Readiness Document for Joining WyoLink

The following is a list of steps that needs to be taken by an agency which wishes to join WyoLink. These steps include information from administrative, operational, interoperability and functional perspectives. The main topics of discussion will be coverage, interoperability, dispatch operations, subscriber readiness, training and cutover planning.

Topic 1: Declare Intent to Participate in WyoLink

As soon as an agency decides they wish to join the WyoLink system or desires more information about WyoLink the following steps should be followed.

1. Complete the WyoLink Membership Application and send to the PSCC. Completing the application does not require the agency to join, but it does start the process for more information.
2. The WyoLink Application and Information regarding joining WyoLink can be found at http://pscc.wyoming.gov or http://WyoLink.wyoming.gov/

Topic 2: Coverage Planning

Once an agency has made the decision to join WyoLink the next step that should be taken is for the agency to survey the coverage of WyoLink to ensure that it meets the agency's communications requirements. To test the system coverage the agency should take the following steps:

1. Contact WyoLink Support Manager, to arrange for the use of WyoLink capable loaner radios that can be used for coverage testing purposes. WyoLink can be contacted at 307-777-9565 or wyolink@wyo.gov.
2. Prior to testing the WyoLink system the agency should ensure they have detailed the criteria upon which the system will be tested.
   a. Are speaker microphones worn by officers? If so, they should be used for testing purposes.
   b. Is portable coverage required in-street or in-buildings? If testing in buildings, it is important to test several locations within the buildings to ensure the required level of coverage exists.
   c. If fire users will be utilizing WyoLink that normally wear specialized fire protective clothing or other equipment, the test should be done utilizing this same equipment to ensure accurate results.
   d. There should be a user located in a known area that provides excellent coverage from the WyoLink system. If possible, this test location should be equipped with a control station radio utilizing an external antenna system. This user should be the constant test point for all test calls. Other test users may move around the test area, but this user must stay constant in order to have valid results from the other locations.
   e. The agency's area of operation should be overlaid with a grid that serves to provide a means to track each test location. By utilizing a grid the

agency will have a better record of test locations that are acceptable and those that may require coverage enhancements prior to the agency being able to join the WyoLink system.

Once coverage testing is completed if coverage is found to meet the agency's needs they can move on to the remaining planning steps. If coverage is found to be inadequate, the agency should contact Marty McCoy with the WyoLink Support Office or Bob Symons with the PSCC to discuss the possibility of coverage enhancements in their area.

Topic 3: Interoperability Planning

It will be necessary for each agency to complete a plan for how it will interoperate with other agencies prior to the subscriber and dispatch planning processes. This plan needs to take into account whether all groups within the agency will migrate to WyoLink at the same to or whether there will be a period of time that the agency will need to communicate with some agencies on WyoLink and some using older conventional technology. This information will be used to assist in the configuration of both your subscriber radios and dispatch consoles. Each of the following issues will need to be addressed.

1. Which other agencies that are already on the WyoLink system do you communicate with on a regular basis?
2. Which other agencies that will remain on conventional operation do you need to communicate with on a regular basis?
3. During emergency situations who do you need to communicate with that may not be included in the list of agencies created in steps 1 and 2?
4. Do you currently use scan? If so, scan will work differently on the WyoLink system using wide area trunking technology that it does in your existing conventional operation. You must take this into account in your planning. If scan operation is not clearly understood prior to completing Subscriber Planning, the agency should consult Motorola for clarification.
    a. For the trunked scan feature to work, the subscriber unit scanning must be within range of the system.
    b. In an ASTRO25 system, the scanning subscriber will not know of the occurrence of Talkgroup calls for Talkgroups that are not affiliated at the scanning subscriber's site. This is very important to remember when creating the radio's scan lists.
    c. If conventional channels and trunked talkgroups are mixed in the radios scan list, calls may be missed. When the radio stops on a conventional call it can no longer monitor the trunking system. Scanning conventional channels may cause calls on the users primary trunked Talkgroup to be missed.
5. If you are a Fire agency, what is your plan for communicating during a fire call/emergency? Due to the nature of trunking systems it is recommended that you plan to communicate using a simplex ground channel. Leaving the trunking system will ensure that fire personnel do not receive a "system busy" as could be

the case on the trunked system if all resources are busy. The Fire Command vehicle should be equipped with radios that can communicate on both the simplex channel and the WyoLink talkgroup back to dispatch.
6. Do you using paging? If so, it will be necessary to maintain your existing paging station and pagers for that purpose. Trunked paging capability does not exist.

Topic 4: Subscriber Planning

The following process should be followed when getting your subscriber fleet ready to work on the WyoLink system.

1. Upgrade applicable radios to P25 and trunking capable
   a. Radios should be taken to your local service provider so that they can verify the WyoLink required software and firmware exists in the radio. If the software or firmware does not exist or outdated, the local service provider can provide a quote for the software and services necessary to upgrade the radios.

2. Radio Template Configuration and Programming
   a. The customer talkgroup layout and radio's functional programming needs to be determined with the assistance of WyoLink Support Office.
   b. Before programming all radios in a fleet a sample set of radios should be programmed with the radio template (conventional and trunked programming) that is provided by the WyoLink system management group to ensure the decided upon radio functions perform as desired. This is the agency's opportunity to ensure that the conventional channels and trunked talkgroups are correct. The radios should be checked to ensure they communicate on the new trunked talkgroups and continue to function on all existing conventional channels. It is also the time that the agency needs to ensure that all buttons and switches function as desired, and that features such as encryption, scan, call alert, alias display and emergency function as desired, if the radio is so equipped. The WyoLink Support Group will not make any modifications to the radio's conventional programming. All conventional programming must be as desired prior to sending the radio's archive to the WyoLink Support Office. Changes to your conventional programming can be made at any time by your local service personnel if you make changes to your conventional operation, but only the WyoLink Support Office can make modifications to the WyoLink system programming.
   c. Any trunking template modifications that come from the sample testing will be incorporated into the final templates by the WyoLink Support team. The finalized templates will be returned to the customer to be delivered to the customer's local radio shop.
   d. Once the radio programming template has been finalized, the entire fleet of radios can be programmed with the WyoLink trunking/Conventional template. There will be a fee associated with radio programming for

agencies that do not have their own technicians. Your local service provider can provide a quote to perform the flashing, tuning, and programming labor on your radios.

e. Trunked dispatch consoles have the capability of displaying a user alias at the dispatch position instead of the user's numeric unit ID.   A format for the aliases must be decided upon by each agency. A list of users and their aliases will need to be sent to the WyoLink Support Manager so that they may be loaded into the WyoLink system and transferred to the console subsystem.

Topic 5: Dispatch Operation Planning

Prior to using the WyoLink system each agency must put together a plan addressing how their dispatch center will function in a trunking environment. Some functionality of the center may continue to utilize conventional resource and some may migrate to the WyoLink system. It is suggested that each agency contact their equipment manufacturer to assist in this planning. The following must be taken into account:

1. Once the agency's talkgroup plan has been formulated it not only needs to be programmed into the mobile and portable radios, but it also needs to be programmed into the console system. If the agency is only using RF consolettes to communicate with the WyoLink system, their local service shops should be able to program the console subsystem for the new operation. If the agency has a wireline connection to the WyoLink system, they should contact Motorola for a quote to reprogram the console for trunking operation. Programming will need to take place in the WyoLink system as well as configuration files being created for the console system. **As part of this programming each agency will be given a 2 digit/letter designator that will identify it on the WyoLink system.** This 2 digit/character designator is required to be used as a preamble for all trunking resources, conventional channel names, auxiliary inputs and paging inputs. This preamble is necessary to ensure your agency's channel resources are unique in the system database.

2. Failure planning should take place prior to transitioning to WyoLink. It is necessary to ensure each agency's dispatch operators are capable of maintaining communication with their users in the event the dispatch center loses connectivity with the WyoLink system. Planning should include both trunked and conventional fall back scenarios.

3. If the agency uses paging to call out fire personnel, will it continue to function in the same manner? Will fire station alerting continue to be done via conventional channels? If so, once the page is sent via the conventional channel is the station equipped with a trunking radio to hear the voice message that will follow? If the station is equipped with a trunked radio, will station notification move to using WyoLink in the form of call alert paging with the voice to follow on the trunked talkgroup?

4. Moving to the WyoLink system will provide expanded features to wireline dispatch centers. Procedures will need to be put in place for utilizing the following functionality on trunked wireline dispatch consoles:
    a. How an Emergency Alarm will be processed when received from a mobile or portable
    b. Will Multi-Select be used as a method of merging multiple talkgroups into one group?
    c. How and when patching will be used as a means to connect conventional and trunking resources.
    d. Use of Announcement Call as a method for communicating to a large group of individuals simultaneously
    e. Use of Console Priority which will allow the dispatcher to override a user transmission in order to broadcast a transmission that is deemed to be more important.
    f. Use of encrypted transmissions to and from talkgroups
    g. Trunked dispatch consoles have the capability of displaying a user alias at the dispatch position instead of the user's numeric unit ID.   A format for the aliases must be decided upon by each agency. A list of users and their aliases will need to be sent to the WyoLink Support Manager so that they may be loaded into the WyoLink system and transferred to the console subsystem. This list of aliases may have already been created as part of subscriber planning.

Topic 6: User Training

Prior to cutover to the WyoLink system each user must be adequately trained on the use of mobile and portable radios in a trunking environment. The users must not only be trained on the use of the radios, but must be trained on the agency's policies for the use of the radios and talkgroups in the differing emergency situations. Contact WyoLinnk Support Office or the appropriate manufacturer (other manufacturer's radios) to obtain information on subscriber and dispatch center training. This training should include information on the following topics:

1. How trunking system operation differs from conventional operation.
2. How the radio's buttons and knobs work.
3. What talkgroups are programmed into the radio and when they are to be used.
4. What new features exist in trunking (such as emergency) that do not exist in conventional analog radio operation.
5. What the different radio tones mean when they are heard.
6. Is my radio equipped with encryption and how does encryption work on my individual radio.

Training also needs to take place for the console dispatch center operators. Console operators need to be trained to understand new trunking features that will be seen on the console. Training for the dispatchers will be dependent upon the manufacturer and type

of dispatch console each agency has purchased. Training for wireline dispatch centers will differ from that of dispatch centers utilizing control stations for their connection to WyoLink. Dispatch training should include information on the following topics if the features exist on the console:

1. How the operation of a trunked talkgroup window differ from a conventional channel window.
2. How to patch conventional and trunked resources and the ramifications of the operation.
3. How emergency alarm notifications arrive at the console, how they are acknowledged and how they are cleared.
4. How Multi-Select functions on the console and the ramifications of the feature.
5. How to call alert page from a dispatch console operator position.
6. Summary of the information that is contained in the Inbound Event Display window and how the information may be utilized.
7. How the console priority feature functions and how it can be used.

Topic 7: Cutover to WyoLink

Cutover planning needs to occur prior to migration to the WyoLink system to ensure that all aspects of migration have been addressed. This includes subscriber migration, console migration, fire alerting systems, paging systems, Knox box systems and all other systems or procedures that will be affected by cutover. Cutover planning is specific to each individual agency's operational requirements.

WyoLink Contacts

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