

"Project Management Using Earned Value" Case Study Solution 30.1

30.1

CASE

Control
Account Plan
Exercise 2



"Project Management Using Earned Value", "Solution to Case Study 30.1

SOLUTIONS

Exercise # 1:

Thad has spent the first year immersed in Interface Processor design problems. He has spent very little time attending to his CAM responsibilities. Consequently, results reported for his control accounts have been ambiguous. Karen decides to sit down with Thad and review the actual performance of his control account status. The Control Account Plan (CAP) on the next page shows the solution to Exercise 1 and includes the updated status of milestones for this part of the CAP. Previously reported performance, if any, has been omitted to avoid confusion.

Exercise #2:

Review Thad's control account and based on the status as shown on the next page Control Account Plan (CAP), enter the appropriate values for BCWP by month and by work task. After entering the monthly hours and dollars of BCWP for each work package, enter the total dollars and hours for BCWP for each month, through monthend June, at the bottom of the CAP. The solution for Exercise #2 is shown on the last page.



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CONTROL ACCOUNT PLAN							PROGRAM: Engineering DATE: 7/15/Yr1			CONTROL ACCOUNT TITLE/NO.: 1040ADC PRE-SRR DOC MGMT SOFTWARE DEVELOPMENT					PAGE: 1 OF 1	
1					Data Integration System			Orig.	CAM: THAD BAKER			PROGRAM MGR: BROUD ST		ARMAN		
WBS REFERENCE: 1010201					YEAR 01							YEAR 02				TOTAL 12
	ERENCE: ADA LVL 1 001 R0	1		JUL	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN Suntana 10	MOS.
Element of Co	S-SubKtr	REFERENCE			System	Ш		Integrated Baseline	ш		Preliminary Design	u	Engineering Prototype		System 1	
M-Mat'l	O-ODC	MILESTONES:			Requirements Review			Review			Review		Available		Review	
WORK TASK		FV			Keview	YEA	R 01	Keview			Keview	YEA	R 02		Keview	TOTAL 12
NO./EOC	WORK TASK DESCRIPTION	METHOD	CWA NO.	JUL	AUG	SEP	ОСТ	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	MOS.
1	Management/administration of	1	A3G01	A											Û	
	developing system software	LOE														
		BCWS-HRS		23	30 \$2,153	35	20	20	20	20	20	20	20	20	35	283
		BCWS-\$		\$1,650	\$2,153	\$2,511	\$1,435	\$1,435	\$1,435	\$1,435	\$1,435	\$1,435	\$1,435	\$1,435	\$2,511	\$20,305
:		BCWP-HRS BCWP-\$		_												
EOC: L 2	Requirements Definition & Analysis	5 BCWP-\$	A3G01	▲ 31% WS	43% WS	→ 26% WS									-	\$0
2	to support SRR	% Complete	ASGUI	▲ 31% WS 31% WP	43% WP	26% WS 26% WP										
	to support ortic	BCWS-HRS		57	45% WF											187
		BCWS-\$		\$4,090	\$5,740	\$3,588										\$13,418
		BCWP-HRS														O
EOC: L		BCWP-\$														\$0
3	Support Risk Identification &	2	A3G01	■ 1 _▲	2 2 3 3	4 4 5 5	6 6	7 7	8 8							
	Assessment	Milestone								12	•					
	Thur. Elso has not milester.	BCWS-HRS		20	40 \$2.070				10				 			140
	1 thru 5 20 hrs per milestone 6 thru 9 10 hrs per milestone	BCWS-\$ BCWP-HRS	 	\$1,435	\$2,870	\$2,870	\$718	\$718	\$718	\$718						\$10,047
EOC: L	Control Control Per milestone	BCWP-HRS	1	1		1										\$0
4	Software Integration Testing &	5	A3G01			t						▲ 7% WS 5% WP	22% WS	35% WS	25 36% WS	- 40
•	Software/Hardware Interface	% Complete	1			I	1					▲ 7% WP	15% WP	20% WP	20% WP	
	Testing	BCWS-HRS										50	160	250	260	720
		BCWS-\$										\$3,588	\$11,480	\$17,938	\$18,655	\$51,661
		BCWP-HRS														0
EOC: L		BCWP-\$														\$0
5	Test Planning 150 Requirements	. 6	A3G01		Units WS	<u>∆</u> 2.	16	20	20	38	30	20	12—⁴	•		
	(5 hrs per requirement)	Units			Units WP	10	12	15 100	100	190	25 150	20 100	10	6 🛡		750
		BCWS-HRS BCWS-\$	1			\$718			\$7,175	\$13,633	\$10,763	\$7,175	\$1,435			750 \$53,814
		BCWS-3 BCWP-HRS				3/10	\$5,740	\$7,175	\$7,175	\$13,533	\$10,763	\$7,175	\$1,435			\$33,614 0
EOC: L		BCWP-\$														\$0
6	Design, Code & Unit Test	5	A3G01			▲ 1% WS	4% WS	7% WS	7% WS	15% WS	15% WS	14% WS	14% WS	12% WS	11% WS 12	
	, , , , , , , , , , , , , , , , , , , ,	% Complete				1% WP	2% WP	5% WP	6% WP	10% WP	14% WP	14% WP	14% WP	10% WP	10% WP	
		BCWS-HRS				59	173	336	336	709	709	664	664	600	550	4800
		BCWS-\$				\$4,233	\$12,413	\$24,108	\$24,108	\$50,871	\$50,871	\$47,642	\$47,642	\$43,050	\$39,463	\$344,401
		BCWP-HRS														0
EOC: L 7	Outron Land Bullion	BCWP-\$	10004	-						-						\$0
,	Software Input - Preliminary Documentation & Release	3 50/50	A3G01											26≦	─	
		BCWS-HRS											70	70		140
		BCWS-\$											\$5.023	\$5,023		\$10.046
		BCWP-HRS											\$0,020	ΦΟΙΟΣΟ		0.0,0.0
EOC: L		BCWP-\$														\$0
8	Interpret, analyze, & coordinate	7	A3G01			A									12	
	document management software	Apportioned		1											-	
	design with System Engineering &	BCWS-HRS	.	+		6			34		71	66		60		480
	other subsystems (10% of WP #6)	BCWS-\$ BCWP-HRS	1	+		\$431	\$1,220	\$2,440	\$2,440	\$5,094	\$5,094	\$4,736	\$4,736	\$4,305	\$3,946	\$34,442
EOC: L		BCWP-HRS	1	+		 										\$0
9	Purchase of compilers, research	5	A3G01	1		t	t	▲ 12% WS	24% WS	24% WS	24% WS	16% WS				30
1 *	materials, DNA specialists, etc.	% Complete	1					12% WP	24% WP	24% WP	24% WP	16% WP			•	
	supporting design	BCWS-HRS														0
	1	BCWS-\$						\$2,500	\$5,000	\$5,000	\$5,000	\$3,000				\$20,500
		BCWP-HRS														0
EOC: M		BCWP-\$		-												\$0
	MONTHLY BCWS		HOURS	100	150			500	500		950	900	1000	1000		7500
			DOLLARS	\$7.175	\$10.763	\$14.351 450	\$21.526	\$38,376	\$40.876	\$76,751	\$73.163	\$67.576	\$71,751	\$71,751	\$64.575	\$558.634
	CUM BCWS		HOURS DOLLARS	100 \$7,175	250 \$17,938	\$32.289	750 \$53,815	1250 \$92,191	1750 \$133.067	2750 \$209.818	3700 \$282,981	\$350,557	5600 \$422,308	\$494,059	7500 \$558.634	1
PAGE TOTALS			HOURS	\$7,175	\$5e,1r	\$32,289	\$53,815	a92,191	a133,067	ა∠∪9,818	a∠ 62,961	7.00,UCc@	\$422,3UB	⊅ 494,U59	<u> </u>	l
	MONTHLY BCWP DOLLA		DOLLARS	+		t	1			t -						
	I 10		HOURS	1		1	1			1			1			1
	CUM BCWP		DOLLARS			1										
	MONTHLY ACWP		HOURS													
			DOLLARS													
	med Value (EV) Codes	LEGEND:		2 = Start Activity		-	-				APPROVALS:			DATE:	-	
1. Level of Effort		= Complete Act	ivity - Plan					CAM:								
	5. % Complete		= Delayed Activity - Revised Plan Filled in symbol indicates completed activity - actual							PROGRAM MGR:						
s. 50/50	6. Units Complete	1		rilled in symbo	i indicates compl	eted activity - act	uai									



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	CONTROL AC	PROGRAM: Engineering DATE: Data Integration System 7/15/Yr1				REV NO. Orig.	PRE-	COUNT TITLE/NO	SOFTWARE D	EVELOPMENT	10	PAGE: 1 OF 1						
WBS REFERENCE: 1010201						_	R 01			CAM: THAD BA	AKER	YEA	PROGRAM MGF	R: BROUD STE	ARMAN	TOTAL 12		
WBS REFERENCE: 1010201 SCHEDULE REFERENCE: ADA LVL 1 001 R0				JUI	AUG	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	MOS.		
Element of Cost (EOC) L-Labor S-SubKtr M-Mat'l O-ODC		REFERENCE MILESTONES:		System Requirements Review		<u> </u>			Tr DEC	Preliminary Design Review		© Engineering Prototype Available		System ① Software Review		Mico.		
WORK TASK	WORK TASK DESCRIPTION	EV	CWA NO.				R 01					YEAL	R 02			TOTAL 12		
NO./EOC		METHOD	A3G01	JUL	AUG	SEP	ОСТ	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUN	MOS.		
	Management/administration of developing system software	LOE	ASGUI	A											12			
		BCWS-HRS		23	30 \$2,153	35	20	20	20	20	20	20	20	20	35	283		
		BCWS-\$		\$1,650				\$1,435	\$1,435		\$1,435	\$1,435	\$1,435	\$1,435		\$20,305		
EOC: L		BCWP-HRS BCWP-\$		23 \$1.650	30 \$2,153	35 \$2,511	20 \$1,435	20 \$1,435	20 \$1,435		20 \$1,435	\$1,435	20 \$1,435	\$1,435	35 \$2.511	283 \$20,305		
2	Requirements Definition & Analysis	5	A3G01	2424 1400	43% WS	26% WS	ψ1, 1 00	\$1,-00	Ψ1,405	Ψ1,-03	\$1,400	ψ1,+00	ψ1,400	ψ1,400	Ψ2,511	Ψ20,303		
	to support SRR	% Complete		▲ 31% WS 31% WP	43% WP	26% WP												
		BCWS-HRS		57	80	50										187		
		BCWS-\$ BCWP-HRS		\$4,090 57	\$5,740 80	\$3,588 50				1						\$13,418 187		
EOC: L		BCWP-\$		\$4,090	\$5,740											\$13,418		
3	Support Risk Identification & Assessment	2 Milestone	A3G01	1 _A	2 2 3 3	4 4 5 5	6	7 7	8	2	-							
	11thru 520 hrs per milestone	BCWS-HRS BCWS-\$	 	20 \$1,435	\$2,870	\$2,870	10 \$718	10 \$718	10 \$718							140 \$10,047		
	1 thru 1 20 hrs per milestone 1 thru 1 2 10 hrs per milestone	BCWS-\$ BCWP-HRS	 	\$1,435 20	\$2,870 40	\$2,870	\$718 10	\$718 10	\$718 10		10					\$10,047 140		
EOC: L	·	BCWP-\$		\$1,435	\$2,870	\$2,870	\$718	\$718	\$718		\$718					\$10,047		
4	Software Integration Testing &	5	A3G01									▲ 7% WS	22% WS	35% WS	20 36% WS			
	Software/Hardware Interface Testing	% Complete BCWS-HRS	-	1						1	 	▲ 7% WS 5% WP	15% WP 160	20% WP 250	20% WP *	720		
	resung	BCWS-RKS		1							+	\$3,588	\$11,480	\$17,938	\$18,655	\$51,661		
		BCWP-HRS										36	108	144	144	432		
EOC: L		BCWP-\$										\$2,583	\$7,749	\$10,332	\$10,332	\$30,996		
5	Test Planning 150 Requirements (5 hrs per requirement)	6 Units	A3G01		Units WS Units WP	△ 2 ·	16	20	20	38	30	20	13- 4-	0 ◆				
	(5 his per requirement)	BCWS-HRS			Units WP	10	80	100	100	190	150	100	20			750		
		BCWS-\$				\$718	\$5,740	\$7,175	\$7,175	\$13,633	\$10,763	\$7,175	\$1,435			\$53,814		
		BCWP-HRS				0	60	75	110		125	100	50	30		750		
EOC: L 6	Design, Code & Unit Test	BCWP-\$ 5	A3G01	-		\$0 4 1% WS	\$4,305 4% WS	\$5,381 7% WS	\$7,893 7% WS	\$14,350 15% WS	\$8,969	\$7,175 14% WS	\$3,588 14% WS	\$2,153 12% WS	119/ M/C 7	\$53,814		
	Design, Code & Onit Test	% Complete	ASGUI			▲ 1% WS	2% WP	5% WP	6% WP	10% WP	15% WS	14% WP	14% WP	12% WS	11% WS 12 10% WP			
		BCWS-HRS				59	173	336	336	709	709	664	664	600		4800		
		BCWS-\$				\$4,233	\$12,413	\$24,108	\$24,108	\$50,871	\$50,871	\$47,642	\$47,642	\$43,050	\$39,463	\$344,401		
EOC: L		BCWP-HRS BCWP-\$				59 \$4,233	86 \$6,171	240 \$17,220	288 \$20.664	\$34.440	664 \$47.642	664 \$47.642	664 \$47.642	480 \$34,440	480 \$34,440	4105 \$294.534		
7 7	Software Input - Preliminary Documentation & Release	3	A3G01			W1.200		W.,	WE0.001			<u> </u>		25				
		50/50											_					
		BCWS-HRS BCWS-\$											70 \$5,023	70 \$5,023		140 \$10,046		
1		BCWP-HRS		1							1		\$5,023 70	\$5,023 0				
EOC: L		BCWP-\$											\$5,023	\$0		\$10,046		
8	Interpret, analyze, & coordinate	7	A3G01			A									12			
	document management software design with System Engineering &	Apportioned BCWS-HRS	 	1			17	34	34	71	71	66	66	60	-	480		
	other subsystems (10% of WP #6)	BCWS-\$				\$431	\$1,220	\$2,440	\$2,440	\$5,094	\$5,094	\$4,736	\$4,736	\$4,305	\$3,946	\$34,442		
	1 ' ' ' ' ' ' '	BCWP-HRS				6	9	24	29	48	66	66	66	48		410		
EOC: L 9	Durch and of complete control	BCWP-\$	40001			\$431	\$646	\$1,722	\$2,066			\$4,736	\$4,736	\$3,444		\$29,405		
9	Purchase of compilers, research materials, DNA specialists, etc.	5 % Complete	A3G01					▲ 12% WS 12% WP	24% WS 24% WP	24% WS 24% WP	24% WS 24% WP	16% WS 16% WP			•			
	supporting design	BCWS-HRS						,,								0		
		BCWS-\$						\$2,500	\$5,000	\$5,000	\$5,000	\$3,000				\$20,500		
EOC: M		BCWP-HRS BCWP-\$	_	1		 		\$2,500	\$5,000	\$5,000	\$5,000	\$3,000			-	\$20,500		
EUC: IVI		IDCAAL-9	HOURS	100	150	200	300	\$2,500 500	\$5,000 500		\$5,000 950	\$3,000	1000	1000	900	7500		
PAGE TOTALS	MONTHLY BOWS CUM BOWS HOURS DOLLARS DOLLARS HOURS HOURS HOURS DOLLARS		DOLLARS	\$7,175	\$10,763	\$14,351	\$21,526	\$38,376	\$40,876	\$76,751	\$73,163	\$67,576	\$71,751	\$71,751	\$64,575	\$558,634		
			HOURS	100	250			1250	1750		3700	4600	5600	6600	7500			
			HOURS	\$7,175 100	\$17,938 150	\$32,289 190	\$53,815 185	\$92,191 369	\$133,067 457	\$209,818 748	\$282,981 885	\$350,557 886	\$422,308 978	\$494,059 722	\$558,634 777	6447		
				\$7,175	\$10,763		\$13,275	\$28,976	\$37,776		\$68,500	\$66,571	\$70,173	\$51,804	\$55,750	\$483,065		
	CUM PCWP HOURS		HOURS	100	250	440	625	994	1451	2199	3084	3970	4948	5670	6447			
	MONTHLY ACMP HOURS		DOLLARS	\$7,175	\$17,938	\$31,571	\$44,846	\$73,822	\$111,598	\$170,267	\$238,767	\$305,338	\$375,511	\$427,315	\$483,065			
			HOURS DOLLARS	1		 				1	 				-	0		
Ea	rned Value (EV) Codes	LEGEND:		= Start Activity						•	APPROVALS:			DATE:				
 Level of Effort 	4. 0/100 7. Apportioned		☐ = Complete Activity - Plan							CAM:								
2. Milestone 3. 50/50	5. % Complete 6. Units Complete		<	= Delayed Activ Filled in symbol	πy - Revised Pla	an leted activity on	hial		PROGRAM MGR:									
J. JU/DU	o. onits complete	1	Filled in symbol indicates completed activity - actual								<u> </u>							