

2006 ASSISTANCE TO FIREFIGHTERS GRANT

REGIONAL REQUEST NARRATIVE

Background:

Madison County is located in the southwest portion of Montana, approximately 30 miles northwest of the northwest corner of Yellowstone Park. It is bounded on the south by Idaho, with whom there is a great deal of public safety interaction and on the west, north and east by Beaverhead, Jefferson, Broadwater and Gallatin counties respectively. Virtually all of the County's 3582 sq. miles is agricultural or undeveloped public lands. Over 60% of the county consists of public lands, either national forest, bureau of land management or state lands. The Lee Metcalf Wilderness is also largely within the county. Five major rivers (Madison, Ruby, Beaverhead, Jefferson and South Boulder) and five mountain ranges (Madison, Tobacco Root, Gravelly, Ruby and Snowcrest) make for a rugged, mountainous terrain, frequently bisected by open valleys or deep drainages leading into the mountains. Peaks have elevations up to 11,000 feet. Higher elevations are generally heavily timbered, although the valleys tend to be quite open and brush covered with cottonwoods and willows common along the rivers and streams. The Tobacco Root and Gravelly mountains form a generally north-south backbone, dividing the county into a distinctly western area centered on the Ruby and Jefferson river valleys and the eastern portion centered on the Madison River valley but generally considered to include north of that valley proper and extending into the northeast corner of the county. The majority of the resident population of 7005 (2002 census) lives in these valleys, however the seasonal and non-resident population is increasing rapidly. Coupled with tourist visitors, this may at times swell the number of people in the county to over 12,000.

There are four incorporated towns, the largest being Ennis with a population of 860. On the eastern boundary, shared by Gallatin and Madison counties, is the resort area of Big Sky, a major destination resort both summer and winter. There is presently no direct public safety communications with Big Sky from Madison County. The sole direct access from the County is via an old logging road, although a circuitous two hour drive over hard surfaced highway through Gallatin County is an alternative. County fire protection, focused primarily on wildland fire but encompassing the full spectrum of response services, is provided by six volunteer fire departments. Two non-affiliated, non-profit ambulance agencies, one on each side of the county's mountain backbone, provide EMS response capability. All are hampered in varying degrees by difficulties stemming from the communications environment and the wide variety of antiquated equipment available to them.

Adaptability and flexibility are watchwords in public safety communications as much of the topography precludes direct contact between responders and Dispatch. In an effort to improve communications capabilities, Madison County (and by their agreement, all the public safety agencies contained therein) was a founding member of the South Central Montana Interoperability Consortium (SCMIC). SCMIC consists of five Montana counties seeking to improve interoperability both within the consortium and with its neighbors. SCMIC, in turn, plays an active role in the state's Interoperability Montana (IM) initiative, aimed at similar improvements in public safety communications on a statewide basis. Although long term plans developed within this context call for upgrades in dispatching capabilities, the county currently employs a single channel dispatch system for all disciplines. Increases in this capability and further infrastructure upgrades, although part of a well developed communications improvement plan, await identification of funding for implementation. Providing the responders with the capability to make use of such improvements, as this application proposes to do, is a vital first step in the process of realizing those goals.

Project Description:

Most of the subscriber equipment currently in use by our responders has been obtained second hand from federal and state agencies when those agencies upgrade for their own use. Some have been procured by the responders themselves. The vast majority of our radios are far older than the industry wide standard life expectancy for such equipment. An independent assessment (and communications plan) conducted by CTA, Inc. of Virginia during the summer of 2005, listed replacement of subscriber units as being our highest priority requirement. This, in turn, supports the accomplishment of the number one goal of the County PreDisaster Mitigation Plan (PDM), which aims to "Improve interoperability....and increase overall emergency communications capabilities". It also responds to identified needs in the county Homeland Security Strategic Plan.

The intent of this proposal, therefore, is to replace all outdated and non-compliant two way radio and paging equipment currently in use by local fire protection agencies and nonaffiliated emergency medical service providers with P25 compliant equipment capable of narrow band and wide band communications, as well as analog and digital operation. This will not only allow continued communications with federal, state and local entities with whom we work regularly, most notably on wildland fires, during a period when each agency is independently migrating to those technologies. It will at the same time lay the groundwork to allow similar communications technology upgrades by the Madison County communications infrastructure as called for in the CTA developed interoperable communications improvement plan previously described. It will also, and not incidentally, allow local fire and EMS agencies to more effectively communicate on localized incidents immediately, even before the full potential of planned improvements is realized.

In terms of capability, two levels of equipment procurement are envisioned. Selected portable and mobile units, primarily those most likely to be used outside the county and/or be used by responders in a supervisory capacity, will be capable of upgrade to trunking at such time as the state infrastructure develops in accordance with current statewide Interoperability Montana planning. These radios will have greater channel capacity than the rest of the units procured in order to facilitate mutual aid and other aspects of interoperability. They will also be upgradeable to encryption when that capability is supported locally and on a statewide basis. Station radios and the portable and mobile equipment to be used by the majority of the responders will have a lesser channel capacity but will be narrowband and digital capable (and backward compatible) and will be upgradeable to encryption when appropriate. While P25 compliant, these units are not intended for eventual upgrade to trunking, as the advent of trunking availability within Madison County and the adjacent areas is not anticipated for a time which exceeds the nominal industry standard life expectancy for such equipment. This two level procurement plan is expected to provide the most cost-effective answer to the County's foreseeable needs for the next five to ten years. Paging is a major problem within the county. The proposed plan calls for replacement of all pagers and paging support units with modern units capable of accommodating proposed infrastructure upgrades.

All unit costs shown in the budget include the radios themselves and associated batteries, individual chargers, microphones, shoulder mikes, carrying cases, etc as well as installation, where appropriate.

Financial Need:

The result of all the seasonal and part-time migration into the area that has increasingly become a part of Madison County life is a greatly increased demand for public safety services. This demand stems from sheer growth, of course, but also from a much higher level of expectations on the part of the new and seasonal population. The situation is exacerbated because many of the part-time inhabitants mentioned previously are building in the wildland interface, throwing a disproportionate load on the 100% volunteer force that make up our firefighting and EMS capability.

Economic resources to meet this heightened demand have not kept pace either in terms of wages or in terms of tax revenues, with attendant adverse impact on infrastructure, overall capability and safety of the responders. By way of illustration, the current value of one mill of tax revenues is \$39,305. The estimated requirement to upgrade subscriber equipment for all disciplines (of which this application represents a part) is \$729,000 countywide and this figure does not include the amount required for fixed equipment such as the public safety communications primary transmitter, the seven fixed repeater sites necessary to provide minimal coverage countywide and, of course, Dispatch itself. And yet these upgrades must be implemented in order to maintain a viable public safety infrastructure with our neighbors and partners as they accomplish similar upgrades but all in response to FCC mandated transition to narrowband communications and the need to accommodate digital, encrypted and trunked technologies as the state implements the Interoperable Montana initiative it has undertaken. This situation is exacerbated by adverse conditions brought on by a long-term drought, the worst in recorded history, which has increased the risk of wildland fires both in the valleys and in the mountains while imposing addition financial stress on the farmers and ranchers whose income is threatened and who make up the backbone of our volunteer responders. While once willing to buy their own portable radios or readily contribute to community fund raising, this backbone of our agriculturally oriented society is finding it increasingly difficult to do so as the threat to their income and financial stability continues to increase.

Benefits:

The direct benefits to the County firefighters and the EMS responders are fairly obvious. Enhance communications capability and reliability facilitates command and control. It also enhances safety of the responders themselves, along with the people these responders serve. But the benefits extend beyond that. While much of our public safety effort involves working with neighbors, private interests, state and federal entities, response to wildland fires, perhaps even more than any other demand placed on our responders, requires integrated response by or at least coordination with a wide spectrum of disciplines and agencies. And yet, ongoing technological changes complicate the maintenance of smooth communications between the participants as each organization accommodates themselves to technological improvements and mandated changes at its own pace. Maintenance of communications interoperability, however, is vital to responder safety; the provision of adequate levels of protection and optimization of protective services across the board. Recent lessons of 9/11, Katrina and other less publicize incidents only serve to underline the overall benefit of effective public safety communications.