



## Communications planning.....

doesn't have to be complicated! Like any other objective, it is a matter of assessing current capabilities and issues requiring attention, and then defining a plan to address both current and future needs.

In 2-way radio communications, the basic considerations are as follows:

### **FCC Licensing –**

Do you have a current authorization? If your application was filed in the past few years, did you remember to submit a notification of completed construction? Are all the locations and tower heights the same as those on your application? Does your authorization cover the number of radios actually being used? Does your application authorize bandwidth compatible with the equipment you are actually using? (i.e. if your authorization calls for 12.5 kHz and you are using 25 kHz equipment, you are in violation of the FCC rules). How about your authorized power? If you are authorized for a maximum of 50 watts and you are using a 100 watt transmitter, you are at risk for significant penalties. Falcon Direct can provide a review of your operating system as well as your license and then make recommendations as necessary.

### **Compliance Issues –**

The FCC says that you should either (a) give your call signs in voice at the completion of each transmission or no less frequently than once every half hour which can be either in voice or Morse code from an automatic timing device. Which are YOU doing? OSHA says that you must take effective measures to protect the health of those who might be harmed by something you are doing. Specifically, are your antenna sites correctly marked with warning signs and adequate security measures to assure that the public will not be harmed by excessive radiation? OSHA and NPFA also say that you must protect the hearing of vehicle operators while in the presence of noise levels that exceed OSHA standards (i.e. virtually every siren ever built exceeds the prescribed levels). What are you doing to address these compliance issues?

### **Lightning Protection –**

Power line sags, spikes, and surges as well as lightning can destroy costly communications equipment. The old adage of pay now or pay later applies. You can either install a good grounding system with surge protection (preferably with battery backup), or you can pay a technical overtime rates for an emergency repair and replacement of damaged equipment. Although your insurance rates may pay your claim (less any applicable deductible), the fact is that after a claim or two, your rates will go up, or worse yet, they may cancel you. Are you protected?

### **Maintenance –**

The most common ways of addressing maintenance is "fix it when it breaks" and pay whatever it costs (or replace it if the cost is excessive) or to pay a monthly or annual premium of maintenance insurance (also known as a "contract").

There are some better alternatives such as extending the factory warranty, purchasing a standby unit, or even asking someone to review what you are spending for maintenance and making some recommendations for improvement. We won't even talk about downtime which is an incalculable expense.

### **Preventative Maintenance**

Do you mean that people actually pay for equipment inspections BEFORE it goes down? Well, yes they do if the equipment is involved in mission critical situations. So just exactly how does an effective Preventive Maintenance (PM) program work? With Falcon Direct, it involves a visit to all transmitter sites where all operating conditions are tested and analyzed. RF power output, receiver sensitivity, duplexer loss, line matching, field strength measurements, and overall assessment of the equipment is made along with a written report including any recommendations for improvement.

### **Site Analysis –**

If you have dead or poor coverage areas, a site analysis can assist you in determining the best course of action to correct the problem. In some cases this may involve replacing work transmission cable assemblies, duplexers, antennas, and even station equipment. In some instances, it may involve a recommendation for REDUCING transmitter power of a repeater or using an antenna with an adjustable pattern. If the problem relates to both mobile and handheld radios, an additional "pocket" repeater may be suggested. If the problem relates primarily with portable radio talkback range, a satellite receiver voting system may be the solution. The point is that you generally will not know your options until you have conducted a site analysis. In some cases a computerized topographical survey may be recommended if there is some question as to whether adequate coverage can be provided in an area of poor reception and/or talkback transmissions from portables.

### **Interoperability and Redundancy –**

Since 9/11, we have all been faced with the reality of a lack of adequate communications in times of emergency. We have redefined the terms *interoperability* and *redundancy*. The words have been around for a long time, the proper application in terms of public safety communications have not. What we have learned is that we need these things, whatever they may be. Now the question is how can we spend limited funds to meet these objectives? An assessment of your needs will be helpful to assist you in making the right decision in choosing the correct interoperability and redundancy solutions.

In particular, fire departments that provide mutual aid on Department of Interior lands and/or assist the U.S. Forest Service should have equipment that is compatible with that used by the Federal agencies. All public safety first responders should have the ability to operate on assigned FEMA emergency channels as well as aviation, marine, and weather notification channels in the VHF band. As you may know, NOAA has agreed to allow use of National Weather Service frequencies for broadcasting of non-weather related messages through local EMA offices. Many departments are looking into the purchase of a few satellite phones for use in the event of terrestrial communications system failure. Others are considering satellite based vehicle location systems with data messaging capability as a backup to primary private communications systems.

### **Future Planning –**

Current pending FCC rules call for the elimination of the sale of 25 kHz equipment in the USA after January 1, 2008. If you are still purchasing analog equipment, this could have a significant impact on your future operational planning. After the sale of 25 kHz equipment is made illegal, you will have the choice of operating in the 12.5 or 6.25 kHz mode in either an analog or digital mode.

A little known fact is that 12.5 kHz analog equipment does not perform equally to equipment with 25 kHz channel spacing. That means you must either add to your existing infrastructure if you wish to operate in an analog mode. If you upgrade to digital, either 12.5 or 6.25 kHz, there is generally no degradation in performance when compared to 25 kHz. In fact, there may be an IMPROVEMENT!

### **Community Service –**

It is a fact that all public safety agencies are dependant on federal, state, and even corporate grants. The problem is that those who disperse funds are primarily interested in SAFETY and EFFICIENCY. If a new fire truck doesn't address these requirements, the chances for award are greatly diminished. Conversely, any grant application by a public safety agency that addresses PUBLIC safety and efficiency can be expected to receive a more favorable review than one that does not.

Falcon Direct offers several programs, one for law enforcement and another for fire and rescue that can be used as the cornerstone of either community action grants for law enforcement or FEMA for fire and rescue. The inclusion of Community Service Infrastructure has been established as a part of successful grants received by Alabama fire departments that have included new repeaters, mobiles, and handheld pager/radios. Proper planning for the next grant submission in the fall of 2006 could add YOU to that list of successful grant recipients.

### **Financial Planning –**

As mentioned previously, finding the funds to purchase the required communications systems to address current and future needs is critical. Any application, whether by law enforcement or fire and rescue, that addresses interoperability, redundancy, safety, efficiency, and a service to the community has a significant advantage over a simple equipment grant.

There are other sources of revenues that can be addressed. Community block action grants through your State legislator(s) as well as corporate sponsorships are valuable sources of revenue. Providing advance life support services is another, and the list goes on. The main point is that it all starts with a needs assessment followed by the development of a mutually agreeable plan, then applying for funding to meet your objective. That's what we do!

### **Summary –**

Do we provide all these services for nothing? Absolutely NOT! However, the cost of our services in relation to the potential benefits can be significant. A single Alabama county has a pending FEMA grant of almost ONE MILLION DOLLARS based on our recommendations. They have less than a thousand dollars invested. Is that a good return on investment? We think so!

We charge \$70 per hour for our services. Typically, a complete assessment with suggested changes, and a plan for incorporating your needs into a grant application will be less than a thousand dollars. We always recommend the services of a professional grant writer working on a fixed fee basis. Typically this fee is in the five hundred dollar range.

Want to know more? Give us a call at 1.800.489.2611. Do it TODAY. A new grant program for fire and rescue services should be available by the end of summer!