

STANDARDS SPECTRUM 5.0

Presentation

EVENT: "PRESENTATION ON STANDARDS"

TITLE: UPS SYSTEMS - Powering Safety & Reliability

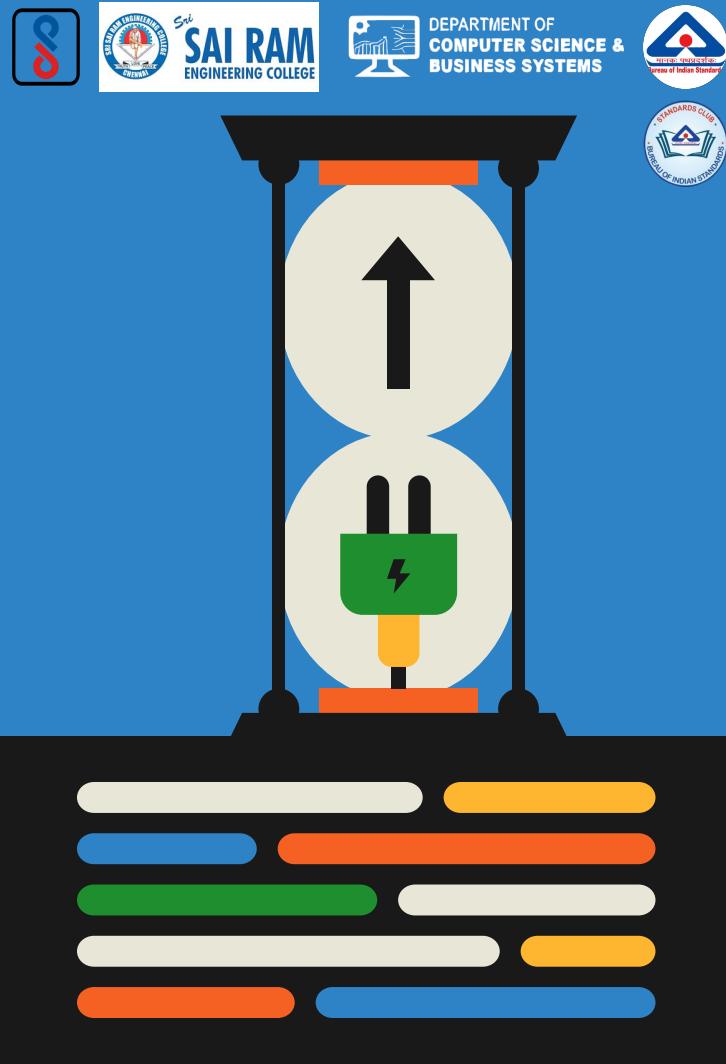
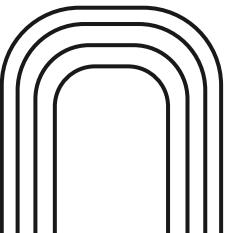
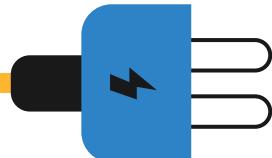
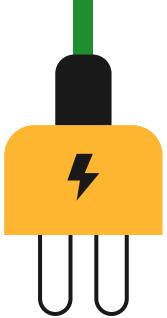
TEAM NAME : TEAM "AURA"

MEMBERS:

THARUN KUMAR C

DHARANI K

BAIRAVI A



**DEPARTMENT OF
COMPUTER SCIENCE &
BUSINESS SYSTEMS**





“A UPS is supposed to be your knight in shining armor when the power goes out... but with fake certifications and cheap batteries, it sometimes turns into a ticking time bomb, literally lighting up the office, not with power, but with explosions.”

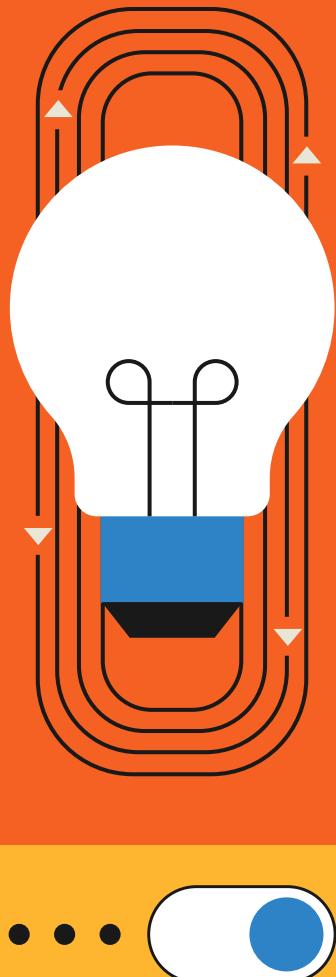


TABLE OF CONTENTS

01

Problem Statement

Why Standards matter in UPS?

02

Failures & Malpractices

Fake certifications and non-compliance practices by manufacturers

03

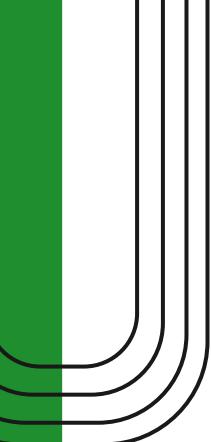
Mapping Problems with BIS

How each failure could have been prevented with proper BIS compliance

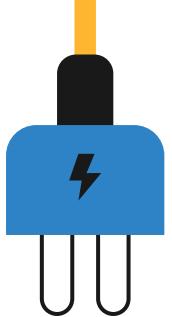
04

BIS-Friendly UPS Design

A new UPS design proposal

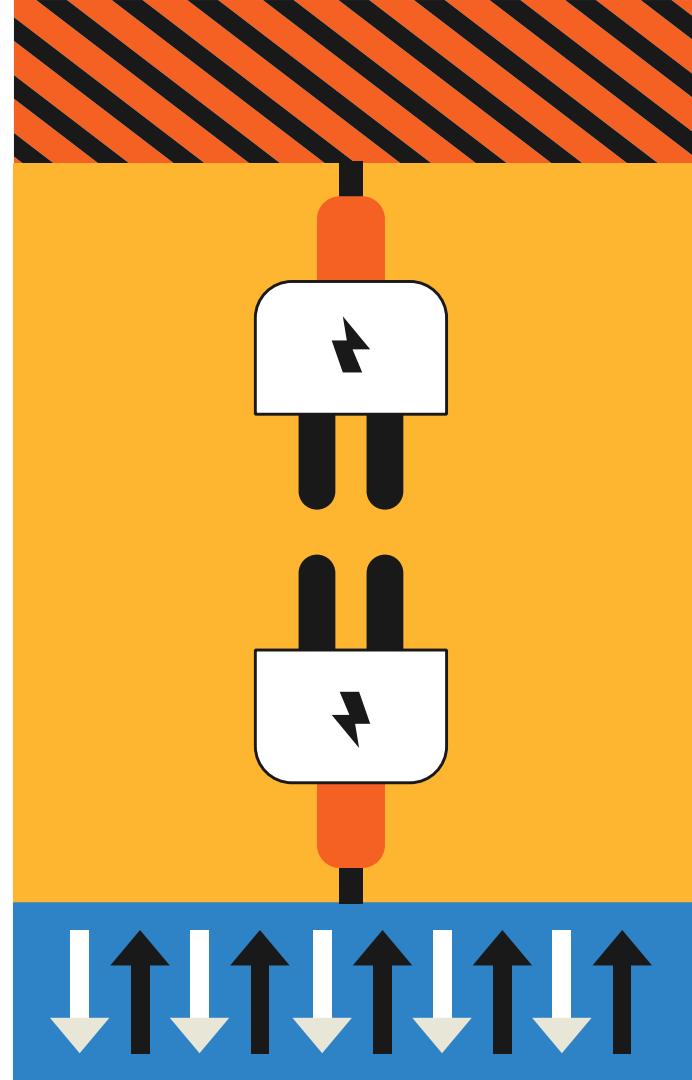


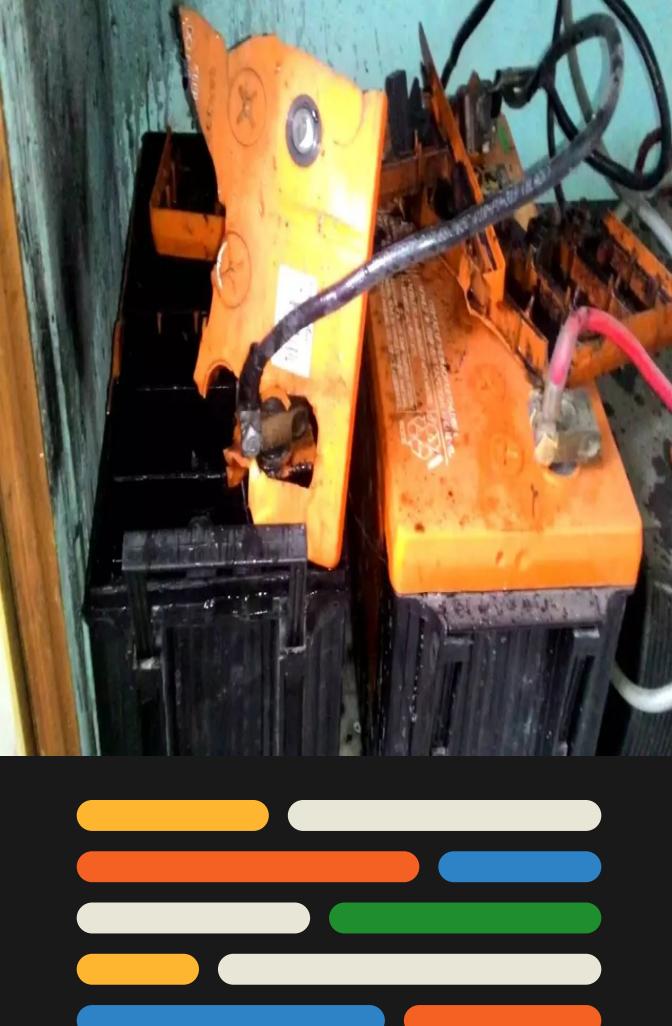
01



PROBLEM STATEMENT

Why Standards matter in UPS?





PROBLEM STATEMENT

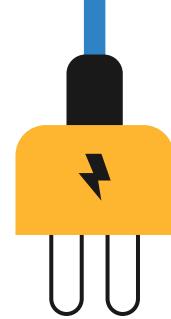
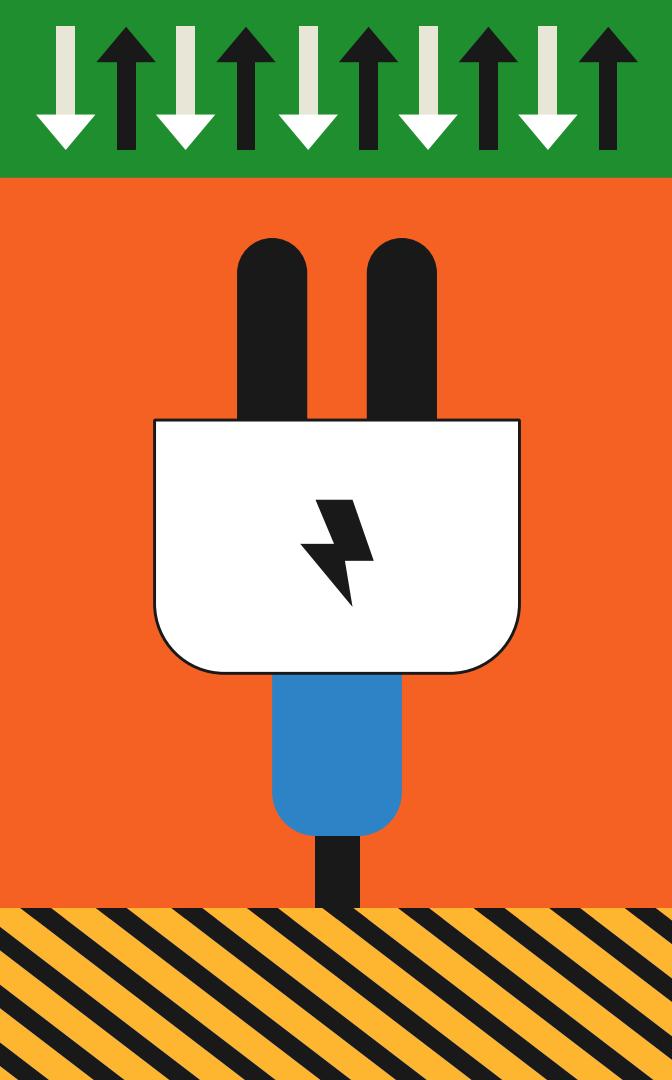
*In recent years, **UPS failures** have increasingly resulted in devastating fires, **violent battery explosions**, and sudden blackouts across homes, offices, and hospitals. These incidents not only damage critical equipment but also put **human lives at risk**, disrupt essential services, and create **long-term safety concerns**.*

🚫 Common Malpractices:

- Manufacturers selling UPS with fake or expired BIS certifications.
- Use of low-grade, non-compliant batteries that overheat and explode.

⚠ Why These Standards Matter:

- Prevents fire accidents due to overheating or faulty wiring.
- Ensures battery safety and prevents explosions or leakages.



02

FAILURES & MALPRACTICES

Fake certifications and non-compliance practices
by manufacturers

Uttar Pradesh (June 2025)



TOI

Kozhikode (May 2025)

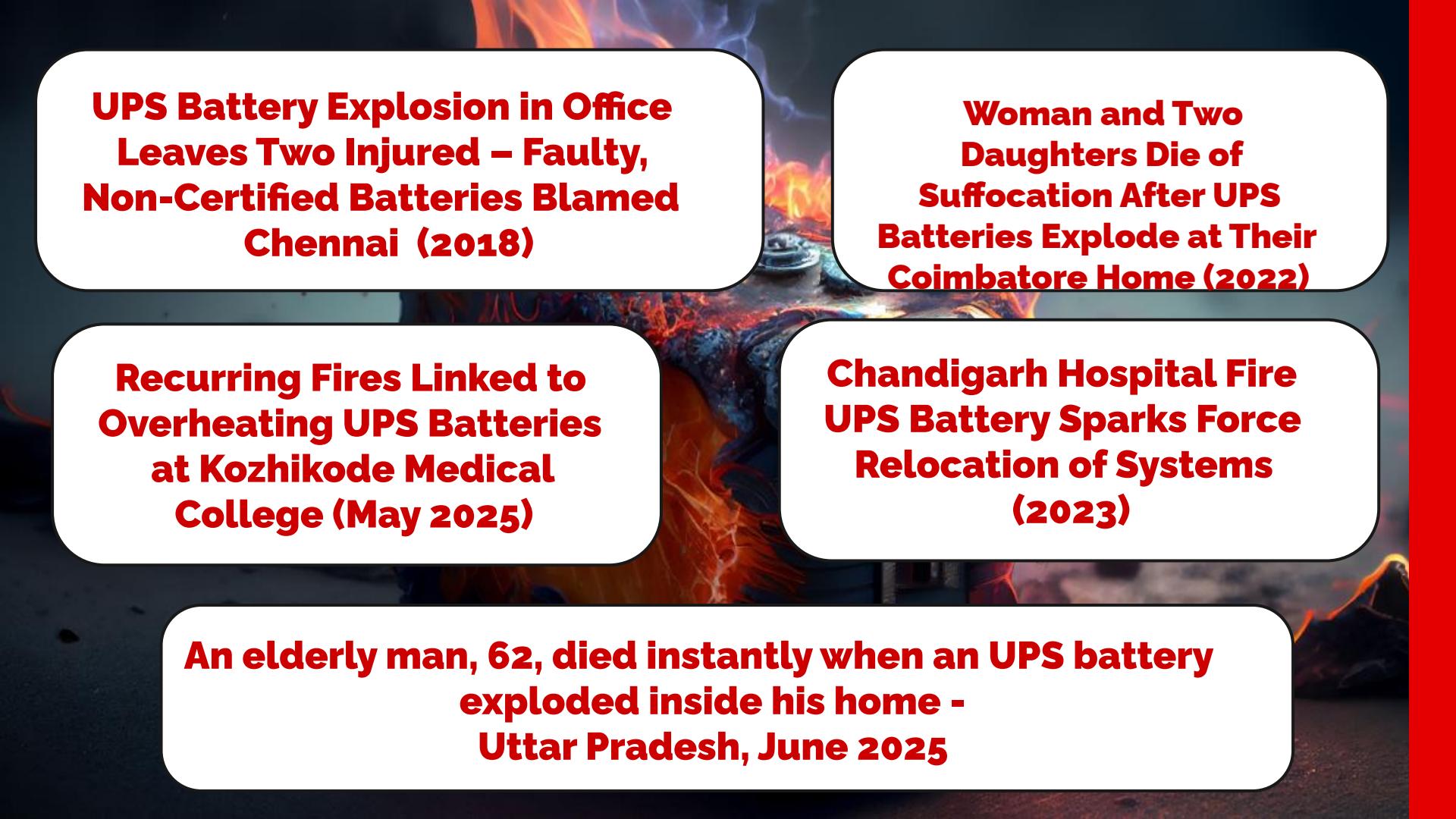


Delhi (2025)



Coimbatore (2022)





UPS Battery Explosion in Office Leaves Two Injured – Faulty, Non-Certified Batteries Blamed
Chennai (2018)

Woman and Two Daughters Die of Suffocation After UPS Batteries Explode at Their Coimbatore Home (2022)

Recurring Fires Linked to Overheating UPS Batteries at Kozhikode Medical College (May 2025)

Chandigarh Hospital Fire UPS Battery Sparks Force Relocation of Systems (2023)

**An elderly man, 62, died instantly when an UPS battery exploded inside his home -
Uttar Pradesh, June 2025**

Common Malpractices in UPS Industry



Fake BIS
Certification



Low-Grade
Batteries



Skipping Safety
Features



Improper
Installation

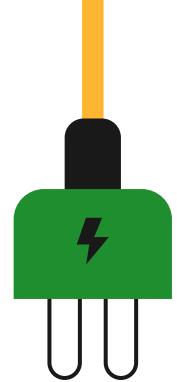


Ignoring
Maintenance



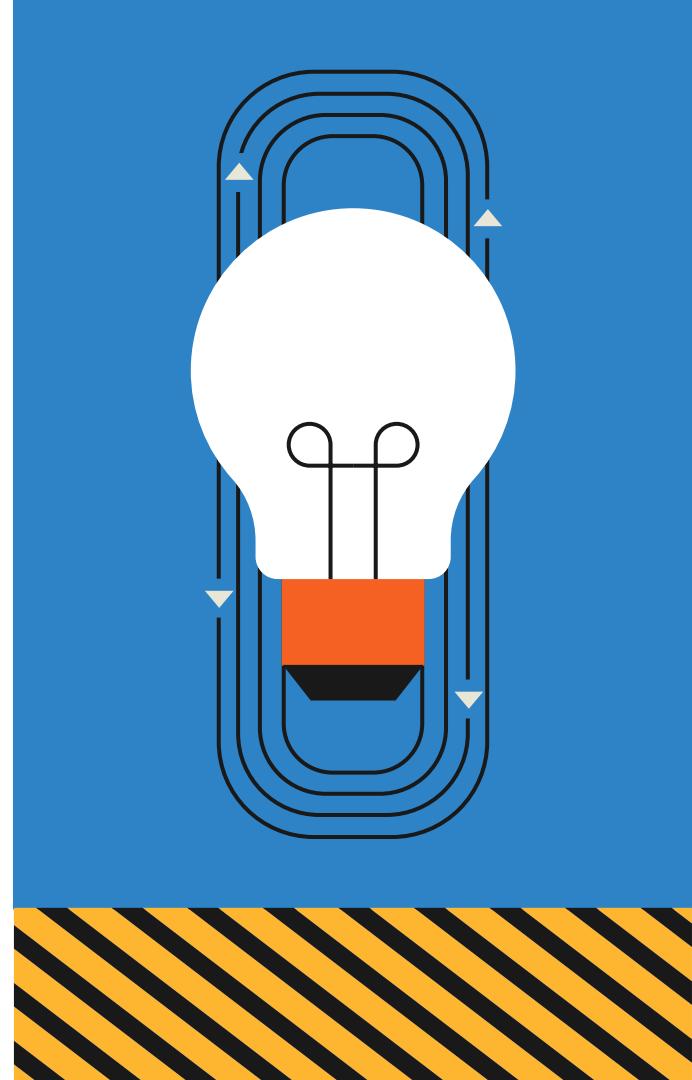
Cheap
Imports

03



Mapping Problems with BIS

How each failure could have been prevented
with proper BIS compliance

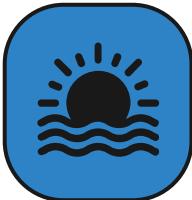


KEY BIS STANDARDS FOR UPS



IS/IEC 62040-1

Makes sure UPS is safe from fire, shocks, and overheating.



IS 9000 Series

Checks if UPS can work well in tough conditions like heat, humidity, or vibrations.



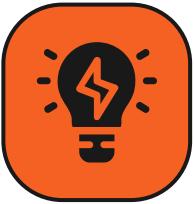
IS/IEC 62040-3

Tests if UPS gives stable voltage and quick backup when power fails.



IS 13252 (Part 1)

Keeps UPS safe for use with IT and office devices like computers and servers.



IS 16242

Ensures batteries don't leak, explode, or overheat.



How to Identify a Proper (BIS-Certified) UPS

1. Standard Reference Number

2. Technical Details

3. BIS Certification Mark

4. Registration Number



KEY UPS TESTS



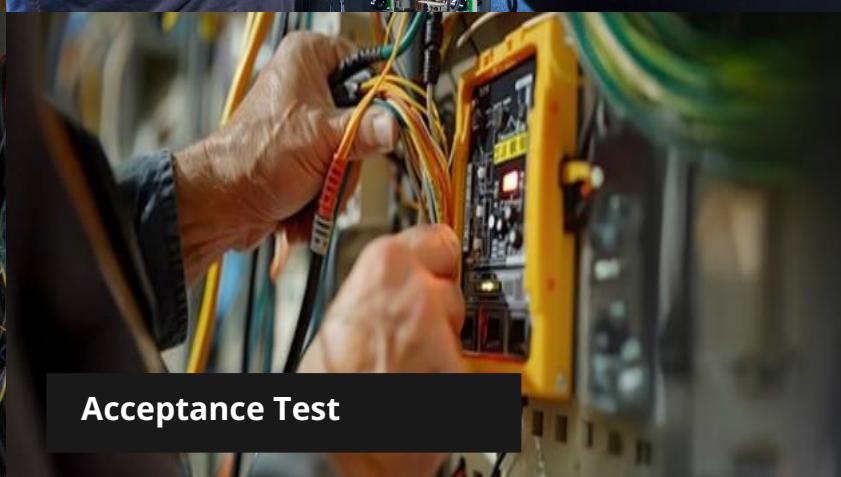
Battery Safety &
Performance Test



Factory Tests



Environmental &
Reliability Test



Acceptance Test

Renewal & Verification



Validity & Renewal Period

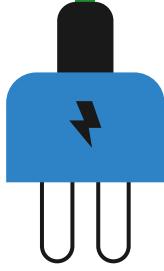
- BIS Registration is generally valid for 2 years.
- Can be renewed for up to 5 years at a time (if product and standards remain unchanged).
- Renewal requires fresh test reports from BIS-recognized labs.



How to Check BIS Certification (Layman Friendly)

1. Website: www.bis.gov.in → “Certification” → “Verify License”
2. App: Download BIS Care App (official app on Google Play / App Store).
 - Scan the QR Code or Registration Number on the product.
 - Instantly see if the certification is valid or expired.





What To Do When a UPS Burns



Cut Power
Immediately



Avoid Toxic
Smoke



Never Use
Water



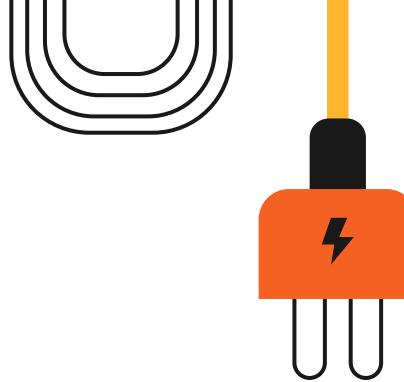
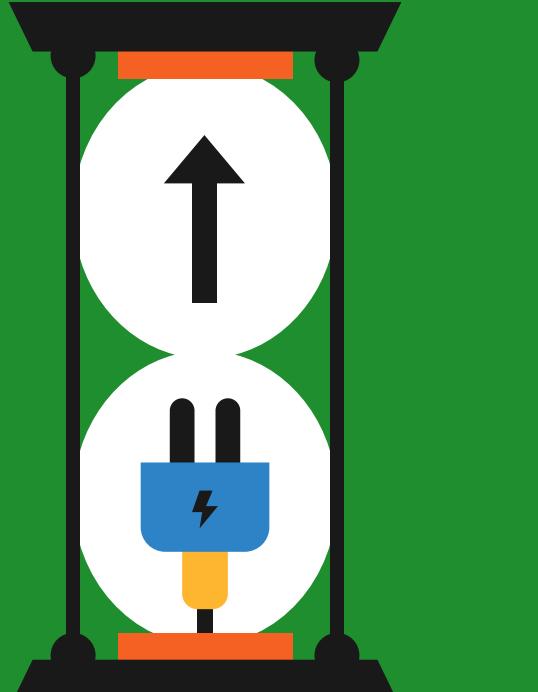
Call for
Emergency



Use Fire
Extinguisher
/ Dry Sand



Safe
Disposal



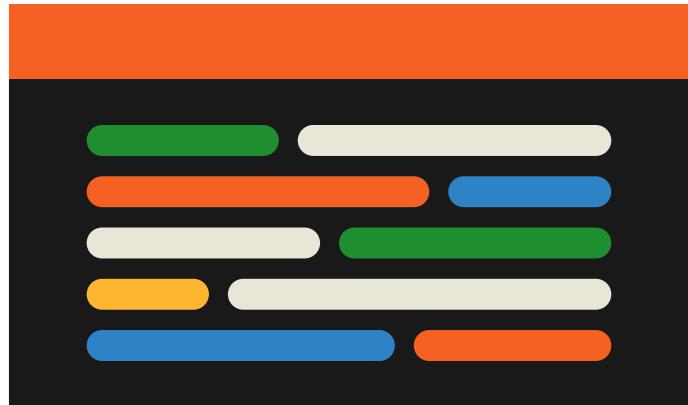
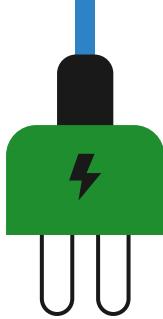
04

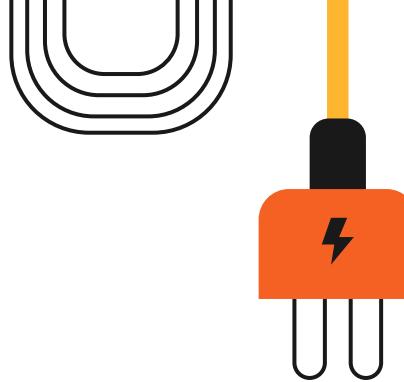
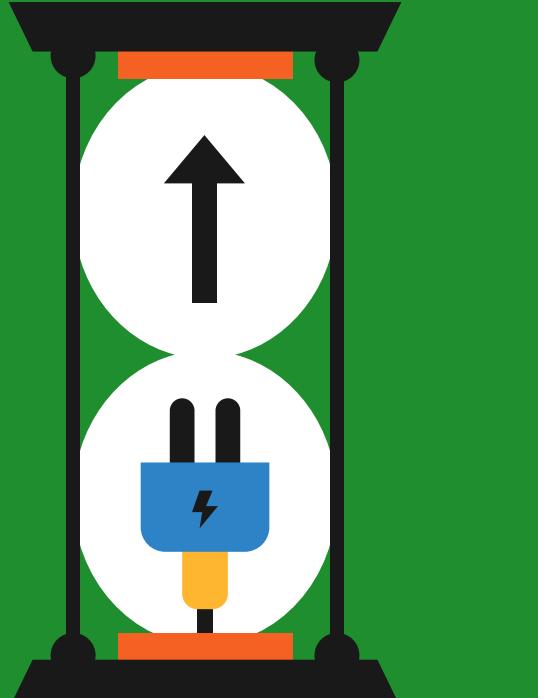
BIS FRIENDLY UPS DESIGN

A new UPS design proposal which is BIS-friendly

BIS-Friendly UPS Design

1. Fire & Shock Safety – IS/IEC 62040-1
2. Stable Power Output – IS/IEC 62040-3
3. Certified Battery Safety – IS 16242
4. Environmental Endurance – IS 9000 Series
5. IT Equipment Protection – IS 13252 (Part 1)
6. Smart Monitoring Features – BIS Care Integration





05

CONCLUSION

A safer tomorrow depends on the standards we follow today



Conclusion: Standards for Safety

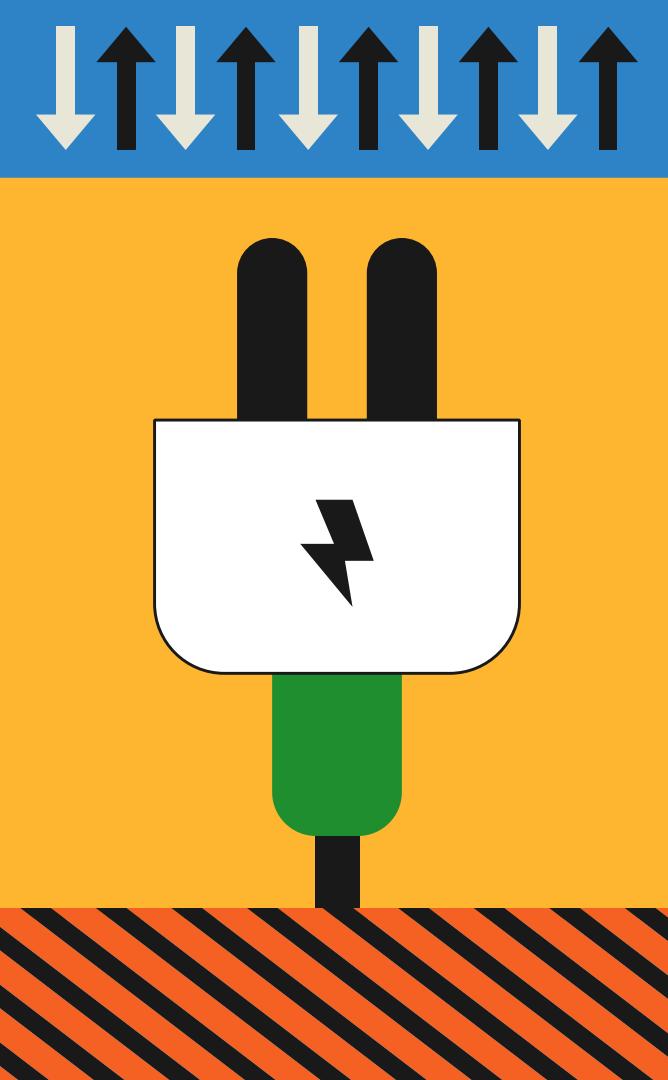
- **Standards Save Lives** – BIS compliance ensures UPS systems prevent fire accidents, toxic leaks, and power failures.
- **Fake Certifications = Real Dangers** – Non-compliant UPS units have led to explosions, fires, and loss of lives.
- **Prevention is Possible** – Every reported failure could have been avoided with strict adherence to BIS standards.
- **Our Proposal** – A BIS-friendly UPS design that combines safety, reliability, and smart monitoring for better protection.
- **The Way Forward** – Awareness + Compliance + Innovation = Safer Homes, Hospitals, and Industries.

A safer tomorrow depends on the standards we follow today.



REFERENCES

- “Woman, two daughters die of suffocation after UPS batteries explode at their home in Coimbatore.” *Times of India* (2022).
👉 [Times Of India](#)
- “34 batteries exploded causing fire inside UPS unit at Kozhikode MCH.” (2025).
👉 [Indian Express](#)
- Bureau of Indian Standards (BIS) – Official Website.
👉 <https://www.bis.gov.in>
- “What is a UPS and how does it work?” *TechTarget*.
👉 <https://www.techtarget.com/whatis/definition/uninterruptible-power-supply-UPS>
- “Testing of UPS Devices.” *Electrical Engineering Portal*.
👉 <https://electrical-engineering-portal.com/testing-of-ups-devices>



THANK YOU!

EVENT: "PRESENTATION ON STANDARDS"

TITLE: UPS SYSTEMS - Powering Safety & Reliability

TEAM NAME : TEAM "AURA"

MEMBERS:

THARUN KUMAR C

DHARANI K

BAIRAVI A