Sub-Station Monitoring System

Challenge faced by Customer: Customer has approximately 5000 sub-station transformers located at 5000 different locations. There were several parameters which were to be measured and monitored, simultaneously. It was very difficult work and quite costly to deploy a person at every location. Further, it would also have been error prone as the process would be manual. The biggest challenge was to have all the data available in a single console available at a glance. Also, it was difficult to have remedial measures to be taken immediately in case of emergencies.

Solution provided by Arun InfoTech: Arun Info Tech provided an online real time solution for all the above challenges. The solution provided is cost effective and replaced the error prone manual system. There is a sensor network connected to an embedded device, which senses the factors and parameters; the values are then transferred via GPRS to a predefined port on an IP address or a domain name. From this IP address the readings are taken and then displayed in the correct format on screen.

Arun Info Tech designed a monitoring & reporting system in which all different parameters can be seen in a single console. Refer the screen shot below:

As we can see in above capture left hand side block shows the different measured factors which are enumerated as below:

1. Temperature
2. Voltage
3. Current
4. Door is locked or open
5. Fire and
6. Intrusion
7. Presence of SIM Card and njetwork information

Numbers on it show all factors, status at all locations. For example, if the number is 2 on fire symbol then it means that there is fire at 2 locations. In this manner the personnel observing the console is intimated about the various factors status.

In the middle portion, the display allows the user to search for a particular transformer and after searching shows Oil level, temp and leak for the searched transformer. It also shows that transformers temperature at R, Y and B. Time when data is last updated is also available at bottom of the screen. On the right hand side block, meter parameters like voltage, current, power, energy frequency etcetera are shown.

Customized reports can also be generated using different parameters like temperature level report, power consumption report etcetera as below:

Sub-Station Monitoring System

Temperature Level Report

Transformer ID	BSES-R-SEC7-SUB15-T1	Date	28/08/2014
Report Name:	t		
Description:			

Report

| 1 | of 1 | Find | Next |

BSESRajdhani Power Lim

Report Name: t

Report Date: 25/08/2014

Report Date: From: 28/08/2014   To: 28/08/2014

Description:

Transformer ID: BSES-R-SEC7-SUB15-T1

Time	R Temp	Y Temp	B Temp	Oil Temp

Temprature Prfile
No Data Available

Date :25/08/2014   1

Sub-Station Monitoring System

Power Consumption Report

Transformer ID	1S-DL-HM-25-990H	Start Date	03/08/2013	End Date	25/08/2014
Report Name:	Power Consumption Report				
Description:					

Report

| 1 | of 1 | Find | Next |

Report Name: Power Consumption Report

Report Date: 25/08/2014

Report Date: From: 03/08/2013   To: 25/08/2014

Description:

Duration	Total Energy (kWh)
03 Dec 2013	0.000

Power consumption