

# **Internship Project Report on**

## **A Project Based on UPS Contract Management System**

A report submitted as a part of the industrial Orientation Training in  
IT & ERP Department. Visakhapatnam Steel Plant

**By**

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Under the guidance of

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**RASHTRIYA ISPAT NIGAM LIMITED (RINL), Visakhapatnam**

**(Duration: 9<sup>th</sup> June 2025 to 5<sup>th</sup> July 2025)**

# **CERTIFICATE**

This is to certify that the allowing Students of **NIST UNIVERSITY,**

**BERHAMPUR** are engaged in the project work sided

A Project Full Stack WEB 2.0 Development from 9<sup>th</sup> June 2025 to 5<sup>th</sup>  
July 2025

**G SANJIB (FRONTEND DEVP)**

**A SONAL (BACKEND DEVP)**

In partial Fulfilment of the degree **BACHELORS OF TECHNOLOGY**  
in **COMPUTER SCIENCE AND ENGINEERING** stream in **NIST**  
**UNIVERSITY , BERHAMPUR** is a record of Bonafide work carried  
out by an under the guidance and supervision during the period from 9<sup>h</sup>  
June 2025 to 5<sup>th</sup> July 2025

**Date:**

**Place:** Visakhapatnam

**K.N.S.S Yadav**

**Deputy General Manager (DGM),  
IT and ERP Department,  
RINL-VSKP**

# **ACKNOWLEDGEMENT**

First of all, I thank God in words for his grace, who gave me the opportunity and strength to carry out this work. The success and outcome of this project required a lot of guidance and assistance from many people and we are incredibly privileged to have got this all along with the completion of our project.

I thank this opportunity to thank Mr. K.N.S.S Yadav, IT and ERP Department. Visakhapatnam Steel Plant for guiding me with is immense knowledge and helping me complete this project successfully.

I wish to express my sincere thanks to IT and ERP Dept. employees of Visakhapatnam Steel Plant for their valuable guidance in completing this project

# DECLARATION

I hereby that this project work entitled **A Project Based on UPS Contract Management System** is original and has not been submitted to any university or college before fulfillment of the requirements of any course of study or to the award of any degree. The opinion is given and the conclusions arrived at are of my own. The views expressed in the rep

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# 1. ABSTRACT

This report describes the design and implementation of a **web-based UPS Contract Management System** developed to simplify and improve the management of Uninterruptible Power Supply (UPS) contracts, maintenance activities, and complaint handling. UPS systems are essential for ensuring uninterrupted power to critical infrastructure, and effective monitoring of their contracts and servicing is necessary to maintain system reliability. The proposed system replaces manual and fragmented processes with a centralized digital solution.

The application allows **authorized users** to perform **Create, Read, Update, and Delete (CRUD)** operations on UPS contract records, preventive maintenance (PM) schedules, breakdown complaints, and verification reports. Contract-related information such as vendor details, contract validity, and equipment specifications can be efficiently stored and managed. The preventive maintenance module supports scheduling and tracking of routine service activities, helping reduce unexpected failures and improve system longevity.

A dedicated **complaint management module** enables users to register breakdown issues, monitor their status, and document corrective actions. The system also includes **verification and approval workflows**, allowing supervisory authorities to review and validate maintenance and complaint reports, thereby ensuring accountability and compliance with contractual terms.

The system features a **user-friendly web interface** with role-based access control to ensure secure and controlled data access. Centralized data storage facilitates quick retrieval of historical records, supports reporting, and aids informed decision-making. Overall, the UPS Contract Management System enhances operational efficiency, improves maintenance tracking, and ensures timely resolution of issues, making it an effective solution for reliable UPS infrastructure management.

# 1. INTRODUCTION TO VSP

## OVERVIEW:

Visakhapatnam Steel Plant (VSP) is the integrated steel plant Rashtriya Ispat Nigam Limited in Visakhapatnam which is founded in 1971, VSP strikes every one with a tremendous sense of awe, wonder and amazement as it presents a wide array of excellence in all its facets in scenic beauty, in management and above all in product quality.

On the coast of Bay of Bengal and by the side of scenic Gangavaram beach, have risen tall and huge structures of technological architecture, the Visakhapatnam Steel Plant. But the vistas of excellence do not rest with the inherent beauty of location over sophistication of technology- they march ahead parading one aspect after another.

The decision of the Government of India to set up an integrated steel plant at Visakhapatnam was announced by then Prime Minister Smt. Indira Gandhi in Parliament on 17th January 1971. VSP is the first coastal based integrated steel plant of India is located, 16km west of city of destiny, Visakhapatnam, bestowed with modern technologies, VSP has an installed capacity of 3 million tons per annum of liquid steel and 2.656 million tons of saleable steel.

The saleable steel here is in the form of Wire rod coils, Structural, Special Steel, Rebar's, Forged Rounds and etc. At VSP there emphasis on total automation, seamless integration and efficient up gradation, which result in wide range of long and structural products to meet stringent demands of discerning customers with India & abroad. VSP product meet exalting international

Quality Standards such as JIS, DIN, BIS, BS etc.

VSP has become the first integrated steel plant in the country to be certified to all the three international standards for quality (ISO-9001), for Environment Management (ISO) -14001) & for Occupational Health & Safety (OHSAS 18001).

The certificate covers quality systems of all operational, maintenance, service units besides purchase systems, Training and Marketing functions spreading over 4 Regional Marketing offices, 20 branch offices & 22 stock yards located all over the country. VSP by successfully installing & operating efficiently Rs. 460 crores worth of pollution and Environment Control Equipment and converting the

barren landscape more than 3 million plants has made the steel plant, steel Township and VSP exports

Quality Pig Iron & Steel products Sri Lanka, Myanmar, Nepal, Middle East, USA & South East Asia (Pig Iron). RINL-VSP was awarded "Star Trading House" status during 1997-2000. Having established a fairly dependable export market, VSP plans to make a continuous presence in the export market.

VSP also places strong emphasis on research and development, continuous process improvement, and skill enhancement of its workforce to remain competitive in the global steel industry. The plant actively undertakes Corporate Social Responsibility (CSR) initiatives in education, healthcare, environmental sustainability, and community development for the welfare of surrounding regions. With a strong focus on energy efficiency, digitalization, and green steel practices, RINL–VSP continues to modernize its operations to meet future challenges while contributing significantly to national infrastructure development and economic growth.

#### **Different sections at the RINL VSP:**

- Coke oven and coal chemicals plant
- Sinter plant
- Blast Furnace
- Steel Melt Shop
- Continuous casting machine
- Light and medium machine mills
- Calcining and refractive materials plant
- Rolling mills
- Thermal power plant Chemical power plant
- Yard management



### 3. INTRODUCTION TO THE PROJECT

At the UPS Contract Management System, our goal is to simplify and streamline the management of UPS-related contracts, preventive maintenance schedules, and breakdown complaints across organizations. This web-based platform provides a user-friendly interface and powerful backend features that help various departments effortlessly record, access, and manage data related to UPS services and operations.

We have created a website for automatically storing the data on UPS Contract Management System. We have used technologies for:

Frontend (HTML, CSS, JavaScript)

Backend (Node.js)

#### **HTML-**

The Hypertext Markup Language, or HTML is the Standard Markup Language for documents designed to be displaying in a web browser. It can be assisted by technologies such as

Cascading Style Sheets (CSS) and scripting languages as JavaScript. Web Browsers receive HTML documents from a webserver or from local storage and render the documents into multimedia webpages. HTML describes the structure of a webpage semantically and originally includes cues for appearance of document.

#### **CSS-**

Cascading Style Sheets (CSS) is a style sheet language used for describing the presentation of a document written in a markup language such as HTML. CSS is a corner stone technology of the World Wide Web, alongside HTML and JavaScript. CSS is designed to enable the separation of presentation and content, including layout, colors and fonts. This separation can improve content accessibility; provide more flexibility and control in the specification of presentation characteristics; enable multiple webpages to share formatting by specifying the relevant CSS in a separate css file, which reduces complexity and repetition in the structural content; and enable the .css file to be cached to improve the page load speed between the pages that share the file and its formatting.

#### **JAVASCRIPT-**

JavaScript often abbreviated JS, is a programming language that is one of the core technologies of the World Wide Web, alongside HTML and CSS. Over 97% of websites use JavaScript on the client side for web page behavior, often incorporating third-party libraries. Major web browsers have a dedicated JavaScript engine to execute the code on user devices.

## NODE.JS-

**Node.js** is an open-source, cross-platform runtime environment that allows the execution of JavaScript code outside of a web browser. Node.js enables developers to build scalable and high-performance server-side applications using JavaScript as the main programming language.

Unlike traditional server technologies, Node.js uses a **non-blocking, event-driven architecture**, which makes it lightweight and efficient—ideal for data-intensive real-time applications that run across distributed devices.

In the context of the **UPS Contract Management System**, Node.js is used as the **backend technology** to:

Handle API requests from the frontend

Interact with the database (e.g., Mongo DB) for storing and retrieving UPS contract, maintenance, and complaint data

Perform operations like session handling, user authentication, and role-based routing

Enable asynchronous processing to handle multiple tasks simultaneously without performance lag

With its vast ecosystem of packages available through **npm**

## 4. REQUIREMENTS GIVEN FOR PROJECT

1. There are 77 assets (UPS) of 1 type and they are under a single contract of HITACHI-HIREL UPS.
2. 15 Zones/Departments are there to which these 77 assets will be distributed as required:

	Dept.	No. Assets		Dept.	No. Assets
1	BF	11	9	SMS2	3
2	COCCP	4	10	SP	7
3	CRMP	2	11	TPP	9
4	DNW	5	12	TRAFFIC	5
5	EMD	3	13	UTILITIES	13
6	RMHP	2	14	WMD	10
7	STM	1	15	CDY	1
8	QATD	1			
				Total	77

3. There is total user of 52 which is divided into 5 functional groups:
  - 1) ETL Dept. EIC of the Contract (1),
  - 2) ETL Dept. Contract Cell (2),
  - 3) Zone wise Electrical Section Coordinators (32),
  - 4) Zone wise Electrical Section In charges (14),
  - 5) Contract Service Engineers (3).
4. Complaint Module:
  - a. Except Contract Service Engineers, all 4 categories can raise.
  - b. Contract Service Engineers will take care of Complaint raised.
5. Complaint Reports:
  - a. Report of complaints will be shown zone-wise.
6. Preventive Maintenance:
  - a. Preventive Maintenance can only be raised by Contract Service Engineers.
  - b. It will be verified by Zone wise Electrical Section Coordinators
  - c. It will be approved by Zone wise Electrical Section In charges.
7. Maintenance Bill:
  - a. It will be available to Engineer In charge and Contract Cell after approval of PM.
8. Maintenance Report:
  - a. It will be shown zone-wise to all users.

## Complaint Registration:

Complaints : Complaint Registration			
Welcome Mr. enic			
Compl. Dt:	12-Jun-25 (dd-mon-yy)	ETL Asset Number:	08091632-33
Location:	BF-3 PCI	Ratings:	2 X 20
Department:	BF	Zone:	BF-3
BOQ Item Detail:	410005251-PREV&B/DMAINTENANCEOF2* 20KVAUPS		
Max Phone:*		Mobile No.:*	
Complaint Category: *	[Select Complaint Category] ▼		
Complaint Description: *			
* Fields are to be filled compulsorily.			
Submit		Reset	

## Complaint Category:

1. DC Over voltage
2. Inverter Overvoltage
3. Inverter Overload trip
4. Inverter Limb 1 or Limb2 fault - trip
5. CPU fault - trip
6. Over temperature trip
7. Alternate supply Under voltage
8. Alternate supply Over voltage
9. Alternate supply frequency out of sync limits
10. Static switch transfer to Alternate
11. MCB trip
12. Input Under voltage
13. Input Over voltage
14. Battery discharging
15. End of discharge
16. Inverter Under voltage
17. Inverter Overload
18. Others

## Preventive Maintenance:

### ETL UPS Contract PM Sheet

ETL_UPS_SI_No	09072116-17	Location	PCI 1 & 2 PLC ROOM
PM_Date		PM_Done_By	PAVAN KALYAN
BOQ_Item	410005248	Ratings	2 X 40
<b>Check list for Maintenance personnel</b>	<b>PERFORMED</b>	<b>Check list for Maintenance personnel</b>	<b>PERFORMED</b>
Functional Checking	<input type="radio"/> Yes <input type="radio"/> No	Redundancy Healthiness	<input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> NA
Battery Takeover	<input type="radio"/> Yes <input type="radio"/> No	Static Bypass Changeover	<input type="radio"/> Yes <input type="radio"/> No
Function of SCVS	<input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> NA	Protection Checking	<input type="radio"/> Yes <input type="radio"/> No
Blowing/ Vacuum Cleaning	<input type="radio"/> Yes <input type="radio"/> No	Tightness of all Connections	<input type="radio"/> Yes <input type="radio"/> No
Any physical damages of Panel and its internal items	<input type="radio"/> Yes <input type="radio"/> No	Working of Contactors	<input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> NA
All Thyristors	<input type="radio"/> Yes <input type="radio"/> No	All IGBTs	<input type="radio"/> Yes <input type="radio"/> No
Diodes and Capacitors	<input type="radio"/> Yes <input type="radio"/> No	Indication Lamps	<input type="radio"/> Yes <input type="radio"/> No
Cooling Fans	<input type="radio"/> Yes <input type="radio"/> No	Panel Locking Arrangements	<input type="radio"/> Yes <input type="radio"/> No
Switches Checking	<input type="radio"/> Yes <input type="radio"/> No	Maintenance of Distribution Boards	<input type="radio"/> Yes <input type="radio"/> No <input type="radio"/> NA
Connecting Cables	<input type="radio"/> Yes <input type="radio"/> No	Panel Meters Working	<input type="radio"/> Yes <input type="radio"/> No
PPE(Viz., Helmet, Safety shoes, Safety gloves, Eye glasses, ear plug)	<input type="radio"/> Yes <input type="radio"/> No	Tools(Viz., Insulated tools and Calibrated meters)	<input type="radio"/> Yes <input type="radio"/> No
Surroundings(Viz., Sufficient area to work & Escape, Room lighting, Rubber mats)	<input type="radio"/> Yes <input type="radio"/> No	Work Permit and Supervisor from shop Electrical	<input type="radio"/> Yes <input type="radio"/> No
AC Input Voltages(RY,YB,BR) in volts		AC Input Current(IR,IY,IB) in amps	
Input Frequency in Hz		DC Rectifier Output Voltage and current	
DC SMPS Voltages		AC SMPS Voltages	
AC Output Voltage in volts		AC Output Current	
Output Frequency in hz		Battery Voltage & Charging Current	
Sync Voltage		AUX Input Voltages(RY,YB,BR) in volts	
AUX Input Current(IR,IY,IB) in amps		AUX Input Frequency in hz	
AUX Output Voltage		AUX Output Current	
AUX Output Frequency		BATTERY Back Up Time in Minutes	
Battery Data (AH,RATING,CELLS,MAKE and TYPE)			
Spares Replaces ( if any ):	<input type="radio"/> Yes <input type="radio"/> No		
Remarks:*	<div>maximum length=250 characters</div> <div></div>		
<input type="button" value="Submit"/>			

<b>S.NO</b>	<b>PPM CHECK LIST</b>
1	Functional Checking
2	Redundancy Healthiness
3	Battery Takeover
4	Static Bypass Changeover
5	Function of SCVS
6	Protection Checking
7	Blowing/ Vacuum Cleaning
8	Necessary Checking
9	Checking for tightness of all Connections
10	Checking for any physical damages of Panel and its internal items
11	Working of Contactors
12	All Thyristors
13	All IGBTs
14	Diodes and Capacitors
15	Indication Lamps
16	Cooling Fans
17	Panel Locking Arrangements
18	Switches Checking
19	Maintenance of Distribution Boards
20	Connecting Cables

## 5. DESIGN OF PROJECT AND DATABASE SCHEMA

- Homepage

[Home](#) [Mobile Apps](#) [RINL e-Suvidha](#) [Retired Employees](#) [Internship \(PTMS\)](#) [A+](#) [A-](#) [A](#) [हिंदी](#)

**Rashtriya Ispat Nigam Limited**  
Visakhapatnam Steel Plant  
(A Govt. of India Enterprise)



Login





### About RINL – Visakhapatnam Steel Plant

Rashtriya Ispat Nigam Limited (RINL), the corporate entity of **Visakhapatnam Steel Plant (VSP)**, is a Navratna Company under the **Ministry of Steel, Government of India**. Situated on the east coast of India in **Visakhapatnam, Andhra Pradesh**, RINL is known for its world-class infrastructure and technological excellence in steel production.

Commissioned in 1992, the plant has grown to become a major player in the Indian steel industry, with a reputation for producing high-quality steel products that meet the needs of diverse sectors including construction, infrastructure, railways, and defense.

### About the IT & ERP Department

The Information Technology (IT) and Enterprise Resource Planning (ERP) Department of Rashtriya Ispat Nigam Limited (RINL) is the backbone of digital transformation at the Visakhapatnam Steel Plant. This department is responsible for designing, implementing, and maintaining all critical digital infrastructure and enterprise systems across the plant.

The IT & ERP Department plays a vital role in Automating core business processes such as maintenance, procurement, inventory, and HR.



#### Centralized System Management

The IT & ERP team maintains centralized systems that power critical plant operations and interdepartmental processes.

#### Secure Digital Infrastructure

Ensuring data protection and system security is a core responsibility of the department, with advanced monitoring protocols in place.

#### Automation & Optimization

The IT & ERP team maintains centralized systems that power critical plant operations and interdepartmental processes efficiently.

#### ERP Integration

Integration of all departments via ERP ensures real-time data flow, enabling informed decisions across the plant.

#### Support & Maintenance

Continuous support and system maintenance are provided to ensure minimal downtime and reliable performance.

#### Custom Web Applications

The team develops internal applications to digitize maintenance and operations.

[VMS](#) [SRM](#) [Kids](#) [Webmail](#) [Medical Services \(Employees\)](#) [Medical Services \(NON-VSP\)](#)



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## Login

Please login with the email id & password.

Employee Id

Password

Captcha

56305

Login

[Forgot Password](#)

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The login page provides secure access to the portal where each employee signs in using a unique employee ID and password. This ensures authorized access, protects system data, and allows users to perform role-specific tasks safely and efficiently.

- **Register complaints and Submit Preventive Maintenance Reports**

1. Register **UPS Complaints** – Used to report new UPS-related problems by entering issue details, location, and asset information for quick action.
2. View **UPS Complaints Reports** – Used to view all registered complaints, track their current status, and see actions taken for resolution.
3. Submit **Preventive Maintenance Reports** – Used by contractors to submit monthly UPS maintenance reports in digital format as per contract requirements.
4. View **UPS Preventive Reports** – Used by engineers and coordinators to review maintenance reports and verify maintenance activities.
5. View **UPS Preventive Reports Approval** – Used by authorized officers to approve, reject, or comment on preventive maintenance reports.



- Register complaints and Submit Preventive Maintenance Reports



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Visakhapatnam Steel Plant  
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Welcome, G sanjib

UPS CONTRACT MANAGEMENT PORTAL – RINL

## Register Complaints & Submit PM Reports Instantly

This internal portal enables RINL teams to log UPS-related complaints, submit preventive maintenance reports, and track ETL contract progress — all from a centralized dashboard.



**Want more? Discover key features of this portal.**

**COMPLAINT REGISTRATION**

Instantly log issues related to UPS systems across all RINL zones. Complaints are categorized and stored with asset details for quicker response by contractors and coordinators.

**PREVENTIVE MAINTENANCE SUBMISSION**

Submit monthly PM reports in a structured digital format. This improves traceability of maintenance activities and ensures timely upkeep of UPS equipment under ETL contracts.

**COMPLAINT STATUS & APPROVAL PANEL**

Coordinators and EICs can track complaint resolution status and review PM submissions. Built-in workflow simplifies review, feedback, and approval — all in one place.

### Register UPS Complaints Effortlessly

The complaint module allows contractors and plant personnel to report issues related to UPS systems across all zones. Each complaint is tagged with an asset number, timestamp, and location for effective resolution tracking.

Coordinators and EICs can review submitted complaints, monitor resolution progress, and escalate if required. The system ensures timely action, accountability, and improved communication between teams.

[Register New Complaint](#)

### View UPS Complaint Reports

Access, review, and monitor complaint reports submitted by the Engineer In Charge, Engineer Contract Cell, Zone-wise Electrical Section Coordinators, and respective Section Incharges. Ensure systematic tracking, verification, and timely resolution of reported issues, while maintaining proper records and facilitating inter-departmental coordination for effective corrective action.

[View Complaint Report](#)

### Submit Preventive Maintenance Reports Digitally

The PM module enables contractors to upload monthly Preventive Maintenance checklists for each UPS asset as per ETL contract requirements. The digital submission ensures structured reporting and traceable records.

EICs and coordinators can review these reports, verify fieldwork, and approve or return them with remarks — streamlining the entire compliance workflow across departments and zones.

[Raise Preventive Maintenance](#)

### View UPS Preventive Reports

Access, review, and evaluate Preventive Maintenance reports submitted by the Contract Service Engineer. Verify compliance with approved maintenance schedules, technical standards, and safety protocols, ensure proper documentation, and monitor follow-up actions to maintain system reliability and operational efficiency.

[View Preventive Report](#)

### View UPS Preventive Reports Approval

View, review, and validate Preventive Maintenance Reports submitted by the Contract Service Engineer, ensuring adherence to scheduled maintenance plans, technical specifications, and safety standards, with proper documentation and timely follow-up actions.

[View Approval Report](#)

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- Complaint Registration



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## Complaint Registration

Welcome, G sanjib

Compl. Dt:

dd/mm/yyyy



ETL Asset Number:

Ratings:

Location:

Department:

Zone:

BOQ Item Detail:

Max Phone: \*

Mobile No.: \*

Complaint Category: \*

Select Complaint Category



Complaint Description: \*

*\* Fields are to be filled compulsorily.*

Submit

Reset



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- View UPS Complaint Reports



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### Complaint Status Tracking



#### Complaint Details - Ticket #COMP-475132

Registered

COMPL. DT:  
2026-01-13T18:30:00.000Z

ETL ASSET NUMBER:  
ETL-12345

RATINGS:  
5

LOCATION:  
IT Dept Office

DEPARTMENT:  
IT

ZONE:  
Zone A

BOQ ITEM DETAIL:  
UPS Hardware Unit

MAX PHONE:  
8839-784

MOBILE NO.:  
7896132546

CATEGORY:  
hardware

COMPLAINT DESCRIPTION:

The UPS hardware in the server room is experiencing intermittent power failures and beeping alarms, indicating a potential battery or inverter fault. This is causing disruptions to the contract management system and affecting server uptime.

Print Receipt

Back to Dashboard

## • Preventive Maintenance Reports



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### Preventive Maintenance

ETL\_UPS\_SI\_No

Location

PM\_Date

dd/mm/yyyy



PM\_Done\_By

BOQ\_Item

Ratings

#### Checklist for Maintenance Personnel

Functional Checking:

☐ Yes ☐ No

Redundancy Healthiness:

☐ Yes ☐ No ☐ NA

Battery Takeover:

☐ Yes ☐ No

Static Bypass Changeover:

☐ Yes ☐ No

Function of SCVS:

☐ Yes ☐ No ☐ NA

Protection Checking:

☐ Yes ☐ No

Blowing/Vacuum Cleaning:

☐ Yes ☐ No

Tightness of Connections:

☐ Yes ☐ No

Physical Damage Check:

☐ Yes ☐ No

Working of Contactors:

☐ Yes ☐ No ☐ NA

All Thyristors:

☐ Yes ☐ No

All IGBTs:

☐ Yes ☐ No

Diodes and Capacitors:

☐ Yes ☐ No

Indication Lamps:

☐ Yes ☐ No

Cooling Fans:

☐ Yes ☐ No

Panel Locking:

☐ Yes ☐ No

Switches Checking:

☐ Yes ☐ No

Panel Distribution Boards:

☐ Yes ☐ No ☐ NA

AC Input Voltages (RY,YB,BR)

AC Input Current (IR,IY,IB)

Input Frequency in Hz

DC Rectifier Output & Current

DC SMPS Voltages

AC SMPS Voltages

AC Output Voltage

AC Output Current

Battery Data (AH, RATING, CELLS, MAKE & TYPE)

Spares Replaced (if any):

☐ Yes ☐ No

Remarks \*

maximum length = 250 characters

Submit

- View UPS Preventive Reports



**Rashtriya Ispat Nigam Limited**  
Visakhapatnam Steel Plant

## Preventive Maintenance Report Details

ETL_UPS_SI_No	Location	PM_Date	PM_Done_By
2026-002	Auxiliary Power Unit, Block B	2026-01- 14T18:30:00.000Z	S. Kumar

### Checklist Status

Functional Checking:	YES	Redundancy:	YES
Battery Takeover:	YES	Static Bypass:	YES
Function of SCVS:	YES	Protection:	YES
Blowing/Cleaning:	YES	Tightness:	YES
Physical Damage:	NO	Contactors:	YES
Thyristors:	YES	All IGBTs:	YES
Diodes/Capacitors:	YES	Indication Lamps:	YES
Cooling Fans:	YES	Panel Locking:	YES
Switches Checking:	YES	Distribution Boards:	YES

### Measured Parameters

AC Input Voltage	AC Input Current
410 V	80 A

Print Report

Back

- View UPS Preventive Reports Approval



**Rashtriya Ispat Nigam Limited**  
**Visakhapatnam Steel Plant**  
Coordinator / EIC Approval Portal



## Preventive Maintenance Approval Dashboard

Date of PM	UPS Serial No	Location	Service Engineer	Action
2026-01-14T18:30:00.000Z	2026-002	Auxiliary Power Unit, Block B	S. Kumar	<a href="#">Review</a>

### Reviewing Report: 2026-002

Location: **Auxiliary Power Unit, Block B**

Maintenance Date: **2026-01-14T18:30:00.000Z**

Approver Remarks / Observations \*

Verified Successfully



Approver Name (EIC / Coordinator)

G Sanjib

[Approve Report](#)

[Reject Report](#)

- BACKEND AND DATABASE PHOTOS

```
mysql> desc complaints;
```

Field	Type	Null	Key	Default	Extra
id	int	NO	PRI	NULL	auto_increment
ticket_id	varchar(20)	YES		NULL	
compl_dt	date	YES		NULL	
etl_asset	varchar(50)	YES		NULL	
ratings	varchar(50)	YES		NULL	
location	varchar(100)	YES		NULL	
dept	varchar(100)	YES		NULL	
zone	varchar(50)	YES		NULL	
boq_detail	text	YES		NULL	
max_phone	varchar(20)	YES		NULL	
mobile_no	varchar(20)	YES		NULL	
category	varchar(50)	YES		NULL	
description	text	YES		NULL	
status	varchar(20)	YES		Registered	
created_at	timestamp	YES		CURRENT_TIMESTAMP	DEFAULT_GENERATED

```
15 rows in set (0.848 sec)
```

```
mysql> desc pm_reports;
```

Field	Type	Null	Key	Default	Extra
id	int	NO	PRI	NULL	auto_increment
etl_ups_sn	varchar(100)	YES		NULL	
location	varchar(100)	YES		NULL	
pm_date	date	YES		NULL	
pm_done_by	varchar(100)	YES		NULL	
boq_item	varchar(100)	YES		NULL	
ratings	varchar(100)	YES		NULL	
checklist_results	json	YES		NULL	
ac_input_volts	varchar(100)	YES		NULL	
ac_input_curr	varchar(100)	YES		NULL	
input_freq	varchar(50)	YES		NULL	
dc_rectifier	varchar(100)	YES		NULL	
dc_smps	varchar(100)	YES		NULL	
ac_smps	varchar(100)	YES		NULL	
ac_output_volt	varchar(100)	YES		NULL	
ac_output_curr	varchar(100)	YES		NULL	
battery_data	text	YES		NULL	
spares_replaced	varchar(10)	YES		NULL	
remarks	text	YES		NULL	
submitted_at	timestamp	YES		CURRENT_TIMESTAMP	DEFAULT_GENERATED
approval_status	varchar(20)	YES		Pending	
approver_remarks	text	YES		NULL	
approved_by	varchar(100)	YES		NULL	
approved_at	datetime	YES		NULL	

```
24 rows in set (0.044 sec)
```

## 7. CONCLUSION

In conclusion, the **UPS Contract Management System** plays a vital role in **streamlining the management of UPS-related contracts, preventive maintenance schedules, and complaint handling processes** within an organization. By transitioning from manual logbooks to a centralized digital platform, the system enhances **data accuracy, operational efficiency, and transparency** across departments.

The system ensures that all maintenance activities and contract records are tracked in real-time, reducing delays and miscommunication. Features like **role-based access, status verification, and digital reporting** empower various stakeholders—such as CSE, ESC, ESI, CC and EIC—to perform their responsibilities seamlessly.

With automation and structured workflows, the platform not only **saves time and effort** but also lays the foundation for **scalable and efficient contract management**. As organizations grow and technology evolves, systems like this become essential in maintaining high standards of service, accountability, and documentation.

Overall, the **UPS Contract Management System** demonstrates how the integration of web technologies can significantly improve traditional workflows, promoting **efficiency, reliability, and digital transformation** within service-oriented sectors.



## 8. REFERENCES

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