



**Federal Engineering Inc.**

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# Survey for the State of Wyoming Public Safety Mobile Communications Planning Project

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**INSTRUCTIONS:** Start by clicking the blank space at the right of "Your Name -- First." Fill in each field in sequence. Use the <Tab> key to move to the next fields *(Don't use the <Enter> key for this!)* Scroll-down the page using your mouse along the scroll-bar on the right side of your screen. Leave answers blank when not known. Fields marked **R** are *required* data. Thank you. [Back to Opening Web Page](#)

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## Section 1: Your Identification Please

**R** Your Name--**First:**

MI:

Last:

**R** Your Title/Position

Employee/Badge #

**R** Organization Name

**R** Type of Organization

If above is "Misc or Other"  
please enter Type

**R** Address line 1

Address line 2

**R** City

**R** County

**R** State and Zip Code

State:

Zip:

**R** Work Phone

(     )

-

Cell Phone

(     )

-

Fax Phone

(     )

-

E-mail Address

**R** Contact preference

Work Phone

Cell Phone

Fax

E-mail

**Section 2: Your Present Radio System(s) by Frequency Band**

Does your organization use the VHF Low, 220 MHz, 700 MHz, and/or 4.9 GHz band(s)?  
Check all used bands.

VHF Low Band

220 MHz Band

700 MHz Band

4.9 GHz Band

**Note:** If you have more than 5 licenses/RFAs, multiple base stations/repeaters, towers, locations, frequencies or one of the listed bands above, please download additional survey information spreadsheets in either [MS Excel](#) or [Corel Quattro Pro](#) (right click and select "Save Target As..."), fill in needed information, and email completed form to: [wyoingsurvey@fedeng.com](mailto:wyoingsurvey@fedeng.com)

VHF HIGH Band (150-175 MHz)

[Back Up](#)[Next Band](#)**General Information:****R** Does your organization use this Band?[No](#)

Yes

The FCC license/NTIA RFA callsign(s)

The FCC license/NTIA RFA expiration date(s)

The FCC licensee/NTIA RFA name is

How many licenses/RFAs do you have?

This system is used by your organization on a

Shared

Exclusive basis

If shared, with which other organizations?

What is the coverage area?

Wyoming Radio Survey

The geographic coverage of this system is Adequate Inadequate

The number of channels in this system is

The present number of channels is Adequate Inadequate

Normal annual peak number of simultaneous users

Describe traffic volume and seasonal patterns

What is the base station/repeater transmit frequency? MHz

What is the base station/repeater receive frequency? MHz

Additional number of channels needed When?

Is mobile data implemented? No Yes Planned - When?

Is voice encryption implemented? No Yes Planned - When?

Is trunking implemented? No Yes Planned - When?

Is digital modulation implemented? No Yes Planned - When?

Is narrow channel bandwidth (1/2 normal) implemented? No Yes Planned - When?

**Base Stations/Repeaters:**

Number of base stations/repeaters in the system

Transmitter power watts

Total transmit line loss dB

Transmit ERP watts

Receiver sensitivity uV

Total receive line loss dB

Antenna gain dB

Antenna pattern Omni Directional

If directional, give details

Antenna height feet

Feedline length feet

Feedline type

**Tower Site Information:**

Site ownership Owned    Leased

Location: Longitude degrees            minutes            seconds

Location: Latitude degrees            minutes            seconds

Tower height feet

Site elevation feet

Tower type

Age/Condition

Are there other antennas on this tower? No    Yes

If yes, how many?

Quality of lightning protection/grounding system Adequate    Inadequate

Shelter structure description/condition

Describe access to site (difficulty, distance to main road, transport needed, etc.)

HVAC systems: Heating    No    Yes  
Ventilation    No    Yes  
Air Conditioning    No    Yes  
Commercial    Generator    Solar

Primary site power:

**If generator is used:**

Generator capacity watts

Does generator supply equipment, HVAC, and utility power? No    Yes

Generator fuel type

Generator runtime

hours

Does site have an UPS?

No Yes

If yes, capacity

watts

Does it supply power to more than the radio equipment?

No Yes

UPS runtime at full load, without commercial/generator power

hours

Describe site security/alarms

Describe shelter security/alarms

**Vehicle Radios:**

Number of vehicle units in the system

of which are data-capable

List typical vehicle specifications:

Transmit power: watts

Receiver sensitivity: uV

Antenna gain: dB

Average age: years

**Portable Radios:**

Number of portable units in the system

of which are data-capable

List typical portable specifications:

Transmit power: watts

Receiver sensitivity: uV

Antenna height: feet

Average age: years

List typical portable accessories

Do you use in-vehicle repeaters/extenders?

No Yes

If yes, are they in-band or cross-band?

In-band Cross-band

What is the repeater/extender transmit frequency?

MHz

What is the repeater/extender receive frequency?

MHz

**Control Station Radios/Dispatch:**

Number of control stations in the system

Average age

years

Number of dispatch locations in the system

Number of dispatch consoles in the system

Are either the dispatch locations or consoles shared with other organizations?

No

Yes

If yes, with whom?

**System Information:**

Is this system subject to interference from other radio users?

No

Occasional

Objectionable

Is this system subject to static?

No

Occasional

Objectionable

The radio system is maintained by

If either Other Agency Agreement or Combination is selected, please specify:

List in-house test/programming equipment

In-house test/programming equipment is

Adequate

Inadequate

List in-house spare equipment

In-house spare equipment is

Adequate

Inadequate

**Annual system maintenance budget/costs:**

Loaded Labor Hours

\$

Periodic Recapitalization of User Equipment

\$

Facility Lease Costs

\$

Telco Costs

\$

Backbone Microwave Maintenance Costs

\$

Other Maintenance Costs

\$

Please Specify What "Other" Includes

Total Annual system maintenance budget

\$

<b>Please Rank System Problems in Priority Order</b> 1=highest					
Statewide Coverage	1	2	3	4	5
System Reliability	1	2	3	4	5
Interoperability	1	2	3	4	5
Congestion	1	2	3	4	5
Interference	1	2	3	4	5

Your remarks and comments please, below. Please elaborate.

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UHF Band (450-470 MHz) <a href="#">Back Up</a> <a href="#">Next Band</a>
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**General Information:****R** Does your organization use this band?[No](#)

Yes

The FCC license/NTIA RFA callsign(s)

The FCC license/NTIA RFA expiration date(s)

The FCC licensee/NTIA RFA name is

How many licenses/RFAs do you have?

This system is used by your organization on a

Shared

Exclusive basis

If shared, with which other organizations?

What is the coverage area?

The geographic coverage of this system is

Adequate

Inadequate

The number of channels in this system is

The present number of channels is

Adequate

Inadequate

Normal annual peak number of simultaneous users

Describe traffic volume and seasonal patterns

What is the base station/repeater transmit frequency?

MHz

What is the base station/repeater receive frequency?

MHz

Additional number of channels needed

When?

Is mobile data implemented?

No Yes Planned - When?

Is voice encryption implemented?

No Yes Planned - When?

Is trunking implemented?

No Yes Planned - When?

Is digital modulation implemented?

No Yes Planned - When?

Is narrow channel bandwidth (1/2 normal) implemented?

No Yes Planned - When?

### **Base Stations/Repeaters:**

Number of base stations/repeaters in the system

Transmitter power

watts

Total transmit line loss

dB

Transmit ERP

watts

Receiver sensitivity

uV

Total receive line loss

dB

Antenna gain

dB

Antenna pattern

Omni Directional

If directional, give details

Antenna height

feet

Feedline length

feet

Feedline type



**Tower Site Information:**

Site ownership	Owned	Leased		
Location: Longitude		degrees	minutes	seconds
Location: Latitude		degrees	minutes	seconds
Tower height		feet		
Site elevation		feet		
Tower type				
Age/Condition				
Are there other antennas on this tower?	No	Yes		
If yes, how many?				
Quality of lightning protection/grounding system	Adequate	Inadequate		
Shelter structure description/condition				
Describe access to site (difficulty, distance to main road, transport needed, etc.)				
HVAC systems:	Heating	No	Yes	
	Ventilation	No	Yes	
	Air Conditioning	No	Yes	
Primary site power:	Commercial	Generator	Solar	

**If generator is used:**

Generator capacity		watts
Does generator supply equipment, HVAC, and utility power?	No	Yes
Generator fuel type		
Generator runtime		hours
Does site have an UPS?	No	Yes
If yes, capacity		watts
Does it supply power to more than the radio equipment?	No	Yes

UPS runtime at full load, without commercial/generator power hours

Describe site security/alarms

Describe shelter security/alarms

**Vehicle Radios:**

Number of vehicle units in the system of which  are data-capable

List typical vehicle specifications:

Transmit power: watts

Receiver sensitivity: uV

Antenna gain: dB

Average age: years

**Portable Radios:**

Number of portable units in the system of which  are data-capable

List typical portable specifications:

Transmit power: watts

Receiver sensitivity: uV

Antenna height: feet

Average age: years

List typical portable accessories

Do you use in-vehicle repeaters/extenders? No  Yes

If yes, are they in-band or cross-band? In-band  Cross-band

What is the repeater/extender transmit frequency? MHz

What is the repeater/extender receive frequency? MHz

**Control Station Radios/Dispatch:**

Number of control stations in the system

Average age years

Number of dispatch locations in the system

Number of dispatch consoles in the system

Are either the dispatch locations or consoles shared with other organizations? No Yes

If yes, with whom?

**System Information:**

Is this system subject to interference from other radio users? No Occasional Objectionable

Is this system subject to static? No Occasional Objectionable

The radio system is maintained by

If either Other Agency Agreement or Combination is selected, please specify:

List in-house test/programming equipment

In-house test/programming equipment is Adequate Inadequate

List in-house spare equipment

In-house spare equipment is Adequate Inadequate

**Annual system maintenance budget/costs:**

Loaded Labor Hours \$

Periodic Recapitalization of User Equipment \$

Facility Lease Costs \$

Telco Costs \$

Backbone Microwave Maintenance Costs \$

Other Maintenance Costs \$

Please Specify What "Other" Includes

Total Annual system maintenance budget \$

**Please Rank System Problems in Priority Order** 1=highest

Statewide Coverage	1	2	3	4	5
System Reliability	1	2	3	4	5
Interoperability	1	2	3	4	5
Congestion	1	2	3	4	5
Interference	1	2	3	4	5

Your remarks and comments please, below. Please elaborate.

800/900 MHz Band [Back Up](#) [Next Section](#)

**General Information:**

**R** Does your organization use this band?

[No](#)

Yes

The FCC license/NTIA RFA callsign(s)

The FCC license/NTIA RFA expiration date(s)

The FCC licensee/NTIA RFA name is

How many licenses/RFAs do you have?

This system is used by your organization on a

Shared basis

Exclusive basis

If shared, with which other organizations?

What is the coverage area?

The geographic coverage of this system is

Adequate

Inadequate

The number of channels in this system is

The present number of channels is

Adequate

Inadequate

Normal annual peak number of simultaneous users

Describe traffic volume and seasonal patterns

What is the base station/repeater transmit frequency?

MHz

What is the base station/repeater receive frequency?

MHz

Additional number of channels needed

When

Is mobile data implemented?

No Yes Planned - When?

Is voice encryption implemented?

No Yes Planned - When?

Is trunking implemented?

No Yes Planned - When?

Is digital modulation implemented?

No Yes Planned - When?

**Base Stations/Repeaters:**

Number of base stations/repeaters in the system

Transmitter power

watts

Total transmit line loss

dB

Transmit ERP

watts

Receiver sensitivity

uV

Total receive line loss

dB

Antenna gain

dB

Antenna pattern

Omni Directional

If directional, give details

Antenna height

feet

Feedline length

feet

Feedline type

**Tower Site Information:**

Site ownership

Owned Leased

Location: Longitude

degrees minutes seconds

Location: Latitude

degrees minutes seconds

Tower height		feet
Site elevation		feet
Tower type		
Age/Condition		
Are there other antennas on this tower?	No	Yes
If yes, how many?		
Quality of lightning protection/grounding system	Adequate	Inadequate
Shelter structure description/condition		
Describe access to site (difficulty, distance to main road, transport needed, etc.)		
HVAC systems:	Heating	No Yes
	Ventilation	No Yes
	Air Conditioning	No Yes
Primary site power:	Commercial	Generator Solar
<b>If generator is used:</b>		
Generator capacity		watts
Does generator supply equipment, HVAC, and utility power?	No	Yes
Generator fuel type		
Generator runtime		hours
Does site have an UPS?	No	Yes
If yes, capacity		watts
Does it supply power to more than the radio equipment?	No	Yes
UPS runtime at full load, without commercial/generator power		hours
Describe site security/alarms		
Describe shelter security/alarms		
<b>Vehicle Radios:</b>		
Number of vehicle units in the system		of which are data-capable
List typical vehicle specifications:		

Transmit power: watts

Receiver sensitivity: uV

Antenna gain: dB

Average age: years

**Portable Radios:**

Number of portable units in the system of which are data-capable

List typical portable specifications:

Transmit power: watts

Receiver sensitivity: uV

Antenna height: feet

Average age: years

List typical portable accessories

Do you use in-vehicle repeaters/extenders? No Yes

If yes, are they in-band or cross-band? In-band Cross-band

What is the repeater/extender transmit frequency? MHz

What is the repeater/extender receive frequency? MHz

**Control Station Radios/Dispatch:**

Number of control stations in the system

Average age: years

Number of dispatch locations in the system

Number of dispatch consoles in the system

Are either the dispatch locations or consoles shared with other organizations? No Yes

If yes, with whom?

**System Information:**

Is this system subject to interference from other radio users? No Occasional Objectionable

Is this system subject to static?

No Occasional Objectionable

The radio system is maintained by

If either Other Agency Agreement or Combination is selected, please specify:

List in-house test/programming equipment

In-house test/programming equipment is

Adequate Inadequate

List in-house spare equipment

In-house spare equipment is

Adequate Inadequate

**Annual System Maintenance Budget/Costs:**

Loaded Labor Hours

\$

Periodic Recapitalization of User Equipment

\$

Facility Lease Costs

\$

Telco Costs

\$

Backbone Microwave Maintenance Costs

\$

Other Maintenance Costs

\$

Please Specify What "Other" Includes

Total Annual system maintenance budget

\$

<b>Please Rank System Problems in Priority Order 1=highest</b>					
Statewide Coverage	1	2	3	4	5
System Reliability	1	2	3	4	5
Interoperability	1	2	3	4	5
Congestion	1	2	3	4	5
Interference	1	2	3	4	5

Your remarks and comments please, below. Please elaborate.



Commercial Alternatives [Back Up](#) [Next Section](#)

Has your organization tried or considered alternatives to land mobile radio? [No](#) Yes

Which commercial alternative wireless technologies have been tried by your organization?

If above is "Other" or "Combination of above" please enter type(s)

Were the results of trying alternative wireless technology satisfactory?      Unsatisfactory      Partly Satisfactory      Highly Satisfactory

If the results of using alternative commercial services were less than highly satisfactory, please elaborate.

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### Section 3: Future Radio System Needs

This is your opportunity to convey your ideas for an improved public safety radio system. Please be thoughtful and creative. Your responses will be studied and combined with others to develop communication system requirements. Thank you.

Please describe all public safety radio system improvements/additions that were funded by October 2002.

Base Stations	Quantity	Budget \$	Estimated Implementation Date
Repeaters	Quantity	Budget \$	Estimated Implementation Date
Vehicle Units	Quantity	Budget \$	Estimated Implementation Date
Portable Units	Quantity	Budget \$	Estimated Implementation Date
Control Stations	Quantity	Budget \$	Estimated Implementation Date
Dispatch Consoles	Quantity	Budget \$	Estimated Implementation Date
Dispatch Locations	Quantity	Budget \$	Estimated Implementation Date
Mobile Data Terminals	Quantity	Budget \$	Estimated Implementation Date
Radio Channels	Quantity	Budget \$	Estimated Implementation Date
Other Growth Components (provide description, quantities, budget, and estimated implementation dates in text box)			

Please estimate all other expected growth requirements in your system(s) over the next 5 years, not described above.

Number of additional base stations

Number of additional vehicle units

Number of additional portable units

Number of additional control stations

Number of additional dispatch consoles

Number of additional mobile data terminals

Number of additional radio channels

Other growth components

---

Does your organization need to communicate using PSMC voice communications with other organizations which cannot now be done?      No      Yes

Which other organizations?

How important is your need for this additional PSMC communication capability?      Optional      Regular Ops      Mission Critical

---

Does your organization need to communicate using PSMC data with other organizations which cannot now be done?      No      Yes

Which other organizations?

How important is your need for PSMC data communication capability?      Optional      Regular Ops      Mission Critical

---

Does your organization require encryption (scrambling) for voice or data PSMC communications?      No      Yes

How important is your need for encrypted PSMC communication capability?      Optional      Regular Ops      Mission Critical

---

**Homeland Security:** In light of recent events, what other system features or capabilities would be required to enhance "homeland security?"

**Please Rate Future Enhanced Features You Will Need To Provide For Resolving Life/Safety Issues That Are Not Currently Being Met**

Statewide Roaming Coverage	Low	Medium	High
Automatic Vehicle Location	Low	Medium	High
Mobile Card Swipe (see note 1)	Low	Medium	High
Mobile Data Access (see note 2)	Low	Medium	High
Mobile E-mail	Low	Medium	High
Mobile Identification	Low	Medium	High
Mobile Printing	Low	Medium	High
Mobile Video	Low	Medium	High
Mobile Voicemail	Low	Medium	High
Paging	Low	Medium	High
Other	Low	Medium	High
Other	Low	Medium	High

NOTES:

1. Used for driver's licenses when equipped with magnetic stripe, shift sign-on/off with smartbadges, other mag stripe applications.
2. Wants & Warrants, NCIC, Incident Report, other databases.

What other features, benefits, design considerations, and general input do you have to offer concerning your future radio system requirements? Your comments please.



## Section 4: Last Step -- Read Carefully

**R** Are all *Required* Fields completed? Check back and be sure!

If one or more *Required* fields were left blank, an error window will remind you to fill in the necessary field. Just find the blank *Required* field and fill it in. Then click the **Submit Survey Data** button again.

Thank You for Participating in the Planning Survey!



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