Event Type: IWI Communication Issues

Date: March 2026

Location: Morrill and Cottonwood Fires; Nebraska

IWI Communication Challenges on the Morrill and Cottonwood Fires

Lookouts, Communications, Escape Routes, and Safety Zones—these are the four basics for any engagement in fire suppresion.

"Communication" was certainly the challenge on the Morrill and Cottonwood fires—that both started on March 12, 2026, in southwest Nebraska. Interoperability concerns surfaced between the federal agencies using VHF and the state and county agencies using 800 MHz.

The Morrill Fire became the largest fire in Nebraska history, just shy of the entire size of Rhode Island. Both of these fires ignited under extreme drought and Red Flag conditions. These fires grew at an explosive rate, quickly exceeding the capacity of the local fire departments. A Complex Incident Management Team (CIMT) was assigned to manage both of these fires.

The terrain where both these fires were located is flat prairie with rolling hills. The CIMT established an Incident Command Post (ICP) for the Morrill Fire in Ogallala and a Base[1] for the Cottonwood Fire in North Platte.

Both of these locations had a staffed communication trailer and a communication plan that was developed with federal VHF frequencies. The communication technicians went to work running modeling programs on where to insert repeaters to ensure that incident communications could be established beyond the line-of-sight tactical channels.

CIMT Devises a Communication Plan for IWI Incidents

After three days of working with some locals, getting land use agreements in place, and setting up repeaters, the reliable radio communication system—which wildland firefighters are accustomed to—was still not operational. The culprit? The vast geographic areas that these fires encompassed and the flat terrain in which they were burning.

The 30-watt radios that are in the communication trailers did activate some of the repeaters. However, the 2-watt handheld radios and 5-watt mobile radios did not have enough power to transmit back to the communication trailers.

Any proposed plans for moving the trailers from ICP and Base closer to the fire would not resolve this issue. In fact, doing so would only create additional challenges of the communication trailers not being located in the same area as the Command and General Staff (C&G). The C&G would therefore have to relay messaging and the coordination of resources via cell phone through the communication trailer back to the field.

[1] A "Base" is a camp that has everything that an ICP provides without some of the Command and General Staff. A Base provides a small supply unit, medical unit, communication unit, etc.

During the evening of the fires' third day of no reliable radio communication, several members of the CIMT met to determine a reliable way to communicate Incidents Within an Incident (IWI) back to ICP and Base. The solution the CIMT devised was to provide every middle leadership position—Taskforce Leader through Branch—with a mobile Starlink. Approximately 50 were distributed.

The communication trailer at ICP was provided a dedicated IWI phone. In the event of an IWI being called in on a tactical channel, the closest middle leadership would respond to the location. Once on scene, middle leadership would call incident Communication on the dedicated cell phone and proceed with IWI protocols.

The following morning this process was briefed to all middle leadership during the Pre-Ops meeting along with a short "cheat sheet" of specific instructions. This was also discussed at the Operational briefing for all incident personnel by several C&G members and the Incident Commander (IC). The dedicated IWI phone number was added to the special instructions on the ICS 205 (Incident Radio Communications Plan) as well as in the ICS 206 WF (Medical Plan) under each Division.

The CIMT conducted an IWI exercise using the cell phone and text system with field resources. Given the levels of complexity this involved, this training went well—especially when the exercise went from cell phone on speaker phone to strictly a text message system.

During the texting-only period there was a lot of staring at phones in the IWI room and a lot of silence as people managed several text groups. Information was being received, but at different rates. This was likely due to several text groups being activated at the same time and messages were temporarily being "overlooked." It was imperative for key C&G to verbally communicate what was being shared through their text thread.

Interoperability Challenges

On an emerging incident there will always be some time lag of getting off the local unit communication system and establishing an incident communication system. On the Morrill and Cottonwood fires this was complicated because the local radio system is an 800 MHz system and the federal agencies utilize a VHF radio system. From the beginning, this situation created interoperability challenges.

In addition, this complication was compounded when the traditional VHF radio system that many use and are accustomed to in wildland fire, could not be rapidly established due to topography challenges and the great distances that both of these fires covered. From the heel of the Morrill Fire to the head of the Cottonwood Fire was 167 miles, with an approximate 1,000 feet of elevation difference.

How does the local unit manage these communication challenges?

In this instance, the local unit is either state or county. As recommended in the aftermath of the 9/11 terror attacks, these emergency response units have switched to or maintained an 800 MHz radio system. Many of the Command vehicles for these local units have a portable antenna mast that they deploy during emergency response. They also have a linked radio system that allows cell phone communication through any carrier.

During the remainder of the time that the CIMT was committed to these fires, the CIMT utilized a combination of these systems to create reliable radio communication processes for both fires and the Initial Attack responsibility for the entire state. These included: a VHF National Interagency Fire Center (NIFC)-linked system to the state VHF system; a dedicated VFH state system; and a dedicated IWI cell phone.

"This is like a pair of pants with an elastic waist band, a belt, and a pair of suspenders," noted one of the fire responders. *"Any one of those will keep the pants on. Just like any one of these communication systems will work for the fires and the IA responsibility for the entire state."*

Lessons

Communication Lessons

Not any one single communication system is effective in all situations. Emergency responders need to consider multiple approaches to establish communications, especially on emerging incidents. It is okay to be innovative. We don't have to always work in our comfort zone.

- Consider all options for communications. This includes the possibility of a tethered ballon or blimp over the fire with a repeater, Starlink with Wi-Fi calling, 800 MHz radio, Civil Air, push to talk cell phones, text groups, etc. Many of these options were considered on the Morrill and Cottonwood fires. Some were tested and implemented.
- Dedicate an IWI phone with communications immediately. While not perfect, many areas do have cell service or Wi-Fi calling with Starlink, especially as communication systems are being established.
- Starlinks have some limitations, likely due to the power source.
    - On the Morrill and Cottonwood fires incident, several resources had periods in which they could not place or receive calls. However, texts seem to always work, likely due to a lower power supply.
    - It is recommended that the Starlink be hardwired straight to the battery with an in-line fuse.
    - Consider using a 12-volt 30-watt power adapter as another alternative.
    - Some vehicles shut off auxiliary power automatically when the vehicle is shut off, which can shut down the Starlink. Some of the newer vehicles turn themselves off after idling for a period. Therefore, consider keeping your vehicle running the entire time.
- Middle management and medical resources should all have a Starlink to have a back-up communication system and key phone numbers shared. This means that there may need to be 40-60 Starlinks, depending on the resources on the fire.
- Radio communications were available on high points. As people dropped into lower elevations, they lost their communications. Therefore, Divisions and Task Force Leaders were marking the known radio communication spots. Know/mark those high points to have some redundancy in the system.

IWI Drill Lessons

- Utilize the Ops text group to share IWI intel by sending a text: "clear the communication, IWI over the phone" to inform everyone—because they will not be able to hear over the radio.
- During the IWI drill on the Morrill and Cottonwood fires, the CIMT's IWI process was followed, which included having Ops in the IWI room.
    - Some people are on multiple group chats—making it difficult to manage.
    - Add the IWI IC (real-time) to the IWI group chat to reduce communication overload.
    - Maps and pictures were shared, some of which did not download.
    - IWI IC and middle management with Starlinks cannot focus and read texts; assign a field scribe to help.

This RLS was submitted by:

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