



2020 IPLOCA Excellence in Project Execution Award

SPARK Module for Centralized Project Management

**Kalpataru Power Transmission Limited
Mumbai - India**

KPTL - Company Profile



EXPERIENCE - Over **3 decades**



FOOTPRINTS - Over **55 countries**



LEADING EPC player in Oil & Gas (Pipeline and Process Plants), Power Transmission & Distribution, and Infrastructure Sectors



ANNUAL PRODUCTION CAPACITY OF TRANSMISSION TOWERS - **180,000 MT**



ORDER BOOK- **USD 3474 Mn & Turnover- USD 1567 Mn (31st March 2019)**



EXPERIENCE – Executed over **(7200 KMS) Oil & Gas Pipelines** and Installed over **275+ Stations /Units in Oil & Gas, Refinery, Petrochemical Plant**



RAILWAYS - Capability of offering Integrated services **Globally, Executed 1500+ Track Kms**



STRONG TECHNICAL MANPOWER – **10,000+**



COMPLETED transmission line contracts of **Over 29,000 Km** length across the **globe**.
Delivered **over 45,000 towers** across the globe



CERTIFICATIONS: **ISO 9001:2015, ISO 14001:2015 & ISO 45001:2018 For HSE**. First Indian EPC contractor to implement **ISO 37001:2016**



EXECUTED more than **60 Million Man-hours** without single LTI in Oil & Gas Business



KPTL – Oil & Gas Division

KPTL O&G is one of the leading player in EPC contractors for Oil & Gas pipeline laying and associated facilities. We have end-to-end capabilities in designing, engineering, procurement, construction, testing and commissioning of cross country Oil & Gas pipelines and associated facilities. We have completed laying of 7200 +kms of pipelines and setting up of 275 intermediate and terminal stations. We have also completed an EPC contract for setting up a Central Gas Gathering Station and a Field Gathering Station for processing 10 MMSCMD of natural gas. In addition to setting up of pipelines & associated facilities in normal, marshy, hilly & desert terrain, we have capabilities of EPC contract execution for Oil & Gas processing facilities in shallow water pipelines, refineries & fertilizer Plants.



Finding :

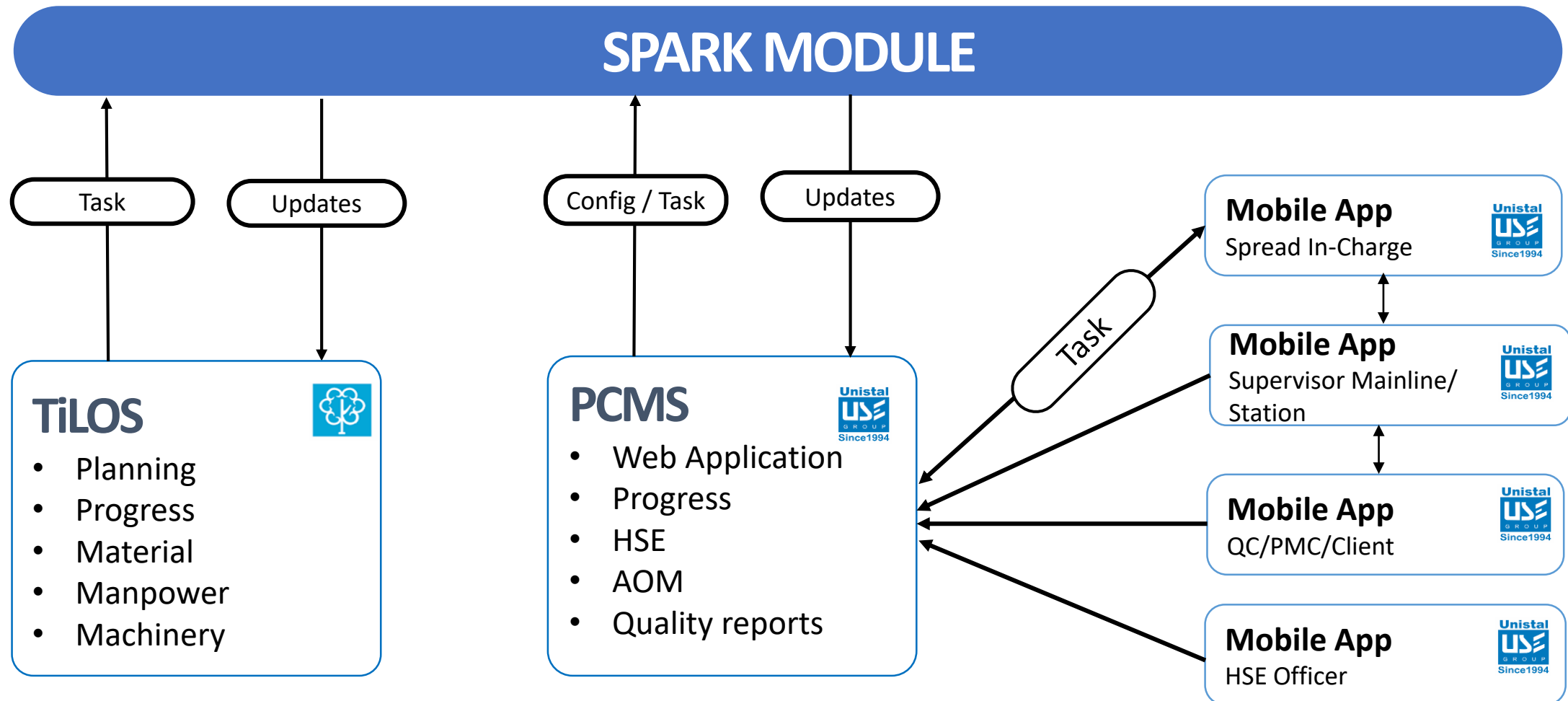
Excellence in management of Projects is essential for long-term survival of the organization development. In today's era success of any organization depends on how well the information is gathered to enhance resources optimization and improvements in quality and safety through process automation i.e.

- Provide daily live information for decision-making in the central server.
- Improve project management by way of future plan and achieving the targets.
- Demonstrate results through project evaluation.
- Increase opportunities to learn from experience.
- Track progress , manpower, equipment, diesel etc. for cost optimization to meet targets on daily basis .
- Quality and Safety performance
- Billing Automation which helps in timely collection and cash flow of the projects

Under our SPARK (*Sustainable Performance through Automation & Reimagined processes at KPTL*) program we implemented **“SPARK Module for Centralized Project Management”**

Solution :

SPARK Module for Centralized Project Management



Process :

1. Task Planning

Configuration of Project, Schedule, Manpower and Machinery Allocated to a Project – SAP – PCMS – Mobile – SAP

Not secure | mbpl2kptl.plims.net/resource_planning.php

Input ▾ Construction ▾ Geo-Referencing ▾ Documentation ▾ Inventory ▾ KPTL D1 | EngineerDate: 13-03-2020 20:15:09

Resource Planning

Add Resource Planning Import Resource Planning

Task / Activity Name* Resource ID* Resource Type*

Route Survey M-13 Manpower















Resource Name*

Supervisor

Submit

Resource Planning

CSV PDF Print Search:

S.No	Task / Activity Name	Resource ID	Resource Type	Resource Name	Date	Action
1	Stringing	M-13	Manpower	Supervisor	2020-03-11 00:00:00	 
2	Stringing	M-12	Manpower	Site Engineer	2020-03-11 00:00:00	 
3	Stringing	M-10	Manpower	Rigger	2020-03-11 00:00:00	 
4	Stringing	M-05	Manpower	Helper	2020-03-11 00:00:00	 
5	Stringing	M-03	Manpower	Foreman	2020-03-11 00:00:00	 
6	NDT-RT	M-09	Manpower	QC Engineer	2020-03-11 00:00:00	 
7	NDT-RT	M-05	Manpower	Helper	2020-03-11 00:00:00	 

2. Vendor Configuration

Configuration of Sub Contractors Allocated to a Project – TiLOS – PCMS - Mobile

Home Input Construction Geo-Referencing Documentation Inventory Unistal | Date: 13-03-2020 20:17:29 | Logout

Vendor Details

Add Vendor Import Vendor

Vendor Name* Description* Submit

KUMAWAT CONSTRUCTION COMF Supplier

Vendor Details

CSV PDF Print Search:

S.No	Vendor Name	Description	Date	Action
1	KPTL		2020-01-16 00:00:00	
2	KUMAWAT CONSTRUCTION COMPANY		2020-01-16 00:00:00	
3	OM ENTERPRISES		2020-01-16 00:00:00	
4	SWAMINARAYAN CONSTRUCTIONS		2020-01-16 00:00:00	
5	VEER TEJAJI LOGISTICS		2020-01-16 00:00:00	
6	SVS ROADLINES PVT LTD		2020-01-16 00:00:00	
7	POWER RENTAL		2020-01-16 00:00:00	
8	HI-TECH EQUIPMENTS		2020-01-16 00:00:00	
9	Narendra Kumar		2020-01-16 00:00:00	
10	MATESHWARI ENGINEERING		2020-01-16 00:00:00	

Showing 1 to 10 of 28 entries

3. Activity Task Planning

KPTL is presently using TiLOS to create plans for each activity along with productivity information like resources needed per unit activity and also material, drawings availability.

Task Planning
Import Task Planning

Select Type*

Select Sub Type*

Activity / Task Name*

Spread Name*

Section Name*

Segment*

Task Identifier*

Parent ID*

Start Date*

End Date*

Start Distance*

End Distance*

Quantity*

Progress Method

WBS

Work Rate

WorkRateUnit

Part Progress Value

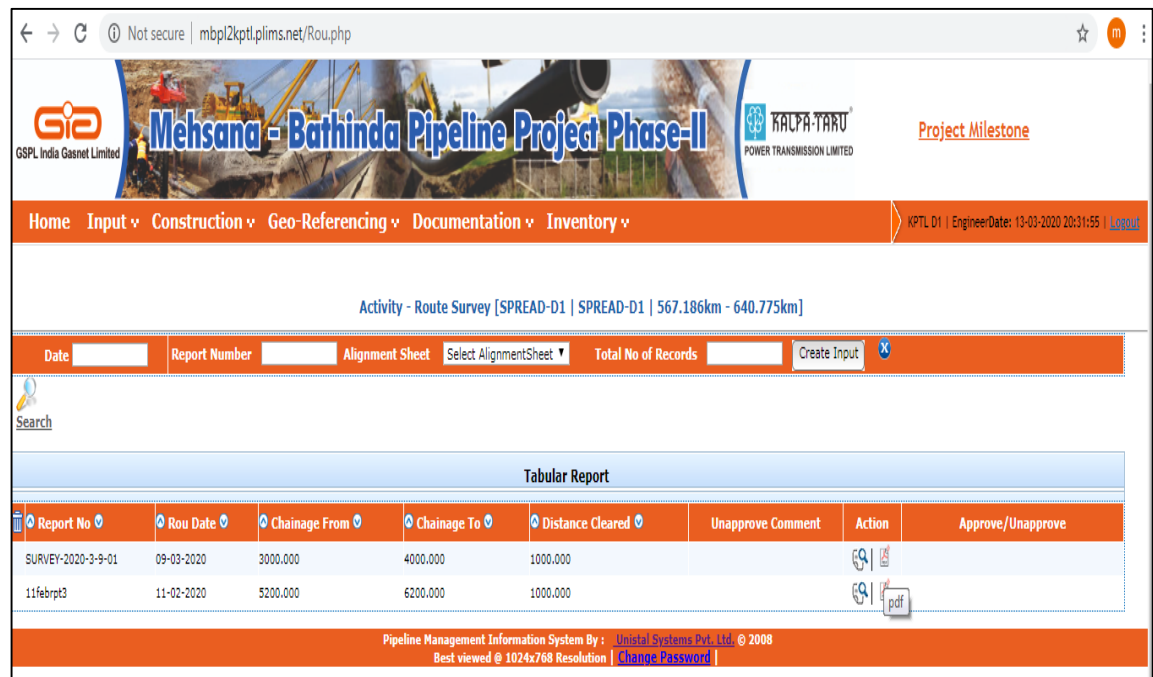
Task Planning

Search:

S.No	Activity Type Name	Activity Sub Type	Activity /Task Name	Section	Task Identifier	Start Date	End Date	Start Distance	End Distance	Qty	Qty Unit	Date	Action
1	Mainline	Mainline	Route Survey	[SPREAD-D1 SPREAD-D1 567.186km - 640.775km]	w1	2020-03-13	2020-03-14	1200	1500	300.000	Mtrs	2020-03-13	
2	Mainline	Mainline	Main Line Welding	[SPREAD-D1 SPREAD-D1 567.186km - 640.775km]	11	2020-03-12	2020-03-12	1100	1600	500.000	Nos	2020-03-12	
3	Mainline	Mainline	Trenching	[SPREAD-D1	TRECH-MBVP-	2020-03-	2020-03-	2000	4000	2000.000	Mtrs	2020-03-	

4. Data details entered by Mobility App

Direct Entry of Site Construction from Mobile – PCMS – SAP

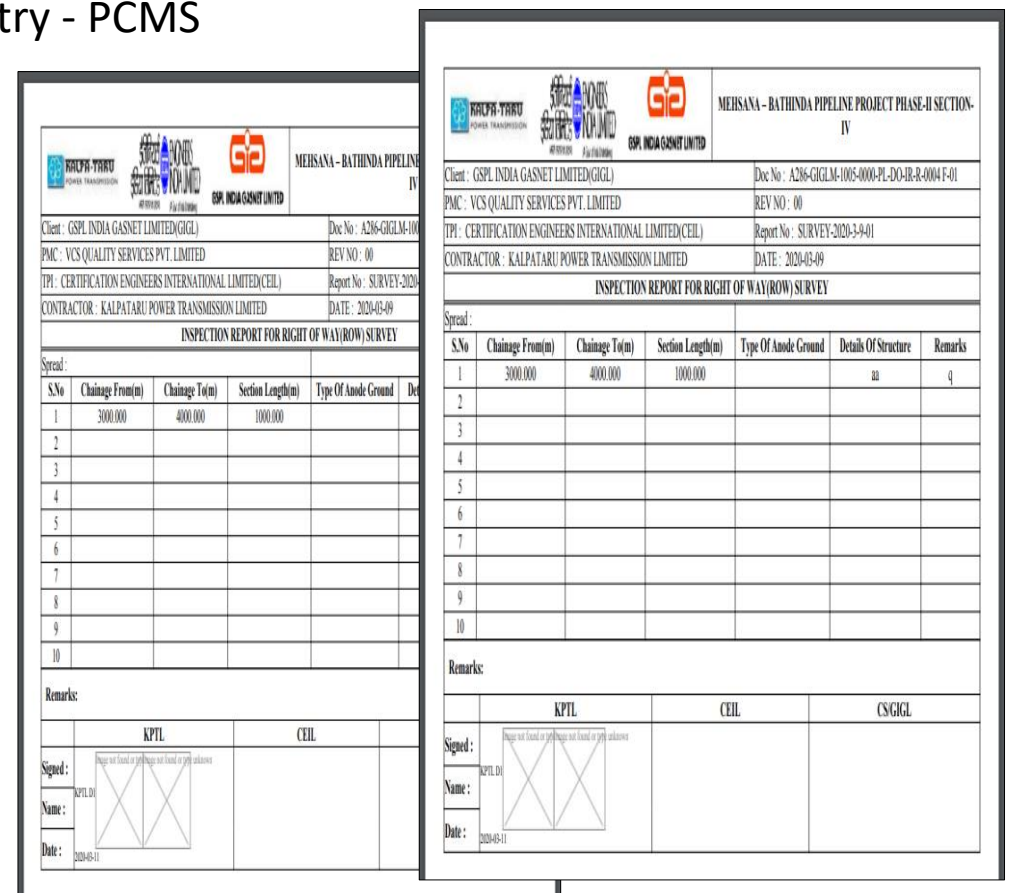


Activity - Route Survey [SPREAD-D1 | SPREAD-D1 | 567.186km - 640.775km]

Report No	Rou Date	Chainage From	Chainage To	Distance Cleared	Unapprove Comment	Action	Approve/Unapprove
SURVEY-2020-3-9-01	09-03-2020	3000.000	4000.000	1000.000			
11febrpt3	11-02-2020	5200.000	6200.000	1000.000			

5. PDF Report Generation after QC/PMS/Client Approval

Auto Generation of Inspection Reports from Mobile Entry - PCMS



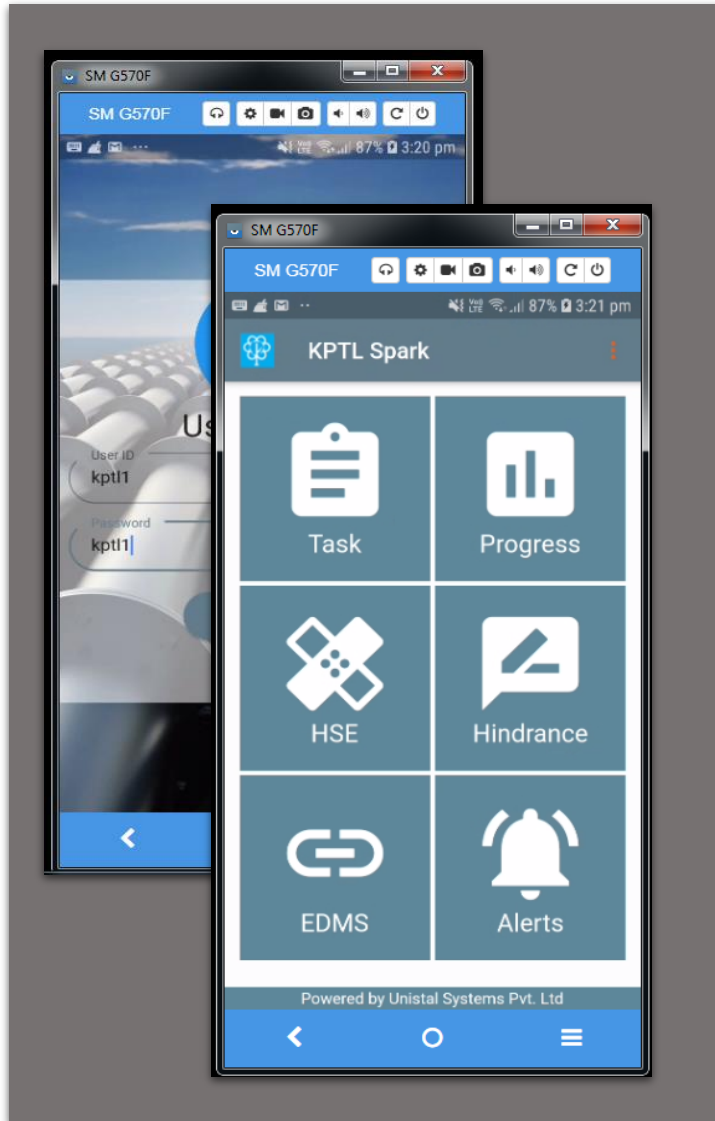
INSPECTION REPORT FOR RIGHT OF WAY (ROW) SURVEY

S.No	Chainage From(m)	Chainage To(m)	Section Length(m)	Type Of Anode Ground	Details Of Structure	Remarks
1	3000.000	4000.000	1000.000		aa	q
2						
3						
4						
5						
6						
7						
8						
9						
10						

Remarks:

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6. Mobility App for Site In-charge



Task Assigning

Site-In-Charge Shall Select a Task and Assign a Supervisor for performing that Task.

Stop Task for Re-assigning

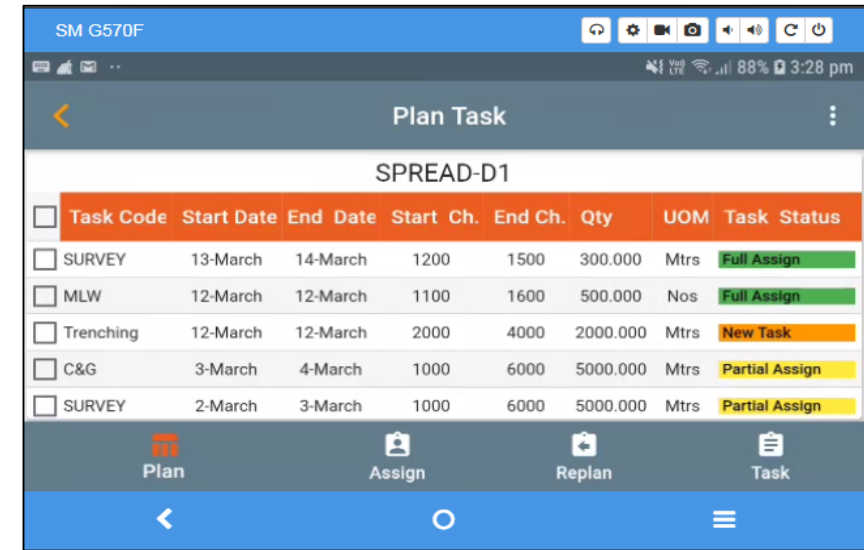
Site-In-Charge can Reassign a task from one Supervisor to Other.

Re-assigning Task

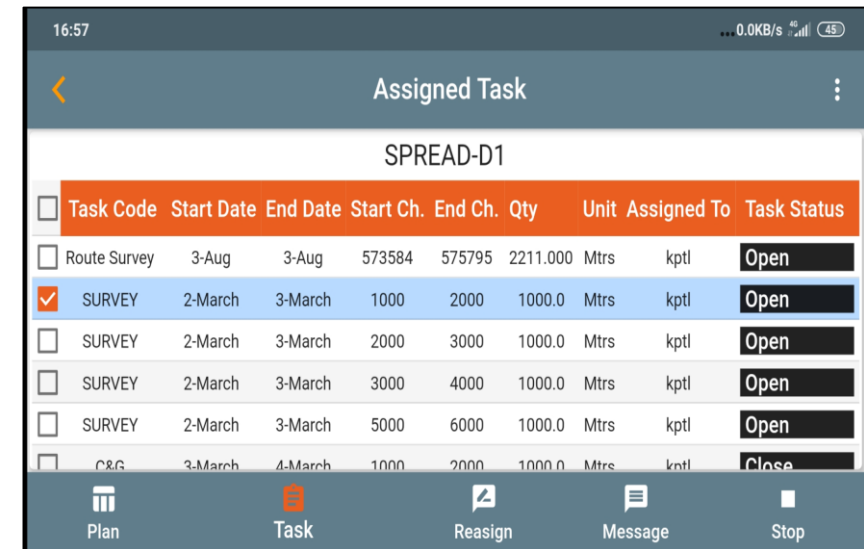
Site-In-Charge then Clicks on Reassign to select other Supervisor.

Activity Progress Report (DPR)

Site-In-Charge can view the Daily Progress Report.



Task Code	Start Date	End Date	Start Ch.	End Ch.	Qty	UOM	Task Status
<input type="checkbox"/> SURVEY	13-March	14-March	1200	1500	300.000	Mtrs	Full Assign
<input type="checkbox"/> MLW	12-March	12-March	1100	1600	500.000	Nos	Full Assign
<input type="checkbox"/> Trenching	12-March	12-March	2000	4000	2000.000	Mtrs	New Task
<input type="checkbox"/> C&G	3-March	4-March	1000	6000	5000.000	Mtrs	Partial Assign
<input type="checkbox"/> SURVEY	2-March	3-March	1000	6000	5000.000	Mtrs	Partial Assign

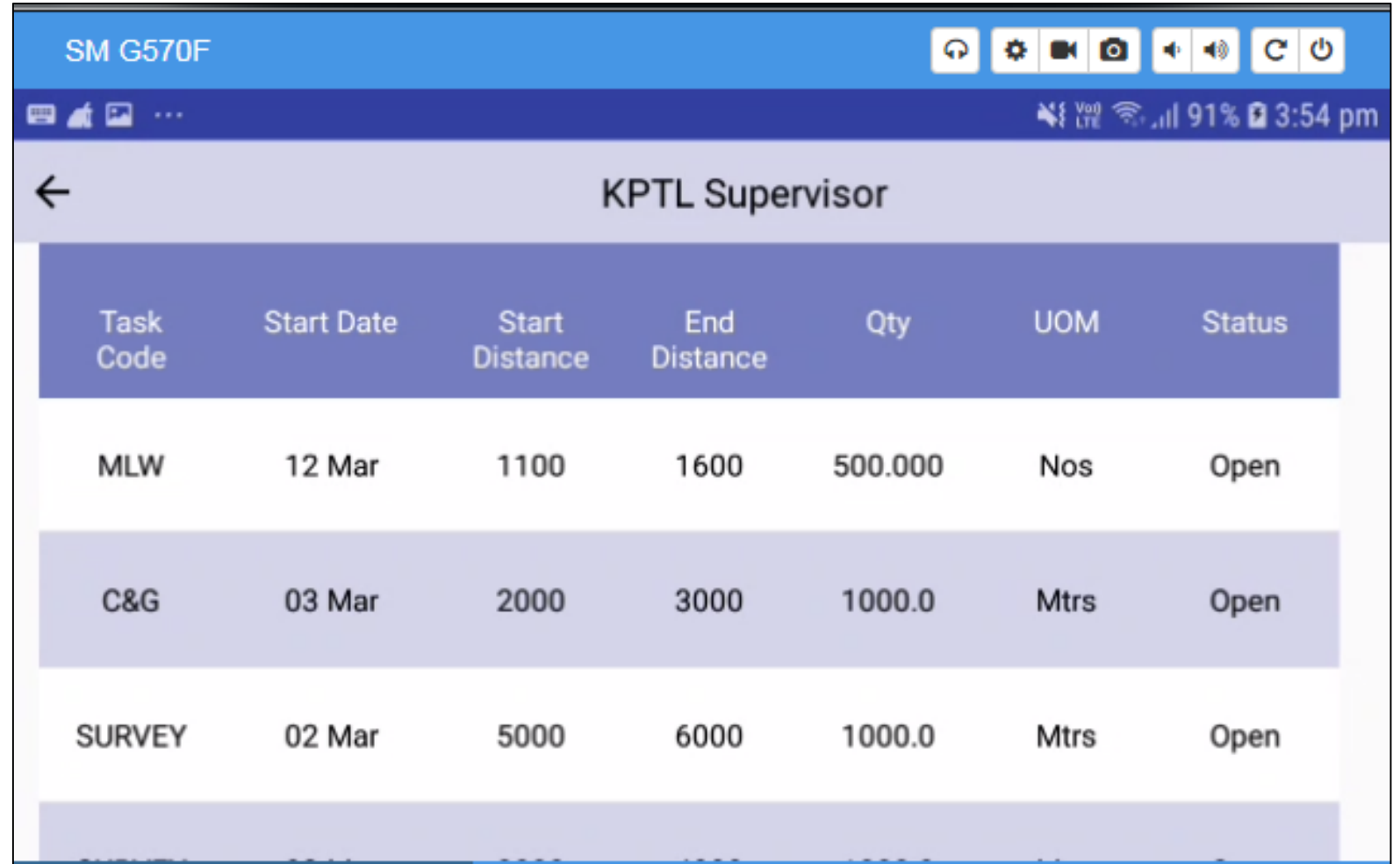
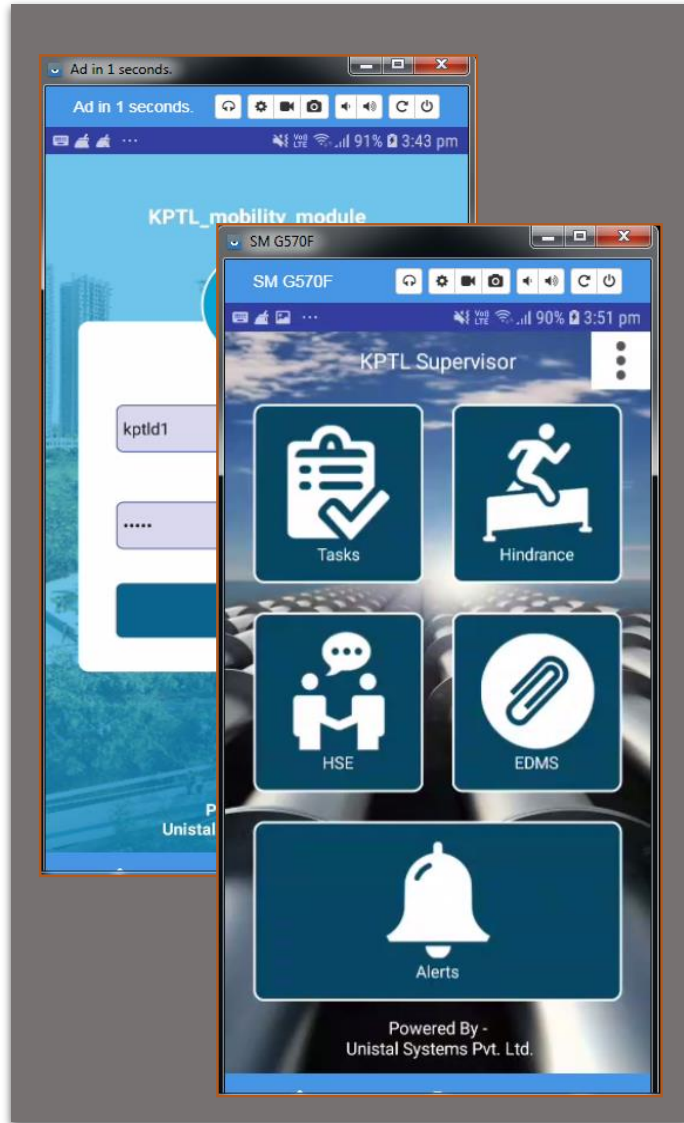


Task Code	Start Date	End Date	Start Ch.	End Ch.	Qty	Unit	Assigned To	Task Status
<input type="checkbox"/> Route Survey	3-Aug	3-Aug	573584	575795	2211.000	Mtrs	kptl	Open
<input checked="" type="checkbox"/> SURVEY	2-March	3-March	1000	2000	1000.0	Mtrs	kptl	Open
<input type="checkbox"/> SURVEY	2-March	3-March	2000	3000	1000.0	Mtrs	kptl	Open
<input type="checkbox"/> SURVEY	2-March	3-March	3000	4000	1000.0	Mtrs	kptl	Open
<input type="checkbox"/> SURVEY	2-March	3-March	5000	6000	1000.0	Mtrs	kptl	Open
<input type="checkbox"/> C&G	3-March	4-March	1000	2000	1000.0	Mtrs	kntl	Close

6.1 Site Supervisor Mobility App (Mainline & Stations)

Selecting Task for Data Entry

Supervisor can Select the task that is Open.



The screenshot shows a list of tasks in the KPTL Supervisor app. The list has the following columns: Task Code, Start Date, Start Distance, End Distance, Qty, UOM, and Status. The tasks listed are:

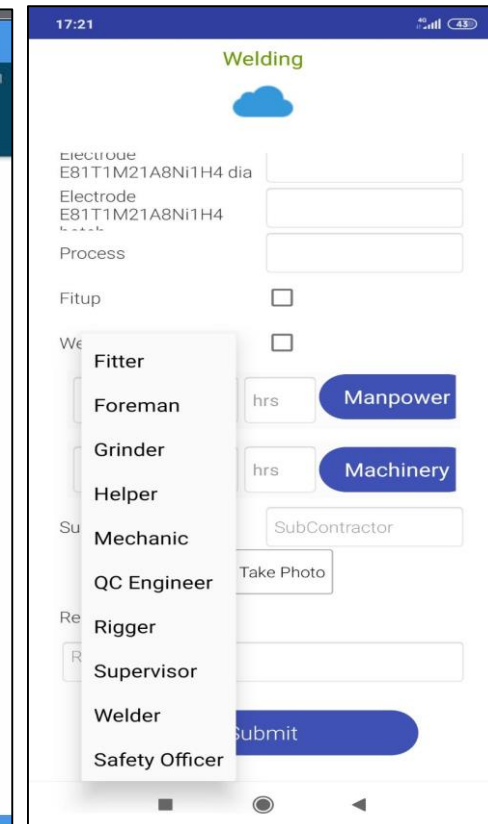
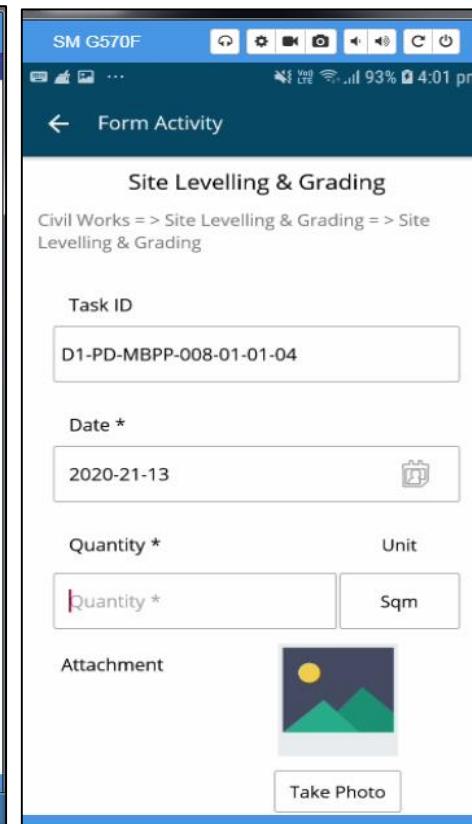
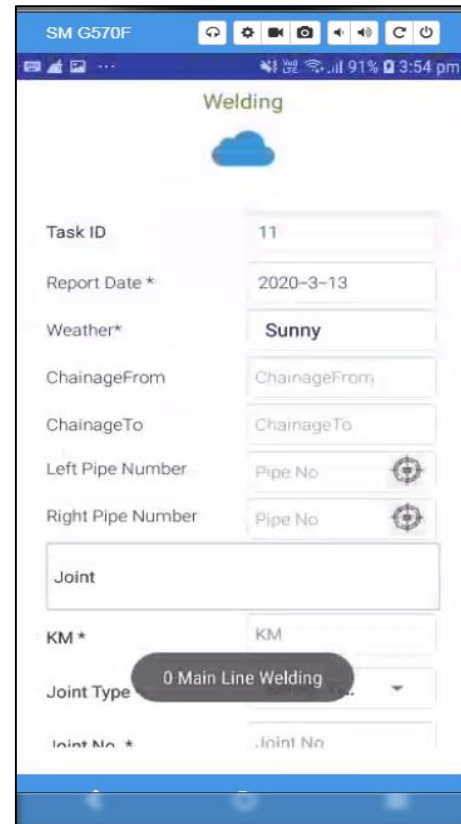
Task Code	Start Date	Start Distance	End Distance	Qty	UOM	Status
MLW	12 Mar	1100	1600	500.000	Nos	Open
C&G	03 Mar	2000	3000	1000.0	Mtrs	Open
SURVEY	02 Mar	5000	6000	1000.0	Mtrs	Open

6.1 Site Supervisor Mobility App (Mainline & Stations) Contd...

Activity Data Input Form

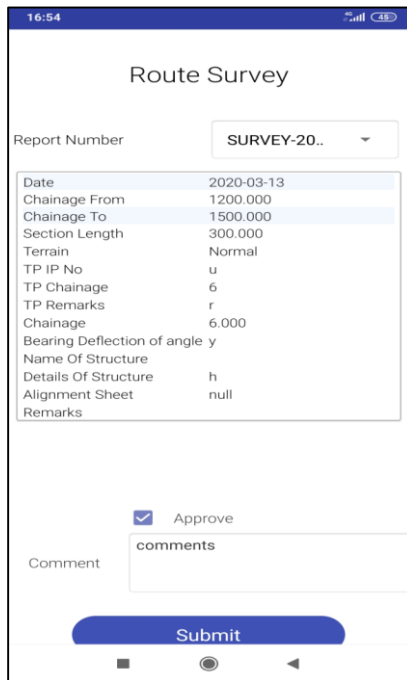
Supervisor can enter the Activity Details as per the standard formats, Enter Quantities, Scan Pipe BarCodes, Take Photo from each form.

Supervisor can also enters details like Manpower & Hours utilized. Machinery & Hours Utilized. Materials like Electrode batch Number etc. The selection is using Drop Downs and facility to Add multiple manpower and machinery.



6.2 QC Approval by Mobile App

- Once Supervisor Submits the Daily activity, KPTL QC In Charge Login would list the Report Number against which his Approval is Required. QC In Charge can view the Activity Details and Select Approve Box and Submit. If there are comments, they may be mentioned in the box provided.



Route Survey

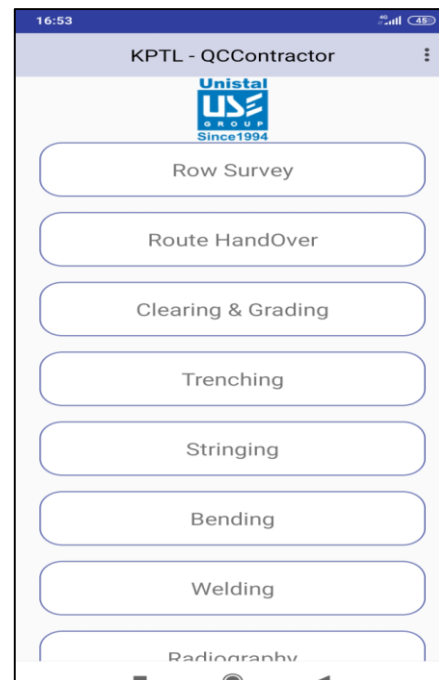
Report Number: SURVEY-20..

Date	2020-03-13
Chainage From	1200.000
Chainage To	1500.000
Section Length	300.000
Terrain	Normal
TP IP No	u
TP Chainage	6
TP Remarks	r
Chainage	6.000
Bearing Deflection of angle y	
Name Of Structure	
Details Of Structure	h
Alignment Sheet	null
Remarks	

Approve

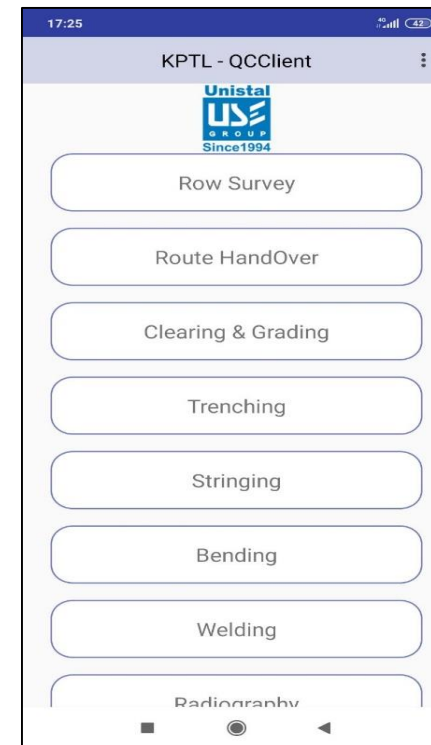
Comment: comments

Submit



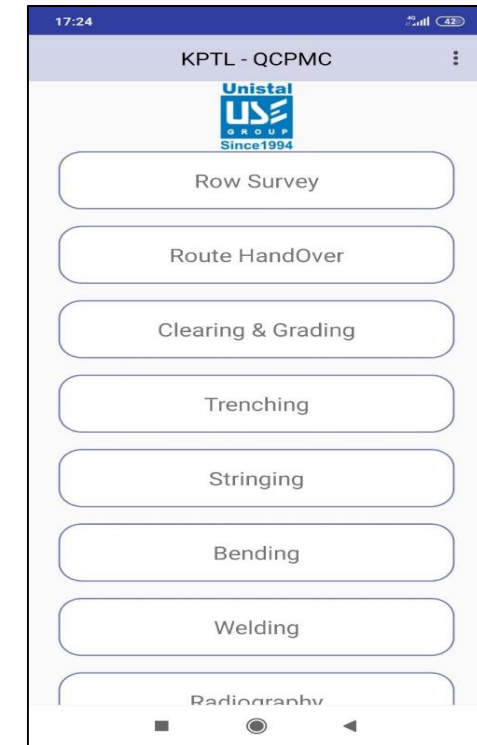
KPTL - QCContractor

- Row Survey
- Route HandOver
- Clearing & Grading
- Trenching
- Stringing
- Bending
- Welding
- Radiography



KPTL - QCClient

- Row Survey
- Route HandOver
- Clearing & Grading
- Trenching
- Stringing
- Bending
- Welding
- Radiography



KPTL - QCPMC

- Row Survey
- Route HandOver
- Clearing & Grading
- Trenching
- Stringing
- Bending
- Welding
- Radiography

- Once KPTL QC Approves a Report, The PMC User would be able to view that report and approve. Once approved the CS/Client would be able to view and approve the report. The approval status would be reflected to PCMS and to SAP.

6.3 Hindrance Input

Supervisor can Report Hindrances as per the condition;

Description	Type
Compensation issue	ROU
Land Owners are not allowing	ROU
Resources captured by Land owners	ROU
Statutory Permission is pending	Non ROU
Heavy Rain/Flood like situation	Non ROU
Water Logging	ROU
Resources are unable to reach	ROU
Equipment Breakdown	Non ROU
Crops Cutting is pending	ROU
Work Front is not available	ROU
Vehicles Strike	Non ROU
Workers Strike	Non ROU
Equipment Operator un-available	Non ROU
Consumable Unavailability	Non ROU
DIESEL Unavailability	Non ROU
Drawing is n't available	Non ROU
Work Procedure is pending	Non ROU
Width of ROU is less	ROU
Others	ROU/Non ROU

Records of all Hindrances. Including Resolution Date

Hindrance Report

CSV PDF Print Search:

S.No	Section Name	Report No.	Ch From	Ch To	Activity Affected	Area Hold	DateFrom - DateTo	Status	Reason	UserName
1	[SPREAD-D1 SPREAD-D1 567.186km - 640.775km]	HINO-24	155.00	250.00	ROU Handover	95.0	2020-3-12 -	Open	Width of ROU is less than that of provided drawing	kptld1
2	[SPREAD-D1 SPREAD-D1 567.186km - 640.775km]	HINO-25	0	12	Stringing	12.0	2020-3-14 -	Open	Vehicles Strike	station
3	[SPREAD-D1 SPREAD-D1 567.186km - 640.775km]	HINO-20	33	66	trenching	3	2020-3-12 - 2020-3-12	Close	Land Owners not allowing us to do work for unknown reasons	kptld1
4	[SPREAD-D1 SPREAD-D1 567.186km - 640.775km]	HINO-21	123456	123486	Weldin		2020-3-12 -		Activity stopped due to Compensation issue	kptld1
5	[SPREAD-D1 SPREAD-D1 567.186km - 640.775km]	HINO-22	250	350	ROU Handover	100.0	2020-3-13 -		Others	kptld1
6	[SPREAD-D1 SPREAD-D1 567.186km - 640.775km]	HINO-23	32.000	35.688	Route Survey	3.688	2020-3-11 -		Activity stopped due to Compensation issue	kptld1

6. 4 Station Works Report

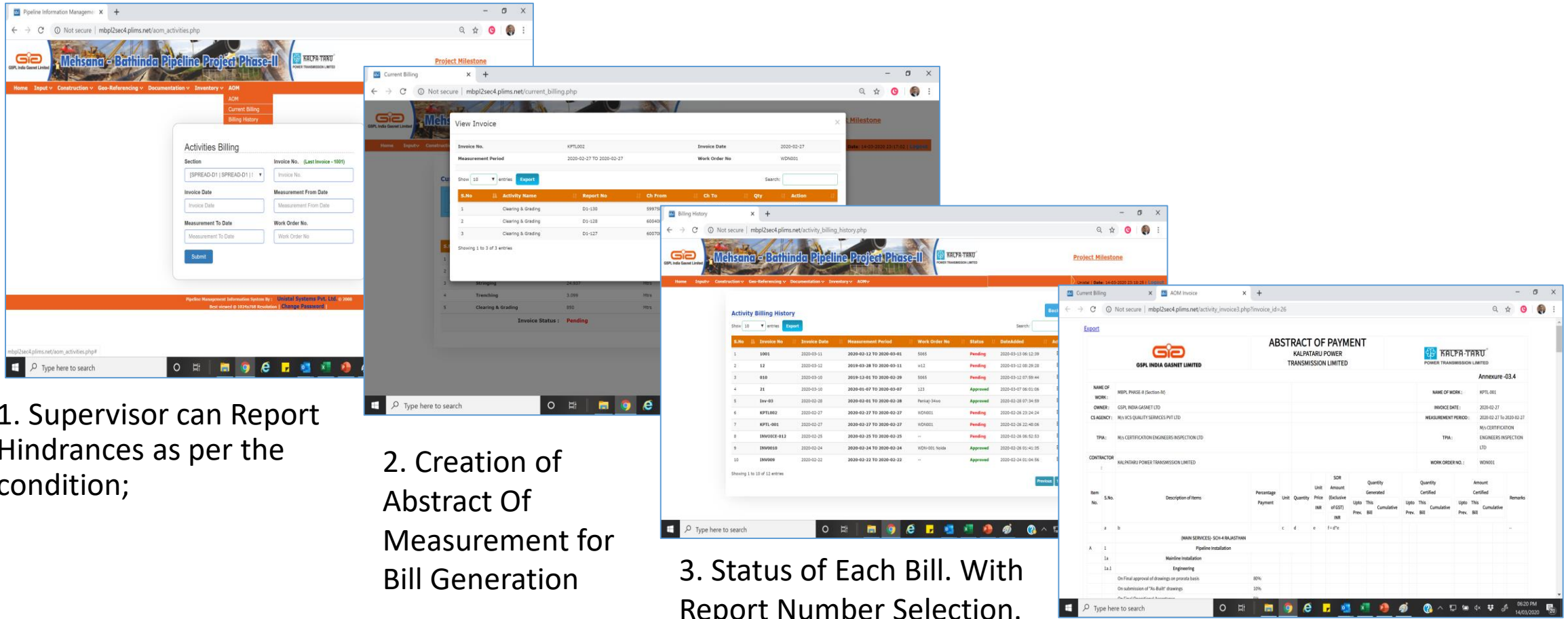
Station DPR

CSV PDF Print

S.No	Activities	Description	SV-4016	SV-4013	IP-03	SV-4017	Remarks	
Site Levelling & Grading								
1	Site Levelling & Grading	UOM with Scope	Sqm	578	2300	1000	1000	
		Prev. Progress		216	23		45	Civil Site Level Grading Work
		Today Progress		120	23		45	
		Cummulative Progress		216	23		45	
		Actual Start Date		2020-03-14	2020-03-14		2020-03-14	
		Finish Date		2020-04-20	2020-04-01	2020-04-10	2020-04-01	

Report of Station Works of Civil, Mechanical, Electrical, Instrumentation

6. 5 Abstract of Measurement



1. Supervisor can Report Hindrances as per the condition;

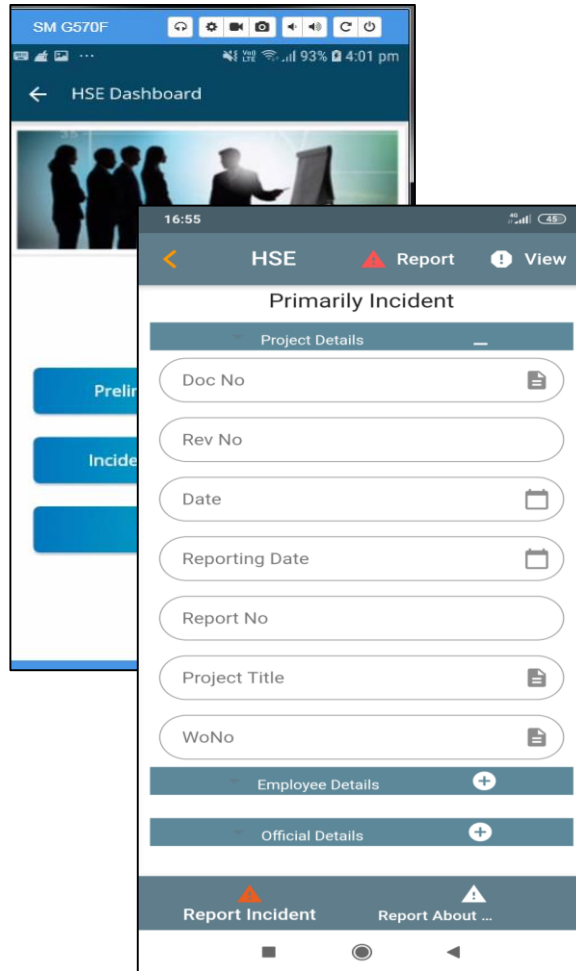
2. Creation of Abstract Of Measurement for Bill Generation

3. Status of Each Bill. With Report Number Selection. Option to edit a Report in case not approved by client.

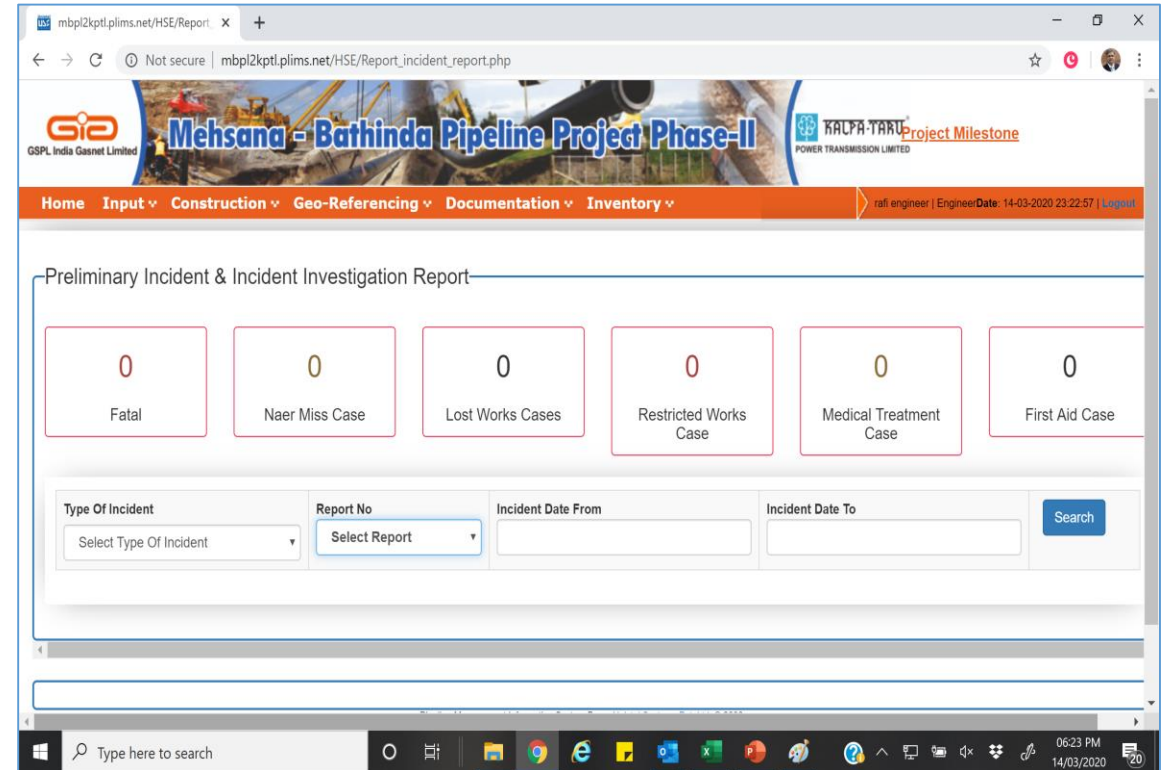
4. Export AOM to XLS in the client Approved format.

6.6 HSE Reporting

- Supervisors, Site-In-Charge, HSE Officers can Report Incidents as per the Standard Format using Mobile App. HSE Officer would then update the Incident with Investigation Report. HSE Officers would also do Daily EHS Reporting using the Mobile App. The app has the standard Form. HSE Reports PDF would be generated in the PCMS Web Module.



- Web based Dashboard with status and query of each type of Incident and report. Option to upload the Details Investigation, Why- Why analysis reports.



6.7 Message & Alert

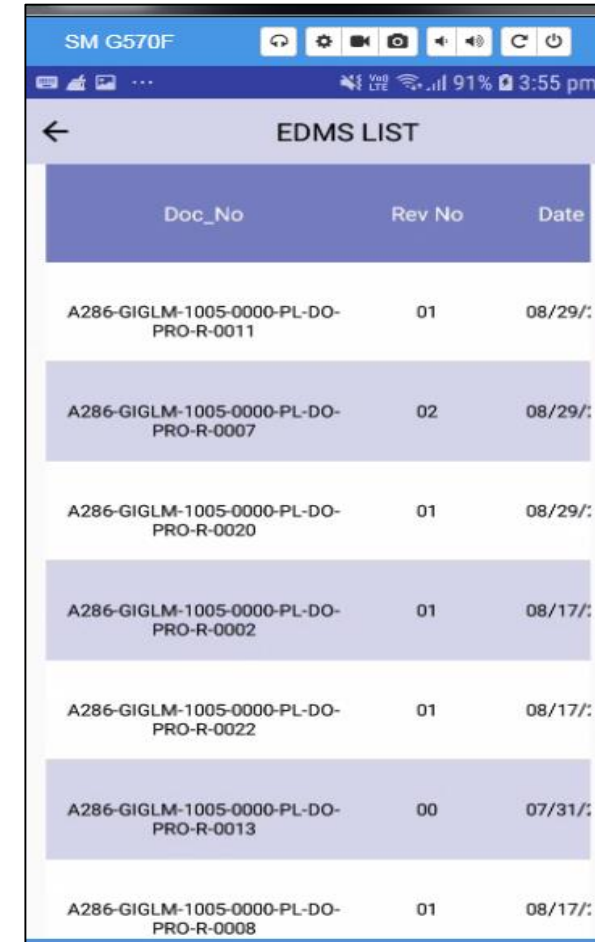
Supervisor would get Messages from Site-In-Charge having instructions to follow.



Task Id	Alert Date	Mes
D1-MBPP-001-001-13	2020-3-9	sto
D1-MBPP-001-002-02	2020-3-9	al
D1-MBPP-001-001-12	2020-3-9	hindra
D1-MBPP-001-001-07	2020-3-6	bl
D1-MBPP-001-001-07	2020-3-13	hc
D1-MBPP-001-002-02	2020-3-6	jsh
D1-MBPP-001-001-11	2020-3-4	do 25
D1-MBPP-001-001-03	2020-3-3	AB0

6.8 EDMS (Mobility)

All Users can View PDF of Procedures, Drawings from their Mobile APP.



Doc_No	Rev No	Date
A286-GIGLM-1005-0000-PL-DO-PRO-R-0011	01	08/29/20
A286-GIGLM-1005-0000-PL-DO-PRO-R-0007	02	08/29/20
A286-GIGLM-1005-0000-PL-DO-PRO-R-0020	01	08/29/20
A286-GIGLM-1005-0000-PL-DO-PRO-R-0002	01	08/17/20
A286-GIGLM-1005-0000-PL-DO-PRO-R-0022	01	08/17/20
A286-GIGLM-1005-0000-PL-DO-PRO-R-0013	00	07/31/20
A286-GIGLM-1005-0000-PL-DO-PRO-R-0008	01	08/17/20

Achievement:

- Excellence in management of Projects.
- Provide daily live information for decision-making through central server for producing desired reports for all the stake holders.
- Data is entered through mobiles phone apps from all the active site locations.
- Improve project management by way of future planning and achieving the targets.
- Demonstrate results through continual project evaluation.
- Increase opportunities to learn from experience.
- Track progress , manpower, equipment, diesel etc. for cost optimization to meet targets on daily basis V/S planned for cost optimization to meet targets and project objectives . System also pops up reports for exceptions.
- Evaluation of Quality and Safety performance
- Billing Automation which helps in timely collection and cash flow of the projects
- Recording live hindrances including issues in Right of Use in pipeline execution which are very frequent . These records will help client for early online information and urgent actions on daily basis.
- Timely billing through automation
- System implementation took approximately 18 months since Oct. 2018 to Mar 2020 for concepts to completion.

Present implementation :

Currently we have implemented TILOS, PIMS web and mobile base application in our ongoing Mehsana Bathinda Pipeline Project (MBPL) Section IV & Section V (30" x 271 kms, 18" x 17 kms and 12" x 30 kms) and ETPL Project Group B (24" x 186 kms) awarded to us in the year 2019. We are further implementing in all other ongoing project for maintaining Centralized Project Management.

Long term plan :

- Acquisition of substantial data from pilot projects.
- Detailed analysis and refinement of system mapping/ interface to generate accurate and real-time information.
- Enhance productivity and improve accountability.
- Ratify measures for further optimization.
- Realize the advantages & benefits.
- Monitor for consistent performance.
- Roll out integrated system across the board.
- Invest in further new technologies which can enhance project performances.