

FAC 2221 Missile Production Plant

RUC: \$134.76 SF

Source: Marshall and Swift
Heavy Manufacturing, Section 15 Page 15
Class C (Good)
Added: 3 X 25T Bridge crane, craneways, dry sprinkler system
In V12, Tri-Service and USACE PAX Newsletter values were updated while all
other values were inflated only.

SUC: \$2.28 SF

Source: Cost Works model in \$FY-08, inflated to \$FY-09 using Green Book Table 5-6
(O&M less DHP)
In V12, values were inflated only.

Model follows:

Chart: A chart showing relative annual sustainment requirements follows:

FAC 2221 Missile Production Plant
CostWorks 2008 Quarter 2

	Design Life= 55 Average S.F= 16,320	C.S.F.=100 S.F; MSF=1000 S.F Sq=100 S.F; M.L.F=1000 L.F	This spreadsheet was exported from R.S. Means CostWorks		Terminal Cutoff is the removal of a single task occurrence if that task occurs within 10% of the end of the design life and if the frequency of the task exceeds 20% of the design life. This prevents scheduling major work near the end of the design life.					
Description	Frequency	Crew	Qty	Unit	Total In-House	Total Incl. O&P	Release	Occurrences In Design Life	Adjusted Occurrences	Terminal Cutoff
Repair brick wall - 1st floor	25	1 Bric	750.400	S.F.	27,764.80	33,737.98	2008 Qtr 2	2	1	\$ 33,737.98
Replace glass - 1st floor (1% of glass)	1	1 Carp	5.100	S.F.	46.16	54.16	2008 Qtr 2	55	55	\$ 2,978.91
Repair 2'-0" x 3'-0" aluminum window - 1st floor	20	1 Carp	86.000	Ea.	9,886.56	11,713.20	2008 Qtr 2	2	2	\$ 23,426.40
Replace 2'-0" x 3'-0" aluminum window - 1st floor	50	1 Carp	86.000	Ea.	37,719.60	44,117.14	2008 Qtr 2	1	0	\$ -
Replace glass - 2nd floor (1% of glass)	1	1 Carp	23.800	S.F.	1,194.52	1,457.51	2008 Qtr 2	55	55	\$ 80,163.16
Repair 3'-9" x 5'-5" steel frame window - 2nd flr.	20	1 Carp	11.800	Ea.	3,560.77	4,194.07	2008 Qtr 2	2	2	\$ 8,388.15
Refinish 3'-9" x 5'-5" steel frame window - 2nd flr.	12	1 Pord	11.800	Ea.	1,468.27	1,809.29	2008 Qtr 2	4	4	\$ 7,237.18
Replace 3'-9" x 5'-5" steel frame window - 2nd flr.	45	1 Carp	118.000	Ea.	187,119.68	215,669.78	2008 Qtr 2	1	1	\$ 215,669.78
Finish new 3'-9" x 5'-5" st. fr. window - 2nd flr.	45	1 Pord	118.000	Ea.	13,640.80	16,797.30	2008 Qtr 2	1	1	\$ 16,797.30
Repair 12' x 12' steel roll-up door	10	1 Carp	2.000	Ea.	1,665.22	1,929.08	2008 Qtr 2	5	5	\$ 9,645.40
Refinish 12' x 12' steel roll-up door	12	1 Pord	2.000	Ea.	1,468.27	411.08	2008 Qtr 2	4	4	\$ 1,644.32
Replace 12' x 12' steel roll-up door	35	2 Carp	2.000	Ea.	6,650.54	7,699.10	2008 Qtr 2	1	1	\$ 7,699.10
Repair steel, painted, door	14	1 Carp	4.000	Ea.	2,329.76	2,745.44	2008 Qtr 2	3	3	\$ 8,236.32
Refinish 3'-0" x 7'-0" steel, painted, door	12	1 Pord	4.000	Ea.	131.64	161.24	2008 Qtr 2	4	4	\$ 644.96
Replace 3'-0" x 7'-0" steel, painted, door	45	1 Carp	4.000	Ea.	2,128.32	2,480.16	2008 Qtr 2	1	1	\$ 2,480.16
Debris removal and visual inspection built-up roofing	1	2 Rofc	16.300	M.S.F.	478.24	576.21	2008 Qtr 2	55	55	\$ 31,691.28
Non-destructive moisture inspection built-up roofing	5	2 Rofc	16.300	M.S.F.	1,479.71	1,789.74	2008 Qtr 2	11	11	\$ 19,687.14
Minor membrane repairs - (2% of roof area) built-up roofing	15	G5	3.200	Sq.	1,102.46	1,302.53	2008 Qtr 2	3	3	\$ 3,907.58
Flashing repairs - (2 S.F. per sq. repaired) built-up roofing	5	2 Rofc	6.500	S.F.	21.84	26.00	2008 Qtr 2	11	11	\$ 286.00
Minor membrane replacement - (25% of roof area) built-up roofing	20	G5	40.800	Sq.	24,252.74	28,930.46	2008 Qtr 2	2	2	\$ 57,860.93
Total roof replacement built-up roofing	28	G1	163.200	Sq.	93,151.30	110,315.04	2008 Qtr 2	1	1	\$ 110,315.04
Repair steel painted interior door	14	1 Carp	4.000	Ea.	671.00	792.56	2008 Qtr 2	3	3	\$ 2,377.68
Refinish 3'-0" x 7'-0" steel painted interior door	12	1 Pord	4.000	Ea.	197.60	243.28	2008 Qtr 2	4	4	\$ 973.12
Replace 3'-0" x 7'-0" steel painted interior door	60	1 Carp	4.000	Ea.	3,750.16	4,359.84	2008 Qtr 2	0	0	\$ -
Repair solid core wood door interior	11	1 Carp	7.000	Ea.	1,174.25	1,386.98	2008 Qtr 2	5	5	\$ 6,934.90
Refinish 3'-0" x 7'-0" solid core wood door interior	12	1 Pord	7.000	Ea.	295.54	363.86	2008 Qtr 2	4	4	\$ 1,455.44
Replace 3'-0" x 7'-0" solid core wood door interior	40	1 Carp	7.000	Ea.	2,566.90	2,975.84	2008 Qtr 2	1	1	\$ 2,975.84
Repair 8" concrete block wall - (2% of walls) painted	25	1 Bric	1.500	C.S.F.	1,516.82	1,821.03	2008 Qtr 2	2	1	\$ 1,821.03
Refinish concrete block wall painted	12	1 Pord	7.500	C.S.F.	728.78	885.98	2008 Qtr 2	4	4	\$ 3,543.90
Replace 8" concrete block wall painted	75	2 Bric	75.800	C.S.F.	81,698.00	98,251.20	2008 Qtr 2	0	0	\$ -
Repair 5/8" drywall - (2% of walls)	20	1 Carp	39.300	S.F.	62.49	75.06	2008 Qtr 2	2	2	\$ 150.13
Replace 5/8" drywall	75	2 Carp	1,965.000	S.F.	4,381.95	5,285.85	2008 Qtr 2	0	0	\$ -
Replace carpet	12	2 Tilf	161.200	S.Y.	7,274.96	8,404.97	2008 Qtr 2	4	4	\$ 33,619.87
Refinish concrete floor finished	25	2 Cefi	142.300	C.S.F.	49,725.31	59,864.19	2008 Qtr 2	2	1	\$ 59,864.19
Replace vinyl floor	18	1 Tilf	70.500	S.Y.	3,366.38	4,110.15	2008 Qtr 2	3	2	\$ 8,220.30
Acoustic tile repairs - (2% of ceilings)	9	1 Carp	0.400	C.S.F.	178.67	212.67	2008 Qtr 2	6	6	\$ 1,276.01
Replace acoustic tile ceiling, fire-rated	20	1 Carp	20.800	C.S.F.	8,385.52	9,963.20	2008 Qtr 2	2	2	\$ 19,926.40
Repair sheetrock ceiling - (2% of ceilings)	20	1 Carp	0.200	C.S.F.	69.85	85.25	2008 Qtr 2	2	2	\$ 170.51
Replace sheetrock ceiling	40	2 Carp	10.800	C.S.F.	3,869.96	4,725.11	2008 Qtr 2	1	1	\$ 4,725.11

FAC 2221 Missile Production Plant
CostWorks 2008 Quarter 2

Design Life= 55
Average S.F= 16,320

C.S.F=100 S.F; MSF=1000 S.F
Sq=100 S.F; M.L.F=1000 L.F

This spreadsheet was exported
from R.S. Means CostWorks

Terminal Cutoff is the removal of a single task occurrence if that task occurs within 10% of the end of the design life and if the frequency of the task exceeds 20% of the design life. This prevents scheduling major work near the end of the design life.

Description	Frequency	Crew	Qty	Unit	Total In-House	Total Incl. O&P	Release	Occurrences In Design Life	Adjusted Occurences	Terminal Cutoff
Check / minor repairs drinking fountain	1	1 Plum	4.000	Ea.	150.32	189.36	2008 Qtr 2	55	55	\$ 10,414.80
Repair internal leaks drinking fountain	4	1 Plum	4.000	Ea.	140.56	173.72	2008 Qtr 2	13	13	\$ 2,258.36
Correct water pressure drinking fountain	2	1 Plum	4.000	Ea.	128.84	162.00	2008 Qtr 2	27	27	\$ 4,374.00
Replace refrigerant drinking fountain	2	1 Plum	4.000	Ea.	63.36	75.44	2008 Qtr 2	27	27	\$ 2,036.88
Repair drain leak drinking fountain	4	1 Plum	4.000	Ea.	90.52	108.12	2008 Qtr 2	13	13	\$ 1,405.56
Replace fountain drinking fountain	10	2 Plum	4.000	Ea.	4,023.36	4,774.28	2008 Qtr 2	5	5	\$ 23,871.40
Inspect and clean spray heads, emergency eye wash	3	1 Plum	1.000	Ea.	37.80	47.44	2008 Qtr 2	18	18	\$ 853.92
Replace eye wash station, emergency eye wash	25	2 Plum	1.000	Ea.	573.92	695.88	2008 Qtr 2	2	1	\$ 695.88
Inspect and clean shower head emergency shower station	3	1 Plum	1.000	Ea.	37.80	47.44	2008 Qtr 2	18	18	\$ 853.92
Replace shower emergency shower station	25	2 Plum	1.000	Ea.	726.39	873.58	2008 Qtr 2	2	1	\$ 873.58
Replace washer in spud connection lavatory, vitreous china	7	1 Plum	10.000	Ea.	240.10	283.30	2008 Qtr 2	7	7	\$ 1,983.10
Replace washer in faucet lavatory, vitreous china	2	1 Plum	10.000	Ea.	98.50	122.90	2008 Qtr 2	27	27	\$ 3,318.30
Replace faucets lavatory, vitreous china	10	1 Plum	10.000	Ea.	1,234.90	1,490.60	2008 Qtr 2	5	5	\$ 7,453.00
Clean out strainer and P trap lavatory, vitreous china	2	1 Plum	10.000	Ea.	270.40	335.70	2008 Qtr 2	27	27	\$ 9,063.90
Replace lavatory, vitreous china	35	2 Plum	10.000	Ea.	5,301.90	6,357.00	2008 Qtr 2	1	1	\$ 6,357.00
Replace faucet washer sink, iron enamel	2	1 Plum	2.000	Ea.	19.58	24.38	2008 Qtr 2	27	27	\$ 658.26
Clean trap sink, iron enamel	3	1 Plum	2.000	Ea.	13.20	16.50	2008 Qtr 2	18	18	\$ 297.00
Replace faucets sink, iron enamel	10	1 Plum	2.000	Ea.	246.98	298.12	2008 Qtr 2	5	5	\$ 1,490.60
Unstop sink sink, iron enamel	2	1 Plum	2.000	Ea.	64.42	81.00	2008 Qtr 2	27	27	\$ 2,187.00
Replace sink, P.E.C.I. sink, iron enamel	35	2 Plum	2.000	Ea.	1,105.44	1,315.38	2008 Qtr 2	1	1	\$ 1,315.38
Replace flush valve diaphragm tankless water closet	10	1 Plum	10.000	Ea.	707.40	830.60	2008 Qtr 2	5	5	\$ 4,153.00
Rebuild flush valve tankless water closet	20	1 Plum	10.000	Ea.	1,319.80	1,600.10	2008 Qtr 2	2	2	\$ 3,200.20
Unplug clogged line tankless water closet	5	1 Plum	10.000	Ea.	1,682.60	2,101.80	2008 Qtr 2	11	11	\$ 23,119.80
Replace tankless water closet	35	2 Plum	10.000	Ea.	5,480.00	6,483.60	2008 Qtr 2	1	1	\$ 6,483.60
Replace tankless flush valve	25	1 Plum	10.000	Ea.	2,095.00	2,453.70	2008 Qtr 2	2	1	\$ 2,453.70
Replace wax ring gasket tankless water closet	5	1 Plum	10.000	Ea.	1,095.70	1,372.00	2008 Qtr 2	11	11	\$ 15,092.00
Replace flush valve diaphragm urinal	7	1 Plum	4.000	Ea.	282.96	332.24	2008 Qtr 2	7	7	\$ 2,325.68
Rebuild flush valve urinal	20	1 Plum	4.000	Ea.	527.92	640.04	2008 Qtr 2	2	2	\$ 1,280.08
Unplug line urinal	5	1 Plum	4.000	Ea.	448.56	559.64	2008 Qtr 2	11	11	\$ 6,156.04
Replace wall-hung urinal	35	2 Plum	4.000	Ea.	3,366.52	4,026.28	2008 Qtr 2	1	1	\$ 4,026.28
Repair circulator pump, 1/12 - 3/4 H.P.	5	1 Stpi	1.000	Ea.	70.99	84.25	2008 Qtr 2	11	11	\$ 926.75
Replace circulator pump, 1/12 - 3/4 H.P.	15	Q1	1.000	Ea.	2,484.44	2,870.47	2008 Qtr 2	3	3	\$ 8,611.41
Repair damaged pipe insulation, fiberglass 3/4"	5	Q14	4.000	Ea.	62.88	76.72	2008 Qtr 2	11	11	\$ 843.92
Repair damaged pipe insulation, fiberglass 2"	5	Q14	2.000	Ea.	36.92	45.06	2008 Qtr 2	11	11	\$ 495.66
Replace pipe insulation, fiberglass 3/4"	5	Q14	0.030	M.L.F.	188.67	229.84	2008 Qtr 2	11	11	\$ 2,528.23
Replace pipe insulation, fiberglass 2"	5	Q14	0.010	M.L.F.	74.26	90.69	2008 Qtr 2	11	11	\$ 997.60
Replace pipe and fittings, copper 3/4"	20	2 Plum	32.000	L.F.	567.04	687.36	2008 Qtr 2	2	2	\$ 1,374.72
Replace pipe and fittings, copper 2"	25	2 Plum	16.000	L.F.	652.96	785.76	2008 Qtr 2	2	1	\$ 785.76

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CostWorks 2008 Quarter 2

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Average S.F= 16,320		Sq=100 S.F; M.L.F=1000 L.F		from R.S. Means CostWorks						
Description	Frequency	Crew	Qty	Unit	Total In-House	Total Incl. O&P	Release	Occurrences In Design Life	Adjusted Occurrences	Terminal Cutoff
Drain and flush water heater, electric, 120 gallon	7	1 Plum	1.000	Ea.	226.43	283.04	2008 Qtr 2	7	7	\$ 1,981.28
Check operation water heater, electric, 120 gallon	3	1 Plum	1.000	Ea.	1.98	2.48	2008 Qtr 2	18	18	\$ 44.64
Replace water heater, electric, 120 gallon	15	2 Plum	1.000	Ea.	9,192.45	10,543.79	2008 Qtr 2	3	3	\$ 31,631.37
Unclog floor drain, PVC	20	1 Plum	1.000	Ea.	37.09	45.87	2008 Qtr 2	2	2	\$ 91.74
Replace pipe, 4" pipe and fittings, PVC	30	2 Plum	400.000	L.F.	23,680.00	29,276.00	2008 Qtr 2	1	1	\$ 29,276.00
Repair joint pipe and fittings, PVC	10	1 Plum	2.000	Ea.	231.88	288.28	2008 Qtr 2	5	5	\$ 1,441.40
General maintenance & repair drain: roof, scupper, area	1	1 Plum	5.000	Ea.	141.75	178.35	2008 Qtr 2	55	55	\$ 9,809.25
Replace drain: roof, scupper, area	40	1 Plum	5.000	Ea.	1,991.70	2,340.70	2008 Qtr 2	1	1	\$ 2,340.70
Replace roof mounted exhaust fan, 8500 CFM exhaust fan	20	Q20	1.000	Ea.	2,619.48	3,050.64	2008 Qtr 2	2	2	\$ 6,101.28
Repair single zone rooftop unit, 60 ton	10	Q6	1.000	Ea.	39,670.17	46,952.35	2008 Qtr 2	5	5	\$ 234,761.75
Replace single zone rooftop unit, 60 ton	15	Q7	0.500	Ea.	35,405.00	41,446.30	2008 Qtr 2	3	3	\$ 124,338.90
Minor repairs to fire alarm control panel	5	1 Elec	1.000	Ea.	107.84	130.97	2008 Qtr 2	11	11	\$ 1,440.67
Maintenance and inspection fire alarm control panel	0.5	1 Elec	1.000	Ea.	30.54	38.17	2008 Qtr 2	110	110	\$ 4,198.70
Replace fire alarm control panel	15	1 Elec	1.000	Ea.	2,615.62	3,107.84	2008 Qtr 2	3	3	\$ 9,323.52
Inspect sprinkler system	1	1 Plum	1.000	Ea.	26.55	32.89	2008 Qtr 2	55	55	\$ 1,808.95
Replace sprinkler head	20	1 Plum	95.000	Ea.	6,049.60	7,453.70	2008 Qtr 2	2	2	\$ 14,907.40
Replace fire alarm bell, 6"	20	1 Elec	10.000	Ea.	1,422.80	1,715.10	2008 Qtr 2	2	2	\$ 3,430.20
Maintenance and inspection lighting panel, indoor	3	1 Elec	2.000	Ea.	57.00	71.26	2008 Qtr 2	18	18	\$ 1,282.68
Maintenance and repair safety switch, 3 pole safety switch, heavy duty	8	1 Elec	3.000	Ea.	85.50	106.89	2008 Qtr 2	6	6	\$ 641.34
Maintenance and inspection safety switch, 3 pole, heavy duty	1	1 Elec	3.000	Ea.	85.50	106.89	2008 Qtr 2	55	55	\$ 5,878.95
Replace safety switch, heavy duty	25	2 Elec	3.000	Ea.	1,741.44	2,042.13	2008 Qtr 2	2	1	\$ 2,042.13
Maintenance and repair motor starter, up to 600 V	5	1 Elec	1.000	Ea.	170.75	207.50	2008 Qtr 2	11	11	\$ 2,282.50
Maintenance and inspection motor starter, up to 600 V	0.5	1 Elec	1.000	Ea.	38.17	47.85	2008 Qtr 2	110	110	\$ 5,263.50
Replace starter motor starter, up to 600 V	18	1 Elec	1.000	Ea.	528.18	630.41	2008 Qtr 2	3	2	\$ 1,260.82
Replace fluor. ballast for fluorescent lighting fixture, 80 W	10	1 Elec	436.000	Ea.	43,416.88	52,354.88	2008 Qtr 2	5	5	\$ 261,774.40
Replace lamps (2 lamps) fluorescent lighting fixture, 80 W	10	1 Elec	436.000	Ea.	11,091.84	13,594.48	2008 Qtr 2	5	5	\$ 67,972.40
Maintenance and repair receptacles and plugs	20	1 Elec	145.000	Ea.	4,508.05	5,615.85	2008 Qtr 2	2	2	\$ 11,231.70
Replace receptacle/plug receptacles and plugs	20	1 Elec	145.000	Ea.	7,650.20	9,340.90	2008 Qtr 2	2	2	\$ 18,681.80
Maintenance and repair wiring devices, switches	10	1 Elec	36.000	Ea.	1,119.24	1,394.28	2008 Qtr 2	5	5	\$ 6,971.40
Replace switch wiring devices, switches	15	1 Elec	36.000	Ea.	1,843.56	2,244.60	2008 Qtr 2	3	3	\$ 6,733.80
Check and repair manual pull station	10	1 Elec	4.000	Ea.	276.84	339.48	2008 Qtr 2	5	5	\$ 1,697.40
Replace manual pull station	15	1 Elec	4.000	Ea.	502.96	607.56	2008 Qtr 2	3	3	\$ 1,822.68
Repair smoke detector	10	1 Elec	58.000	Ea.	2,215.02	2,726.00	2008 Qtr 2	5	5	\$ 13,630.00
Check operation smoke detector	1	1 Elec	58.000	Ea.	661.20	829.40	2008 Qtr 2	55	55	\$ 45,617.00
Replace smoke detector	15	1 Elec	58.000	Ea.	10,993.90	13,165.42	2008 Qtr 2	3	3	\$ 39,496.26
					\$831,857.09	\$986,778.08				
									MR Subtotal	\$ 1,928,356.28

FAC 2221 Missile Production Plant
CostWorks 2008 Quarter 2

Design Life= 55
Average S.F= 16,320

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Sq=100 S.F; M.L.F=1000 L.F

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Description	Frequency	Crew	Qty	Unit	Total In-House	Total Incl. O&P	Release	Occurrences In Design Life	Adjusted Occurrences	Terminal Cutoff
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MR Per Year	\$	35,061.02
PM Per Year	\$	3,501.36
Subtotal	\$	38,562.38
Total Per Unit	\$	2.36

CostWorks 2009 Quarter 1 - FAC 2221 Missile Production Plant

Qty	Assembly Number	Description	Total In-House	Total Incl. O&P	Zip Code Prefix	Type	Release
16.000	D3045 160 1950	VAV Boxes, annualized	980.96	1,216.00	200	FMR	2008 Qtr 2
1.000	E1095 122 3950	Crane, electric bridge, over 15 tons, annualized	409.54	502.00	200	FMR	2008 Qtr 2
2.000	B2035 400 1950	Door, overhead, manual, up to 24' high x 25' wide,	269.48	325.10	200	FMR	2008 Qtr 2
4.000	B2035 225 1950	Door, emergency egress, swinging, annualized	198.04	230.04	200	FMR	2008 Qtr 2
11.000	C1025 110 1950	Fire doors, swinging, annualized	273.79	328.46	200	FMR	2008 Qtr 2
4.000	D2015 800 1950	Drink fountain, annualized	198.00	237.44	200	FMR	2008 Qtr 2
10.000	D2015 100 4950	Lavatories, annualized	246.80	300.80	200	FMR	2008 Qtr 2
10.000	D2015 100 2950	Toilet (vacuum breaker type), annualized	129.30	161.50	200	FMR	2008 Qtr 2
4.000	D2015 100 1950	Urinals, annualized	51.72	64.60	200	FMR	2008 Qtr 2
2.000	D5015 260 1950	Panelboard, 225 A and above, annualized	113.92	135.42	200	FMR	2008 Qtr 2
			\$2,871.55	\$3,501.36			

FAC 2221 Sustainment by Year - Terminal Cutoff Applied

