

# **PUBLIC**

**THE PARLIAMENTARY STANDING COMMITTEE ON PUBLIC WORKS MET IN COMMITTEE ROOM 1 AT PARLIAMENT HOUSE, HOBART, ON MONDAY, 10 AUGUST 2020**

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## **PWC - TASMANIAN GOVERNMENT RADIO NETWORK PROJECT**

**Mr MATTHEW EASTHAM, ACTING CEO, AMBULANCE TASMANIA; MR CHRIS ARNOL, CHIEF OFFICER, TASMANIAN FIRE SERVICE, DEPARTMENT OF POLICE, FIRE AND EMERGENCY MANAGEMENT; Mr SCOTT WILSON-HAFFENDEN, PROJECT DIRECTOR, TASMANIAN GOVERNMENT RADIO NETWORK, DEPARTMENT OF POLICE, FIRE AND EMERGENCY MANAGEMENT; Mr SCOTT TILYARD, PROJECT SPONSOR AND CHAIR TasGRN STEERING COMMITTEE, DEPUTY COMMISSIONER OF POLICE, DEPARTMENT OF POLICE, FIRE AND EMERGENCY MANAGEMENT; Mr JOHN LLOYD, DIRECTOR OPERATIONS, PARKS AND WILDLIFE SERVICE; WERE CALLED, MADE THE STATUTORY DECLARATION AND WERE EXAMINED.**

**Mr ANDREW WELLWOOD, PRINCIPAL TECHNICAL ADVISOR, GENERAL MANAGER MINGARA AUSTRALASIA PTY LTD; and Mr ROSS ALEXANDER, PRINCIPAL COMMERCIAL ADVISOR, PARTNER INFRASTRUCTURE ADVISORY & CONTESTABILITY, DELOITTE FINANCIAL ADVISORY PTY LTD; WERE CALLED BY TELECONFERENCE, MADE THE STATUTORY DECLARATION AND WERE EXAMINED.**

**CHAIR** - At this hearing today we are pleased to hear the evidence you are going to give. It helps us to be able to seriously consider this particular submission that has been put before us today and we are certainly not oblivious as to the importance of this particular project.

Before you begin giving your evidence, I would like to inform you of some of the important aspects of committee proceedings. A committee hearing is a proceeding in parliament and this means that it receives the protection of parliamentary privilege. This is an important legal protection that allows individuals giving evidence to a parliamentary committee to speak with complete freedom without the fear of being sued or questioned in any court or place out of parliament. It applies to ensure that parliament receives the very best information when conducting its inquiries. It is important to be aware that this protection is not accorded to you if statements that may be defamatory are repeated or referred to by you outside the confines of the parliamentary proceedings.

This is a public hearing and members of the public and journalists may be present and this means your evidence may be reported. Do you understand? I want an affirmative from all witnesses please.

**Messrs ALEXANDER, WELLWOOD, EASTHAM, ARNOL, WILSON-HAFFENDEN, TILYARD and LLOYD** - Yes.

**CHAIR** - Would you like to make an opening statement?

**Mr TILYARD** - Chair, I will make a brief opening statement in my capacity as sponsor of the project as well as chair of the project's steering committee.

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The concept of a whole-of-government Tasmanian government radio network has been on the agenda for many years. There have been early reiterations or attempts to get a project of this nature off the ground, and there have been inquiries of various kinds over the years, in the mid-2000s, notably the 2013 inquiry into the Tasmanian bushfires of that year. In the following year, 2014, the Tasmanian Government Audit Office conducted an audit of the state's publicly managed radio communications networks. Subsequent to that, the Parliamentary Standing Committee of Public Accounts reviewed progress towards establishing a Tasmanian government radio network.

It was about five years ago when we really started the process of looking at what a network would look like, how would it meet the business requirements of the core users of a government radio network. Obviously for police and emergency services and the Tasmanian Fire Service fire partner agencies, which are Parks and Wildlife Service and Sustainable Timber Tasmania, as well as the Tasmanian electricity supply industry, these networks are what we call mission critical to our day-to-day business and service delivery to the community.

Currently there are five networks in operation around the state in support of those organisations. Some of these networks were established straight after the 1967 bushfires in Tasmania, so they are quite old networks using older technology and approaching or very near end of life for some of those networks. They are separate networks. It has only been in more recent years that we have managed to do a little bit of work to connect those networks up. If we have a need to talk to each other on those networks, there is a very rudimentary way of doing that now.

What we are wanting is a whole-of-government radio network, so all of the core users form part of a single, resilient and secure radio network for the state using contemporary radio technology. So not only can we deliver better services to the people of Tasmania, but it is also much safer for our workforce, our frontline responders and the thousands of volunteers, particularly with Tasmania Fire Service, State Emergency Service and Ambulance Tasmania who also rely on greater communications as part of their day-to-day service deliveries.

We have made significant progress, we have been to the market. I will shortly hand over to Scott Wilson-Haffenden, who is the project director, to give a very brief overview of the process we have been through to get us to the point where we are today, coming before the Public Works Committee asking for approval to continue with the project and deliver it within the time frames that have been specified.

I will hand over to Scott Wilson-Haffenden.

**Mr WILSON-HAFFENDEN** - Thank you, Scott. As the Deputy Commissioner mentioned, it has been quite a journey to get us to this point. My involvement is from back in April 2016, when we relaunched the project. We engaged a new project manager to revisit the business requirements to meet the needs of all our emergency services user organisations, together with the land management agencies and the electricity supply industry.

We undertook a process over the next 18 months to ascertain those business requirements, and we reached a point in November 2017 where each of the user organisations was able to sign up to the requirements of the new network, with a commitment from all those user organisations for their ongoing involvement with it. So, to that extent we managed to

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achieve eight user organisations all comfortable with what we would be approaching the market with.

At that point we also undertook a market-sounding exercise to understand whether there may be multiple players in the industry interested in the proposal, and also to start to assess, from a costing point of view, where we might stand.

Coming out of the exercise, we developed the business case for the project moving forward. One thing of note was that previous attempts to launch the project and focus on a single frequency to transition across to the general- and government-accepted 400-megahertz banding had created some issues in getting acceptance from the fire agencies and land management agencies, because of concerns around the capacity for that network to fully service their needs.

So again, with the business requirements in hand, we went out to the market. We developed a business case that identified the capacity to meet the needs of all those user agencies. As a result of that, and with commitment from government around ongoing recurrent funding, we released the tender for the Tas GRN in November 2018. That process was due to close in March 2019, so there was a six-month tender process. However, at that point we required any prospective tenderers to sign up to the process to access the data associated with the details required for a tender submission.

We had, approaching March 2019, two interested parties who committed to - subject to a further extension of three months - submitting a tender for the supply of the managed service. So, effectively that extended that process out until May 2019.

Following that, we went through a very extensive tender evaluation process, which once again included representation from all of the user organisations. That evaluation was at a technical level, it was at a services level, as well as a commercial level, and a legal level. So, combined across all of those four elements, we arrived at a position where we had a preferred tenderer.

Subsequent to that we commenced work with the preferred tenderer, which I can now announce is Telstra in conjunction with Motorola. So, we commenced a process with them in August 2019 to start to review what was submitted - particularly in light of clarifications around the offer, and also to identify if there were any opportunities to make the offer more affordable.

In December 2019 we received a final offer, which has been under consideration. However, before moving into contract negotiations, the issue of COVID arrived, so we agreed with the preferred tenderer to park those negotiations for three months.

We entered into formal negotiations with them four weeks ago, with a desire to achieve, subsequent to the approval of this committee - and it has been made known to the tenderer all along that it is subject to the approval of this committee - a successful achievement of a contract position acceptable to the state. The intent would be to arrive at that position by the end of this calendar year.

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That would then enable us to move into a build phase, with the expectation that we would transition out of our existing TRM legacy network in late 2022, and transition all user organisations and decommission their legacy networks by the end of 2023.

That is the position we find ourselves in at the moment. As I said, it has been a fairly exhaustive and extensive process to get to where we are, and we have sort of struggled as to what is the appropriate time to bring the project to this committee, especially given there is a significant amount of capital works to be undertaken with it, and it will be a managed service, but we felt it was the appropriate time to now bring it forward to this committee.

**CHAIR** - Thank you. I will take some questions from the members as overview questions, as opposed to stepping through this page by page. We will do that, but I think there are some overview questions we might like to have covered. I will start and then other members may have some overview questions.

I am well aware that this particular project has had a long gestation, and there have been considered attempts to try to get this all together over a number of years. What were the previous show-stoppers in the mid-2000s, and are you sure they have now been overcome? Deputy Commissioner, as the project sponsor, would you wish to address that?

**Mr TILYARD** - I certainly can. There have been some frustrations along the way in terms of ensuring all the user agencies were on board and wanting to be part of the whole-of-government radio network.

We all have quite disparate business requirements and different responsibilities, as Mr Wilson-Haffenden alluded to in his opening comments - even down to the frequency band in which radio networks operate. People were very sensitive to that particular issue.

In the early stages of the projects, up until the mid-2000s, the thinking was perhaps we could expand out the current trunk mobile radio network, which at this point is the most sophisticated network we have in the state. It is a digital-capable network used by police and the Tasmanian electricity supply industry - so, Hydro and TasNetworks, and to some extent by the SES as well.

It was thought that perhaps we could just expand that out to cover more of the state, and then fire and ambulance, for example, could just utilise that network. It operates in the 800 megahertz frequency range, so it was well outside the frequency range that they were comfortable operating under, because the lower frequency ranges actually provide for greater distance. They were also analogue networks, which mean they - for want of a better term - 'bend' around terrain a little better than digital networks, which are by their nature more line-of-sight. Also, the lower frequencies have better smoke penetration if you are in bushfire conditions, and you are needing signals to penetrate thick smoke - and we know of course how thick that smoke can be. So, they had very good reasons for wanting to stay in the lower VHF range.

We, and police, had very good reasons for wanting to stay in the higher range, because that tends to be better not only for security, being digital, but also building penetration as well. The higher UHF frequencies will go inside buildings, and a lot of police work is inside homes and office buildings and public event venues - those sorts of things.

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So, everybody had their own ideas of what they wanted out of the network, and were focused very much on the technical solutions, particularly in terms of radio spectrum.

At that stage, the technologies were also improving all the time. So we had a different approach, which is the sensible approach in many ways: to focus more on the business needs, rather than the technologies. Let's get people forgetting about what the technical solution is; let's identify what the business needs are, and then we can look at how the technical solutions can fit in with what we are all wanting - a new radio network to be able to do for us. So we went through quite an involved consultative process working with our consultants, particularly our technical advisers, Mingara Australasia, to identify what those business needs were, therefore what the specifications for the new network would need to do or contain and then what the reference design would look like.

We actually got to the point where everybody agreed to what those business requirements were and signed up to those business requirements, and not only the requirements of their own organisations, but signed up in total to what the new network will need to be able to do. So, we do have that commitment, we do have that buy-in now. Everybody is at the table.

We expanded the steering committee to make sure all the user organisations were represented at the steering committee level, which they hadn't been previously. We also have Treasury and the Department of Premier and Cabinet as part of the steering committee because the whole-of-government radio network is a big project from government's perspective. It is an expensive project and these things, by their nature, do cost a lot of money. So having the Department of Premier and Cabinet there from a whole-of-government and cross-agency perspective and having Treasury there certainly helps. So, we have been able to advance the project in that way. Hence it has taken considerable time to address even the cultural issues with our own staff within our organisations which needed to be adequately covered as well. It has been a journey where we have everybody on board with that journey and part of the future in terms of the whole-of-government radio network.

**CHAIR** - That is those that are involved within the scope of this particular part of the project?

**Mr TILYARD** - That is correct. At the moment there are what we define as core users. Effectively, it is taking the Police and Emergency Services and the users of government radio now from the existing networks that we are operating on and they will become the initial core users of the Tasmanian GRN (Government Radio Network). But being a whole-of-government radio network, there is potential going forward for other government users to come on board with the network, which is, I guess, the next phase after we get the core users on board.

**CHAIR** - I ask the question because it's not unknown with major projects like this, that the hierarchy agrees that this is a way to go and you might hear, further down the track, 'They just didn't listen to me, I knew that this problem was going to occur'. That is why I am interested to know that there has been buy-in with each of the components, the stakeholders, that are being involved in this.

**Mr TILYARD** - There certainly has been extensive consultation with all the user organisations and a lot of communication. We have a stakeholder consultation communications plan to make sure that we have involved everybody because, as you say, there are a lot of people involved, thousands of salaried staff as well as volunteers. It is always a

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challenge when you have so many people. The estimate is around 10 000 people actually use these government radio networks, often in the most difficult of circumstances. It is almost impossible to please absolutely everybody but we have engaged extensively with a lot of our stakeholders, and particularly employees and volunteers, through this process. We will continue to do that as we move into the next phase.

**Ms RATTRAY** - In regard to what investigation had been undertaken with other jurisdictions around best practice, just some sort of information that there has been a look at what happens in other jurisdictions?

**Mr TILYARD** - I might let Scott initially make comment on that. He may ask Andrew Wellwood to comment because, certainly, Mingara has been involved with some other jurisdictions with similar networks.

**Mr WILSON-HAFFENDEN** - Certainly at a project level, we were interested in what was occurring in the other jurisdictions and, as Scott mentioned, we have also been supported by Mingara and Andrew, given their involvement in similar projects with other jurisdictions.

We looked fairly in-depth and visited Queensland to look at the GWN, a similarly managed service network that had been implemented there, and also worked with South Australia around the network they have implemented. I have also had a number of conversations with the New South Wales telco in terms of what has been undertaken through there.

I guess part of that did lead to our preference around the managed service arrangement, given the arrangements in place in the GWN, which, I guess, provided some fairly tight time frames in terms of their implementation. We have ended up with the same service providers in Telstra and Motorola as to what has been provided through to Queensland GWN, certainly the benefits there in putting the project in the hands of the service provider and enabling them to have the service level of support. When we spoke with the representative agencies - and that is largely the emergency services in that state - they were very supportive of the arrangements that were put in place and the responsiveness of the service provider.

We looked in South Australia, which had been a different model, where they still had ownership of the infrastructure and some of the dilemmas they had faced in building out that network over an exhaustive period of time.

Essentially, to a degree, and I think it is called out in the presentation, but essentially Tasmania is the only state without a P25 network. The technology is fairly well understood so to that degree we knew what we were looking at in that space. One of the challenges we had was more around that topography challenge and bringing together multiple requirements from all the parties, hence why we have ended up with a dual band network which wasn't necessarily the case in some of the other states.

Andrew can talk to that better than me, but that is probably where it is going. If you are happy I will hand over to Andrew to fill in any details.

**Mr WELLWOOD** - Thank you. As Scott has indicated, one of the absolute benefits in Tasmania is that it has been a reasonably well-worn path in other states going to a whole-of-government network. We had the opportunity here to look at lessons learnt from other

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jurisdictions and look at those best practices that they had. We are not only looking at the capability available and how that might translate into the requirements of the agencies but also the advances in technology, which I think has been discussed previously, and how some of those advancements in technology could assist address some historic views around using things like Spectrum and what sort of network you would require.

Overall, we were able to utilise the benefits out of the Queensland, South Australia and New South Wales environments, where Mingara has been involved in requirements gathering across all those to assist the agencies in establishing those requirements and making sure that they are operationally sound in what could be delivered by the market as well.

**Ms BUTLER** - Andrew, a quick question, we don't have P25 in Tasmania at the moment, and by the time ours is completed it will be another four years potentially. Is there a chance that we will be continuously playing catch-up with the other states if they already have theirs in place because the technology is changing so quickly? Can you run through how that works for us?

**Mr WELLWOOD** - P25 is the current technology used by every other jurisdiction in Australia in delivering public safety voice communications. There still is investment. It is not like Tasmania is now investing and other states have stopped investing in P25 technology. They are still investing in P25 technology. They see that P25 technology will continue for some time into the future as well. Really there isn't another technology that is going to meet the overall requirements of the state in terms of public safety communications. As I have said, every other state currently uses P25 in delivery of those services.

You are futureproofing. The manner in which the state has looked to implement P25 and also utilise broadband PTT as a complementary technology, is a really good solution. It provides the opportunity for progressive transition in the future to other technologies but at this stage there aren't other technologies that will provide the overall mission-critical requirements of the emergency services and users of the network.

**Mrs PETRUSMA** - I have two questions. First of all, Andrew, to follow on from that, we are jumping straight to phase 2 in P25 technology, other states are still at phase 1. We are coming in at a comparable or more advanced level than other states. Is that correct?

**Mr WELLWOOD** - Correct. Yes, we are on phase 2. Some are on phase 1 still and others are on phase 2. We are adopting the latest P25 technology. You leapfrog as you invest in the future so you are getting the current version of that capability, the technology, the terminals, all that sort of thing.

**Mrs PETRUSMA** - Thank you. We heard the message from the Governor that \$464 million is the quantum. This technology potentially not only benefits the staff and volunteers but every Tasmanian in the future who may need to use the emergency services. For anyone out there who might be listening and thinking it is a lot of money, what is the benefit to all Tasmanians from this technology? Why do we need to invest so much money into this? Why isn't there a cheaper option?

**Mr TILYARD** - It is what we call mission critical to our business, radio communications. That is how we do our business in police day in and day out, whether it is responding to routine requests from the public, or to the most significant of major events. Even

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during the current COVID response we have people out there doing compliance testing, those sorts of things, checking on compliance with directions that are issued. They are all talking to each other using radios.

It is the same for ambulance in terms of their response to medical emergencies and other medical events. Fire, obviously, not only bushfire but the day-to-day business that the fire service does, the State Emergency Service, the land management agencies, so Parks and Wildlife, Sustainable Timber Tasmania. Obviously, Parks look after all the parks and the bushfire threat and other nature hazard threats in the parks. Sustainable Timber Tasmania in terms of the forestry plantations which become a consideration when we are responding to fires. The electricity supply industry uses it as well.

Every Tasmanian is out there needing these services, receiving these services every day, often from multiple agencies. It is imperative that our people have good, reliable, secure communications so they can talk to each other, coordinate the best response for our service delivery so we can ensure they are safe when they are out there in the field, often in very risky circumstances, potentially life-threatening circumstances.

Many of the people our services use are volunteers, not so much in police but the other emergency services substantially rely on volunteers. We want to make sure they are safe. Every member of the Tasmanian public and visitors to our state benefit from this sort of network.

**Mr ARNOL** - Can I add to what the Deputy spoke about? If we look at it from inter-operability there is a tremendous efficiency for us to work collaboratively. Inherently, if we have a speed of operation because police know, when the fire service knows, when Tas Ambulance knows, the speed of operation to deliver service is much better, rather than having to connect, connect, connect, to each other to deliver the frontline services. It is a considerable efficiency. There is better coverage across the state. Fires are often in difficult locations, as are rescues. Better coverage means people do not have to wait. We are connecting through quicker. We know what is going on. Folks are going to get a faster service because of that connectivity.

There are some economies of scale, which I think is more in the business side, Mrs Petrusma, but we are servicing one network rather than multiple networks. We have multiple services on the one network, which is a switch around. While it looks like a considerable sum, which you mentioned earlier, longer term it looks like a cost benefit with it being all in the one service. We are all servicing the one equipment.

**Mrs PETRUSMA** - Further to what you are saying, for the record, could you outline to us the lack of connectivity at the moment and how there are all these disparate networks. I don't think people are aware that there are disparate networks that don't talk to each other at the moment.

**Mr TILYARD** - I might get Scott to talk about inter-operability gateway that we have installed as a temporary measure. As you say, the networks don't talk to each other at the network level. We did a bit of work under the project as an interim measure a few years ago to install an inter-operability gateway that has managed to connect the networks to some extent, and can be triggered if it's required. I have probably just about covered it but it is certainly not a long-term solution. One of the recommendations that came out of the 2013 bushfire



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recommendations was to look at ways that you might be able to connect the networks. So we did, and invested in that as an interim measure.

Today, could we have a fire officer in a fire truck talking to a police officer in a police car at a location? Yes, we could. It's a little bit clunky, but we could actually make it happen at a technical level. With the new network, because we are all on the one network, it is so much easier for that to happen. Scott, I probably have covered it, but do you want to jump in there if there is anything left?

**Ms RATTRAY** - Most Tasmanians will remember the Dunalley and the east coast fires. That was something that was talked about for many weeks after, the lack of that inter-connectability.

**Mr WILSON-HAFFENDEN** - Yes, and as the Deputy Commissioner mentioned in response to the Dunalley fires, the inter-operability gateway was installed across the networks, essentially from the TMRN to enable the other networks to connect back into the TMRN.

As the Deputy Commissioner mentioned, it is a process which has to be manually triggered in that it connects networks, it does not connect radio to radio. While it is certainly possible, it's not overly well understood and utilised because, I guess, when people are responding to incidents 90 to 95 per cent of the time they will be working within their own agency and don't necessarily want to be distracted by all the clutter that goes around. They become very familiar with that. Where there has to be a trigger point to go back through a communications centre, the likelihood of that being utilised is probably diminished.

While that has been utilised in some exercises - when I say exercises or incidents - it is not a common feature of the network. I am happy for Andrew to step in here whenever I move out of my technology depth, but with the new network we have capacity to program talk groups, which work across the networks.

Andrew, as I understand that simply enables the user to turn to that talk group which might be set up for multi-agencies. There is no intervention back through the control centre. It is programmed in and available within the network and can be utilised. Am I over simplifying things there?

**Mr WELLWOOD** - No, that is correct, Scott. You can establish talk groups that provide access across user organisations, and, specifically across the terminals that they use. You set up these multi-agency talk groups, which allows those agencies to talk together. I think the other important thing in the network is it provides consistent coverage across the state as well, that they are all accessing. With the current legacy networks, there are different networks with different levels of coverage. So just because you have one or two networks connected doesn't mean if you have two users in the same area they'd both be able to access their own networks, so there is additional benefit under the TasGRN as well.

**Ms RATTRAY** - I am not sure if this is a question for Ross, but I am interested in whether it was expected that there would possibly only be a very low number of tenderers for something like this. Obviously, it is a specialised field and perhaps coming to Tasmania, it may not have been something that everyone jumped at. I am interested in whether that is your area of expertise, or whether I need to put my question elsewhere, Ross.

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**Mr ALEXANDER** - We did support the project through the market-sounding exercise very early on, which was just prior to the business case. The purpose of that exercise was to see the breadth of technology available and what the appetite might be for parties to bid in Tasmania. It is still a sizeable opportunity but it is one of those markets which is slightly constrained by the breadth of technology providers within it. There is only a certain number of providers who provide the P25 core systems and only a certain number of organisations that provide the P25 peripherals. Elements of the project are more contestable.

This project is really sort of made up of three components. There is big civil infrastructure, there is a big system component attached to it as well, and then there are the services ongoing. Within the things like the construction and civil component there is scope for more contestability but as we have gone to market for a single integrated solution through a managed service it does potentially narrow the field to those able to deliver it end to end. Ultimately, the market soundings said there was a market, that we would get competition and that is borne out through the tendering process. So, I think it has been managed quite well from that perspective.

**Ms RATTRAY** - I guess there was no intention to break up the contract?

**Mr ALEXANDER** - No, it was something that was considered as part of the business case. I mean this is what the managed service is all about. It is about having one party that has the end-to-end responsibility for the delivery and ongoing services over time. That is really to drive a better value for money outcome, better risk allocation to the private sector and ultimately to deliver better services to the state of Tasmania.

**Ms RATTRAY** - Chair, I think my question went to the right person.

**CHAIR** - I think it did.

**Mrs PETRUSMA** - Just to follow on from that, Ross, was it Telstra that delivered the P25 networks in the other states, or was that a mixture of providers?

**Mr ALEXANDER** - It has been Telstra in Queensland and also in South Australia, no? Andrew can give you the better plotted map of suppliers but yes, Telstra has been involved in a number of them.

**Mr WELLWOOD** - Yes, they have. Telstra does effectively provide the managed service in Queensland with the same technology provider that is proposed under the TasGRN as well. To my knowledge, they do not provide - sorry, they also provide a managed service for the regional mobile radio network (RMR) in Victoria as well so they provide two other managed services.

**Ms BUTLER** - An additional question to that. With Telstra, it is my understanding they managed the subcontractors. Do they have teams which they fly from state to state to state that specialise in this? Is there somewhere within this capacity that we can have a focus on employing Tasmanians over the next four years on all these capital works? Do we have a focus on local procurement?

**Mr WILSON-HAFFENDEN** - Of course through any evaluation the local industry procurement does form a basis of this. I guess there are two components of it, one is through

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the initial construction and implementation phase and then ultimately through the managed service phase. Certainly, through the managed service component and the ongoing services I think roughly 33 staff are called out, the majority of whom will be based here in Hobart. I think their subcontractor, Motorola, will set up a presence in Hobart to deliver the main service component.

Through the construction phase it will be a combination of local - they have Telstra and I guess, and to a degree when we talked about the civil construction capability et cetera, as you would have noticed this morning when we went to the sites, Telstra sites are here. A number of the sites that will be utilised into the service exist here so they have existing capability in the state to deliver some of those services.

There will be a mix. Some of their services, I believe, will be in Victoria and there may be a need for some of those contractors to come into the state. Again, largely the focus will be on local services to support the network moving forward.

**CHAIR** - We might go to the submission itself finally and ask questions as we go through each of the pages of the submission. That is the best way to go so that members have an opportunity to scrutinise each page.

We will commence with the introduction on page 5. Does anybody have any questions on that particular page?

**Ms RATTRAY** - In regard to the time frame, and it has been touched on briefly already, in the second last paragraph it talks about being exposed to significant risk due to the escalating likelihood of network failure if something new isn't put in place. Obviously, time frames blow out and sometimes budgets blow out as well. So, if we don't get in on time and somewhere near on budget is that something we need to be concerned about at the front end of this process, that network failure?

**Mr TILYARD** - We have certainly done everything we can to put measures in place to make sure there aren't those failures through the process. Part of the process we have already been through is a comprehensive end of life assessment of the existing networks. So we do know where the pressure points are, where the risks are in those networks, and we have already implemented measures to mitigate those risks. For example, to make sure that if there are particular parts that are required that we have spare parts that we can quickly implement.

Our intention - and this is important through the contract negotiations as well, in terms of the obligations of the supplier of the network - is to manage the project within its time frames and its budgets. But we do have the measures in place to make sure that the existing networks remain operational until such time as we transition onto the new network. Scott, do you want to add anything to that?

**Mr WILSON-HAFFENDEN** - There is probably one important thing to add, the most exposed we were was with TRM Network and it works on an older technology, the Edux technology. That technology is limited in its use across the world. One of the things we have done, and it was completed in February of this year, was upgrade to that core so it did require some investment to support that core moving forward. That put us in a position where at least we have a supportable - the core being the foundation basis of the network, which will support

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us through for the next three years. In a worst-case scenario if everything fell over, it is capable of some upgrades to give us some futureproofing.

**CHAIR** - Further to that question, obviously project management is important when it comes to planning for future events. Can you give us an understanding as to the methodology that is being used to run this project and indeed any methodology that might be being employed with the implementation of it? Project management is one thing but implementing is another. I would like the opportunity to get an overview on that.

**Mr WILSON-HAFFENDEN** - Again, I won't go down to professing I am a detailed project manager, but essentially we are working through a waterfall phased approach to the project, largely noting again that the service provider is responsible for some key milestones for delivery throughout that project. Part of the process we are working through with that service provider, as part of the negotiations, is the reassurances that sit around those milestone deliveries and the associated consequences of meeting those or not meeting those.

From a waterfall process - and I believe they are implementing a PRINCE2 project management methodology, which is consistent with what we have used within government for some period of time - but, to that extent, we have broken the project into a number of phases, and they will be accountable for the delivery back against one of those.

Some of the members had a tour of radio despatch this morning. The first component of this will be the replacement of those consoles, which will integrate their existing legacy networks.

There will be a build-out through to the TMRN; there will be a build-out from the southern region, the northern region and the western region; and the final commissioning.

One of the challenges is that we have started with a project plan which is based around our time frames. We are now in the position where we have a project plan from the service provider and, as Mr Wellwood and Mr Alexander are well aware, during the past four weeks we have spent considerable time ensuring that they are committed to that project time frame.

Now the process is really trying to align those two, and get the detail and the resourcing requirements associated around that, because one of the challenges is that we have to bring this together.

There will be components that the service provider is obliged to deliver on, but there are also components that, as user organisations, we will be required to deliver, and make ready, and works undertaken. That is why we have a strong capability within our project management office, and within the project team. We have one or two schedulers, and a more detailed project manager than me, who will oversee that time frame, oversee that scheduling, and then work through the various milestone dates that we have to reach as we work through.

**CHAIR** - I suppose the important thing is that it is so mission critical. We wouldn't want to get two or three parts through, to then realise that you are simply not going to meet the objective, and not have enough time to put something else in place. Can you assure us that is definitely on your radar, and the project management processes you have in place will handle that?

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**Mr WILSON-HAFFENDEN** - Yes, certainly. That is why we have a very detailed schedule which works through that process. I am guessing that is why we put some of those early milestone dates in place, so that we're not waiting until the end of this process to determine whether it will work. Mr Wellwood, can you recall the time frame around the first console build-out?

**Mr WELLWOOD** - The first phase, which is the consoles and the core technology, is being delivered about mid-2022.

**Mr WILSON-HAFFENDEN** - So, we have those key milestone dates in place. We have a steering committee overseeing it, and we have a schedule that we report back against on a monthly basis. I won't go into all the details because some of it is commercial-in-confidence, but we have regular reporting required back against it. The steering committee meets on a monthly basis at present to oversee that.

**Mr TILYARD** - The steering committee includes representation from all the users at the Deputy Secretary level, basically - so quite a senior level within government. As I have said previously, Treasury and the Department of Premier and Cabinet are also part of that. We have our technical and our commercial advisers, as well as our probity adviser, our internal legal advisers and external legal advisers, and also an external quality assurance adviser. From a project governance perspective it is quite comprehensive.

I don't think there is a commercial-in-confidence issue in mentioning a demonstration site, to demonstrate the technical feasibility at a fairly early stage?

**Mr WILSON-HAFFENDEN** - During 2020-21, there will be a demonstration/pilot site that will demonstrate the capability they are delivering - and correct me if I am wrong, I don't believe that will run from our core, but from an interstate core, and that gives us confidence in the capability being delivered.

Yes, we are a bit of a later adopter of the technology, but that also gives us confidence that the technology we are moving to is leading edge. We should have fair confidence that the technology will work.

**Mrs PETRUSMA** - Somebody else has ironed out the bugs. Is that what you are trying to say?

**Mr WILSON-HAFFENDEN** - Yes, we have a number of layers within the governance arrangements, particularly through quality advice, et cetera, to give us that reassurance.

**Mrs PETRUSMA** - So, because other states are using the P25 technology, if they come to Tasmania to assist with fires and everything else, it allows them to connect into our network too - is that correct?

**Mr WILSON-HAFFENDEN** - Again, my understanding is that one of the benefits of this is that the radios don't have to go back to be reprogrammed. There is over-the-air programming available. So essentially, we could have a fire agency coming in from another state with a P25-capable radio that can be programmed to receive our talk groups, and that immediately gives them access and availability to work with us. Is that the way, Mr Wellwood, or am I oversimplifying things?

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**Mr WELLWOOD** - No, that is right. It can either be done at the time over the air - you can configure radios to operate on the network - or you could have them pre-configured to operate on other jurisdictions' networks as well.

Also, the way that the network has been established to operate on VHF and UHF means Tasmania could go to support other jurisdictions, as other jurisdictions could come to support Tasmanian emergency services as required.

**CHAIR** - Further to Mrs Petrusma's question, when that does happen, and you have crews coming from interstate and so on, could you describe the security process that is used after they have left, to make sure there aren't radios floating around that can access the system and cause a security issue?

**Ms RATTRAY** - Will they be frisked at the airport?

**Mr WILSON-HAFFENDEN** - I will probably defer to Mr Wellwood on this, but one of the differences we have with this is that, under the current arrangements, there is a requirement to share our radios, et cetera, if someone is moving into the state and utilising these. Obviously there is a trust relationship in working with the various emergency services in what we make available, but there is always the danger that you have equipment left moving around that could be vulnerable. As Mr Wellwood outlined under this scenario, users can bring forward their own equipment and utilise those on our network, or vice versa.

Mr Wellwood, in terms of access to talk groups and so on, are you happy to talk through how that can be controlled?

**Mr WELLWOOD** - One of the features of the network is that you can enable and disable terminals within the network. Whether they be Tas GRN radios or other radios from other jurisdictions, you can have them enabled or disabled at any particular time on the network, thereby providing that security. It is not just a matter of someone bringing a radio that would operate on the network. People need to be provided with authorisation for that terminal to operate on the network, so it is very secure.

**Mrs PETRUSMA** - At the moment there is no security, is there - because people can listen in on a police scanner, or anything like that? So when this new system is in place, is there going to be more security?

**Mr TILYARD** - There will be, because the new network will be digitally encrypted at the network level. At the moment, some of our radios have encryption, but it is at the radio level. It is the only way we can do it, and it is very expensive as well. That is why we tend to only encrypt the ones that are used by our more sensitive areas in the department - specialist units, criminal investigation and those sorts of things.

It is a digital network and if you don't have that digital encryption on the handset you are using it is capable of being scanned - not as easily scanned as analogue radio, which is very easily scanned, but digital is capable of being scanned unless it is encrypted.

I must say that even though the TMRN network we are currently using is quite dated, and has nowhere near the functionality the new Tas GRN will have, we can disconnect radios

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from the network now if we need to. For example, occasionally we have had one or two radios stolen from police cars over the years. As soon as we realise it has gone, we can switch it off over the network. So, we do have that level of functionality now in the TMRN.

What we do need to do now, if we want to re-code radios, we literally have to get every single radio in from around the state and re-code each radio individually, whereas the TasGRN actually, as Andrew said, allows for that re-coding over the air, so all the radios can be done at once. It saves you a lot of money and time with people having to manually do these sorts of things, the network can now just do it. Push of a button, so to speak.

**CHAIR** - While we are on that subject, I will ask the question about national security and what broad processes you have gone through to ensure national security is maintained and with all people associated with the network in terms of third parties? I am not talking about government employees particularly, and obviously there are confidentiality issues there, but you might be able to broadly describe for us exactly what you have done there.

**Mr TILYARD** - In terms of security vetting of people who are involved in the project, Scott, do you want to speak to that briefly?

**Mr WILSON-HAFFENDEN** - I am happy for Andrew to hop in here if required. We have had extensive engagement - and Scott will correct me on their name - with the Australasian Centre for Critical Infrastructure, which oversees the protection around the critical infrastructure across the country. This radio network is considered to be a part of that. As part of that, in going to tender there are specific requirements for us to ensure that the tenderers meet, and one of those is that they get approval through the Foreign Investment Review Board (FIRB) before we can sign them to this network.

We have been extensively engaged with them through this process to the extent they have indicated there are no concerns with the tenderer we are moving forward with. We will continue to work through with them up until the point of where we are signing the contract.

Similarly, we have worked with our local SRCTU in looking at that capability that would be required and the vetting of any potential contractors coming forward. Those requirements have been built into our tender process so, to that extent, we are very comfortable that the proposed contract we have in place will deal with any issues of national security.

**CHAIR** - I realise it's a sensitive area and you can't say a lot, but thank you for that. It is good to have that on the record.

**Ms BUTLER** - In relation to the report on page 5 where it states:

This review is undertaken in response to the report of the Auditor-General, No 10 of 2013-14 Government Radio Communications. The review recommends -

- that the whole-of-government radio network project be completed by 2020;
- a new entity be established to manage the network into the future.

That was 2013-14, why has it taken such a long time for this to happen?

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**Mr TILYARD** - Principally because of the reasons I alluded to earlier where there were so many users who had different ideas about what their future radio needs were going to be. It took quite some time to work through the process of getting everyone to agree on their business requirements and to be satisfied that those business requirements could be met through a single whole-of-government radio network and how that might be operate, including technically. So, just the process that we have been through, the consultation process, the specifications development process, the business needs development process, these things do take time when you are working with multiple agencies. This is why it hasn't quite happened by 2020 but we definitely have things well underway now.

**CHAIR** - Page 6?

**Ms RATTRAY** - In regard to the congestion issues, this proposal will make sure that we do not have any congestion issues into the future, or will everyone at Falls Festival always cause a problem with the network?

**Mr TILYARD** - The congestion issues were principally to do with the analogue networks that are being used where basically if one person is talking nobody else can. That is just the way that the network operates. It is not such an issue with the trunk mobile radio network that police and a few others use. It is principally with the 70-megahertz analogue - is that correct, Scott?

**Mr WILSON-HAFFENDEN** - I would probably defer to Andrew around that.

**Mr WELLWOOD** - Correct. The trunk network is far more efficient in terms of the capacity it utilises. So, one, this network has been specified with the capacity for the totality of the user organisations that were there and it is far more efficient than previous analogue networks.

**CHAIR** - So you are saying that inbound and outbound messages can be received at the same time, so you are not waiting for someone to finish talking before you can get a word in? Is that what you are saying, simplistically?

**Mr WELLWOOD** - I am saying that and because it is a trunk network the communication will only go to those users within that particular talk group. You can have multiple talk groups operating simultaneously where other networks it was more all-informed communication offered which then meant you had to wait until someone had finished and it may not be in relation to the matter that you were dealing with.

**CHAIR** - So it is group multiplexer?

**Mr WELLWOOD** - Correct.

**CHAIR** - Thank you. Moving on, I will flick through and say the page and if there is something you wish to ask then please indicate and we will go that way. So, page 6, nothing further there? Page 7 - I had a question on trunk and I have just had it answered.

Page 8, there is a question I have on page 8 and it is about the two-year time frame. Is that enough to properly test the network in all situations? It is a simple question. People might say, 'What, two years, that is a long time', but you have a lot of different situations to test this thing under. You have a lot of different organisations that need to be satisfied with the way it



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is all operating. You are talking about a trial system. Could you give us an understanding as to that time frame being sufficient?

**Mr WILSON-HAFFENDEN** - We have certainly driven towards this implementation of the TMRN replacement because that is the strongest time binding arrangement. That is the one that we have one-year extensions through until 2023. I guess to that extent we are proposing that the replacement will be by September 2022. That does leave us with 15 months, potentially, of operating in a dual environment where we have the existing TMRN as a back-up if required. I guess - and again I defer to Andrew, if required, in this respect - but we have a demonstration pilot system that will give us a feel early in the piece for the operations, I think 15 months generally. I would have to say, once you transition across onto something it has to be quite dramatic to have to roll back. So I would think we would have liked to have identified any of those issues well and truly within that period. It gives us some confidence, I think, that we will be in a position where the network - and I should also call out, I guess, that that transition across in September 2022 is after we have undertaken user acceptance testing and a variety of other processes. As we always know, that does not necessarily flush out every single issue and some of those come up once it is in the heat of battle.

**CHAIR** - Is there a form of parallel running there that is likely to occur, or is it a bit difficult with a radio?

**Mr WILSON-HAFFENDEN** - Yes, I will defer across to Andrew here in a second. I guess one of the things is we will bring in the new consoles and so forth, earlier. As Andrew mentioned, in the communication centres we'll have the consoles, we'll use the existing legacy networks on the new consoles so they'll flush out some of those issues, if there are any.

In terms of the transition and parallel running, there is capability for us to dual-fit radios into the vehicles. We've got the existing radio and the new radio. Andrew, in terms of switching across onto the new network and parallel running?

**Mr WELLWOOD** - That's right. The proposed approach will integrate the existing networks into the TasGRN so that you will be able to operate between the two networks and the vehicle. The intention is to dual-fit radios into the vehicles as well. We'll be able to operate on the existing radio network. As Scott said, they will transition first within the communication centres and they will have new consoles that can access the legacy network, but on the TasGRN consoles. Progressively, as we move through the coverage phases, the users will then transition from the radio in their vehicle that is operating on the legacy network to the radio that is operating on the TasGRN. They won't immediately de-install those radios. Those existing networks will continue to operate in the background. Radios will be available in the vehicles. There is a dual period, or there is availability of the existing networks. We are not expecting that will ever be needed but they would be available with a dual running, as you have said.

**CHAIR** - How long would that likely to be for, Andrew?

**Mr WELLWOOD** - I think it probably depends on the user organisations. Anecdotally, there has been a period of approximately 12 months they have been outlining they would like to have those networks available. Not necessarily using them but potentially available.

**CHAIR** - Thank you for that. Any other members with a question on page 8? Going to page 9. I have one on key dependency. In the middle of page 9 they say 'end of life assessments

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undertaken by Mingara highlighted the number of common governance issues across existing radio networks and operation, including accuracy, completeness and currency ... a high reliance on key individuals for system knowledge'. How are you intending to address that?

**Mr TILYARD** - Fundamentally through a managed service. Mostly that reliance on key individuals applies to the analogue networks that are not a managed service, whereas under the proposed arrangements, Telstra, as the provider of the service and therefore the radio capability, is responsible for making sure we have the right expertise available at any particular time.

**CHAIR** - Coming from an IT background myself, we used to have a knowledge base. That knowledge base used to be something that any member of staff could log into and find out what the latest communication was, say, for instance, with a service provider. It was a system that didn't rely on somebody coming back to work. I am interested in that.

**Mr WILSON-HAFFENDEN** - That high reliance on key individuals is for our existing analogue networks, which are run internally. Some of you would have met Garry at the sites this morning.

**CHAIR** - Garry Sullivan, yes.

**Mr WILSON-HAFFENDEN** - Garry Sullivan has extensive experience, et cetera, within the emergency service in supporting those networks. One of the things coming out of the end-of-life reports that Mingara undertook for us was while we started to look at what we needed for the new network, the first component was what we needed to support the existing networks through the commissioning of that. There has been significant documentation around the existing networks and what is required to support those. We have broadened the knowledge base within the individuals within the communication and technology support area to support that. There is also a challenge, as we note. Analogue radio is an end-of-life technology and it is probably not one, if you are looking to a future, you are going to build your skill sets around. We have undertaken a lot of documentation to support that, but there is still an urgency to move away from that.

**Mrs PETRUSMA** - Getting back to page 9, looking at this information, it looks as if with this new system we are going to get more economies of scale, greater cost efficiencies, no ad hoc systems being built and used, and where government is concerned, clearer line of sight and knowing how much money is being spent on one system instead of the five disparate systems at the moment. Is that correct?

**Mr WILSON-HAFFENDEN** - Yes. I think the managed service provides some certainty in terms of costing, notwithstanding users may have additional requirements as we move forward, but it is within the framework of that managed service. At the moment where they are in-house services it is very much reliant on a capital build program and break fix. There is no certainty necessarily around what the forward financial forecasts might look like for some of those systems. To that degree, yes, we should have greater certainty moving forward.

**CHAIR** - Annual reporting of the new system; it says on page 9, 'these isolated management and investment arrangements constrain holistic whole-of-government investment planning'. I am thinking to myself, is Police, Fire and Emergency Services going to be reporting on the operation of this system, or how do you intend to report to parliament?

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**Mr TILYARD** - We certainly will be to parliament and to government. We will establish a management unit within our agency that will be responsible for essentially managing the relationship with the contractors. It is around contract management. There will be network performance reporting required of the provider that will be reported to that unit. That will be the basis of reporting to government on how the network is operating and everything associated with it. It will be through our agency.

**CHAIR** - In terms of future investment in the system and broadening the system, I can see that local government is not involved upfront at this point in time. Neither are some others. Marine services aren't involved. I'm interested in understanding how that might evolve over time?

**Mr TILYARD** - We will look at establishing a management board, for want of a better term, which will have representation from other agencies like Premier and Cabinet. That mechanism will be the decision-making body in terms of changes to the network as well as future opportunities for other users to come on board and make recommendations to government in that regard.

**CHAIR** - Given this system is going in to make sure we have very good communication in the event of disasters, I am aware that local government often plays a role in the disaster scene, whether it be equipment being used and personnel being used and the like. How are they going to be able to key into this system when we have this new P25 system overarching and then you have a local government system, which is certainly not P25 compliant, I imagine. How do you see that operating?

**Mr TILYARD** - We have been engaging in some local governments through the consultative process.

**Mr WILSON-HAFFENDEN** - Local government works very closely with the State Emergency Service and the State Emergency Service sits to the side of many of the local government bodies. They are probably our key contact back in through there at the moment. The State Emergency Service will come across on to this network. Quite often, for the purposes of working within local government, they provide that key arm. We are also starting the discussion with local government. At the moment they have been investing in their own radio systems, and I guess in the current day and the current environment, those radio systems that they develop themselves don't have any interaction back into - I won't necessarily say that. My understanding is that they don't have any interaction back into the core emergency services systems. I guess we would like to get to the stage where that is an interactive environment, but for the purpose of it in the first instance, that key interaction will be through the State Emergency Service.

**CHAIR** - Will the same go for TasWater and Tasmanian Irrigation, being suppliers of water in an emergency circumstance?

**Mr WILSON-HAFFENDEN** - Yes, certainly, and I guess we will look at it. Coming back to that earlier discussion from a funding perspective, et cetera, I guess one of the barriers to this project in general has been the significant cost of the project. A number of the organisations have indicated that they simply cannot afford to participate because they develop

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a local system which very much serves the need of them locally but of course it doesn't provide that interaction, that statewide coverage, the emergency alerting-type scenario.

In developing this project, a barrier to moving forward was, can we afford to move on and if we only want these requirements but police need encryption, can we afford to pay for that? One of the decisions in the funding model was to develop something which wasn't a barrier for user organisations to participate. I guess that would be one of the considerations we would have to have in the future in working for other bodies. What is a sufficient motivation for users to participate, meet a level of cost which ultimately provides the best return to the state, and the safest and securest environment for all people to work?

That will be a challenge for us working forward. We certainly have some of the issues around the cost of handheld equipment, et cetera. We can certainly factor those into our contractors, simply an additional unit cost, then broader access to the network we would have to work through.

**CHAIR** - And the air services?

**Mr WILSON-HAFFENDEN** - I can't specifically speak to air services and the engagement we have had with them at this stage.

**Mrs PETRUSMA** - Scott, if other organisations like Metro, MAST and all those, if they want to come on board in the future when this is all bedded down with the core agencies and it is very functional, they will have the opportunity to come on board if they wanted to invest in it?

**Mr WILSON-HAFFENDEN** - I am happy for Andrew to comment on this. We have built the capacity within the network to meet the needs of the emergency services and meet the needs of our user organisations at the moment, with a component of futureproofing. I guess it will always come down to analysing what is the capacity for growth and what is the capacity to meet the needs of the other user organisations. We have seen that in other networks. Certainly, if I look at the New South Wales network, it has been an incremental growth where they have up to 30-odd users at a time.

As I said, the fundamental basis that we have built for the network at the moment is around meeting the emergency services' requirement.

Andrew, in terms of future capacity for other users, do you have any comments?

**Mr WELLWOOD** - Scott, it would depend on the way in which they are intending to use the network. To the extent that they were using it, say through existing inter-operability talk groups that were already there, then that would not have an impact. They would just be utilising those as part of events or some other emergency. So, to the extent that they were using it in coordination with the emergency services or existing talk groups, that would be an initiative. If they were using it in their own right, then there would need to be some analysis done as to what their impact would be on their own communications on the network.

**CHAIR** - On the ground, for people who are out in the middle of the wilderness fighting a fire, and water bomber X is coming along and is absolutely either drenching them or not

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putting it in the right spot, communication capacity between air services and on-the-ground personnel is going to be quite clearly established and functional.

**Mr WILSON-HAFFENDEN** - That is my understanding. I'll again defer to Andrew from a technical aspect to speak to that.

**Mr WELLWOOD** - That's right, there are obviously air resources, whether they be potentially used for firefighting or for medical emergencies. They've been considered as part of the TasGRN and they will be fitted with appropriate radios to provide communication from air to ground.

**CHAIR** - Okay, thank you, that's good.

**Mr ARNOL** - Mr Valentine, that may be better automated in future because when certain aircraft come into the state we do have to actually fit them now. So, we do have the air-ground at the moment but it will be on the one network already.

**CHAIR** - So, there won't be the same complication?

**Mr ARNOL** - No, it'll be much easier to work across borders.

**CHAIR** - Okay, thank you very much for that, Mr Arnol. Okay. No other questions on page 9? Page 10. We've talked about capability, I suppose, but any further questions here?

**Mrs PETRUSMA** - Just for the record, is it possible to have a basic explanation of what a P25 network is and how, in the future, that can lead on to a long-term evolution network as well? How it is being futureproofed by allowing other technologies, more advanced technologies, to come in to play in the future?

**Mr WILSON-HAFFENDEN** - I could stumble my way through that, or I could hand it straight across to Andrew to explain.

**Mr WELLWOOD** - The P25 is a Project 25 network. It's a set of standards that are used for mission critical communications. When we refer to the LTE or what we term as an overlay network, as part of the TasGRN procurement we are procuring the P25 mission critical network, but we're also seeking for the service provider to provide broadband push-to-talk capability. So that is a capability that will operate across the commercial carrier networks. It's a complementary capability, it's not a replacement. It allows agencies to start to better understand how those broadband-over-commercial-carrier networks, how the LT operates. That's something that is progressively being developed and we would see that over time they could start to consider how they may progressively use more of that capability in the network. It will be provisioned with a broadband push-to-talk capability, and that could be extended in the future.

**Ms BUTLER** - Can I ask a question on that, Andrew? It's a technical question. In the last paragraph, it's written narrowband data capacity, or capability. What's the difference between a narrowband and a broadband?

**Mr WELLWOOD** - In layman's terms, narrowband effectively is a very slow, small information that you can pass across the network versus broadband where it is high volume,

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high speed information, sort of like video. The narrowband is like small packets of information that you could pass across the network.

**Ms BUTLER** - Okay.

**Mr WELLWOOD** - It is a bit like text messaging in your narrowband versus multimedia video in broadband.

**Mr WILSON-HAFFENDEN** - Andrew, am I right in explaining that essentially within the radio it largely uses the voice communication and has the capacity to send some narrowband data? For instance, we might use that for a duress alarm. So, if a person's in strife that can send a message back.

The broadband push-to-talk element can also utilise the radio, so from a phone for instance, you could have a broadband push-to-talk licence sitting on this phone which effectively makes that operate the same as your radio in keying into your radio communications but it is reliant on the commercial networks. Is that correct, Andrew?

**Mr WELLWOOD** - That's correct. So you can communicate with people who are on the P25 network, potentially via smart phone via a commercial carrier network.

**Mr WILSON-HAFFENDEN** - While you have all that inherent resilience in the radio network, what you are utilising in here communicates into your radio network but it does not have that level of resilience. You are still dependant on that commercial network being up and operating.

**Mr WELLWOOD** - Correct.

**CHAIR** - No further questions on that page? Moving to page 11. I have one question on page 11 regarding satellite communication. Are we incorporating satellite communication in this system?

**Mr WILSON-HAFFENDEN** - My understanding is that we will incorporate the capacity for satellite phone to talk into the network. We are not developing specific satellite radio capability. Andrew, are you comfortable to talk to that?

**Mr WELLWOOD** - Yes, there will be availability for satellite phones to connect back into the TasGRN network and potentially using satellite communications for back haul from deployable sites back into the network as well. That is the basis of the satellite comms.

**CHAIR** - That improves coverage?

**Mr WELLWOOD** - Absolutely. There is a deployable capability within the network where you can effectively have a deployable radio transmission site that you can take out to an area that would provide temporary coverage into the network.

**CHAIR** - Thank you. I have a question on page 12. You have two electricity supply industry organisations: TasNetworks and Hydro Tasmania. Are wind farm operators likely to ever be involved with regard to emergency arrangements. Is there ever going to be the point

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where they need to be contacted to turn on or off their generation? Have you even thought about this? Should they be incorporated? I should be asking the fire chief.

**Mr ARNOL** - On the point of the use of the wind farms, while they are not a particular threat it is common for us to ask them to stop generating. That is done with the incident management team probably direct to the company. As far as the radio network goes, I have not personally been part of any planning. I would have to ask the manager of the project.

**CHAIR** - Thanks for that, that is fine. Page 13? Page 14?

**Ms BUTLER** - With that list of other groups that will eventually come in, in different phases, where does the Department of Health fit in with that? Would they be one of those?

**Mr TILYARD** - If the Department of Health had a desire to be part of the government radio network then we would obviously discuss that with them. The extent to which they actually use radio communications I am not certain. As an inner-government agency we would certainly be happy to talk to them about any desire they might have to utilise the network in some way or in some locations.

**Ms BUTLER** - In each of the regions there are hospitals and health centres.

**CHAIR** - With regard to the reference design, did the other stakeholders that are not being incorporated at the moment attend any of the workshops to see whether they had needs outside what the other stakeholders may have been expressing?

**Mr TILYARD** - I will hand over to Scott, but at this stage they were not engaged at that level.

**Mr WILSON-HAFFENDEN** - Andrew was involved in a number of those workshops, but my understanding is no. We have spent the best part of 10 years trying to get eight stakeholders to agree.

**CHAIR** - Let alone expanding it. Is that what you're telling me?

**Mr WILSON-HAFFENDEN** - Yes. We looked at the Queensland GWN and it was quite interesting, and my engagement with Parks. The GWN was limited to the emergency services. Here in Tasmania we tend to work closely with the land management agencies and the electricity supply industry. Our focus was trying to get those eight core users involved without expanding the coverage where we would need to have multiple other organisations involved. We have certainly had engagement with a number of those, talking about what the project is doing and some of our time frames, but I don't believe we have specifically looked at their requirements.

**Mr WELLWOOD** - No. The requirement workshops were held with the eight user organisations listed that are going to take advantage of the TasGRN.

**CHAIR** - The question is, are you comfortable it is unlikely they are going to have such specialised needs that they wouldn't be able to participate in the network further down the track? That is why I asked the question.

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**Mr TILYARD** - Given the diverse nature of the organisations that are currently part of the network, it is likely that the network will have the functionality to cover the needs of most of those other entities. It is difficult to say until you work through the process. Looking at the list we have compiled, and the types of communications they are likely to need and the locations, we could be relatively confident. It is a matter for them as to whether the network could deliver on their requirements. But I would be reasonably comfortable that if they come to us and want to be part of it, that the network could be capable of handling their requirements.

**CHAIR** -. Thank you.

Further questions on page 14? Page 15? Page 16? On page 16 you say 'while each of the strategic options meet the majority of the user organisations' operational business requirements, strategic option 2 meets more requirements than strategic option 1, while strategic option 3 meets more requirements than strategic option 2'. Some of the ideal inclusions were left off. Can you cover some of that? Jacquie might have asked this question during our site visit. Is that correct?

**Mrs PETRUSMA** - Yes.

**Ms RATTRAY** - Gold-plated versus what we can afford?

**CHAIR** - Yes.

**Mr WILSON-HAFFENDEN** - Andrew, are you happy to speak to that. You could probably speak to that with a bit more detail than I could.

**Mr WELLWOOD** - Yes. Without specifically talking between the options, I don't have that information available to me at the moment. Out of the requirements in each of those options we created different designs specifically trying to address a majority, if not all, of the inter-requirements. To some extent some of those requirements didn't naturally fit within the solution. I am trying to find some examples here. For instance, there are number of different levels of requirements.

One of the requirements of an agency was around single vehicle fit-out process, which isn't a characteristic of the network we were establishing but how vehicles are installed. That was a requirement of an agency. They wanted a single fit-out process, meaning not just their radio but other elements of the fit-out of their vehicles, and that is probably something to consider downstream through the implementation, and whether that can be addressed with the service provider - but it wasn't something we could build into the reference design at the time.

There were also other requirements around 24-hour management of duress - which again wasn't so much a requirement of the solution, but how the different agencies might inter-operate to support each other, where an agency may not operate a communication centre 20-24 hours.

So, there were a number of requirements that didn't naturally fit into the solution, and therefore not all of those requirements were addressed. Safe to say that with the option 2 that was selected, it was re-verified with all the user organisations that they were happy to move forward with option 2, outlining what it did deliver for them, and that it would be able to meet their overall operational requirements and they were comfortable with it. It is difficult talking specifics around those requirements at this stage.



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**CHAIR** - Thank you.

**Mr WILSON-HAFFENDEN** -Chair, I will add that one other key driver between strategic option 1 and strategic option 2 was around the inclusion of the broadband 'push to talk' which we spoke to earlier, in that it provides that engagement from a connection back into the LTE networks, and probably the UHF coverage to more towns than was envisaged under strategic option 1. Under strategic option 1, the UHF coverage was limited to the major cities, whereas strategic option 2 expands that out slightly further.

Strategic option 3 started to move a lot more to the LTE-type capabilities and some of the more remote coverage areas.

**CHAIR** - LTE is 'long-term evolution', just for the record?

**Mr WILSON-HAFFENDEN** - Yes.

**CHAIR** - Thanks. Any further questions on page 16, 17, 18? I think we have answered quite a number of the questions we had on the way through.

**Ms RATTRAY** - That overview gets you.

**CHAIR** - It does. It is an important aspect, but it does cover some ground. Page 19?

**Ms RATTRAY** - One question in regard to Tasmania's topography. Under 6, the National Strategic Context of the Tas GRN, it talked about operating in frequencies other than 400 megahertz in regional areas. I have an interest in regional areas, as a local member. I think it is fair to say we will have some areas that won't be covered. No matter what we do and what path we take, there will be areas that won't have the coverage that is perhaps seen as being essential. How many of those areas are we looking at?

**Mr TILYARD** - Significantly fewer under the proposed network than what we currently have. The issue regarding the 400 megahertz is that it is quite a high range of spectrum. There are benefits of that range for certain users. For example, it provides better penetration inside buildings, so if you want to use the radio inside a building, as police often do for example, you still have coverage and connection. There are benefits of using lower frequency ranges if you are outside in the country areas - for example as the Fire Service is, fighting bushfires and those sorts of things.

One size doesn't fit all in this scenario, given the challenges of our topography here in Tasmania in particular, the most difficult jurisdiction in Australia -

**Ms RATTRAY** - But the best.

**Mr TILYARD** - The best place, but most difficult for radio. So we need a network that is capable of operating in different frequency ranges, but doing it in a way that is seamless for the radio user if you are moving from one area into another.

**CHAIR** - Page 20?

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**Mrs PETRUSMA** - Just a general question: how is this network more secure than what we have currently?

**Mr TILYARD** - In terms of its actual usage operationally? At the moment, it is a combination of analogue networks, which are not really secure at all. You can go to the local radio shop and buy something to scan whatever anyone is saying on those networks. You can scan, listen to, record - whatever you want to do with it.

The TMRN is more secure in that it is a digital-capable network - but because of coverage issues we have with the challenges of our topography, even that network is often operated in analogue mode. We can talk using digital channels on that network, and we do have some digitally encrypted radios which can't be scanned. At the network level, it is usually operated in analogue mode, so it is subject to scanning - and there are people out there who regularly monitor these things and actually broadcast on social media what we are doing. Particularly for police and ambulance, you can appreciate that the nature of what gets passed over the air is quite sensitive sometimes. It can sometimes even be sensitive medical information, personal information.

We have developed ways over the years to minimise that, as best we can, but depending on what you are dealing with at the time, there are limits to what we can and can't put over the air. Sometimes we do need to put quite sensitive information over the air.

The new network will be digitally encrypted at the network level for those users who want that level of security, and this will essentially mean it can't be scanned and listened to by anybody. It is significantly better from a security perspective.

**CHAIR** - Especially ambulance, no doubt, given the sensitivity of the personal data that might be transmitted.

**Mr EASTHAM** - A lot of our radio communication is fairly limited, but with our patient information, this network will certainly provide some encryption whereby we will be able to pass sensitive patient information, but also provide support to our paramedics and volunteers in the field - and that might be enhanced medical support, and certainly some consultation by radio, rather than relying on other networks at the moment.

**CHAIR** - Turning to page 21.

**Ms BUTLER** - I have a question Mr Lloyd might be able to answer, regarding the project management system mechanisms to ensure that environmental and heritage protection issues are addressed early and monitored. How do you envision that these will be addressed early and monitored?

**Mr LLOYD** - Any of the infrastructure development, and so on is required to pass through its normal approvals processes and meet all the benchmarks that are required. It is very important that any of those issues, if they do arise or start to arise, are considered early in the process, and that is also a part of the project.

A lot of the basic infrastructure sites are likely to be existing sites rather than greenfield sites - and again, even if it is an expanded site or a new site, all of those environmental approvals will need to be worked through.

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Mr Wilson-Haffenden, do you have anything else to add to that?

**Mr WILSON-HAFFENDEN** - To confirm what Mr Lloyd just said, I think there is a limited number of greenfield sites - three greenfield sites - involved in the proposition - and to that extent, they actually aren't required, as I understand it, to be earlier components of the coverage of the TMRN. There is an expectation for the service provider to start the process around engagement, to obtain the appropriate approvals very early on in the process, because there is no expectation that we will be fast-tracking or stepping outside the normal approvals process.

One of the things certainly involved in the proposal is looking at power supply and generators for the number of sites we have. It has come a long way from some of the power supplies and generators we have had in the past. There is a focus on where that is in remote and sensitive areas, very much around low-emission equipment to support that.

As John said, Parks is coming on as a user of the network and will play that role as a user of the network. The process around engagement and approvals is really with the service provider to step through the normal processes associated with it.

**Ms BUTLER** - If you potentially have objections or a contractor that might not be Tasmanian, they may not understand some things, you wouldn't want projects potentially delayed if they weren't monitored properly. I am just making sure that things are in place.

**Mr WILSON-HAFFENDEN** - The contractor is well known. They have extensive experience within the state and so should be familiar with the processes that they have to step through to get those approvals, as they do with their commercial sites.

**Ms BUTLER** - With any of those greenfield sites, the potential sites for towers, it won't be large infrastructure, will it? Towers like we looked at today, is that what is anticipated?

**Mr WILSON-HAFFENDEN** - Again, I can pass over to Andrew. There are various heights of towers, ranging from one exceptionally large tower. There is commercial confidence around what we discussed there. The majority of sites will sit at 30 metres or below. I think that is reasonable to say, Andrew?

**Mr WELLWOOD** - That is right.

**Mr WILSON-HAFFENDEN** - The tower we would have seen at Mt Rumney might have been a 45-metre tower. That would be one of the very few larger towers.

**Ms RATTRAY** - The locals will soon let you know what is right and what is wrong.

**CHAIR** - That is what I was going to go to. On page 21 you talk about Tasmanian land and environmental heritage protection laws and state planning laws will also be considered. Is this a case where placement of those towers will require a planning permit under local government? Is that going to occur? Can you talk us through that? How many new sites might you be talking about? I know it is in here.

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**Mr WILSON-HAFFENDEN** - There will be three totally new sites. That is the limit of it. In terms of new towers on an existing site, it is a slightly higher number. Andrew, can you recall that number offhand?

**Mr WELLWOOD** - I am sorry, Scott. I can't offhand.

**Mr WILSON-HAFFENDEN** - I think it was around 30-odd. Wherever they are they will have to step through the planning process. Obviously, that is an issue that we address with the tenderer. We expect them to ensure that those processes are in place and have been factored in in developing the schedule that they will be accountable to.

**CHAIR** - Some of those existing sites might have multiple towers on them and some would be removed, possibly, under this?

**Mr TILYARD** - Apart from the three greenfield sites, they would all be sites that currently have one or more towers. It is a case of replacing one or more towers with a new tower. The difficult thing with radio networks, as people have said since this project began, is gaining access to a site. The tower is relatively easy once you have access to the site like a road, the power to the site, actually owning or leasing the land area that you need for the site, that is the complex part.

That is substantially covered in this project because we are using a combination of sites that the state already has and operates and the vendors' existing sites to the point where there are only three new sites among 130-odd sites that are required for the network that have to go through the proper process of the right approvals, with a vendor who is used to these processes, including here in Tasmania. We are comfortable. The report talks about how we will engage with local communities and local government to provide information and address any concerns they might have about changes to a site when upgrading a tower. Apart from the three greenfields sites we are not acquiring access to new land, putting in new roads or putting in power. That is already existing for the vast majority of the sites.

**CHAIR** - Any further questions there? Moving over to page 22, nothing there? Page 23? Page 24?

**Mrs RATTRAY** - You might have to revise the annual visitor numbers, Chair.

**CHAIR** - I am sure that there is a fair bit to be revised when it comes to those sorts of things, unfortunately. Page 25? Page 26? Page 27? Page 28? We have covered what is on most of those other pages, I believe. Page 29? Page 30? With regard to page 30, the fourth dot point at the top of the page, 'Recording and logging of voice communications and associated metadata'. Does this mean that you record whole conversations for particular purposes? Could you give us an overview on that side of it and what they might be used for?

**Mr TILYARD** - Certainly they are recorded and logged. For example, you did a site visit to the police radio room today. Given the nature of the types of calls received from people in very emotional circumstances - screaming, yelling, those sorts of things, it is not always easy to pick up what is going on at the time and hear what is being said. The operators can replay the message that they have heard and make sure they pick up on relevant information if, for example, and this does happen, they scream through something.

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**Mrs RATTRAY** - Or they are crying.

**Mr TILYARD** - That is right. You call them back, you can't get them, so you try to listen to the message again. We also need to maintain copies of these recordings for things like future coronial inquests. There is the need for these things to be time logged when they come in, the duration of the call, the call itself. That's a feature of every radio network, the capability for voice recording and logging of calls. I don't know whether Scott or Andrew want to comment further on that but it is a functionality of the system that we obviously require. We do have that functionally now, certainly with the TMRN. It is part of the business requirement for this sort of network.

**Mr WELLWOOD** - I am happy to say that all of the radio communications across the TasGRN are recorded for the life of the contract.

**CHAIR** - Thank you. Page 31? Page 32? Page 33?

Okay, governance, the board, is that going to be external to government or internal? Can you describe it?

**Mr TILYARD** - It is intended to be internal to government. The precise composition has not been determined at this stage but it will be a board of senior decision-makers to make the strategic decisions associated with the network. That will include discussions going forward about potential future users as well.

**Ms RATTRAY** - Wouldn't that need legislation to establish that?

**Mr TILYARD** - It shouldn't. Some of the other jurisdictions have actually established statutory bodies to manage it, like New South Wales, for example. We don't feel that that is necessary here in Tasmania unless government felt that it was something that they wanted to do.

Certainly, in terms of the proposal that was put up in the business case, the recommendation was that the Department of Police, Fire and Emergency Management be responsible for managing, with the service provider, the radio capability going forward.

**Ms RATTRAY** - That will please a couple of my members. Too many boards.

**Mr TILYARD** - When I say 'board', it is really a high-level committee-type arrangement.

**Ms RATTRAY** - An advisory group-type of arrangement. Maybe we could use another word for it.

**CHAIR** - There are a couple of diagrams there. Does anyone have any comments on those? Page 37 'Considerations and strategies for community engagement'?

**Mr LLOYD** - Can I add one comment in there? I joined the Parks and Wildlife Service in late October of last year and hearing some of the history from my colleagues - but also my colleagues here in relation to how this project has been run - I think one of the strengths that is emerging here and hopefully gives you guys some confidence is in relation to the governance processes and the communication through and across various agencies.

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Before we leave the governance space, it has been interesting for me to observe that issues at the agency level and across agencies, there is a really good, robust system to deal with those issues, to seek an understanding across those agency groups and work a way through resolving those. It is not just in the earlier business needs phase, it is also occurring right through the process. I wanted to pass that on to you as a reflection since I have been in the Tasmanian State Service.

**Ms RATTRAY** - We do like to hear good, positive feedback. Thank you.

**Mr LLOYD** - Now that I have said it, we have to make sure that we keep on that path.

**Ms RATTRAY** - That will be a question that I will be asking at the Estimates process, so put it on notice, John.

**CHAIR** - He will make sure he's not there. Page 37:

The project is working within the parameters of the Tasmanian Government framework for community engagement.

Exactly where is the public being dealt into this consultation process? Can someone give us a broad outline?

**Mr TILYARD** - We have a website for the project and that will be maintained throughout. In terms of local issues they might have around sites and those sorts of things, the intention is to engage with the local community; provide, for example, information sessions; if necessary engage with local councils as well in terms how we will do that, going forward.

**Ms RATTRAY** - And the MPs? That would be handy.

**Mr TILYARD** - And MPs. It is a very open process in terms of consultation and stakeholder engagement with the network.

It is a good thing for all Tasmanian communities so we are very happy to talk to people about it.

**CHAIR** - I guess it's members of the public knowing it is there to be looked at is half the problem, so if you have some sort of a publication process.

**Mr TILYARD** - Yesterday, the Government formally announced the contract negotiations with Telstra so I think that will then raise the public awareness that it is happening and there are negotiations currently underway. As we go forward, obviously a contract signing would be the next key milestone and then there will be more and more information being pushed out as we are building the new network.

**Ms RATTRAY** - I will be letting my community know when I post photos from the top of Mt Rumney that I have been here today.

**CHAIR** - Any further questions on page 37, page 38?

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**Ms RATTRAY** - Decommissioning of existing infrastructure: are we able to sell anything and get some money back for what we will not be using anymore? Andrew, is there any market for second-hand telecommunication infrastructure? That might be a question for Ross.

**Mr ALEXANDER** - I am always happy to sell things as well as buy them.

**Mr WELLWOOD** - Do you want me to go first, Ross?

**Mr ALEXANDER** - Yes, go for it.

**Mr WELLWOOD** - Decommissioning depends where it is obviously. It is a consolidation with the five networks that are there so there maybe decommissioning of existing sites that might occur through that. I am not sure that there is a market for those decommissioned sites that are there but, certainly, there are cost efficiencies in reducing the number of sites that you need to maintain across these networks as well.

**Ms RATTRAY** - I was thinking more of the actual infrastructure that you will not be needing anymore.

**Mr WELLWOOD** - The current radio networks that we are operating on are quite old and I do not think there is going to be a market for selling off that sort of infrastructure, unfortunately.

**Ms RATTRAY** - Ross, I was going to say what about Men's Sheds?

**Mr ALEXANDER** - A little bit of scrap metal, generally in these types of infrastructure there really is not a market for it so it is really about decommissioning what is already there in order to reduce your future liability associated with having excess infrastructure.

**CHAIR** - I remember remarking on somebody's fence, how robust the fence was. It was a steel fence and it had been there for many years. I said, 'Where did that come from? That looks very, very tough'. They said, 'The old New Norfolk bridge'.

**Ms RATTRAY** - We will be asking some questions about where that old steel is going to because Jen and I and Jacquie might be able to move it onto our Men's Sheds.

**Mrs PETRUSMA** - How many sites are there potentially to be decommissioned?

**Mr WELLWOOD** - I do not have the detail of that either. I think there are two elements of that. One, obviously those sites that are direct replacement by the TasGRN will be decommissioned but I do not have at hand how many that would be. Those sites may be used for other purposes as well, other than current radio communications and therefore would need to continue. I do not have the exact numbers, sorry.

**CHAIR** - Assuming there might be structures on those sites that could be removed and with new towers being put up - that could be the case, couldn't it?

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**Mr WELLWOOD** - Yes, that is right. There may be a transition across from some of those structures onto new towers if that is what you are outlining as a part of that to allow decommissioning as well.

**CHAIR** - Thank you. Page 39, page 40, page 41, just the road map. I take my hat off to any project manager trying to corral all the agencies involved in a project like this. To that point, I guess it is fair to say that you would have a functioning risk register which is readily maintained?

**Mr WILSON-HAFFENDEN** - Certainly we have a functioning risk register which is updated. If a risk hits a certain level it is updated and provided to the steering committee on an ongoing basis. The other side of that too, and it is an important element and probably leads to what John was discussing earlier, we have engaged an agency lead, a user organisation representative, from each of the agencies which is working within the project. They will have visibility over and developing their own plans so what each of those agencies is required to do aligned with the overall internal TasGRN plan and then the service provider's plan. Nearly all of those user organisations, in addition to the governance arrangements we have set in place within the project, is establishing or has established their own governance arrangement within their user organisation as well. They are reporting up to their steering committee representative who is normally at a Deputy Secretary level, as to how they are proceeding in line with their project plan.

**CHAIR** - That is page 35.

**Mr WILSON-HAFFENDEN** - Yes.

**Mr TILYARD** - I might jump in there to say that whilst I chair the project steering committee, I am, for want of a better term, an independent chair. I don't represent Tasmania Police in that role. There is a separate Tasmania Police representative on the steering committee. I try to be independent.

**CHAIR** - Like every MLC.

**Ms RATTRAY** - Not everyone!

**CHAIR** - So, the implementation committee - every stakeholder would have a representative on that?

**Mr WILSON-HAFFENDEN** - Yes.

**CHAIR** - Moving along, I think we are on page 43? Any further questions on page 43?

**Ms RATTRAY** - I do have one last question, Chair, not really on page 43, but as we know, ABC radio has been the greatest asset that this state has had for many years when it comes to emergencies, disasters, whatever. Where do they fit amongst this new way forward, or don't they?

**Mr TILYARD** - The ABC is the recognised emergency broadcaster and will continue to be. They are not part of the network as such but essentially moving to a public safety grade radio network, the standards that are associated with public safety grade pretty much means



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that this network should be the last thing standing, even after the ABC perhaps potentially can't even broadcast, this network is still operating so our frontline responders can still operate safely out in the community. This is about resilience and that is why we invest in a network like this so it is the last thing standing when things get really bad.

**Ms RATTRAY** - Thank you. That is a great deal of comfort.

**CHAIR** - Deputy Commissioner, we have come to the end and maybe you might be interested in making a closing statement.

**Mr TILYARD** - Yes, I would, thank you, Chair. Thanks for the opportunity for the committee to hear and understand a little more about the project. We hope that you also benefited from the site visits this morning to one of the tower sites and to one of the despatch centres. There has been a lot of work over a significant period of time put in by a lot of people to get the project to the stage where it is at now. We have been informed by our good advisers, and you have heard from two of those today.

As the chair of the steering committee and sponsor of the project I request that the Public Works Committee please approve the project so we can continue on with it and deliver a Tasmanian government radio network to the people of Tasmania.

**CHAIR** - Thank you for that. We have a few questions for you before we let you go.

**Ms RATTRAY** - These are the hard questions. What we had were the easy ones.

**CHAIR** - Do the proposed works meet an identified need or needs or solve a recognised problem?

**Mr TILYARD** - Yes, they do.

**CHAIR** - Are the proposed works the best solution to meet identified needs or solve a recognised problem within the allocated budget?

**Mr TILYARD** - Yes, they are.

**CHAIR** - Are the proposed works fit for purpose?

**Mr TILYARD** - Yes, they are.

**CHAIR** - Do the proposed works provide value for money?

**Mr TILYARD** - Yes, they do.

**CHAIR** - Are the proposed works a good use of public funds?

**Mr TILYARD** - Yes, they are.

**CHAIR** - Thank you very much for that and to remind you, as we advised at the commencement of the evidence that you have provided today that what you have said to us here today is protected by parliamentary privilege. Once you leave the table you need to be

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aware that privilege does not attach to comments you may make to anyone, including the media, even if you are just repeating what you said to us. I remind you of that.

Before I close the public portion of our meeting today I formally acknowledge the service of Joan Rylah, MP, member for Braddon, who was a member of this committee for five years and two months in total. She had two years as chair and one year and four months as its deputy. I am sure she would have liked to have been here today because she is always very interested in these sorts of things, especially with financial aspects, being from that field. We publicly thank Joan for her service to this committee over that period of time.

Thank you all and thank you for those who we have Webexed in. We appreciate it. It has added significantly to our evidence today.

**THE WITNESSES WITHDREW.**

**The committee adjourned at 4.32 p.m.**