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I can actually go in and change my views interactively inside of here. Nice little poll out. Very nice. You can see what's on and off by looking at the little orange bar so when I tap on it the orange

Please stand by for realtime captions.

I'm going to introduce our next two speakers.

The next topic we're going to go over is GIS and unit issues of incidents and Tyler [Indiscernible] from the Forest Service from Region I and then I will be doing a presentation to start it off and Tyler is going to come up after I get the presentation and talk about issues and resolutions that he has come up with with problems you has had on incident.

We are getting everything up here so everyone online can see the presentation. As far as the Internet issues last month we had a fire scope GIS working group meeting and we discussed the Internet issues within our group and we met with emergency -- emerging technology group another working group with fire scope and further discussed it and try to come up with solutions with that group.

Some of the issues we run into not always we don't always have Internet available when we arrive and then based on our survey at the end of our season our annual survey that we do, 23% of the people that responded said they didn't have Internet when they arrived at the incident. That's quite a bit. The other thing we know we have been with coming up loads -- so uploads and downloads, that happens on a regular basis. ICP is in remote areas a lot of cases if they have poor Internet connectivity. Little or no connectivity. On incident you are usually -- FFY site -- Wi-Fi setup and you are sharing it with everyone on incident so there's too many users on that connection and if you have hardwired, same situation. The network but throughout the whole incident everyone is writing on the same Internet connection. Doesn't work very well when you have all of these people and especially when you have all the firefighters in the stuff tagging into that. And doing their personal e-mail and all that. The wind up with very little bandwidth. The other thing is we talked about this already with the QR codes for the firefighters to get the maps and with them on APT they are using, they are all coming in on Wi-Fi in trying to download them through the Wi-Fi used on the incident. The other thing that's a big problem is your in that dropping off followed by and upload those without NIFC FTP -- it is partially of there and then stops and if you didn't know that you had the Internet drop-off while it was being uploaded, that file up there on the FTP I can is probably going to be corrupt so you might go and upload it start uploading the file and go off and talk to someone and do what -- whether jobs and you thought uploaded fine, but someone downloads a later on and so my sister file is not good give you upload it again? That's probably because you check off off. These some common issues.

Most of you probably had on a incidents. There's a lot more than that probably, you could probably chime in with more and we will open it up for discussion after Tyler gets on.

Some of the solutions that we came up was we have a dedicated Internet connection for GIS. You are on your own Internet connection, not sharing the with other people on the incident. Set up strong password policy for Internet access on your -- for your Wi-Fi in the stuff on the incident and don't give it out to everyone. That's part of the IT people on the incident there setting up the Internet connection and getting all the passwords and network set up, and all the passwords and if you give it to everyone in the world than everyone in the world is going to be on the Internet so they need to have some cap on who gets that password, the logging and password to your Wi-Fi. The other thing if you have everyone has their cell phones and some people have their Wi-Fi mobile hotspots and stuff, you have to use those a lot of times. The bad thing about is on. Fires your in an incident in the middle of nowhere and there is no cell phone connectivity or service to the area so you cannot

use the hotspot. A lot of times you do have it and the other thing is if they have the cell provider sets up there, the [Indiscernible] about the sell signal you can use your mobile hotspot when they do that. There is one of the IT guys but that you merging technology group you said in the setup the Internet and Wi-Fi in all that, it he can manage it to who gets what bandwidth and yes Sharp IT working people on your C-T SPMs. forget on the fires of setting up the word at work, if they know what they are doing their software and ways of doing it, they can restrict the bandwidth because different people, different users on the incident so that's another way to manage the bandwidth and stuff. The other thing is as far as a GISS you have your certain times likely to that night after you get all your maps updated in posting your data, that's what you want some good bandwidth during the middle of the date you might not need as much unless you're doing a 12 our operational period and you have to upload things twice. You have -- the certain times of the day when you need that bandwidth and you get it to all your files uploaded and anything you need to download you get it downloaded. If you know when you're going to be doing that you can get it set up where the increase in bandwidth for users in those periods. Setting up the dedicated MiFi or Bluetooth hotspot. For firefighters to use for getting the code to getting the maps or just like we talked about the other day as far as having them on the network server on the incident so they don't have to go to the Internet and reduce the bandwidth so the maps can be on the network rather than on the Internet. Those people get [Indiscernible] don't have to go and go on the Internet [Indiscernible] QR code to go to the network address and that's where the download their map. So the other thing is managing, they can set up the network so if you get some bandwidth log we know that on your cell phones and stuff like that or when you are using your cellular service or even your Internet provider at home whether it is cable or DSL or whatever, those companies monitor what you are doing and if your downloading a bunch of it datafiles and you are doing it over a long duration, long duration, a long time period, the reduce your bandwidth. You might see all of a sudden you are watching a video or something and it starts getting chunky and slowing down and trickling out, that's probably because you have been doing a lot of that lately and your providers saying [Indiscernible] on the service needs more bandwidth and they will take some from you and give it to other people. You can manage bandwidth [Indiscernible] and they can kick you off. That could be another thing that we have people on the incident out there watching the football game or what ever else through the incident Internet, they can kick them off. That's another thing, monitored when you get bandwidth hogs on there, boot them off. [Indiscernible] sets it up. That's what monitors that type of stuff, doesn't allow the people to hog all the bandwidth. We talked about having a separate Internet connection for the personal use to the firefighters and the stuff on incident. That's another thing they can do to keep good bit bandwidth to the actual incident users that need that. GIS, the resources unit need it for [Indiscernible] and other things. There's other applications with different agencies use for communicating and passing data up and down to the incident so those are the users that need the bandwidth, not people out there watching their football game and everything else. The other thing is we talked about that emerging technology group, when you go from a type three to a type two to a type one incident you are going to get increasing bandwidth needs as a go up, type 32 a type one incident. We talked about typing the bandwidth need based on the incident and complexity and all that so that on the incident scale you can have increasing bandwidth or decreasing depending on the scale of your incident.

Tyler, do you have any additional issues and any solutions,?

Absolutely, thanks rich and just to introduce myself to the folks there that I haven't met before, my name is Tyler Hackney and I work for [Indiscernible--Audio cutting out] from the program manager for fire information technology three Northern Rockies. We are not an agency group that's part of the CIO, we are specific to fire here in Northern Rockies and we manage all of the information technology per Incident Management teams and dispatch and training here in Northern Rockies. I want to talk a little little bit about some of the issues that were just bought up and then what we are doing to address them here in Northern Rockies and what some of the other national groups are doing to pilot test solutions and look at ways we can help solve these issues for some of the incident and event teams.

I'm also a member of the mobile technologies working group and Lorri presented the arches online collector pilot that we finished up after the 2014 fires season so I will throw out there that myself, [Indiscernible] I think you heard from skip Italy yesterday, definitely available to answer questions on any of your concerns for the

pilot and where things are going for the interim solution for 2015. And what we are looking for to as far as a long-term solution for [Indiscernible] approach to that technology. Let's talk about satellite connectivity specifically and a lot of this is going to split as far solution sets between satellite connectivity and what can be provided if you're going to get off the street broadband connection, DSL, cable or other provider. In 2012, 2013, 2014 we were pilot testing a satellite solution through provider called by OSAT. Ensure a lot of you heard about it. We looked at how can we get away from these really slope contract satellite systems that we all see out on incidents? You are getting maybe 1.52 megabits per second for download speed maybe what 521.5 upload speed which is nowhere near sufficient for the products that you need to deal with on a daily basis for a type one or type two T. We look at a solution that could provide even at the minimum 15 megabit by five megabit connection and pilot tested it for couple years with type one and type two teams to see if that was sufficient for letting them run wide-open with the Internet connection on the satellite.

The way we are posted now Northern Rockies has action gone out and purchased three of the systems so throughout a typical season looking at the last couple years, any point in time about three incidents out of our five type twos and type ones are going to need satellite connectivity at any one given time. There's always a possibility we could have more to that item and for now we manage three satellite systems here in Missoula for all the Incident Management teams and our staff helps to mobilize those much we've users, trained's EPSPs on how to set them up and make sure they are rapidly deployed with the team is therefore their initial set up. So you don't end up with that and availability of Internet connectivity when the teams first is setting up.

That doesn't really address all of the times when you see an initial day of mobilization where campus up there and power is not there and not transitioning with the team, you setting up ICP from scratch. At that point what we have done a lot is to work with a computer specialist in our GIS specialist to ensure that the needs are known from the GIS is yours on the team this EPSPs or quickly read -- for that initial day so that possibly the GIS specialists I left in another building maybe where we get the briefing where they can have access to the Internet and then just increasing that coordination between the computer specialist and the unit and planning section Chiefs as far as what's going to be available that first night and exactly when you're going to have the bandwidth that you need to do your job.

With the systems and an ownership model where we have them immobilized with the teams we can set them up very rapidly. As it is we get call from a call from the [Indiscernible] mobilizing the team, those satellites go with the team trailer. The team drilled as we have your Northern Rockies include all of the technology necessary for the teams. Laptops, servers, networks, storage devices, wired, wireless networking gear and all the devices that a type one or type two team would need to use for 30 or 40 users. S it is we have a satellite with the team to get to camp in set up within 30 minutes.. We have that bandwidth capability. Looking at the [Indiscernible] systems we tested it running wide-open on a few incidents without any of the controls that rich 22 and some of the slides. We were looking at about 10 to 15 gigs of usage on a type one or type two team when they are running with full team. That got everyone there, it is a large incident. Skill that back down to smaller incidents, short type twos, three, using [Indiscernible] we are not really looking at paying by the David Ho systems that we own that we just paid by the gig of data usage of the devices. That's being paid for by the fire. So we worked out an agreement with this company where that data is paid for by the fire, we all be systems, we pay a yearly fee to only systems and report the -- pay for the hardware.

I know it is different in every geographic area. Some geographic areas have fire IT programs that connection match this equipment, maintain a satellite, train your computer specialist on how to set them up and ensure their functional upon mobilization. For [Indiscernible] that don't have that capability, I think what we are seeing now is working towards a rental solution or the by OSAT technology or similar systems that provide that bandwidth will be available on contract so when we have a small type two or large type one you have that bandwidth available in the fire is just pay for the data usage that you see on the system plus a rental and set up cost from the provider or from the contractor that is setting them up out there.

Let's take a look at remote areas. What we've done here Northern Rockies is I work really closely with our logistic sections to change their pre-orders. What I saw a lot of was our logistics section help you orders from decades ago. That were immediately cut and pasted, sent to dispatch. Is said satellite Internet connectivity store think a lot of coordination between your geographic areas and your specific logistics sections which for me that happened at the team meetings or actually out on incident to give them the technical specifications of what they should have on their initial orders so when you know you're going to need satellite connectivity is not just a blanket order going in -- the purchasing agent or buying team is going out and finding a solution that might not actually provide you the bandwidth you need. Looking at managing capabilities with satellite or GSL, but then connection, Tumi users with the way we've approached it Northern Rockies is we provide a private network and when possible, a public or shared network that's all password-protected but for users that are on the core private team network. So that scenario with the satellite connection if we have -- we are providing them to separate routers, team network gets priority for bandwidth. The other side of the network if we are running on a satellite connection is limited to those users that need that wireless or connectivity to the Internet that's not part of the specific team users and team equipment that we have. It confuses coming in from out the field to be mobile devices it can be cell phones, but it is really critical to cordite Courtney that with 13 computer specialist and make it known to the CNG with the priority -- for who should have access.

Was there a question?

If someone has their phone open, please put it on mute.

I'm not hearing any feedback on my end.

When you come to restricting the connectivity you're not really restricting it but making sure your core set of users and the GIS folks have the bandwidth necessary, you can prioritize that on your routers to ensure that certain traffic is filtered to ensure that certain connections take IRT over others. In doing that load balancing on the router at that level to make sure that you have the bandwidth and the GIS unit to get your uploads, get your downloads and maintain the connectivity throughout the day. When you look at ADSL broadband connection, we order multiple. You will have one in connection for the main private team network and then we will have other DSL or cable connections that set up with additional routers and additional access points for the users that are not part of the -- PIO's coming in, people coming in from the field, coming into camp bidding the transition of transfer data to and making sure we separate that out so you in the GIS unit on the Karti network have the bandwidth all day to get the products that you need to do.

Personal use for Internet is always an issue and that's really a coordination that needs to happen and I'm not saying that has to come from you and the GIS community in your unit, but maybe just too many cases that need to happen about is your CTs be opening up that cap -- connectivity for him we own that comes end. That's the case the agenda is to slow the computer technical specialist will be done in Northern Rockies is communicate that to the command and General staff that only certain users I can get access to it. In the way we've done that a lot with our incidents is doing IP address reservation on our routers as we so we know who's on the network are all times. Someone comes up looks into a switch, they don't get access, theft come to the queue -- you be to specialist think that happen. If there are wireless we are prioritizing that based on users have become to the CTS MiFi get the password the notice to many users of that permission gets but up to par, with getting to that, controlling the access, chicken devices off the network. What we see a lot of we get the wireless password to get spread around and all of a sudden people are streaming YouTube, Pandora, big one last year, Major league baseball.com. Eating up all of our bandwidth. We tend to keep those users off the network and it is really just coordinate that between your computer specialist in your command General staff so they know what's acceptable and what's not we've had great success in going to the different units and telling them that their users are doing a lot of personal work on it and streaming data and that we don't have the bandwidth for that.

The dedicated Internet connection for GIS has been something we looked at and past. We set up when possible. With the way we set up our team networks appear we have a core private network so we like to keep the GIS

specialist on a single worker who else is on as far as the course typical our standards of technology we provide to all the teams. The network storage and other devices we have shared we want to make sure that everyone can access the same data on the team network. But everyone into really, really slow connectivity in some areas that look at setting up the GIS unit with their own dedicated connection. Strong password policies for incident Internet just coordination needs to happen with your CTSP, they are not just opening up a Wi-Fi network that's on your only primary connection.

Managing the bandwidth that comes down to a kind of hardware that your team is be provided with. With the routers and equipment that we provide to the Incident Management team here we do connectivity prioritization and load-balancing with our routers so that only certain stuff is allowed through the network add a filter level, things like streaming services, Netflix, Hulu, YouTube, areas that we know our going to be a large bandwidth hogs and then prioritizing certain parts of the network in certain scenarios that are going to be guaranteed to get a certain number out of upload and downloads together incident. That's all communication to have with your computer specialist, with your teams to see what the standards for technology are. It realize that becomes difficult when you don't have a standard process for all your teams. You don't have some in training your users and providing standardized equipment for every incident so they know what to expect the matter where they go.

Managing the Internet so it is kicking off nonessential bandwidth hogs again that comes down to filtering at the router level. -- reservations for certain of devices and train you have a very limited scope of your Internet of your IP addresses for the cap so only certain users our getting access so the main network and then addressing the public side or the site that's open to more users just as -- what available bandwidth you have. Separate Internet for personal use, that's an incident by incident decision that we have with the computer specialist and CG, do we have the bandwidth to allow personal use? If we don't, then it is not allowed are only allowed at certain periods of the day. Maybe we open it up for a couple hours for people to check their e-mail educate other connectivity but it all depends on what you have a high-speed satellite connection or high-speed broadband connection the model broadband connections you can set up, really coordination to have the logistics section and your computer specialist.

Typing standards for Internet and with, from our perspective up here we want to see a solution where we have the broadband capability for looking at satellite the matter what. We pay for the data that's used. So your setting up the type three, type two to set up that satellite connection maybe they are not using is much as a type one with but we have the capability there already so we are not having to do all of those transitions. For Internet connectivity during the transition between a type two, type one team. In the event we can get local connectivity from an Internet service provider, that is bringing in extra DSL lines, extra cable connections to provide that additional bandwidth for users that are not on the Karti network.

I really want to open it up here and talk to some of this. I know Lorri, you probably have questions, but maybe start some back and forth and see what your concerns are and maybe I can explain a little more of how we have managed the technology with connectivity.

We are going around with a hand-held microphone now.

This is Melanie and I have a big question on the whole selector thing. Once we get the collector out and everybody could switch from [Indiscernible] to [Indiscernible] to everything like that, how much bandwidth is that thing going to be sucking up? As soon as we get these live maps, everybody is going to have a life map on the laptop, you have it on your -- you are going to have the CIOs on it [Indiscernible--Muffled audio] everybody is going to be -- all of their laptops, they are going to be standing around looking at the different [Indiscernible] switching back and forth. We are going to be taking over the whole world here. Also back to the previous presentation on potentially loaning out 50 iPads or whatever, make sure those come back to where they should be and not [Indiscernible] we have is his right now that laptops and other IT equipment at the end of the incident or whatever were just some of the stuff go? You all are also talking about recharging and potentially

having a securable [Indiscernible] for everybody to plug their iPhones in at night and someone pick them in the morning potentially with them being there.

So looking at the pilot test we ran with the type one [Indiscernible] what I've seen so far as far as usage and bandwidth, so with the type one team I definitely get where your coming from as far as everybody wanting access to it. What we did with one type one team to eliminate all the users wanted to get into it, we setup a separate laptops on projectors to project the QA QC maps that up on the wall and operations in planning and safety so that map was available and on the wall for people to see. I did not see a large bandwidth usage from a Tuell on the incident but only one of them was running over a satellite. The main one that [Indiscernible] Kisladag had good bandwidth connectivity so I think that's definitely going to be a lesson learned and something to look at is what is the bandwidth usage of [Indiscernible] when your running it through a browser? I don't tend to think that's going to have a large impact on your bandwidth as far as display the information through browser and when you look at the other users seeking that information of course it is coming in over either the cellular connection or they are coming in locally and linking it over Wi-Fi so that could have impact on the connectivity. But I think that's addressed on the incident by incident basis of what is your connectivity at that location, you have the possibility to let everyone that wants to get into a Jew our art do need to limit that to certain people while you address your connectivity issues. As faras our pilot test last year and I think [Indiscernible] cement some I can speak specifically to the bandwidth usage of a GOL. We did not see an itch you -- issue of that truly slow down our connectivity in camp.

Tablets that's an issue. It is something we are fighting even now even though we provide technology to every team, trailers, 30 to 40 laptops, servers, network equipment, how do we can always tablets out in their hands in a timely manner and how do we afford it? What we saw with the type one team last year was most of the devices when you look at that 40 to 50 number I realize that high. I think eventually you will get out there where you see those numbers on every team, I think initially that might not be the case, but looking at a type one team is not experienced with this kind of technology in the past, most of those devices or users [Indiscernible] safety bringing those devices to camp. GFE devices they already had, maybe there are other personal devices they have, they are bringing those in and we are either sideloading period -- to download that the base maps out packages, I'm not the GIS person, I might not be getting the terminology right but [Indiscernible] over Wi-Fi while they are at ICP.

As Lorri mentioned there is a rental contract for iPads so there's a possibility to rent of those devices and we are currently reviewing that image for this year before they package that up and make those available. That's a possibility as we move over the next couple years and making sure it team has enough vices available. The way we are looking to approach it up here is try to have 10 to 15 iPads for every team. But that's going to take a few years to get to, it is too costly to provide all those right now so I think what you are going to see is people bringing their own devices to camp. You are tying them in, they come a be preloaded with the collector application and working with the unit get the username password to log into AGOL.

As far as secure location for Georgia, definitely an issue to address with the team as you start seeing more mobile devices come in. The most part we didn't see that, people were charging them in their vehicles and bringing them in after shipping charge of them for a few hours at ICP. But if you're seeing a large need for that, what we have done in the past is work with the computer specialist in a separate location to have a spot for them to charge those. If you're looking to leave them up overnight, correct fighting a secure location. Maybe your in a school building, you can find a lot room or in ICP and you have to actually I do trailer that's locked up that you can set those into charge. Or a [Indiscernible] being monitored on have someone look at it during the night. But definitely an incident by incident decision for securing those devices.

Does that answer your question?

Yes, we think it does. We are concerned that some of the commentary is that GIS people are up all night so why not put it in their hands. No, not going to happen. There's a lot of challenges. Other questions in the room? How about online?

Question, Kyle?

I him Kyle [Indiscernible] [Indiscernible] tech two team and we have had these iPads electronic devices out in the field and these guys cannot even keep track of mark three poems in the Creek and losing them on every fire and these iPads seem to walk off easier than the mark three pumps so I see that as a real issue. But we are going in the right direction and trying to get away from the paper world because the paper world there's a bottleneck of getting information out so if you lose the paper world you get information out a lot quicker but we are in no learning curve now and it is interesting in a couple of incidents with the QR codes up the briefing and all I did was with them to folders where are maps were. I didn't see anything and I put them up high and then I stood back come up with a half a dozen around the briefing area and stood back and LA 7 all these people -- and all of a sudden all these people in our little bandwidth just died. But it was good because you it was being used with no instructions on it. They sought new what to do with it.

That's when think I know Kyle we discussed recently with fire [Indiscernible] emerging technology team here in California and the [Indiscernible] GIS team the problem was back on them. A lot of people are still pushing the PDF map stuff onto [Indiscernible] site with the QR code going to that site and we have a lot of problems with their own location and taking snapshots of it and back calling get back to the system again so we are doubling up on what really needs to be happening out there. The emerging technologies have a lot of [Indiscernible] on it from [Indiscernible] some of the federal team so they were already starting to brainstorm. We need to have a tick she or methodology on how to stop that usage of Internet when we are out on incident that you guys have a tip sheet or something like that you are putting together associated with that as well?

What we are looking at now and this issue we identified when we truly cannot get connectivity maybe we have the satellite but maybe it is not a priority for that incident and we are sitting on an eight mg DSL line. What we are looking at is never to touch storage devices right now where we are -- like [Indiscernible] or some Buffalo drives or other devices like that where they have the capability for you to swear that information locally on the local area network. So that users can cap connect to Wi-Fi. They stepped that QR code, the QR code is relative to the local Incident Command post network. They are able to bring that information down from ICP over the land rather than pulling down over the WAN [Indiscernible] broadband connection. Nothing we solidified at this point, it's something we are testing out this year. We did a little bit of a last year with some success but you're looking at 20 users can connect to Wi-Fi in making sure that QR code reference the local path users have the Scripture rights to access that but yet it still segregated from your private data on the team network.

I like that idea, I think it is brilliant, but -- on the incident or locally have to have the folder location on them the ones that you post up on Internet have to have the other location for [Indiscernible] on them.

There's an additional workload all of a sudden is getting slapped on top of that as well that I do later on today with this morning we will discuss QR codes pros and cons and who is doing what he had to these because they present their own set of workloads.

MARTA, that the question. Heavy multiple QR codes could be problematic in my experience especially with [Indiscernible] table-based [Indiscernible--Low volume] usually don't have [Indiscernible--Low volume] on local connection. Then the second two not a trick but what I saw the [Indiscernible] do is the setup the toll areas of wireless connectivity or you don't load your maps are and they have the Wi-Fi run [Indiscernible] right there in pretty much that's briefing so it is plugged in [Indiscernible] briefing and handout [Indiscernible] [Indiscernible--Muffled audio] no more problem. Give it to them when they need it and take it from them when they don't.

I think we have great ideas out there, Tyler. What can I do to help you aggregate some of these great ideas and put them out to tip sheets and help educate our [Indiscernible] I think we need more cross walking between the group

I think what we run into a lot is standardization where we can go to the [Indiscernible] or ITSS go to the task with a look at a sick tips and tricks for assisting that the GA stability with their initial setup an incident lifecycle processes for connectivity bandwidth, day to day stuff with QR codes and like was mentioned serving up wireless -- when they want to download certain information. Especially relevant if you have that capability of DSL just order more lines relatively inexpensive and provides for connectivity. But where I think a lot of it comes down to a lack of syndication technology and the wide variance in skill set of the computer specialist out there. That being said I think would be good to work with the ITSS and work with Eric and myself and Brian and the other folks on the group to maybe identify some concerns Zumiez from the GIS community that we could help get out there to the CITSP so they understand the needs, understand the new technology and better understand your workflow throughout the day so there's not too much more burden being put on the GIS specialist.

We appreciate that a lot. I know [Indiscernible] we are will get a lot of note afterward, it is not going to be recorded session when we get to our discussion you the end of this meeting. I expect dirty laundry to come out and that is something we can really start to act on the store to give feedback on it work with people to help drive resolve some of the pin points. Tyler, appreciate you coming in and helping out with the presentation. If you have a comment aligned that says from David, you're seeing QR codes are simple yet Firefox has a plug-in for that. We will discuss that more later so I hope you pitch on that as well. Everybody seems to be doing things a little bit different with QR codes so that will be something that we will discuss more so I would like to hear more about that when we get to that discussion later, David.

I did have 101 to bring up, it is online. It sounds like both debit entirely were looking -- that should make you do that presentation, right?

I'm happy to answer any questions and Deb knows a lot more than I do about it.

She's out here, she is a comment online. She says not all of those people would be editing and collector pick with custom roles in which only certain rules would have editing rights. I would guess maybe about 10 folks would have the editing right. Tyler, let me ask you, can I share that recording that you put out to the Board of Directors the one that you and Esther presented novel long ago?

The final lessons learned report, yes, I believe so. Let me check with Esther into Skip but I believe that report is ready to be shared and I go between the group working on an outreach document for collectors as far as the major agency solution for that, that hopefully can get sent out here soon. Let me make sure, I will double check by pretty sure that's ready to be shared out the community and I think it is already on the learning guide so to for already showed do you want they want of those group but there's also the [Indiscernible] mobile technology working group library on the wildfire lessons learned that includes all of our briefing papers, lesson learned reports, tips and tricks sheets and I believe the final lessons learned collect report is on there as well but I will double check that and get back to you and ensures ready to be shared and put out there.

That would be super because I will include that in the linkages associated with the class Effient. It will take be probably about a week or so to aggregate everything and get all the links that we talked about so you have a resource you can go back to if you have questions about it. That would be super add Deb thanks for your commentary and hard work and Tyler your hard work as well on developing what you guys have been doing. I think it is great. It is a brave new world and we do want real-time data out there, it is just how do we integrate in with the structures we've already got it and not overtaxed [Indiscernible]. We are here to help. Asmuch is we can. Includingdelivery and postures [Indiscernible] if everybody else gets into this inhabit I may have to close -- clone myself on a time so I can deliver plotters. More on that later. But that's, I'm going to close out, doesn't

look like we have other questions or comments. I don't think there's anything else online. We can stop this section. I'm going to close out the recording and thanks Tyler for joining us and Deb and the rest of the gang.

[Event concluded]