

APPLICATION

Program Title: Roof Assessment, Training and
Engineering Unit
Category: Facilities and Property Management
State: Maryland
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Description of Program

In 1999 the Maintenance Engineering Division (MED) within the Department of General Services (DGS) instituted the Roof Assessment, Training and Engineering Unit (RATEU). The unit consists of a Program Manager, Roofing Engineer and Roofing Inspector. The unit has multiple responsibilities that tie together for the long term goal of extended roof life and in turn more efficient use of taxpayer dollars. The responsibilities include the following:

Assessments

- Annual roof inspections consisting of 20% of the states 3900+ buildings (7.5 million+ square feet). These roof inspections augment inspections performed by facility maintenance personnel.
- Review, verify and prioritize agency requests (project justifications) for roof repairs/replacement.
- Insure project scope of work encompasses all work that is necessary.
- Review detailed estimates to insure adequate funding.

Training

- Provide roof maintenance, inspection and installation training to

state maintenance, inspection and engineering personnel.

Design, Design Review and Project Management

- Develop the State of Maryland Roofing Policy/Guidelines.
- Design roof replacement and repair specifications as needed.
- Manage the states' Roof Design Indefinite Delivery Contract.
- Manage the states' Roofing Services Indefinite Delivery Contract.
- Review all roofing specifications and drawings by others to insure conformance to the State of Maryland Roofing Policy.
- Perform Project Management duties on the states re-roofing projects.

Although the Unit has been in place less than two years the effects of having a central “clearing house” for all roofing projects has greatly improved the quality of design, awareness of roof maintenance and the reduction of roof related change orders. In the short time the unit has been in existence it has been involved with 87 roof replacements with various state agencies, totaling \$8,017,697.

Cost Savings

Cost savings to the taxpayers of the State of Maryland in many respects is hard to quantify. For instance, the savings realized by improved inspection and preventative maintenance will easily be tens of millions of dollars over the next five years and will only continue to grow.

The savings associated with the reduction in the number of change orders over the past two years is \$2,343,000. This figure is conservative as it does not take into consideration what other systems and life cycle costs may have been affected by the potential change orders. The reduction in change orders and the savings associated with the reduction is a direct result of having roofing knowledgeable people reviewing the design documents.

Savings associated with technical support provided to other state agencies is \$986,000 over the past two years. In years past this function would have been performed by

Architectural/Engineering firms or Roof Consultants. This represents a 65% savings to the State of Maryland.

Over the past two years most reroofing designs (73) have been performed by private sector Architects/Engineers or Roof consultants. However, on the fourteen designs performed by the Roofing Unit a savings of \$213,000 was realized.

The roofing unit verifies requests by state facilities for roof replacement. Many times replacement is not needed and with the proper repairs the life of the roof is extended. The cost savings to the State for this activity is \$2,080,000 over the past two years.

Another tool recently implemented by the unit is one that utilizes the roofing manufacturer to help pre-qualify roofing contractors. For a roofing contractor to successfully bid jobs they must be a “Master Select” or “Premier” level contractor. This effectively culls the number of contractors down to the ones that are most likely to perform at a high level with less installation related problems. We also require written approval from the manufacturer as to the contractors status, the approval of the design as it relates to the warranty and signing off at the end of the satisfactory installation. The savings to the State cannot be quantified at this time as this is a new program.

Relevancy of Use

This type of program can be implemented by all states. The keys to a successful roofing program are:

- Roofing experienced Program Manager.
- Unit involved from conception through construction.
- Proper training of facility maintenance personnel on roof inspection and preventative maintenance.
- A roofing policy that is customized to what works in your specific geographical region and knowledge of what does not.
- Continued training of unit personnel to insure they stay up to date in a constantly changing field.

Executive Summary

In July of 1999 the Department of General Services established the Roof Assessment, Training and Engineering Unit. Before the existence of the unit there was no formal monitoring or approving authority in place to insure the proper roofing system was being designed and installed on the states 3900+ buildings.

The addition of this unit has resulted in the following improvements.

- A comprehensive roofing policy that will improve the longevity of the states roofs.
- Increased inspection and maintenance on roofs through improved training and communication with maintenance personnel.
- Reduction of costly change orders by increasing design input and review.

In less than two years the unit has saved the State of Maryland \$5,622,000. This is especially significant when you consider that the yearly cost (including salary and benefits) to run the unit is less than \$250,000.