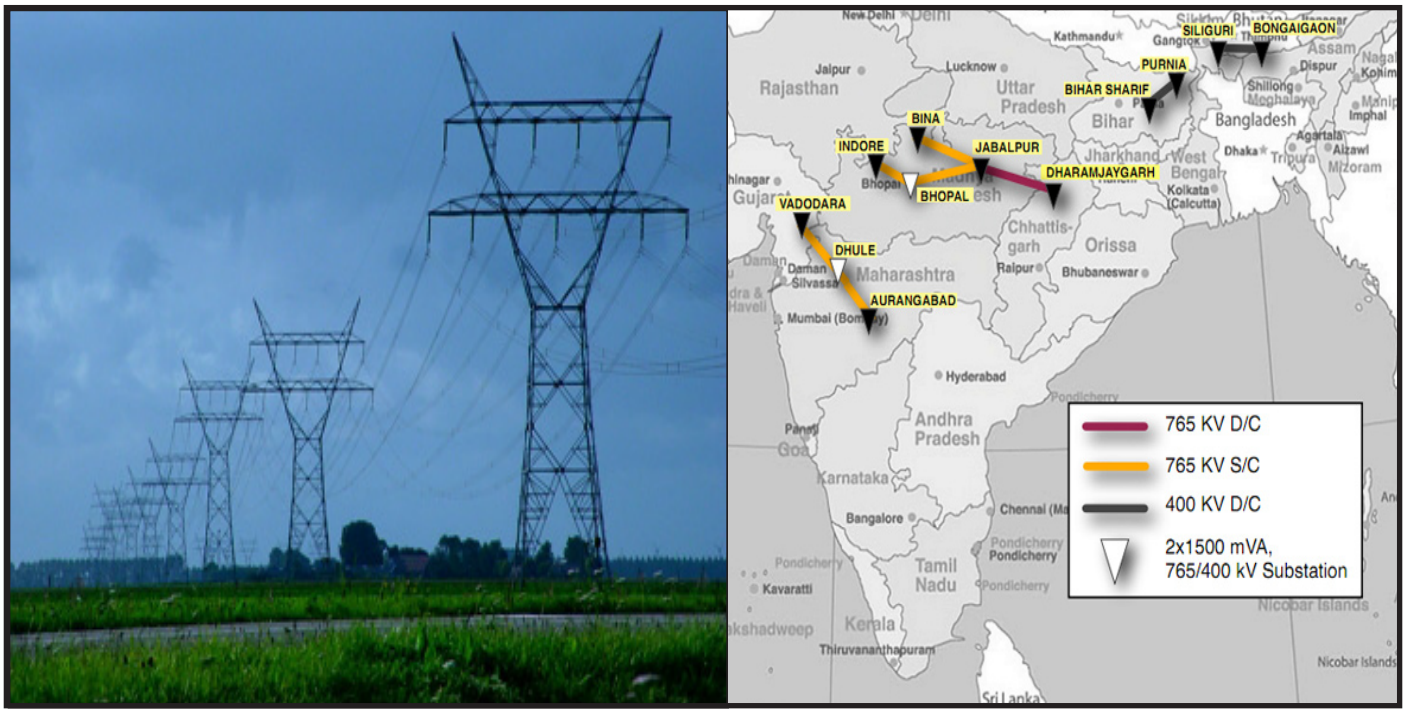
Sterlite & WRENCH: Powering up the nation's future with automated project management technology



Summary: Sterlite Grid turned to WRENCH™ to manage its range of power transmission projects spanning 8 states namely Maharashtra, Gujarat, Madhya Pradesh, Chhattisgarh, West Bengal, Bihar and Assam.For the first time Sterlite's project teams were able to plan and monitor each project from initiation to delivery in real time over a secure web-based platform that spanned the entire spectrum of engineering, procurement, construction, and handover activities.

Although known more for its engineering data management capabilities (most EPC companies prefer to start with the EDMS-related functionality) WRENCH in this case was used to its full capacity as an end-to-end project monitoring system and delivered dramatic benefits like: overall productivity up by 25%, and 40-50% of manhours*spent on routine tasks was cut down.

**For details, see 'results' section at the end of this document*

The client: Sterlite Grid is a wholly owned subsidiary of Sterlite Technologies, the leading global provider of transmission solutions for the power and telecom industries. Sterlite is executing multi-million dollar power transmission system projects, Pan-India.

In 2010 Sterlite was awarded three power transmission systems projects (lines and substations) on a Build Own Operate Maintain (BOOM) basis, undertaking the designing, financing, construction, and maintenance of the transmission systems for concession periods ranging from 25 to 35 years.

The projects: Sterlite used WRENCH on three projects: East-North Interconnection (ENICL) Bhopal-Dhule Transmission (BDTCL) Jabalpur Transmission (JTCL), which will evacuate and transmit power through a network of about 2200 km of transmission lines and 2 substations in Maharashtra, Gujarat, Madhya Pradesh, West Bengal, Bihar and Assam. Once ready for use, Sterlite would be paid a quoted transmission tariff for the entire concession period by various users of the transmission systems. This arrangement is similar to a take or pay arrangement. The three projects aggregate to a total value of about Rs. 40 Billion.

The technology: WRENCH is a web-based platform for project monitoring, engineering governance, quality control, resource optimization, document management, budget and scheduling management, resource (supplier, vendor) management, project shareholder interaction, internal/external collaboration and communication – in short, everything that today's EPC organization needs to successfully plan and execute projects. A project managed through WRENCH is more likely to be completed on time, on budget, and with 100% quality in every deliverable, with about 70-80% savings in documentation costs alone. WRENCH is used by many leading EPC players in the power & energy industry including Lanco Infratech, Moserbaer, BHEL, and CH2M HILL Veco, to name a few.

"The high degree of automation, flexibility in configuration & simplicity helped us to monitor & control progress of every activity effectively, executed by multiple stake holders".

Mr.Rajat Pradhan – Project Management Group

We already had SAP, Primavera, CAD, email etc., but we decided to invest in Wrench to help us in monitoring & control of the E, P & C phases of project"

Mr.Shailendra Ostwal – IT Head

SNAPSHOT of BDTCL project managed in WRENCH

Capacity: 970 kms – 765 KV TL, 22 kms – 400 KV TL, 2 sub-stations – 765/400 KV

(see Appendix a for 'live' reports captured during the project)

The project managers used WRENCH right from the beginning for the huge task of planning and scheduling because they had limited resources and wanted to see how this technology could help them. With WRENCH they were able to monitor project activities for 6 transmission lines and 2 substations (each comprising around 3000 activities) from engineering down to handover. They were very pleased with how easy it was to plan and track everything in WRENCH and that they could now create plans and allocate work to team members in quick succession. Both internal and external groups across over 15 locations had access to the WRENCH system and could use the To-Do lists to manage their work efficiently.

Vendor engineering deliverables management: Because the team used external agencies the benefits of WRENCH were obvious and immediate: the chaos of receiving/sending documents/drawings by email or courier was avoided, and instead of worrying about files reaching in-time or how to maintain correct revisions the project managers – or about transmittal records, approval codes etc. they could see planned-vs-actual progress in real time, online, on a daily basis.

Inspection process: Earlier there was a lack of call traceability difficulty in accessing relevant documentation, delays in planned vs. actual dates of inspection and an overall lack of accountability. WRENCH automated and standardized the entire process along with its documentation and eliminated 99% of these bottlenecks.

Procurement / Supply process: Managers use reports to know the status of planned vs actual dispatches and receipts of items on site, but the lack of access to up-to-date information was hampering Sterlite's ability to track items and get them to the site on time. After switching to WRENCH they got regular updates from the site; in fact WRENCH is now their strongest tool in tracking supply/delivery efficiently. Also, the entire procurement process for non-EPC items - from purchase requisitions to purchase orders – has become automated and foolproof.

On-site control: From monthly progress updates the team now gets daily detailed updates (location-wise, package-wise, and equipment-wise) as well as status reports from 15 locations. Earlier, Sterlite was completely dependent on its PMC (project management consultant) to achieve even the monthly updates but now that BDTCL is live on WRENCH, site progress is updated on a daily basis and management can see planned vs status reports online.

Overall, WRENCH has had great impact on Sterlite's project monitoring, engineering control, supply/procurement, and site activities. It has reduced the time taken to get status reports from 35-40 hours to just 1 hour, and quality/accuracy has shot up by 25%-30%.

The results:

E	*P*	*C*
• Productivity up by 20-25% • Direct access to multiple EPC contractors/vendors • Assurance of working only with latest revisions	• *Automated inspection process* • *100% standardization and accuracy/quality in inspection* • *Transparency and accountability (internal & external)* • *Documentation for non-EPC activities standardized, automated*	• *System-driven ToDo lists for all resources (updated by system)* • *Online, real-time work tracking* • *Complete control over site work* • *'Live' project progress dashboard* *100% multi-level security*

For more information please visit (http://www.wrenchepc.com/snapshot.php)
To set up a meeting please contact:(marketing@wrenchsolutions.com, +91 484 4078201.

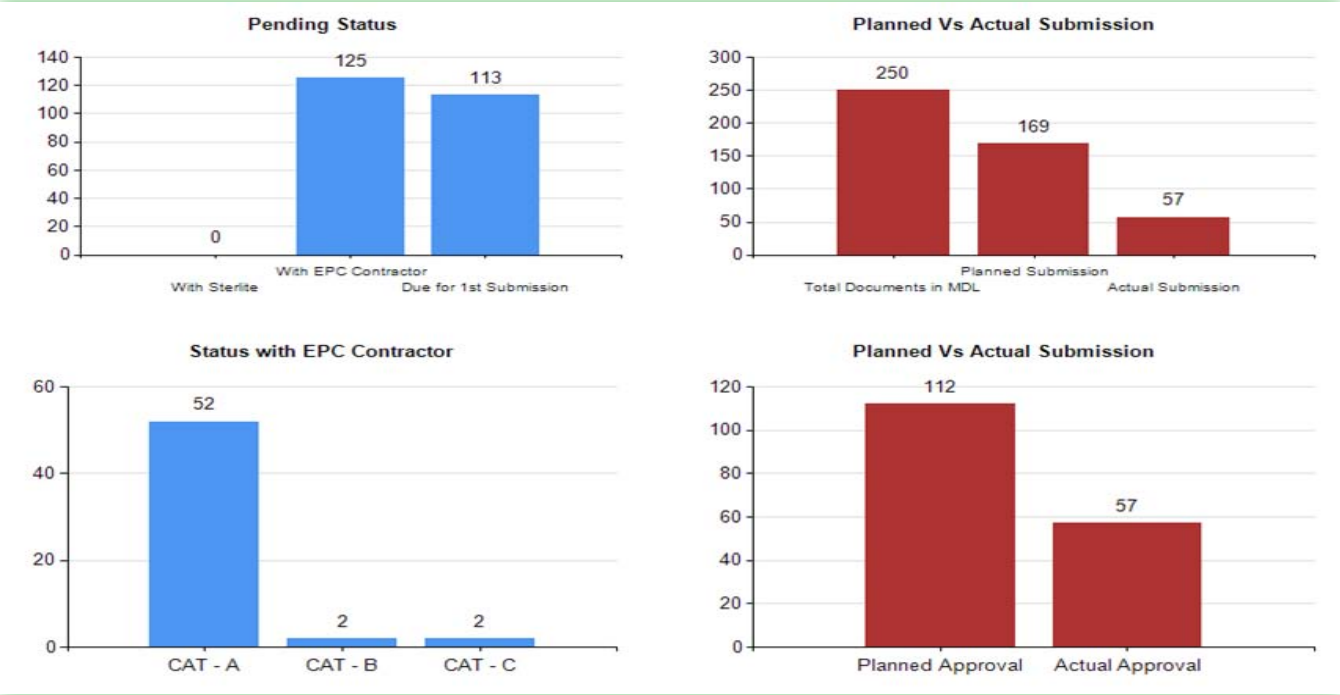
Appendix A
A sampling of 'live' projects reports (made in WRENCH)

Here is a glimpse of how Sterlite used WRENCH to create accurate, timely, and up-to-date reports with a few mouse clicks. For more samples or to learn more about report management in WRENCH, *visit www.wrenchepc.com,*

Engineering : Package Status Report

Project Name	:	Bhopal Dhule Transmission Company Limited
Transmission Lines	:	Dhule Substation
As On Date	:	22-Mar-2012

Sterlite GRID



Procurement: Material Inspection Report

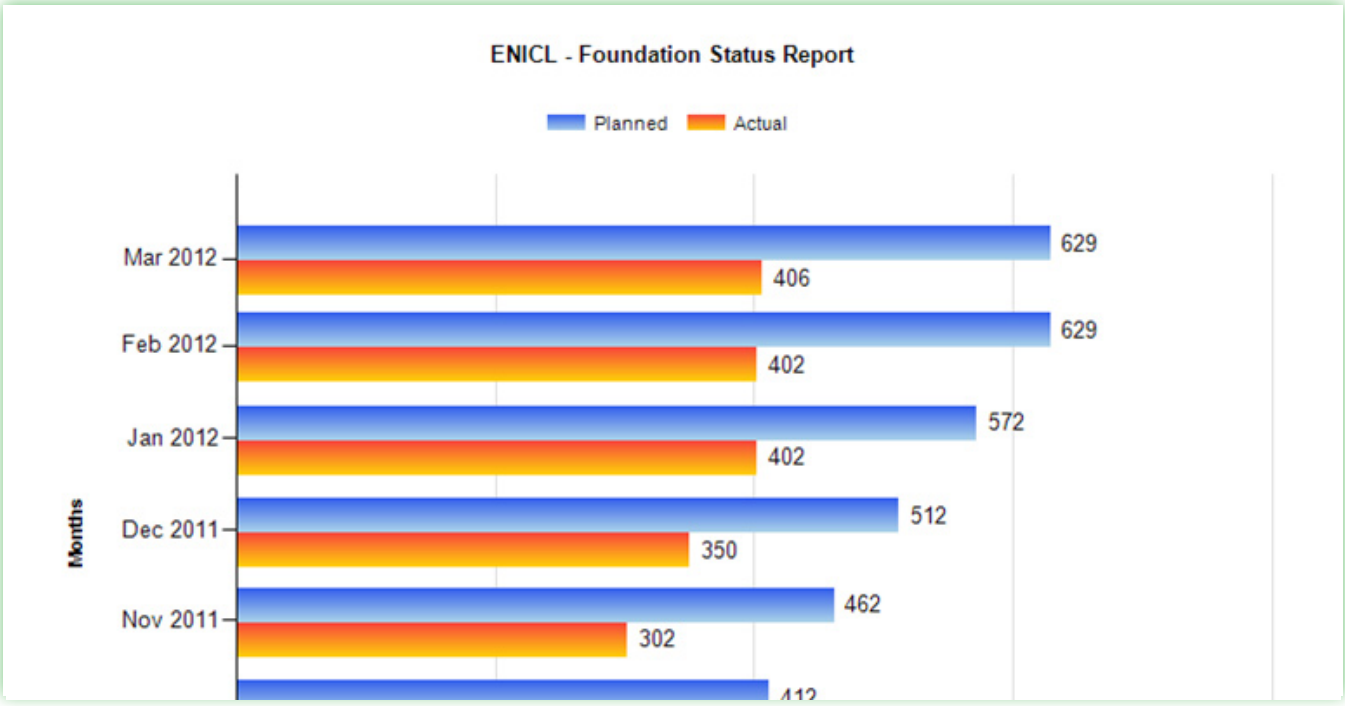
Project Name : Bhopal Dhule Transmission Project
Report Type : Material Inspection Report
From : 01-01-2012
To : 31-03-2012

Status Summary
Open : 26
Closed: 0
Delayed: 1

SNLO	IC No / Date	Item Short Description	Request From	Offered Qty	Planned Inspection Date	Inspected By	Actual Inspected Date	MIR No / Date	Accepted Qty	DI No / Date	Delay (Days)	GRN Status	Material Status On Site	Status
1	QAC-BDTCL-IC-0001 (22/02/2012)	Stubs(100) & Template(1)	utkarsh tubes & pipes ltd	stubs-100 & template-1	2-6-2012 12:00:00 AM	RAHUL UNIYAL	2-6-2012 12:00:00 AM	QAC-BDTCL-MIR-0002(22/02/2012)	100 SA STUBS & 1 SA TEMPLATE		0			WIP
2	QAC-BDTCL-IC-0002 (11/02/2012)	"SA" Type Stub- 06 Sets	KEC INTERNATIONAL LTD	"SA" Type Stub- 06 Sets	2-11-2012 12:00:00 AM	INTERNAL BY KEC ITSELF	2-11-2012 12:00:00 AM				0			WIP
3	QAC-BDTCL-IC-0003 (11/02/2012)	Stubs, Bolts Nuts, Spring washer	KEC International ltd. Butibori	TT: SA - 6 Sets / 2.665MT, Bolts Nuts - 0.120MT	2-13-2012 12:00:00 AM			QAC-BDTCL-MIR-0003(27/02/2012)	STUB- A TYPE- 06 set	QAC-BDTCL-DI-0001(27/02/2012)				WIP
4	QAC-BDTCL-IC-0006	800 KV BPI	Alstom T&D	79 Nos	3-26-2012 12:00:00 AM									WIP
5	QAC-BDTCL-IC-0008 (12/02/2012)	Stub, Template, Basic Tower Body & +0M Body Extn.	KEC Intrnational Ltd. Butibori	1 Set of each	2-13-2012 12:00:00 AM	Mr. Bigyan from Sterlite Grid Ltd (9910955431)	2-16-2012 12:00:00 AM				3			WIP
6	QAC-BDTCL-IC-0009 (14/02/2012)	Raw Materials for STUB	KEC INTENATIONAL LTD ,Butibori Nagpur	HT Angle 195.79 MT	2-15-2012 12:00:00 AM	INTERNAL BY KEC ITSELF.	2-15-2012 12:00:00 AM				0			WIP
7	QAC-BDTCL-IC-0010 (14/02/2012)	Raw Materials for Tower	KEC International Ltd,Butibori,Nagpur.	237.119	2-15-2012 12:00:00 AM	INTERNAL BY KEC ITSELF	2-15-2012 12:00:00 AM	QAC-BDTCL-MIR-0004(28/02/2012)			0			WIP
8	QAC-BDTCL-IC-0011 (21/02/2012)	SA Stubs	KEC International Limited, Butibori	394 Sets (174.132 MT)	2-22-2012 12:00:00 AM			QAC-BDTCL-MIR-0005(05/03/2012)		QAC-BDTCL-DI-0002(05/03/2012)				WIP
9	QAC-BDTCL-IC-0012 (21/02/2012)	Steel Angle & Plate	KEC International Limited	760.906 MT	2-22-2012 12:00:00 AM									WIP
10	QAC-BDTCL-IC-0014 (22/02/2012)	Steel Angle	KEC International Limited	953.864MT	2-23-2012 12:00:00 AM									WIP

Construction: Monthly Foundation/Erection Progress Report

Project Name : East North Interconnection Transmission Project
Transmission Line/Substation : Purnia Biharsharif Line
Report Type : Monthly wise Foundation Bar Chart Report.
From : 01-09-2011
To : 31-03-2012



Overall Project Management : S-Curve Progress Report

Project ID : ENICL
Project Description : East North Inter-Connection Transmission Project
As On Date : 10-Jan-2012