"Project Management Using Earned Value"
Case Study Solution 31.1

31.1

CASE STUDY

Transmission Design Control Account Plan

SOLUTION

Two solutions are offered on the following pages. The first solution has a "Percent Complete" earning technique on the Engineering Liaison work package #5. The second solution has the Engineering Liaison work package #5 earning technique assigned as "Level of Effort." Either solution is acceptable and both sum to the same completion value in BCWP of 84,800. The difference is shown starting in the month of August, where the "Percent Complete" has a lower value of BCWP compared with the "Level of Effort" BCWP. This indicates that the CAM entered a more accurate "BCWP" using the "Percent Complete" method, because the earned value includes the CAM's subjective judgment of liaison effort which was behind schedule. The schedule slip was caused by the drafting and tooling work packages.

Exhibit 4 Š Transmission Design Control Account Plan Š Earned Value & Actual Costs
(Engineering Liaison As Percent Complete) ***Solution Š Exercise 2***

(1) Work Package	(2) WIP	(3) Value	A	M	J	J	A	S	O	N	D	J	F	M
1. Engineering Management	1	3,800												
		Budget	500	500	500	500	500	500	200	200	200	200		
		Earned Value	500	500	500	500	500	500	200	200	200	200		
		Actuals	600	600	600	600	600	600	600	400	400	400	400	400
2. Design transmission	2	20,000												
		Budget	4,000	5,000	6,000	5,000								
		Earned Value	4,000	0	5,000	6,000	5,000							
		Actuals	3,900	4,000	7,000	7,000	5,000							
3. Draft 18 drawings	6	9,000					3 dwgs	9 dwgs	6 dwgs					
		Budget			3,000	3,000	3,000							
		Earned Value					1,500	4,500	3,000					
		Actuals					1,200	5,400	4,200					
4. Tooling	3	4,000												
		Budget					2,000	2,000						
		Earned Value							4,000					
		Actuals							3,000					
5. Engineering liaison	5	6,000					0%	0%	33 1/3%	33 1/3%	33 1/3%			
		Budget					1,000	1,000	2,000	2,000				
		Earned Value							2,000	2,000	2,000			
		Actuals							1,000	1,000	1,000			
6. Manufacture model 1	3	34,000												
		Budget							17,000	17,000				
		Earned Value								17,000		17,000		
		Actuals								12,000	20,000	15,000		
7. Quality control	7	3,000												
		Budget							1,500	1,500				
		Earned Value								1,500		1,500		
		Actuals								500	1,500	1,000		
8. Conduct developmental test	4	5,000												
		Budget										5,000		
		Earned Value												5,000
		Actuals											3,000	1,000
Incremental		Budget	4,500	5,500	9,500	8,500	6,500	3,500	20,700	20,700	200	5,200		
		Earned Value	4,500	500	5,500	6,500	7,000	5,000	9,200	20,700	2,200	18,700		5,000
		Actuals	4,500	4,600	7,600	7,600	6,800	6,000	8,800	13,900	22,900	16,400	3,400	1,400
Cumulative		Budget	4,500	10,000	19,500	28,000	34,500	38,000	58,700	79,400	79,600	84,800	84,800	84,800
		Earned Value	4,500	5,000	10,500	17,000	24,000	29,000	38,200	58,900	61,100	79,800	79,800	84,800
		Actuals	4,500	9,100	16,700	24,300	31,100	37,100	45,900	59,800	82,700	99,100	102,500	103,900

WIP Types 1) Level Of Effort 2) Milestone 3) 50/50 4) 0/100 5) Percent Complete 6) Units Complete 7)Apportioned Effort

Exhibit 4a Š Transmission Design Control Account Plan ŠEarned Value & Actual Costs
(Engineering Liaison As Level of Effort) *(Solution Š Exercise 2)*

(1) Work Package	(2) WIP	(3) Value	A	M	J	J	A	S	O	N	D	J	F	M
1. Engineering Management	1	3,800												
		Budget	500	500	500	500	500	500	200	200	200	200		
		Earned Value	500	500	500	500	500	500	200	200	200	200		
		Actuals	600	600	600	600	600	600	600	400	400	400	400	400
2. Design transmission	2	20,000												
		Budget	4,000	5,000	6,000	5,000								
		Earned Value	4,000	0	5,000	6,000	5,000							
		Actuals	3,900	4,000	7,000	7,000	5,000							
3. Draft 18 drawings	6	9,000					3 dwgs	9 dwgs	6 dwgs					
		Budget			3,000	3,000	3,000							
		Earned Value					1,500	4,500	3,000					
		Actuals					1,200	5,400	4,200					
4. Tooling	3	4,000												
		Budget					2,000	2,000						
		Earned Value							4,000					
		Actuals							3,000					
5. Engineering liaison	1	6,000												
		Budget					1,000	1,000	2,000	2,000				
		Earned Value					1,000	1,000	2,000	2,000				
		Actuals							1,000	1,000	1,000			
6. Manufacture model 1	3	34,000												
		Budget							17,000	17,000				
		Earned Value								17,000		17,000		
		Actuals								12,000	20,000	15,000		
7. Quality control	7	3,000												
		Budget							1,500	1,500				
		Earned Value								1,500		1,500		
		Actuals								500	1,500	1,000		
8. Conduct developmental test	4	5,000												
		Budget										5,000		
		Earned Value												5,000
		Actuals											3,000	1,000
Incremental		Budget	4,500	5,500	9,500	8,500	6,500	3,500	20,700	20,700	200	5,200		
		Earned Value	4,500	500	5,500	6,500	8,000	6,000	9,200	20,700	200	18,700		5,000
		Actuals	4,500	4,600	7,600	7,600	6,800	6,000	8,800	13,900	22,900	16,400	3,400	1,400
Cumulative		Budget	4,500	10,000	19,500	28,000	34,500	38,000	58,700	79,400	79,600	84,800	84,800	84,800
		Earned Value	4,500	5,000	10,500	17,000	25,000	31,000	40,200	60,900	61,100	79,800	79,800	84,800
		Actuals	4,500	9,100	16,700	24,300	31,100	37,100	45,900	59,800	82,700	99,100	102,500	103,900

WIP Types 1) Level Of Effort 2) Milestone 3) 50/50 4) 0/100 5) Percent Complete 6) Units Complete 7)Apportioned Effort