

NWX-US DEPT OF COMMERCE (US)

Moderator: Michael Monroe
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Coordinator: Welcome and thank you for standing by. At this time all participants have open lines – open and interactive lines. Today’s call is being recorded. If you have any objections you may disconnect at this time. Thank you.

(Lisa Pierce): Good afternoon everyone. We’re just doing a quick check of the hallway and then we’ll get started. So just another minute or two to make sure we have everybody in before we get underway.

So it looks like the doors are closing. Do I have a thumbs up? I do from Michael. I don’t know if that’s good. All right, we’re going to get started.

So we still have a few more people trickling in, but we’re going to get started because we have a lot to cover today. Good afternoon everyone. I’m so pleased to see everyone that’s here. We have an incredibly full house so welcome to the Census Bureau. I’m also pleased to welcome all of you that are watching us online. Just as a reminder, this program management review is being webcast so you get the pleasure of watching us here today and interacting with us today.

Some of you are watching us online or if you'd like to come back and view it at a later point in time, the video will be archived so that you can go back to it at a later time and review it as well. I do know it's unusual for us to meet on a Tuesday. We seem to do it every once in a while, but I appreciate your flexibility with the scheduling.

I hope that many of you had an opportunity to attend our pre-program management review seminar that we had just preceding this. This seminar was titled training (unintelligible) field staff – a blended approach. This seminar provided an overview of the training approach for our field staff. As we've discussed at many previous program management reviews, for the 2020 Census we are moving away from verbatim classroom training toward providing a blended approach to training with a combination of online training, classroom training and interactive training.

If you didn't get a chance to see the seminar, or if you did and you'd just like more information, we do have a couple of tables setup just outside these doors where we have some computers setup and some staff there to assist. We're happy to run those training modular and for those of you that wondered if you passed, you have an opportunity to kind of play with that training a little bit during the break or even during the program management review if that seems to be of something that would interest you.

I'd also share that (Bren) and (Jay)'s presentation will be posted on the 2020 website along with the other presentations that you're going to hear today. And for some reason I think they may be already – or they will be pretty soon if they're not yet.

We will continue to plan to have a session prior to the program management review. The idea of the pre-session really allows us to give a deeper dive on a

particular topic that we're not covering related to the 2020 Census while allowing us to keep the program management review condensed to a relatively short – if you call this short, an afternoon – period of time.

We're very excited today to share our progress with you on the 2020 Census and we'll be doing that over the next couple of hours, but as always, before we begin a few housekeeping items.

So, first and foremost, please remember that our program management review is being webcast. So do consider all mics live at all times. In addition to considering your mics live, even though you know they're turned off, this room is mic'd. So it is possible that anything you say, even if you are talking to a neighbor or what not, could be picked up and recorded and broadcast while you're doing it. So please do be sensitive to that information.

If you do choose to ask a question, please remember to turn your microphone on – the red light will come on. When you're done turn it off. That allows us to actually hear those who are talking. There's only a certain number of the mics that can be live at any one given point in time.

We do ask that if you are asking a question that you provide – you start with your name, your affiliation and that you do speak directly into the microphone so everyone can hear you. If you are joining us online or just think of a question after the fact, we do have an email address that we've provided for you on the materials. Please feel free to send those questions in and, of course, we will respond to them as appropriate.

With that said, I'm going to do my normal turn to (Mike Polinski). And what I'd like to do is turn to (Mike) who will now say a few words to remind all of us about our legal obligations when speaking with contractors.

(Mike Polinski): So real quick, like (Lisa) said, there's a lot of us executives and important people here at census. A lot of hallway conversations that are going on all the time. We have a lot of active procurements going on. So at that – with that, make sure anything you talk about during this, whether it's during breaks or any other time, please only discuss information that is publically available.

So anything internally within the Census Bureau that is sensitive or anything like that – please don't have those discussion because it's unfair to those that aren't here and it's unfair to anybody to hear that information, whether it's pre-decision or any other kind of information. So just be careful about the conversations that you do have during breaks. Thanks.

(Lisa Pierce): Thank you, (Mike). Also, for any media that are present today, we do have several representatives from our public information office – if they could please stand so people from the media could see who they are. Thank you. So if we do have any media present, if you could please make yourself known to our staff from the public information office, they'll be happy to assist you with any questions or any information that you need as well as helping to facilitate an opportunity for you to ask questions of our Census leadership. So I thank you for that.

A few last reminders, the location of the restrooms – very important. They are outside the auditorium, down the hall and near the green elevators. And in the case of an emergency, we will get an announcement over our information system so please do listen to that, but in the case of an actual emergency we will follow our emergency exit signs and our emergency exit doors and exit the room and then exit the building as appropriate as well.

So with that, let's turn today's agenda. We have a lot of information to share today, specifically, I will next discuss some program management updates, including a discussion of the design of the Census. I'll provide a brief update on contracts as well as talking about risk and schedule.

After that the team will provide updates on the 2017 Census test, the end to end Census test, followed by a deep dive into five of our Census operations. I do want to point out that you'll notice a slight change to the agenda. This is all in our efforts to remain agile and nimble as we plan the 2020 Census.

We had planned to show a demonstration of our listing and mapping application hand in hand with the 2018 end to end Census test – not to fear, we are still showing a demonstration of our listing and mapping application, but we are going to move that demonstration today to the end of our program management review and it will be folded into our update on 2020 Census – that's a tongue tie. Right? 2020 Census Systems Readiness and we'll be doing that (LEMA) demonstration at that time. And so I appreciate your flexibility with that sort of last minute change to our agenda.

With that as background for what we're talking about today, I just have to pause and say that the success of the 2020 Census really rests on the collective talents of the team working on the program. Both within the decennial directorate and across the bureau. And I'm so pleased that so many of you have had the opportunity to talk and to interact with so many of our staff and to really get to know the team. That's one of the great advantages of this program management review.

One of the things I always like to do at the beginning is to start with keeping with our tradition of recognizing new managers to our decennial leadership

team. With this program management review, of course, I need to start with the leadership changes at highest level of the Census Bureau.

On June 29 it was announced that Ron Jarmin will perform the non-exclusive functions and duties of the director. It was also announced that Enrique Lamas will perform the non-exclusive functions and duties of the deputy director. And you can see they have joined us today over in the traditional seat where they would be.

I have to say that on a personal level I am so pleased to continue the opportunities that I've had to work with both Ron and Enrique. First, in their roles – previous roles as associate director for economic programs and associate director for demographic roles – demographic programs and today in the duties that they're performing both for the Census Bureau's senior leadership team. It's an amazing team and it just really reflects the efforts and the commitment that we have not just to the Census, but to the Bureau overall. So I thank you.

In addition to that, I have one new member to introduce to our 2020 Census Leadership Team to highlight. Regardless of what the nametag says – and I'm confident that (Tim Olsen), wherever he is – yes, (Tim) had a role in this. It's not true. I am confident that he had a hand. Regardless of what the nametag says I'm very very pleased to publically announce that in April we announced that Al Fontenot is the new assistant director for decennial consensus programs. My right hand – my left hand – Deb's right hand – Deb's left hand – all of our efforts to get the job done.

I know he's not a new face to many of you. He comes to us from serving in the role of assistant director for the field directorate, which is what his name tag says. No – and prior to that, Al was the regional director for the Chicago

Region. He brings tremendous Census experience. Beyond his Census experience he has years of experience working in the private sector where he was a CEO of several companies. Incredible management experience, incredible survey experience, incredible census experience. I couldn't ask for a better friend, a better person to work with and I'm honored for this opportunity.

On a personal level – and before we move on – I have one other person I'd like to recognize today. And, again, this is someone that's very familiar to many of you, but this might not be a tidbit that you already know. So today is (Jim Dinwidy)'s birthday. Yes, it is. So in addition to that wonderful round of applause, when you see (Jim) walking around please do wish him a happy birthday. He knows we do as well. With that bit of fun, we'll turn to our program management updates.

So no program management review would be complete without a discussion of the triple constraints. I'll begin, first, with a brief perspective on our current budget environment. As you all know, we're more than halfway through fiscal year 17 and we are actively completing the activities we must do to keep the 2020 Census on its critical path. I'm pleased with where we are today and with the progress that we're making. I'm confident that today's program management review will give you a little more insight into our progress and I'm looking forward to that healthy discussion.

For fiscal year 18 what is represented on this slide is the President's budget request. While there still remains budget uncertainty regarding final funding levels, we are pleased by the administration and Secretary Ross's appreciation for and commitment to the Census. I would also like to update you all briefly on where we stand with updating our life cycle cost estimate for the 2020 Census. I would first like to stress that we actively use the life cycle cost

estimate as a management tool. Regularly running different life cycle cost scenarios to fully assess our testing results to address challenges that emerge during the development of our systems and operational innovations and to determine our optimal resource allocations following each year's appropriations.

As many of you know, we are currently in the process of making updates to our next official release of the life cycle cost estimate to reflect the current design for the 2020 Census in according with the President's budget. We are doing so in alignment with best practices for cost estimation.

Additionally, understanding the importance of the validity of the life cycle cost estimate for the 2020 Census we are working closely with the Secretary of Commerce's taskforce, which includes members from his own staff, the office of management and budget and outside consultants with prior Census experience, to insure that the entirety of the next release of a life cycle cost estimate has the highest degree of confidence. We will share the results of this with all of our stakeholders at that time, which we anticipate to be later this fall.

So with budget as our background, let's turn to today. We are now less than three years from Census day in 2020 and we are on track for a successful Census. What I'll do for the next few minutes is spend some time talking about some big pictures updates of where we are.

At a high level and because I can't resist an opportunity to use this slide – at a high level this slide presents a summary picture of the activities that we have planned to undertake to get us to the 2018 end to end Census test and to the Census itself. This afternoon we will be focusing much of our discussion on a testing updates, a deep dive into many operations and our systems readiness.

Before that though, I will highlight a few items related to the overall program and the Census design itself.

You'll recall that we reached a major milestone for the 2020 Census when we released the operational plan in 2015. The 2020 Census operational plan describes the vision and design of the 2020 Census. It is intended for us by managers, staff and contractors working on the 2020 Census. It is also intended for other internal and external stakeholders as a reference and guide about the 2020 Census program and operation. It provides the foundation of the Census and it provides us with a roadmap toward our successful execution of the program.

Since that first release in 2015 we have reviewed and updated the plan on a regular basis to reflect decisions and updates. Major program changes that occur between iterations of the operational plan are generally released through our public decision memorandum series and are, through discussion, at our quarterly program management reviews. The next iteration of the operational plan will be released in the fall and it will be the focus of the October 2017 program management review as this is our tradition.

With the plan as background, let's talk briefly about the operations that comprise the 2020 Census. At our last two program management reviews I discussed changes we were making to the design to mitigate risk to the program due to budget uncertainty. Some of those changes that I discussed included changes to the design of our reengineered address canvas program, pausing efforts related to the 2018 end to end Census test for communications and partnership, delaying efforts in FY 17 related to communications work and de-scoping coverage measurement activities from the 2018 end to end Census test.

I also discussed that several operations for the Census that are represented in this slide were being evaluated and re-planned. Those operations include coverage measurement, group quarters, the Census evaluations and experiments program and the updated numerate operations.

You'll notice that in our effort to keep our stakeholders informed today's agenda includes updating you on the re-plan of several of these operations. As we worked through the execution details of these changes, we recognize the need to mitigate operational and systems risk for the 2020 Census. Specifically, in the examination of the updated numerate operation we decided to split that operation into two operations and bring back to the Census a tried and true operation update leave. As a result, you will now see reflected on this slide and to the design of the 2020 Census a 35th operation update leave. Later this afternoon (Ian Hall) will provide you with the details of these two redesigned operations – update leave and update enumerate.

Thinking back to where we are today, well, in addition to being less than three years away from Census day, we're also less than one month away from the start of the 2018 end to end Census test, beginning with the address canvassing operation. Our plan for the address canvassing portion of the 2018 end to end Census test, which is fully funded by the FY 17 appropriation, includes three sites – blue field, Bluefield-Beckley-Oak Hill, West Virginia, Providence County, Rhode Island and Pierce County, Washington.

Collectively these three diverse sites will help us gain invaluable experience in conducting the processes of building our address list across a wide area of physical geography, housing structures and residence types. Testing in these three sites will allow us to gain key experience and managing across three sites simultaneously and allow our regions to gain key experience with our re-engineered address canvassing our operations.

Following the conclusion of our address canvassing operations in early 2017, we will proceed with the remaining operations in scope for the 2018 end to end Census test in Providence County, Rhode Island. Peek operations will commence in March 2018. This plan is consistent with the 2018 President's budget.

Providence County is an ideal community to simulate a microcosm of the 2020 Census experience. Its demographics are comparable to those of the nation. The county has a population of over 600,000 with more than a quarter of a million housing units. It includes historically hard to county populations, has a large Hispanic presence, has a large group quarters presence. Providence County was the single site that provided a thorough ability to test the systems and operations planned for the 2018 end to end Census test.

For the 2018 end to end Census test, which is our final major field test before the 2020 Census, we have made decisions that will prioritize the readiness and testing of our integrated system of systems in the field in a Census-like environment. The lessons we learn from how these systems interact with each other with the 24 operations that we are testing and, where relevant, with the field staff and residence in these test sites will be invaluable to us to finalizing our operational plan and putting the finishing refinement on the systems in advance of the 2020 Census. You'll hear much more about our plans for the 2018 end to end Census test later this afternoon from (Deb Stinkowski).

Briefly an update on our contracts. We've awarded five large contracts since July 2016. As a reminder, these include our Census questionnaire assistance contract, our integrated communications contract, our technical integration contract, our schedule A human resources payroll system contract and on June 29 we awarded the decennial device as a service contract. This contract was

awarded to CDWG and we welcome them to the decennial team as our newest partner.

We are currently working on the following two large contracts – our fingerprinting and badging contract, which will be a single contract for the 2018 end to end Census test peak operations through the completion of the 2020 Census field operations and we're anticipating an award time of around the Fall of 2017. And our field IT deployment contract, which will be a single contract for providing IT equipment, logistic services, maintenance and support for the regional census centers, area census offices, remote workers, island area offices and paper data capture centers. And here we're aiming for a Fall to Winter award of this contract.

Turning toward a discussion of risks. On this slide I just want to remind everyone that we continue to maintain both our 2020 Census integrated master schedule and program and project level risk registers. The framework for both remains unchanged and we continue to monitor and update as necessary. What you see here is just a sampling of some of our key risks for the 2020 Census and our program level risk register matrix. I'd like to mention a few items.

Funding's – both the amount and timing continue to be risks for the program. As we are now in fiscal year 17 we are less than three short years away from conducting the 2020 Census and having the necessary resources available when needed is essential to insuring that we can conduct the Census on time.

Since our last program management review the program risk labeled external support has become a red risk. This risk – and this risk moving to red reflects that we have new external stakeholders – and these stakeholders will take time transitioning into their positions. This creates a gap in understanding and

knowledge of the 2020 Census design and program status. We are actively now working to mitigate this risk.

In addition to this a new program risk was created. Insufficient levels of staff with subject matter skill sets. This risk was added because issues associated with hiring staff at the necessary levels and with the required skillsets have occurred throughout the 2020 Census program. We are actively mitigating this risk and have a robust human capital management plan in place to help.

As discussed at our last program management review, there are also two active program issues. The first issue, increased field workload for the address canvassing operation, started as a program risk called reengineering address canvassing operations. The second issue – modification to the 2020 Census baseline design also started out as a program risk. As we discussed at our last program management review, these became issues when we made modifications that we announced to our Census design. It changed them from a risk to an issue because they were actualized.

While we have executed the mitigation plans and are planning appropriately, because these are now program issues, they will remain as issues throughout the remainder of this fiscal year. The formal closure of the program issues will occur with our next iteration of the 2020 Census operational plan.

Lastly, on schedule – on this slide I just want to remind folks that we continue to maintain our 2020 Census integrated master schedule and this slide contains some of the key milestones for the program. With that, that sort of wraps up what I was hoping to share with you today related to the triple constraints and sort of our early entry into our program management review. I think we are pretty close to on time, but I'm happy to – which his amazing,

right – but I am happy to pause for a few minutes and take a few questions.

Come on.

Man: Thank you – real quick, does anyone up there know which operational plans you're still going to issue yet this year? You said you're going to give to nine, which ones are in the pipeline? Thank you.

(Lisa Pierce): Yes, I have a list. Hang on. So still coming out this year we are expecting to release internet self-response, paper data capture, RPO – response processing operation, NRFU – it's really nice when they only give me the acronyms – I know NRFU – it's non-response follow up. ITIN – ITIN? Field infrastructure – oh, it's exciting. Update enumerate, group quarters, SPC – I bet that's (Judy).

Oh, Security and Privacy. And SPD – forms, which you're going to get an update on from (Alexa) in just a few minutes. How'd we do? Did we get nine? Okay. Other questions? I'm sure we'll have more questions throughout the day. Again, if you think of them please do feel free to email them or save them for when we have another opportunity for questions. With that, I'm going to introduce our next speakers, which are (Tasha Boone) and (Sheila Proudfoot) and they're going to share with us some of the preliminary findings from the 2017 Census test. Thank you very much.

(Tasha Boon): Good afternoon. My name is (Tasha Boone). I'll start first and then hand it off to my colleague, (Sheila) to talk about CQA. So I'll talk about the preliminary findings from our 2017 Census test.

So the good news is as of yesterday our 2017 Census test is complete. Yay! But before I talk about the preliminary findings, let me just do a little recap of what this test was about. This was a nationwide self-response test. It consisted

of approximately 80,000 housing units that were in malleable areas across the United States with an April 1, 2017 Census day. It allowed us to test key new systems as well as the feasibility of collecting information on tribal enrollment. Respondents could respond via paper, internet and a question – Census questionnaire assistance. To limit our respondent burden we removed housing units that had already participated in prior Census tests as well as the American Community Survey. The sample was stratified in an effort to over sample housing units in Alaska, areas with relatively higher populations of American Indians and Alaska natives and areas with a lower propensity to respond online.

The first mailing occurred on March 20 along with self-response and the telephone, which was our Census questionnaire assistance. In addition to the self-response, which was the focus of this test, interviewing was conducted to focus on tribal enrollment and access for non-ID and fraud and this wrapped up yesterday.

In the first mailing we had the internet first panel, which received a letter inviting our respondents to participate by responding online. The internet choice panel received a paper questionnaire in addition to an invitation letter. For the 2017 Census test roughly 61% of the sample is in the internet first panel and approximately 39% in the internet choice panel. As for the mailing materials, these were made both available in English and in a bi-lingual format, which was English and Spanish.

Around 87% of the addresses in the sample received English-only mailing materials and around 13% of the addresses received the bi-lingual mailing materials.

Additional language support also included for non-English speaking respondents, they were provided with the ability to respond by the internet self-response instrument as well as the paper questionnaire in Spanish and as well as CQA assistance, which was in Spanish, Chinese, Vietnamese, Korean, Russian and Arabic. In addition, all housing units received a language insert in their mailing package which explained how to reach a CQA agent in each language. All the language supported by CQA had a dedicated phone number for each language.

So you're all familiar with this place mat. This placemat shows what the operations that were in scope for the 2017 Census test. This slide shows some of our key activities that comprised this test. And, as I mentioned before, we are complete with all of these activities. We have completed the close out of the internet self-response systems, but the operation is still continuing their analysis of the tests data. The non-ID processing operation has concluded the clerical non-ID processing for the test and began and has begun an initial draft of the analysis report for the operation.

The final documentation of CQA success and lessons learned has recently been completed. There is a total of 5803 phone calls and 3267 calls were referred to agents. Call models for the volume average handle time by agents and deflection rates to live agents are being closely analyzed so adjustments can be made for our 2018 end to end Census test, but you'll hear more from (Sheila) about this.

At the previous PMR we showed the raw response numbers for the 2017 Census test, but here we have the weighted response rates. They're weighted to reflect the complex sample designs which hover sample areas of relatively higher concentrations of American Indians and Alaska Natives based on ACS data. Overall, these response rates are in line with what we expected to see

and they follow similar response patterns that we've seen in previous tests. You may notice the difference in the response rate and the response mode between the internet first and the internet choice contact strategies. The difference is not surprising since the areas that received the internet choice contact strategy have a lower propensity to respond and a lower propensity to respond online.

So the good news is, we had several successes for this test. We successfully fielded the public facing production systems for the Census, which included the internet self-response, our real-time and ID processing, our eCase operational control system and for the first time (unintelligible) Census questionnaire assistance contact centers with live agents and multiple languages.

Now for a few of lessons learned. During the April PMR we did discuss a few issues that we were experiencing during the tests at that time around connectivity, load balancing and how we reported out on the test internally. But in addition for the internet self-response portion we had rapid response mechanism procedures were refined during the test and will be further refined and documented and our user testing schedule will be further refined. For forms printing and distribution our quality control procedures will be updated and improved to insure consistent quality of printed forms across the board. Our printed address check procedure worked well, but needs some adjustment to scale for the 2020 Census.

For paper data capture we found that our new paper handling processes need some refinement, but as you can see, we had these successes and we've had some lessons learned and all of this will be used to help improve as we prepare for our 2018 end to end Census test and as we prepare for the 2020

Census. So now I'd like to turn it over to (Sheila) who will discuss the CQA preliminary findings. Thank you.

(Sheila Proudfoot): Thank you, (Tasha) and good afternoon everyone. I'm (Sheila Proudfoot) the program manager for the 2020 Census questionnaire assistance operation.

As a refresher, the Census questionnaire assistance operation provides a public interface for respondents using the telephone to assist them with answer to general questions about the test and questions about responding to or completing the Census questionnaires. The CQA operation also offers assistance to respondents that may experience a language barrier. For the 2017 Census test the CQA operation provided only inbound calling assistance. Moving forward though into 2018 and 2020 the operation will also support out bounding calling for content coverage improvement and quality checks for non-response follow up Census workers.

The first layer of assistance was the interactive voice response system, which we also refer to as the IVR. That was designed to deflect many frequently asked questions away from live agents for operational efficiency. In future slides you will hear me refer to this concept again at deflection.

The CQA operation began on March 22, 2017 and concluded on May 12 of the same year. We started and completed operations on schedule. CQA management staff centrally monitored daily operations from our official operational control center located within the CQA program management office. The final report depicted here is an excerpt from our management reporting system and is a high-level summary through the end of the operation.

Overall, our call volume was lower than models, but the daily trend against our 2015 and 2016 Census test actuals and our 2017 model remain consistent, which is good news. In total, the CQA operation received 5803 calls, which is the sum of the 5737 calls entering the IVR plus the 66 calls that bypassed the IVR. This represents just over 7% of the test universe of 80,000 and the model plan was for 15%. Of those 5803 calls, 3241 went through to a live customer service representative, which means we observed a 43.5% deflection rate.

The CQA staff are currently analyzing the details of the caller behavior in the IVR to determine deflection characteristics and resolving for repeat callers. Additionally, ongoing research includes analysis of the call (unintelligible) data to assess the primary reasons why people were calling and what adjustments can be made to the CQA operations and the Census programs to adjust for these new expectations. Additional information indicates the primary reasons that people were calling were they had no computer or internet access, which typically resulted in data collection over the phone or questions regarding why they received the prequestionnaire.

Some people would say, it's three years too early is this legitimate? How do I know this came from the Census Bureau or do you work for the Census Bureau? A third reason questions on specific reminder mailers that came in, why did I receive a mailer when I've already completed the survey? And why did I receive this specific mailer? And then, finally, general census questions like what is the US Census Bureau and what is a decennial census?

Moving on – the Census – I'm sorry – the CQA operation uses several key performance measurements to gain crucial insight into how well things are going. Taking a closer look at a few of the metric categories shown here – I'll first begin with the average handling time. Average handling time is the time a CSR remains occupied with the caller until they're ready to receive another

call. This includes 30 seconds to disposition the call and record the final outcome details after the caller disconnects.

In 2017 our initial assumptions that led to the 518 seconds remain strong and accurate. Even though we were on average 33 seconds higher than our model, we know several confounding factors to 2017 will not exist in 2018. For example, there will be fewer questions asked and email address, which is pertinent to the internet self-response instrument will not be asked by CQA.

Next I'm going to move on to staff attrition, which assess the number of staff that completed training, but then leave the program. Higher attrition rates create a negative impact on the operations quality for various reasons.

Although the final metric was slightly above the model, the CQA program considered the low attrition rate an operational success. Overall the CQA operation only lost one person to true attrition and this category was never a real concern.

Finally, the percent of trainees we certify and the total number of contact center staff on the job tells us where we stand with regard to the staffing plan for total number of CSRs needed. In 2017 our recruiting, hiring and training efforts were considered successful. No significant modifications will be needed. I'll speak more about quality in a few slides and all other metrics shown here met or exceeded our plan.

Switching now a little bit to incorporate – we incorporated lessons learned in an interactive process for CQA. It began at the conclusion of the 2016 Census test and findings issued by the Census Bureau. Throughout the 2017 Census test lessons learned were captured and documented. Then at the conclusion of operations the CQA team implemented the formal steps and timeline to

collect, validate, document and share the CQA successes and lessons learned. Lessons learned were collected by the integrated product teams or IPTs and I'd like to note that the IPTs are truly integrated teams because, I think, both contractors and US bureau staff and they cover all applicable areas of the work break down structure.

The information was centrally gathered and coordinated by the program management office. Throughout the month of May lessons learned sessions were held. The slides that follow detail the key lessons learned from these sessions.

Beginning on the next slide and over the next several slides I will talk about successes and lessons learned. I've organized the information by the five functional areas within CQA Programs that you see listed here.

I'll start first with the call center options. The call center operations are the core of the CQA mission and we opened two call centers – one located in (Siena), Utah and the other in Jacksonville, Florida. We used 138 customer service representatives, which I've been calling CSRs, which includes staff that spoke fluent Arabic, Chinese, Korean, Russian, Spanish and Vietnamese to support the language assistance required.

We had many successes we were proud of. Among the highlights include the validation of our documented CQA concept of operation and nearly 100 standard operating procedures to support the entire CQA operation.

Overall, we are pleased and noted a high accuracy rate. We anticipate needing only minor revisions moving forward into 2018 and the one noted exception is our exception process, which will require a bit of work in insuring accuracy for unplanned call surges and unplanned outages.

Looking at areas of improvement, the first to note is the current manual employee suitability process we use for hiring. What we used in 2017 we know will not scale for the hiring the CQA will need in the 2020 Census. Working with our contractor we have identified opportunities to introduce automation to improve the process and we are currently working to obtain the approval to move forward with a proposed plan.

Lastly, the account creation process for CSRs was inefficient and relied on manual inputs. Our plan is to develop an automated and scalable process that can be linked to the onboarding system for staff. Moving on into training then.

Overall, we were extremely happy with our training strategy, materials and implementation. We successfully utilized software that emulates the CQA system allowing for rapid development and quick changes to training modular as knowledge and skill gaps were uncovered. Part of the training strategy we found successful was instilling a sense of a large mission for the CSRs. They were trained and took part in process improvement activities that refined the quality of the foreign language scripts.

The ability to contribute to this overall mission and be more than just a call agent, we believe, led to never before seen low attrition rates. As for areas of improvement, we will refine our methods and timing for incorporating trailing feedback into our program. We will focus on obtaining access to systems earlier to allow for earlier development and testing. This includes internal CQA functionality as well as our external interface partners.

Finally, we are working with the internet self-response management team to provide our feedback from the 2017 Census test and to make sure schedules are more closely aligned moving into 2018 planning and development.

Now moving into systems architecture and security. Moving forward, to look at our overall CQA system, we were happy to confirm the primary call processing system components and sub-systems performed as expected and will be used in the 2018 end to end Census test. We know there are still improvements that can be made to the IVR solution and we are pleased that the deflection rate achieved is not lower than modeled. We are continuing towards completing a full analysis of the IVR tool to make all necessary modifications to the usability and efficiency over the next several months. Furthermore, we experience success in implementing a CQA security private cloud platform. It was completed on time and in an efficient manner.

Areas of improvement regarding our system development include fixing some known misalignments with our business processes to prevent defects and rework discovered late in the development cycle. We need to improve cross functional collaboration to overcome the challenges to integrate different technologies. We experienced some difficulty insuring cross functional collaboration early in our design. So early strategic planning and collaborative technical engineering and design reviews are required for 2018.

And, in fact, we have already started by leveraging the technical integrator as we work to baseline our interface control documents. And now on to quality in management.

I'm going to talk a little bit about the quality management operations. Two critical measurements we manage are the – are something called DQA – or data quality audit – which we use to manage the data that's being captured through enumerations and the QAE are quality audit evaluation, which measures contact controls, scripted adherence and soft skills used by CSRs. What we found were our QA scorecards and scoring standards met

requirements successfully to provide a sufficient, independent evaluation of the CSRs. Also, after a few problems experienced early on in getting the QA systems operational we saw successes in the QA teams availability – sorry – availability and time investment required to fix the problems and assist the technology team on daily troubleshooting and testing efforts to keep the operation on schedule.

A negative impact to the CQA quality operation is reduced access to large call volumes. Low call volumes experienced in 2017 impacted our ability to best assist accurate completion metrics for data quality audits and quality audit evaluations. We observed a rather high critical fail rate that contributed to the inability to meet the average quality's core metric established. A critical failure will result in a CQA score of zero and needs to be applied to items of the utmost importance. We are assessing the relevance of and validating the existing standards as it is currently applied within CQA.

And then, lastly, moving into program management this final area I'd like to discuss our strong collaborative partnership has facilitated negotiation and agreement on several contract modifications keeping the program operational under tight deadlines for 2017. We've successfully implemented integrated project teams focused around the key WVS areas of the program and we've established numerous collaborative management meetings, including an integrated change control board. These formal meetings foster transparency and issue discussions between the contractors managers and the CQA government managers and ultimately improve decision making by the government.

Some lessons learned include seeking an improved strategy to insure deliverables are received, a knowledge track and return to the contractor. During the 2017 Census test the process was manual. Although it worked we

think utilization of a collaborative tool can expedite and improve on current manual processes. Moving forward into the 2018 planning phase our plan is to refine what we've put into place. Making improvements based on our lessons learned and keeping these successes strong.

And with that if anybody has any questions for either (Tasha) or I now is the time. Yes, please.

Man: Let the record reflect she asked me for a question. Thanks, (Lisa). Thank you, congrats actually on the deployment of all of this, the demonstration of it working and, you know, all the metrics you achieved. That's got to be taking some consultation from all that. That's good.

A couple questions on the lessons learned. I think I understood there's an IPT that kind of owns that. Is that the CQA IPT that kinds of owns that? And the reason I'm focusing on kind of who owns and has to worry about them is because a lot of them have kind of a theme running to them that they're kind of symptomatic of what you get when you get some schedule slippages and trying to get things done.

So some of the collaboration, some of the word early appears in quite a few of them and some of those things aren't going to just be taken care of by the people who are trying to implement those little pieces. So it's kind of like, I don't know, where the buck stops on kind of dealing with some of the causes behind some of those lessons learned. If that makes any sense. You said IPT, but is that just a CQA IPT? Where are these floating? Who the check on these and (unintelligible) end of the line causes or fixes.

(Sheila Proudfoot): So there are multiple CQA IPTs that contributed to the lessons learned effort and then there is a – and they each have those names that I talked about

(unintelligible). There's security IPT and there's an architecture IPT and I'm going to get all the names wrong because I'm on the stage, but then there's an overarching CQA IPT who governs them all, if you will, and we will – that IPT – that's where everybody comes together and we certainly will oversee these lessons learned out of the knowledge database are followed through.

So I know if everybody owns it no body owns it is kind of a cliché, but in the sense of if the lesson learned belong to the individual IPT it's in their vested interest to see it to conclusion – to see that it is not experienced again and if they're having trouble with it we have an escalation process that bubbles up into the CQA IPT so that we don't experience it again.

(Tasha Boon): Can I just elaborate on that a little bit, (Sheila)? I think if you step back – because you're right. A lot of these things are owned across a matrix or I mean it takes a village to do the Census. Right? So this CQA contract, in and of itself, those groups have their own individual IPTs which bubble up into the CQA. IPT which (Sheila) talked about. But because of the nature of working across the matrix, you know, we have IPTs across our 35, now 35 operations, although I think we have 34 IPTs, but we'll ask (Ian) that when he gets up here on stage.

That venue, for example, where we bring those groups together, is where we make sure at the next level, those issues are addressed and solved, because it's very rare within the census where one single point can get you everything you need, to address the problem. So (Sheila)'s group is active then in those broader venues, where we work across the program, to implement the lessons learned. So they plug in, but I was thinking that when you were saying that (Sheila), just the IPTs we use, we like that acronym, IPT.

So we have it not only within that contract, but by operation and then we have the integration of the IPT leads that we run.

Man: A quick follow up - are we expecting all those lessons learned to be addressed by the '18 test? Is that the timeline for working on all of that?

Woman: I think - so we've gone through, we've done some analysis, but I think what we need in unison with the lessons learned, is also the analysis of the data and some of the other things that (Sheila) talked about, to come up with the action plan. So we were addressing some lessons learned on the fly. I think I can say that accurately, in terms of (Sheila) was talking about that response mechanism and how we address problems. But there are other lessons learned that we need to come up when we finish some of the data analysis. It's the goal to improve them for '18, but we need to also look across the program when we're doing that, not just within CQA. (Jen)?

(Jen): Good afternoon. Thank you very much for your presentation. I have two questions. The first relates to the analysis of your oversample of American Indian Alaska Native individuals and the testing of the feasibility of the travel enrollment item. And I was just wondering if you had a trend line or estimated schedule for sharing some initial results in that analysis. And the second related to the principles that might guide your thinking on establishing a critical failure rate.

Woman: So for the first one you asked about the timing of the analysis of the report. So (Mike Bentley), do you mind answering that one?

(Mike Bentley): Hi. Can you hear me? Yes, thanks. Thank you for your question. So we've - as we stated earlier, the re-interviews just completed yesterday and I'll just, as an aside, we had - we were very pleased with the response rate for the re-

interview of about 66.3%. So we've just begun working on the data processing and getting everything ready for our analysis. We're currently expecting to have an initial report later this year in the December timeframe.

(Jen): So just as a quick follow up - it would be very useful to have an early read on those before OMB reaches its decision regarding any revision to the race/ethnicity standard anticipated before December 1st.

Woman: I appreciate that (Jen). And we'll see what we can do to that timetable. But I do want to be clear for the stakeholders that might be watching. Our topic submission to Congress for the 2020 census did not include (tribal) enrollment as a potential topic for the census. So this is research that we are doing on the feasibility, but not necessarily to be included for our question submission for the census.

(Jen): Certainly, but it would - it affects in part, our current review because of the language used in the items, the specific items that we are using to collect information on race/ethnicity in the deliberations of the group. So it is related though. I appreciate that this might be formulated initially as almost a detailed question rather than a primary question on race/ethnicity.

Woman: All right. Can you repeat your question about the critical fail? I want to make sure I answer the right question.

(Jen): Sure. I noted that you were interested in taking a closer look at how you define critical failure rate. And I wondered if you could tell us a little bit about how - what you would see as a defining principle for coming up with what those rates should look like.

Woman: I want to answer it this way. I'm not going to go - I don't know that I have the complete answer as to what will define it. But I'll - an example of something that was a critical fail that we're going to take another look at, would be something like a misspelling for a race or an ethnicity. So minor misspellings were counted as a critical fail and maybe that's not as important to scores to zero. So that's the sort of thing we're going to take a closer look at. Does that help? Okay.

Woman: Okay. Do we have any additional questions on that 2017 census test? I'm sorry (Dan). I totally - you're out of my line. (Dan), please.

(Dan Cork): (Dan Cork), National Academy. Just a quick question for both folks. For (Tasha), on (tie) theme of the phrasing of the lessons learned. There's one in there on quality control needed to be updated and improved for consistent quality of printing forms. And just the phrasing suggests that there was a problem with consistent quality of printed forms. I'm just curious what that was. And then for (Sheila), the question may have been answered in (Jen)'s, but in describing the forecast for handling time, being okay going forward, you led off by saying we know there will be fewer questions asked in 2018. Is that a reference to dropping the tribal enrollment through other things, or is it assuming more knowledge upfront?

Woman: Can I just say yes? So with the first question that you had regarding the quality on the procedures and updating it on the printed forms, I'm going to ask my colleague (Alexa), help me out with this one.

(Alexa Jones-Pudoff): Can you repeat the last little bit of that question for me?

(Dan Cork): The question was that the lesson learned from 2017 was QC procedures needed to be updated and approved for consistent quality of printed forms.

And just the phrasing of the lesson learned, implies that there was a problem with consistent quality of printing forms in '17.

(Alexa Jones-Pudoff): We did have one little hiccup during '17 and we do quality control processes all the time when we're in the print facilities, observing the vendors' work and catching things as they come through. We have an entire system that we work with folks from the national processing center who come in, to help folks from the government publishing office who come in to the print vendor's facility, to help us with the quality control work as the work is going on. We did catch one little bit of make ready work that appeared to have slipped into the actual production mail stream. So our processes caught it and we were able to pull those back out.

Essentially what we were missing was an extra barcode on some of the pages of some of the questionnaires. But we want to make sure that the - all the procedures are tailored to census work. So right now the procedures that we're operating under are the ones that are essentially the standard procedures for the national processing center for all of this type of work that they do and the same thing on the government publish offices side. But what we'd like to do for the NPC folks that we'll be sending out in, you know, in '18 and in support of 2020 as well, is to take a look at the quality control program and then take what is existing, and tailor it a little bit more to the actual census work, because we have as you might imagine, much greater volumes than they typically see in their quality control work.

We also right now are working off of a process that has manual aspects of it that I'm a little concerned with the scale, very easily if you're, you know, worried about kind of hand noting where and when you've pulled the files for adjudication. So a lot of what's in place and in existence right now is working

well. And we were able to catch a few things, but I think we'd like to tighten them up a little bit for 2020 and 2018.

(Dan Cork): Thanks. I was just trying to get a sense of whether it was a, you know, difference in color, the tint of the questionnaire or whatnot causing a problem in capture, or just...

(Alexa Jones-Pudoff): We do check all of that too. Well essentially I mean the focus of the quality control work at the print vendor's facility, is to make sure that everything that is coming through ultimately wants to get to paper data capture to that stage, is quality work that we can use. And we work very hard to insure that and we also put our print vendors through a bit of a ringer to make sure that we get that. So we get private production forms that we then send over to the IK folks. We'll talk a bit more about this later this afternoon.

(Dan Cork): But if I'm hearing correctly, the hiccup that was caught this time, was related to the barcode on multiple pages of the questionnaire?

(Alexa Jones-Pudoff): It was one side of one portion of one of the versions of the questionnaire that was missing one of the barcodes. There were some barcodes around the edges was one of those.

(Lisa Pierce): Okay. I'll do a full scan now. Does anybody else have any additional questions? Okay. If not, thank you all for those questions on our '17 census test. We're now going to turn to a preview of our test that begins field data collection in just under a month, our 2018 end to end census test. (Deb), take it away.

(Deb): All right. Thanks (Lisa). I think I can share this on (Lisa)'s behalf, so you understand that those giant bright lights are kind of blinding, like we're at the

Oscars or something, so it makes it hard to see your hand. So wave it if you have a question. But I'm pleased to be here this afternoon to talk to you about the 2018 end to end census test. So let's get right into the overview. As previous tests, our census day will be April 1st, right? And the purpose of this test is to make sure all the operations in the systems work together, so now we've tested things, we've drawn out procedures, we've used these. Some things just finished production in 2017 and now we want to knit it together and see how it works.

And this will help us validate and test our operations procedures, etc., for 2020. Using our information technology solutions, as you know, we're going to test major operational threads and the supporting systems and integration behind the scenes, and that'll help us meet our 2020 requirements. And then to make this truly end of the end to end, we'll produce a prototype data product. So that gives us that bookend.

So you guys, I think this is the third time you've seen this picture in an hour, so there will - we're going to erase the boxes and have a quick test. But if you wrote down the detailed operational plans that (Lisa) was saying the acronyms and you didn't catch them all, you can figure it out (tie) on this placemat, which you should have memorized. But this shows the 24 operations that are in scope for the test. I think you all are used to looking at the dark purple and light purple operations as in scope, and then the brownish ones which kind of seem green, on the big screen up here, so it's 11, are out of scope for that test.

The five operations that haven't been included in a major test to date are shown with the orange ring around it. That includes update leave, group quarters, data products and dissemination, redistricting and archiving. And then of course, the light purple operations, even though they're not a focus of the test, they're still kind of in play because they exist. And not to beat this

horse to death, but there are a handful of operations that are highly specialized or like (LUKA), already in production. So they are out of scope for 18 end to end.

So just to explain a little bit better the timing of the test and (Lisa) explained sort of the choices on the sites in her remarks. But before we look ahead and talk a little bit more about address canvasing, I thought it'd be good to give that preview of what's to play next spring. As we noted earlier, we're going to run this operation - these operations in Providence County Rhode Island. We're going to be using our previously and successfully tested self-response engine that (Tasha) just talked about as well as (Sheila), redeploying the internet self-response, the census questionnaire assistance, forms printing and distribution, paper data capture, non-ID processing, as well as response processing operations, which run in the background once we get that data inhouse.

And then we're going to have two new operations in scope of this test, group quarters as well as update leads. And I'm not going to spend a lot of time on either of those during my talk because if you've looked ahead in the agenda, you'll see that we'll do deeper dives on them. So here I just wanted to call them out as a brief commercial and then now I'm going to turn my question to address canvasing. So let's move on here to the who, what, where, why, when and how, for (ADCAN). This test will provide us with a final opportunity to use our tools and processes together in the field, so we can prove the operation ahead of 2020.

As many of you are aware or could have seen, we did conduct an address canvasing test last fall, and I think that we've talked about that at a number of the PMRs here already. So what does all of this mean for the test? So we're going to conduct a field address canvasing in these three site locations. We're

going to implement independent quality control which is new for this operation. It wasn't previously tested and it was a key lesson learned. If you were familiar with what happened during that test. We're going to be using an enhanced version of (WEMA), which you'll see that a little later this afternoon and that does support the quality control operation. What else are we going to do that's not as obvious?

We're going to integrate with our eCase operational control system, using mobile case management and using that for the first time. And we're also going to have our field staff for the first time, use the eCase time and expense application. So even though we're testing (WEMA) and you're probably focused on actually address canvassing work, there are all those things that work around it, to support what we're doing and a number of those are new. Our listers are going to be using laptops which they will do in the demo. And as some of you saw if you attended the pre-PMR seminar - oh, that rhymes - will be training folks using that automated training solution that (Bryn) and (Jay) talked about. So stay tuned for a little bit later and you'll see - if you're a show me, you'll see that show me part later.

So in terms of operational scope, I just wanted to remind you here about estimated workloads across the three sites and these do include in field work that would be about 5%. In field quality control work. I'm sorry. Which is about 5% of the sample of the production work. So how are we going to get that done? We need people. Our estimated staffing per site is broken out here by production and quality control. Within these categories I wanted to give you a little bit more detail to show our field staff that'll be hired and then also we recruit more - actually (Sheila) was talking about a similar concept here.

We recruit/train but sometimes people leave before we're done with the work. So we have to take that into account in the invited to train there. And then

when we get to our production staff we wish they would stay the whole time but they won't always do that. We are continuing to recruit through August 7th. Within Providence County Rhode Island we'll have about 70 production staff with 15 quality control staff. And right now we are done with our recruiting in that site.

In (Pierce) County we'll hire about 117 production staff with about 28 quality control. And we're almost 60% recruited there. And then in Bluefield-Beckley-Oak Hill, West Virginia we'll have about 80 production staff and 24 quality control staff. And there we're about 55% recruited. And so that's where we are on getting the who - I guess I was doing the who, what, where, when and all those kinds of things. That's the who.

And then as you can see here, here's another slide that you guys see when I talk about this test all the time. We've checked off a couple of major things. But I thought what I'd share isn't actually written on this slide. There are a couple of things coming up as soon as tomorrow. Tomorrow is July 12th. And it's not Saturday, because today is Tuesday. So tomorrow we're going to begin training our ACO managers which includes our census field managers. So getting righty underway. At the end of July our census field supervisors will begin training.

August 18 we'll throw our listers into that training pot and they will be followed by our quality control staff listers on the 25th. And so this field work will ramp up next month and this is what we'll be doing to entertain ourselves as summer comes to a close and we get into fall. And so now under the previously - very good, we took that (LIMA) demo slide out. They're being nimble and agile over there, (Dominic). So that is where I was going to end. And we can have questions on that part and then I think we can probably

have more questions once they do the (LIMA) demo later this afternoon too, so that gives you a little reflecting time.

Woman: So just before we take questions I just want to set the stage because of our ability to be nimble and agile or agile and nimble. For the staff that are in the session after the break, we are actually going to start that next. So if you can get ready, what we're going to do after we take questions is take about a five minute stand and stretch break while we reorganize the tables. And we'll proceed with our group quarters and forms printing. After we do those two presentations we'll then take a more extensive break if that works. So with that as background while (Judy) and I...

((Crosstalk))

Woman: We are going to take questions on this and then we'll take a five minute stand and stretch break. Any questions for (Deb) on the 2018 end to end census test? Go ahead.

Man: If no one else does, I've got one. So (AddCan) is about to start for union test involving - do we have the results of the 2017 (AddCan) test evaluations?

(Deb): So those were - it's '16. The 2016 address canvas.

((Crosstalk))

(Deb): Don't accelerate me. So we have been reviewing those results internally and they are moving through our governance process. So even though I'm sharing them out in formality style, it has not been done yet. We are able to use the results of those tests to help us with this test. Right. Realizing too that test -

we had a very close end of that test to the beginning of this test, just the way they were put into the schedule. So yes, we're able to use those results.

Man: With people looking at the test as it comes forward, it might be interesting to see what we learned.

Woman: I appreciate that point and that's one of the reasons as you know, our reports have generally lagged. One of the challenges that we've had this decade is with the intense research and testing that we've done. Getting the formal printed reports out has been a challenge for us. It's one of the reasons that we do the program management reviews where we have the opportunity to share the preliminary findings that we internally, are already using to improve the operations. You'll remember, I believe it was in January at our program management review, we did focus on the preliminary findings of the 2016 address canvassing test.

Of course what we shared at that program management review weren't all of the findings. I saw that (Tim). But we did share those findings that we had available at that time, rest assured that we have been incorporating all of the findings that we collected as well as the wonderful feedback that we did receive through all of your observation visits into the planning for this test. I look forward too, to having that result released. And I think we're pretty close. That report - I think I said result, but report release. So I see (Jen) has a question.

(Jen): Thanks. For the purposes of the end to end task, I understand our primary focus is examination of how information systems connect and work together in unison. And I wonder to what extent remoteness of location was a testing factor or a testing variable in selection of the sites that you've chosen for the end to end tasks that will be examined. I (spent) quite a bit of time in

Providence, Rhode Island and I was always connected. So there's a great deal of diversity represented in Providence County Rhode Island, but perhaps remoteness is not one of those.

Woman: Great. I'm going to answer that.

Woman: Okay.

Woman: For that. So you're right, Providence County was not selected to help us with remoteness. However. Bluefield-Beckley-Oak Hill, West Virginia was. So that was one of the criteria in selecting the three sites and also in terms of remote, provides us with very rural address canvassing challenges that we can test those procedures on and get feedback. I haven't been to Providence. I'm looking forward to going there. Okay. (Lisa)?

(Lisa Pierce): Yes. Can you talk a little bit about the partnership that's the focus. It's not the focus of the test, but it's required to support the test. A bit about some of the things that you'll be doing with the partnerships for the 2018 (event)?

Woman: So the partnership, and I know we went back and forth on, we are not doing full tier advertising and - in the areas for this test. However, we do have partnership specialists that the Census Bureau has across the country. And so when a test is going on in the area, you know, we do have boots on the ground, although not a lot of boots on the ground, that can help us talk about the test, make sure local folks are aware that a test is going on. I think that goes back to something (Sheila) was also saying about the CQA results where people could be confused why are we here only two years early, for that. So it's utilizing that infrastructure that the bureau has in place.

Woman: Yes. If I can elaborate a little bit, because (Lisa), I just want to be clear that, you know, when we talked about this test a year, a year and a half ago, partnership was a focus that we were hoping to test. That focus as a test component was descoped from the end to end task. The reason it's in that light color is as (Deb) is talking about, we still do have active partnership specialists within the area and they will be continuing to perform their day to day activity.

Woman: So to the extent that they can they'll be helping out for...

Woman: Correct.

Woman: ...2018 and then - but it won't be...

Woman: Their research questions or evaluations or things of that nature is not a focus in that sense. But to the extent they can they will be helping. Correct.

Woman: And one other question about the update enumerate areas. And so update enumerate, has it previously been tested, update enumerate? And what I guess are the plans for...

Woman: So (Ian) is actually going to talk more about this in the afternoon, but update enumerate has not yet been tested as an operation. But I think it's important to allow - I don't want to say everything (Ian)'s about to say before he says it, so I think it's important to allow (Ian) to talk a little bit about the type of enumeration area and the size of these operations as they've been re-planned and reconfigured, before we talk about the impact of the design changes. It will help with the context. Okay, (Carol)?

(Carol Igee): Thank you. I do actually have a question about update enumerate. On the placemat it shows that it's not part of the test, but when you look at the schedule, it's in schedule as occurring. But I am assume that might be update leave.

Woman: It certainly is a type. Thank you very much.

(Carol Igee): Okay. So you'll be conducting update leave?

Woman: We will be conducting update leave as part of the end to end task, not update enumerate. Correct.

(Carol Igee): Okay.

Woman: Additional questions? Okay. If not, we're going to take that five minute stand and stretch break. If you don't want to stand and stretch in your place maybe don't go too far. We're just going to reconfigure the front head table. So thank you very much.

Okay. We're going to get started. If I could get people to return to their seats please. Thank you. great. While you're all settling, I would just like to take this opportunity to thank you all for your flexibility with our quick five minute stand and stretch break. I'm extraordinarily pleased to see that five minutes was seven minutes which is so not bad. Right? Like that is - that's awesome. Any time you take an unscheduled break in a meeting, you never know when we're actually going to get back down to business.

So now that we're all settled back down, we're going to reconfigure our agenda. And what we're going to do now is talk about two of our operations. We'll first - (Judy Belkin) speak about our group quarters - actually three of

our operations, I should have said. We're going to - I think I've been counting wrong all day, I think it's six operations, not five. Maybe. I'll have to recheck. Group - anyway, (Judy Belkin) is going to talk about our group quarters operation and then we're going to turn the floor over to (Alexa) who is going to talk about two of our operations. So (Judy) first.

(Judy Belkin): I am really happy to share with you the group quarters data collection operation plans that we have so far. A little bit of background first - we'll have the agenda here. We have some background. I'll share some of the accomplishments that we've made so far - some of our ongoing efforts, and then we'll dive a little bit into what we are planning and answer some questions. So I'm not going to assume that everybody in here knows what group quarters are. I feel like most of you do, but I'll give you a little brief definition.

Group quarters are places where people live or stay in a group living arrangement. And some examples of group quarters are, you know, correctional facilities, college university student housing, military barracks, soup kitchens, shelters, etc. and nursing - skilled nursing facilities. I try to get the main ones in there. So group quarters data collection happens in two phases - advanced contact and then there's enumeration. We want to have the advanced contact operation because we don't want to just show up at the doors of these correctional facilities and nursing homes.

And so it's important that we reach out first, at least make an attempt to do so. Both of the advanced contacts and the enumeration operations, takes advantage of two key lessons learned from 2010. The first one is to reduce respondent burden by limiting the number of visits we make to the GQ. And then the second one is to take advantage of facility provided records, both in

electronic and paper format. So keep those two key lessons learned in mind, as we move forward and, you know, I'll talk to some of our accomplishments.

The first accomplishment was the - is the 2015 group quarters electronic capability test survey. The purpose of that survey was to explore the GQ's administrator's willingness and ability to provide electronic records to the Census Bureau. We reached out to 260 umbrella organizations and agencies. We reached out to the Department of Commerce, we reached out to the Salvation Army, some skilled nursing facility umbrella organizations, to see if they would be willing to send us electronic records.

Of the 260 organizations and agencies that we reached out to, 105 responded and the response was pretty positive. As you can see, 73% reported that they have these response records available. Seventy two percent said that they were able to send us the records to the Census Bureau. About 65% said that they can provide the electronic - provide us an electronic file in an Excel format. And 53% say that they were willing to participate in an eResponse test. So in - next slide. So in 2016, actually November through December, just a few months ago, we had our first fee response test.

The purpose of that test was to explore the capabilities of enumerating using electronic files as I mentioned earlier. And we wanted to explore the formats in which the response data was received and if we would be able to parse the data and the ability to standardize the data received in the anticipated format. So the results were, you know, pretty positive. You can see here all the data files were successfully uploaded. The administrators were able to use the Excel spreadsheet that we provided. And something that's key here, the files that we received from the contact persons, they were able to link the residents with the GQ.

And so what do I mean by that? So you may have these umbrella organizations with many GQ facilities underneath them. So we needed to be able to say these residents belong to this GQ, these residents belong to that GQ. So when they sent the files to us, they were able to do the linking. Although we used - everybody used the same Excel spreadsheets, all of the administrators kind of, you know, parse their data separately and put them in different formats and align them in their own special way. So we had to use a parsing tool to make sure that we can put the data back the way that we needed to see them so that we can do address matching and align the data fields up.

So what did we learn? We learned that using a non-standardized template required additional formatting. We also learned that we needed to explore using a more standard template. And we needed to expand it across various GQ types. For this particular test, we used two umbrella organizations and we used one of our FSETE members for the test. So it was relatively small. And so, you know, we needed to expand a little bit more. The next one is our accomplishments with the 2016 eResponse. Okay.

The service base - I'm sorry. I'm just talking without my slides. Forgive me. So the next one was the 2016 service based enumeration tests. It was conducted over a two month period. We conducted the test in Washington, DC as well as in Baltimore. We went to 11 service based enumeration areas that included four shelters, four soup kitchens and three regularly scheduled mobile food van stops. We were able to talk to 844 people at those 11 locations. And the purpose was to explore the feasibility of enumerating this population using an automated instrument.

We also wanted to explore if using the administrative records or facility provided records at these locations would be feasible. And we also wanted to

test the production ratio, the staffing that we have the right number of people going out to these service based enumeration areas. So as you can see here again, we have some positive results. As the result of this test, 99% were counted using the automated instruments. And we only had six participants to request the paper questionnaire.

Ninety seven percent provided all the required data items. There was strong participation from the GQ administrators and then - worked so well with the staffing ratio, particularly at the mobile food van stops. The mobile van was only there for like ten or 15 minutes. And the average time to conduct the interview at the mobile food van was like six minutes. So, you know, we needed to have the right number of people there to kind of like get these interviews conducted and done with, because, you know, they needed to answer the survey.

So the lessons learned here for this particular test, respondents experienced no problem using the automated instrument again. Only six out of the 844 said I need a paper questionnaire. The shelters had the - were the only type that had the capability of giving us a paper listing and the other GQ types didn't have the capability to provide us a paper listing if we needed it. We weren't able to talk to everyone. Of course we required - a lesson learned is that we required - we need to look at our staffing ratios a little bit more carefully.

So I talked a little bit about the average time at the mobile booth food van that was like 16 with 6.3 minutes. At the shelters it took about 11 minutes to conduct the automated interviews. And at the soup kitchens about seven minutes to conduct automated interviews. Our ongoing efforts - one of the key knowledge management recommendation was to reach out to professional organizations to assist us with data collection at group quarter facilities.

As most - as some of you may know that, you know, look closely at group quarters data collection, it's key that we have the buy in from the facility contact person. They're key to what's getting in the door and the DNA would have conducted interviews with their - they're the gatekeepers. So we need their buy in, we need their cooperation. And so that's what we've been doing for quite some time now, is building those relationships and figuring out ways that we can best collect the data at these GQ facilities.

As you see here, you know, we've been working with the joint services working group. This is with the various branches of the military. We've actually been working with them for quite a while. They're a great partner in helping us to be able to - one big win is to get administrator records from the military in 2020. We've also been working with the federal state cooperative program for population estimates, FSCPE program to help us to build our frame. They're going to make sure that, you know, we, to the best of our ability, captured all the group quarters and shelters out there.

And then we're conducting internet research out of our national processing center, which is something that we did in 2010. We will continue to conduct small scale testing, just like the ones I just mentioned about the eResponse test that we did in late last year. We are in the process now of conducting another test with using eResponse with some state level correctional facilities. And so we're hoping that this turns out to be a great tool that we can use for group quarters data collection moving forward.

I mentioned that we'll be receiving administrator records from the military stakeholders. We will receive a file beginning this year. we'll be able to take a look at what those administrator records look like, you know, how well we can use them and so when we approach 2018 - I mean 2020, you know, the

file, you know, it's a good file that we can all use. And it's, you know, it works out to be a great partnership with our military personnel - stakeholders.

So I'll move now into the data collection. As I mentioned earlier, two phases is advance contact and it's GQ enumeration. Next slide. Advanced contact happens first, February 5th through March 9th. Advanced contact is an in office only operation. There's no field component as was done in 2010. Clerks in our area census offices will use our inhouse production control system to conduct the advanced contact operation. During advanced contact the clerk will verify the GQ name, address information, contact name, phone number. They'll collect an (expect) account on census day.

We will inform the GQ administrators of the various methods of enumeration. We'll obtain a preferred method during that time. And then we'll address any security privacy concerns. So the methods that will be offered during advanced contact is that eResponse that we've been testing. It will be mainly a paper operation for GQ move in for 2020. The methods of paper modes that will be offered as a drop off/pickup of the individual census questionnaire.

Facility staff enumeration - this is where the contact - we drop off the form and get - the contact persons distribute the questionnaires to the residence, picks them up and then our enumerators will go by the facility and pick up the completed form. There's in person enumeration using the individual census questionnaire. This is where the enumerator conducts the interviews with each resident. And then there's the paper listing.

There are some GQs, shelters that we go to, shelters primarily that say, you know, I don't have time, you know, here's the roster. You know, take off. So we will be offering that particular mode as well if they need it. Let's move into group quarters enumeration. Group quarters enumeration occurs March

28th through July 25th. There's four components to GQ, group quarters enumeration. There's the service based enumeration that we talked about earlier that we test, there's the regular GQ enumeration. It's all GQs outside of the shelters and the soup kitchens and the mobile food van stops as well as the military. That's out of the regular GQ enumeration period.

And then there's the maritime enumeration and then the military enumeration. Again, the first enumeration that happens is the - for the service base. There's a three day process. It's enumeration of people experiencing homelessness. We will send multiple enumerators to these soup kitchens and shelters. It will be an in person enumeration with each resident using a paper questionnaire. We did test using an automated instrument, but we will be using a paper questionnaire at these locations. And then we'll request a paper listing if necessary, from the shelters.

For that particular operation it will require about 40,000 enumerators over that period. Now we move into the regular enumeration period that happens April 1st through July 25th. We'll use about 20,000 enumerators. It will be a - the GQs will be enumerated based on the method that they chose during the advanced contact operation. If the contact person says, you know, I want to use eResponse, they will send a link to a secure server and give them four weeks to fill out the standardized template and upload it to our server.

They will receive a username and a password will be created. GQ contacts can upload the files for multiple GQs. Each one will be a separate ID. The cutoff we receive in the eResponse is on May 1st. And if we don't receive the data - I know some people will be asking well, what if they don't use the eResponse method? Then we will use another data collection method. Maritime vessel enumeration is April 1st through June 30th. This is

enumeration of people living on US maritime vessels in operation at the time of the census.

It's data collection method performed primarily by the staff at our national processing center (as it) was done in 2010. And it's a mail out mail back. we mailed the forms to the vessels and they mailed them back to us. And it's a generic kit that's used for all of the vessels. It includes the instructions, the questionnaires and things like that, to be able to conduct the operation. So military enumeration as I alluded to earlier, is enumeration of people residing in GQ military installations and military vessels. We will be receiving administrator records for persons living on military installations.

Military personnel stationed overseas is counted in a different operation. That's the federally affiliated account overseas operation. We will be receiving records for military persons living in the barracks as well as in the housing units on the installation. We will be able to determine, you know, which are the barracks and which are the housing units. And again, we're working through that file that will be delivered this summer and we'll be able to address any issues that we have before we get to primetime.

And I believe that's it. I know that was a lot, but I'll entertain any questions that you have.

Man: So I understand the procedures for conducting the enumeration, for collecting the data, but can you clarify how you're building the frame? And I guess what I want to focus on here are not the obvious GQs like the prisons and the nursing homes, but the less obvious ones, like shelters and transition facilities. And how are you able to distinguish those and make sure they don't slip between the cracks between, you know, how you're able to distinguish those

between residential facilities that may look exactly the same? Because I know that was a challenge in prior decennials.

(Judy Belkin): Well we're planning on using internet research. Well of course the frame is being built through the (inter census) years. So we have other surveys that are helping to build the frame that we'll be using for 2020. And so what we'll do - we primarily know that we'll - we want to catch - capture all of the service based enumerations that you - as you mentioned. So the plan is to have our clerk that are MPC, to help us to conduct the research to make sure that we capture as many of them as we can.

And we'll also be using FSCPE partners to help us build the address frame for group quarters. So our partnership with them happens at the beginning, when we build the frame, during enumeration. That's why GQ enumeration is kind of late - July 25th, because around June of 2020 the FSCPE will come back again and they will look at what we've done. And they will help us to identify any SPEs or any other GQ types that we may have missed.

Man: Probably like a women's shelter for example, where would that - how would that get into the frame?

(Judy Belkin): So are you specifically speaking to a domestic violence shelter?

Man: Sure. Yes.

(Judy Belkin): Okay. So I know that's a unique one. And I don't know if (Dora Durant) is in the room, who - come on (Dora). Can you speak to the domestic violence shelters? I know that's a sensitive one.

(Dora Durant): Okay. So as it relates to the domestic violence shelters, we are actually working with the domestic violence (call) network. And what they are doing, they are going to be reaching out to all other state coalitions, domestic violence agencies and then with them - when they work with them they will provide for us all of those addresses but they will come through in a secure manner and so we will enumerate those that way.

So we will not have the domestic violence shelters included in the (unintelligible) and it will not be a part of the imminent research but we will receive that data like we did in the 2010. It will come through in a secure way - in a secure manner and then we will also have that process also done a little bit separate from the rest of the enumeration process so that we can make sure that the promises that we make to those domestic violence shelter individuals that that data will be secure from the beginning all the way through (unintelligible) that we can fulfill that promise.

Woman: Thank you (Dora).

(Dora Durant): You're welcome.

Woman: Did that help?

Man: Yes and there's other types of facilities also that might slip through the cracks.

Woman: So that - right and I appreciate them...

Man: That certainly not be on any Internet database or any other kind of database.

Woman: And that's why FSCPE is so critical because they're familiar with the areas and they'll be able to come in and help us to identify those (unintelligible) types or those places that we may have missed.

Woman: (Unintelligible) just - that was great and I'm sorry. I just want to clarify for the audience that may not be familiar with the FSCPE...

Woman: Oh.

Woman: ...that it is the Federal State...

Woman: (Unintelligible).

Woman: Cooperative Program for Population Estimates. It's a program that the Census Bureau runs in cooperation with all of the states that we have a representative from each state that focuses on population estimates during the inner (unintelligible) periods. They also work very closely with us in preparing for and in evaluation the census (unintelligible) for this who are not familiar with that program.

Woman: Thanks.

Man: Following up on (Robert)'s question. There was project level risks associated with address canvassing that had GQ operation as the mitigation and I was just wondering if there was anything specific that was added since the last (unintelligible) to get to that and address that risk. I think that was (Robert)'s point.

Woman: So it's a project level risk in the project risk register for address canvassing.

Man: And it pointed to like basically don't worry about it, Group Quarters...

Woman: Okay.

Man: ...Operation will take care of it.

Woman: So I know I don't have it all memorized but I'm just thinking from having heard lots of it before part of the mitigation when we know something could be hard to find is the local level presence. So with GQ using - it's not only the FSCPE I was thinking too because we're doing our advanced contact out of our area census offices and we have experience with the areas from the region. It does help us see things that might not be apparent.

Man: And I know Miss (Belton) mentioned Jeffersonville in getting information from them but it seemed like also based on that same information that ABR was going to be the source of that useful information and without...

Woman: (Unintelligible).

Man: ...ABR I'm wondering what the aerial imagery is able to add.

Woman: So we can certainly continue that conversation offline but I do want to point out the point about Active Block Resolution which I think is a really good one that you brought up. When we talked about suspending the use of production Active Block Resolution for the 2020 census that suspension or that stop was specific to address canvassing. We did mention that we were bringing Active Block Resolution back to headquarters and that we did see potential uses of it for other operations. (Diedre Bishop) is on travel this week. It will be a much longer conversation. I think the best thing would be for us to talk a little bit

offline about that and where we're looking to supplement the work. Unless (Ian) wants to say something as his eyes went really large.

(Ian Hall): Yes. Yes I think it's important to note that there's a variety of factors and things that we're using. There is an in-office address canvassing component that is looking at Group Quarters right now to try to develop that frame and I think that's what we're kind of alluding to. And then address canvassing does have the capability of designating in the field the location of Group Quarters that are encountered as well as transitory locations to help to build that frame.

(Devon): Okay (Devon) (unintelligible) here. Just looking at the kind of timeline for GQ. It looked there was some overlap in the kind of the numeration dates for the different variations of the recorders, some overlap between that and the GQ that was taking place for the 18 end to end test. I was just curious about what the process would be for incorporating any lessons learned from the 18 tests (unintelligible).

Woman: Yes let me just pause for a second and clarify what the slides are that you are looking at.

(Devon): Yes.

Woman: You're seeing a combination of dates here.

(Devon): Yes.

Woman: You're seeing - when you see 18 days it references that those operations are in scope for the end to end test. When you saw that few slides that reference the 2020 dates with the lighter color green those are not being tested in the end to end test, so.

- (Devon): Okay. No thank you for that.
- (Dan Cork): (Dan) (unintelligible), National Academy. So just one quick clarifying. I just missed the description that you put up front of the '15 electronic capability test. It was working with umbrella organizations but was it targeted at specific GQ types or classes or was it more of a broad-brush assessment?
- Woman: Department of, I mean, Department of Education, yes. These are the GQs that we felt like would be able to participate and provide an - the electronic files to us. So while we're opening it up for everybody we have to remember that these are some of the places that our agencies just said also that they will be willing to participate in the test.
- (Dan Cork): Right so this was aimed mainly at educational, at dormitory situations as opposed to departments of corrections or healthcare facilities or? Thought it was in a mix.
- Woman: Yes it's a mix.
- (Dan Cork): It was a mix. Okay. Follow up question on that is does the - in working with the eresponse format things that you're getting in on Excel spreadsheets is that acquiring or testing the capacity for specifying alternative residence elsewhere?
- Woman: So we're going to use a standard template for everybody. That was the outcome from during the test in '16. We realized that we needed to standardize it. Everybody would have to use that standard template if they're going to select the eresponse. We will accept no other formats. If I'm - if I heard...

((Crosstalk))

Woman: ...question correctly.

Woman: I would also follow up by saying the Census Bureau is still in the process of determining (unintelligible) residence criteria for the 2020 census and the determination of that will be a key input into what that standard template will look like.

(Dan Cork): Okay.

(Brad Rogers): (Brad Rogers), OIG. Regarding the locations of the test, you went to (unintelligible) location for all of the operations in the test and you guys know the locations better than anybody so you picked that location for a reason. But especially with the GQ operations since there are four components: the SBE, group quarters, maritime and military, are you losing anything in details or nuance at the other two locations that you would've liked to include in the test specifically?

Woman: No I don't think so and as I mentioned earlier the military will be sending us administrative records so we're not missing anything moving to that one site by not going to another.

(Brad Rogers): Okay.

Woman: The - Providence, Rhode Island is diverse. It's going to allow us to test some of the (unintelligible) types. Of course we have a college and a university. They have - that area has the Group Quarters group homes and residential treatment centers, you know, some of the hard places and it also has some of

the shelters there. So I don't think we're going to be missing out on anything moving to that one area.

(Brad Rogers): Okay.

Woman: So I just wanted to follow up just for a second because I do think it's important when we're talking about the test and we're talking about the sites and I know you all know this but each of the sites that were chosen were chosen for very specific reasons (unintelligible) the characteristics of those and they were chosen to help us maximize what we could learn across the sites. The decisions that we have to make are never easy but when we move toward one site for our peak operations we selected Providence because it had the best and the most comprehensive set of information that we could collect. It allows us to glean the most across all of the aspects of the test that we must use.

It's specific to Group Quarters. There are more than 450 Group Quarters facilities within the Providence County area which what was unique about other test sites specific to Group Quarters that we lost through this opportunity where that is a (unintelligible) is that in (Pierce) County we did select that site because it had a large military base. That said we can mitigate that. The Census Bureau has extensive experience collecting information from the military and in particular from military bases and certainly through our ongoing work and our ongoing partnerships with them we can find ways to mitigate that loss.

(Ty): Hi. (Ty) from GAO. Back on the military files that you're getting have you gotten those already and worked with them? I can easily imagine the military has - worries a lot about where its military personnel are. I'm imagining they probably may not have the same effort in worrying about where the families

are on the - whether they're in the houses on base or not and I would just be, I mean, you - it's like if you're not going to list on-bases and you're not going to worry about those housings in any other way than a file that just seemed like a real critical piece if you want to count the people on the base, not just the military employees.

Woman: Right and so we haven't received the file yet but we've been working closely with them. We know that we'll see persons living in the barracks as well as the housing in it and we will know families living in those housing unites as well. So we will have - we will get a lot of data from the military. We just need to look at it. We hope that we can receive it soon. We're still working through the MOA. Once we get it we'll get to see what we're dealing with and how we'll be able to operationalize things after that.

So we'll get a smaller file first that'll be just for the local military areas. Once we determine that this - yes, this is what we think we want, we can use it, we can operationalize receiving those files, then we'll receive it for the entire country as well. This - all the way through 2020 they're going to be delivering those files to us. So we'll have a lot of opportunity to work with them.

Woman: Other questions? Oh (Jen), your tag is up. Sorry.

(Jen): Thank you and just to clarify then for records to be received from military you're not requiring that they use a standard template but you would be requiring other Group Quarters facilities to use that standard template yet to be designed. Is that...

Woman: Right.

(Jen): ...correct?

Woman: Right. So the military...

((Crosstalk))

Woman: This is what you get. But they've been great working with us. We've, I mean, we've been able to go back and, you know, say can you include this? Can we distinguish between the barracks and the housing units? You know, when they tell us that you're going to receive, you know, certain data items we've been able to go back and say can you provide this? So we just haven't laid our eyes on those files yet.

Woman: Okay I'm doing my learn - see lesson learned, doing my sweep across. Any additional questions? Need to do a time check. So (Alexa) (unintelligible) operations at once. So I just want to check in with her and say do you want to go through both or do you want to do one and then pause?

(Alexa Jones-Pudoff): (Unintelligible).

Woman: Why don't - which way is fine with you.

(Alexa Jones-Pudoff): Okay.

Woman: That's fine. So why don't we do the first of them and do the forms printing operation and then we'll take a break so that we can get the technology set up and get the rest of the team up here for the rest of the afternoon.

(Alexa Jones-Pudoff): All right. Can everyone hear me okay? Great. Good afternoon. I'm (Alexa Jones-Pudoff) and today I'll be talking about the forms printing and distribution operations and the paper data capture operation.

(Unintelligible) distribution or FPD for short and paper data capture, PDC are two of the 13 response data operations for the 2020 census. These two paper-focused operations are critical components of the 2020 census and support the work of many other census operations. The path shown at the bottom of the slide represents a notional view of the components of the forms printing and distribution and paper data capture operations. Fundamentally these two operations are responsible for printing and mailing self-response materials and handling paper responses upon the return to the Census Bureau's paper data capture centers.

We'll focus first before our break on the first two components which make up the forms printing and distribution operation. The forms printing distribution operation is the print mail operation for the 2020 census. The operation is responsible for printing self-response materials for the census and distributing them to respondents. We also provide printed material for other operations like Group Quarters and the new update leave operation. While our partnership and communications campaigns will raise awareness of the census the first direct contact many respondents will have with the 2020 census will come in the form of mailed materials inviting them to participate. These materials are produced by the FPD operations.

The operation prints and distributes Internet invitation letters, reminder letters and postcards, questionnaires and materials for other operations. We (unintelligible) self-response operation which is the operation responsible for the self-response mailing strategy and operations with paper-based components like group quarters and update leaves. We also do some print work for other operations like nonresponse follow up.

The 2020 census estimated workload shown here covers self-response, update leave and a small non-response follow up component. In total we plan to print and/or manufacture 1.5 billion items in support of self (unintelligible) 2020 census operations. So a big number. I post it on my wall in the office. It takes your breath away for a moment. So that 1.5 billion includes approximately 140 million questionnaires, 680 million letters and inserts, 210 million postcards and 530 million envelopes. For reference in 2010 we printed about 400 million questionnaires. So the 140 million we (unintelligible) printing in 2020 is quite a reduction from the 2010 volumes.

This of course reflects our 2020 mail strategy of providing a paper questionnaire in the initial mailing to only a small portion of the households in self-response numeration areas and then later following up with a paper questionnaire to only the non-responding households in those areas. It also includes some contingency (unintelligible).

The letters and inserts include things like the initial invitation letter encouraging people to respond to the census and an insert that provides information about how to contact our census questionnaire assistance call centers. Of course we need to mail all these materials out to respondents and provide a way for those with questionnaires to return those paper questionnaires and for that we construct envelopes.

The forms printing and distribution operation contracts out the print mail work through our partnership with the Government Publishing Office, or GPO. Past tests have been contracted on a test by test basis with a separate invitation for bid being posted for each census test. Our overarching goal is to utilize the final solutions and final solution providers during the 2018 end to end census test in preparation for the 2020 census. In keeping with that goal the 2018 test and the 2020 census prints distribute work for self-response in

(unintelligible) areas and update leaves has been posted in a single invitation for bid. I am pleased to announce that this (unintelligible) posted this morning so we have achieved a significant milestone on our path to the 2020 census. And if anyone is curious or looking for a little light reading that's posted on the GPO's Web site, gpo.gov.

Also want to take a moment here to express my profound appreciation for all the folks at GPO who worked on this solicitation as well as all of our partners across the Census Bureau who contributed to the development of the invitation for bid and the forms printing and distribution program management staff. Thank you all so much.

All right moving back to the utility of the combined 2018/2020 invitation for bid. (Unintelligible) expect that structuring the solution to cover both 2018 and 2020 will provide the contractor and potentially their subcontractors an opportunity to complete a print mail cycle similar to 2020 in advance of the actual census. Our print vendor will be able to develop and refine their approach to the work in a census test environment and will be able to use the time between the 2018 end to end census test and the beginning of the 2020 census operation to make any modifications necessary on the basis of lessons learned from the 2018 test. Bidding the 2018 and 2020 work together will also allow us to test our quality control procedures and other aspects of a forms printing and distribution operation in concert with the actual 2020 providers.

The schedule is another area where we intend to emulate 2018 in the - 2020 in the 2018 test to the extent possible. While the volume of the print and distribution work for the 2018 end to end census test is obviously much smaller than the 2020 census, we're modeling the timing for 2018 after the

anticipated timing for 2020. This will allow both the contractor and the Census Bureau's operational side to get a feel for the 2020 cadence.

Another key component of the forms printing and distribution operation is our collaboration with the United States Postal Service. Last decade census was on the cutting edge of the U.S. Postal Service development utilizing services that were brand new for USPS. We've continued our close partnership with USPS, most recently as part of the optimizing self-response working groups. We've been working with them to determine the best way to execute our mail strategy, minimize errant flow-through of items intended for destruction and educate postal carriers in the handling of census materials.

New for 2018 we'll be working with in-home dates instead of mail dates for items that are mailed to respondents' homes. This more closely mimics our 2020 mailing work where we'll be staging the mail across the country in preparation for the beginning of the 2020 census. We're also working with USPS to develop materials for use in post offices that will help ensure the best execution of USPS services supporting census work. This includes handling of undeliverable as addressed mail pieces, UAAs which are scheduled for destruction by USPS rather than returned to the Census Bureau. Keeping UAAs and other non-questionnaire materials out of the mail flow and back to our paper data capture centers will help the data capture centers official manage the large volumes of paper materials that will be delivered for processing throughout the 2018 end to end census test and the 2020 census.

As we have for the past several tests we will continue to rely on USPS postal tracing data to both anticipate the paper data capture workloads and remove cases from subsequent mailings and field (unintelligible) activities. Once we have received data indicating that a household's paper questionnaire response is on its way back to the Census Bureau we'll pull that household from future

reminding mailings and/or for the (unintelligible). Of course if after receiving the response we discover there's an issue with it such as a totally blank form being sent back we'll insert that household back into the workload for follow up mailings and/or fieldwork.

Now this slide shows some of the key activities for the forms printing and distribution operation. We've cleared the first couple of these receiving the print distribute requirements for 2018 and 2020. We (unintelligible) the invitation for bid for the 2018 end to end census test and the 2020 census today. The bids are due later this month. There will be an evaluation period in July and August. We expect to target our award to September 2017. The 2018 end to end census test mailings will go out from essentially March through April, 2018 and through 2020 about the same time period. As I mentioned we're trying to emulate 2020 in 2018 in terms of the timing.

So that's all I have for forms printing and distribution. Should we hold all questions until we're back from our break? Do you want to take a couple of questions now? All right. Any questions about printing, mailing, distribution?

(Lisa Pierce): (Unintelligible) (Alexa). This is (Lisa Pierce) in JAL. So for the - you had said that there were 400 million questionnaires for 2010 and for the 2020 there's 140 million. Just curious: what was that based on and has that number changed based on testing?

(Alexa Jones-Pudoff): So I suppose I should say that all of the workload - the external demand models and the workloads that feed those models and also come out of those models are still in continual development. We are continuously refining what we think the volumes will be. We have - for our initial mailout we have our universe that we are relatively comfort (unintelligible) at the moment in terms

of overall households, the split, the folks who are going into the self-response type of a numeration area.

Some of the things that are still being worked out are the specific split between Internet first, the people who get just a letter in the mail initially and Internet choice, those who get a paper questionnaire packet along with the Internet letter. We also because of the contingent mailing strategy where later in the mail cycle we start mailing only to those who have non-responded we do need to make sure that we have enough materials on hand so we can do that quickly because that's quite an effort to do that print mail work. There's essentially no time to print extra packets so we want to make sure to have (unintelligible) the contingency built up so that we can then address them and send them out in the event that the response comes back lower than we are anticipating.

Woman: Any additional questions for (Alexa)? I would point out you'll have another opportunity okay ask (Alexa) questions after the break.

I see no addition questions so we're going to take an actual 15-minute break now so if we could start at 3:35 I would appreciate it. We're going to reconfigure some things up here. So thank you.

If we could get everybody to start to gravitate to their seats we'll get started in just a minute please. Thank you.

Okay I think it looks like a lot of people are back so we're going to get started. Our next presentation is sort of a continuation of the last presentation but not exactly. (Alexa)'s going to continue with the discussion of another operation and she's going to talk about paper data capture. So I'm going to turn it over to (Alexa).

(Alexa Jones-Pudoff): All right thanks. Feels strange to have moved over the break.

Woman: (Unintelligible).

(Alexa Jones-Pudoff): There we go. A whole new world up here. All right okay we're on paper data capture, great. So next we'll focus on the next stage of paper operations which is a paper data capture operation or PDC for short. As many of you know paper response is a primary mode for self-response in previous censuses and while we're certainly focusing many efforts on encouraging people to respond to the census online we anticipate that some will chose to respond by filling out paper forms for the 2020 census as they've done in the past. That's where paper data capture comes in.

The paper data capture operation is responsible for the capture and conversion of data from paper questionnaires. This includes self-response questionnaires returned as part of the regular mail out/mail back activities as well as update lead questionnaires, Group Quarters questionnaires and others. Essentially any respondent data that comes into the Census Bureau on paper will be data captured by the paper data capture operation.

The PDC operation is driven by the timing of the questionnaire mailings, the volume of forms received back, the page count of forms and the timing of the non-response follow up and other fieldwork workload universe cuts.

The paper data capture operation is responsible for managing paper responses from the time they enter the mail stream on the way back from a respondent or an operation until they have been successfully data captured and cleared for destruction. This slide shows a high-level overview of the paper data capture process for self-response. And I'll walk these boxes.

The first box in the chart shows respondent return. As questionnaires enter the USPS mail stream on their way back from respondents we start tracking them using postal tracing data which we marry up with workload information and our intelligent mail barcode postal tracking system, or IPTS. Each questionnaire has a unique identifier such that we can identify the housing unit to which it was mailed. When we see a questionnaire on its way back we remove that housing unit from the workload for follow up mailings.

Next we do the intake of completed questionnaires. This is the second and third boxes on the slide. Once the questionnaires arrive at the paper data capture centers we remove them from the envelopes and prepare them for scanning. The self-response questionnaires for the 2020 census are booklet style like this one. (Unintelligible) of the preparation is removing the binding from the booklet so that it's ready to go into the scanner.

The data capture and processing steps are next in boxes four through six. When the questionnaires are ready we scan them and capture the images on the front and back of each page. Optical character recognition or OCR, an optical mark recognition or OMR are performed and hard to read or ambiguous checkbox marks are flagged for later clerical review. Key from image fields and OCR fields that are identified as being incorrectly recognized are flagged and presented to a peer for resolution.

After that we move on to the deliver data and disposition paper form steps. Once the data are fully capture and any flagged items are resolved the data (unintelligible) processing operations. The images are retained in archive and after confirmation that the data had been received by response processing the paper questionnaires themselves are sent to destruction.

The estimated workload for the paper data capture operation in 2020 is still evolving. We are continuing to develop our models of paper based self-response as well as the internal demand models that we're using to estimate the flow of paper responses through the paper data capture operation. Unlike some other 2020 census operational components that can be designed to expand or contract in response to demand on the system by (unintelligible) self-response instrument for example, the paper data capture operation is relatively speaking more static.

Once we have the paper data capture centers built out and outfitted with then necessary equipment the footprint of a number of machines will be set for the duration of the operation. Because of this we're taking a conservative approach and sizing the paper data capture centers to be able to handle our expected workloads plus some (continuity). Paper data capture centers are currently being designed to have a capacity to process a combined 30 million forms. The bulk of those forms will be self-response questionnaires mailed by back respondents and self-response numeration area. We'll also receive forms for update leave areas and the Group Quarters operation.

Now I'd like to talk a little bit more about two components of the paper data capture operation, the ICADES system and the paper data capture centers. ICADES stands for integrated computer assisted data entry system and it is the Census Bureau's in-house system that will be used to capture paper responses in 2020. ICADES is a component of FedCap and is currently in operation. It's being used to capture data for ongoing censuses and surveys and it is the paper data capture system that was used for the 2014, 2015, 2016, and 2017 census tests. So lots of good experience there.

ICADES is a system that performs the data capture components I described in the high level operational overview earlier. They also write procedures for the

paper handling components of the paper data capture operation and have a three-phase quality assurance process built in to ensure the accuracy of the captured data. There are also reporting functionalities built into the ICADES system that help track the progress of data capture work and alert the processing staff to any issues.

The paper data capture centers or PDCCs for short are the physical locations where the paper data capture work will take place. The PDCCs consist of a physical space, the equipment that will be deployed for the operation, scanners, (unintelligible) work stations and the like and the staff needed to conduct the operation. Prior census tests have utilized existing facilities at the national processing center in Jeffersonville, Indiana. For 2020 we will have two geographically separate paper data capture centers. One will be located near the current NPC facility in Jefferson, Indiana - in the Jeffersonville, Indiana area. That space has been identified. And NPC is currently working with GSA to identify space in the Phoenix/Tucson area for the second paper data capture center.

This slide shows some key activities for the paper data capture operation. The paper data capture center for the 2018 end to end census test is expected to open in January 2018. The data capture operations will be live for the 2018 end to end census test between March and August of 2018. In 2020 we'll open the second paper data capture site in the Phoenix/Tucson area and also the actual 2020 solution for the Jeffersonville, Indiana area that will happen in early 2019. And in 2020 the census data capture operations will be live from March through August 2020.

And that's all I have for right now. I guess we'll go ahead and take more questions.

We're moving it on to (Ian). (Unintelligible).

(Ian Hall): Thank you. Good afternoon. The goal if this presentation is to explain some recent operational changes that (Lisa) introduced earlier this afternoon. I will first explain the Update Enumerate operation as designed in the baselined operational plan.

Update Enumerate was going to be a combined listing and enumeration operation for approximately 12 million housing units in areas that could not be enumerated in the TEA1 self-response methodology. Typically the type of enumeration area is designated based on our confidence in the mailability of addresses in a specific geographic area. When our confidence decreases we need to use other techniques to ensure an accurate enumeration of the housing units in that specific geographic area.

Under the original plan enumerators were sent to both update the address lists and to enumerate every housing unit in person. This operation was going to use a handheld device to both list and enumerate. I will go into a greater detail about the revised plan but first want to set the foundation of why this change was warranted.

Following the decision to adopt (LEMA) as the listing solution for both the 2018 end to end test and the 2020 census earlier this calendar year the originally designed Update Enumerate plan needed to be changed due to logistical constraints. We could no longer use a single device solution for both listing and enumeration. The ability to effectively and efficiently carry out the originally designed operation was no longer possible.

As a result of these constraints the Census Bureau began looking at existing solutions that could address some of the many constraints in the post-(LEMA)

plan. We strived to limit new development. We are utilizing an existing solution for our automated field listing, our proven (LEMA) application. In May of this year we received approval to move forward with the creation of a new 35th operation, Update Leave, and further approval to modify the existing Update Enumerate operation.

As a reference the original Update Enumerate operation included approximately 12 million housing units out of a universe of approximately 145 million total housing units. The revised Update Enumerate operation and new Update Leave operation will now account for these approximate 12 million housing units. I'll go into greater detail about the workload shortly.

So here it is again, everyone's favorite census graphic. This slide displays the 2020 census operation. This presentation centers around the revised Update Enumerate operation and newly created 35th operation, Update Leave. Both of these operations, part of the response data portion of the survey lifecycle are highlighted in orange.

This May displays the type of enumeration area for the nation as of the 2017 test batch delineation process. This delineation is being used for planning and testing purposes. It is important to note that final delineation decisions will be made in 2018. The purple shading over a large portion of the country designates the self-response or what we sometimes refer to at TA1 enumeration area. The beige shading designates the areas that were originally part of the Update Enumerate type of enumeration area. The majority of these areas, the beige areas will now be part of the Update Leave type of enumeration area.

The new Update Leave operation will leverage the operational design used in the 2010 Update Leave operation. There are two main components of this

operation: address listing updates and leaving paper questionnaires. The main departure from the Update Enumerate operation is the removal of the enumeration attempt during the initial phase of the operation. Enumerators will now update the census address lists using (LEMA) and leave a full questionnaire packet at every housing unit. This plan allows for everyone in this type of enumeration area to have an opportunity to self-respond. Before nearly 70% of this type of enumeration area would never have had the option to self-respond before an enumerator visited them unless they responded via one of the non-ID methods. This will allow us to further communicate a unified single self-response message.

The questionnaire packet left at housing units in this area will enable residents to either one, respond using Internet self-response or by completing and mailing the paper form we leave. All of the housing units in the Update Leave area that do not respond will be added to the workload for non-response follow up. All non-responding housing units in the Update Leave type of enumeration area and self-response type of enumeration area will be combined for a unified non-response follow up operation. We plan to conduct Update Leave in the majority of the originally designated Update Enumerate type of enumeration area. The currently estimate is approximately 12 million housing units.

The following slide displays the proposed Update Leave schedule for the 2018 end to end test. The operation will commence on March 19th around the same time the first mailing to the self-response areas begin. This will allow for further streamline self-response messaging. Listing quality control activities begin one week later. The entire operation takes just over one month to complete. Again all non-responding housing units will merge into a unified non-response follow up operation. The Update Leave areas will closely

follow the earlier non-response follow up schedule beginning non-response follow up operations in early April.

While working to develop the Update Leave plan we recognize that some geographic areas will still require the operational aspects of the more intensive update enumerate process. Some of these areas may include extremely remote locations with inherent access constraints such as remote Alaska.

Recognizing this need we have modified the Update Enumerate operation. We plan to utilize the majority of the 2010 remote Alaska operation to cover these special geographic areas. This will reduce the need for any additional system development. We anticipate both the number of areas and the total number of housing units in this operation to be limited. I will discuss workloads in greater detail shortly.

Update Enumerate will update address lists and map features using paper maps and paper address registers similar to those used in 2010. The enumerators will also fully complete the enumeration of the specific area before leaving also using paper questionnaires. There will be no separate non-response follow up operation. All enumeration is completed during the Update Enumerate operation. Once all listing and enumeration is complete all of the paper maps, address registers, and completed questionnaires will be returned to the area census office for further processing.

The new Update Enumerate operation will be paper-based. One additional (unintelligible) benefit of this redesign is the ability to use the paper-based enumeration process as a contingency if necessary in 2020. The areas included in this operation will include those areas in the remote Alaska type of enumeration area, other remote areas in Alaska and Maine that were enumerated in the remote Update Enumerate operation in 2010, and finally American Indian Tribal lands at their request. During the planning for the

2020 census Census Bureau leaders conducted over a dozen Tribal consultations. During these consultations it was clear that Tribal leaders want to help to determine the best type of enumeration. We are dedicated to this process and we'll work this year to determine the optimal type of enumeration for American Indian Tribal lands.

There is no Update Enumerate type of enumeration area in the 2018 end to end test. This following slide displays the proposed schedule for the 2020 Update Enumerate operation. Just as in 2010 the remote Alaska component of Update Enumerate will have three waves with the first beginning in January 2020. The third wave concludes at the end of April. We plan to conduct the Update Enumerate operation in other non-remote Alaska areas such as Northern Maine in mid-March 2020 to coincide with other enumeration efforts.

And now workloads. The final slide displays the estimated workloads for all of the type of enumeration areas. These estimates are rounded and are based off of the 2016 census filter and type of enumeration delineation process. The predominant type of enumeration area, TEA1 or self-response covers approximately 132 million housing units. The modified Update Enumerate type of enumeration area or TEA2 will cover up to approximately 500,000 housing units. We are currently working to determine the specific geographic areas that'll be included in this specialized operation. TEA3 is reserved for island areas. We do not estimate the number of housing units in the island areas at this time.

Remote Alaska while being operationally covered under the Update Enumerate operation has a separate type of enumeration area delineation - excuse me or TEA4. Remote Alaska encompasses approximately 29,000 housing units. The fifth TEA area, military includes 261,000 military housing

units in the nation. Finally the new Update Leave operation or TEA6 will include approximately 12 million housing units. As stated earlier in the presentation the majority of the housing units in the initially designed Update Enumerate operation will merge into the Update Leave area, or TEA6.

At this point I'll entertain questions.

Woman: I always love the time after the break. Everybody gets quiet. (Kevin) maybe, I thought maybe you were...

Man: I know.

Woman: Thinking about it?

(Kevin): I got yes (unintelligible). Do you have a sense of in broad strokes a scale of, you know, the impact on (unintelligible) through the workload that there could be? It seems like in concept there could be more non-response follow up to do now that these areas have shifted to Update Leave. Any sense of that?

(Ian Hall): So I'll answer that in couple of different parts. Our plan prior to the decision which was made in May to create the Update Leave operation - I guess that's what you're kind of referring to is what will impact what the leave had. We always had the plan to combine what was the original Update Enumerate operation and the self-response/non-response follow up operation into one operation. So it's not like we are adding a whole new component that we were never expecting. However yes you could say that there is a difference between what we would have for self-response now because of Update Leave versus what the first wave of Update Enumerate would have complete - successfully completed. So you - but the - answer the rest of your question is yes we are aware that there are changes and we're making sure that our life

cycle cost estimates and that our other operations are aware of those.
(Unintelligible) that answer (unintelligible)...

(Kevin): Yes I guess I was just saying that presumably you could've enumerated more housing units at the initial time of the Update Enumerate visit. Now there's going to be a certain workload that will get added to non-response.
(Unintelligible).

(Ian Hall): That's correct. Yes.

(Kevin): Okay.

Woman: I thought I maybe saw (Ty)? No? He's thinking but (Carol) in the meantime's jumping in.

(Carol Igee): Yes (Carol Igee). So if I understand you're going to use (LEMA) for the updates part and paper for the enumeration.

(Ian Hall): So in - the two different operations have different solutions. Update Leave which will include the majority of what was in Update Enumerate. So that - roughly 12 million housing units, the vast majority will be going to Update Leave. We'll be using the (LEMA) solution for listing. And then the enumerators or listers will leave a full paper questionnaire packet at every housing unit to elicit self-response. In the Update Enumerate areas we will not be using the (LEMA) solution. The Update Enumerate operation for approximately 500,000 housing units will be a completely paper-based operation using paper address registers, paper maps and paper questionnaires to complete the enumeration attempt.

- (Carol Igee): What about the administrative functions? And I'm thinking daily payroll. Will you be automating that for either of the two operations?
- (Ian Hall): For Update Leave we will be able to use the time and expense functions using the devices of service, using the same platform that it will - that we'll run (LEMA) on. So yes.
- (Carol Igee): Yes.
- (Ian Hall): And then in Update Enumerate no. We will not be using an automated time and expense function.
- (Carol Igee): So how are you going to do daily paper payroll with fewer area census offices?
- (Ian Hall): It's definitely a logistical constraint that we're aware of and that we're working to resolve. We do have experience and contingencies to record time and expense on paper and we look to deploy them yes.
- Woman: It's also a very small workload. It's estimated 500,000 housing units. So the support for that and it will be concentrated and it's kind of like a - I don't want to call it a boutique operation but it's - will be in very specific areas so it is a smaller operation or a smaller universe that could even be involved in managing it.
- (Carol Igee): And I actually had the same sort of concern with the Group Quarters operation in terms of the administrative functions being paper-based.
- Woman: You're not on (Ty). You're not on.

Man: There you go.

(Ty): Now we're on. Thank you. Administrative records modeling has focused on self-response areas. Is there any benefit from, I mean, I don't know if they even thought that any - that the Update Leave might be able to have some of its (unintelligible) load removed by administrative records. Have those two ideas been explored in doing before May or since May or possibly in the future?

(Ian Hall): So yes they - the decision to make - this operational change was made in May. We have started to look at the possibilities of using administrative records to help with the Update Leave non-response follow up efforts. We are entertaining the idea of including a mailing in 2020 in the Update Leave areas after the initial leaving of paper forms and we'll continue to evaluate the feasibility of using administrative records to help in that process.

(Ty): And then back to cost. This cost estimate be - might get in all - would have all of this?

Woman: Yes the cost estimate will include the design changes we're talking about today. I don't know (unintelligible).

(Jordan White): Oh hi. (Jordan White), National Academy. I had two questions about the questionnaires that are being left for Update Leave. Will they have any type of identifier to tie them back to the specific address or will they be (unintelligible) the same way, a non-ID (unintelligible) will be processed? And then also are they getting choice questionnaires? Will they have the opportunity to respond on the Internet if they so choose or is it strictly paper?

(Ian Hall): Great. The form that is left will be uniquely identified to the specific housing unit and address that we leave the packet at it. So they will not go down the nine ID path. Part of the process will be recording the specific form that is left in LIMA so we have a one to one connection from form.

Now that form -- to answer that second question -- it will be a choice package which will try to elicit internet self response and they will have that ability to respond using the ID on the form or they can send in a completed questionnaire. So they have both options.

(Lisa Pierce): (Dan)?

(Dan Cork): And that is basically my question but just to clarify on that point. But you're leaving you would have then enumerator capture the bar code of the questionnaire that's left at a particular (unintelligible). You're not having them carry around mailing labels or what not or sticking them on the form or, you know, that sort of thing?

(Ian Hall): So neither. We're not using labels. The forms will have pre-printed IDs on them. There will be bar (unintelligible) to help with data capture processes. But the individual ID that links will be entered into LIMA by our field employees. And there are checks to make sure that the ID is valid number that can be recorded.

So the individual form that is left at a housing unit will have a corresponding will enter that ID into LIMA for that specific address. We're not scanning in the field.

(Dan Cork): Not scanning the field?

(Ian Hall): That's correct.

(Dan Cork): So manually entering in.

(Ian Hall): Manually entering in.

(Dan Cork): And apply the number to that address. But the actual write in if the person does decide to fill out the paper form?

(Ian Hall): It will have the necessary characteristics to enable paper data capture.

(Dan Cork): Okay.

(Lisa Pierce): Additional questions for (Ian)? Thank you, (Ian). I appreciate that.

We're going to turn to our next topic on the agenda today and move from our operational readiness discussion to discussion of 2020 Census System Readiness. And here we have three members today to speak with us about System Readiness. We have (Autrie Coha), (Louie Cano) and (Patty McGuire). And then I believe we're going to do the systems demo.

So I'm going to turn it (Autrie) who is desperate to say something. Thank you.

(Autrie Coha): Thank you.

(Lisa Pierce): I'm probably stealing his thunder.

(Autrie Coha): Good afternoon, ladies and gentlemen. (Patty) and I are once again happy to be here to discuss the progress made in relation to the Centennial Census

Systems including the Key Census Enterprise Data Collection and processing of set cap systems.

We are joined today as (Lisa) said by the Chief of the Centennial Execution Office (Louie Cano) who as part of the team has Centennial Census Systems Readiness update. We'll talk about the Census (unintelligible) the hiding, the coding, the payroll system also known as C-SHaRPS.

I will go over the process of getting ready for the team and the Census test along with the Key Systems supporting that tests.

(Patty) will go over the readiness of the Set Cap Systems supporting the End to End Census test. I will then give an update on systems provisioning. Basically which systems are hosted where. And then finally the added agenda item listing and mapping instrument demo will be by (Karen Owings) and (Heather Dawson).

In the last PMR, I talked about the objectives achieved and the lessons learned in relation to the 2017 Census test. We transitioned to prepare efficiently for the 2018 End-to-End Census test and that applying improvements based on lessons learned not only from the 2017 Census test but also the earlier Census test. We're working with it closely with a technique integrator. And relying on their added help in implementing the System of Systems in support of where the operations of 2018 End-to-End Census test. The 2018 End-to-End Census test is a very important test for those as you can imagine and is the closest in resemblance to the 2020 Census from IT Systems perspective.

We are therefore very eager to conduct the tests and learn from it so we can make necessary adjustments before going live for the 2020 Census. In fact we are in production for the 2018 End-to-End Census Test that including leaves

one system are deployed to production and are supporting the earlier including activities for their (unintelligible) operation.

Although we connected the previous Census test successfully using the Pega 7 platform based solutions of internet self-response and the operation and control system, the 2018 End-to-End Census Test will be the first time that the full suite of Pega 7 solutions will be deployed. The full suite including the internet self-response system, the operational control system (unintelligible) survey -- the Survey Operational Control System as we call it, the enumeration instrument and the field operational control system. Additionally, we'll be deploying the full scope of fraud detection system and the disclosure reward system for the first time.

We are taking advantage (unintelligible) environment. (unintelligible) integrator and the results of (unintelligible) demand models so we can right size our infrastructure. What you see on the screen is the solution architecture for the 2018 End-to-End Census Test.

One change you'll see on this version is what we are calling the services provided by Math Tiger. That's geo spatial services. In the earlier version I showed in the last PMR, we called it geo imagery. Geo spatial services is more appropriate as the services include tile service in addition of the imagery service. Another change is the allocation of the some work of the recruiting and assessment system to DAPS due to recent rescoping effort we undertook. (Louie) will go over it in detail a little later.

For the deployment of Cloud based systems supporting this architecture, we made the decision to go live with the same Cloud solution that we successfully used for the 2017 census test based on our test results. Deployment of the Cloud means that we'll not only manage the application in

the Cloud but also the data bases, middle (unintelligible), backups and recovery, load balance services, monitoring, et. Cetera in a secure fashion with trusted (unintelligible) URLs through a internet gateway on defense network.

Shown on the screen is the second part of the 2018 End-to-End Census Test Solution Architecture with administrative support services, enterprise enabling, IT support services and system supporting stakeholder relations. But provisioning solutions in support of the 2018 End-to-End Census Test based on the lessons learned from the Census tests, we are following a process that ensures Comprehensive integration testing. It allows for a more focused data architecture and data integration effort with our data architects and engineers, taking a data evolution approach as the data travel through various systems from collection to response processing and also ensures preparedness to react to the unexpected.

The solution architecture on the screen has one change. It was renamed the C-SHaRPS Component Recruiting and Selection to Recruiting and Assessment.

On this slide and the next few slides the key efforts and/or updates acquired by each of the key non-set cap systems in support of the 2018 End-to-End Census Test are shown. To support the mode of telephone for self-response based on the experience and lessons learned from the 2017 Census Test, we are standing up the infrastructure and systems of systems for Census questionnaire or systems working with our contractor partner JDIT.

The CQ Agents will use the Pega 7 platform based internet self-response system in the Cloud to capture the responses. In order to provide the agents with this capability, we are establishing a secure interface connection between

the CQA System and the ISR -- the internet Self-Response System -- through authorization and authentication just as we did for the 2017 Census Test.

In order for us to process the collected response data, the needed capabilities and requirements will be fulfilled by the Decennial Response Processing System -- the RPS as we call it. The RPS was deployed in support of the 2017 Census Test and will be redeployed in support of the 2018 End-to-End Census Test. This redeployment will help us continue to validate the algorithms that will be used to process the 2020 Census response data. We are working with a technical integrator to enhance the intelligent postal tracking system -- IPTS -- to meet the capability and requirements of the 2020 Census.

While we successfully use the legacy version of the IPTS in the Census Test including the 2017 Census Test, our object is to go live with the enhance version for the 2018 End-to-End Census Test. We have given a technical directive to the TI -- technical integrator -- to strategize with us and build a fraud detection solution for the 2020 Census. The initial version containing full scope of that system will be deployed in support of the 2018 End-to-End Census Test with a post collection assessment of the data for fraud as well as integrating with security.

For the 2020 Census operations to be successful in utilizing administrative records and third party data, we architect to the high performing and secure system that provides streamlined and efficient access to the admin data and related consumption services. Past this the production environment for the administrative records staging, integration and storage was successfully released in support of the '17 Census Test and we will redeploy for the 2018 End-to-End Census Test with the added enhancements.

In order to streamline the data management process to which the all the para data, the meta data and the response data that is collected from the Census operations is securely deposited in a repository. We are establishing a data lake into which all the data we collect will flow. Various follow on systems including the Centennial Response Processing System will then be given the data they need from this data lake for further processing. The Uniformed Tracking System -- UTS -- will be interfacing with the data lake to produce reports to manage the progress of various centers of operations. The tabulation system will be deployed for the first time as I mentioned earlier for the 2018 End-to-End Census Test.

The development contract for the tabulation system has been allotted end of June of this year. The rest of the system listed on the screen will be used with the necessary enhancements from previous center tests.

This slide shows the status of non-set cap support systems for the 2018 End-to-End Census Test. For the Census Hiring and Employment Check System, the third party rendered interferes will be implemented with the involvement of Render through an acquisition process. We will talk about this also in a minute but the fingerprinting request for proposal was indeed released in June.

Integrated Linguistics Management System -- ILMS -- we are working with the National Processing Center in Jeffersonville, Indiana and finalizing on the development contract for the ILMS. Once finalized, we'll need to integrate ILMS with 11 dependent systems. While many of these systems have these systems interface updates and scalability updates to some of these systems that are required to support the 2020 Census.

At this time, I'll now hand it over to (Louie Cano) who will give an update on C-SHaRPSs.

(Louie Cano): Hello. Thanks, (Autrie).

As (Autrie) mentioned, I'm (Louie Cano) and I'm the Chief of the Centennial Execution Office. And 'm going to focus on status information for C-SHaRPS and as (Autrie) mentioned C-SHaRPS stands for Census Schedule A Human Resources and Recruiting Payroll System. And it's providing the solution for the entire ecosystem that includes recruiting, selection, on boarding, hiring, training, fingerprinting and pay roll functions for Schedule A field employees. These are federal temporary employees that would work for field division.

I'm going to focus the status in four key areas for C-SHaRPS. This is the recruiting and assessment component. The Decentennial Application Personnel and Payroll System or DAPPS, Learning Management System or LMS, and fingerprinting.

First for the recruiting and assessment. It has completed its rescope as (Autrie) mentioned earlier. And moving the to be developed capabilities from RMA that were D scoped to existing DAPPS capabilities in order to meet schedule. In addition, the recruiting and assessment has completed its development. It's currently under tests. The software exists in its own Fed ramp certified Cloud environment and achieved its authority to operate on June 16th of this year.

Second, I'm going to focus on DAPPS. DAPPS has finalized its requirements crosswalk between its current capabilities and the capabilities that were D Scope from the recruitment and assessment component of C-SHaRPS. DAPPS is currently developing and testing of and these developing and testing activities are currently underway. And they are working on the DAPPS and R&A interface.

Third, for the Learning Management System which is a module within the recruitment and assessment component has completed its development. It's currently under tests and was included in the R&E authority to operate achieved again on June 16th. It exists within the R&E Fed Wrap Certified Cloud.

And finally the fingerprint component of this. The RP was issued and we did receive proposals on Monday, this past Monday, July 10th. And we're expecting the award in the fall time frame.

And with that, I'll turn it over to (Patty).

(Patty McGuire): Okay. Thanks, (Louie).

Hi, everyone. I show this picture of the Set Cap capabilities at each 2020 Census PMR as a reference as I give updates on the Set Cap systems. Not all of the Set Cap abilities shown in this picture are needed for the 2018 End-to-End Census Test or the 2020 Census. The Set Cap systems needed for the 2020 Census program include the EK Internet Self Responsive, Operation Control and enumeration components, cards for the universe creation, ICad to provide paper data capture, Stella which allows for the exchange of data between the systems, the mojo optimizer and the case model as part of controlling and managing the work load and the listing and mapping of mobile case management system. Which you'll see a demo of in a few minutes.

The Set Cap systems that are needed for the 2020 Census are a combination of legacy systems and new systems. The paper data capture system is a legacy system. You heard (Alexa) reference how it's been used on current surveys in the previous Census tests.

The Universe Creation Cards have been used in the previous Census tests and service orientated architecture has also supported previous Census tests.

The 2017 Census Test was the first production use of the EK Self Response and Survey Operational Control Solutions using the Pega 7 cuts products. These two capabilities successfully supported the test allowing the public to respond via the internet and seek QA agents to collect data from respondents over the phone. Enhancement work on Set Cap Solutions to support the '18 End-to-End Test is ongoing.

The 2018 Census Test will be the first use of the EK Field Operational Control System and the enumeration instrument. Critical requirements for Set Cap to scale to meet the 2020 Census Work Loads, the architects and engineers are working closely with the 2020 Census Staff and the technical integrator to ensure that the Set Cap System Scaled to meet their specific requirements including performance testing of the public facing internet self response capability.

The five providing data collections systems -- another focus of Set Cap -- is to also support providing new innovative data collection methodologies. The concurrent (unintelligible) estimation model or case which will enable the Census Bureau's adaptive design methodology for data collection will be used for the first time in the 2018 End-to-End Census Test.

The Mojo Route Optimizer is focused on supporting new methodology from managing the field work load and re-engineering field operations. This capability was used in the 2015 and 2016 Census Test to prove in the concepts and work is underway to make the enhancements needed for the 2018 End-to-End Census Test including deploying in the Cloud and interfacing in this case.

I just gave you a very quick update on Set Cap today. We want to get to the demo of course.

The Set Cap Systems have supported the 2020 Census Work since the Set Cap program began in 2015. These solutions have helped the 2020 Census prove their operational design concept. I've referenced some of the systems -- their legacy systems -- are already in use in current surveys such as ICad and the listing and mapping systems. Other are systems developed under Set Cap but have been used in the programs since it began in 2015. The new platform EK was used in the 2017 Census Test and now also Set Cap Solutions are focused on completing the work to support the 2018 End-to-End Census Test and delivering the scaled capabilities needed for the 2020 Census.

I'll turn it back to (Autrie).

(Autrie Coha): Thank you, (Patty).

Well, you heard about various systems and their readiness for the 2018 End-to-End Census Test. I wanted to talk about how we are planning on how to deploy these systems. Basically what systems go where either in our data center or in the Cloud.

As can be seen on the screen, there are five different possibilities. Data center in belief for the Enterprises which is managed by our computer services division, data center in belief located for the previous one for 2020 Census, Cloud for the 2020 Census, National Processing Center in Jeffersonville, Indiana and software as a service or other services.

Please note that the color in red system is shown. The earliest 2018 End-to-End Center Staff test readiness believes basically that it belongs to. For example, CBS, the commerce system is shown in blue indicating that its release is required (unintelligible) including release one. Test readiness review including release one on November 18th, 2016.

The system shown with transitioning color or the arrows are the ones that was released for the operations in the enterprise data center in belief but would later be moved to a Cloud or to a set of hosting servers in the data center for 2020 Census. For one system's marks, the sampling, matching, reviewing and coding system, we started off in the Cloud but will be transitioning to the data center for the 2020 Census starting with the training release two for peak operations.

The abbreviation RAC stands for Real Application Cluster -- basically a technology we are using for our data bases. That's the main reason why you see the systems in the 2020 data center that presented as RAC based solutions.

There are some systems that will have more than one instance. For example, the uniformed tracking system of UTS. This is because we need these systems to support not only the 2020 Census but also the enterprise operations.

We've gone through a detailed process of accessing the needs for scalability, reliability, title data, enterprise views, timeline as to when the system will be needed and for how long, technology stack, data transfer and frequency of data transfer, network and of course security, and made the decisions on system locations you see on the screen.

With that, should we take some questions or should we go to the demo directly? Demo? Okay. So we will transition to (Karen Owings) and (Harold Dawson) for the demo for listing and mapping instrument.

(Karen Owings): Hello, everyone. Can you hear me? So (Harold) and I will be demonstrating the mobile case management and listing and mapping application. As (Patty) mentioned these applications are currently in use with our current survey program. And we also used them in 2016 for the address canvassing test. The difference now being that we have since integrated these systems with our EK Operational Control Systems. We have also improved the LIMA to include quality control functionality.

So we're starting will be the case management. In this screen - oh, let me mention that (Harold) will be demonstrating on a laptop which we will use for the 2018 End-to-End Test, the address canvassing operation. The device for future operations is to be determined I believe.

So mobile case management is the first stop for the lister in the field. This is where they'll see their case assignments which are blocks for us. We also refer to them as basic collection units. These assignments are optimized using the Mojo Optimizer and sent to our field operational control system down to mobile case management. The assignments are displayed in the order we would like the lister to work the BCUs but when we get into the demonstration, (Harold) will select a different BCU and not the top one.

From this screen, the lister transmits to receive all the data they need for the work and that enables that data to be downloaded. Therefore, everything can be used offline. So if they're in a disconnected state, they can still work through the application.

So (Harold) is going to select a block. Oh, okay. So he will select the first one and work it. Once he selects work, we enter the listing and mapping applications. And how I'm going to go through this demo is we're going to start with the production work because basically all the functionality between the production work and the quality control work is similar with some differences which we will highlight at the end. And we'll take a minute here for the LIMA to display the information in the BCU -- Basic Collection Unit.

(Harold Dawson): The wireless display is slowing it down.

(Karen Owings): The wireless display is slowing things down a little bit. So just be aware that we might have some hiccups.

So what you see here is the address list or current address list that we believe is in the block on the left. And on the right is the map display for all the features and map spots associated with those addresses. I also want to mention that all the data that you are seeing is fake data that we have basically simulated that Tiger has simulated for use and testing and demonstrations such as this one.

And, (Harold), since it is simulated data, it is an island off of New Jersey, we do have GPS capabilities and listers do see you are here indicator which we can't demonstrate in reality because we are not in that specific location but (Harold) will put up a mock GPS for us to see.

(Harold Dawson): Right.

(Karen Owings): So the lister works from down the brick. So their instruction is to go to an intersection, identify the first structure they see on the right, work that structure and continue down the block or down the street working on your

right. So once they identify a structure, they go to their address list and find that structure on the list. So (Harold's) going to select one. And they then work from the list, identify the structure from the list to work and that will take them into an address wizard.

First step in the address wizard is to tell us what the status is. Here is where we identify things like if it's a housing unit or group quarters or whether or not it might not even exist in that particular block. I'm not going to go through every status. But for ease here, (Harold) is going to select housing unit.

Then they tell us the structure type which actually helps guide what happens in future activities whether it's a single family home, multi-unit structure, trailer mobile home or some other type of structure. We're going to select single family home.

And here's the critical component where they verify the address information. And here we will see it's a city address with a house number, street name. (Harold) will just confirm this. We will show you later when we add something some of the edits associated with the screen.

And then the final step is to collect the map spot. In this case, we had an existing map spot. So that's what's displayed to the lister with the question as to whether or not the map spot is correct. So he'll just go ahead and select yes. Map spot is collected as displayed to the lister and then they can save and exit and they're returned to the address list.

So one of the things the lister is doing as they're canvassing the block is they're verifying as we just did they're correcting, they're deleting. They're also adding. So we're going to demonstrate an add real quick. The add button is at the bottom of the screen. We'll go through the same address status,

housing unit. This time we'll select mobile home for the structure type.
Trailer mobile home.

And at this point, they're to enter all the address information since there is none existing. And they're required to at least enter a house number or street number or if they don't have a city style address, a physical location description. So when they enter not enough information and try to proceed, they get an error. And then it instructs what type of information is needed. And so (Harold) will go ahead and complete that and proceed to the next step.

And since it's an add, they're required to collect the mailing address. And in this case, they need to contact the resident. So the instrument first ask them can they identify a resident to talk about the mailing address. If yes, they'll go ahead and select yes and collect it. If not, they're proceed to the map spot set. So (Harold) will go ahead and select yes. When they get to the mailing address, they can also copy the location address for ease or select another type of address and enter. In this case, we're going to go ahead and copy the location address and enter a zip code because the original location address did not have a zip code and he will be required to enter one.

And the final step to collect a map spot. In this case he has to collect a brand new map spot for the add. And so he'll long touch on the screen in the location where they believe the structure is. In that case, they'll confirm that particular map spot and they are complete with the add.

So we're going to quickly close out this block with some address status to indicate that the addresses on the remaining do not exist on that block. (Harold) will select one. And on the address status screen, he'll say it's not in the active block. In this case, we'll say it does not exist because the lister cannot find it. And he's completed that one.

And then the next one, lister can see the address across the street but it's not in their assignment. In that case, we don't want them to delete it. We want them to identify it as existent fringe. So select existent fringe, hit next. And then they are prompted to map spot the address in the fringe area which is highlighted in purple. So (Harold) will go ahead and map spot it. In this case, it's complete.

And once they return to the address list, every address has been worked. They can mark the block complete with the finish button on the top of the screen and confirm that it's complete. And that's the end of this particular person's production assignment.

Now this assignment will be transmitted back to the back end and it is ready for the quality control processes. So the first step in that process and I'm going to go ahead and talk while (Harold) brings up the QC block that we'll work. The first step in that process is for the data to go to the sampling, matching, review and coding system. That system selects or identifies whether we need to conduct infield quality control checks on that particular block. It also identifies what the sample of addresses are that need to be checked. It also identifies the sample of the deletes or unable to locate or not in the active block addresses. And then identifies a starting point for the QC lister.

The EK Operational Control Systems, again that's also optimized and sent down to the mobile case manager where the QC lister opens the block similar to a production lister. Once we're in the QC block, things are a little different. That starting location that the sampling matching and reviewing coding system has smart selected is displayed to the QC lister. That's the red star you can see on the screen. And (Harold) has the mock GPS surrounding

(unintelligible). And the system ask the QC lister to confirm that they are at the starting location. So he'll go ahead and confirm. And you'll notice since the GPS is near that star, there are no hiccups here. If it was further away, there would be a message to the lister that says, hey, it looks like you're too far away. Then they are to provide a reason as to why that may be the case.

After they select the starting location, you can see the addresses on the left side. Everything essentially at this point looks like the production operation. The only difference is the address information that is displayed is not the original address from the master address file. It's the data that had been completed by the production lister. So the QC lister is working the cases as the production lister left them.

They will then proceed to work a case from their starting point, working from the right. They'll select the address on the list. So (Harold) is just going to select an address to work and at this point everything looks like the same.

I just want to explain for QC there are three phases while (Harold) gets through some of these so we can show you something else. There are three phases. The first phase is the lister is going to confirm those sample cases identified from smarts. There's a number of those. I think in this case there are two from this block. Then they'll proceed to validate the not in active block cases or our deletes or existent in fringe cases essentially. And that will be presented to them on a separate tab.

So once (Harold's) completed his sample cases, his assignment status is presented to him. In this block says you have some not in active block cases that you need to review. He'll hit okay. He'll go back to the list. And he'll hit not in active block tab and those are the cases now the QC lister needs to work to complete their sample activities. And that is phase two of the QC.

Once all of this is complete, I don't think we're demonstrating the next part. Once phase two is complete, the system then determines whether the block has passed the QC or not. If it is past QC, everything poses up and once the lister has completed the delete sample and then they're done. The block will disappear from their list and there is no more work on that block.

If the block does not pass the QC or it fails QC, there is a message that is presented to the lister that says basically they have to complete all the remaining work in the block. So continue canvassing from the last address they canvassed and continue working the block until it's complete. It's similar to with we demonstrated in production lister. Then they hit the finish button and everything is done for that QC work assignment. So in that way, we've minimized the changes between what we have to train for a QC and production.

Once that is complete, the data that is then passed to update our address list is the data as it has been verified by the QC person. And that's the end of our demonstrations.

Any questions?

(Lisa Pierce): Okay. So we can actually take questions during the entire panel during this time. So I would just open the floor. And I'll start with (Tim).

(Tim): I was just going to ask if you had if the demo had a multi-unit one loaded.

(Karen Owings): We do have a multi-unit one. Is there something in particular that you wanted to see? We can see how it's displayed on the list and...

(Tim): I was just wondering if it changed since the test. Because of the efficiency gains that listers were looking for was not having to do each unit within a multi-unit as a separate address but have like a batch or grouping.

(Harold Dawson): So what you see on the - so what you see highlighted now is a multi-unit structure as it would have been received by the production lister. So there are some actions they can take on the entire collection of units. They're still required to work each of the units within it to some extent. So the structure itself can be opened and you can adjust street name and things that apply to the entire building. But they still need to verify all the units that are in it. The steps are a little bit quicker though.

(Tim): I think the street name is an improvement because I think they're complaining about change that over and over again.

(Harold Dawson): Right. So there is that one action that can apply to all of that. And they only have to collect one map spot for all of the units that are in it.

(Lisa Pierce): (Jen)?

(Jen): Thank you. Could I ask you to clarify the rate of quality control for a given block to work or area to be worked? It almost seemed like there was a quality control for at a 100 percent after production and I wasn't sure if you had instead there was a sampling process or a different rate of quality control implied given the experience of the lister or what have you.

(Karen Owings): So the answer is it is a sampler. It does identify what that sample is. I'm not sure of the rate. I don't think they've included lister experience in their identification of the sample. But they do have a lot of other factors that they

use. I think we would have to have somebody from Smarts here or the QC team to tell us that.

(Harold Dawson): It's approximately 5%.

(Karen Owings): Okay.

(Harold Dawson): That's correct.

(Lisa Pierce): Other questions? (Ty)?

(Ty): Thank you. When they are asked to put the map spot in, are they supposed to try to guess where the front door is? Are you asking them to gauge where the center of the building is if it's a large building?

(Karen Owings): They are to collect the map spot at the front door. So that's one of the first things they'll do. And then they'll work the other units and attach it to the map spot.

(Lisa Pierce): Hi, (Carol). That's okay.

(Carol Igee): You mentioned to do the production if they're offline or they can't get internet access they can continue to working. Is that the case with Quality Control?

(Karen Owings): Yes. Everything will work offline.

(Carol Igee): Okay. So even the whole determining whether you need to complete the whole block and everything can be done?

(Karen Owings): Yes.

(Lisa Pierce): Other questions? If not, I'm going to turn it over to (Al) who's taking it over before I turned it over to him. It's all yours.

(Al): This is my first PMR with the Decennial Director and my first time doing the wrap up. But I'd like to start by thanking you all of you for the time that you spent with us today and for your attention and your focus on what we're doing to achieve a successful 2020 Census.

I want to take the time to thank all the presenters who prepared and presented the information. And I would also like to thank all of the staff who pulled everything together so we were able to make the presentation including all of our audio people, those on the cameras. We would like to thank you all for making this PMR a success.

We have covered a lot of information this afternoon. We're really focused though on our commitment to completing a complete and accurate of the nation in 2020. To just highlight some of the key highlights this afternoon, we started out talking about the 2020 Census Operational Plan next version which will be released this fall and will be the focus of our October PMR.

We move from that to discuss the five major contracts that we've already released and already met. We then did an update on testing. We started with the 2017 test. And I wanted to just touch on a couple of key points on the 2017 test. It was an opportunity for us to use the complete production self-response we planned for 2020. We did paper, internet, and Census questionnaire assistance. It also validated our documented Census questionnaire assistance concept of operations and standard operating procedures that we can roll out, improve and develop as we go to the 18 test

and to the Census. We are using what we learned to enrich our 2018 Census Test experience.

And we move from there to the 2018 End-to-End Census Test. Well, that's a month away. People have mentioned that before. Our address canvassing - well, approximately a month away. August 28th. But we're going to be training people in less than a month. But we'll be in the field operating August 28th.

Following the conclusion of our address canvassing operation in early October, we will proceed with the following remaining operations in scope for the '18 End-to-End test that will be done as we discussed in Providence County, Rhode Island. And those peak operations actually begin in March 2018.

We then talked about 2020 Census operations. We spent some time on three operations at the beginning. We talked about group quarters. And the key there is a transition to a paper based enumeration method and tying that together with an enhanced E-Record transfer operation for those facilities and operations are able to do E-Record transfers.

Forms printing and distribution. We talked about that and we want to thank our representative here from the United States Postal Service for their collaboration with us because without their efforts, we don't get the forms out to all the people who get our documents -- our forms.

And then we talked about what happens when they come back in. We discussed paper data capture and the capture conversion of the data once we get the data back in house.

Then we move to talk about a change in operations where we went from two and update and an update enumerate adding a 35th operation to our overall system. And the new update leave operation or leverage, we call it new. But really it's an operational design we used in 2010. So it's not like we're going to be breaking new ground there. It's things we have good experience with. Our regions have operated in that mode in the last Census. So they've very comfortable and familiar with it.

We then move to 2020 Systems Readiness. And there are a few points that I just wanted to highlight there. One we're going to be deploying the full suite of Pega 7 Solutions in the 2018 End-to-End Test.

We'll also be deploying our administrative support and response processing functions during that test and we provided an update on the tools that we need to recruit, assess, hire and pay our field staff in C-SHaRPS. A totally different way. For those of you who do not know, we struggled mightily to manage recruiting, testing, hiring, fingerprinting in 2010. It required significant manpower usage sending people out to sit through testing sessions over and over to get people. The new automated system will be a significant enhancement to our process to bring people on board and to manage them into our system.

We also talked about the integration of new and legacy systems under the Set Cap umbrella as we moved together taking things that we've proven and we know and things that we're developing and are new and putting them together to give us an effective set of solutions.

(Autrie) talked about the systems deployment mapping. Where do the systems work in the overall operation and he had a slide up that I always

thought was complicated. But when I looked at it it sort of mapped out an understanding if I followed the lines.

And then we finished with a demonstration of our mobile case management and listing and mapping applications. They say that a picture is worth a thousand words. I want to say a demonstration is worth ten thousand words. We are going to move forward showing more demonstrations of our functional applications as we move forward from this point.

When we met again at our next PMR, we'll already have begun our 2018 End-to-End Tests. And additionally, we will have more details to discuss in our overall progress towards a successful 2020 Census.

And if (Lisa) has no more, I'd like to thank you all and wish you a very pleasant evening and rest of the week. Thank you very much.

END