

APPENDIX C: ADDITIONAL RESOURCES

Operations and Maintenance:

O&M Best Practices – A Guide to Achieving Operational Efficiency – Federal Energy Management Program (FEMP) - Free from FEMP:

http://www1.eere.energy.gov/femp/program/operations_maintenance.html

Life-Cycle Cost Analysis:

American Society for Testing and Materials (ASTM) Standards on Building Economics 917-02:

<http://www.astm.org/Standards/E917.htm>

Federal Building Life-Cycle Cost (BLCC): Free from FEMP:

<http://www1.eere.energy.gov/femp/program/lifecycle.html>

Federal Life-Cycle Costing *NIST Handbook 135 (HB 135, Life-Cycle Costing Manual for the Federal Energy Management Program)*

<http://www.bfrl.nist.gov/oae/publications/handbooks/135.pdf> Free from FEMP

ATHENA® EcoCalculator for Common Building Assemblies:

<http://www.athenasmi.org/tools/ecoCalculator/>

NIST Building for Environmental and Economic Sustainability (BEES):

<http://www.wbdg.org/tools/bees.php>

Facility Energy Decision System (FEDS):

<http://www.pnl.gov/FEDS/> Free from PNL

Metering Best Practices:

Department of Energy "Metering Best Practices Guide, 2007."

<http://www1.eere.energy.gov/femp/pdfs/mbpg.pdf> Free from FEMP

Energy Modeling Software:

eQuest: Free from DOE:

<http://www.doe2.com/equest/>

DOE-2: Free from DOE:

<http://www.doe2.com/>

e+, Energy Plus Free from EERE:

<http://apps1.eere.energy.gov/buildings/energyplus/>

Trane Trace 700:

<http://www.trane.com/CPS/Uploads/UserFiles/CDS%20files/TRACE/CDS-SLB005-EN.pdf>

Carrier “Hourly Analysis Program” (HAP):

http://www.commercial.carrier.com/commercial/hvac/general/0,,CLI1_DIV12_ETI11936,00.html

Energy Soft/EnergyPro:

<http://www.energysoft.com/>

Federal Energy Management Program (FEMP), Building Life-Cycle Cost (BLCC) Programs:
Free from FEMP:

http://www1.eere.energy.gov/femp/information/download_blcc.html#blcc5

DOE process for commercial energy code compliance: Free from DOE:

http://www.energycodes.gov/implement/determinations_com.stm

Measurement and Verification:

International Performance Measurement and Verification Protocol, IPMVP, 2002

Available electronically at <http://www.doe.gov/bridge>

email: orders@ntis.fedworld.gov

online ordering: <http://www.ntis.gov/ordering.htm>

Commissioning and Recommissioning Buildings

American Society of Heating, Refrigeration, and Air-Conditioning Engineers (ASHRAE)
Journal:

<http://www.newcomb-boyd.com/pdf/ASHRAE%20Wiggins.pdf>

Building Commissioning Association (BCxA):

www.bcx.org

Building Commissioning Guide, Office of Energy Efficiency and Renewable Energy Federal
Energy Management Program, U.S. Department of Energy:

http://www1.eere.energy.gov/femp/pdfs/commissioning_fed_facilities.pdf

California Commissioning Guide for Existing Buildings:

<http://www.documents.dgs.ca.gov/green/commissioningguideexisting.pdf>

Cx Assistant Commissioning Tool:

www.ctg-net.com/edr2002/cx/

The Building Commissioning Handbook, Second Edition by John A. Heinz & Rick Casault, The

Building Commissioning Association, 2004:
<http://www.bcxa.org/resources/index.htm>

U.S. General Services Administration (GSA), *The Building Commissioning Guide*:
<http://www.wbdg.org/ccb/GSAMAN/buildingcommissioningguide.pdf>

Portland Energy Conservation, Inc. (PECI):
<http://www.oregon.gov/ENERGY/CONS/BUS/comm/docs/retrocx.pdf?ga=t>