

FAC 1331 Aircraft Navigation Building

RUC: \$284.23 SF

Source: USACE PAX Newsletter 3.2.2 of Feb 08
CatCode 14110
Deflated to FY-09 using Appendix C of Newsletter
In V12, Tri-Service and USACE PAX Newsletter values were updated while
all other values were inflated only.

SUC: \$7.15 SF

Source: Cost Works model, 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 1331-Aircraft Navigation Building
CostWorks 2008 Quarter 2

Design Life= 50
Average S.F= 572

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 8" concrete block wall - 1st floor | 25 | 1 Bric | 114.800 | S.F. | 2,302.89 | 2,801.12 | 2008 Qtr 2 | 2 | 1 | \$ 2,801.12 |
| Replace 8" concrete block wall - 1st floor | 60 | 2 Bric | 11.480 | C.S.F. | 11,421.11 | 13,748.10 | 2008 Qtr 2 | 0 | 0 | \$ - |
| Replace 8" concrete block wall - 2nd floor | 60 | 2 Bric | 10.640 | C.S.F. | 11,290.85 | 13,603.24 | 2008 Qtr 2 | 0 | 0 | \$ - |
| Repair 2'-0" x 3'-0" aluminum window - 1st floor | 20 | 1 Carp | 0.200 | Ea. | 22.99 | 27.24 | 2008 Qtr 2 | 2 | 2 | \$ 54.48 |
| Replace 2'-0" x 3'-0" aluminum window - 1st floor | 50 | 1 Carp | 2.000 | Ea. | 877.20 | 1,025.98 | 2008 Qtr 2 | 1 | 0 | \$ - |
| Replace glass - 1st floor (1% of glass) | 1 | 1 Carp | 0.120 | S.F. | 1.09 | 1.27 | 2008 Qtr 2 | 50 | 50 | \$ 63.72 |
| Repair 12' x 12' steel roll-up door | 10 | 1 Carp | 0.100 | Ea. | 83.26 | 96.45 | 2008 Qtr 2 | 5 | 5 | \$ 482.27 |
| Refinish 12' x 12' steel roll-up door | 5 | 1 Pord | 1.000 | Ea. | 168.83 | 205.54 | 2008 Qtr 2 | 10 | 10 | \$ 2,055.40 |
| Replace 12' x 12' steel roll-up door | 35 | 2 Carp | 1.000 | Ea. | 3,325.27 | 3,849.55 | 2008 Qtr 2 | 1 | 1 | \$ 3,849.55 |
| Repair steel, painted, door | 14 | 1 Carp | 0.100 | Ea. | 58.24 | 68.64 | 2008 Qtr 2 | 3 | 3 | \$ 205.91 |
| Refinish 3'-0" x 7'-0" steel, painted, door | 4 | 1 Pord | 1.000 | Ea. | 32.91 | 40.31 | 2008 Qtr 2 | 12 | 12 | \$ 483.72 |
| Replace 3'-0" x 7'-0" steel, painted, door | 45 | 1 Carp | 1.000 | Ea. | 532.08 | 620.04 | 2008 Qtr 2 | 1 | 1 | \$ 620.04 |
| Repair steel painted interior door | 14 | 1 Carp | 0.100 | Ea. | 16.78 | 19.81 | 2008 Qtr 2 | 3 | 3 | \$ 59.44 |
| Refinish 3'-0" x 7'-0" steel painted interior door | 4 | 1 Pord | 1.000 | Ea. | 49.40 | 60.82 | 2008 Qtr 2 | 12 | 12 | \$ 729.84 |
| Replace 3'-0" x 7'-0" steel painted interior door | 60 | 1 Carp | 1.000 | Ea. | 937.54 | 1,089.96 | 2008 Qtr 2 | 0 | 0 | \$ - |
| Repair solid core wood door interior | 11 | 1 Carp | 0.200 | Ea. | 33.55 | 39.63 | 2008 Qtr 2 | 4 | 4 | \$ 158.51 |
| Refinish 3'-0" x 7'-0" solid core wood door interior | 4 | 1 Pord | 2.000 | Ea. | 84.44 | 103.96 | 2008 Qtr 2 | 12 | 12 | \$ 1,247.52 |
| Replace 3'-0" x 7'-0" solid core wood door interior | 40 | 1 Carp | 2.000 | Ea. | 733.40 | 850.24 | 2008 Qtr 2 | 1 | 1 | \$ 850.24 |
| Debris removal and visual inspection built-up roofing | 1 | 2 Rofc | 0.572 | M.S.F. | 16.78 | 20.22 | 2008 Qtr 2 | 50 | 50 | \$ 1,011.01 |
| Non-destructive moisture inspection built-up roofing | 5 | 2 Rofc | 0.572 | M.S.F. | 51.93 | 62.81 | 2008 Qtr 2 | 10 | 10 | \$ 628.06 |
| Total roof replacement built-up roofing | 28 | G1 | 5.720 | Sq. | 3,264.86 | 3,866.43 | 2008 Qtr 2 | 1 | 1 | \$ 3,866.43 |
| Minor membrane repairs - (2% of roof area) built-up roofing | 5 | G5 | 0.114 | Sq. | 39.28 | 46.40 | 2008 Qtr 2 | 10 | 10 | \$ 464.03 |
| Flashing repairs - (2 S.F. per sq. repaired) built-up roofing | 5 | 2 Rofc | 0.228 | S.F. | 0.77 | 0.91 | 2008 Qtr 2 | 10 | 10 | \$ 9.12 |
| Minor membrane replacement - (25% of roof area) built-up roofing | 20 | G5 | 1.430 | Sq. | 850.03 | 1,013.98 | 2008 Qtr 2 | 2 | 2 | \$ 2,027.97 |
| Refinish drywall | 12 | 1 Pord | 541.000 | S.F. | 324.60 | 400.34 | 2008 Qtr 2 | 4 | 3 | \$ 1,201.02 |
| Replace 5/8" drywall | 75 | 2 Carp | 541.000 | S.F. | 1,206.43 | 1,455.29 | 2008 Qtr 2 | 0 | 0 | \$ - |
| Repair 5/8" drywall - (2% of walls) | 20 | 1 Carp | 10.820 | S.F. | 17.20 | 20.67 | 2008 Qtr 2 | 2 | 2 | \$ 41.33 |
| Refinish concrete floor finished | 25 | 2 Cefi | 5.050 | C.S.F. | 1,764.67 | 2,124.48 | 2008 Qtr 2 | 2 | 1 | \$ 2,124.48 |
| Replace vinyl floor | 18 | 1 Tilf | 0.023 | S.Y. | 1.10 | 1.34 | 2008 Qtr 2 | 2 | 2 | \$ 2.68 |
| Replace acoustic tile ceiling, fire-rated | 20 | 1 Carp | 0.460 | C.S.F. | 185.45 | 220.34 | 2008 Qtr 2 | 2 | 2 | \$ 440.68 |
| Refinish sheetrock ceiling | 20 | 1 Pord | 0.210 | C.S.F. | 26.39 | 32.61 | 2008 Qtr 2 | 2 | 2 | \$ 65.22 |
| Replace sheetrock ceiling | 40 | 2 Carp | 0.210 | C.S.F. | 75.25 | 91.88 | 2008 Qtr 2 | 1 | 1 | \$ 91.88 |
| Check / minor repairs drinking fountain | 1 | 1 Plum | 1.000 | Ea. | 37.58 | 47.34 | 2008 Qtr 2 | 50 | 50 | \$ 2,367.00 |
| Repair internal leaks drinking fountain | 4 | 1 Plum | 1.000 | Ea. | 35.14 | 43.43 | 2008 Qtr 2 | 12 | 12 | \$ 521.16 |
| Correct water pressure drinking fountain | 2 | 1 Plum | 1.000 | Ea. | 32.21 | 40.50 | 2008 Qtr 2 | 25 | 25 | \$ 1,012.50 |
| Replace refrigerant drinking fountain | 2 | 1 Plum | 1.000 | Ea. | 15.84 | 18.86 | 2008 Qtr 2 | 25 | 25 | \$ 471.50 |
| Repair drain leak drinking fountain | 4 | 1 Plum | 1.000 | Ea. | 22.63 | 27.03 | 2008 Qtr 2 | 12 | 12 | \$ 324.36 |
| Replace fountain drinking fountain | 10 | 2 Plum | 1.000 | Ea. | 1,005.84 | 1,193.57 | 2008 Qtr 2 | 5 | 5 | \$ 5,967.85 |

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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 |
|--|-----------|--------|--------|------|----------------|-----------------|------------|-------------------------------|-------------------------|--------------------|
| Replace washer in spud connection lavatory, vitreous china | 7 | 1 Plum | 1.000 | Ea. | 24.01 | 28.33 | 2008 Qtr 2 | 7 | 7 | \$ 198.31 |
| Replace washer in faucet lavatory, vitreous china | 2 | 1 Plum | 1.000 | Ea. | 9.85 | 12.29 | 2008 Qtr 2 | 25 | 25 | \$ 307.25 |
| Replace faucets lavatory, vitreous china | 10 | 1 Plum | 1.000 | Ea. | 123.49 | 149.06 | 2008 Qtr 2 | 5 | 5 | \$ 745.30 |
| Clean out strainer and P trap lavatory, vitreous china | 2 | 1 Plum | 1.000 | Ea. | 27.04 | 33.57 | 2008 Qtr 2 | 25 | 25 | \$ 839.25 |
| Replace lavatory, vitreous china | 35 | 2 Plum | 1.000 | Ea. | 530.19 | 635.70 | 2008 Qtr 2 | 1 | 1 | \$ 635.70 |
| Replace faucet washer sink, iron enamel | 2 | 1 Plum | 1.000 | Ea. | 9.79 | 12.19 | 2008 Qtr 2 | 25 | 25 | \$ 304.75 |
| Clean trap sink, iron enamel | 3 | 1 Plum | 1.000 | Ea. | 6.60 | 8.25 | 2008 Qtr 2 | 16 | 16 | \$ 132.00 |
| Replace faucets sink, iron enamel | 10 | 1 Plum | 1.000 | Ea. | 123.49 | 149.06 | 2008 Qtr 2 | 5 | 5 | \$ 745.30 |
| Unstop sink sink, iron enamel | 2 | 1 Plum | 1.000 | Ea. | 32.21 | 40.50 | 2008 Qtr 2 | 25 | 25 | \$ 1,012.50 |
| Replace sink, P.E.C.I. sink, iron enamel | 35 | 2 Plum | 1.000 | Ea. | 552.72 | 657.69 | 2008 Qtr 2 | 1 | 1 | \$ 657.69 |
| Replace flush valve diaphragm tankless water closet | 10 | 1 Plum | 1.000 | Ea. | 70.74 | 83.06 | 2008 Qtr 2 | 5 | 5 | \$ 415.30 |
| Rebuild flush valve tankless water closet | 20 | 1 Plum | 1.000 | Ea. | 131.98 | 160.01 | 2008 Qtr 2 | 2 | 2 | \$ 320.02 |
| Unplug clogged line tankless water closet | 5 | 1 Plum | 1.000 | Ea. | 168.26 | 210.18 | 2008 Qtr 2 | 10 | 10 | \$ 2,101.80 |
| Replace tankless water closet | 35 | 2 Plum | 1.000 | Ea. | 548.00 | 648.36 | 2008 Qtr 2 | 1 | 1 | \$ 648.36 |
| Replace tankless flush valve | 25 | 1 Plum | 1.000 | Ea. | 209.50 | 245.37 | 2008 Qtr 2 | 2 | 1 | \$ 245.37 |
| Replace wax ring gasket tankless water closet | 5 | 1 Plum | 1.000 | Ea. | 109.57 | 137.20 | 2008 Qtr 2 | 10 | 10 | \$ 1,372.00 |
| Replace flush valve diaphragm urinal | 7 | 1 Plum | 1.000 | Ea. | 70.74 | 83.06 | 2008 Qtr 2 | 7 | 7 | \$ 581.42 |
| Rebuild flush valve urinal | 20 | 1 Plum | 1.000 | Ea. | 131.98 | 160.01 | 2008 Qtr 2 | 2 | 2 | \$ 320.02 |
| Unplug line urinal | 5 | 1 Plum | 1.000 | Ea. | 112.14 | 139.91 | 2008 Qtr 2 | 10 | 10 | \$ 1,399.10 |
| Replace wall-hung urinal | 35 | 2 Plum | 1.000 | Ea. | 841.63 | 1,006.57 | 2008 Qtr 2 | 1 | 1 | \$ 1,006.57 |
| Inspect / check pump / motor operation, lub. circulation pump, 1/12 HP | 0.5 | 1 Plum | 1.000 | Ea. | 6.19 | 7.72 | 2008 Qtr 2 | 100 | 100 | \$ 772.00 |
| Replace pump / motor assembly circulation pump, 1/12 HP | 10 | 2 Plum | 1.000 | Ea. | 736.33 | 863.29 | 2008 Qtr 2 | 5 | 5 | \$ 4,316.45 |
| Resolder joint pipe & fittings, copper | 10 | 1 Plum | 2.000 | Ea. | 65.70 | 80.90 | 2008 Qtr 2 | 5 | 5 | \$ 404.50 |
| Replace pipe and fittings, copper 3/4" | 20 | 2 Plum | 16.000 | L.F. | 283.52 | 343.68 | 2008 Qtr 2 | 2 | 2 | \$ 687.36 |
| Remove old insulation & replace with new, pipe 3/4", wall 1" | 15 | 1 Plum | 16.000 | L.F. | 112.16 | 136.64 | 2008 Qtr 2 | 3 | 3 | \$ 409.92 |
| Drain and flush water heater, electric, 120 gallon | 7 | 1 Plum | 0.500 | Ea. | 113.22 | 141.52 | 2008 Qtr 2 | 7 | 7 | \$ 990.64 |
| Check operation water heater, electric, 120 gallon | 3 | 1 Plum | 0.500 | Ea. | 0.99 | 1.24 | 2008 Qtr 2 | 16 | 16 | \$ 19.84 |
| Replace water heater, electric, 120 gallon | 15 | 2 Plum | 0.500 | Ea. | 4,596.23 | 5,271.90 | 2008 Qtr 2 | 3 | 3 | \$ 15,815.69 |
| Unclog main drain pipe & fittings, cast iron | 10 | 1 Plum | 1.000 | Ea. | 35.62 | 44.41 | 2008 Qtr 2 | 5 | 5 | \$ 222.05 |
| Unclog floor drain, PVC | 20 | 1 Plum | 1.000 | Ea. | 37.09 | 45.87 | 2008 Qtr 2 | 2 | 2 | \$ 91.74 |
| Repair joint pipe and fittings, PVC | 10 | 1 Plum | 1.000 | Ea. | 115.94 | 144.14 | 2008 Qtr 2 | 5 | 5 | \$ 720.70 |
| Replace pipe & fittings, cast iron | 40 | 2 Plum | 8.000 | L.F. | 335.20 | 405.60 | 2008 Qtr 2 | 1 | 1 | \$ 405.60 |
| Replace pipe, 4" pipe and fittings, PVC | 30 | 2 Plum | 8.000 | L.F. | 473.60 | 585.52 | 2008 Qtr 2 | 1 | 1 | \$ 585.52 |
| Repair air conditioner, window, 1 ton | 8 | 1 Stpi | 0.500 | Ea. | 32.51 | 40.33 | 2008 Qtr 2 | 6 | 6 | \$ 241.98 |
| Replace air conditioner, window, 1 ton | 10 | L2 | 1.000 | Ea. | 648.34 | 752.06 | 2008 Qtr 2 | 5 | 5 | \$ 3,760.30 |
| Replace sprinkler head | 20 | 1 Plum | 6.000 | Ea. | 382.08 | 470.76 | 2008 Qtr 2 | 2 | 2 | \$ 941.52 |
| Inspect sprinkler system | 1 | 1 Plum | 1.000 | Ea. | 26.55 | 32.89 | 2008 Qtr 2 | 50 | 50 | \$ 1,644.50 |
| Rebuild double check 3" backflow preventer sprinkler system | 5 | 1 Plum | 1.000 | Ea. | 598.06 | 715.83 | 2008 Qtr 2 | 10 | 10 | \$ 7,158.30 |

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|---|-----------|--------|--------|------|--------------------|--------------------|------------|-------------------------------|-------------------------|--------------------|
| Replace fire alarm bell, 6" | 20 | 1 Elec | 1.000 | Ea. | 142.28 | 171.51 | 2008 Qtr 2 | 2 | 2 | \$ 343.02 |
| Repair failed breaker, 3 pole circuit breaker | 10 | 1 Elec | 1.000 | Ea. | 342.23 | 400.69 | 2008 Qtr 2 | 5 | 5 | \$ 2,003.45 |
| Maintenance and inspection C.B., 3 pole circuit breaker | 0.33 | 1 Elec | 1.000 | Ea. | 22.91 | 28.50 | 2008 Qtr 2 | 151 | 151 | \$ 4,303.50 |
| Replace C.B. molded case, 600 V, 3 pole circuit breaker | 50 | 1 Elec | 1.000 | Ea. | 3,157.74 | 3,611.55 | 2008 Qtr 2 | 1 | 0 | \$ - |
| Maintenance and inspection lighting panel, indoor | 3 | 1 Elec | 1.000 | Ea. | 28.50 | 35.63 | 2008 Qtr 2 | 16 | 16 | \$ 570.08 |
| Replace fluor. ballast for fluorescent lighting fixture, 80 W | 10 | 1 Elec | 4.000 | Ea. | 398.32 | 480.32 | 2008 Qtr 2 | 5 | 5 | \$ 2,401.60 |
| Replace lamps (2 lamps) fluorescent lighting fixture, 80 W | 10 | 1 Elec | 4.000 | Ea. | 101.76 | 124.72 | 2008 Qtr 2 | 5 | 5 | \$ 623.60 |
| Maintenance and repair receptacles and plugs | 20 | 1 Elec | 21.000 | Ea. | 652.89 | 813.33 | 2008 Qtr 2 | 2 | 2 | \$ 1,626.66 |
| Replace receptacle/plug receptacles and plugs | 20 | 1 Elec | 21.000 | Ea. | 1,107.96 | 1,352.82 | 2008 Qtr 2 | 2 | 2 | \$ 2,705.64 |
| Maintenance and repair wiring devices, switches | 10 | 1 Elec | 5.000 | Ea. | 155.45 | 193.65 | 2008 Qtr 2 | 5 | 5 | \$ 968.25 |
| Replace switch wiring devices, switches | 15 | 1 Elec | 5.000 | Ea. | 256.05 | 311.75 | 2008 Qtr 2 | 3 | 3 | \$ 935.25 |
| Check and repair manual pull station | 10 | 1 Elec | 1.000 | Ea. | 69.21 | 84.87 | 2008 Qtr 2 | 5 | 5 | \$ 424.35 |
| Replace manual pull station | 15 | 1 Elec | 1.000 | Ea. | 125.74 | 151.89 | 2008 Qtr 2 | 3 | 3 | \$ 455.67 |
| Repair smoke detector | 10 | 1 Elec | 1.000 | Ea. | 38.19 | 47.00 | 2008 Qtr 2 | 5 | 5 | \$ 235.00 |
| Check operation smoke detector | 1 | 1 Elec | 1.000 | Ea. | 11.40 | 14.30 | 2008 Qtr 2 | 50 | 50 | \$ 715.00 |
| Replace smoke detector | 15 | 1 Elec | 1.000 | Ea. | 189.55 | 226.99 | 2008 Qtr 2 | 3 | 3 | \$ 680.97 |
| | | | | | \$60,179.23 | \$71,714.53 | | | | |
| | | | | | | | | | MR Subtotal | \$ 108,468.70 |
| | | | | | | | | | MR Per Year | \$ 2,169.37 |
| | | | | | | | | | PM Per Year | \$ 2,049.35 |
| | | | | | | | | | Subtotal | \$ 4,218.72 |
| | | | | | | | | | Total Per Unit | \$ 7.38 |

CostWorks 2009 Quarter 1 - FAC 1331-Aircraft Navigation Building

| Qty | Assembly Number | Description | Total In-House | Total Incl. O&P | Zip Code | Prefix | Type | Release |
|-------|-----------------|--|-------------------|-------------------|----------|--------|------|------------|
| 1.000 | B2035 410 1950 | Door, overhead, electric, roll up, to 24' high x 25' w | 240.16 | 290.12 | 200 | | FMR | 2008 Qtr 2 |
| 3.000 | B2035 225 1950 | Door, emergency egress, swinging, annualized | 148.53 | 172.53 | 200 | | FMR | 2008 Qtr 2 |
| 1.000 | C1025 110 1950 | Fire doors, swinging, annualized | 24.89 | 29.86 | 200 | | FMR | 2008 Qtr 2 |
| 1.000 | D2015 800 1950 | Drink fountain, annualized | 49.50 | 59.36 | 200 | | FMR | 2008 Qtr 2 |
| 1.000 | D2015 100 1950 | Urinals, annualized | 12.93 | 16.15 | 200 | | FMR | 2008 Qtr 2 |
| 1.000 | D2015 100 2950 | Toilet (vacuum breaker type), annualized | 12.93 | 16.15 | 200 | | FMR | 2008 Qtr 2 |
| 1.000 | D2015 100 4950 | Lavatories, annualized | 24.68 | 30.08 | 200 | | FMR | 2008 Qtr 2 |
| 1.000 | D3045 160 1950 | VAV Boxes, annualized | 61.31 | 76.00 | 200 | | FMR | 2008 Qtr 2 |
| 1.000 | D3055 210 1950 | Package unit, air cooled, 3 thru 24 ton, annualized | 207.71 | 251.03 | 200 | | FMR | 2008 Qtr 2 |
| 1.000 | D4015 100 1950 | Backflow prevention device, up to 4", annualized | 18.89 | 23.42 | 200 | | FMR | 2008 Qtr 2 |
| 1.000 | D4015 150 1950 | Extinguishing system, wet pipe, annualized | 806.79 | 983.35 | 200 | | FMR | 2008 Qtr 2 |
| 1.000 | D5015 220 1950 | Circuit breaker, high voltage air, annualized | 26.98 | 33.59 | 200 | | FMR | 2008 Qtr 2 |
| 1.000 | D5015 260 1950 | Panelboard, 225 A and above, annualized | 56.96 | 67.71 | 200 | | FMR | 2008 Qtr 2 |
| | | | \$1,692.26 | \$2,049.35 | | | | |

FAC 1331 Sustainment by Year - Terminal Cutoff Applied

