Sweetwater Combined Communications Joint Powers Board

2019 Annual Report

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INTRODUCTION

This document covers projects that have been completed, are currently underway, coming this fiscal year, and planned for FY21. There are also some key statistics from 2019 and prior years, as well as the services we currently provide to our agencies and the public.

This report was written for members of the Rock Springs and Green River City Councils, the Sweetwater County Commission, and the Sweetwater Combined Communications Joint Powers Board. If you are interested in more information about dispatch operations in Sweetwater County, or would like a tour of our facilities, feel free to contact us using the information below.

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COMPLETED PROJECTS

EMERGENCY OPERATIONS CENTER (EOC) DISPATCH MOVE

Our backup dispatch center was moved from the old Sheriff's Office and Courthouse on C St, to the Sweetwater County Justice Center on Highway 191 South. With this move, new dispatch furniture and radio consoles were installed. The old radio console system was no longer supported, and the new system matches our radio consoles in Green River. Both the primary and backup centers are configured the same for ease of use by our communicators.

The new furniture has the ability to raise and lower the desk and monitor tree independently, as well as slide the monitor tree front to back for better ergonomics. Each workstation also has a "tech tower" that houses the computers for radio, phones, and computer aided dispatch (CAD).

Figure 3 - Workstations 1 and 2

Figure 2 - Workstation 3

Figure 1 - Network and radio console equipment

JUSTICE CENTER TOWER

The tower at the old Courthouse was also moved to the Justice Center. This tower allows us to have excellent radio communications from that location, as well as a microwave backhaul for network redundancy. While the tower is standing, there are still a few minor punch-list items remaining in this project for the Spring.

Figure 4 - Conduit and ice bridge construction at the base of the tower

Figure 5 - Newly stacked tower at the Justice Center

TRANSITION OF RADIO CONSOLE FROM T1 TO ETHERNET

Since 2012, our dispatch center in Green River was connected to the WyoLink network with a CenturyLink T1 to Cheyenne. T1 connections are becoming more expensive, and are being phased out due to newer and better technologies becoming available. WyoLink has been transitioning dispatch centers throughout the State to an Ethernet-based solution through the Wyoming Unified Network. We have worked with WyoLink to transition our center, as well as the backup center, to Ethernet. Moving forward, this move to Ethernet will allow us to have redundant connectivity into the WyoLink trunked system that T1s were not capable of doing.

TRANSITION OF MANSFACE WYOLINK SITE FROM T1 MICROWAVE TO ETHERNET

Similar to our dispatch center transitioning from T1 to Ethernet, we also had the opportunity to convert one of WyoLink's RF sites to Ethernet. Mansface in Green River is connected to our dispatch center as a part of our microwave network and ring topology. Since we have connectivity to the Wyoming Unified Network at dispatch, we extended that network to the RF site and brought it online with a second router. This site now has better resiliency during winter weather, and keeps us communicating seamlessly with first responders in the Green River area.

GREEN RIVER FIRE AND LAW REPEATERS

In 2018, we installed conventional fire/rescue and law repeaters in Rock Springs and on Aspen Mountain. These sites provide radio communications to any law, fire, and EMS agencies in Sweetwater County when WyoLink is unavailable. These repeaters operate in analog as opposed to WyoLink's digital P25 system, and provide better coverage in buildings and low signal areas.

In 2019, we finished the project by adding the Green River fire/rescue and law repeaters on Mansface.

Figure 7 - Combiner system on Mansface to allow new repeaters to use existing antennas on the tower

Figure 6 - New repeaters installed in the rack along with paging radio

EPD IMPLEMENTATION

In 2018, our dispatch center went live with medical and fire call-taking protocols. In early 2019, we went live with police call-taking protocols. These protocols ensure that important questions are asked, and responses recorded in a consistent manner during 911 and administrative calls. Every communicator in our center will ask the same questions of the same call type, every time. This process also allows first responders to respond accordingly depending on the determined priority of the call.

Protocols are reviewed at a local, regional, and national level periodically through dispatch review committees. Calls are also reviewed weekly by QA-certified communicators using quality assurance tools. Our communicators are required to re-certify every two years in all three disciplines. (EMD, EFD, and EPD)

Our agency is also in the process of receiving ACE accreditation through the International Academies of Emergency Dispatch (IAED).

CONSOLE NOTIFICATION LIGHTS

Light poles were installed in dispatch at each workstation. Each pole has a blue and amber colored light to indicated radio and phone traffic. If the blue light is on, this means the radio is either receiving on a selected channel, or the position is transmitting. If the amber light is on, this means there is an active telephone call at the position. These lights allow others in the room to know if a communicator is busy speaking or listening to someone on their headsets. Since our staff sits behind monitors, it is hard to tell is someone is engaged in a task.

CYBER SECURITY MONITORING

We work with sensitive data every day in dispatch. This information can range from social security numbers, to criminal histories, to medical data, and to law cases. In addition to handling this data, our communicators speak with the public, use email, and browse the web when researching information. Cyber security is measured by risk and attack surfaces. The risk of information being disseminated is high, and the attack surface is the way our staff communicates. In addition, we also have a public website, and outside agencies connecting into our network.

We have great cyber security protection using firewalls, anti-virus software, end point security, spam filtering, and security awareness training. However, we never really had another set of eyes on our internal network.

In 2019, we installed an appliance that actively monitors all traffic inside of our network, and notifies us of potential threats. If a device in our network gets compromised, this tool will notice unusual traffic and alert us of the threat immediately. In addition to automated alerts, we subscribe to an outside service that will monitor threats 24/7 and call us by phone of an eminent attack.

RAVE ALERT

We replaced our prior emergency notification system with RAVE Alert. This new system allows us to send alerts by voice, text, email, IPAWS (Integrated Public Alert and Warning System) and WEA (Wireless Emergency Alerts). In addition to emergency alerting, public safety agencies in the County can use the system to notify personnel and volunteers. The system can also be used to notify the public of severe weather, road work, water line repairs, etc. RAVE Alert is also tied into our Smart 911 service, which users can sign up to receive the alerts they care about the most.

CURRENT AND UPCOMING PROJECTS REMAINING IN FY20

AUDIO LOGGER SYSTEM UPGRADE

Our current audio logging equipment is running on outdate hardware and unsupported operating systems. This equipment will be replaced with new hardware and software. We will also gain additional functionality in reporting, quality assurance integration, and CAD data.

MICROWAVE BACKHAUL RECONFIGURATION

With the move of our EOC dispatch, and the addition of a new WyoLink site in Rock Springs, our microwave network will need reconfigured to maintain resilient network connectivity and provide data communications to our radio equipment. This project is budgeted in fiscal year 20. However, the construction of the WyoLink site in Rock Springs must be completed before we can proceed. This project may be carried over into fiscal year 21.

DATA CENTER SUPPLEMENTAL COOLING

Our data center in Green River has a single cooling unit, which is reaching eight years old. This unit is in great shape, and we can probably get another eight years out of it. However, if it were to fail, the room would be without cooling. Many critical systems are housed in this data center. This year, we are going to be installing two 3-ton split systems to take over if the main unit fails. This will also allow us to take the main unit offline for an extended period of time for maintenance/replace in the future.

DATA CENTER SUPPLEMENTAL UPS SYSTEM

As with our cooling system at our Green River data center, we also only have one leg of UPS battery power. While the UPS keeps everything running until the generator starts during a power outage, if it were to fail, all of our critical systems would go offline for minutes or even hours. Much of our equipment has dual power supplies, which means that they can be powered from two power sources. With a second leg of UPS power, we can continue to operate regardless if the primary unit fails or not. Also, we will be able to take down the primary unit for extended periods of time for maintenance or replacement.

CONFERENCE ROOM AV SYSTEM UPGRADE

Our conference room audio/visual equipment has been showing its age for a few years, and some of it has started to fail. When the system was originally installed eight years ago, it was designed with aging equipment at the time. The control system can only be programmed and modified by a certified vendor, which costs a significant amount to bring someone from Salt Lake City. In looking for a new system, we have found a product that can be programmed in-house, and is future proof. The equipment operates over our IP network, and can be upgraded one component at a time moving forward rather than fork-lifting the entire system. This project is nearly complete, and should be finished in a couple months.

PROJECTS PLANNED FOR FY21

DISPATCH AV SYSTEM UPGRADE

Our dispatch room's audio visual system is identical to our conference room's old equipment. We are experiencing the same issues with the dispatch AV equipment, and it needs to be replaced as soon as possible. The AV system in dispatch allows our communicators to monitor cameras in our building, schools, and other agencies. In addition, they can display important information about a current incident. The new AV system will be tied into the conference room's equipment, which will allow for a much better user and administrative experience.

MOBILE REPEATER TRAILER

One of the biggest challenges for public safety in Sweetwater County and much of Wyoming is having reliable portable radio coverage. A majority of the time, radio coverage in certain areas of the County are only needed for a few days. Incidents like search and rescue, and wildland fires are great examples. In these cases, on-scene communications are handled by talk-around channels. However, without a repeater, these radios won't be able to talk to dispatch, or talk to another radio outside of portable range. A mobile repeater trailer can solve these issues in pockets of little to no radio coverage.

We are working on different funding sources for this project outside of our normal budget. This project is a great fit for grants and impact assistance funds.

STORAGE UPGRADES

Our backup and video storage servers are end of life for support, and are running unsupported operating systems. In addition, our primary storage servers are running near capacity. To fix these issues, we will be purchasing a new backup appliance that is subscription based, meaning that hardware and software will continually be upgraded into the future. Also, we will be expanding our existing storage arrays to compensate for capacity and video storage issues.

REPEATER AND PAGING UPGRADES IN FARSON

In 2018, we implemented a new paging system that we are licensed to use County-wide. We have transmitter sites in Rock Springs and Green River, and they cover those cities very well. For our rural communities, we rely on a single radio on Wilkins Peak to relay paging tones to repeaters in those communities. This is a point of failure that could result in losing our ability to page multiple agencies.

Starting with Farson, we will add a paging radio to the existing tower at the fire station, and a voice gateway to operate the repeater remotely using 4-wire audio. This configuration will be much more reliable, as well as provide a secondary means of paging Farson EMS and Fire.

KEY STATISTICS

PHONES AND 911

The numbers below are from our 911 phone system, Motorola CallWorks. We went live with this system in October 2016; therefore this table starts with the first full year of data from 2017.

	2017	**2018**	**2019**
911 Voice Calls	15,089	14,011	15,588
% Wireless	85.73%	86.98%	88.97%
911 Text Calls	43	46	39
Inbound Admin Calls	70,437	61,534	60,423
Outbound Admin Calls	33,841	31,867	31,624
Total Calls	*119,410*	*107,458*	*107,674*

CALLS FOR SERVICE

The numbers below are from our CAD system, Motorola Spillman Flex. We went live with this CAD system in August 2017; therefore this table starts with the first full year of data from 2018. In addition, we went live with Priority Dispatch near the end of 2018. This may affect how data was entered into our CAD system in 2019.

	2018	**%**	**2019**	**%**
Rock Springs Police Department	39,457	42.60%	33,549	42.22%
Sweetwater County Sheriff	23,108	24.95%	20,363	25.63%
Green River Police Department	17,636	19.04%	15,723	19.79%
Sweetwater Medics	4736	5.11%	3557	4.48%
Rock Springs Fire Department	3597	3.88%	2388	3.01%
Castle Rock Ambulance Service	1861	2.01%	1859	2.34%
Green River Fire Department	935	1.01%	833	1.05%
Sweetwater Fire District #1	711	0.77%	495	0.62%
Farson Eden Fire/EMS	265	0.29%	360	0.45%
Sweetwater County Fire Dept	186	0.20%	186	0.23%
Wamsutter Fire Department	57	0.06%	83	0.10%
Superior Police Department	51	0.06%	27	0.03%
Granger Fire Department	12	0.01%	23	0.03%
Superior Fire Department	10	0.01%	16	0.02%
Total Calls for Service	*92,622*		*79,462*	

RADIO USAGE

The radio usage numbers below are from the State-wide P25 radio system, WyoLink. These are just a handful for the channels we communicate on, and are not a complete picture of radio usage in our dispatch center. These numbers also only count digital channels, as we do not have a good way to measure analog radio usage (yet). The columns labeled "PTTs" are the push to talks, which are the number of times a user "keys up" the radio channel. The columns labeled "Minutes" are the actual amount of talk time users speak on their radios.

Primary Agency	Talkgroup	2018 PTTs	2018 Minutes	2019 PTTs	2019 Minutes
Rock Springs Police	04RSPD	530,021	40,398	529,904	38,906
Sweetwater Sheriff's Office	04SO1	359,189	28,443	373,352	29,660
Green River Police	04GRPD	309,135	22,996	313,688	22,739
Rock Springs Fire Department *	04RSFD1	23,054	2,514	6,715	1,182
Green River Fire Department *	04GRFD	22,704	1,982	20,603	1,770
Sweetwater County Fire Dept	04FIRE **	7,579	834	9,846	1,010
Sweetwater Fire District #1	04SCFD1	22,535	1,757	17,168	1,537
Castle Rock / Sweetwater Medics	04EMS **	99,389	7,489	101,509	7,532
County-Wide Mutual Aid	04CAT1	21,120	1,959	20,256	1,607

* These agencies also operate on analog conventional channels for dispatch radio traffic.
** These talk groups are used to dispatch multiple agencies.

OTHER

- Over 700 devices communicating with our network (includes servers, desktops, laptops, phones, tablets, etc.)
- Over 500 users using Spillman Records, Jail, CAD, Mobile
- Over 160TB of data transmitted in and out of our network in 2019
- 89,904 users accessed the sweetwater911.org website with 606,787 hits.
  - 97% of these hits were users accessing the Jail Roster
- Over 66,100 emails sent and received

SERVICES PROVIDED

TO AGENCIES

- 911 Dispatch
- Spillman FLEX: Records management system, jail management system, mobile computer aided dispatch, evidence management, automatic vehicle location, asset management, NCIC access, etc.
- Warrant entry and validation
- Protection order entry and validation
- Terminal agency coordinator (CJIS compliance)
- Priority Dispatch: Call taking protocols
- NICE: 911 telephone and radio logging
- Conventional radio system and paging infrastructure
- Microwave network backhaul
- IT support for dispatch related software and hardware
- Basic radio programming and support of agency radios
- RapidSOS location and connected car data
- Smart911 safety and facility profiles
- 3SI asset tracking: Track stolen merchandise
- TipManager: Monitor public submitted tips from TipSubmit
- RAVE Alert: Emergency and non-emergency notifications to the public and personnel
- TLO: Background check software
- HipLink: Text paging software
- Mobile communications and dispatch equipment (mobile command post)
- Training for services we provide, as well as cooperative training, sit-a-longs

TO THE PUBLIC

- 911 (Voice and Text)
- Smart 911:
  - Safety profiles with data provided by the public (medical conditions, pet descriptions, emergency contacts, house floor plans and utility shut off locations, etc.)
  - Weather and emergency alerts
  - Facility profiles with data provided by businesses and organizations (floor plans, emergency plans, hazards, emergency contacts, etc.)
- RapidSOS: Ability to receive accurate GPS location of 911 wireless callers (iOS and Android smartphones)
- Education about 911 and dispatch
- Answer calls for service, and dispatch appropriate resources for fire, medical, and law enforcement
- Online Jail Roster
- TipSubmit: Provide the ability for the public to submit anonymous crime tips