

CASE STUDY

Unit Forecasting

DRMcNatty developed an automated procedure for forecasting a critical program metric used in executive reports to monitor overall performance of a large portfolio.

PROJECT AT A GLANCE

PROGRAM

Major Utility and Infrastructure

LOCATION

West Coast

SERVICES PROVIDED

Consulting
Portfolio Management
Documentation
Cost Schedule Integration
Reporting

TECHNOLOGIES USED

P6 Portfolio Management
Integration with
Accounting Software

Overview

The client portfolio consisted of over 700 utility company projects annually that were tracked mainly by miles of pipe ("units") installed throughout the year. This was a critical metric that was reported at executive levels and to regulatory agencies. The portfolio was separated into specific types of construction and overseen by a program manager. The overall annual total metric for miles of pipe installed was definitive but the projects in the portfolio varied significantly throughout the year. The program manager utilized side spreadsheets to compile the data of current projects, actual and remaining units to forecast over time based on personal judgments. However, it was often unclear how the results were compiled from a detailed project level.

Challenges

There were 2 separate systems that contained the necessary data for forecasting: (1) The accounting system of record containing the units data and (2) P6 schedules that have the detailed construction dates for all major projects. One challenge was that analysts who maintained the P6 schedules were not versed in using P6 resources on the schedules, and with such a large number of projects, maintenance of resource data in the detailed P6 schedules was impractical. Also, the project portfolio was constantly changing. Thus, the units installed forecast needed to be updated to reflect the current list of projects. Another challenge was that P6 did not contain schedules for all of the portfolio projects; as smaller projects did not have or warrant a full P6 schedule.

Solution

DRMcNatty created a single "consolidated" P6 schedule with data imported from the accounting system (planned and actual units installed) combined with data from the detailed P6 schedules (construction dates). Then, at month end, the necessary data from the detailed P6 schedule and the accounting system could be imported via flat file in to the single P6 schedule. The unit data was imported into a P6 resource, while custom P6 curves were developed from historical data and used to distribute remaining units. Programming was developed to filter and make date adjustments for projects that were not in the correct time frame.

Results

A table was created listing the 700+ projects along with the miles of pipe installed during the current month with a monthly forecast of the remaining units distributed for the remainder of the year. The monthly forecast values were distributed using the appropriate P6 curve utilizing the P6 resource assignments window. Holidays and specific month end dates were accounted for by P6 calendars. The entire unit forecast was produced within 4 hours of receiving the data from accounting. The list was sorted and subtotaled by the client construction programs and this data drove program graphs of planned, actual and forecast units. The net result was an executive summary metric of the entire portfolio that could be easily reviewed. The procedure delivered consistent, reliable information on the projects, and displayed summary information backed by the current status.

Resource Assignments								Display		
Activities	Resource Assignments	Projects						Jan	Feb	Mar
Layout: 08Program-Units for DEP										
Activity ID	Activity Name	Start	Finish	Resource ID	Units	Curve				
00976013	R4 ELM 23 HPRS ALONG HWY 55 MARY	30-May-17	29-Dec-17	GDHPR	184.0	End				
1008661	R4 BR G ALDYL RPL CEST DR NC 298	05-May-17	14-Jul-17	GDAlDyI-A	9280.0	Back				
1015053	R2 15 G ALDYL RPL HUGH O352	03-Apr-17	08-Sep-17	GDAlDyI-A	3768.0	Back				
1017593	SGO R4G GRRP MONROVIA S/O HARD ST	08-May-17	30-Aug-17	GDGPRP	0392.0	Back				
1019453	G ALDYL RPL RIATA EDDING NV 18528 P1	30-Dec-16	17-Mar-17	GDAlDyI-A	1248.0	Back	16204.6	14731.4	9575.4	
1019540	G ALDYL RPL SALLY CHI NV	04-Jan-17	24-Mar-17	GDAlDyI-A	2080.0	Back	7613.8	7613.8	6852.4	
1026873	SGO R4 G ALDYL RPL SHORE DR	27-Feb-17	03-May-17	GDAlDyI-A	7960.0	Back		748.3	8605.8	
1028267	SGO R4 G ALDYL RPL AQUA DR DIMP 44	10-Apr-17	20-Sep-17	GDAlDyI-A	4272.0	Back				
1035083	R2 GP BARVER 3177-D1 192	06-Mar-17	22-Sep-17	GDAlDyI-A	5528.0	Back				9038.3
1035100	R2 GP ALDYL-A 3-H3 MODEL 21760	27-Jun-17	01-Dec-17	GDAlDyI-A	5328.0	Back				
1081990	R4SGO OCW REAR ESMT BTWN LOWES & AC	13-Feb-17	10-Mar-17	GDRel	4560.0	Back		2736.0	1824.0	
1125696	R4 G REG RBLD ORB-27 GRID 12	11-Jul-17	31-Aug-17	GDRR	8.0	End				
1192002	R2Z KE G GRRP RPL HEGT & NELSON	06-Mar-17	23-May-17	GDGPRP	0024.0	Back				3517.2
1194524	GP ALDYL-A RUCK WAY 10811	13-Feb-17	07-Apr-17	GDAlDyI-A	1016.0	Back			3304.8	6334.2
1199787	#R4 G L-121 FARMMING & DRS W/O YUBA CIT	03-Jan-17	14-Jun-17	GDHPR	96.0	End		17.2	16.4	18.9
1218557	CONV HPR L-150 DEACT SOLANA	01-Jun-17	10-Oct-17	GDHPR	48.0	End				
1219384	2017 14D FULLARD W/O ANGUS ST	20-Feb-17	14-Apr-17	GDAlDyI-A	4680.0	Back			2569.0	8441.0
1220761	R4 G NR RELOC MAIN NEVER ST	24-Jan-17	31-Mar-17	GDOther	5304.0	End		649.5	2164.9	2489.6
1221145	G ALDYL RPL SA PRO WAY, SARY	11-Sep-17	22-Sep-17	GDAlDyI-A	2520.0	Back				
1227103	HARD ST & BUENA VISTA UPRATE/REPLACEMENT	30-Jun-17	01-Dec-17	GDRel	7400.0	Back				
1238414	R4 GP OLIVE AVE	09-Jan-17	31-Mar-17	GDOther	8296.0	End		2350.5	2765.3	3180.1



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