

Schedule 13 Funding Request for the 2013-14 Budget Cycle

Department: Governor's Office of Information Technology
 Request Title: Microwave Upgrade Assessment
 Priority Number: R-3

Dept. Approval by: *J. J. [Signature]* 10/29/12 Date

OSPB Approval by: *[Signature]* 10/26/12 Date

- Decision Item FY 2013-14
- Base Reduction Item FY 2013-14
- Supplemental FY 2012-13
- Budget Amendment FY 2013-14

Line Item Information		FY 2012-13		FY 2013-14		FY 2014-15
		1	2	3	4	6
	Fund	Appropriation FY 2012-13	Supplemental Request FY 2012-13	Base Request FY 2013-14	Funding Change Request FY 2013-14	Continuation Amount FY 2014-15
Total of All Line Items	Total	3,604,176	-	3,604,176	300,000	-
	FTE	46	-	46	-	-
	GF	-	-	-	-	-
	GFE	-	-	-	-	-
	CF	-	-	-	300,000	-
	RF	3,604,176	-	3,604,176	-	-
	FF	-	-	-	-	-
(5) Office of Information Technology, (D) Communications Services, Personal Services	Total	3,604,176	-	3,604,176	300,000	-
	FTE	46.0	-	46.0	-	-
	GF	-	-	-	-	-
	GFE	-	-	-	-	-
	CF	-	-	-	300,000	-
	RF	3,604,176	-	3,604,176	-	-
	FF	-	-	-	-	-

Letternote Text Revision Required? Yes: No: If yes, describe the Letternote Text Revision:
 "of this amount \$XXX is from user charges and the remaining \$300,000 shall be from the reserve balance in the Public Safety Trust Fund."
 Cash or Federal Fund Name and COFRS Fund Number: COFRS Fund 12N
 Reappropriated Funds Source, by Department and Line Item Name: Fund Reserves
 Approval by OIT? Yes: No: Not Required:
 Schedule 13s from Affected Departments: N/A
 Other Information:



OFFICE OF INFORMATION TECHNOLOGY

John W. Hickenlooper
Governor

FY 2013-14 Funding Request
November 1, 2012

Kristin D. Russell
Secretary of Technology & Chief Information Officer

10-30-12

Signature

Date

*Department Priority: R-3
OIT- Microwave Upgrade Assessment*

Summary of Incremental Funding Change for FY 2013-14	Total Funds	Cash Funds	FTE
OIT Communications Services, Personal Services	\$300,000	\$300,000	0.0

- As identified in the request the requested Long Bill annotation would grant a total of \$300,000 in transfer authority from fund reserves.

Request Summary:

This Request seeks transfer authority in the amount of \$300,000 from the reserve balance in the Public Safety Trust Fund for FY 2013-14. This one-time funding is required to support an assessment of the scope and strategy for necessary upgrades to the microwave backbone that makes up the foundation of the Digital Trunked Radio System (DTRS).

Problem or Opportunity:

The Digital Trunked Radio System (DTRS) was initially developed and implemented more than fifteen years ago using State funding that was provided via Capital Construction Appropriations. Once the DTRS was operational, the remaining Capital Construction funding was transferred into the Public Safety Trust fund. The Trust fund moneys were made available to OIT for several years in the Long Bill, via transfer authority contained in a Long Bill annotation, to offset program costs for OIT Communications Services (the team that supports and maintains DTRS).

The purpose of the annual transfer was to provide a revenue source to the program that could offset program costs, and reduce billings to customers annually to a moderate extent.

The current remaining balance in the Public Safety Trust Fund is approximately \$600,000, and this request seeks to leverage the identified \$300,000 to fund professional services costs for an assessment of the State's microwave upgrade/replacement strategy.

This transfer would leave a balance of approximately \$300,000 in fund reserves.

Brief Background:

The current personal services appropriation for OIT Communications Services is \$3.6 million. After consideration of existing program obligations and the small reversions in recent fiscal years (\$15,000 over the past three fiscal years) there is not sufficient room in the appropriation to absorb the one-time costs to perform the microwave assessment necessary pursuant to this request. However, there are available fund reserves in the Public Safety Trust Fund that will provide the necessary one-time funding source.

Microwave Upgrade Assessment

DTR is the primary operable and interoperable public safety voice communications network in Colorado. In addition, the microwave network

provides circuits which carry other telecommunications needs. The State of Colorado's microwave network provides communications circuits to multiple locations throughout the state. These mission critical circuits support the efforts of the 700/800 Megahertz (MHz) Digital Trunked Radio (DTR) system tower sites, which provide state-wide, two-way public safety radio communications.

OIT is the lead agency responsible for operations and maintenance of the DTR and microwave networks. The majority of the existing microwave network is nearing or past the end of its useful life, resulting in significant maintenance issues. Ancillary devices, such as digital multiplexers and channel banks that are used in conjunction with the microwave subscriber equipment, are also experiencing the same maintenance issues. In addition, the existing microwave network requires increased capacity and redundancy to adequately support the DTR system and other evolving technologies, such as broadband, given that the original microwave network was implemented prior to the current increased capacity and connectivity needs of the DTR system that have been experienced in recent years.

The statewide microwave network consists of approximately 200 hot-standby hops and has experienced two major build-outs. The first build-out was when the system was converted from analog to digital technology in the 1990's. The second build-out is the addition of circuits to support the expansion of the two-way Digital Trunked Radio system that was funded in 2005 by the Department of Local Affairs, Colorado Wireless Initiative Network (CWIN) grant program. The State's microwave system interconnects into microwave systems owned by local governments to provide connectivity to Digital Trunked Radio (DTR) system tower sites. Although the majority of the CWIN program equipment in the latter build-out is of current manufacture, it will need to be assessed as to whether it is also a candidate for replacement.

To maintain the high level of reliability demanded by governmental and public safety agencies, long term planning for replacement of aging microwave infrastructure and ancillary devices must be undertaken. New microwave technologies that are becoming available will be evaluated and considered for implementation by the state. OIT proposes to migrate to a more current technology that includes high reliability and redundant, self-healing loops (such as Sonet, Multi-Protocol Label Switching (MPLS) or other technologies). A phased approach to infrastructure and equipment replacement is required; compatibility between circuits that use new equipment and those that use old must be maintained.

Proposed Solution:

OIT plans to hire a consultant to develop the requirements for a comprehensive and phased approach, including scope, cost and timelines associated with a statewide microwave upgrade. The consultant will be tasked with the following:

- Assessment of the existing statewide microwave network equipment (including antennas) and ancillary hardware;
- Assessment of microwave and fiber-based technologies for replacement of current microwave network;
- Recommendations for upgrade/replacement of existing microwave network to serve DTR and other technologies;
 - Technology solutions
 - Options for system design
 - Site and tower improvements (data to be provided by OIT)
 - Phased implementation approach, including schedule
 - Risks and impacts to existing network
 - Estimated Costs for Equipment, Installation and Optimization
- Assemble all data into a format acceptable for presentation to the Colorado Legislature. The vendor may be asked to testify to the

Colorado Legislature on the technology selection methodology and criteria;

- Develop a Request for Proposal (RFP) for the design and build of network solutions including estimated cost; and
- Develop a project management plan and estimated cost associated with acting as OIT's representative for the design and build of the network.

The solution identified and recommended within this request includes a one-time increase in OIT's cash funds spending authority in OIT Communications Services, Personal Services, in the amount of \$300,000 for FY 2013-14 to fund costs of the assessment necessary for the upcoming microwave upgrade project.

The request does not require an increase in OIT Common Policy allocations or billings to support the assessment of the microwave upgrade in FY 2013-14.

The Long Bill annotation that is necessary to correspond to this request should apply to the OIT Communications Services long bill group, should be associated with the cash funds appropriation for the program, and should read:

"This amount (\$300,000) shall be from the reserve balance in the Public Safety Trust Fund"

Anticipated Outcomes:

The request will allow OIT to evaluate the existing state microwave network and determine the necessary upgrades required to keep the system functional in support of public safety agencies and first responders statewide.

Assumptions for Calculations:

OIT and the state have used third party consultants in recent years on several occasions to perform similar assessments and/or feasibility studies. The estimate of \$300,000 included in this request is based on feedback received in response

to a 2010 RFI for a scope of work that is consistent with the proposed assessment.

Consequences if not Funded:

If this request is not approved it would inhibit the ability of OIT to develop and present the most optimal business case and strategy for a critical and upcoming project needed for DTRS that benefits state departments and citizens of Colorado. The results of the assessment of the microwave upgrade project will be the genesis of a multimillion dollar upgrade for the State's public safety communications network infrastructure in the very near future, therefore the business case and financial decisions surrounding the project must be sound.

Absent available resources to address this need from existing appropriations, the project could ultimately be compromised, which is inconsistent with legislative intent established pursuant to HB 12-1288.

Impact to Other State Government Agency:

This request has no impact on other state agencies.

Relation to Performance Measures:

This request aligns with several of the key priorities in the OIT Playbook, including Customer Success, Service Excellence, & Trusted Partnerships.

Current Statutory Authority or Needed Statutory Change:

There is no specific statutory change required to implement this request, with regard to new legislation. The requested Long Bill annotation is technically part of the legislative process and the Long Bill annotation would provide the necessary statutory authority, as it has in the past.

The specific existing statutory authority that aligns with this request is found in multiple statutes as follows:

24-37.5-502 (1) (a - c), C.R.S. 2012 identifies that the State CIO shall formulate

recommendations for current and long range telecommunications planning including the state microwave network and public safety radio communications systems; administer and exercise general supervision over the state's microwave facilities; and establish priorities for future systems, equipment and facilities.

Additionally, 24-37.5-502 (4)(b), C.R.S. indicates the Office's responsibility to set a timetable for replacement of existing equipment with a system that satisfies the requirements of the FCC for public safety communications.