

Project	Hydro Kurri Kurri site redevelopment project	From	Alysia Norris
Subject	Community Reference Group Meeting	Tel	1800 066 243
Venue/Date/Time	Thursday 13 December 2018 Hydro Aluminium 6.00pm – 7.10pm	Job No	2218982
Copies to	All committee members		
Attendees	<p>Mr Andrew Walker – Hydro Kurri Kurri Project Manager (AW)</p> <p>Mr Kerry McNaughton – Environmental Officer, Hydro Kurri Kurri (KM)</p> <p>Mrs Kerry Hallett – Hunter BEC (KH)</p> <p>Mr Allan Gray – Community representative - Retired Mineworkers (AG)</p> <p>Mr Ian Rush – Cessnock City Council (attending for Martin Johnson) (IR)</p> <p>Cr Darrin Gray – Cessnock City Council (DG)</p> <p>Mr Brad Wood – Community representative (BW)</p> <p>Mr Toby Thomas – Community representative, Towns with Heart (TT)</p> <p>Cr Robert Aitchison – Maitland City Council (RA)</p> <p>Mr Andrew Neil – Manager Strategic Planning, Maitland City Council (AN)</p> <p>Mr Michael Ulph – CRG Chair, GHD (MU)</p> <p>Ms Alysia Norris – Minutes, GHD (ANo)</p>		
Guests/observers	None		
Apologies	<p>Mr Richard Brown – Managing Director, Hydro Kurri Kurri (RB)</p> <p>Mr Jamin Tappouras – Flow Systems (JT)</p> <p>Mr Bill Metcalfe – Community representative (BM)</p>		
Not present	<p>Mr Mark Roser – Strategic Planner, Maitland City Council – (MR)</p> <p>Ms Debra Ford - Community representative (DF)</p> <p>Ms Tara Dever – CEO Mindaribba Local Aboriginal Land Council (TD)</p> <p>Mr Rod Doherty – Kurri Kurri Business Chamber (RD)</p>		

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Notes	Action
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**1 Welcome and Acknowledgement of Country**

Meeting commenced at 6.01pm

**Michael Ulph (Chair) (MU)**

Acknowledgement of country.

Introduction of people at the table.

Ian Rush from CCC standing in for Martin Johnson.

Alysia Norris from GHD taking minutes.



**2 Meeting agenda**

- Welcome and meeting opening
- Apologies
- Declaration of pecuniary interests
- Acceptance of minutes from the last meeting
- Project update
- Items of historical significance
- CRG questions and answers
- General business
- Next meeting and meeting close

**Agenda**

1. Flow Update
2. Project Update
3. Items of Historical Significance
4. CRG Q&A – CRG Members
5. General business

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**3 Welcome and meeting opening**

**MU** welcomed attendees and noted apologies.

**MU** asked those present to declare any pecuniary interests.

None besides paid staff from GHD and Hydro.

#### 4 Last meeting minutes

**MU:** The next item is acceptance of the last minutes. Did anyone find anything in the minutes that seemed out of order that needs to be corrected?

None.

Minutes true and correct: Moved: AG

Seconded: DG

**RA entered the meeting.**

**AN entered the meeting.**

OK, so we've had two other entries. Mr Robert Aitchison, Maitland City Councillor and Mr Andrew Neil, Manager Strategic Planning Maitland City Council.

**MU:** Thank you very much. We'll get those minutes up onto the website.

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## 5 Flow Systems update

**MU:** So the next item was the Flow Systems update.

Jamin Tappouras representing Flow Systems is an apology. They are busily working on updating their plans. They've had some engagement with councils and so on, in relation to the planning process that was described to us at the last meeting. They were umming and aahing in the last couple days over whether they had enough to tell us anything new and I think the result is, not really, not at this point. So they've been in touch and let me know that next meeting there is likely to be something worth spending your time on to explain what's going on.

## Demolition Progress – CMA Contracting



White boxes indicate areas which have been demolished.

- Contract awarded 11/16/2017
- Site meeting to discuss the demolition methodology and detail for Risk Assessment (November 16/17) process with SafeWork NSW on 11/20/17
- DRAW 1.1 – also called interim, full on 11/20/17
- Handover of certain part of the site to CMA on 16/10/2018
- DRAW 1.2 – plan for the demolition of the structure mid on 10/20/18
- Stage 1 management plans approved on 20/12/17 and demolition commenced thereafter
- DRAW 1.3 Structures between Line 1 and 2 held on 1/1/18
- DRAW 1.4 Pot line 3 demolition held on 14/1/2018
- DRAW 1.5 Casting demolition held 20/2/2018
- Stage 2 demolition approved by LCC on 16/03/18 & LCC needed management plans approved on 20/3/18
- DRAW 1.6 Curtain Plant demolition 25/3/18
- Stage 2 demolition work commenced 17/10/2018
- DRAW 1.7 stack demolition risk assessment workshop on 4/12/18

### Demolition Progress



Aerial view of site taken on 24/10/2018

### Demolition Progress



Aerial view of Line 3 South Silo Area (17CS) taken on 24/10/2018

## 6 Project update

**AW:** Thanks Michael. This is where we're up to. We've now demolished 95 per cent of line 1 and the building here was the pot room services area. There's some sheds that we used for storage of asbestos recently, and the casting cooling towers as well.

We also did a workshop, a risk assessment workshop, on the stack demolition, on 4 December and we, as I mentioned last meeting, we started stage 2 demolition works on 17 October.

These are just a few aerial shots taken in October. As you can see line 1 demolition is progressing, and they're only focused on demolishing the roof, section by section. These gaps are where there's no fume duct trench in the basement, so they're able to drive through with their machines.

This is a shot of the line 3 south alumina silo, late October, where they've been removing the ring beam from the silo. You'll notice here, we've started removing the foundations of pot line 3 and they are all stacked up here.

**MU:** This is the same photo, the same spot, but this one's a plan view and this one's an angle, is that right?

**AW:** That's right. That one's looking west and this looking north.

But we've had some issues with these foundations. We've actually found asbestos, bonded asbestos sheeting, fibro, has been used as form work. We didn't know and it wasn't on any drawings and that's really slowed things down.

It was a common practice back in those days so I've got some more slides later on to show you what we're doing about that.

This is the concrete stockpiles which have been accumulating, mainly from pot line 1. So this is just pulverised concrete. We've

since had a crushing plant come in to start crushing those stockpiles. This is the south west area.

**TT:** Where's the crushing from the stockpiles going? Where? Is that just being stockpiled again?

**AW:** It's going to be reused on site. It's getting crushed to minus 40mm and it will be used for filling voids and refilling the foundations that were removed, and refilling those holes. And some of it may be used in the cell for drainage and that sort of thing.

This is line 1 again, this in the line 1 alumina silo and crucible pad area.

These are some shots from inside line 1, looking south from the very north end. You can see where they've cut through the building around column 7 or 8 and that's just a temporary separation. We've got to come back around column 5 because you may remember I've talked before about keeping a switch room that we need to control the switchyard. Flow Systems will need it in the future because they're keeping the switchyard and that's over in this corner.

We found some asbestos at an older substation 3A north and 3A south which are the substations supplying power into pot line 1 for lighting, power and the crane rails. And there were about eight asbestos conduits running in this trench. So they'd all have to be removed in the same fashion as what we've been doing with the other conduits in line 1. And this is showing Steve from Ramboll just getting some samples and he takes a photograph and gets the GPS coordinates for keeping all those records, and that's all come back clear, negative for asbestos so that's good.

OK, so this is the issue we're now facing with both pot line 2 and pot line 3 foundations. So we're finding asbestos, you can see here this is a close up of that part of the foundation so there's bits of asbestos that have been used as formwork. This slide here shows pieces that we found underneath the foundation. We think, we believe this is where they were putting in pieces to support the bar chairs for the reo, so it didn't sink into the mud, so they might have encountered soft ground conditions. So, all these pieces have to be removed and it has to be given a clearance before the concrete can be crushed up and reused.

This is one of the voids from the foundation footprint prior to sieving it. When I say sieving it, they use a sieve bucket on an excavator and actually remove any pieces. It then has to be laid out on a concrete pad, spread out and they do a hen pick just to

### Demolition Progress



Southeast concrete stockpiles 24/10/2018  
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Southwest area 24/10/2018

### Demolition Progress



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Progress of Line 1 Demolition - 28/10 & 29/10/2018

### Demolition Progress



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Progress of Line 1 Demolition - 28/10/2018

### Demolition Progress



3AS Substation Soil Validation Sampling - 20/11/18  
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3AS Validation - Photo & GPS Coordinates - 20/11/18

### Demolition Progress



Bonded ACM sheeting discovered on L3 foundations - 19/10/18  
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### Demolition Progress



Bonded ACM Sheeting Under Bar Chairs - 19/10/18  
CREATING PROSPEROUS FUTURES

Close Up of ACM Sheeting Under Bar Chairs - 19/10/18

check if there's any pieces of asbestos that might have broken off and fallen into the soil.

This is an asbestos quarantine area that we set up to be able to clean those concrete blocks. So we had to put in something to capture any water because we don't want asbestos, especially asbestos fibres, escaping. And we've got decontamination units set up. We've got guys in suits, masks, gloves.

So that's the area about a week later.

We also had to agree on a methodology so we lost a few weeks on that. We had to agree with CMA and their occupational hygiene consultant, which is Hazmat, as well as Ramboll, our environmental consultant, and also our site auditor, Ross McFarland. Once we got the procedure agreed then we could restart work.

This just shows another piece, you can make out just in the bottom corner. CMA have a subcontractor SLH, they're very experienced asbestos removalists and they're very good at spotting it and they're the guys that are removing it. So it's having to be jackhammered off and then it has to be cleared. Once they're happy with it, then it has to be cleared by Hazmat, before it can be crushed up and Ramboll are also coming in and doing spot checks as well.

The first 150 metres, they removed the foundations and we weren't expecting to have this problem so we decided to go through and sample all the soil like we've been doing in line 1. They've all come back clear with no asbestos so we believe from here on we can just rely on visual inspection to be sure that it's clear.

This is the visit by our site auditor, Ross McFarland, inspecting what we're doing in late November.

These are the stockpiles that I was talking about. So when we sieve the ground here, it's spread out on this concrete pad, they do a hen pick and then this is after this has all been completed, they just pile it up again and this is where they backfill the voids. Ross was happy with what he saw. So we've got a methodology now where we can move forward.

On the stack demolition, we were hoping to do that this year, but because of this issue we've had to delay the stack demolition. It's looking more likely to be Q2 next year, because obviously we don't want to fell the stacks onto ground where there's asbestos and contaminate things. We need to make sure everything is cleared of asbestos in the south before we can fell those stacks.

### Demolition Progress



Line 3 Foundation Footprints Awaiting Sieving - 23/10/18



Asbestos Quarantine Area Being Set Up - 20/10/18

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### Demolition Progress



Concrete foundation cleaning area (photo taken 13/11/2018)



Concrete foundation cleaning area (photo taken 13/11/2018)

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### Demolition Progress



Line 3 South Foundation with ACM Sheet (13/11/18)



L3S Foundation Footprint Prior to Sieving (18/11/18)

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### Demolition Progress



Inspection of asbestos cleaning area during visit by Site Auditor & Ramboll - 26/11/18



Inspection of asbestos cleaning area during visit by Site Auditor & Ramboll - 26/11/18

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### Demolition Progress



Piles of sieved concrete material from foundation footprints



Inspection of SAS substation - 26/11/18

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### Demolition Progress



Cracking of clean concrete foundations



Cracking of clean concrete foundations

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**MU:** I imagine someone's done the calculations of putting the whole lot into the cell versus that reuse option that you're looking at. You know, the actual sieving and hen picking as you say would have been quite an intense exercise and a costly one I imagine.

**AW:** Yes, because it's an unexpected find, it's a variation so it's costing us extra money, but this is the most efficient, most economical way of doing it. Rather than ... I mean, we could dig up all the soil and put it in the cell, and the concrete but it would be a huge increase in volume.

And then this is after the foundations have been cleared, or the ones that were found to be free of asbestos, we can then break them up in the concrete cracker and pulverise them.

Moving on, so this is some work removing foundations. So this is line 3 south alumina dump station, which you might recall, a few months ago I showed photos that we backfilled it with concrete. Well now we're removing that concrete, well removing that down to 1.5m below ground level, and CMA have been removing the sheet piling and the concrete wall that was there. They've just left that section because we still need the road at the moment and there's some drainage infrastructure here. Flow has confirmed that they don't require that road so we'll be pulling up all the asphalt and the drainage there and that sheet piling will be removed.

This was the compressor house, 57C foundations. These were some really big foundations that were under the line 3 north scrubber tower, one of those big tall towers. You might recall we showed you the video footage of them being felled. They're massive foundations.

The 160 (excavator) couldn't lift them, it had to basically drag them out of the hole. And that one there it could barely lift. That was one of the foundations for the scrubber fans, which are 500kW motors.

This is line 1, this is one of those passages where they can drive through, where the fume duct finishes. And this is our next challenge, so seeing as we found asbestos on lines 2 and 3, we're expecting to find it on line 1 as well, around all the building column foundations probably. And this fume duct trench we've still got ... we've taken the asbestos out of the surface, but we've still got the other three sides underneath so we're going to have to cut every joint, saw cut and remove that.

Another interesting thing we found, the crucible pad in line 1 was full of petroleum coke. They must have used that because of its insulating properties and when I went back and checked the

### Demolition Progress



Line 3 South Dump Station Foundation Removal - 21/10/18



Compressor House (57C) Foundation Removal - 21/10/18

REGROWTH  
PROSPEROUS  
FUTURES

### Demolition Progress



Line 3 North Scrubber Tower Foundation 7/11/18



Removal of Line 3 North Scrubber Fan Foundation 15/11/18

REGROWTH  
PROSPEROUS  
FUTURES

### Demolition Progress



Line 1 South (15/11/18)



Line 1 crucible pad filled with petroleum coke (19/11/18)

REGROWTH  
PROSPEROUS  
FUTURES

drawings, yeah sure enough, it was shown. So we cleaned all that up and put that in the 7A furnace.

**TT:** There's no asbestos in the stacks?

**AW:** Only where the steel duct work joins to the concrete, so that definitely will be removed before the explosive demolition.

I showed you the aerial shot of the northern end, this is early December, the south alumina silo foundations. This is the ring beam here, it's quite thick. It was a 5000-tonne alumina silo and that's all been removed now.

These are just some examples of some areas that we now regard as finished. So this is actually the line 2 south ramp, to the east of pot line 2 and south of line 1. And this is the north alumina silo, the one that I showed you earlier with the aerial shot, after removal of all the foundations and services and then backfilling with crushed concrete. We showed this to Ross McFarland and he was quite satisfied with that.

Ramboll still have to go back at the end of the whole demolition and they'll do like a grid sampling regime. They'll take representative samples on a grid pattern and check for contaminants of concern like fluoride, PAHs, that sort of thing.

**DG:** Will that be a core drill?

**AW:** That will just be a surface sample to a certain depth.

We knew about this one, but it was an interesting thing. In the dross shed, they used these aluminium sheet ingots in the floor. So the floor was worth about a quarter of a million dollars, so that was a good bonus. There's about 25 of these ingots. The reason they were there was because the dross contains metal particles (droplets of aluminium), so when it's hot, it can catch on fire. So we used to put it under argon cooling hoods and the argon would expel any oxygen and stop it from burning. But sometimes when the argon ran out or whatever happened, there was a problem and it caught on fire, they would just throw it on the aluminium sheet ingots and that would act as a heat sink and dissipate the heat and put the fire out. Better thermal conductivity than concrete.

This is the crushing plant which arrived 23 November. This is it in full swing about a week later. It's set to crush the concrete to minus forty. It's got a magnet so it removes ... so CMA is removing any steel when they pulverise it, of course, and they run an electro magnet over the concrete with an excavator and then as well as that, the crusher has a magnetic separator that spits

### Demolition Progress



Line 3 South Alumina Silo Foundation Removal - 11/12/18

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### Demolition Progress



Finished Area at Line 2 South Ramp Area - 23/11/18

Finished area at Line 3 north alumina silo - 27/11/18

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### Demolition Progress



Sheet Ingot Removal from Dross Shed - 21/11/18

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### Demolition Progress



Crushing plant now established on site - 23/11/18

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### Demolition Progress



Crusher in operation - 30/11/18

Minus 40mm crushed concrete - 30/11/18

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any bits of reo out to the side into a bin so we end up with a concrete product that's free of any steel.

We've also been checking the foreign material content, for things like plastic and wood and the results have come back less than 0.1 per cent, which is very good and we'll continue to monitor that.

Another challenge that we had that we recently solved is the DC3 pit. We made the mistake of leaving the platen at pit bottom and we had a lot of trouble trying to get the platen out so we could get the cylinder out. You might recall that I mentioned that the cylinder still had hydraulic oil. We plugged the lines, you can see here that the cylinder was still full of oil so we didn't want to leave it in the ground. And we ended up having to bust the concrete in between the DC pit and the maintenance access pit and the wall between the maintenance access pit and the sump pump pit and then the excavator could get in and pull the cylinder out. Fortunately, it hasn't been leaking any hydraulic oil, you can see it's pretty dry, and there's nothing down that socket so that can now be backfilled. Ross the site auditor was happy with that.

The other thing that's been going on, I mentioned last meeting that we started removing oil out of the rectifiers in the switchyard. So we've now completed that and ended up with nearly half a million litres of transformer oil and the removal of the rectifiers has now started. This photo was taken 31 October, that's one of the conservators getting removed off the line 1 unit. That's more conservators being removed, that's what they look like. It's like a reservoir of oil that sits above the transformer, as the oil heats up that fills up. As it cools down, it releases oil back in just so you don't have any air inside the transformer.

These are the radiator units that we used to cool the oil. And this is one of the line 1 rectifier cabinets being removed. So they're a wide load, and there were eight of those that left site, so it was a big job. They weigh about 20 tonnes each. This is what the transformer looks like now without the rectifier cabinets, and the next step is to skate that out to the front of the bay and from that position they're going to bring in a 300-tonne crane and lift them off onto a heavy lift transport. But that won't be happening until the new year because there's a curfew with the Christmas holidays. We can't transport these because they're an oversized load.

**DG:** So are the trannies going to be reused?

**AW:** No. Only the three newer ones that we bought in 2008. Flow are keeping those. These ones are about 50 years old so they're beyond their use-by date.

### Demolition Progress



Cylinder removed from DC3 pit – 26/11/18



DC3 cylinder showed no evidence of oil leaks – 26/11/18

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### Switchyard Rectifier Demolition



Oil removal on 24/10/18



Conservator removal – 31/10/18

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Contract awarded to a Sydney-based company to drain oil and remove all 14 Fuji rectifiers from the Switchyard. 476,000 litres of transformer oil has been removed to date (66,000 litres of PCB-contaminated & 410,000 litres of non-PCB oil). Demolition of first unit commenced w/c 30/10/18

### Switchyard Rectifier Demolition



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Removal of oil conservators in Switchyard (photo taken 12/11/18)

### Switchyard Rectifier Demolition



Removed radiators & conservators – 15/11/18



Line 1 rectifier cabinet leaving site – 23/11/18

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### Switchyard Rectifier Demolition



Line 1 Transformer Unit – 27/11/18



Removal of a L2 rectifier cabinet – 27/11/18

CREATING PROSPEROUS FUTURES

### Switchyard Rectifier Demolition



Removal of a Line 2 Rectifier Cabinet – 30/11/18



Jacking & slotting a Line 1 transformer – 10/12/18

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This is a line 2 rectifier cabinet being lifted off. Another one. This is the jacking and skating which started this week, and they have like these rails and they use hydraulic cylinders that actually have hooks on them that hook on to the rails and then the cylinder can push the transformer along the rails. So it's not pushing against any other structures, it's fully self-contained, and pushes it to the front of the bay. They weigh over 100 tonnes each. We couldn't lift them at the back of the bay with the crane that we were proposing to use because it would have overloaded the crane. But getting them to the front of the bay, the crane has the capacity to pick them up.

I also just wanted to now talk about some of the things we've been working on, this will be of interest to you Brad, what we've been talking to CMA over many months now about improving and reducing dust emissions. They have implemented quite a few improvements over the last six months or so. So, one of the things they have is this fogger unit, which they have put on a truck with a water cart and it's like a mobile dust suppression device they can drive along and move to wherever they're demolishing. Water carts, of course, and we set up stand pipes and pumps. Actually, we've got one set up over at the north dam and we're getting a second one over here for the south surge pond.

They're using over 250,000 litres per day per truck and they've got three water trucks here on site. The fogger units are also just established at the workfronts where they're doing demolition. Line 1, they have been doing it in sections rather than removing the whole roof in one go and the dust falling on the floor and going everywhere, they've been trying to do it in stages and they're setting up foggers and spray units as well as running the trucks through the line, washing the inside of the building.

This is a photo of one of the trucks washing the inside of the roof. This is the other water truck parked outside near where they're demolishing. Water cart, spraying a water cannon at the structure and also they've set up tanks for their fixed sprinklers and spray units, in case there's any problem with water supply. At the moment we still have the water turned on to the site with the big water tower, but eventually we're going to have to turn the water supply off to the site, one to be able to demolish that water tower but also if they accidentally damaged something and there was a massive leak, we'd have to turn it off so they need to be self-sufficient. We've been reinforcing that with them, so they've been setting up tanks and things to assist with that process.

### Switchyard Rectifier Demolition



Setting up to skate another L1 unit - 11/12/18



Line 1 transformer at front of bay - 11/12/18

PROSPEROUS FUTURE

### Actions to Minimise Dust Emissions



Figure Above: Fogger Unit with Fogger Emitters for A104 line



Figure Above: Water Cart with Fogger Emitters for A104 line

PROSPEROUS FUTURE

### Actions to Minimise Dust Emissions



Figure Above: Fogger Emitters at work front

PROSPEROUS FUTURE

### Actions to Minimise Dust Emissions



Figure Above: Structural Demolition Dust Suppression at Part of Demolition - Method

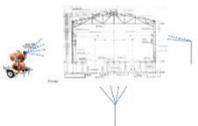


Figure Above: Structural Demolition Dust Suppression at Part of Demolition - Method

PROSPEROUS FUTURE

### Actions to Minimise Dust Emissions



Figure Above: Water Truck Spraying Inside Structure



Figure Above: External Structure Dust Suppression and Equipment Strategically Placed

PROSPEROUS FUTURE

### Actions to Minimise Dust Emissions



Figure Above: External Structure Dust Suppression and Equipment Strategically Placed

PROSPEROUS FUTURE



Figure Above: External Structure Dust Suppression and Equipment Strategically Placed

And these are just a few other shots of line 1 demolition, and that water truck there and a fogger unit there, another one there washing the inside. Just a few more shots inside line 1, outside.

**BW:** Did you end up finding out what that bad day was Andrew? What happened there?

### Actions to Minimise Dust Emissions



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**AW:** Yeah, I actually came in that day and I saw a lot of dust so I actually got them to shut down early that day. I think it was when they started in line 1. If it was the same day that I was here, you're talking about, I think it was when they first started in line 1. They had tried their best to clean inside, spraying inside the roof but it obviously wasn't good enough so we made them go back and do it again and do the rest of the pot line, washing it from the inside.

**BW:** Well, it hasn't been like it ever again since so it's working.

**AW:** Well that's good. I guess it is difficult, there's something like 50 years' worth of dust in that building.

And then the Carbon Plant, there's going to be dust in the Greenmix tower so we've actually left the water turned on because we want them to wash the whole Greenmix tower out from the top floor to the bottom, and we actually need to get the fire pumps going, the diesel pumps which we have going, and that will be happening in the next few weeks. We don't want to have dust issues with that demolition.

A few more aerial shots taken in November. It's hard to see but that's actually a water cart filling up from the north dam. We've got plenty of water there at the moment. We've been irrigating less, we haven't had to send as much water to irrigation so we're keeping it for on-site usage and that's working out pretty well. So we're actually saving on diesel running our generator to irrigate, and we're saving on potable water by using water from the dams so it's been good.

### Actions to Minimise Dust Emissions



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### Actions to Minimise Dust Emissions



CREATING PROSPEROUS FUTURES

### Actions to Minimise Dust Emissions



CREATING PROSPEROUS FUTURES

### Demolition Progress



Aerial View of Smelter South - 2/11/18



Aerial View of Smelter North - 7/11/18

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### Demolition Progress



North dams - 7/11/18



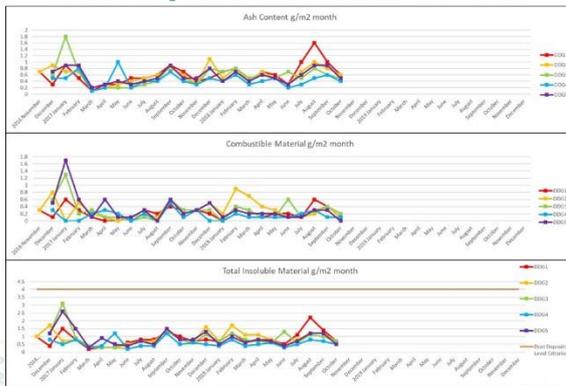
Line 3 North Area - 13/11/18

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That's the line 3 north area.

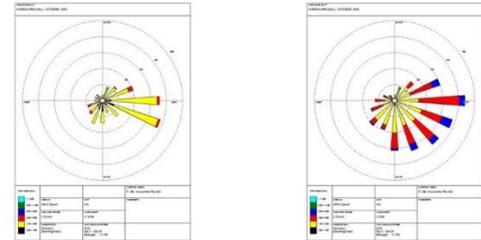
These are the latest dust deposition results from October so you can see we did have some issues in August, I think that's about when we started line 1. We had a lot of westerly winds blowing, so that's sampling point 1, which was quite high. It has come down again but we did have some bad days in November where we had that red dust so I think all the locations might be higher, I'm not sure. We haven't seen the November results yet have we?

### Dust Deposition Results – Oct'18



Trend graphs of dust deposition gauge results for 2017/2018

### Wind Rose Charts – Oct'18



### Site Locations



**KM:** Not as yet no.

**AW:** The wind's now coming from the south east and the east as opposed to the west so we need to keep an eye on these locations over this side with the wind blowing towards those (sampling points) four and five.

We've also successfully been able to move the rest of the ledge bath and our customer in China has agreed to take the remaining 940 tonnes and that's leaving site – it's actually been going this week, some more next week, and the rest will be gone by the end of January. So that's been a good outcome. Less material going to the cell and it's getting recycled at a smelter in China.

We've also continued with removing PCB contaminated soils. This is the 5A/8A substation from the carbon plan, one of the older ones. It was PCB-impacted and we've taken it up to that shed at the south end of the site, and that will then go to Altona in Victoria for thermal desorption, similar to the last lot we sent.

We've also core drilled a number of the slabs that we know were underneath transformers that had PCB-contaminated oil from the oil sampling that was done on those transformers. We've sectioned the cores at 10, 50 and 100mm depths and we're checking for PCBs and we've found it's only in the surface so we're just going to scabble the top of the slabs or anything that's stained we'll have to remove and that will also go to Altona in

### Ledge Bath Shipments



0.080T of ledge bath & anode cover material was on site – 2.460T of ledge bath has now left site. About 0.40T still remains and will all leave site for recycling in China by the end of January. A trial to recycle the remaining 2.700T of anode cover material was not successful.

### PCB-Impacted Soils



Removal of PCB-contaminated soils at 5A/8A substation (photo taken 1/11/18)

Victoria. But the rest of the concrete, from the testing we've done, looks ok and it can be recycled.

## Procurement Plan – Remediation Contract

- Procurement analysis currently being finalised.
- EOI issued on 22/1/2018 and closed on 28/2/18.
- Currently evaluating EOI submissions and meeting with shortlisted candidates.
- Supplier qualification audits for the shortlisted companies completed (Jul'18).
- Expecting to have a civil / earthworks / remediation company as the Principal Contractor with a specialist lining installer as a subcontractor to the PC.
- Target date to go out to tender is in Q4'18 (pending EIS approval date and approval by EPA's technical review of the cell design).
- Tender documents will include – detailed design docs (including drawings, tech spec, CQA plan & others), draft AS2124 construction contract with amendments plus various project-related documents (eg. EIS, conditions of consent from DoPE/EPA and various Hydro management plans – WHS, EMP, asbestos management plan, etc).
- Lining materials – HDPE liner is a long lead item and only the pre-qualified suppliers from the liner testing can be used. Decision to be made on Principal-supplied or Contractor-supplied item (leaning towards Contractor-supplied based on advice from the cell designer).
- CQA contract to be awarded.
- Expected award date is Q1'19 pending authority approvals and Hydro decision gate approval process.
- **Early works remediation package to start in Q4'18. Will stockpile the waste at a suitable location on site and survey to ascertain the volume for the cell.**

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## PCB-Impacted Concrete



Coring of PCB-impacted concrete slabs and sectioning for concentration profile analysis (20/11/18)

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On our procurement for the main remediation contract for the cell and the remediation of the site, we're now at the stage where we're just about to issue a tender package early next week. We've been having meetings with the tenderers. We did like a pre-tender process, gave them some early information which was mainly the GHD detailed design drawings and the tech spec and the RAPs, Remedial Action Plans, and they've been looking at that information over the last month or so. This week they've been coming to site and having a look around the site because we hadn't invited them to the site for a tour until now. Next week they'll get the tender package, and then that tender will close into late March.

We're hoping to get approval around the same time, March-April for our EIS, so Richard at the last meeting spoke about that we'd issued our Response to Submissions report to Planning. Planning then issued the RTS to all the agencies, like the EPA and etc for review and comment. Their comments have come back all except for one agency, I think, OEH. Planning are still waiting on their response. And we hosted a visit from Planning, all the people that were here four years ago have moved on, they've got new people. So they wanted to have look around the site and get a better understanding and one of their consultants came here with them and is looking at the cell design, doing like a peer review of GHD's work on the cell design, and looking at the long term management plan and funding for that. And they've made some comments and were in the meeting. So those comments were received back on 29 November. We had a meeting with them on 3 December and

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

- Response to Submissions (RTS) Report
  - DoPE has issued RTS to agencies (eg. EPA etc) for review and comment
  - DoPE (and their consultants) site orientation visit 22/10/18
  - Comments received 29/11/18 and meeting with DoPE on 3/12/18
  - Follow up meeting with DoPE & their consultants on 18/12/18 to discuss issues raised

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then we've got a follow up meeting next Tuesday with Planning and their consultants and I'll be taking GHD down there with me as well as Ramboll, to go through that report on the cell design, so GHD can answer any questions directly and we'll also talk about the long term management and funding for that. So probably the next CRG meeting when Richard's back we'll have more information we can share on that.

On spent pot lining recycling, Richard never left me the files for this one so I haven't updated anything but it doesn't really matter because I don't think anything moved in November, and so far this month in December because there was an audit done over in China and we're just waiting on some follow up actions to be completed before any more moves. This was a trial quantity.

We're also working on another processing agreement which Richard's called option B and that contract's currently being negotiated and hopefully will be awarded soon. And we're also investigating another option, which is a cement kiln option but they're going to need some approvals with the EPA and Planning so that's probably a way off yet.

Hopefully with those three options going we can stick to our plan of recycling all the spent pot lining within the next three years, that's what we're planning on.

That's it. Any questions?

**MU:** Any questions to Andrew on this project update, besides the ones we already had?

**TT:** So the demolition of the stack is the second quarter of next year then is it?

**AW:** Yeah.

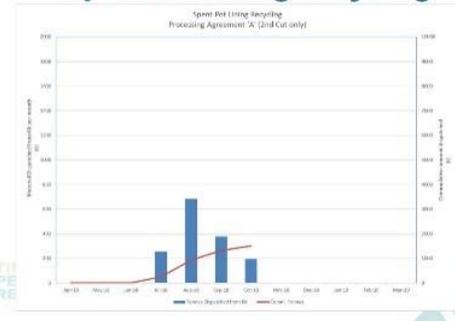
**TT:** That's the questions I get asked all the time, when they're going to demolish the stack.

**MU:** So you might mention there was a risk assessment, Andrew.

**AW:** Yeah we did a risk assessment workshop with CMA and their demolition, well their stack demolition subcontractor, Precision Demolition, and they do like 95 per cent of all the stacks in Australia. And they went into great detail on the methodology of how they're going to demolish the three stacks. So they're all going to come down within 800 milliseconds, 0.8 of a second apart, so like within two seconds, all three will be down.

And it's basically like felling a tree. So, they drill holes and they make like a wedge in one side and fill it with charges to, not fully through, just like 250mm in, and the stack is 380mm thick. Then

## Spent Pot Lining Recycling



## Spent Pot Lining Recycling

- Processing agreement 'B'
  - Contract negotiations well progressed
  - Contingent on inspection of end consumer facilities (overseas)
- Investigations are ongoing with another option. This includes:
  - Site visits for the purpose for 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



on the back of the stack they put in a saw cut up to the reo but not through the reo, and then they drill two holes in the side which acts like a hinge point. So when they blow the stack that wedge blows out, and the stack is not supported so gravity takes over and the stack starts to fall in that direction. The reo on the back snaps because it can't support the weight and then the stack falls.

The big stack's going to go to the south west. The line 3 north stack is going to fall to the south east, line 3 south stack's going to fall this way, to the northeast.

And we're going to have to block off Dickson Road, so there won't be any access to the speedway or the motorcycle track on that day. And we'll block Hart Road probably at Scales Avenue so there won't be any traffic coming this way, and there will be sentries set up but there will be more information coming on that.

**MU:** It's a very involved process where safety is the number one, two and three priority as you've seen through this project. It's the number one thing all the time. There's a lot of work to do. But there will be plenty of notice to let you know when to find a vantage point. Get popcorn.

**AW:** So this is the latest video from Andrew Solomon, our construction manager.

**Video played.**

## 7 Items of historical significance

**MU:** Wow. Each time he tries to outdo himself I think with the editing and the sound and that sort of thing. We know what job Andrew will be setting up if he hasn't already set himself up for the future, post Hydro.

Pass on our thanks for the year of videos that we've had please.

**AW:** I will.

**MU:** It's been really good. Seeing a photo is one thing but seeing it actually happening and the year wrap up is fantastic. Thank you.

Next item is to talk about items of historical significance and Andrew's taken some photographs so there are ... well do you want to talk it through? There's quite a few items that are sort of largish items and there's also records. There's all sorts of things and the team's been thinking about what to do with them.

**AW:** We were going to just take a walk over to the PTC, the personal training centre, which is where we're keeping anything we think is of historical value but Kerry and I have forgotten the code for the alarm so I've got some photographs instead.

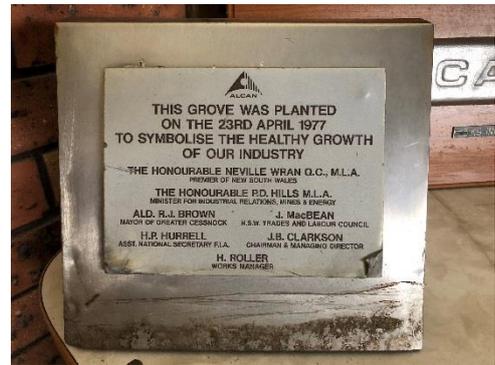
This is an example of, you know, this is a plaque that was out of the front of the admin building. We've got other plaques, like pot line 1 was opened by the then Governor of NSW. The plaque for pot line 2 was opened by, well was officially opened by Neville Wran. So we think things like that are worth keeping, obviously.

These are just a few signs that may be of interest to people that worked here. There's some artworks, I think this one was done by a high school student. There's some other products that were made here. That's a 5kg foundry ingot when we were Capral. And that's a wheel from one of the downstream customers. Some of the PPE that was worn on site, hot metal gear and normal work clothes in the workshops not around hot metal.

**DG:** There's nobody that has shown an interest or in keeping this together for a collection?

**AW:** Well, we were thinking of something like you know, what's at the Newcastle Museum for the BHP Steelworks. We could maybe talk to them about setting up some kind of a display. There's also lots of other information, there's lot of photographs that potentially could be given to, I don't know, the State Library, or a local library, or council.

**MU:** So we started to discuss this as a team, and then we suddenly said, no no, let's ask the CRG. Let's ask you guys





# Hydro

because you volunteer your time and have got a lot of interest in this. You're the conduit to the community so we thought we'd ask you what you think. We know that Cessnock council has an interest in a lot of historical things. Do you want to take us through that Alysia?

**ANo:** Well you guys would probably know better than I do that they're always looking for donations of items of historical significance. I understand they are kept in the basement and they operate basement tours a couple of times a year, perhaps where people can go in and look at those items. So that was one suggestion that we might ask council and the library what items they may be interested in and what they've got storage for. Obviously some items are larger than others.

**MU:** But then, as well as that, this site and its history is of larger than local significance. It's been an economic benefactor to the state and certainly to the region and so we thought maybe there'd be some rationale for going bigger than that. So certainly local is important, and the local community, it's been part of the local fabric, you all know this. But we thought we'd just get a bit of a feeling around the room of if you think we should start big and then come down or put all the feelers out and see who bites. I'm mixing my metaphors sorry, but yeah. So, what do you reckon, that's the question?

**DG:** I think you put it out there. Obviously the low hanging fruit is the library, like council.

**IR:** I think the local library would be interested in certain photographs. They keep a lot of electronic records of those things and scan them and make them available online.

**MU:** As in Kurri Kurri library, part of Cessnock?

**IR:** Cessnock library does that. They've actually got an archivist there, and she's quite well known, well respected. My understanding is she scans a lot of those things to keep them on record. These larger items though I'm not sure the library has the space for those sort of things.

**DG:** Yeah, that's what I mean. We need to have that discussion. I mean, it would be a shame not have some sort of display and have them put in a cupboard somewhere and never seen at the same time. I take your point that you were saying earlier Michael and say we put it out there and see who jumps and then let's evaluate it.

**RA:** Going forward, do you think Flow is interested in actually having a building or exhibit on site that maintains the collection



altogether rather than dispersing it to everywhere. It makes more sense if it was kept together, I feel.

**DG:** I agree. Keeping it together is an imperative.

**RA:** It could be done quite tastefully in like a community room or something on site, so that you can come back and see it.

**MU:** So that's something that wasn't raised previously so that's good.

**AW:** We could also talk to them about that.

**AN:** You could also look at some sort of interpretative signage and things like that throughout the site so it retains some of the plaques in place, to sort of demonstrate what was there, what has guided the site.

**AG:** I think we really need to talk to Flow a little bit and see what's been said there. You know, one of the things they said earlier on, was putting in down towards Maitland around the swamp there, was that they were going to make that recreation and everything else make it a part of tourism and camping and so on and maybe get a grant and they can put a building up down there. Be a bit of a shame ... it really needs to be on this site, rather than say go out to towards Maitland and another part of the site and put another building out there. It really needs to be on the Hydro site.

I'd like to see if Jamin is up to that recreational area, that area for camping and everything else, and might have a nice building that people can visit, a visitors centre.

**MU:** Fabulous ideas, thank you. Any more? Any more opinions?

**DG:** I think that related to some of that signage, is like what you see in Sydney, you see a lot of modern buildings but the old signs that sit on them that say what was here before so you could also do something like that.

**AN:** Well it could really work quite nicely with bringing the site in terms of the new elements particularly in this section, because it is a transition of an employment generating area and seeing what the heritage of the site is could well mean to it.

**MU:** Was that all the photos? Was that it?

**AW:** There's a few more.

**MU:** Ok, we'll see the rest of what you've got.

**AW:** So here's a hot metal jacket.

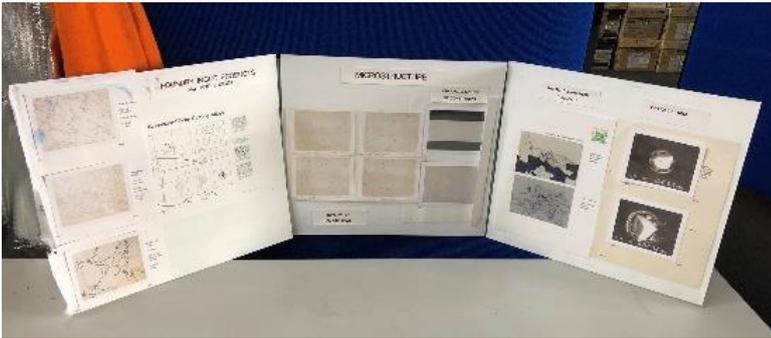
**MU:** I saw that on Lost in Space back in the 70's.



**KM:** Yeah true.

**AW:** That's one of the trilock ingots. I started here in '88, they'd stop making it but Billy knew all about it when we showed him the casting wheel up on the mural. He was telling me all about it. That's a 22.5kg ingot.

These are just slices through extrusion ingots. That's a tri-lock ingot. That's some metallurgical stuff.



This as well may be of interest to people. These are gas cylinders that were made from extrusion ingots produced on DC2, used for like scuba divers and things.

That's the pattern that was used when ANI cast the 10,000 anode rod yokes as part of the cast iron rodding project in '97.



This is just an example, this was used at the DC3 inspection station so the operators had like a visual guide for just acceptable, acceptable and unacceptable defects on extrusion ingots. That might be of interest.

These are the signs from the protest that was done when the contract got pulled off the table at the eleventh hour by the



Keneally government and we didn't get our power contract after the Norwegians had signed it and come out here to meet with the government. So that's all part of our history.

The last cruce that was tapped by B shift on 7 September on pot line 3, that might be of interest to people who worked here.

And we've got heaps and heaps of photographs, so that's just an example of a photograph that is on the wall of the PTC but we've got thousands upon thousands of photographs. We've mainly been trying to keep photographs of people, because we think that would be of most value but we've also got lots of photographs of the plant when it was built and different machines, and processes and things. We want to preserve as much as we can of the photographs.



**MU:** I suppose things like these photographs are generally, as I understand it, could be re-photographed and digitised and then they can be shared around anywhere and you can make as many copies as you like.

We need to stay and talk a lot longer because this storm's not going to let us out the door.

**AW:** These are some trial pots that we had in line 2. Alcan was going to build a smelter up at Bundaberg, so the Capricorn Aluminium Project which is where the word Capral came from, which we were later named. These are the CA175 pots, so there were four of them in line 2. They were a higher amperage pot. And this is a model of the line 3 pots. We didn't end up going with those trial pots, we went with a different design for line 3, a higher





amperage again with extra anodes. We thought that was worth keeping because it's a plastic model of the pot.

I think that's it.

**MU:** Great. So I guess some of those items might lend themselves to some of these ideas, and other things to others. You know, you wouldn't necessarily put photographs out in the open but you certainly might put some of these other larger items out and so on.

How should we step forward? Lots of ideas there. We could start by ruling out, well talking to Flow, if you think doing something on site has potential, then Flow will be the new owner, so they need to agree or not and if they say no, then that frees up other opportunities. But if they say yes, then it's a case of working through what might be viable or not. We've got time. You're not knocking that building down any time soon?

**AW:** No, these three buildings here that we're using, we're allowed to use them until September 2021, so we've got a bit of time. I mean that may be an option that they might consider keeping one of the three buildings, that could be set up as a visitors centre and a display.

**DG:** But who would administer that going forward? Would that become the property of council, how would that actually work?

**AW:** I'm not sure.

**MU:** Other thoughts? What I can do is, I can collate these ideas and send them back out to you guys after you've had a bit of time to think it through and if you want to, you know, lobby one way or the other, then please do. Clearly, there's a lot to be shared.

**DG:** Can you circulate something wider, to people of interest?

**MU:** Yeah. So, for example with the mural that we opened just the other month, we started with an advertisement and we promoted the idea that we wanted to hear from the community about how to best commemorate the heritage and history of the site. And from that was born the mural committee because murals came back as being - 80 per cent of the people that responded said mural. There were probably, I don't know, 14 or 15 responses I think and most of those said mural and we went from there. We could go out wider and see what the wider community thinks. What do you think of that idea?

**RA:** I think let Flow have first bite, and at end of the day we need someone to administer it and put the resources into it. If we go to community we'll likely get 500 different ideas.



**DG:** The photos are probably not a great problem, the library will take the photos and stuff they don't take up a lot of room. But when you look at South Maitland Railway Museum the volunteers are out there. Talk to Flow first and see if they want in, and maybe some of the old employees want to come along and talk about this stuff, and keep it open.

**MU:** I know we've got access to employees through the reunion committee that exists, it's got a network and a Facebook page.

**TT:** The local museum may be looking to relocate to a better site. If Flow want to keep one of these buildings here the Kurri Kurri museum, I think it might have a few problems staying there.

It's a good opportunity for the museum to possible relocate, but it's all up to Flow. We need to know whether there's a possibility of the reuse of one of these buildings.

**AW:** Yeah it's really ... up to them. We can put the question to them.

**MU:** Alright, so discussion to be continued. We'll get a bit more information from Flow about their appetite for what would be an investment in doing something here, and then maybe we'll talk again at the next meeting and see what came of that and then we'll all have had a little bit more time to think that through as well.

**IR:** That will give me an opportunity to talk to the library and see what their opinion about it is as well.

**MU:** We were initially talking about going to talk to the Newcastle Regional Museum, as well as Cessnock council as well as potentially the archives at the University of Newcastle. There's a whole range of different, potential entities that might put their hand up to get involved. But at the end of the day, there's a good argument for trying to keep the collection together. There's interesting points that have been raised around the table today.

So I think in the first instance then, if everyone's of general consensus, that we talk to Flow and come back next time, and see what we like and if you've got more information from Cessnock that would be great.

**KH:** I think ideally it should be accessible.

**MU:** Accessible yeah.

**KH:** I'd hate to think it will go to somebody that's going to put it in their basement.



# Hydro

**DG:** I didn't mind the idea but yeah obviously Flow, if a building comes with it, the fact that we have a legacy asset, possibly involving the historical society.

**MU:** Alright, watch this space, we'll keep moving on that.

Anything else around historical stuff? Happy to wrap that?



## 8 CRG questions and answers

**MU:** The next item is questions from the community through the CRG. Anything come up from anyone at the moment?

**AG:** The one big one we're getting all the time, well from people I'm getting it second-hand, the pressure on people living or own property within the boundary, feel they're being pressurised to sell.

**MU:** So people who own property or are leasing property, tenants?

**AG:** I don't know whether over the years, I know several people and families, that own property they don't know whether they've sold.

**BW:** No, the Lindsays haven't even been contacted or anything like that. I'm the only one so far that they've been talking to.

**AG:** As I say, they just don't know that the older people don't feel they're being talked to.

**MU:** Kerry would you like to respond to that one, or is there anything you can say?

**KM:** There's probably not much I can say at this stage. As Brad said, the only contact from Flow has been to Loxford Fabrications.

From the Hydro perspective, early in the new year we're contacting all buffer zone residents and some of the residents outside the buffer zone nearby just to update them, give them a heads up about our remediation and so forth, the reclamation of the material from the old dump, the Cessnock dump back in the day. So again, there will be that dialogue occurring early in the new year, and I guess that's also an opportunity, if they've got any concerns, they can certainly express them to me being Hydro and I can certainly relay them to Jamin if it involves Flow and the future.

**MU:** I guess the other thing is, we are looking to put together another newsletter, a summer edition, to bring the locals up to speed with what's going on. We'll look to see what we can put in there around that topic. This project has been a long time in its operation so far, since 2014. It's got a long way to go. But yeah, if anyone does have questions, the door is always open to make a call and we'll find a response to anyone that has a question.

**AG:** We haven't had anything direct from people living in the area, whether they've been talking to other people.



**KM:** In Bowditch Avenue those first four or five houses are still privately owned and as I said, we'll be contacting them early in the new year to have a chat.

**MU:** Is there anything else that's come to you through or from the community or generally, from any work or whatever? Council?  
No?

OK, look I think that's probably it. Have you got anything else Andrew?

**AW:** I just wanted to say, on behalf of Hydro thanks to everyone for attending these meetings this year and I hope everybody has a good Christmas, a safe and merry Christmas.

## **9 Any other business**

**MU:** Thank you. Any other business around the table? Alright, well I'll echo Hydro's comments. Really appreciate the volunteering that you do and have done for such a long period of time. Some a short period, but some for, you know, since 2014. I think August 2014 was when we started. So that is really valued and you're doing the community a service as well as the regrowth of this region a service so thank you very much for that.

I look forward to seeing you at the next meeting which will be in February, so that third Thursday, 21 February. So if you put that in your diary and we'll send that out in the minutes for you to put in your diary and then we'll send out the agenda and so on.

Thank you, I hope you brought a raincoat.

**MU closed the meeting at 7.10pm.**

## **10 Meeting close**

Meeting closed: 7.10pm

Date of following meetings:

Thursday 21 February 2019

Thursday 18 April 2019