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| South Dakota Bureau of Information & Telecommunications |
| State Radio Sustainable Funding |
| Proposal for Consideration |
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| **South Dakota Public Safety Communications Council** |
| **03/20/2018** |

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| A proposal to replace a portion of State Radio general funds with a sustainable funding source that will allow for the operations and maintenance/upgrade of the statewide public safety radio network. |

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# Executive Summary

Radio communications for public safety in South Dakota have been in use from the 1940’s to present and is integral to the operations of those who protect and serve the public.

During the 1970’s to 1990’s communication between state, local, tribal, and federal first responders had become fractured because of the lack of a modern infrastructure in the state. This lack of radio coordination resulted in interoperability issues between the different levels of first responders, becoming painfully apparent during disasters.

The Spencer tornado response of 1998 highlighted these communications difficulties, and eventually drove the introduction of HB1292 during the 1999 legislative session creating a single unified communications system for first responders.

In October of 2003 the system of 35 networked sites was made available for first responders. Over the past 14 years the system has grown to 54 sites utilized by around 20,000 state, local, tribal, and federal radios, with an average of over 2,000,000 calls per month.

The technology underpinning the system is now 17 years old and will need to be updated by 2023. This technology update involves the supporting infrastructure and those radios utilizing that infrastructure. The estimated cost to update the infrastructure is $9,241,839, and each radio will need to be updated or replaced.

The radio system governing body (South Dakota Public Safety Communications Council or SDPSCC) has determined that the current general funding mechanism is no longer an appropriate method to keep such a critical system operational and current. This document outlines the sustainable method proposed by the SDPSCC to provide a long-term funding model and a reduced dependence upon state general funds.

Looking ahead at the future of Land Mobile Radio (LMR) communications? Technologies such as FirstNet and the advancing commercial wireless industry show promise as an auxiliary service, but the industry in general agrees that first responders will continue to use voice delivered over an LMR system as the primary means of communication for that group for the foreseeable future. Factors lacking in commercial systems such as rural coverage, the ability to communicate user to user without requiring a network or system, and a form factor that fits how first responders operate will drive current LMR system operators to maintain and upgrade those systems.

# Current Network Funding

The current funding for the State Radio program is sustained by an annual request to the legislative body for general funds to maintain the network. In the past there has not been in place a depreciation mechanism to replace or update components of the network as the system requires, and requests for additional funding to the base or other financing methods were required for each additional upgrade.

The current State Radio general fund budget is broken out as follows:

Personal Services: $764,472

Travel: $97,750

Contractual Services: $1,160,000

Supplies and Materials: $74,950

Capital Assets: $635,888

Other: $325,000

**Total: $3,058,060**

In basic terms, this budget “keeps the lights on”. This involves keeping the network operational, paying the utilities, and paying the salaries of those working to keep the network operational. Because of the cyclic nature and very high cost of technology refreshes and significant repairs, this method is not well suited to managing the technology as there is no means to accommodate peak cyclic or emergency demands without additional requests.

# Upcoming Network Requirements

The current system and certain components will fall out of vendor support by 2023. The one-time cost to bring the network hardware and software up to current standards is estimated at **$9,241,839**.

We have been working with our system vendor to provide us an avenue for the future that levelled out the cyclic cost nature of technology that we utilize. To provide a more stable budget, the vendor has proposed a solution that would keep the system hardware and software current ongoing with a maintenance agreement. The estimate for this program is **$900,000 annually**. Unless other provisions are made, a one-time request of $9.2M+ and a recurring request of $900,000 in general funds will be made in the 2023 budget request for State Radio.

# Existing Obligations

In keeping with the cyclic nature of maintaining complex communications systems, upgrades were required to the system between 2012 and 2014. A total of $12,324,945 was expended to upgrade the network control equipment, connected dispatch consoles, and radio repeaters at the tower sites. This funding was secured through a municipal lease/buyback program, with an annual payment of **$821,663**. The final payment is scheduled for July 2028, and the principle balance as of 7-1-2018 will be **$6,686,378.**

# Researching Funding Methods

The Bureau of Information/State Radio Communications was requested by the Appropriations Committee during the 2017 legislative session to “return with a plan” for sustainable funding. As the representative governance for the communications system, the SDPSCC is responsible for determining an equitable means of providing that plan, and has been involved in the research and determination of the methodology. The process to develop a plan required research into what other states were utilizing to provide a sustainable funding source to maintain their interoperable radio networks. The most common methods of sustainable funding encountered were user fees, telephone line surcharges, and a booking/citation surcharge.

## User Fees

User fees are a common source of revenue utilized by a number of states to support their communications networks. This means of financing puts the burden of funding on the agencies providing the services, rather than those receiving the services. Rates are assessed by either an annual or monthly rate, or some states employ a usage-based rate. Michigan and Ohio are examples of states utilizing this revenue source.

##  Telephone Line Surcharge

Telephone line surcharge revenue for the maintenance of statewide communications systems are sometimes referred to as “the other half of a 911 call”. The public to 911 dispatch communication is typically recognized as the “initial 911 call”, with the dispatch to responder providing assistance as the completion of that call. Rates vary greatly across the states that do utilize this revenue source. Minnesota and Utah are two regional examples of states using this approach.

## Citation/Booking Surcharges

A less commonly used method of system funding is the use of a surcharge on traffic citations and jail booking fees. Florida utilizes this method to augment their statewide radio network budget. This is an approach that typically is better suited to high population areas.

# SDPSCC Plan Recommendation

The SDPSCC had three primary considerations, what to fund, how to fund that, and how/when to implement.

## What to Fund

The SDPSCC decided that the most appropriate elements to request funding from a sustainable source were those components that directly impacted the network itself and those using it. The suggested budget was broken out as:

**Administration**

|  |  |
| --- | --- |
| Personal Services | 764,472 |
| Travel | 97,750 |
| Computer Services | 17,500 |
| Workshop Registration | 3,500 |
| Central Services | 70,000 |
| Janitor & Maintenance | 32,000 |
| Space Rental & Storage | 20,000 |
| Office Supplies | 2,500 |
| Buildings & Grounds Supplies | 1,000 |
| Janitor Supplies | 750 |
| Postage | 250 |
| Reference Materials | 100 |
| Clothing | 1,000 |
| Printing | 100 |
|  | **1,010,922** |
|  |  |

**Operations**

|  |  |
| --- | --- |
| `Engineering & Consultant | 36,500 |
| Equip Service/Maintenance | 85,000 |
| Computer Software Maintenance | 220,000 |
| Rents (Tower, etc) | 24,000 |
| Telecommunications Services | 550,000 |
| Electricity | 90,000 |
| HVAC repairs | 1,500 |
| Shipping | 2,000 |
| Insurance premiums | 2,000 |
| Taxes & Licensing | 1,000 |
| Other Contractual | 25,000 |
| Lumber & Lumber Supplies | 250 |
| Hardware Supplies | 2,500 |
| Painting Supplies | 250 |
| Radio/TV Supplies | 60,000 |
| Vehicle Maintenance | 1,000 |
| Heating Fuel | 2,500 |
| Safety Devices | 1,000 |
| Rock, Sand, Gravel | 1,000 |
| Maintenance Supplies | 250 |
| State Shop Gas | 500 |
| Building Maintenance & Repairs | 5,000 |
| Computer Hardware/Software | 28,388 |
| Lawn & Garden Equipment | 5,000 |
| HVAC Systems | 7,500 |
| Monitoring Equipment (Audio/Visual) | 15,000 |
| Upgrade Electronics | 50,000 |
| Equipment Lease/Purchase | 850,000 |
|  | **2,067,138** |

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**Update/Growth**

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| --- | --- |
| System Update-Automatic (SUA) | 900,000 |
| Add-One Site/Year | 500,000 |
| Add-One Tech | 80,000 |
| Replace 1 Obsolete Tower/Year  | 100,000 |
| Remove current support for SUA | -212,000 |
|  | **1,368,000** |

The alignment with the goals to keep the sustainable fees related to system operations and expansion led the SDPSCC to include the combined operations and Update/Growth budget as a target for a sustainable funding number. That figure is subject to change or modification based upon the path ahead, but for budgeting purposes the figure is **$3,435,138**.

## How to Fund the Plan

Applying the target figure of $3,435,138 to the three identified methods for generating sustainable funding:

### B.1 User Fees

 Dividing the current number of radios into the target figure for sustainable funding, the estimated fee annually per radio would be $171.76. The concern with this funding method is that radios not used on a daily basis or maintained for emergencies might be removed from the system to reduce agency costs. This potentially could increase the cost of the remaining radios and be a less-stable revenue source.

### B.2 Telephone line Surcharge

The number of telephone lines and devices in the state subject to the 911 charges is listed in the South Dakota 911 Commission annual report. The 2016 report indicated that 816,110 lines and devices were subjected to the 911 surcharge. Dividing the target revenue figure by the number of lines/devices results in an approximate figure of $.35 a month per device and line.

### B.3 Citation/Booking Fee Surcharge

The 103,993 average for traffic citations over the past 3 years would not make this approach feasible as it would add another $33 per citation.

### B.4 SDPSCC Recommendation

 The SDPSCC recommended the telephone line surcharge as they felt it was the least burdensome and the most equitable for the public served by first responders utilizing the radio system.

## When to Implement

Considering we have at least a $9.24M upgrade to fund in 2023 (FY24), if this revenue source started in FY19 and replaced the proposed operational budget in FY20. A rate of:

.37 per line/device would accumulate:

FY20 $3,623,528

FY21 $5,179,918

FY22 $6,736,308

FY23 $8,292,698

FY24 $9,849,088

This rate would generate just over the minimum needed for the upgrade in 2023.

.39 per line/device would accumulate:

FY20 $3,819,394

FY21 $5,571,650

FY22 $7,323,906

FY23 $9,076,162

FY24 $10,828,414

This remaining level of approximately $1.6M would allow us to add 2 sites and upgrade 3 towers leading up to the upgrade.

.41 per line/device would accumulate:

FY20 $4,015,261

FY21 $5,963,384

FY22 $7,911,507

FY23 $9,859,630

FY24 $11,807,753

This remaining level of approximately $2.6M would allow us to add 4 sites and upgrade 4 towers leading up to the upgrade.

 .43 per line/device would accumulate:

FY20 $4,211,127

FY22 $6,355,116

FY22 $8,499,105

FY23 $10,643,094

FY24 $12,787,083

This remaining level of approximately $3.5M would allow us to add 4 sites and upgrade 4 towers (est. $2.4m) leading up to the upgrade, as well as making three installments on the lease/buyback program ($821,000/year) reducing our end payment date to FY26 from the current FY29.

FY24 & beyond:

.35 would about break even with projected operating and upgrade/growth estimate.

.37 would provide ($188,000) annually to support additional sites brought on line.

.39 would provide ($384,256) annually over estimated costs.

.41 would provide ($580,123) annually over estimated costs.

.43 would provide ($775,989) annually over estimated costs.

Points to consider:

* The upgrade figure of $9,241,839 is estimated for a date 5 years out.
* Each site we add is another $20,000 in direct costs + additional vendor support.
* Depending upon the location and number of FirstNet sites added in the state, our capital costs may be less and operational more if we can lease sites rather than build.
* Depending upon the integration of LTE and LMR, there may be some efficiency we can garner from that.