



ACQUISITION,
TECHNOLOGY
AND LOGISTICS

OFFICE OF THE UNDER SECRETARY OF DEFENSE

3000 DEFENSE PENTAGON
WASHINGTON, DC 20301-3000

JUL 26 2004

MEMORANDUM FOR TEAM LEADER, JPAT 5 TABS (MAJOR DAVID SMITH)

SUBJECT: COBRA Data Certification

I certify that the information provided in my e-mail of July 13, 2004 regarding facility sustainment and plant replacement value to support BRAC 2005 COBRA analysis is accurate and complete to the best of my knowledge and belief.

A handwritten signature in black ink, appearing to read "M. Thadd Buzan".

M. Thadd Buzan
Program Analyst
Installations Requirements and Management
Office of the Deputy Under Secretary of Defense
(Installations and Environment)

cc:
DUSD(I&E)/BRAC (John Desiderio)



Facilities S/RM rate worksheet for COBRA analysis

Army

(dollars in \$M)	FY03	FY04	FY05	3-year mean rate
FSM requirement (O&M-like)	2,292	2,495	2,552	
Sustainment funding (O&M-like)	1,677 (executed)	2,325 (appropriated)	2,426 (budgeted)	
sustainment rate (%)	73%	93%	95%	87%
Recap PRV	157,274	164,346	167,590	
Recap funding	1,510	1,328	2,074	
Recap rate (years)	104	124	81	103

Facilities S/RM rate worksheet for COBRA analysis

USMC

(dollars in \$M)	FY03	FY04	FY05	3-year mean rate
FSM requirement (O&M-like)	526	553	535	
Sustainment funding (O&M-like)	510 (executed)	538 (appropriated)	509 (budgeted)	
sustainment rate (%)	97%	97%	95%	96%
Recap PRV	22,912	19,087	19,403	
Recap funding	320	230	253	
Recap rate (years)	72	83	77	77

Facilities S/RM rate worksheet for COBRA analysis

Navy

(dollars in \$M)	FY03	FY04	FY05	3-year mean rate
FSM requirement (O&M-like)	1,337	1,367	1,321	
Sustainment funding (O&M-like)	1,225 (actual)	1,276 (appropriated)	1,258 (budgeted)	
sustainment rate (%)	92%	93%	95%	93%
Recap PRV	101,470	105,004	107,225	
Recap funding	1,390	883	726	
Recap rate (years)	73	119	148	113

corrected by Navy May 04

Facilities S/RM rate worksheet for COBRA analysis

Air Force

(dollars in \$M)

	FY03	FY04	FY05	3-year mean rate
FSM requirement (O&M-like)	1,871	1,958	2,028	
Sustainment funding (O&M-like)	1,613	1,857	1,926	
W/ MilPay	(actual)	(appropriated)	(budgeted)	
sustainment rate (%)	86%	95%	95%	92%
Recap PRV	145,120	128,650	132,223	
Recap funding	1,756	969	897	
Recap rate (years)	83	133	147	121

MEMORANDUM FOR RECORD

SUBJECT: COBRA Data Certification

1. FACTOR: Standard Factor #5 – Median GS Civilian Salary
2. DESCRIPTION: The median yearly compensation for government civilian employees.
3. CERTIFIED VALUE: \$59,959.18 per year
4. DATA SOURCE:
 - a. Certified Data from CPMS.
 - b. OMB Circular No. A-76
 - c. 2004 General Schedule
5. METHODOLOGY: From the data call, the Civilian Personnel Management Service (CPMS) provided that the average GS employee was a GS 9 step 8. We then went to the 2004 General Schedule and found that a GS 9 step 8 is paid \$44466 per year. Then according the OMB Circular A-76, we multiply the schedule wage by a cost factor of 1.3285 to determine the full fringe benefit cost. The number was then inflated based on the COBRA inflation assumptions for BRAC 2005.
6. I certify that the information supplied is accurate and complete to the best of my knowledge and belief.



DAVID A. SMITH
MAJ, AR
ORSA Analyst



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Salary Table 2004-GS

2004 General Schedule

INCORPORATING A 1.50% GENERAL INCREASE
Effective January 2004

Annual Rates by Grade and Step

ASCI

GS	1	2	3	4	5	6	7	8	9	10
1	15442	15958	16471	16982	17497	17799	18305	18816	18837	19314
2	17363	17775	18350	18837	19047	19607	20167	20727	21287	21847
3	18944	19575	20206	20837	21468	22099	22730	23361	23992	24623
4	21266	21975	22684	23393	24102	24811	25520	26229	26938	27647
5	23794	24587	25380	26173	26966	27759	28552	29345	30138	30931
6	26522	27406	28290	29174	30058	30942	31826	32710	33594	34478
7	29473	30455	31437	32419	33401	34383	35365	36347	37329	38311
8	32640	33728	34816	35904	36992	38080	39168	40256	41344	42432
9	36052	37254	38456	39658	40860	42062	43264	44466	45668	46870
10	39702	41025	42348	43671	44994	46317	47640	48963	50286	51609
11	43621	45075	46529	47983	49437	50891	52345	53799	55253	56707
12	52281	54024	55767	57510	59253	60996	62739	64482	66225	67968
13	62170	64242	66314	68386	70458	72530	74602	76674	78746	80818
14	73467	75916	78365	80814	83263	85712	88161	90610	93059	95508
15	86417	89298	92179	95060	97941	100822	103703	106584	109465	112346

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- f. Civilian Position Fringe Benefits and Federal Insurance Contribution Act (FICA).** Agency and public reimbursable sources shall calculate civilian fringe benefits and FICA based upon the basic pay for each position in the cost estimate. Basic pay for GS positions is the position's annual salary plus any applicable "other civilian position pay entitlements" (see "Other Civilian Pay Entitlements" paragraph below). Basic pay for FWS positions is the position's annual wages including shift differential pay and environmental pay plus any applicable "other civilian pay entitlements" (see "Other Civilian Pay Entitlements" paragraph below). Agency and public reimbursable sources shall multiply basic pay by the following government-wide standard factors. COMPARE automatically computes the costs for these entries.
- (1) Full-time and Part-time Permanent Civilian Positions.** On the publication date of this circular, full-time and part-time permanent civilian positions receive the civilian position full fringe benefit cost factor of 32.85 percent of the position's basic pay. The 32.85 percent civilian position full fringe benefit cost factor is the sum of the standard civilian position retirement benefit cost factor (24.0 percent), insurance and health benefit cost factor (5.7 percent), Medicare benefit cost factor (1.45 percent), and miscellaneous fringe benefit cost factor (1.7 percent).
- (a) Retirement Benefit Cost Factors.** The standard civilian retirement benefit cost factor represents the cost of the weighted Civil Service Retirement System/Federal Employees Retirement System to the government, based upon the full dynamic normal cost of the retirement systems, the normal cost of accruing retiree health benefits based on average participation rates, social security, and Thrift Savings Plan contributions. On the publication date of this circular, the standard civilian retirement benefit cost factor for civilian positions is 24 percent of the position's basic pay (18.9 percent retirement pension plus 5.1 percent for retiree health). The retirement cost factors for special class civilian positions are: 33.0 percent of basic pay for air traffic controllers (27.9 percent retirement pension plus 5.1 percent for retiree health) and 38.2 percent of basic pay for law enforcement and fire protection (33.1 percent retirement pension plus 5.1 percent for retiree health).
- (b) Insurance and Health Benefit Cost Factor.** On the publication date of this circular, the insurance and health benefit cost factor for civilian positions, based on actual cost, is 5.7 percent of the position's basic pay.
- (c) Medicare Benefit Cost Factor.** On the publication date of this circular, the Medicare benefit cost factor is 1.45 percent of the civilian position's basic pay.
- (d) Miscellaneous Fringe Benefit Cost Factor.** As of the publication date of this circular, the miscellaneous fringe benefits cost factor for civilian positions (workmen's compensation, bonuses, awards, and unemployment programs) is 1.7 percent of the position's basic pay. Based on the OPM civilian award policy, there are two general categories for civilian awards. Category one is for special acts (e.g., cash awards, bonuses) that are over and above a civilian employee's expected annual performance, and category two is for awards that are based on a civilian employee's annual performance rating (e.g., cash awards, bonuses, quality step increases). Category one civilian awards are not included in the 1.7 percent miscellaneous fringe benefit factor (these costs are entered under "Other Civilian Pay"). Category two civilian awards are included in the 1.7 percent miscellaneous fringe benefit factor.

MEMORANDUM FOR RECORD

SUBJECT: COBRA Data Certification

1. FACTOR: Standard Factor #14 – Average Civilian PCS Costs
2. DESCRIPTION: The average cost of relocating a government civilian employee to a new location who has received a job through the priority placement program.
3. CERTIFIED VALUE: \$35,496 per move
4. DATA SOURCE:
 - a. Certified Data from CPMS.
 - b. OMB Circular No. A-76
 - c. 2004 General Schedule
5. METHODOLOGY: See the attached report. The value was also inflated using the COBRA Inflation Instructions for BRAC 2005.
6. I certify that the information supplied is accurate and complete to the best of my knowledge and belief.


DAVID A. SMITH
MAJ, AR
ORSA Analyst

DETERMINING AVERAGE PCS COSTS FOR COBRA

MAJ David A. Smith

FIND: In COBRA, the Civilian Priority Placement Program Cost is one of the variables used to determine the Civilian Net Moving Costs. To find the Civilian Priority Placement Program Cost, COBRA takes the number of civilians who will move due to priority placement and multiplies that by the Civilian PCS Cost. The Civilian PCS Cost is the average cost of relocating a government civilian employee to a new location. Finding the Civilian PCS Cost is difficult because it can be funded from multiply sources. Since it could be difficult for an authoritative source to find the factor, I used a simulation to come up with one. The results of my simulation came up with a Civilian PCS Cost of \$33,865 per civilian moved.

GIVEN:

1. The following references were used:
 - a. COBRA User's Manual.
 - b. COBRA Algorithm Manual.
 - c. Basic Allowance for Housing (BAH) rates for 2004.
 - d. Per Diem rates for 2004.
 - e. Defense Table of Official Distances.
2. The following definitions were used:
 - a. Civilian PCS Costs – The sum of the Civilian Per Diem Cost, the Civilian Privately Owned Vehicle (POV) Cost, the Civilian House Purchase Cost, the Civilian Household Goods (HHG) Cost, the Miscellaneous Moving Costs, and the Civilian House Hunting Cost.
 - b. Freight Cost – The average cost of freight movement at the receiving base.
 - c. Total HHG Cost – The average cost of packing, unpacking, and storage of 100 pounds of household goods.

ASSUMPTIONS:

1. I assumed a constant Freight Cost at every installation of \$0.17 per mile per ton.

2. I assumed that the Total HHG Cost was \$33 per 100 pounds.
3. I assumed that 59 Army installations that I used in the simulation would provide a sufficient set of different types of installations in different parts of the country.
4. I assumed all Miscellaneous Moving Costs to be \$1000 per move.

SOLUTION:

The first step in the simulation process was to develop a set of installations to simulate moves between. I only had access to Army data, but the simulation could be expanded to include data from all of the Services. The data set included installations across CONUS and Alaska and can be found in Appendix 1. COBRA computes Civilian PCS Costs by summing the six algorithms mentioned in the definition above. These algorithms require a Per Diem Rate, BAH, and Freight Cost from each installation, the distance between each of the installations, and the POV Reimbursement Rate, the Home Sale Reimbursement Rate, the Home Purchase Reimbursement Rate, and the Civilian HHG from the standard factor file. The standard factors used are listed in Appendix 2, while the installation data is listed along with the installation in Appendix 1. The distance table developed is in Appendix 3.

The simulation began by first randomly choosing an installation as an origin and other installation as a destination. The simulation program then loaded the Per Diem Rate, BAH, and Freight Cost from each of the chosen installations and the distance between the origin and destination. Using this data, along with the standard factors, the program used the equations from the algorithm manual to determine a Civilian PCS Cost between the randomly chosen installations. The equations can be found in the COBRA Algorithm Manual. The program repeated the process 10,000 times and came up with the statistics found in Table 1.

Average Civilian PCS Cost	
Statistic	Value
Trials	10,000
Mean	\$33,865.11
Median	\$31,977.71
Mode	\$48,632.18
Standard Deviation	\$9143.76
Range Minimum	\$10,725.50
Range Maximum	\$68,979.76
Range Width	\$58,254.27

Table 1.

In BRAC 95, a value of \$25,789 was used for Civilian PCS Cost. The value was inflated from the BRAC 93 value of \$25,000, which seems arbitrary and no documentation is provided to show the number's origin. If we use this method to determine an average cost, then we are using the same equations that COBRA uses to find the Civilian PCS Costs, so we are consistent in our methodology.

Recommendations:

I recommend we round up the mean of the simulation and use \$34,000 as an average civilian salary. This value was reviewed by the Civilian Personnel Management Service and certified for use in the COBRA Model.

Appendix 1

	Per Diem	BAH	Freight
Aberdeen Proving Ground	127	1264	0.17
Adelphi Laboratory Center	201	2006	0.17
Anniston Army Depot	86	789	0.17
Blue Grass Army Depot	100	941	0.17
Carlisle Barracks	109	1169	0.17
Charles E Kelly Spt Fac	134	1134	0.17
Corpus Christi Army Depot	102	1137	0.17
Fort A P Hill	86	1362	0.17
Fort Belvoir	201	2006	0.17
Fort Benning	102	1152	0.17
Fort Bliss	113	1031	0.17
Fort Bragg	102	887	0.17
Fort Campbell	86	775	0.17
Fort Carson	122	1166	0.17
Fort Detrick	129	1396	0.17
Fort Dix	121	1707	0.17
Fort Drum	86	1060	0.17
Fort Eustis	142	1074	0.17
Fort Gillem	124	1385	0.17
Fort Gordon	86	1019	0.17
Fort Hamilton	245	2240	0.17
Fort Hood	94	901	0.17
Fort Huachuca	86	1064	0.17
Fort Jackson	100	1080	0.17
Fort Knox	86	811	0.17
Fort Leavenworth	86	1111	0.17
Fort Lee	104	946	0.17
Fort Leonard Wood	109	939	0.17
Fort Lewis	114	1323	0.17
Fort McCoy	86	926	0.17
Fort McNair	201	2006	0.17
Fort McPherson	124	1385	0.17
Fort Meade	142	1591	0.17
Fort Monmouth	127	2098	0.17
Fort Monroe	142	1074	0.17
Fort Myer	201	2006	0.17
Fort Polk	86	871	0.17
Fort Richardson	258	1775	0.17
Fort Riley	86	871	0.17
Fort Rucker	86	906	0.17
Fort Sam Houston	138	1138	0.17
Fort Sill	86	801	0.17
Fort Stewart	86	974	0.17
Fort Wainwright	232	1492	0.17
Letterkenny Army Depot	86	1169	0.17
Military Ocean Tml Sunny Po	104	1102	0.17
NTC and Fort Irwin CA	127	1059	0.17
Picatinny Arsenal	157	2030	0.17
Presidio of Monterey	141	2291	0.17
Red River Army Depot	86	1009	0.17
Redstone Arsenal	106	933	0.17
Rock Island Arsenal	86	927	0.17
Soldier Systems Center	243	2215	0.17
Tobyhanna Army Depot	86	877	0.17
Tooele Army Depot	119	1029	0.17
Watervliet Arsenal	86	1360	0.17
West Point Mil Reservation	160	2106	0.17
White Sands Missile Range	95	1044	0.17
Yuma Proving Ground	107	1104	0.17

Appendix 2

% Officers Accompanied	0.72
% Enlisted Accompanied	0.6
Home Sale Reimbursement Rate	0.1
Maximum Home Sale Reimbursement	50000
Home Purchase Reimbursement Rate	0.05
Maximum Home Purchase Reimbursement	25000
Home Ownership Rate	0.684
Officer HHG Accompanied	15290
Enlisted HHG Accompanied	9204
Officer HHG Unaccompanied	13712
Enlisted HHG Unaccompanied	6960
Civilian HHG	18000
Total HHG Cost	0.33
POV Reimbursement	0.2
Air Transport	0.3

Appendix 3

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	0	60	789	569	99	292	1694	130	85	830	2027	407	790	1693	88	101	392	242	724	631	156	1544	2325
2	60	0	732	532	119	255	1637	88	0	773	1990	350	738	1656	51	158	449	177	667	574	213	1486	2286
3	789	732	0	400	751	766	945	678	722	140	1339	481	297	1394	714	886	1137	685	108	254	941	839	1640
4	569	532	400	0	520	391	1299	532	549	491	1541	507	282	1214	499	671	762	581	389	465	726	1037	1840
5	99	119	751	520	0	212	1657	189	123	811	1980	438	747	1626	59	162	352	271	705	619	193	1547	2258
6	292	255	766	391	212	0	1628	336	270	799	1780	507	587	1446	220	352	438	418	693	607	399	1387	2078
7	1694	1637	945	1299	1657	1628	0	1811	1631	954	700	1413	1055	1110	1822	1794	1997	1817	1040	1186	1849	316	1002
8	130	86	678	532	189	336	1611	0	70	697	1939	274	700	1732	127	226	517	109	591	498	281	1449	2150
9	85	0	722	549	123	270	1631	70	0	740	2005	317	703	1671	86	184	475	152	634	541	239	1452	2303
10	830	773	140	491	811	799	954	697	740	0	1393	450	423	1519	772	919	1159	702	112	221	974	893	1695
11	2027	1990	1339	1541	1980	1780	700	1939	2005	1393	0	1799	1278	645	1973	2105	2151	1975	1427	1573	2152	2152	313
12	407	350	481	507	438	507	1413	274	317	450	1799	0	610	1686	379	497	789	274	385	245	552	1305	2106
13	790	738	297	282	747	567	1055	700	703	423	1278	610	0	1117	718	896	936	741	320	465	934	794	1637
14	1693	1656	1394	1214	1626	1446	1110	1732	1671	1519	645	1686	1117	0	1600	1751	1755	1720	1383	1528	1784	815	778
15	88	51	714	499	59	220	1622	127	86	772	1673	379	718	1600	0	175	388	204	644	553	228	1462	2176
16	101	158	896	671	162	352	1794	226	184	919	2105	467	896	1751	175	0	329	313	799	707	85	1630	2325
17	392	449	1137	762	352	438	1997	517	475	1159	2151	789	936	1755	388	329	0	580	1039	940	307	1715	2343
18	242	177	985	561	271	418	1617	109	152	702	1675	274	741	1202	204	313	580	0	577	456	388	1451	2252
19	724	667	108	389	705	693	1040	581	634	112	1427	385	320	1383	644	799	1039	577	0	149	852	891	1706
20	631	574	254	485	619	607	1186	498	541	221	1573	245	465	1528	553	707	940	456	149	0	757	1028	1843
21	156	213	941	728	193	399	1849	281	239	974	2152	552	934	1784	228	85	307	368	652	757	0	1684	2359
22	1544	1486	839	1037	1547	1367	316	1449	1452	693	628	1305	794	815	1462	1830	1715	1451	891	1028	1684	0	883
23	2325	2288	1640	1840	2258	2078	1002	2293	2303	1695	313	2108	1637	778	2176	2325	2343	2252	1706	1843	2359	883	0
24	553	496	323	440	545	533	1255	420	463	292	1841	167	514	1581	482	634	669	383	217	74	687	1095	1912
25	670	633	428	108	605	424	1265	618	848	554	1475	605	196	1107	579	731	771	646	367	482	776	834	1688
26	1121	1084	821	642	1053	873	956	1159	1099	947	1042	1113	545	590	1042	1192	1210	1162	835	960	1226	668	1180
27	210	145	809	522	239	386	1541	77	120	626	1928	198	706	1681	169	296	557	57	519	412	349	1392	2211
28	987	950	681	501	920	740	920	1026	965	807	1064	973	405	779	902	1053	1071	1015	652	784	1087	858	1283
29	2824	2787	2712	2515	2743	2554	2629	2863	2802	2837	1901	2953	2435	1394	2730	2868	2815	2917	2698	2825	2879	2112	1634
30	1076	1039	1054	740	995	806	1544	1115	1054	1179	1629	1184	777	977	895	1039	979	1089	939	1031	1050	1127	1646
31	69	0	736	542	118	263	1631	79	0	753	1964	331	730	1648	0	189	432	159	631	537	223	1461	2227
32	719	662	100	385	700	889	1032	586	629	114	1419	388	316	1372	643	798	1038	576	0	153	851	880	1697
33	52	0	763	549	102	270	1656	91	0	780	2023	358	755	1650	0	147	411	178	656	561	201	1486	2229
34	147	204	932	717	200	390	1840	272	230	965	2143	543	924	1783	215	0	333	354	839	743	0	1670	2362
35	258	201	701	576	287	434	1633	125	168	718	1991	248	756	1734	216	296	577	0	572	449	350	1455	2265
36	72	0	735	540	113	260	1628	78	0	752	1961	330	727	1648	0	173	436	159	628	535	227	1459	2227
37	1289	1231	540	883	1251	1213	412	1204	1197	594	936	1005	640	1003	1202	1370	1562	1182	824	781	1424	317	1196
38	4305	4268	4283	3970	4225	4036	4464	4344	4283	4409	3913	4394	4007	3285	4217	4356	4170	4405	4265	4386	4366	4123	3372
39	1206	1172	910	730	1142	962	915	1248	1187	1035	996	1202	633	454	1141	1290	1306	1261	934	1059	1324	616	1059
40	945	887	235	598	926	928	865	812	854	124	1365	609	434	1433	858	1013	1255	775	213	315	1068	811	1627
41	1682	1604	919	1155	1665	1485	148	1567	1570	932	585	1385	912	872	1585	1753	1832	1555	978	1124	1807	141	856
42	1428	1391	844	943	1361	1181	583	1390	1406	942	663	1300	735	566	1365	1514	1532	1441	942	1077	1548	302	1935
43	691	634	370	818	720	730	1132	558	601	255	1694	304	581	1620	647	773	1035	520	220	124	827	1057	3249
44	4193	4157	4171	3858	4113	3924	4352	4232	4172	4297	3709	4282	3895	3164	4096	4234	4048	4283	4144	4264	4245	4001	3249
45	107	93	725	493	0	175	1833	169	108	783	1623	421	706	1588	0	182	360	250	665	582	218	1473	2165
46	474	409	512	644	503	650	1444	341	384	481	1838	115	703	1755	427	551	816	280	406	262	605	1283	2099
47	2545	2508	1967	2090	2478	2298	1575	2513	2523	2065	902	2422	1858	935	2465	2644	2608	2590	2061	2236	2678	1356	558
48	179	236	930	739	182	363	1975	304	262	989	2124	575	913.7	1754	205	77	278	377	854	759	0	1658	2333
49	2946	2909	2345	2437	2865	2676	1824	2984	2923	2443	1151	2800	2235	1290	2813	2963	2942	2908	2409	2554	2998	1665	871
50	1229	1172	589	723	1233	1053	595	1135	1138	646	825	1044	479	880	1145	1312	1397	1149	839	774	1366	320	1092
51	779	722	108	348	742	678	981	684	687	258	1304	594	184	1206	694	863	1031	699	200	333	916	803	1573
52	679	642	789	518	799	610	1319	918	857	914	1400	956	512	881	784	931	874	976	762	887	942	971	1509
53	357	417	1145	980	390	583	2215	485	443	1176	2364	754	1154	1976	432	270	312	571	1056	965	209	1887	2585
54	181	238	900	696	152	320	1932	306	264	959	2081	577	871	1717	193	107	223	375	838	747	107	1641	2296
55	2153	2116	1901	1722	2073	1884	1597	2192	2131	2027	924	2193	1625	572	2051	2194	2141	2234	1917	2043	2205	1278	832
56	305	362	1071	830	323	507	2085	430	388	1123	2215	701	1004	1828	353	215	161	516	1002	911	166	1792	2421
57	209	266	995	751	234	431	2042	334	292	1028	2182	608	961	1814	268	121	243	423	909	811	66	1725	2393
58	2139	2102	1379	1653	2072	1892	740	1979	2117	1433	0	1845	1324	522	1897	2046	2064	1974	1429	1596	2080	619	287
59	2531	2494	1952	2045	2463	2283	1252	2498	2508	1946	579	2408	1843	925	2400	2549	2567	2494	1957	2094	2582	1133	311

38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59
4305	1209	945	1862	1428	891	4193	107	474	2545	179	2948	1229	779	879	357	181	2153	305	209	2139	2531
4268	1172	887	1804	1391	634	4157	93	409	2508	236	2909	1172	722	842	417	238	2116	362	286	2102	2494
4283	910	235	919	844	370	4171	725	512	1967	930	2345	589	108	789	1145	900	1901	1071	965	1379	1952
3970	730	598	1155	943	618	3858	493	644	2080	739	2437	723	348	518	980	896	1722	830	751	1653	2045
4225	1142	928	1665	1361	720	4113	0	503	2478	182	2865	1233	742	799	390	152	2073	323	234	2072	2483
4036	962	928	1485	1181	730	3924	175	650	2298	363	2876	1053	678	610	583	320	1884	507	431	1892	2283
4464	915	865	148	583	1132	4352	1633	1444	1575	1975	1824	595	961	1319	2215	1932	1597	2065	2042	1324	1252
4344	1248	812	1567	1390	558	4232	169	341	2513	304	2964	1135	684	918	485	306	2192	430	334	1979	2498
4283	1187	854	1570	1406	801	4172	108	384	2523	262	2923	1138	687	857	443	284	2131	388	282	2117	2508
4409	1035	124	932	942	255	4297	783	481	2065	989	2443	848	258	914	1176	959	2027	1123	1028	1433	1946
3913	995	1365	585	863	1894	3709	1923	1838	902	2124	1151	825	1304	1400	2364	2081	924	2215	2192	0	579
4394	1202	609	1385	1300	304	4282	421	115	2422	575	2800	1044	594	956	754	577	2193	701	906	1845	2408
4007	633	434	912	735	581	3895	709	703	1858	913.7	2235	479	184	512	1154	871	1825	1004	981	1324	1843
3285	454	1433	872	598	1620	3184	1586	1755	935	1754	1290	860	1206	881	1878	1717	572	1828	1814	522	925
4217	1141	858	1585	1365	647	4096	0	427	2495	205	2813	1145	694	784	432	183	2051	353	288	1887	2400
4358	1290	1013	1753	1514	773	4234	182	551	2644	77	2983	1312	863	931	270	107	2194	215	121	2048	2549
4170	1308	1255	1832	1532	1035	4048	360	816	2908	276	2942	1397	1031	874	312	223	2141	181	243	2064	2567
4405	1261	775	1555	1441	520	4283	250	280	2590	377	2908	1149	699	978	571	375	2234	516	423	1974	2494
4285	934	213	978	942	220	4144	965	405	2091	854	2409	698	200	782	1056	836	1917	1002	909	1429	1967
4386	1059	315	1124	1077	124	4264	582	292	2238	759	2554	774	333	887	965	747	2043	911	811	1568	2064
4366	1324	1068	1807	1548	827	4245	218	605	2878	0	2998	1366	916	942	209	107	2205	166	86	2080	2582
4123	616	811	141	302	1057	4001	1473	1283	1358	1658	1965	320	803	971	1887	1641	1278	1792	1725	619	1133
3372	1059	1627	858	1935	3249	3249	2165	2099	558	2333	871	1092	1573	1509	2585	2296	832	2421	2393	287	311
4369	1112	388	1193	1145	172	4247	510	191	2309	688	2627	842	399	881	894	675	2096	840	739	1634	2163
3937	648	522	1042	855	586	3772	570	651	2000	738	2318	619	248	437	967	707	1622	845	801	1388	1904
3547	131	893	782	451	1080	3425	1027	1198	1491	1195	1809	496	880	351	1427	1158	1091	1283	1255	902	1396
4371	1222	733	1493	1402	480	4249	216	259	2551	358	2869	1094	643	934	553	355	2195	497	404	1932	2455
3553	0	955	783	397	890	3636	889	1011	1607	1057	1925	424	469	334	1289	1019	1302	1144	1117	1002	1512
1778	1777	2754	2159	1834	2922	1658	2705	3014	1134	2833	868	2223	2540	1936	3037	2786	870	2889	2883	1696	1357
3376	801	1050	1235	824	1153	3255	872	1184	1829	1004	2143	914	788	197	1208	956	1333	1054	1054	1370	1868
4265	1189	845	1585	1412	607	4144	94	388	2543	231	2861	1143	694	831	426	228	2099	371	277	1945	2447
4254	922	218	983	930	229	4132	664	409	2079	853	2397	627	189	751	1055	835	1906	1001	908	1419	1947
4288	1191	899	1809	1414	630	4148	96	411	2545	208	2863	1168	719	839	403	205	2101	348	254	1947	2449
4380	1324	1055	1793	1547	814	4259	216	592	2878	72	2996	1352	903	956	253	117	2219	198	105	2080	2582
4418	1274	789	1558	1454	513	4296	282	272	2803	361	2821	1162	712	989	555	385	2247	500	406	1987	2507
4286	1189	641	1581	1412	604	4144	94	385	2543	235	2861	1140	691	832	430	232	2099	375	281	1945	2447
4208	728	506	374	484	782	4028	1214	1016	1829	1399	1947	192	556	885	1628	1382	1538	1558	1465	918	1446
3504	0	983	731	399	1158	3437	353	4198	4505	2916	4324	2648	3974	4118	3503	4465	4276	2593	4337	4374	3410
4378	983	0	830	908	281	4251	881	588	2059	1070	2377	589	281	878	1272	1053	1967	1217	1124	1349	1878
3873	731	830	0	403	1099	4115	1597	1375	1347	1782	1640	423	905	1085	2011	1765	1328	1909	1848	623	1108
3784	389	908	403	0	1151	3723	1334	1330	1198	1502	1516	323	748	769	1734	1485	1107	1589	1562	571	1103
4495	1158	281	1099	1151	0	4372	681	296	2328	835	2646	840	429	982	1034	832	2146	979	881	1858	2186
353	3437	4251	4115	3723	4372	0	4074	4383	2794	4203	2526	3852	3997	3381	4344	4155	2471	4216	4253	3289	3017
4196	1125	881	1587	1334	881	4074	0	473	2479	188	2797	1155	705	766	417	171	2029	336	251	1881	2384
4505	1294	568	1375	1330	298	4383	473	0	2492	615	2810	1030	588	1068	810	612	2270	755	661	1822	2350
2916	1371	2059	1347	1198	2328	2794	2479	2492	0	2648	375	1486	1913	1732	2827	2576	544	2879	2674	757	302
4324	1293	1070	1782	1502	835	4203	188	615	2648	0	2960	1340	891	896	230	61	2159	154	85	2050	2553
2648	1689	2377	1840	1516	2648	2528	2797	2810	375	2960	0	1803	2230	2067	3163	2912	816	3015	3010	1070	582
3974	548	589	423	323	840	3852	1155	1030	1486	1340	1803	0	486	720	1569	1323	1395	1474	1407	815	1343
4118	789	281	905	748	429	3997	705	588	1913	891	2230	486	0	612	1120	874	1758	1049	957	1296	1817
3503	482	878	1085	789	982	3381	786	1068	1732	896	2067	720	812	0	1099	847	1267	951	945	1232	1730
4485	1525	1272	2011	1734	1034	4344	417	810	2827	230	3163	1569	1120	1099	0	286	2364	156	181	2279	2782
4276	1256	1053	1785	1485	832	4155	171	612	2576	81	2912	1323	874	847	266	0	2110	186	95	2011	2514
2593	892	1967	1328	1107	2146	2471	2029	2270	544	2159	816	1395	1758	1267	2384	2110	0	2214	2209	865	888
4337	1380	1217	1909	1589	979	4216	336	755	2879	154	3015	1474	1049	951	158	166	2214	0	104	2139	2641
4374	1353	1124	1848	1582	881	4253	251	661	2674	65	3010	1407	957	945	181	95	2209	104	0	2110	2813
3410	782	1349	823	571	1658	3289	1881	1822	757	2050	1070	815	1296	1232	2279	2011	885	2139	2110	0	538
3139	1276	1878	1108	1103	2186	3017	2384	2350	302	2553	582	1343	1817	1730	2782	2514	688	2641	2613	538	0

MEMORANDUM FOR RECORD

SUBJECT: COBRA Data Certification

1. FACTOR: Standard Factor #54 – Unit Cost Adjustment (UCA) Army
2. DESCRIPTION: The UCA is the Service specific factor derived through regression analysis used to calculate the change in the Non-Payroll BOS costs based on changes in installation population.
3. CERTIFIED VALUE: 10335
4. DATA SOURCE:
 - a. Data Call #2 – Total Installation Non-Payroll BOS Costs.
 - b. Army Stationing and Installation Plan (ASIP)
5. METHODOLOGY: Using installation population from the ASIP as the independent variable and Non-Payroll BOS Costs as the dependent variable we developed an equation using linear regression. Then based on the COBRA BOS algorithm approved by the COBRA JPAT, we determined the UCA by dividing the regression equations y-intercept value by the slope.
6. I certify that the information supplied is accurate and complete to the best of my knowledge and belief.


DAVID A. SMITH
MAJ, AR
ORSA Analyst

BOS Non-Payroll	Total 2005 Officers	Total 2005 Enlisted	Total 2005 Civilians	Total 2005 Students	Total 2005
28753.42	16	239	3,288	0	3,543
52009.54	310	633	11,456	934	13,333
34814.22	1,156	2,088	2,133	2,708	8,085
40464.02	256	2,624	921	36	3,837
32596.29	590	4,361	1,115	0	6,066
41598.07	659	3,790	2,865	2,720	10,034
13402.69	16	142	917	0	1,075
20736.03	22	291	1,111	1	1,425
17938.30	22	291	1,111	1	1,425
53551.47	1,405	9,359	1,085	0	11,849
1208.53	0	0	4	0	4
11922.32	3	0	519	0	522
57216.21	1,658	12,722	1,884	34	16,298
5483.03	6	161	244	0	411
6262.15	1,468	1,850	2,998	234	6,550
10507.24	447	1,521	765	0	2,733
21333.17	1,451	1,308	1,881	0	4,640
88168.13	1,407	10,788	3,189	15,475	30,859
96071.84	1,282	6,637	2,010	5,619	15,548
92139.80	2,027	17,134	2,533	262	21,956
101345.46	1,633	14,395	1,907	108	18,043
26791.55	940	2,614	1,506	0	5,060
8239.26	626	647	1,701	28	3,002
35159.91	138	171	5,300	0	5,609
15729.85	5	79	419	0	503
7160.96	7	203	81	0	291
8058.33	2	0	29	0	31
2454.27	0	0	8	0	8
24800.98	1,299	1,780	1,402	1,741	6,222
43883.55	1,073	9,166	2,299	10	12,548
10175.61	14	252	643	0	909
70901.33	3,002	20,781	3,059	161	27,003
50052.79	1,181	6,423	2,995	8,119	18,718
1943.47	7	236	3	0	246
66973.78	1,917	14,530	1,561	267	18,275
139029.87	606	2,298	6,854	2,831	12,589
19615.39	47	70	955	0	1,072
39416.73	310	1,156	2,596	5	4,067
28137.13	1,773	8,358	18,371	821	29,323
7353.85	26	102	1,251	0	1,379
46353.61	97	29	3,430	0	3,556
8126.68	68	184	174	0	426
11471.99	1	0	28	0	29
53554.98	838	6,437	1,960	18,120	27,355
49890.22	894	3,617	1,760	217	6,488
93444.08	177	242	4,649	203	5,271
38273.93	138	291	2,999	0	3,428
38202.98	116	453	2,407	0	2,976
40240.54	1,294	10,554	1,826	86	13,760
9806.60	195	819	377	0	1,391

10741.54	18	53	859	0	930
87792.39	746	737	2,446	4,825	8,754
87633.39	5,756	35,519	5,146	3,249	49,670
6237.97	11	171	233	0	415
16731.43	4	0	41	0	45
23743.66	3	33	1,308	34	1,378
83597.34	1,407	9,750	2,329	7,975	21,461
9472.03	168	201	517	508	1,394
22331.89	2	0	1,406	0	1,408
2140.46	123	439	135	0	697
0.00	0	0	11	0	11
30277.86	13	80	3,093	29	3,215
42885.35	1,060	4,530	1,913	18,228	25,731
14449.36	2	0	22	0	24
8340.02	2	0	23	0	25
34655.93	1,677	9,001	2,970	2,153	15,801
37454.08	5	0	2,915	0	2,920
69240.75	4,657	35,823	3,982	493	44,955
41420.76	2,614	7,103	4,445	6,143	20,305
5833.96	2	0	18	0	20
26480.59	6	57	2,491	0	2,554
15709.41	18	214	599	0	831
17873.63	40	556	526	0	1,122
11641.05	2,086	2,942	11,151	393	16,572
52543.60	1,167	7,088	2,569	2,937	13,761
8763.81	64	423	370	0	857
39388.29	657	2,602	2,105	5,682	11,046
12806.95	696	677	1,948	20	3,341
20480.29	207	2,927	637	0	3,771
1357.44	6	0	102	0	108
23743.66	3,214	19,451	3,377	279	26,321
23743.66	227	997	1,018	541	2,783
24365.27	370	1,857	1,248	34	3,509

SUMMARY OUTPUT

<i>Regression Statistics</i>	
Multiple R	0.648861
R Square	0.421021
Adjusted R	0.413873
Standard E	21892.33
Observatio	83

ANOVA

	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>ignificance F</i>
Regressor	1	2.82E+10	2.82E+10	58.90148	3.27E-11
Residual	81	3.88E+10	4.79E+08		
Total	82	6.71E+10			

	<i>Coefficient</i>	<i>standard Err</i>	<i>t Stat</i>	<i>P-value</i>	<i>Lower 95%</i>	<i>Upper 95%</i>	<i>ower 95.0%</i>	<i>pper 95.0%</i>
Intercept	18445.95	3058.849	6.030355	4.65E-08	12359.79	24532.1	12359.79	24532.1
X Variable	1.784781	0.232553	7.67473	3.27E-11	1.322073	2.247489	1.322073	2.247489

UCA 10335.13

MEMORANDUM FOR RECORD

SUBJECT: COBRA Data Certification

1. FACTORS: Installation Static Factor #8 – Starting Facilities (non-FH)
2. DESCRIPTION: For each installation, the total thousands of square feet of facilities, except for family housing, existing on the base at the beginning of the scenario.
3. CERTIFIED VALUE: See Static Data Table
4. DATA SOURCE: RPLANS.
 - a. DATE LAST UPDATED: September 2003
 - b. DATE OF NEXT UPDATE: N/A
5. METHODOLOGY: Using RPLANS, we ran a report that returns the total square footage of all FACs with a unit of measure of square feet at each installation.
6. I certify that the information supplied is accurate and complete to the best of my knowledge and belief.


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Base Code	Base Name	State	Starting Fac(KSF)
01035	ANNISTON	AL	8948
01750	REDSTONE	AL	11688
01767	RUCKER	AL	9415
02347	GREELY	AK	1516
02736	RICHARDSON	AK	8476
02955	WAINWRIGHT	AK	8531
04289	HUACHUCA	AZ	9397
04991	YUMA	AZ	2046
05698	PINE BLUFF	AR	3557
06305	POM	CA	5528
06419	IRWIN	CA	8918
06742	RIVERBANK AAP	CA	707
06821	SIERRA	CA	5364
08135	CARSON	CO	20840
08728	PUEBLO DEPOT	CO	6012
11564	MCNAIR	DC	1999
11933	WALTER REED	DC	8731
13048	GILLEM	GA	6160
13049	MCPHERSON	GA	4425
13077	BENNING	GA	24223
13355	GORDON	GA	14831
13834	STEWART	GA	19948
15776	SCHOFIELD	HI	23584
15788	SHAFTER	HI	7700
15884	TRIPLER AMC	HI	1275
17755	ROCK ISLAND	IL	6750
18174	CRANE AAP	IN	7199
18611	NEWPORT DEPOT	IN	881
19422	IOWA AAP	IA	4054
20450	KANSAS AAP	KS	1995
20491	LEAVENWORTH	KS	9779
20736	RILEY	KS	17823
21081	BLUE GRASS	KY	3799
21128	CAMPBELL	KY	33867
21478	KNOX	KY	17773
22543	LOUISIANA AAP	LA	2532
22722	POLK	LA	16697
24004	ABERDEEN	MD	14280
24011	ADELPHI	MD	1170
24226	DETRICK	MD	3044
24571	MEADE	MD	13637
25526	SOLDIER SYSTEMS CENTER	MA	924
25860	MISSISSIPPI AAP	MS	1617
26221	DETROIT/SELFRIDGE	MI	1724
26832	SELFRIDGE	MI	1764
29494	LAKE CITY AAP	MO	3063
29796	ARPERCEN ST LOUIS	MO	0
29977	LEONARD WOOD	MO	14756
34201	DIX	NJ	5617
34558	MONMOUTH	NJ	4995

34693 PICATINNY	NJ	3788
35970 WHITE SANDS	NM	5313
36216 DRUM	NY	16378
36352 HAMILTON	NY	1597
36939 WATERVLIET ARSENAL	NY	2091
36953 WEST POINT	NY	8849
37099 BRAGG	NC	57183
37841 SUNNY POINT	NC	256
39462 LIMA TANK PLANT	OH	1611
40549 MCALESTER	OK	9677
40801 SILL	OK	21722
41899 UMATILLA DEPOT	OR	3583
42116 CARLISLE	PA	2019
42461 LETTERKENNY	PA	5754
42624 KELLY SPT CTR	PA	572
42783 SCRANTON AAP	PA	378
42877 TOBYHANNA	PA	4518
45404 JACKSON	SC	12687
47408 HOLSTON AAP	TN	1913
47579 MILAN AAP	TN	3548
48083 BLISS	TX	22140
48186 CORPUS CHRISTI AD	TX	2290
48396 HOOD	TX	55322
48399 SAM HOUSTON	TX	16209
48513 LONE STAR AAP	TX	3494
48733 RED RIVER	TX	7475
49173 DESERET DEPOT	UT	1317
49191 DUGWAY	UT	2243
49878 TOOELE	UT	9415
51062 BELVOIR	VA	12025
51281 EUSTIS	VA	12508
51389 AP HILL	VA	1055
51484 LEE	VA	8555
51585 MONROE	VA	2560
51602 MYER	VA	3439
51724 RADFORD AAP	VA	3346
53456 LEWIS	WA	33734
55533 MCCOY	WI	6230
1267M PEO STRICOM	FL	0
3235L HAWTHORNE DEPOT	NV	9578
3721K ARL - NC	NC	0
5101K HOFFMAN LEASE	VA	0
5101M ATEC LEASE	VA	0
5102N CRYSTAL CITY LEASE	VA	0
510L1 ROSSLYN LEASE	VA	0
510L2 BALSTON LEASE	VA	0
510L3 JAG AGENCY	VA	0
5115L JAG SCHOOL	VA	0
5128L BAILEY'S CROSSROADS	VA	0
RQ137 BUCHANAN	PR	2238

MEMORANDUM FOR RECORD

SUBJECT: COBRA Data Certification

1. FACTORS: Installation Static Factor #17 – Sustainment Payroll Budget
2. DESCRIPTION: This is the portion of the total sustainment requirement for the base that goes toward payroll.
3. CERTIFIED VALUE: See Static Data Table
4. DATA SOURCE: Data Call #2.
 - a. DATE LAST UPDATED: N/A
 - b. DATE OF NEXT UPDATE: N/A
5. METHODOLOGY: Data Call Question #810 asked the number of personnel involved in sustainment by officer, enlisted, and civilian. We took these numbers and multiplied them by the respective average salaries to find the sustainment payroll budget for each installation.
6. I certify that the information supplied is accurate and complete to the best of my knowledge and belief.


DAVID A. SMITH
MAJ, AR
ORSA Analyst

Base Code	Base Name	Sustainment			
		Payroll	Civilian	Enlisted	Officer
01035	ANNISTON	4663.98	58	0	0
01750	REDSTONE	2171.16	27	0	0
01767	RUCKER	0.00	0	0	0
02347	GREELY	3584.73	42	1	1
02736	RICHARDSON	7341.45	79	12	0
02955	WAINWRIGHT	8457.31	98	7	0
04289	HUACHUCA	0.00	0	0	0
04991	YUMA	1206.20	15	0	0
05698	PINE BLUFF	2010.33	25	0	0
06305	POM	321.65	4	0	0
06419	IRWIN	0.00	0	0	0
06742	RIVERBANK	48.25	0.6	0	0
06821	SIERRA	1125.79	14	0	0
08135	CARSON	0.00	0	0	0
08728	PUEBLO DEP	482.48	6	0	0
11564	MCNAIR	2171.16	27	0	0
11933	WALTER REE	7558.86	94	0	0
13048	GILLEM	3019.85	36	0	1
13049	MCPHERSON	3019.85	36	0	1
13077	BENNING	9569.19	119	0	0
13355	GORDON	0.00	0	0	0
13834	STEWART	727.69	7	2	0
15776	SCHOFIELD	13429.04	167	0	0
15788	SHAFTER	4020.67	50	0	0
15884	TRIPLER AMC	2251.57	28	0	0
17755	ROCK ISLANI	0.00	0	0	0
18174	CRANE AAP	0.00	0	0	0
18611	NEWPORT D	0.00	0	0	0
19422	IOWA AAP	0.00	0	0	0
20450	KANSAS AAP	0.00	0	0	0
20491	LEAVENWOR	4663.98	58	0	0
20736	RILEY	8123.74	100	1	0
21081	BLUE GRASS	321.65	4	0	0
21128	CAMPBELL	11909.89	145	0	2
21478	KNOX	0.00	0	0	0
22543	LOUISIANA A	0.00	0	0	0
22722	POLK	0.00	0	0	0
24004	ABERDEEN	16886.81	210	0	0
24011	ADELPHI	1849.51	23	0	0
24226	DETRICK	3779.43	47	0	0
24571	MEADE	8809.62	108	0	1
25526	SOLDIER SYC	884.55	11	0	0
25860	MISSISSIPPI	0.00	0	0	0
26221	DETROIT/SEI	13348.62	166	0	0
26832	SELFRIDGE	80.41	1	0	0
29494	LAKE CITY A	0.00	0	0	0
29977	LEONARD W	0.00	0	0	0
34201	DIX	1367.03	17	0	0
34558	MONMOUTH	0.00	0	0	0
34693	PICATINNY	1439.40	17.9	0	0

35970	WHITE SAND	4181.50	52	0	0
36216	DRUM	8121.75	101	0	0
36352	HAMILTON	0.00	0	0	0
36939	WATERVLIE	1849.51	23	0	0
36953	WEST POINT	21148.72	263	0	0
37099	BRAGG	9810.43	122	0	0
37841	SUNNY POIN	160.83	2	0	0
39462	LIMA TANK P	0.00	0	0	0
40549	MCALESTER	0.00	122	0	0
40801	SILL	0.00	0	0	0
41899	UMATILLA DE	1367.03	17	0	0
42116	CARLISLE	0.00	0	0	0
42461	LETTERKEN	3779.43	47	0	0
42624	KELLY SPT C	804.13	10	0	0
42783	SCRANTON /	0.00	0	0	0
42877	TOBYHANNA	4744.39	59	0	0
45404	JACKSON	4583.56	57	0	0
47408	HOLSTON AA	0.00	0	0	0
47579	MILAN AAP	0.00	0	0	0
48083	BLISS	0.00	0	0	0
48186	CORPUS CHI	1527.85	19	0	0
48396	HOOD	162.81	1	1	0
48399	SAM HOUSTC	13429.04	167	0	0
48513	LONE STAR /	0.00	0	0	0
48733	RED RIVER	5146.46	64	0	0
49173	DESERET DE	0.00	0	0	0
49191	DUGWAY	321.65	4	0	0
49878	TOOELE	1286.61	16	0	0
51062	BELVOIR	0.00	0	0	0
51281	EUSTIS	0.00	0	0	0
51389	AP HILL	1286.61	16	0	0
51484	LEE	3377.36	42	0	0
51585	MONROE	2376.55	28	0	1
51602	MYER	6433.07	80	0	0
51724	RADFORD A/	0.00	0	0	0
53456	LEWIS	11177.46	139	0	0
55533	MCCOY	0.00	0	0	0
3235L	HAWTHORNE	0.00	0	0	0
RQ137	BUCHANAN	0.00	55	0	0