

“Project Management Using Earned Value”
Case Study Solution 29.1

29.1

CASE

STUDY

Control Account Plan

Exercise 1

“Project Management Using Earned Value,” Solution to Case Study 29.1

SOLUTIONS

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.

“Project Management Using Earned Value,” Solution to Case Study 29.1

Transmission Design Control Account Plan - Earned Value & Actual Costs
Engineering Liaison as Percent Complete

(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	▼-----X-----▼											
		BCWS	500	500	500	500	500	500	200	200	200	200		
		BCWP	500	500	500	500	500	500	200	200	200	200		
		ACWP	600	600	600	600	600	600	600	400	400	400	400	400
2. Design Transmission	2	20,000	▼-----X-----▼											
		BCWS	4,000	5,000	6,000	5,000								
		BCWP	4,000	0	5,000	6,000	5,000							
		ACWP	3,900	4,000	7,000	7,000	5,000							
3. Draft 18 Drawings	6	9,000	▼-----X-----▼											
		BCWS			3,000	3,000	3,000							
		BCWP					1,500	4,500	3,000					
		ACWP					1,200	5,400	4,200					
4. Tooling	3	4,000	▼-----X-----▼											
		BCWS					2,000	2,000						
		BCWP							4,000					
		ACWP							3,000					
5. Engineering Liaison	5	6,000	▼-----X-----▼											
		BCWS					1,000	1,000	2,000	2,000				
		BCWP							2,000	2,000	2,000			
		ACWP							1,000	1,000	1,000			
6. Manufacture Model 1	3	34,000	▼-----X-----▼											
		BCWS							17,000	17,000				
		BCWP								17,000		17,000		
		ACWP								12,000	20,000	15,000		
7. Quality Control	7	3,000	▼-----X-----▼											
		BCWS							1,500	1,500				
		BCWP								1,500		1,500		
		ACWP								500	1,500	1,000		
8. Conduct Developmental Test	4	5,000	▼-----X-----▼											
		BCWS										5,000		
		BCWP											5,000	
		ACWP											3,000	1,000
Incremental		BCWS	4,500	5,500	9,500	8,500	6,500	3,500	20,700	20,700	200	5,200		
	BCWP	4,500	500	5,500	6,500	7,000	5,000	9,200	20,700	2,200	18,700		5,000	
	ACWP	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		BCWS	4,500	10,000	19,500	28,000	34,500	38,000	58,700	79,400	79,600	84,800	84,800	84,800
	BCWP	4,500	5,000	10,500	17,000	24,000	29,000	38,200	58,900	61,100	79,800	79,800	84,800	
	ACWP	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

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Transmission Design Control Account Plan — Earned Value & Actual Costs
Engineering Liaison as Level of Effort

(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	▼											▼
		BCWS	500	500	500	500	500	500	200	200	200	200		
		BCWP	500	500	500	500	500	500	200	200	200	200		
		ACWP	600	600	600	600	600	600	600	400	400	400	400	400
2. Design Transmission	2	20,000	▼	↗	↘	↗	↘	↗	↘	↗	↘	↗	↘	↗
		BCWS	4,000	5,000	6,000	5,000								
		BCWP	4,000	0	5,000	6,000	5,000							
		ACWP	3,900	4,000	7,000	7,000	5,000							
3. Draft 18 Drawings	6	9,000			↗	↘	↗	↘	↗	↘	↗	↘	↗	↘
		BCWS			3,000	3,000	3,000							
		BCWP					1,500	4,500	3,000					
		ACWP					1,200	5,400	4,200					
4. Tooling	3	4,000					↗	↘	↗	↘	↗	↘	↗	↘
		BCWS					2,000	2,000						
		BCWP							4,000					
		ACWP							3,000					
5. Engineering Liaison	1	6,000					▼							▼
		BCWS					1,000	1,000	2,000	2,000				
		BCWP					1,000	1,000	2,000	2,000				
		ACWP							1,000	1,000	1,000			
6. Manufacture Model 1	3	34,000							↗	↘	↗	↘	↗	↘
		BCWS							17,000	17,000				
		BCWP								17,000		17,000		
		ACWP								12,000	20,000	15,000		
7. Quality Control	7	3,000							↗	↘	↗	↘	↗	↘
		BCWS							1,500	1,500				
		BCWP								1,500		1,500		
		ACWP								500	1,500	1,000		
8. Conduct Developmental Test	4	5,000										↗	↘	↗
		BCWS										5,000		
		BCWP											5,000	
		ACWP											3,000	1,000
Incremental		BCWS	4,500	5,500	9,500	8,500	6,500	3,500	20,700	20,700	200	5,200		
	BCWP	4,500	500	5,500	6,500	8,000	6,000	9,200	20,700	200	18,700		5,000	
	ACWP	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		BCWS	4,500	10,000	19,500	28,000	34,500	38,000	58,700	79,400	79,600	84,800	84,800	84,800
	BCWP	4,500	5,000	10,500	17,000	25,000	31,000	40,200	60,900	61,100	79,800	79,800	84,800	
	ACWP	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