



Australian Government
Department of Industry,
Innovation and Science

National Radioactive Waste Management Facility

Barndioota Consultative Committee

Meeting Notes

Wednesday 26th June 2018

Agenda

Time	Item	Lead
Tea and coffee available from 09:30		
09:30-09:35	Welcome to country	Aaron Stuart
09:35-10:00	Housekeeping <ul style="list-style-type: none"> - Apologies - Overview of the meeting agenda - Approval of the Draft Notes of meeting of 15 May 2018 - Observer Protocol – meeting attendees 	Greg Flint, Independent Convener
10:00-10:30	Project Update & Introduction of new General Manager and Taskforce	DIIS, Sam Chard
10:30-10:45	Morning Tea Break	
10:45-12:00	Safety & Security <ul style="list-style-type: none"> - Monitoring of similar facilities - ARPANSA licencing & regulation - ANSTO safety case 	ANSTO – Hef Griffiths
12:00 -13:	Lunch Break	
13:00-14:00	Concept Design <ul style="list-style-type: none"> - What the facility will look like - Identification of operational zones 	ANSTO – Hef Griffiths
14:00-14:30	Rad Waste Worker – Description of the role	ANSTO – Mitchell Timpano

Attendees:

Greg Flint (Deputy Convener)	John Rowe	John Rowe
Ashley Haywood	Jon Gill	Julia Henderson
Susan Andersson	Victor Clark	Aaron Stuart
Dianne Ashton	Steven Taylor	David Michael
Denise Carpenter	John Hennessy	Cecilia Woolford
Ronald Daniel	Janice McInnis	Philip Fels

Apologies:

Paul Thomas (Convener)		
Rachel Vella		

Other Attendees:

Name	Organisation
Sam Chard	DIIS: NRWFM Project Team – General Manager
Ian Carter	DIIS: NRWFM Project Team – Manager of Community Consultation Team
Adam White	DIIS: NRWFM Project Team - Community Consultation Team
Zaheer McKenzie	DIIS: NRWFM Project Team - Community Consultation Team
Howie Fei	DIIS: NRWFM Project Team – Technical and Policy Team
Hef Griffiths	ANSTO, Chief Nuclear Officer
Mitchell Timpano	ANSTO, Waste Technician

Observers:

Name
Sue Tulloch

Action Items

Item	Status
1. Confirm the cut off date for ballot enrolments with the Flinders Ranges Council	Complete
2. Publish Radioactive Waste contact details in the newsletter so that community members wishing to observe have a contact point as well as committee members	Complete
3. Publish Economic Working Group	In Progress
4. Provide Mr Griffiths Safety & Security presentation	Complete
5. Department to provide information on how security arrangements to be determined	In Progress
6. Provide Mr Griffiths Concept Design presentation	Complete
7. Provide Mr Timpanos Waste Technician presentation	Complete

Meeting opened 09:30am

Welcome to Country

- Aaron Stuart gave a Welcome to Country.

Housekeeping

Discussion

- The Deputy Chair introduced the newly appointed member of the BCC who gave an introduction of himself.
- A member followed up on an action item from the previous meeting. The member asked about what advertising had the Flinders Ranges Council (FRC) done in regards to enrolment for the vote and that they expected more advertising to be done.
 - The department advised that they have advertised in their local council newsletter and that the council dictates how much advertising is done for the ballot.
 - A member asked when the cut off date for enrolment was?
 - The department advised this is a matter for council.
- Members discussed the process for observers to attend the BCC meetings and that contact details should be made more public.
 - The department advised that the process is that a member of the public would contact a member of the BCC if they wish to observe. The member would advise the convener that somebody would like to come and observe. The convener would then issue an observer protocol for the observer to sign and they could attend the meeting.
- A member asked about the Economic Working Group (EWG) minutes being sent to the committee.
 - The department advised that they will publish the notes on the NRWMF website.

Action Items:

- *Confirm the cut off date for ballot enrolments with the FRC*
- *Publish convener contact details in newsletter for observers*
- *Provide the EWG minutes to the committee*

Approve draft notes of 15th May 2018 meeting

Members approved the notes from the 15th May 2018 meeting.

Project Update

Sam Chard introduced herself as the new General Manager of the taskforce. She also provided an update on the project including:

- The latest factsheets that have been released and the next topics to be released.
 - The factsheets to be released before July 23rd 2018 are:
 - Regulatory Frameworks
 - Safety Case and WAC overviews
 - Cultural Heritage
 - Transporting Radioactive Material
 - Concept Design
 - Site Characterisation
 - Long-term Community Benefits
- The FRC had agreed to facilitate the ballot for community support.
- The draft site characterisation report is being reviewed by the department and is expected to be released next month.

Discussion

- A member raised that the continuity of staff from the department has been quite poor and hasn't helped to develop trust.
 - The department noted the concern.
- A member asked whether the committee would have a chance to give their input on the design of the facility?
 - The department advised that it is a long process to develop the design. The factsheets will be preliminary in the design process. None of the design has been finalised so there will be a chance for feedback to be given and some of the design aspects won't be settled until a site is chosen.
- A member raised that there are still a lot of unknowns.
 - The department said they're providing all necessary information some of it can't be finalised until a site is chosen.
- A member raised that they thought the process hadn't been world's best practice and they heard that processes in Europe had been much longer.
- A member asked whether the socio-economic benchmark study undertaken by the University of Queensland (UQ) will investigate the critical response that emergency services would undertake in response to a possible incident?
 - The department said that they would check with UQ what their analysis will include. Information on the emergency response would be more likely covered in the safety case as that is developed.
- A member raised whether information on the reclassification of barrels at Woomera will be released before the vote?
 - Mr Griffiths from ANSTO advised that CSIRO are going through the process with ARPANSA and the department of defence to reclassify that waste. It won't happen before the vote. Mr Griffiths had heard that a majority of the waste will be low level. The material from Woomera won't come to the facility unless it meets the Waste Acceptance Criteria and that will be for CSIRO to undertake.

Safety & Security

Hef Griffiths, Chief Nuclear Officer at ANSTO, gave an overview of the safety and security requirements that will be in place at the proposed facility.

This presentation covered the following topics:

- Jurisdictions for Radiation Safety Regulation
- Safety Fundamentals
 - Waste Acceptance Criteria
 - Waste forms that are physically and chemically stable
 - No waste from other countries
 - No high level waste
 - No liquid or gaseous wasteforms
 - Safety Case
 - Design requirements for safety
 - Based on WAC and inventory
 - Normal operation
 - Accident conditions
- Designed for all scenarios
 - Identification of potential faults or failures, assessment of all potential consequences of incidents or accidents and identification of required controls
 - Wide range of credible accident scenarios
 - Review and approval process by ARPANSA and the DoEE
 - Engineered controls (alarms, shielding, multiple fail-safes on equipment)
 - Highly developed written policies, plans and procedures supported by training, supervisions and auditing
 - Internationally recognised quality standards for process management and environment management
- Arrival and disposal
- ANSTO's Nuclear Safety Management System
 - Based on three pillars
 - People
 - Places
 - Process
 - Three key outputs
 - A strong Nuclear Safety Culture
 - Fit for purpose plant and workplaces
 - Strong Nuclear Safety Assurance
- Key Factors in Improving Safety Culture
- Monitoring radiation levels in the workplace
- Safety of the Environment
- Local Environment Monitoring

Discussion

- A member asked whether the presentation will include anything on transport?

- Mr Griffiths replied that the safety case will substantiate all activities including transport. The assumption we are operating on is that the commonwealth will take ownership of the waste at the generating facility. Transport Safety Plans will come in as part of the operating licence.
- A member asked whether information on transport routes will be released before the vote?
- Mr Griffiths replied there is still some work to be done on that. Without knowing where the facility is, the transport route cannot be identified.
- The department added that there will be more information on transport in July.
 - A member mentioned that elsewhere in the world transported waste must re-route around towns who don't want to have the waste go through their town. Will we be given a chance to give that opinion?
 - Mr Griffiths responded that that will be decided once a facility is decided. ANSTO communicate with all federal, state and local council areas where we transport waste and they were all consulted.
 - Another member added that we already have radioactive material being transported on the roads.
 - Mr Griffiths added that other classes of Dangerous Goods are transported (for example Sulphuric acid) and some of that material will pose more of a threat than the proposed waste. ARPANSA will consult with people and undertake community consultation.
- A member asked whether it was true that when we send our spent fuel rods for processing, we don't receive the same waste back?
 - Mr Griffiths advised that he believed this had been discussed previously. The reprocessed waste is based on equivalence and what is returned is the same total radioactivity by isotope of waste that you have sent over, bar what would have decayed during the time overseas. Companies wouldn't process just the small amount of waste that a country like Australia would generate. What is agreed is what we are going to send, what is going to be extracted and what is going to get sent back. Australia sent some waste in the early 90s to Dounreay in Scotland and it would have come back in cement drums which would have been difficult to manage. In 2013 Australia was offered a substitution agreement. This offered us the chance to substitute the cemented waste from Dounreay of an equivalent activity of waste in vitrified form from the Sellafield facility. It meant that we were getting 4 vitrified canisters rather than 52 concrete drums. Ultimately it will allow us to have a lot more cost effective disposal.
- A member asked why the original load wasn't in glass as opposed to cement?
 - Mr Griffiths advised that in the UK the only place they reprocessed research reactor fuel encapsulated the residual waste in cement
- A member asked for clarification on the vitrification canisters mentioned were the same as the one at Lucas Heights? Are we expecting 4 more of those?
 - Mr Griffiths advised that he was talking about the canisters that go inside the big container. We will get another large container from the UK in the future and approximately another 3 from France during the lifetime of the OPAL

reactor. I tried to get the French and UK to put all the small canisters into one but we couldn't get them to agree in time.

- A member asked that the two large canisters will end up at the facility?
 - Mr Griffiths advised that they will. Following the return of waste from the UK, we don't anticipate getting any further waste back until 2045. If we have an ILW disposal facility before then they will send the waste straight to that facility.
- A member raised that in terms internal events such as fire, what would be flammable?
 - Mr Griffiths responded that something like an electrical system will be in the safety considerations. Control will be making sure material isn't flammable and ensure that we have no consequences from that.
- A member asked whether climate change will be taken into account?
 - Mr Griffiths replied that it will be taken into account. For deep geological facilities that is a significant issue for them. That is one of the differences between the operator facilities and waste disposal facilities because they span a lot further into the future.
- A member asked whether there will be a section on climate change to come out of the geological survey?
 - The department advised that they are unsure exactly how they are measuring that. We are working with AECOM and Geoscience Australia on the underlying risks.
 - Mr Griffiths added that when we get to the safety case then it would be predicated on other things apart from routine rainfall. It will look at what credible ranges of external events could be.
- A member asked what happens at step 3 in the LLW – preparation for transport slide (Slide 3)?
 - Mr Griffiths advised that any liquids are squeezed out when the waste is compacted. The liquids go down a specific line and are delayed in storage tanks before it is sampled. Ideally any free liquids will be picked up earlier. The drums are on a 2 year inspection cycle and we want to know what is in there beforehand.
- A member asked how the ARPANSA consultation process would be done? Will it be public?
 - Mr Griffiths said that they invite submissions and they run open forums. Part of the way they run is to confirm that any community concerns have been adequately addressed in the safety case or incorporated into the decision making. It is truly public but they take submissions.
 - The member raised that consequently that could be quite a while away once the licence is put forth.
 - Mr Griffiths added that things like the Environmental Protection and Biodiversity Conservation Act could take 2-3 years but the Department of Environment will work with ARPANSA. Generally most licencing processes take about 6 months but it could be longer for this facility.
- A member asked how would we go about the process of getting a geological site for disposal? Would it be voluntary again?

- The department advised that we haven't decided on that process at this stage. We won't start the process for the ILW disposal until we settle this process. There's potential once we establish the waste function. More than likely it would be led by the department.
- Mr Griffiths added that the only difference would be that it was geological and that would limit the areas that would be suitable.
- A member asked about the coverage of the storage. Is there an assumption that it would be dirt and bitumen?
 - Mr Griffiths said that it is based on what other countries have done. ANSTO are working with JACOBS at the moment who have experience working in the Australian environment. They need to come up with something that will work in the proposed environments.
 - Another member asked this meant that the structure will have coverage on top or on the ground.
 - Mr Griffiths advised that this will be on top. The idea would be to make more hills. Initial consultation was that people didn't want it below ground.
- A member raised that the two presentations were similar to previous presentations the committee had already received.
 - The department noted that the same questions are being raised and re-raised and we are re-confirming information as needed.
- A member asked that the previous model had had a tailing dam, will the final design include this?
 - Mr Griffiths advised that yes there will be a dam for runoff to capture any water on the site. All this water will also be monitored.
- A member raised that if the facility is on ground level then what would the foundation under it be? Samples from there have shown the ground to be quite sandy.
 - Mr Griffiths advised that this will be determined by the size of the vaults. AECOM's site characterisation work will look at the rock types.
 - The department added that the site characterisation work develops as it goes but the drilling work will assess the rock types below the surface so the bedrock will be measured.
- A member raised that it had been previously mentioned the facility would need counter terrorism officers, is that considered?
 - Mr Griffiths said that the security requirements will be specified by ARPANSA with possibly some input from ASIO. It will be based on the threat potential that they perceive.
 - The department added security arrangements would be managed by the facility operators, and that we will come back with an idea of how security arrangements would be managed.

Action:

- *Provide Mr Griffiths Safety & Security presentation*
- *Provide information on how security arrangements will be determined*

Concept Design

Hef Griffiths, ANSTO, gave a presentation on the initial concept design for the facility. He also explained the thought process behind some of the design, for example minimising moving parts in dusty or sandy areas.

Discussion

- A member asked whether the future vaults would be built as they were required or built initially?
 - Mr Griffiths advised that they would be done one at a time. One vault would be accepting the waste at the same time as another one was being built.
- A member asked whether the visitor centre would encourage people to go out and visit the site.
 - Mr Griffiths said that it would be open to the public as it was part of the user requirements to provide some attraction and utility to the community.
 - The member raised concerns that it might have adverse effects for neighbours out there working with livestock as they will have to work around more people going out there.
 - Mr Griffiths agreed that that was a good a point but the visitor centre is seen as an advantage at this stage.
 - The department added that it is an important point to consider, sites overseas have received tourist groups through them.
 - Another member added that it has also been discussed whether the tourist centre would be out at the facility or based in town.
 - Another member mentioned that any tracks to the facility which are close to Hookina Creek will need to have some level of protection applied to them.
- A member asked about a picture on slide 6 of Mr Griffith's presentation. Underneath where the crane is labelled, is that a manhole to check leaks?
 - Mr Griffiths advised that that is what it is for. It's the same design as the France facility and would have sampling pipes in there to take samples. The only time they see changes at the ANDRE facility is when the concrete settles.
- A member raised a question on the ARPANSA public consultation. First, if ARPANSA grant the LLW licence but don't grant the ILW licence for whatever reason, is the site dependent on both licences being granted?
 - Mr Griffiths advised that the Act is to establish the facility to manage Australian waste. If the ILW licence isn't granted that doesn't mean that we don't need a solution for LLW. The ILW will attract more scrutiny from ARPANSA, particularly around how long is planned to be held. Based on some regulatory decisions we've made at ANSTO recently, the regulator is starting to move beyond storage and wants to see a full life cycle.
 - The member asked what happens if the ILW licence takes 2 years, would you need to show ARPANSA that you are developing a process path for ILW within that timeframe? If it works that way then a process needs to start now.
 - Mr Griffiths responded that that is correct. Australia has been working on ILW for a long time. We have a cost effective and durable disposal mechanisms in Synroc and vitrified glass which can be disposed in

various ways. I believe that with Synroc and reprocessed residues that you could find a solution in the timelines given. Australia is also part of a working group to look at borehole disposal.

- A member asked about local access roads for the facility. Will the roads be fenced and are the local conditions being taken into account?
 - The department responded that we will be able to get to a point with the site design before a site is selected. The regulator will need to give a specification which can't be given until a site is selected. The regulator requires a high level of specificity in the site design and they will also go through their own consultation process.
 - Mr Griffiths added that the roads would need to serve a purpose. The fencing will need to be decided later but I can't see why the government would want to upset the neighbours.
- A member asked for clarification on the site suitability reports, will we see both the technical and summary reports? We would like to see both rather than just the summary reports.
 - The department advised that the WAC and Safety Case are evolving documents and won't be finalised by the time a site is selected. It is our intention to release a report with as much information as possible that will form parts of the Safety Case and WAC. The AECOM reports will be both technical and a summary and I believe they will both be available publicly.

Action items:

- *Provide Mr Griffith's Concept Design presentation*

Waste Processing Technician

Mitchell Timpano, Waste Processing Technician, from ANSTO gave a presentation on what his day to day job entails along with the benefits and safety procedures in his role.

Mitchell's presentation covered:

- Training and Qualifications:
 - Forklift and truck licence
 - Working Safely at heights & Working Safely in a confined space
 - Certificate 4 in Waste Management
 - Radiation protection & chemical safety training
- Safety and Protection procedures
 - Air filter testing
 - Water testing
 - Scan each drum individually
 - Personal employee radiation detection monitors
 - Database management – where the waste comes from and what's in it

Discussion

- A member asked how you remove contamination from the surface of materials?

- Mr Timpano advised with stainless steel they grind material off, clean it chemically and then break it down to scrap metals to be sold. The main step is to remove contamination from the surface.
- A member asked how the water is treated.
 - Mr Timpano responded that all water from ANSTO is treated before it goes anywhere. It gets tested and treated before being released.
 - Mr Griffiths added that things like rainwater from the roof will end up in a dam to be used.
 - A member asked for clarification that all water is collected? It all goes to a trap and then is processed?
 - Mr Griffiths advised that that is correct. It would likely be sampled first at the facility. ANSTO requires more obligations because it goes into sewage. Anything that leaves the site must be sampled so that by the time it hits public water it will be at a low enough level.
 - A member asked how would the waste be handled out here due to the environment? Are we looking at an evaporative pond?
 - Mr Griffiths advised that all the run off will be stored and be sampled. Then they will decide what treatment the water needs.
 - The department added that the Department of Environment's *Environmental Protection and Biodiversity Conservation Act* presentation at the April meeting covered this topic. There will be a number of checks to address concerns of what happens on site and to the environment to determine what is the best option. As the site selection process continues the Department of Environment will become more involved.
- A member asked for clarification on what Mitchell is looking for when inspecting packages and what protection is needed?
 - Mr Timpano advised he is checking the scanning package for radiation and to ensure that the contents are the same as what the client has told us. If there is an unexpected item in there he will follow it up with the area where the waste has come from. The waste is then individually scanned and added to the database. Mr Timpano advised that the only protection needed for this waste is gloves and wristbands, if the waste was active then he would require more protection.
- A member asked would we have the same quality assurance at the proposed facility?
 - The department advised that the facility would. The inspection of the packages would likely happen before they get to the site. It will be determined and packaged before it gets to the site. If it does not meet the WAC then it won't be handled or another process will be undertaken to make it compliant.
 - Mr Griffiths added there would also be individual quality assurance. Everything that goes back to when the waste is produced, everything that goes into the bags and drums. In the UK they check the process regularly by taking a sample of the material to make sure it matches the process.

- A member added that it had to meet the international criteria and the facility would need to match that.
 - Mr Griffiths said that is correct, it will likely go through this process before being packaged into drums. Quality Control will happen to all the drums and everything else that the waste touches.
- A member asked for clarification on waste that will come from other sites and where will it be processed?
 - Mr Griffiths said it must be characterised first. What we do on a commercial basis with entities, such as universities, is assist with packaging and storage. We have mobile teams that come out to do this work as doing it at the source is the best option. We can also do it at ANSTO if required to prevent radioactive waste being sent. We are also unable to take waste from other places and can only store waste that we have produced.
- A member asked whether some material around the country is already characterised?
 - Mr Griffiths stated that is correct, we assist them with characterising and advise them how best to store it.
- A member asked about radioactive waste from hospitals which goes into lead containers?
 - Mr Griffiths advised that that kind of waste is something that is designed to give a big dose of radiation, for example to treat a tumour. As hospitals are the end user of nuclear medicine, modern nuclear medicine is designed so that it isn't radioactive once used for a specific medicinal treatment.
- A member asked how do you differentiate between general waste and radioactive waste?
 - Mr Timpano advised that in non-radioactive areas the waste is general. Once it reaches a certain area, such as a lab, it has to be checked.

Action items:

- *Provide Mr Timpano's Waste Technician presentation*

Other Items

Discussion

- A member mentioned that the proposed ballot question is still receiving approval from the OCA.
- The committee had asked for the Flinders Local Action Group to present to the BCC. The department proposed that they also get Geoscience Australia and AECOM to present on the site characterisation work. The committee agreed to all presenters.
- A member raised that Adi Paterson, CEO of ANSTO, said that the change in job numbers was due to the confirmation that the site would hold ILW.
 - The department said that this information is available in the factsheets.
 - Mr Griffiths added the first estimate of 15 came from one of the first meetings we had in Kimba and he advised that he couldn't see the operational side of things being done with less than 15 people and that did not include ancillary positions such as security. As the process has moved

forward we have realised we would always need a safety case team developing the safety case and the safeguards. Why wouldn't this team be based at the facility rather than elsewhere. This is essentially where the additional jobs has come from.

- Another member added that it didn't include site security and ancillary jobs which would increase the numbers.
- A member asked how would the job descriptions alter if it was just LLW? Are there any jobs that wouldn't be necessary if you didn't have ILW?
 - Mr Griffiths said that it wouldn't affect it too much. The main issue would be around the operators. The range has been given between 10-15 jobs so there might be a difference of 5 but at the same time some of the security jobs may change. The range I gave there was 15-26, the 26 being what we have including AFP number based on what we have at the ANSTO site. The AFP have recently come back and said if there are to provide security they wouldn't do it with less than 41. There would be some variation but I imagine it would likely be up rather than down.
- A member asked if the AFP or equivalent security company would live in the area ?
 - Mr Griffiths advised that yes they would, there is no basis for Fly-In, Fly-Out. I'm not sure how it would apply to this facility but as an example at ANSTO we have requirements for certain on-call staff that must be less than an hour away.
- A member raised that a member of the community who is under appointment by the department has made derogatory statements in public towards other community members. The department does not condone derogatory behaviour.
 - The department responded that they will follow up with the community members.
- A member raised that they had heard a rumoured cost of the May expo dinner.
 - The department responded that they did not think the rumoured amount was correct but they will come with a response out of session.
- A member raised the committee was not informed the Independent Convener would not be attending and that information can't afford to be missed.
 - The department advised that this is why we have the Deputy Convenor.
- A member asked on the August meeting dates?
 - The department advised that we are still looking at dates and we are also putting together an information session for the public in August as well. Once the presenters are confirmed we will confirm the dates.
- A member raised that there had previously been discussion on colour-coding the ballot papers, who decides that?
 - The department advised that the AEC and the council would ultimately decide.
- A committee member initiated a discussion on the Economic Working Group coming to present to the BCC.
 - The department advised that the Economic Working Group provides updates to BCC regularly. The EWG will also hold an event in July to inform local businesses on the on the upskilling and qualifications required to contribute to a large construction project. This which is different from the construction

event held in May which was for businesses to link in with business and present to the community.

- A member asked why do that before a site is chosen?
- Another member responded that we should take stock of what we have at the moment.
- The department responded the event would inform of the impacts on the community that hosts a facility both positive and negative.
- A member mentioned that ATLA have a person to help with working opportunities.
 - The department responded that invitations haven't gone out at this stage so when available please send on the invitation.
- A member informed the committee that the Telstra Communication Infrastructure deal had been signed off. They expect completion on the 31st of May next year and so far it has come in under budget.
- A member asked about traditional owner groups coming to present to the BCC.
 - The department advised that this had been discussed previously and to refer to the previous notes.

Meeting Closed 2:30pm