCOUNT (Protection Level Selection - IEC 62305-2 Standard)**

Project	Shakti Engineers Unit 3&4
Location	Shilp Nagar - Karnataka
No Of Thunderstorm days / year as per IS 3306	70 (Hassan)

**DETERMINATION OF PROTECTION REQUIREMENT AND LEVEL OF PROTECTION**

FORWARD INFORMATION TO BE PROVIDED	UNITS	REMARKS
1. Name of the building	Shakti Engineers Unit 3&4	As per IS 3306
2. No of floors	2	As per IS 3306
3. Expected lightning impact number for the facility	100000	As per IS 3306
4. No of floors	2	As per IS 3306
5. No of floors	2	As per IS 3306
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100. No of floors	2	As per IS 3306

**LEVEL OF PROTECTION REQUIRED BASED ON THE RISK LEVEL**

IEC 62305-2, Table 1  
As per IS 3306

**IEC 62305-2, Table 1**

**LEVEL OF PROTECTION REQUIRED BASED ON THE RISK LEVEL**  
This table determines the LEVEL OF PROTECTION (L) at the calculated value  $N_{LE}$  ( $N_{LE}$ )

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# LABS Helpline





# LABS Helpline

LABS is introducing a mobile based chat platform along with helpline number where workers can reach out to LABS immediately and can report any safety related risk of their respective factories.

Kindly visit **labs-Chat.com** from the mobile browser and register your concern or scan QR code from LABS updated danglers and register your concern through LABS Chat



**YOUR SAFETY IS IN YOUR HANDS!**

**LABS**  
Life And Building Safety

**Reach LABS Chat for immediate support!**

To register the case please use this link  
**labs-chat.com**  
or  
**Scan the QR code**  
from mobile Camera

To reach Helpline, dial:  
**1800-212-5227**

SCAN

The graphic features a worker icon, a QR code, a 'SCAN' button, and a hand holding a smartphone displaying the LABS chat interface.



# YOUR SAFETY IS IN YOUR HANDS!

Electrical issues can be life threatening. Be aware and report potential risks.



Multi looping of cables



Lint/dirt on electrical panel



Combustible material inside electrical panel

Reach LABS Chat for immediate support!

To register your concern please use this link  
[labs-chat.com](https://labs-chat.com)

or  
 Scan the QR code  
 from mobile Camera

To reach Helpline, dial:  
**1800-212-5227**



SCAN



# YOUR SAFETY IS IN YOUR HANDS!

Fire issues can be life threatening. Be aware and report potential risks.



Blocked exit



Illuminated exit sign not provided over exit



Exit passage blocked by vending counter

Reach LABS Chat for immediate support!

To register your concern please use this link  
[labs-chat.com](https://labs-chat.com)

or  
 Scan the QR code  
 from mobile Camera

To reach Helpline, dial:  
**1800-212-5227**



SCAN



# YOUR SAFETY IS IN YOUR HANDS!

Structural issues can be life threatening. Be aware and report potential risks.



Structural cracks



Unplanned/unsafe loading



Crack in the pillar

Reach LABS Chat for immediate support!

To register your concern please use this link  
[labs-chat.com](https://labs-chat.com)

or  
 Scan the QR code  
 from mobile Camera

To reach Helpline, dial:  
**1800-212-5227**



SCAN





# Q & A

For further queries, contact : –

**Ankith Hegde, Program Manager – [hegde@labsinitiative.com](mailto:hegde@labsinitiative.com)**

**Rishi Ahlawat, Sr. Factory Coordinator – [ahlawat@labsinitiative.com](mailto:ahlawat@labsinitiative.com)**

**Jayavardhan, Sr. Factory Coordinator – [jayavardhan@labsinitiative.com](mailto:jayavardhan@labsinitiative.com)**

**Madhu KA, Country manager - [madhu@labsinitiative.com](mailto:madhu@labsinitiative.com)**