



Note that minutes are paraphrased to an extent and may not match actual statements exactly.

Project	Hydro Kurri Kurri site redevelopment project	From	Bridie Halse
Subject	Community Reference Group Meeting	Tel	1800 066 243
Venue/Date/Time	Thursday 17 August 2017 Hydro Aluminium Kurri Kurri 6.00pm – 7:30pm	Job No	2218982
Copies to	All committee members		
Attendees	Mr Andrew Walker – Hydro Kurri Kurri Project Manager Mr Richard Brown – Managing Director, Hydro Kurri Kurri Clr Darrin Gray – Cessnock City Council Mrs Kerry Hallett – Hunter BEC Ms Tara Dever – CEO Mindaribba Local Aboriginal Land Council Mr Kerry McNaughton – Environmental Officer, Hydro Kurri Kurri Mr Toby Thomas – Community representative Mr Martin Johnston – Manager Strategic Planning Manager, Cessnock City Council Mr Brad Wood – Community representative Mr Rod Doherty – Kurri Kurri Business Chamber Mr Michael Ulph – CRG Chair, GHD Ms Bridie Halse – Minutes, GHD		
Guests/observers			
Apologies	Clr Arch Humphery – Maitland City Council Mr Alan Gray – Community representative Mr Ian Shillington – Manager Urban Growth, Maitland City Council Mr Gareth Curtis - Director of Planning and Environment, Cessnock City Council		
Not present	Ms Debra Ford - Community representative Mr Bill Metcalfe – Community representative		



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Notes	Action
<p>1 Welcome and Acknowledgement of Country</p> <p>Meeting commenced at 6:00 pm</p> <p>Michael Ulph (Chair)</p> <p>Acknowledgement of country.</p>	

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2 Meeting agenda

- Welcome and meeting opening
- Apologies
- Acceptance of minutes from the last meeting
- Project update
- Mural
- CRG questions and answers
- CRG membership & Terms of Reference review
- All other business
- Next meeting / Meeting close



3 Welcome and meeting opening

Michael Ulph welcomes the committee and notes apologies.

Around the room introductions.

Provided draft guidelines in relation to pecuniary interest and discussed the need for people to indicate if they have a pecuniary interest (e.g. engaged to be there).

Michael Ulph: Is anyone in any doubt about having a conflict of interest in a meeting such as this and what it means? I will ask people to acknowledge if they have a conflict at all.

I will declare a conflict, my employer is paying for my attendance here tonight therefore I have an interest in being here. Would anybody else like to declare interest?

Michael Ulph and Bridie Halse as Hydro contracted staff declared interest.

Hydro staff as representatives of the owners of the land declared an interest.



Notes

Action

4 Last meeting minutes

Michael Ulph requested a motion that the minutes be accepted as a true and correct record of the last meeting.

Moved: Kerry McNaughton

Seconded: Darrin Gray

5 Project update

Andrew Walker:

Ran through agenda for the project update presentation.

We've been doing passive ground scanning using a sensitive instrument which can detect live cables and the continuity of things like the earthing grid. We found a signal from somewhere on the western side of line three, where we dug a hole and we found an earth strap that we didn't know about, which wasn't shown on the drawings but it was connecting the earth grid of the switchyard to the earth grid of the substations on the western side of line three. We realised we would have to cut this as well because we didn't want any connection between the switchyard (which is still live with 132 thousand volt feeders coming into the yard), and the substations around the site where we are removing transformers and other things.

What it did find is that all the 11kv cables have been isolated and none of these are live so it was a good check, but we did find these earth straps so I'm glad we did the check as a final confirmation.

The switchyard is still live and we have to be very careful.

Toby: Is that staying live?

Andrew: Yes it's staying live because there's a developer that's interested in the site and reusing the switchyard. We're a little concerned about it, we've had a couple of break-ins where people are looking for copper and the switchyard is still live. They must have known this as the lights are on, the feeders are crackling and the transformers are buzzing.

Richard: We aren't concerned about the copper being taken, the risk is that someone comes in and harms themselves. It's very concerning to us. We've increased the amount of security present around the switchyard. The security contractor we use now goes into the switchyard. We prevented having them in the switchyard prior to now as it is a high risk environment. We have a high risk induction so that the high risks present are understood. To do any work in there you have to be externally accredited as a high voltage electrician. There are really strict procedures on what you can do in there. If we have people cutting through fences and cutting wires and straps, that is very concerning.

Project Update

- Preparation for demolition
 - Switchyard 11kV isolations
 - Asset sales
 - Anode shipments
 - Casting heavy fuel oil cleanup
- Stage 1 demolition progress
- Hydro Norway HSE Audit

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Final checks on 11kV isolations



Passive ground scan to search for live cables.



Passive ground scan of cables to confirm isolations and source.



Testing copper earth straps.



NOTE: The switchyard itself is still 'live'.



Cutting of earth straps and 11kV cables.

CREATING
PROSPEROUS
FUTURES

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Toby: Have you put any additional warning signs up?

Richard: When we first went into care and maintenance mode, we had new signage put up as there was a thought at the time that people would think the sight is dead. These signs stated that it was still live and to stay out. Twelve months into the care and maintenance we had a spate of thefts, but these ceased.

As the demolition works have actually started over the last couple of months, there has been a bit of public notification through the media about this, and maybe someone has the idea that the switchyard is now off.

Darrin: Could you put up a notification somewhere like the Advertiser, with a picture of the yard saying “please be aware this is still live”?

Richard: We talked to the police the first time they broke in and we did have some video surveillance equipment in the switchyard, but they stole that. We’ve since replaced that and increased the amount of video surveillance. This is after the fact though. We put new lighting in to make it evident that it is still live.

Kerry: Could you get a siren alarm?

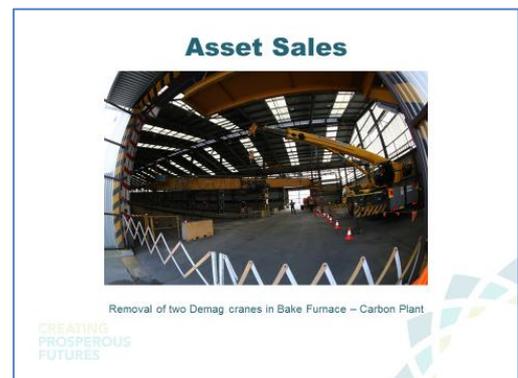
Richard: A motion sensor is an idea that we’ve considered. If you do hear people talking about the site, please make people aware that the switchyard is live, and that if anyone goes into that switchyard, they are taking their life into their own hands.

Kerry M: We think it’s someone who knows how to get into the site as they are using the fire trails at night.

Tara: And it’s clear now because of the fires.

Andrew: Ausgrid also transfer power through our yard, between the feeders. If we disconnected the feeders, it would cause an imbalance in the network which would affect Ausgrid. There’s also four 132 to 11kv transformers. If we keep them working and warm, these will be protected, but if they are turned off they’ll start absorbing moisture and could effect whether or not they will be able to restart.

We’ve been removing some cranes in the bake furnace area in the carbon plant. About the last lot of assets we will sell, everything else will be scrapped. We found someone who will buy the anodes. They’re currently being transported off site in containers and sent to the middle east.



Notes

Richard: If you remember, there were hundreds of bags of material here a while ago? We've sent that material across to a user looking to recycle it. We are waiting for some feedback on that. We should hopefully be able to ship that offsite. We will hear in the next week or so. This will be the alumina and bath material.

Andrew: As we've been handing buildings over, we've found in the casting plant that the old fuel oil tank which we thought was empty when removing asbestos in that area. We checked it recently and there was a valve that was removed over the hot summer months and some of the fuel oil has drained out. This product is really viscous, like treacle in cold weather. This means it can be shovelled up. This was used in the casting plant from 1969 to when they converted to using natural gas in about 1985. It was left like that. We will get an external contractor in to remove that and wash the tank out with a solvent so that it's all clean and ready for demolition.

This is the same slide as last time but I wanted to give you an update. The management plans were approved by Cessnock City Council on the 26th of June and after that CMA were allowed to start demolition. The contractor has started mobilising people and equipment to site.

Points at slide - that's the 45 tonne long reach excavator which can reach up to 20 metres above ground. They've started with lancing of the anode flexes on line one, and cutting the cathode busbars. They've cut them and left 100mm at the top. When they demolish line one, they'll be able to pull those cathode busbars out with the excavators and then they will be taken over to the metal pad and packed away into containers once we've found a buyer for them.

Action

Heavy Fuel Oil Clean Up in Casting



Heavy fuel oil tank in Casting. Fuel oil has leaked out but is contained within a bunded area.



Fuel oil to be cleaned up prior to handover of Casting building for demolition.

Stage 1 Demolition Progress – CMA Contracting



- Contract awarded 13/4/2017.
- Mobilisation of people and equipment to site has been occurring over the last 8 weeks.
- Site meeting to discuss the demolition methodology and Demolition Risk Assessment Workshop (DRAW) process with SafeWork NSW on 1/5/2017.
- DRAW # 1 – site establishment held on 8/5/2017.
- Handover of western part of the site to CMA as PC occurred on 16/5/2017.
- Meeting held with Cessnock City Council staff on 17/5/2017.
- Management plans submitted to CCC for approval on 26/5/2017.
- DRAW # 2 – planning for the demolition of first structures held on 7/6/2017.
- Demolition will commence once CCC have approved the management plans.
- Management plans approved on 26/6/2017.

Stage 1 Demolition Progress



CMA demolition crew with 45T long reach excavator in background.

Stage 1 Demolition Progress



Lancing of anode flexes in Line 1.

Stage 1 Demolition Progress



Line 1 cathode busbar after lancing. Note 100mm left at top and yawning gap. Will be removed by excavator during demolition.

Notes

They've also been lancing the pot shells in line one. The pot shells weigh 25 tonnes each so they've been cutting them into five pieces and just leaving about 50mm section on the deck plate on either side of the pot. Just leaving a small amount attached so they'll be able to drag the pot shell off the supports slightly to one side and another machine can break them up into pieces. These smaller pieces are easier to handle and move around site.

Action

Stage 1 Demolition Progress



Pulverising of spare Potroom floor slabs - backfill for void filling.

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Referring to slide - This is a shot of them pulverising pot room floor slabs. These created backfill material to fill some voids around pot line three west.

This is the line three south scrubber bag house being demolished. This is line one and line two south scrubbers, between pot line one and two- the duct work being removed and fans.

This steel stack is line two south stack, this is going to be get knocked over in the next few weeks.

Stage 1 Demolition Progress



Commissioning of 160T excavator.

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Stage 1 Demolition Progress



The pot shells weigh approximately 25 tonnes each. They are cut into five pieces of 5T each to make handling easier. Approximately 50mm of the deckplate is left uncut on both sides and will be broken up by a demolition excavator after the shell is pulled off its supports.

Oxy-propane cutting of pot shells in Line 1.

PROSPEROUS FUTURES

Stage 1 Demolition Progress



Demolition of Line 3 south dry scrubber baghouse.

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Stage 1 Demolition Progress



Demolition of Line 1 & 2 south dry scrubber fans and ductwork.

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Notes **Action**

This is the 160 tonne excavator which is being commissioned. It had to be transported from Western Australia and is to be assembled. We are sorting out some issues with some hydraulic cylinders but that will start demolishing line one. You can see it can reach right up to the roof line. The streetscape will start changing over the next month or two. By the next CRG meeting, it will be a totally different site.

Head Office HSE Audit 31/7 – 3/8

Audit results

Findings category ● None

Findings category ● None

Observations: 6 Hydro project team
3 Demolition contractor (CSA Contracting)

Several HSE requirements for a smelter are not applicable as the plant is decommissioned. Only issues relevant for the ongoing and planned demolishing work was considered.

In addition to the Kurri Kurri demolition project team the principal contractor of the demolition stage 1, CMA Contracting was audited. One day of the audit was spend with this contractor, and included review of management system, induction training and site visit. On site the implementation of the systems was checked and ongoing work was observed. All work observed was done in a safe manner.



Approval of Stage 2 Demolition

- A new EIS is being prepared specifically addressing Stage 2 Demolition.
- The scope of Stage 2 demolition includes – explosive demolition of concrete structures (L1 stack, L3N & S stack and the Water Tower), demolition of foundations and services to 1.5 metres below ground level and demolition of buildings used to contain SPL (after it has been recycled).
- Approval for a mobile crushing plant with a capacity of up to 1,000T/day will also be sought as part of the same application. This is designated development.
- Meeting to be held with Cessnock Council on 18/8/2017 to discuss their submission to DoPE for the SEAR's.
- Some consultation with other agencies may also be required, eg. EPA and SafeWork NSW.

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We also had the HSE [health, safety & environment] audit by a team of three Norwegians. They audited my team for one day and CMA contracting - the demolition contractor - the next day. They were very happy with what we're doing. We didn't get any major or minor non-conformance, mainly just improvement suggestions. There were six for us around documentation, approval of sub-contractors, things like that. Three for CMA.

We're also working on approval of stage two demolition. At the moment we have approval from Cessnock City Council for stage one, which is down to ground level. Stage two is explosive demolition of the stacks, the water tower and demolition of the foundations and services down to 1.5m below ground level. It also includes demolition of any building where we're storing SPL after we've recycled the spent pot lining as well as an approval for a mobile crushing plant.

We've got a meeting with council tomorrow to go through their submission and SEARS. We'll also be consulting with other

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agencies like the EPA and safe work NSW, before we finalise the EIA to go on exhibition.

Before I hand over to Kerry I'll show you a short video.

Video plays of a site flyover and time-lapse of demolition.

Richard: I think Andrew, the next exciting part of demolition are some of the controlled felling of those structures that are left.

Andrew: Yes, on line three west scrubbers, there is a big high structure where the day bins are, where they are going to do some birds-mouthing, cutting the vertical members and then pulling with a cable, with the big 87 tonne excavator, so that will be pulled over. Then the alumina silo, 5000 tonne silo in line three south, they'll basically peel it, like a can opener, like they did with the pitch tank, which I showed you a few months ago. They'll slowly remove the support and the roof will gradually fall down. The line 2 south stack will get pulled down as well.

Michael: That's a great video, can we put it on the internet?

Richard: I'll talk to Andrew. We can possibly put something together that's a little shorter.

Richard: We're happy with CMA, the contractor's progress. One of the reasons we selected them was because of their approach to health and safety and they've shown they don't just get stuck into this, they are ramping the speed up as they go so that they can understand the challenges of the project as they go.

Andrew: Any questions for me?

Darrin: I noticed that everything got pulled down, and stage two will be everything below the ground to one and a half metres. Does this mean anything below that will stay there?

Andrew: Yes. There are some deeper structures as far as eight metres below ground like the bake furnace and some of the dump stations where we used to bring the alumina and coke in. We'll have to leave that. Their scope is to just demolish the concrete down to 1.5 metres. There'll be a crushing plant to crush the concrete and then separate the reo. It's mainly for a developer if they want to build new roads where there is a potline now, they'll be able to build new roads and services with that 1.5 metre area clear for a new development. This is standard practice for demolition sites. It was something that BHP steelworks didn't do to start with, but they went back and did

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afterwards. Pasmenco weren't going to do it originally in the scope but then realised they had to do it as well.

Richard: Where there are structures left in ground, they need to be validated before they are dealt with. They need to undergo an environmental assessment process to make sure they don't contain contaminants. This will form part of the overall validation process.

Andrew: We were lucky on this site, we don't have any underground storage areas for liquid hydrocarbons like fuel. These were all above ground. Other sites with underground storage tanks, the tanks have leaked and they get a lot of hydrocarbons in the ground. Our deep structures were mainly handling alumina and coke, and were cleaned out just after we closed. Transpacific also came and did our cleaning in 2012.

Michael: Thanks Andrew, Kerry will now talk about the environmental issues.

Kerry M: We retained the original monitoring program, on the original sites within the buffer zone, because it's a solid database that exists there. As part of this project, one of the requirements was to establish five dust deposition gauge monitoring sites to establish baseline data prior to the demolition. This was started in November 2016, which gave us a good five or six months to gather some solid data pre-demolition. Now that we've moved into demolition and with the continuation of the monitoring, we will make sure that it will have minimal impact on the local environment.

The methodology for the monitoring is an Australian and new Zealand standard.

Explains the five monitoring locations which are displayed on the slide.

The siting of monitoring points were decided on wind patterns. To the SW and NE traditionally there hasn't been such strong airflow, and hence there is very little impact. It's a straightforward set up of a large stand, a bottle and a funnel, which has to be at least 120 degrees minimum by the standards. How it works is; any particulate matter gets deposited into the funnel which is assisted by the dew or any moisture in the air, or any rainfall.

Explains analysis from one of the locations as shown on the slide.

Dust Deposition Gauge Monitoring

- As part of the site demolition project Hydro established 5 monitoring sites in November 2016.
- The purpose: To establish baseline data prior to demolition.
- To ensure demolition activities are having minimal impact on the local environment.

The methodology for dust deposition gauge monitoring is detailed in Australian Standard AS/NZS 3580.10.1:2003 Methods for sampling and analysis of ambient air - Determination of particulate matter - Deposited matter - Gravimetric method.

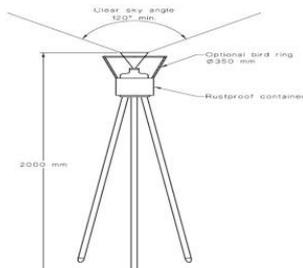
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Site Locations



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Typical Monitoring Setup



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Notes

We look at the ash content of the sample, the combustible material, the total and soluble material and fluoride. We also record the volume in the bottle when we take the sample. To assist in interpreting the data, we take field notes including recent rainfall, such as the bushfires in January which as you can see were impacted.

To assess compliance, if the monthly deposition is below 4 grams per metre squared per month it is within guidelines, although if it is higher, we undertake the following:

- Review the ratio between the ash residue and the soluble material. A high ratio indicates the samples were influenced by particulate generating activities – dust from somewhere.
- A low ratio indicates the sample was just organic material.

Rod: In the past particulates have come down from the mines from explosions, are you able to assess where the particulates are coming from?

Kerry M: Not so much any more. In 1998 we had an exceedance and ended up in the land and environment court. Part of our defence was we did extensive studies and we found that although we contributed a portion of the fluoride levels being exceeded, we proved that the Lake Macquarie power stations and up the valley as Rod said, had an impact. Where we are now we don't get down as accurate as that.

Tara: Have you ever had a PM10 machine?

Kerry M: Just dust deposition gauges.

Tara: Dust deposition gauges are pretty rubbish.

Kerry M: Yeah they are, what we've had as well, and still have, is double filter samples used weekly which are lot more accurate, treated filter paper for particulate, and treated paper for gaseous and we still analyse that on a weekly basis in two locations. This is a far better indicator particularly for gaseous fluorides.

Tara: And it's good, it's easy.

Kerry M: Yes that's correct.

If we have a breach, we also check the meteorological data 24/7, compare other sites, look at on site activities to see if there are activities that are more dust generating than others.

Action

Analysis Consists Of:
Ash Content
Combustible Material
Total Insoluble Material
Fluoride

Typical Analysis

Month	Ash Content g/m ² /month	Ash Content mg	Combustible Material g/m ² /month	Combustible Material mg	Volume mL	Total Insoluble Material g/m ² /month	Fluoride mg/L	Notes
January Start: 1/1/17 Finish: 31/1/17	0.9	15	1.7	28	750	2.6	45	Any severely impacted by bushfires Rainfall: 70.6 mm
February Start: 1/2/17 Finish: 28/2/17	0.9	15	0.6	10	1200	1.5	25	Rainfall: 60.0 mm
March Start: 1/3/17 Finish: 31/3/17	0.2	3	0.1	2	2000	0.3	6	Rainfall: 170.4 mm
April Start: 1/4/17 Finish: 30/4/17	0.3	5	0.6	11	800	0.9	16	Rainfall: 47.4 mm
May Start: 1/5/17 Finish: 31/5/17	0.4	7	0.1	2	300	0.9	9	Rainfall: 18.0 mm
June Start: 1/6/17 Finish: 30/6/17	0.3	5	0.1	1	1300	0.4	6	Rainfall: 70.8 mm

Table 1.1: Dust Deposition Gauge 3 (D300) - Lot 14 DP 1982718
Table 1.2: Dust Deposition Gauge 5 (D500) - Lot 14 DP 1982718

Assessing Compliance

- If the monthly deposition level is below 4g/m²/month, no further action is required;
- If monthly deposition level is higher than 4g/m²/month, the following will be undertaken:
 - Review ratio between ash residue and insoluble materials. A high ratio indicates the sample was influenced by particulate generating activities. A low ratio indicates sample influenced by organic material.
 - Check Met data.
 - Compare results from other sites.
 - Determine if onsite activities were likely to have contributed based on wind speeds and direction of impacted site.
 - If onsite activities are likely to have contributed to elevated result a review of site management practices is to be undertaken and adjusted as required.

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Supporting Monitoring

- 3 Ambient Air locations still active measuring particulate and gaseous fluoride.
- Surface Water sampling
- Vegetation & Forage monitoring
- Meteorological Tower continually measuring a range of parameters (Temperature, Wind Speed, Wind Direction, Rainfall etc.)

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Once these are checked, if we can determine it was something that occurred onsite that was impacting the local environment, we review that process and scale it back.

Richard: That's a reactive measure. We see if there's been an exceedance, we determine the cause and take reaction. But you do some proactive work as well in terms of the weekly environmental monitoring.

Kerry: CMA Contractors and Hydro themselves have weekly site inspections. We check what's happening at a particular time. At the moment they're looking at line two south demo, the scrubber demolition area. We chat with them about what's happening and what measures are in place. There's also a visual assessment of whether we are seeing any dust emanating from site. If so, what's going on? This is reactive, but we do have a proactive monitoring system as well where we liaise closely with the contractor and as a result they know what we expect and our licence requirements.

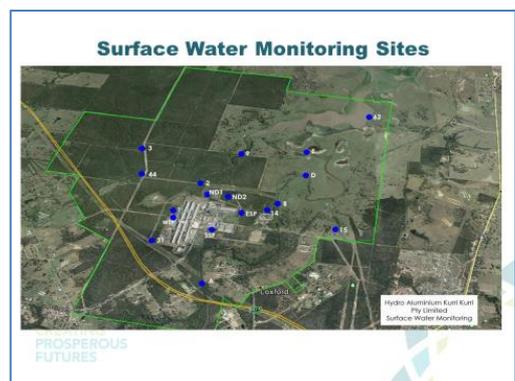
This is supporting monitoring where we measure three substances, particularly gaseous fluoride. We've got one at the old Yawarra site near the TAFE, we have one at Wangara to the north east and still retained the Wandin estate as a background site. We do surface water sampling in the buffer zone to monitor above the smelter at swamp creek where the water mightn't be the best quality. There is impacts from the sewerage treatment and so forth. We monitor for fluoride, conductivity, pH, total dissolved solids, and soluble materials.

We also do vegetation and forage monitoring also. The difference between vegetation and forage is that vegetation is the native eucalypts and once that vegetation is sampled it is washed. The forage sample is obtained from areas where cattle and animals are grazing. They can't differentiate between a sample that's particulate free or not so we analyse that sample without washing to get an accurate assessment of what the animals are ingesting.

We continually monitor a range of meteorological measures at the met towers. That data is sent to a consultant meteorologist once a month who prepares the hard copy report. At any stage of the process I can interrogate the raw data if I need to know.

Explains air monitoring locations on the slide.

There are two locations on the buffer site. These are historic sites that are used to have a continuity of data during and post



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production, so that if we had any inquiries from community members we can show them the data.

Surface water monitoring sites shown on slide.

We've got good coverage above the smelter, alongside the smelter and past the smelter. Foraging locations are predominantly on the Wangara property where there are cattle grazing activities and there have been for years.

Temperature data explanation on slide of means and extremes from July.

We have rainfall data from 1998 to 2017 with averages and monthly totals.

Michael: Any questions for Kerry?

Rod: When I asked the question earlier, you spoke about emissions from power stations. Do we know if there's any affects from major blasts in the coal mines? If there are nor-westers blowing then that would blow that particulate down into this area.

Kerry: You're right. When we had the more extensive monitoring program, we monitored the vineyards too. We met regularly with the vineyard association at the time and they'd have slightly elevated results and they'd ask us what we were doing.

We'd have our [meteorological data] and say "we're not doing anything", because the wind is not blowing from us into your vineyard. The air flows would be coming from the south-east, from Lake Macquarie. The same up the valley. Certainly you would see those as an impact in the local area.

Tara: When we had a PM10 monitor at the hospital, it never picked up those blasts.

Kerry: We went to the Nth degree to determine that. You could see there certainly was an influence, not overly significant. Our air flow patterns never blew over that direction. The rest of the vineyards, yes.

Tara: What about construction? You're demolishing, I would assume that if you had machines you would be more likely to pick up the 2.5 from the expressway, but what about those houses going in, is that having an effect?

Kerry: That is something to look at, which is why we look around us if we do see an elevated level, we look at potential causes and what is happening around us, to come up with an answer.

Action



Temperature Data

Table 2.1 - Median, Daily Highest, Hourly Average, Temperature (degrees Celsius) as recorded at the Hydro Aluminium Kurri Kurri Smelter.

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1998	25.0	25.0	26.0	24.0	22.0	19.0	16.0	16.0	18.0	20.0	21.0	22.0
1999	23.0	23.0	23.0	23.0	21.0	18.0	16.0	16.0	18.0	20.0	21.0	21.0
2000	23.0	23.0	23.0	23.0	21.0	18.0	16.0	16.0	18.0	20.0	21.0	21.0
2001	23.0	23.0	23.0	23.0	21.0	18.0	16.0	16.0	18.0	20.0	21.0	21.0
2002	23.0	23.0	23.0	23.0	21.0	18.0	16.0	16.0	18.0	20.0	21.0	21.0
2003	23.0	23.0	23.0	23.0	21.0	18.0	16.0	16.0	18.0	20.0	21.0	21.0
2004	23.0	23.0	23.0	23.0	21.0	18.0	16.0	16.0	18.0	20.0	21.0	21.0
2005	23.0	23.0	23.0	23.0	21.0	18.0	16.0	16.0	18.0	20.0	21.0	21.0
2006	23.0	23.0	23.0	23.0	21.0	18.0	16.0	16.0	18.0	20.0	21.0	21.0
2007	23.0	23.0	23.0	23.0	21.0	18.0	16.0	16.0	18.0	20.0	21.0	21.0
2008	23.0	23.0	23.0	23.0	21.0	18.0	16.0	16.0	18.0	20.0	21.0	21.0
2009	23.0	23.0	23.0	23.0	21.0	18.0	16.0	16.0	18.0	20.0	21.0	21.0
2010	23.0	23.0	23.0	23.0	21.0	18.0	16.0	16.0	18.0	20.0	21.0	21.0
2011	23.0	23.0	23.0	23.0	21.0	18.0	16.0	16.0	18.0	20.0	21.0	21.0
2012	23.0	23.0	23.0	23.0	21.0	18.0	16.0	16.0	18.0	20.0	21.0	21.0
2013	23.0	23.0	23.0	23.0	21.0	18.0	16.0	16.0	18.0	20.0	21.0	21.0
2014	23.0	23.0	23.0	23.0	21.0	18.0	16.0	16.0	18.0	20.0	21.0	21.0
2015	23.0	23.0	23.0	23.0	21.0	18.0	16.0	16.0	18.0	20.0	21.0	21.0
2016	23.0	23.0	23.0	23.0	21.0	18.0	16.0	16.0	18.0	20.0	21.0	21.0
2017	23.0	23.0	23.0	23.0	21.0	18.0	16.0	16.0	18.0	20.0	21.0	21.0
Average	23.0	23.0	23.0	23.0	21.0	18.0	16.0	16.0	18.0	20.0	21.0	21.0

Table 2.2 - Median, Daily Highest, Hourly Average, Temperature (degrees Celsius) as recorded at the Hydro Aluminium Kurri Kurri Smelter.

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
1998	25.0	25.0	26.0	24.0	22.0	19.0	16.0	16.0	18.0	20.0	21.0	22.0
1999	23.0	23.0	23.0	23.0	21.0	18.0	16.0	16.0	18.0	20.0	21.0	21.0
2000	23.0	23.0	23.0	23.0	21.0	18.0	16.0	16.0	18.0	20.0	21.0	21.0
2001	23.0	23.0	23.0	23.0	21.0	18.0	16.0	16.0	18.0	20.0	21.0	21.0
2002	23.0	23.0	23.0	23.0	21.0	18.0	16.0	16.0	18.0	20.0	21.0	21.0
2003	23.0	23.0	23.0	23.0	21.0	18.0	16.0	16.0	18.0	20.0	21.0	21.0
2004	23.0	23.0	23.0	23.0	21.0	18.0	16.0	16.0	18.0	20.0	21.0	21.0
2005	23.0	23.0	23.0	23.0	21.0	18.0	16.0	16.0	18.0	20.0	21.0	21.0
2006	23.0	23.0	23.0	23.0	21.0	18.0	16.0	16.0	18.0	20.0	21.0	21.0
2007	23.0	23.0	23.0	23.0	21.0	18.0	16.0	16.0	18.0	20.0	21.0	21.0
2008	23.0	23.0	23.0	23.0	21.0	18.0	16.0	16.0	18.0	20.0	21.0	21.0
2009	23.0	23.0	23.0	23.0	21.0	18.0	16.0	16.0	18.0	20.0	21.0	21.0
2010	23.0	23.0	23.0	23.0	21.0	18.0	16.0	16.0	18.0	20.0	21.0	21.0
2011	23.0	23.0	23.0	23.0	21.0	18.0	16.0	16.0	18.0	20.0	21.0	21.0
2012	23.0	23.0	23.0	23.0	21.0	18.0	16.0	16.0	18.0	20.0	21.0	21.0
2013	23.0	23.0	23.0	23.0	21.0	18.0	16.0	16.0	18.0	20.0	21.0	21.0
2014	23.0	23.0	23.0	23.0	21.0	18.0	16.0	16.0	18.0	20.0	21.0	21.0
2015	23.0	23.0	23.0	23.0	21.0	18.0	16.0	16.0	18.0	20.0	21.0	21.0
2016	23.0	23.0	23.0	23.0	21.0	18.0	16.0	16.0	18.0	20.0	21.0	21.0
2017	23.0	23.0	23.0	23.0	21.0	18.0	16.0	16.0	18.0	20.0	21.0	21.0
Average	23.0	23.0	23.0	23.0	21.0	18.0	16.0	16.0	18.0	20.0	21.0	21.0

Rainfall Data

Table 2.3 - Rainfall (mm) as recorded at the Hydro Aluminium Kurri Kurri Smelter.

YEAR	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	TOTAL
1998	75	68	1	32	115	68	81	108	61	54	63	40	786
1999	50	40	24	32	4	38	40	22	28	110	90	48	532
2000	42	22	252	125	38	9	18	25	25	40	83	36	715
2001	54	154	129	81	100	1	41	17	15	23	65	71	761
2002	30	229	114	15	41	15	21	11	13	10	28	74	601
2003	5	68	36	52	65	8	33	32	0	80	69	50	498
2004	64	129	61	14	17	6	16	37	35	104	70	64	623
2005	62	122	93	8	81	60	8	1	35	65	62	7	604
2006	27	70	46	13	8	30	31	23	128	2	24	30	432
2007	12	14	81	34	33	352	11	63	24	14	151	66	915
2008	96	145	34	161	3	86	13	15	122	53	64	59	853
2009	3	197	95	74	81	60	18	1	20	47	35	50	681
2010	108	55	73	26	59	68	41	18	18	26	39	42	593
2011	41	24	48	36	92	141	20	48	74	70	137	96	827
2012	52	50	99	76	7	100	35	10	25	5	28	28	515
2013	146	131	75	40	40	86	4	8	21	25	89	12	737
2014	10	112	77	160	21	14	21	69	23	40	24	160	731
2015	135	56	39	474	43	31	13	33	41	51	96	101	1113
2016	214	22	35	24	11	93	51	54	56	44	35	70	709
2017	71	80	177	47	18	31							424
Average	65	92	79	77	44	66	27	31	40	45	71	58	686

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Housing development is an event that could occur to increase levels.

Tara: I'm not trying to defend the mining industry.

Kerry: No, no, that's the thing, again, back to '98, it was an assumption that we owned everything rather than, this portion, that portion, and so on. Exactly.

Richard: OK. I'm just going to give more of an update. The approvals for the remediation project. We're still working with the Department of Planning and the EPA on the response to submissions. We have had some discussions and will continue to have discussions with additional analysis and studies that we will most likely be able to present to you in the next meeting, as we should have our submissions report finalised by then. It is still being pulled together. The detailed cell design will be put into that report. We have been getting closer to finalised drawings from Dave and his team.

Martin: How many submissions were there?

Richard: We got all of the normal agency submissions, and other than that we had about eight submissions in total.

We are still having discussions with SPL recyclers over recycling options. One of the things that is holding that up is that we've asked for some confirmation from a few different recyclers that they have appropriate approvals in place. There's a certain level of approval required for what they undertake locally, and another for if that material ends up outside of NSW. We need to make sure that's all in place. The NSW side of things we are pretty comfortable with. We have had discussions with the EPA and a few recyclers, but still waiting on feedback from recyclers outside of NSW and the Commonwealth.

Toby: So when you say the Commonwealth, that's shipping it, is it?

Richard: Yes.

Richard: There is Federal legislation called the Hazardous Waste Act and that has certain requirements where we have to make sure that the recyclers have consulted with the appropriate authorities and have certification or notification that everything's above board. All things being equal, we hope that we can get something in place and recycling can commence before the end of the year.

Environmental Impact Assessment for Stage 2 Demolition / Remediation DA (SSD6666)

- Currently preparing responses to the submissions received from the EIS exhibition.
- Discussions with EPA and Dept. of Planning ongoing

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http://majorprojects.planning.nsw.gov.au/index.pl?action=view_job&job_id=6666

Spent Pot Lining Recycling

- Phase 2 investigations are ongoing. This includes:
 - Site visits for the purpose of HSE / CSR audits
 - Intermediate and final product testing (to validate claims of non-hazardous material, or otherwise)
 - Validation of capacity claims
 - Commercial negotiations
 - Confirmation of approval from NSW and Commonwealth authorities for proposed solution
- Options being considered are still a mix of domestic and international options.

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In relation to rezoning, Michael has some information from Ian Shillington – Maitland Council.

Michael: Ian said “for the information of CRG members, the Wallace and Swamp Fishery creek flood study is progressing and the consultants are still aiming to have a draft study completed by late 2017 or early 2018. A community survey on flooding experiences is expected to be available on the Maitland and Cessnock council websites in the near future. The survey will also be distributed to residents and nearby landholders affected by flooding in the study area.”

Richard: So I believe this is one of the first steps that gets taken in a flood study process.

Martin: Yes this is about ground-truthing and finding out about true events and historical experiences.

Richard: So, from our perspective, the rezoning is basically dependant on this flood study. Once the flood study has identified the PMF [probably maximum flood] and the one percent flood levels we will review that against the proposed urban footprint and get confirmation of the urban footprint. Then other things like the biodiversity can proceed. So, everything is contingent on the flood study at the moment.

Martin: Some of the matters which were identified by the Department of Planning in the approval for the rezoning have been ticked off and finalised. So, it’s only those matters which are related to flooding that need to be resolved.

Michael: So to spell it out I think this means that the flood levels need to be resolved in order to determine the areas that can be used for residential development.

Rod: The *Biodiversity Act* is being enacted on the 25th of August. Is this rezoning under the old or the new Act?

Richard: We have flexibility. Our Biocert process has been identified as part of the transition of arrangements. So we can proceed on the existing legislation, or if we choose, we can undertake the certification under the new provisions.

Martin: There is no way that I would be suggesting you’d go back and start from scratch due the extensive amount of work that has been done.

Richard: There has been a massive amount of field work done. It would seem pointless to go back and start over.

Rezoning - Key Issues/Constraints

- Flooding
 - MCC have procured and commenced a Flood study. Usable results towards the end of 2017
- Biodiversity
 - Reliant on outcome (development footprint) from Flood Study

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Rod: We have to be careful of retrospectivity. Be mindful if someone finds an orchid, and that changes things.

Martin: I think there was something in the new legislation which extends the approval for the zoning on that piece of land.

Richard: On the divestment side of things we are continuing to have discussions with a potential purchaser of the site. We would love to be able to get that purchaser in the room here to discuss some things with us. They're not comfortable with that yet, and I appreciate their perspective. Until they are in a position where they are basically committed to purchasing the site there's no point in getting anyone excited about someone being willing to take that on. But they're still progressing with their investigations. I've been talking to them today about some aspects of the site. They have a few months of due diligence and I hope that in the next couple of months there will be more disclosure around what it is that they are going to do.

As we've expressed previously our desire is to sell the whole site. We aren't breaking the site up into little chunks to sell it off. That comes at a commercial negative for us, as to get the best value out of land you break it into smaller pieces. This would be a risk though and this isn't what we wish to do. We have the intent to demolish the structures, remediate the site, get it signed off and sold. The new owner of the site would take the next steps in terms of residential development, industrial development and a large conservation outcome on the site.

Toby: Is the prospective purchaser happy with the proposed rezoning of the land?

Richard: Basically yes. I guess it's a fortunate set of timing coincidence. The fact that we've got this flood study that is holding things up is also good because the potential purchaser may need to slightly alter the boundary slightly depending on the results of the study. As they're the potential future developer of the site they'll have subdivision designs and lot layouts that might push envelopes in terms of the rezoning boundaries. It may even shrink back in some areas in terms of impacts on vegetation if they choose not to push those boundaries.

Martin: Ideally it would be good to have them on board during the process of finalizing boundaries.

Richard: Absolutely. We'll be guided somewhat by their designs and that's a risk that we take if they fall away. We're prepared to take that risk and say if you want to add that here and take that

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Divestment

- Continuing to have discussions with potential purchaser of the site.



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away, we're comfortable with that. I think what we'll see next is that instead of Hydro taking up the discussion with council it will be the purchaser, and we sit on the side and make sure there's nothing that we fundamentally aren't happy with.

Darrin: So the environmental zones and the like aren't locked in concrete?

Richard: They're pretty close, only a few small differences. Nothing locked in concrete. A lot of the boundaries are dependent on the flood study. If the flood study said the flood levels were higher than expected than we would reduce residential zoning and increase conservation areas or vice versa. The footprint is not absolutely finalised.

Darrin: So is the environmental land management, and that process, that would be almost autonomous and irrelevant to a residential development. How will it be managed in perpetuity?

Richard: The actual process itself is pretty much prescribed by the relevant legislation on biobanking. As the site itself gets used for offset, for the development of areas that are currently vegetated. The process for biobanking would be followed- there is funding required, where the funding goes, and the obligation in terms of management of land. That is all legislated.

Michael: Any questions about the overall project update?

No one has further questions.

I've added discussion of the mural to the agenda for today. We had a mural committee meeting prior to this one. Toby can you just take us through where we are up to please?

Shows image of the mural plan.

Toby: This artist came about through a process of invitations to put a submission in to do it and unfortunately we only got two back. This was by far the best, by Daniel Joyce. He just did the Beat Hill mural. He is very talented. He's very keen to do it, he said he'll put his heart and soul into it.

The presentation of his submission shows that. Time wise - the contractor who's building the actual structure is Simply Precast who did the other town entry mural structure [at Main Rd]. He'll have it finished in about four weeks time. I'll be lodging a section 138 application to council tomorrow so this should be turned around pretty simply. It's on Council land.



Notes	Action
<p>We've been through various presentations with council, presented a town entry mural strategy and it will be part of the 138 submission. We've built one before and we know what we're doing.</p> <p>Michael: The structure of the town entry mural on Main Road is the same structure that will be used. A left hand and right hand panel, and a central piece in the middle. We started the process by asking the community how they think the history of the smelting in the region should be remembered. We asked the community how this would be shown. A dozen or so responses came back. Most people suggested a mural. Once this is finished it will be around 60 murals in Kurri Kurri.</p> <p>Darrin: There's no kangaroos, which is significant for the smelter! Roos everywhere.</p> <p>Toby: Daniel said he should be able to pull it together in ten days once he starts working on it.</p> <p>Michael: He will do a larger coloured mock-up of the design and show us this before he starts work. We'll distribute that once he's finished that and you can all have a look at it.</p>	

6 CRG Questions and Answers and all other business

Michael Ulph: For those who are attending these meetings for the first time today, we set aside a time for CRG members to bring up any queries, opinions or complaints from the wider community. Has anyone heard of anything recently?

Rod: I think some people want to come and have a look at the site.

Darrin: We've had queries about the cell and what it looks like. Someone thought you were going to just put a new cap on it, so I had to go through the whole process again.

Richard: In the next CRG meeting we will have the response to submissions which will go into that in more detail.

Darrin: An example containment cell to show the community would be a good. Something in the main street.

Michael Ulph: Last month there was a presentation about the planned containment cell. Would someone that was here like to describe how that went?

Darrin: I was really cynical, as people know, all the way through, and I'm impressed with the technology. It was very enlightening, he handed out the materials, the permeability, or lack of it, as far as high tech goes, it is state of the art. If you've got to bury it [waste] then we've got to accept it. I'm pretty comfortable that it is a damn good cell.

7 CRG membership & TORs Review

Michael: This item was held over until today as we ran out of time in the last meeting.

Our terms of reference say that members of the CRG have the right to review their membership on an annual basis. This time has passed and if anyone thinks someone else could replace them, or if anyone else should be invited to attend these meeting this should be discussed. Does anyone have any comments on the terms of reference or membership?

Toby: Did we have a sunset clause for the original terms of reference for the group?

Michael Ulph: No.

Kerry H: We did talk about one but didn't end up putting it in.

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<p>Richard: First of all, I appreciate everyone's time and there's a core group of people who are here most times and its very much appreciated. This is our 22nd meeting and we're three years into this process. We're five years into the post closure period. We're still probably about three/four/five years away from the completion of the work. I would still think that a community conduit, a reference group, is important for us going forward. We're undertaking works that have potential to impact on areas outside the smelter site. Our plan is to not do that, but certainly the risk is there. I believe that if there is still a willingness for you to give us feedback on how we are performing in the eyes of the rest of the community, I still think that it is absolutely necessary.</p>	
<p>Darrin: All stakeholders are represented generally.</p>	
<p>Michael: Initially we did approach Mindaribba [Local Aboriginal Land Council], and we are very pleased that you [to Tara] have come along today, and I hope we can convince you to keep coming. Are there any other parts of the community that you would think aren't represented and don't have conduit that should?</p>	
<p>Darrin: The only stakeholder not included would be CMA [the demolition company]. Would it be worth asking them, or is that through you?</p>	
<p>Richard: I can have a chat with them, I don't mind either way.</p>	
<p>Michael: TAFE was also invited when we first began these meetings.</p>	
<p>Rod: They're a major business in our community, and they did come to a [Kurri Kurri Business Chamber] meeting but they haven't been to quite a few meetings.</p>	
<p>Toby: Is the divestment of the land going to happen within the next twelve months?</p>	
<p>Richard: Ideally we would like to have an agreement in place within the next twelve months but the triggers for the transfer of title will be unlikely to happen in the next twelve months. For that to happen there will need to be proof that the land is remediated and that the rezoning is in place. They are a couple of key triggers. At this point in time it will most likely be progressive. Take for example the residential parcel in the Maitland LGA, if that's got a site audit statement to say it is remediated, if it's rezoned, the transfer of title takes place, they pay us and we part</p>	

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<p>with that piece of land, within a broader framework that says, “this is how it is going to work for all pieces of land”.</p>	
<p>Toby: So once the title has been transferred is that the end of your [Hydro's] job on the site?</p>	
<p>Richard: Once it's completed, yes that is likely. Noting that the requirement to transfer title is that the remediation is completed and the site is signed off, and everything is done on site.</p>	
<p>Toby: They wouldn't take a transfer of title with demolition works [in progress]?</p>	
<p>Richard: No. The intention is that we will continue to do the demolition and remediation. Once that's done,, we get the auditor to sign off to say that the land is now suitable for, in this case industrial use, that goes along with the rezoning which is ideally already there and they can acquire this part of the site. It might be that there are parts of the site that don't require demolition that could be transferred prior to the completion of demolition so that they can start developing, whilst we are doing other things, our footprint is shrinking.</p>	
<p>Darrin: So the cell capping completion would be well and truly before the full demolition is finished?</p>	
<p>Richard: No. It's the last thing to be done. If you recall in the proposal, there are some waste materials generated as part of demolition. The intention is that these will go into the cell as well. The last thing to be done would be the cap itself. Then there will be a period of validation after this.</p>	
<p>Toby: What's the projected timeframe until capping of the cell?</p>	
<p>Richard: it's hard to say. I say three/four/five years as it's dependant on approvals, but if we said the demolition works itself is about two and a bit years from now, at some point in the next two years we would begin remediation works. The cell gets constructed, the capping of the cell may happen in about three years and then remediation would follow for another two years after that. It's still a few years away.</p>	
<p>Darrin: I guess you've got to mine the waste stockpile, move it over, which will take time.</p>	
<p>Richard: Correct</p>	
<p>Martin: Is the cell going to be transferred to the new owner or is that going to be transferred to the new owner? Has that management in perpetuity been resolved yet?</p>	

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Richard: That's an issue that we've still got to work through as far as the approvals process in terms of how that will be managed. Our intention is that however the obligations for control, management and operation of the cell is structured, it will be independent of an owner. This means whoever is responsible for the cell, whether that is Hydro or someone else, they need to be technically and financially able to do that. That will be a requirement of the conditions of consent.

Rod: Can I make a suggestion for agenda items in the future? It would be reasonable for us to understand how some of the other contaminated sites that have been capped are being managed in perpetuity, or whatever. You guys might know how they are managing it, or "here's a couple of models that are out there".

I would also like to see railways put on the agenda. I'd love to see the spur line come off the south Maitland Track and into this site. Can we put that on the agenda for a future discussion, where you guys might like to discuss any negotiations about the spur?

Richard: In relation to the first comment you made, there is already some information in the EIS for long term management and it describes some of the activities that will be taking place during that long term management. One of the interesting parts of the long term management that needs to be considered, is how it is regulated. It would appear as though with a lot of those other examples regulation is not well thought through, or not well managed – probably not the right word. It is our intention with this project to ensure that there is a robust regulatory structure so that any activity near the cell is enshrined in enforceable regulation.

Darrin: And that's my primary concern. Five thousand years from now, you're going to still have somebody with a mower.

Richard: .. and they are going to mow up and down and not sideways, because that's the way it needs to be done.

We are pretty comfortable that there are structures and frameworks available for that. On a holistic level there could be more work done on it. At the moment we are comfortable that there are structures in place like planning agreements that are enforceable and will require any owner of the site to undertake certain activities.

Darrin: Are there examples around the world where the cell is being managed in perpetuity?

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Richard: There are lots of examples where containment cells are part of the site remediation.

Darrin: But In Perpetuity?

Richard: The issue you'll find is that different countries manage them differently. In the US for example there is a "Sinking Super Fund" where orphaned sites, sites that don't have owners, basically are managed through the super fund. This is not a case where that would be required, because Hydro is here and the intention is that those long term obligations are going to be someone's responsibility, not passed onto the public or the community, and that's really what's important, that there are structures in place and the public are not on the hook for anything.

Governments are learning about this. Onsite retention of contamination isn't new, but the way it is regulated is evolving. We'll probably find that we'll be setting a benchmark about how it will be managed.

In terms of Rail, probably the key party involved in that may be thinking about it. Our view is that provision for a rail spur access to the site is going to be included in the rezoning, but beyond that, we don't have a proposal to build rail. A future owner may bring that on. At some point in the foreseeable future, when we have an agreement in place it would be nice for them to have a seat at the table for the new owner, because I think there will be a lot of questions.

Kerry H: I think the other thing is, that railway line is privately owned.

Richard: They would have arrangements in place with the coal miners also.

Rod: The embankment is there for two tracks. It's not as if it's a single track line, the other line has just been vandalised and ripped up. There's an opportunity for a second line anyhow.

Darrin: The corridor is there.

Michael: If you look at the Masterplan you can see the line detailed there.

Rod: Look at the constraints with development in Newcastle. There is potential for a heavy industry that requires rail to be attracted to this site.



Notes	Action
<p>8 Meeting close <i>Meeting closed: 7:35 pm</i></p> <p>Next meeting: Thursday, 19th October 2017 6:00 pm to 7:30 pm</p>	 A teal rectangular graphic containing the REGROWTH KURRI KURRI logo and the tagline "CREATING PROSPEROUS FUTURES" in a small, white, sans-serif font at the bottom.