Lithgow Environment Group Inc.

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Preserving the Balance of Nature

Mining and Industry Projects
NSW Department of Planning & Infrastructure
GPO Box 39
Sydney NSW 2001

23 May 2014

Application Number: SSD 12_5594
Dear Sir/Madam

RE: SPRINGVALE MINE EXTENSION PROJECT (SSD 12_5594)

The Lithgow Environment Group Inc. strongly objects to the proposed extension of longwall mining at Springvale Colliery because it and the adjoining Angus Place Mine Extension (12_5602) will cause significant damage to nationally endangered swamp communities, will significantly increase pollution levels in the Coxs River and Sydney Drinking Water Catchment, will reduce the reliability of water flows in Carne Creek and the Wolgan River affecting tourism values and the Greater Blue Mountains World Heritage Area (GBMWHA), and will adversely affect Newnes Plateau which is an integral part of the Gardens of Stone Stage Two reserve proposal.

Nationally-endangered Newnes Plateau Shrub Swamps occupy less than 2.2 % of Newnes State Forest. The proposed Angus Place and Springvale Colliery Extension projects will fracture the sandstone beds beneath 63 of these nationally endangered swamps, and over 50% of the total. LEG believes that it is entirely feasible and in the State and National interest to modify the proposed mine plan to retain the coal underneath just 2.2% of Newnes State Forest to protect these Nationally Endangered swamps and associated groundwater dependant ecosystems.

Angus Place and Springvale Colliery have a long and extremely poor history of over 1000 Licence Non-compliances since 2000[4], the vast majority of which relate to water quality breaches. Clearly some serious systemic problems exist with the current water quality management of discharges from these mines. These issues must be addressed before approval of a more than trebling of discharge volumes over 15 years into the already over-stressed Coxs River catchment.

The proposed 15 year Consent Period is far too long given the history of 'unforeseen' impacts associated with Angus Place and Springvale Colliery's including cliff falls, swamp deaths, and water quality breaches. It may prove very difficult to amend the Consent Conditions should unpredicted issues arise during those 15 years. Mining companies rarely do anything 'voluntarily' to protect the environment without seeking taxpayer-funded subsidies, inducements, and compensation.

Planning consent should be limited to a maximum of 5 years, and must be subject to performance 'triggers' that ensure the health and integrity of nationally endangered swamps, the Coxs River and Sydney Drinking Water Catchment, national, international and World Heritage values. If the trigger levels are exceeded then the Consent should be reviewed to address any failures.

The Lithgow Environment Group believes there is ample published evidence to prove that self-regulation and adaptive management of mining in the Lithgow region does not work. Highly paid Consultants for mining companies have a vested interest in not finding any impacts, and consequently do not find and / or report any. The hands of the Government regulator's are tied by funding and staff shortages, undue political pressure, and the ever-present threat of job losses. These systemic regulatory failures can be addressed by allowing effective input from other groups and individuals, thereby reducing the pressure on over-taxed State and Federal agencies.

Our concerns are confirmed by the Commonwealth Department of Environment, which also determined that the proposed development is a "controlled action" under the Environment Protection & Biodiversity Conservation Act 1999, Part 3, Division 1 controlling provisions -

- sections 12 and 15A (World Heritage properties);
- sections 15B and 15C (National Heritage places);
- sections 18 and 18A (Listed threatened species and communities);
- sections 20 and 20A (Listed migratory species);
- sections 24D and 24E (a water resource, in relation to a large coal mining development).

The Lithgow Environment Group believes that mining footprint of the Springvale Mine Extension must be significantly lessened and the intensity of mining methods reduced to protect nationally endangered swamps, Carne Creek, pagodas and cliffs. Centennial Coal must be required to consider alternative bord-and-pillar mining methods in these environmentally sensitive areas.

As a bare minimum the northern longwalls 416 to 422 should be significantly narrowed to prevent surface cracking under the best developed, largest and most intact swamps on Newnes Plateau; longwalls 432, 431, 430 and 429 should be shortened to prevent damage to the Marrangaroo swamps, longwalls 425 and 426 should be shortened to protect Paddys Creek Swamp; and Longwall 501 should be shortened to protect cliffs and pagodas

The Lithgow Environment Group believes that all of the proposed minewater discharge of up to 43.8ML/day into the Coxs River via the Springvale-Delta Water Transfer Scheme (SDWTS) must be treated by reverse osmosis to remove salts and metals to a standard which protects the Coxs River and Sydney Drining Water Supply and near-pristine ecosystems in the World Heritage Area. No emergency discharges should be approved into Carne Creek or the Wolgan River.

The Lithgow Environment Group strongly objects to this proposal for the following reasons –

1. INADEQUATE STAKEHOLDER CONSULTATION

The Director General's requirements stressed the importance of effective and genuine community consultation and the need for the proposal to proactively respond to the community's concerns. However the Springvale Mine Extension EIS - Part 2[2], Chapter 7.0 Stakeholder Engagement, Section 7.3 Stakeholder Engagement Plan, page 195 only identified -

> *"Stakeholders are government regulators; Colong and BMCS. There may be some other environmental groups, users of the area (bush walkers etc) however these are not identifiable at this stage."*

The Lithgow Environment Group (LEG) was formed in 2005. For the past 9 years local members have worked *"To preserve the balance of nature in its region."* LEG is the only Lithgow-based community group soley dedicated to local conservation issues. For the past 9 years LEG has –

- Held regular monthly meetings, and more recently bi-monthly meetings;
- Regularly issued Media Releases through the Lithgow Mercury, Lithgow Radio 900 2LT and FM 107.9, and other media outlets;
- Raised awareness about local issues via LEG's Website (www.lithgowenvironment.org/), LEG's Facebook Page (https://www.facebook.com/pages/Lithgow-Environment-Group-Inc/539006109525782), in BMCS Hut News; and through other avenues;
- Manned information stalls at various local events such as Ironfest, Celebrate Lithgow, Back to Hartley, NAIDOC week, and more – some of which are also attended by Centennial Coal;
- Had members representing our group on the Delta Western Community Reference Group since its inception in February 2008; Lithgow Environmental Advisory Committee (LEAC) since 2008; Lambert's Gully Mine CCC; Clarence Colliery CCC; and more;
- Participated in many public meetings on mining related issues including the NSW Coal and Gas Strategy Regional Forum in Lithgow on 25 February 2011; Lithgow City Council (LCC) Economic Development Strategy 2010-2014; LCC Land Use Strategy 2010 -2030; and more;
- Conducted Water Quality Monitoring in local waterways as part of the Sydney Catchment Streamwatch Program commencing September 2006;
- Lodged numerous submissions to the DoPI on various mining and other proposals, including propsoals by Centennial Coal;
- Held regular working bees and field days;
- Worked in close partnership with the Blue Mountains Conservation Society (BMCS), Colong Foundation for Wilderness, and the NCC to promote the Gardens of Stone Stage 2, which will be significantly impacted by the Angus Place and Springvale extension proposals.

LEG members are puzzled as to why Centennial considers our group to be "….*not identifiable at this stage*, deemed it unnecessary to undertake effective and genuine community consultation with LEG, nor identified a need to proactively respond to the community groups's concerns?

LEG has worked closely with Blue Mountains Conservation Society and the Colong Foundation since 2005, and consider that it is untrue that the 'Consultation Strategy' between Centennial and these groups described in the Springvale EIS[1] (p. 201 and Table 7.1.) *"… is leading the way in terms of engaging with high profile NGOs"* (p.210). Talks between these two groups collapsed in late 2010 due to Centennial's inadequate response on damage to East Wolgan and Narrow Swamps.

LEG also questions whether affective and genuine consultation has occurred with key landholders and businesses affected by this proposal. Water flow in Carne Creek and the Wolgan River will be significantly reduced if 43.8Ml/day of water is diverted from these catchments to the Coxs River via the SDWTS. The Wolgan River dried up in Fenruary of this year, the forst time in memory for our members.

LEG's former President and current Treasurer Mr Thomas Ebersoll is the owner/operator of the Tourism business known as the Newnes Hotel & Cabins in the Wolgan Valley. He has confirmed that there has been no effective or meaningful consultation between Centennial and his business, with other tourism ventures sincluding the 6 Star Wolgan Valley Resort and Spa, or with residents and farmers in the Wolgan Valley. The Emirates Wolgan Resort & Spa relies solely on Carne Creek for its water supply.

And it is apparent from Table 7.2[2] that Energy Australia is not satisfied with the consultation:

> *"Springvale Colliery is aware of Energy Australia's concerns regarding the water supply from the SDWTS and is committed to working towards a satisfactory resolution for both parties."*

There is no mention anywhere in the 1000's of pages of documentation for this EIS that the SDWTS is actually jointly managed by Centennial and Delta Electricity (now Energy Australia EA), LDP009 is actually on land owned by EA and is covered by Environmental Protection Licence (EPL) for which EA is responsible[4].

<u>The ownership of and responsibility for the SDWTS is very unclear, as is the situation regarding responsibility for and rehabilitation of the Kerosene Vale Fly Ash Repository. Critical Issues such as the EPL's, land ownership, and final rehabilitation of the *entire* route of the SDWTS should have been clarified in the EIS, and must be clarified prior to any consent approval.</u>

LEG believes that approval of this proposal in its currently proposed form for 15 years will create a quarter of a decade era of massive confrontation between major Stakeholders, Centennial Coal, and the NSW Government. LEG reiterates that consent for a period of 15 years is far too long, that self-regulation and adaptive management does not work, and that Centennial Coal's Stakeholder Engagement Plan with 'high-profile' NGOs has had no effect on conservation outcomes. If NGOs, local groups, landholders, and tourism businesses were effectively and genuinely engaged in the planning and regulatory process, then some mutually beneficial outcomes may be achievable.

2. INADEQUATE REGULATORY COMPLIANCE AND REPORTING

Between 2000 and 2012 a staggering 1039 Incidents of Licence Non-compliance were recorded under Environmental Protecion Licences (EPLs) issued to Springvale Colliery (EPL 3607) and Angus Place Colliery (EPL 467) under the *Protection of the Environment Operations Act 1997 (POEO Act).*[4] LEG understands that Springvale Colliery has recorded the highest number of POEO Licence Non-compliances for any mine in NSW.

Table 1: INCIDENTS OF POEO LICENCE NON COMPLIANCE: Springvale and Angus Place Collieries 2000 – 2012. Source: http://www.environment.nsw.gov.au/prpoeoapp/searchregister.aspx[4]

LICENCED PREMISES	POEO LICENCE NUMBER	NUMBER OF INCIDENTS OF LICENCE NON COMPLIANCE 2000 - 2012													
		2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	Total
Angus Place Colliery	*467*	2	3	3	2	1	5	7	23	7	6	3	10	2	**74**
Springvale Colliery	*3607*	3	0	1	4	38	394	363	12	18	4	71	26	31	**965**
TOTAL		**5**	**3**	**4**	**6**	**39**	**399**	**370**	**35**	**25**	**10**	**74**	**36**	**33**	**1039**

Specific details of these EPL Non-compliances are included as Appendix A and B or can be viewed on the EPA POEO Licence Registerhttp://www.environment.nsw.gov.au/prpoeoapp/searchregister.aspx[4]

In addition to the 965 Non-compliances, Springvale Colliery was –

- Issued with Penalty Notice No: 3085772178 on 2 September 2013 for Contravening Part 5 pt 7 of the POEO Act for an offence committed on 30 May 2013[4];
- Ordered to undertake a Pollution Reduction Program on 1 August 2012 titled "Assessment of Settling Pond Performance"[4];
- Ordered to undertake a Pollution Reduction Program on 13 May 2013 titled "Sediment dam storage capacities"[4];
- Ordered to undertake a Pollution Reduction Program on 13 May 2013 titled "Groundwater seepage interception system"[4];
- Ordered to undertake a Pollution Reduction Program on 1 January 2013 titled "Assessment of potential impacts of pollutants at LDP6"[4];
- Ordered by Notice No: 1103012 on 9 September 2009 to undertake a Pollution Reduction Program to reduce **Nickel** at concentrations of 120-140 µg/L, **Zinc** at concentrations of 110-120 µg/L, **Aluminium** at 8.2 mg/L, **Iron** at 2.7-7.0 mg/L and **Manganese** at 2.6-3.3 mg/L. The ANZECC 2000 trigger value for Nickel is 11.0 µg/L, Zinc 8.0 µg/L, Aluminium 0.055 mg/L, Iron 0.3 mg/L and Manganese 1.9 mg/L[4].

In addition to 74 Non-compliances, Angus Place Colliery was required by the EPA to –

- Undertake a Pollution Reduction Program by Notice No: 1109300 on 17 February 2010 to

address the approximate 1,000 tonnes of salt being deposited into Kangaroo Creek a year based on average flow rates and salinity concentrations measured by the EPA at LDP1.[4]

- By Notice No: 1124602 on 9 May 2011 to vary licence condition U1.1 to require a feasibility report for the development of a water treatment facility to treat mine water to an EC of 350 us/cm by 30 August 2011[4].
- By Notice No: 1501416 on 19 December 2011 requiring LDP1 to be a nil discharge site by June 2013, and conduct a site specific study of best practice particulate matter control[4].
- By Notice No: 1512943 on 21 May 2013 to address non-compliance with discharge quality limits during extreme wet weather events at licence discharge point 3 (LDP3)[4].
- By Notice No: 1515230 on 29 July 2013 the EPA advised the licensee to reconsider its position of not meeting the 30 June 2013 deadline requiring no discharge through LDP1[4].

Despite the EPA's best efforts to clean-up known problems at LDP1 and require a Nil Discharge, the current proposal plans to treble the flow from LDP1 from 731ML to 2,300ML, and in the event the SDWTS is unavailable increase the flow from 6 to up to 14 times from either 4,750ML (13.0ML/d) or 10,457ML (28.6ML/d). (Source: *Appendix F_Surface Water Assessment, Section 5.1.3 Model Results, Page 79*)[3]

In addition on 12 October 2011 the Federal Minister for Sustainability, Environment, Population and Communities the Hon Tony Burke issued Centennial Angus Place and Springavle Colliery with a $1,450,000 Enforceable Undertaking for contravening Section 18(6) of the EPBC Act and causing significant impacts to Temperate Highland Peat Swamps on Sandstone in Narrow Swamp, Junction Swamp and East Wolgan Swamp, listed as "Endangered" under the EPBC Act. Narrow Swamp was undermined by Angus Place LWs 920 and 940, Junction Swamp by Springvale LW's 408 and 409, and East Wolgan Swamp by Springvale LW 411. (see the Ministers full judgement in *Appendix 3*).

None of these Non-compliances, Penalty Notices, or Pollution Reduction Notices are mentioned anywhere in the EIS[1,2] or Appendix F_Surface Water Impact Assessment[3]. Why not?

Clearly some serious and systemic Regulatory Compliance issues currently exist at Angus and Springvale Colliery's. The vast majority of these Non-compliances, Penalty Notices, and Pollution Reduction Notices relate to water quality breaches. Salinity levels in the Coxs River will spike massively to peak from 2018 – 2025 (Figure 26[3]), in particular during drought conditions likely to increase due to climate change. Copper, Aluminium and Zinc levels already exceed ANZECC (2000) guidelines at Angus Place LDP1 (Table 2.6[3]) and yet this Proposal will treble the flow under normal circumstances, or by 6 – 14 times if the SDWTS is unavailable (Section 5.1.3 Model Results, Page 79[3])

None of this bodes well for the Coxs River or Sydney Drinking Water Catchment if volumes of untreated mine water are trebled to 43.8ML/day via the SDWTS into the Coxs River system. Clearly the $1.45 million Enforceable Undertaking strongly indicates that endangered swamps will be damaged.

LEG strongly urges the Department to seriously review these regulatory Non-complaince issues **prior to approval**, and not give Consent for 25 years but for a period of no longer than 5 years.

3. ADVERSE WATER QUALITY IMPACTS IN THE COXS RIVER AND SYDNEY WATER CATCMENT

The combined effluent discharge from both the proposed Springvale SSD (12_5594) and Angus Place (SSD 12_5602) longwall mining extensions will be 43.8ML/day which will be sent to the Coxs River via the Springvale-Delta Water Transfer Scheme (SDWTS).

The EIS claims that these untreated discharges will go to Wallerawang Power Station, but it has ceased operation and is expected to remain so. As a result these untreated discharges will go directly into the Coxs River via the licenced discharge point LDP009, or into LDP1 in Kangaroo Creek upstream of Lake Wallace.

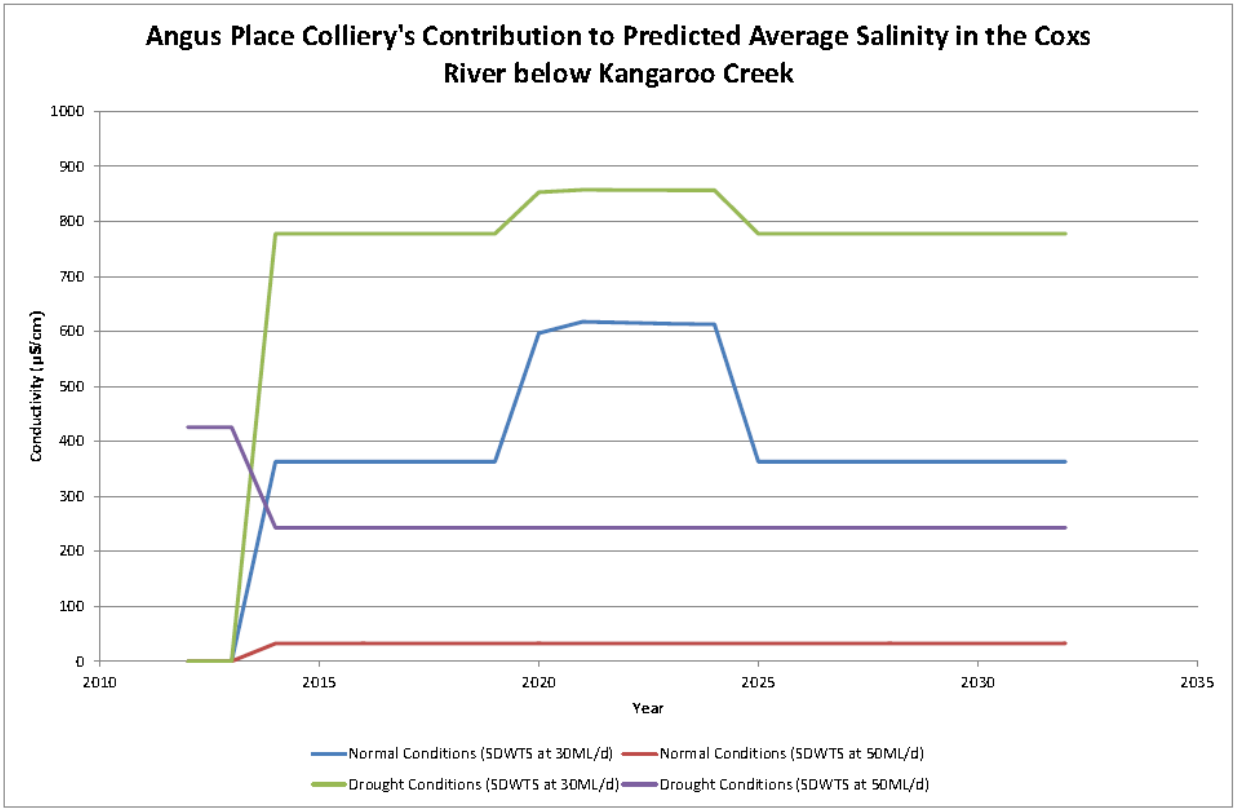


Figure 26: Angus Place's Contribution to Predicted Change in Salinity at Station No. Coxs River D/S

Figure 26 from the EIS Appendix F[3] clearly shows that salinity levels will spike dramatically reaching a peak from 2020 to 2025. Section 4.2.2**,** p. 65, identifies that the median salinity at LDP001 is 1,010µS/cm. Several Metals at LDP1 already exceed the ANZECC guidance including Copper aat 0.002mg/L (guidance 0.0014mg/L); Aluminium of 0.02mg/L; and Zinc at 0.046mg/L (guidance 0.008mg/L). These pollution effects will be magnified during drought conditions, which are likely to becomr more prevalent during the life of these mines due to climate change.

On 9 May 2010 the EPA issued Angus Place (EPL 467) with a Pollution Reduction Notice to reduce the estimated 1,000 tonnes of salt deposited from LDP1 into Kangaroo Creek each year based on the average flow rate of 731ML[4]. This Proposal aims to increase that flow rate 3 – 14 times.

The EPA had been working with Angus Place Colliery since 2010 to reduce the flow from LDP1 with the aim of a water treatment facility to limit EC to 350 us/cm by 30 August 2011, and making LDP1 a nil discharge point by June 2013. (Appendix 1, Notice Number: 1515230)

The Angus proposal is therefore a slap in the face for the EPA, the Coxs River, and 4 million Sydney water users, as they propose to treble the flow from LDP1 to 2,300ML, and if the SDWTS is unavailable, to increase the flow from between 6 and 14 times (4,750ML up to 10,457ML[3]).

In total this and the Angus proposal will discharge and some 31 tonnes/day (or 11,247 tonnes/year) of metal-rich Salts into the Coxs River which supplies Sydney with drinking water[3].

Photo 1: Springvale Mine/Angus Colliery Licence Discharge Point LDP005 into an endangered NPSS in Narrow Swamp, headwater tributary of the Wolgan River which flows into the GBMWHA– 14 January 2009.

Despite all the spin and rhetoric in the EIS - the above photo shows the reality. On this particular day at LDP005 LEG Streamwatch volunteers recorded a Salinity level of 1030µS/cm; Turbidity of 40 NTU (exceeded EPL limit); pH 7.5; Dissolved Oxygen 4.3mg/L (52%); Available Phosphate 0.07ppm; and Water Temperature of 25°C. The water had a chemically odour – attributable we believe to Solcenic water-soluble hydraulic oils, used in and spilled in vast quantities by long wall mining equipment.

It should be noted that the water temperature at LDP005 ranged from 22 – 25°C, even in the middle of winter when water temperature in undisturbed streams was 7°C, a full 18 degrees higher! The SCA Streamwatch Manual[29] and other publications identify that -

- As water temperature rises, oxygen levels decrease, making it harder for aquatic life to survive, especially cold-blooded species that can't regulate their own body temperature;
- Higher turbidity (ie. dirtier water) absorbs more heat, raising water temperature;
- Higher temperatures promote algal blooms, affects drinking water quality and ecosystems;
- Warmer water enables more salt to be dissolved, so salinity levels can get much higher;.
- High water temperatures affect fish breeding eg. Trout can't breed in water above 23°C.

The WA Dept of Minerals & Energy publication "Water Quality Protection Guidelines for Mining and Mineral Processing No. 11 – Mine Dewatering" (http://www.wrc.wa.gov.au/protect/policy/)[17] states: "*Discharge water should not cause the receiving water temperature to vary by more than 2 degrees C from its seasonal background levels.*" This condition should be included in any Consent.

The above demonstrates the many adverse impacts that the proposed discharge of 43.8ML/day of eco-toxic saline minewater will have on aquatic life and natural ecosystems in the Coxs River, Sydney Drinking Water Catchment and Greater Blue Mountains Heritage Area which it flows through, as well as potentially for Carne Creek, the Wolgan River, and Wollemi National Park if ant SDWTS malfunctions necessitate further Emergency Discharge's on Newnes Plateau.

At the source of the Coxs River in Long Swamp LEG Streamwatch[6] volunteers have consistently recorded salinity levels of 30uS/cm. Just 4.8km downstream at LDP1 the median salinity is 33 times higher at 1,010µS/cm (4.2.2 Quality, Page 65[3]), and 1,055uS/cm at LDP009. The high salinity of this minewater will significantly affect aquatic and riparian ecosystems that have evolved under very low nutrient conditions, and water users in the Sydney Drinking Water Catchment.

The proposed discharges from LDP001 and 009 are inconsistent with the Sydney Catchment Authority Audit 2010[7], which included Recommendations (see Appendix 6) requiring improved treatment of POEO licenced discharges in the Coxs River Catchment. Numerous reports since 1966 have highlighted the highly polluted condition of the Coxs River.[7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 25, 34, 43, 63, 64]

These proposed discharges also risk cancelling out negotiations between the EPA, Blue Mountains Conservation Society, and Delta Electricity (Appendix 5 - Delta vs BMCS) to establish EPL limits for concentrations of Copper, Zinc, Aluminium, Boron, Fluoride, Arsenic, Nickel and Salts being discharged from LDP009 into the Coxs River. Delta had agreed to construct a Reverse Osmosis (RO) Plant to treat the SDWTS effluent after use for cooling, and pipe the brine waste to Mt Piper Fly-ash Repository for disposal. The closure of Wallerawang Power Station jeopardises this.

It is in the public interest to control metal and salt pollutants at their source – the coal mines that operate within the Sydney Drinking Water Catchment. The current SDWTS proposal to provide cooling water to Wallerawang Power Station is no longer viable. The closure of this plant means these salts and metals will instead be flushed into the Coxs River thru the Greater Blue Mountains World Heritage Area and into Lake Burragorang – Drinking Water Supply for 4 million people.

Before discharge, this mine water must be treated to a standard that protects undisturbed aquatic ecosystems and the health of downstream water-users. The only effective way to treat the high levels of turbidity, heavy metals (including Aluminium, Zinc, Copper and Nickel) and salinity is by requiring Centennial to install reverse osmosis (RO) technology to remove all metals and salts.

The Springvale Water Transfer Scheme (SDWTS)

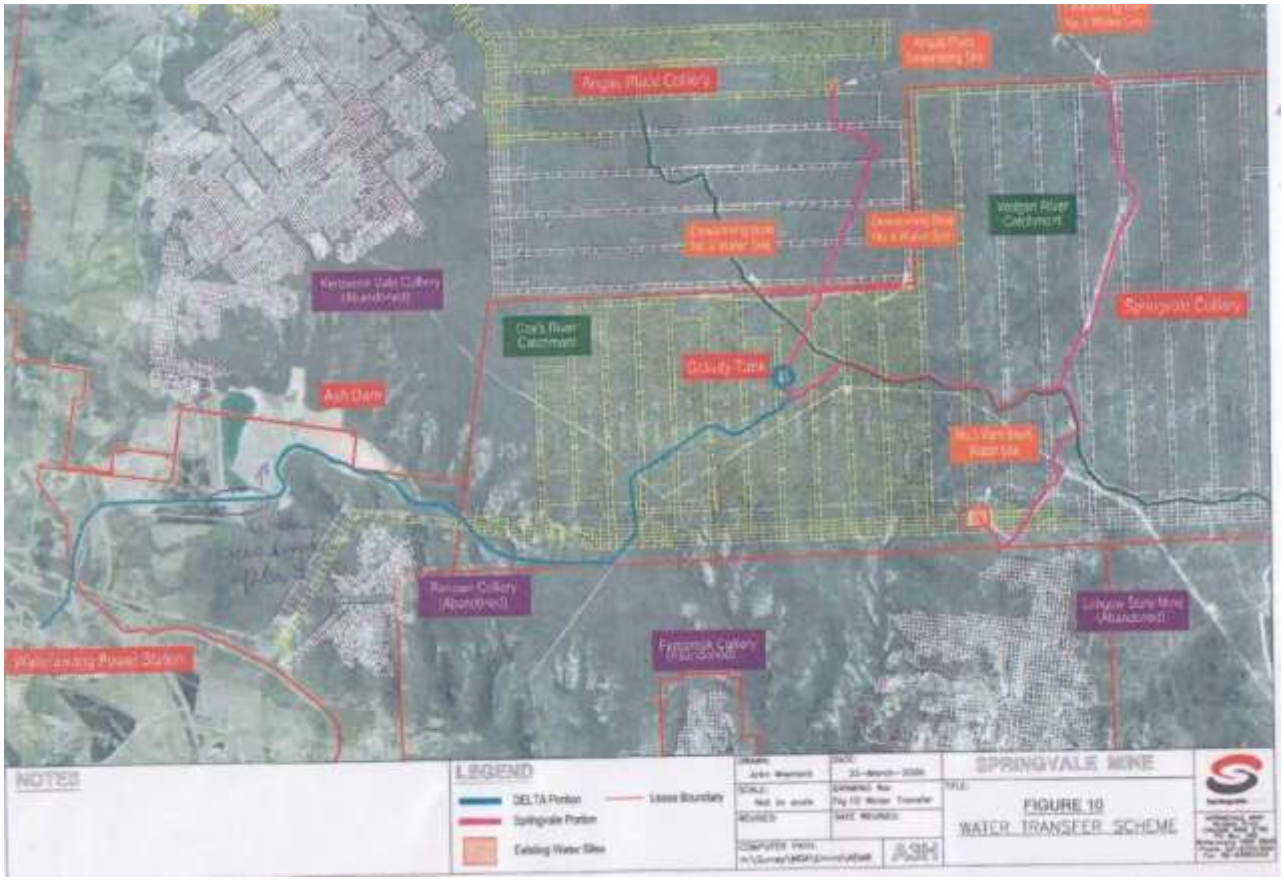
In 2002, Springvale Colliery entered into a Pollution Reduction Program with the EPA and began looking for alternative discharge points (Australian Mining, 2008). As a result Centennial proposed to provide a substantial part of the water to Delta Electricity for Wallareawangs cooling towers.

A scheme was constructed in 2006 to handle up to 30 ML/day or about 11 gigalitres a year. It now pumps at 12.5 ML/day from the Springvale and a further 8.4 ML/day from the Angus Place. The water was initially transferred by a 10 kilometre pipe directly to Wallerawang Power Station.

Shortly after commission in 2007 the SDWTS developed serious problems and ceased to be operational in 2008. Issues arose with the integrity of the pipeline, and use of mine effluent water in Delta's power plants, apparently due to high salinity and grit. While the SDWTS was out of action, Springvale Colliery conducted an "emergency discharge" initially for seven months. Two Angus/ Springvale discharge points LDP 004 and 005 sent 15 ML/day into the Wolgan River.

On July 30, 2008 pollution licence 766, which then covered the Wallerawang and Mt Piper power stations, was varied to require a program of works to treat Springvale mine water and reduce suspended solids by 1 October 2008 (DECCW, 2008). The works also involved discharge of water into Sawyers Swamp Creek (DECCW, 19 Feb, 2009), which flows to the Coxs River. The diversion was completed and the "emergency discharges" ceased regular operation in February 2009.

Delta and Centennial then built a joint venture "water treatment plant" at Kerosene Valley Ash Repository to reduce suspended solids in the effluent, completed mid 2009 with a capacity of 30 ML/day. To ensure electricity production was maintained during these works, a reverse osmosis plant to reduce salinity was temporarily installed at Wallerawang power station (Delta, 2008).



The above map was provided to LEG at a Delta Western Reference Group Meeting in 2008. It shows the SDWTS Pipeline route, and identifies that the Pink section of Pipeline is managed by Centennial, while Delta Electricity is responsible for the Blue section. Despite 1000's of pages of documents in the EIS, it is still unclear whether Energy Australia (EA) has accepted responsibility for Delta's section of the Pipeline, whether EA are happy for Centennial staff/contractors to access EA-owned land at Kerosene Vale Fly-ash Repository (KVAR) and Licence Discharge Point LDP009, and who is ultimately responsible for the EPL Licences for all parts of the SDWTS???

Also on 30 July 2008, the Delta Western Community Reference Group for Mt Piper Power Station was advised that "drought conditions" had affected the condensers at Wallerawang PS, requiring works costing $35 million. The "drought conditions" had necessitated use of untreated saline and turbid mine effluent in condensers designed to run on fresh water from Oberon Dam. The replacement condenser tubes are of a material able to handle prolonged exposure to water with higher saline levels (Macdonald, 2008)[60]. The then new SDWTS was so defective it required a new water treatment works (i.e. settlement pond) and repair of several major pipeline failures.

These failures arose because the SDWTS Springvale was pushed through under the old Pipelines Act 1967, as pipelines for mining operations are deemed complying development under the 2007 SEPP for Mining. Approvals under that Act do not require prior community consultation. In effect, the public comment and review processes that provide free access to the accumulated experience of the community were not available to Delta Electricity and Centennial Coal.

"Cutting red tape" does not always result in improved economic outcomes, while it almost certainly lowers environment performance. A letter to Centennial Coal in 2007 by the Colong Foundation warning that saline effluent would play havoc with power station infrastructure was ignored. Time and money would have been saved had an adequate environmental impact statement, with public consultation and review processes, been undertaken. These processes would have exposed the problems inherent in the constructed design.

The SDWTS scheme also means that the Coxs River has become saline. The Blue Mountains Conservation Society at great expense to itself and in the public interest has negotiated with Delta a reduction in the pollution of the river following proceedings in the Land and Environment Court (see Appendix 5) As a result of these negotiations Delta is required to obtain a pollution licence from the EPA to limit its maximum pollution concentration levels for copper, zinc, aluminium, boron, fluoride, arsenic, nickel and salt pollutants in its discharges from Wallerawang's cooling towers. This decision was to ensure effective pollution control technology was constructed by the end of 2015. But now with the closure of Wallerawang Power Plant these environmental gains may not be achieved, unless translated to the original source of pollution - the SDWTS.

The Springvale EIS, Section 4.10.1, p. 165 states that LDP004 & 5 will be retained within EPL3607 for Emergency Discharges. This is totally unacceptabe. Both can discharge up to 15 ML/day into nationally endangered swamps in Narrow Swamp (LDP005) and East Wolgan Swamp (LDP004), the Wolgan River, and the Greater Blue Mountains World Heritage Area. No Emergency Discharges should be approved without Reverse Osmosis (RO) treatment to natural background levels.

LEG understands that Ulan Coal Mine operates an RO plant to treat about 1-2 ML/day of their most saline water before release into the Goulburn River. The EPA has an EPL limit on Ulan's saline discharges of max. 900 uS/cm. Appin also had to install and RO plant to keep salinity below 900 uS/cm.

Through open planning processes, the Department of Planning and Infrastructure and the Planning Assessment Commission must leverage the above settlement with Delta to impose an effective and adequate water cleansing program for Centennial's mine effluent transfer system to restore the health of the Coxs River. Maintenance of clean waters would also significantly lower the operational costs for drinking water suppliers and for the power generators.

4. DAMAGE TO NATIONALLY ENDANGERED SWAMP COMMUNTIES

LEG members are astounded that despite all the evidence to the contrary, and after being issued with a $1,450,000 Enforceable Notice by the Commonwealth Government in 2012 (Appendix 3), Centennial Coal are still asserting that the Angus Place (SSD 12_5602) and adjoining Springvale Mine Extension (SSD12_5594) will have no significant impact on streams or swamps.

LEG could detail the history of the loss of Flat Rock Swamp in the Woronora Special Area, Drillhole Swamp in the Metropolitan Special Area and many more. However swamp deathsdue to long-wall mining has ben proven beyond any reasonable doubt by far more capable people than ourselves during Southern Coalfield's Inquiry and more. [36, 37, 38, 39, 41, 42, 44, 46, 47, 49, 50, 61,62]

So LEG will concentrate on local history. Angus Place Colliery commenced long-wall mining in 1979, after being developed as an extension of the Newcom Colliery at Kerosene Vale. From the very first Long Wall Panels evidence of swamp damage began to be reported.

Lamb's Creek Swamp and Kangaroo Creek Swamp

Douglas Benson (1978)[66] described the vegetation of the whole of Newnes Plateau. He then went on to map the vegetation of the Wallerawang 1:100 000 Map Sheet with David Keith in 1990[26].

In August 1982 Benson and McRae undertook a Flora Survey for the then Extension of Angus Place Colliery[65], concentrating on the vegetation types occurring at that time on lower valleys of Lambs and Kangaroo Creeks. Site Vegetation Structure 6b was described as: *Closed Heath in poorly drained valley floors comprising Baeckea linifolia, Grevillea acanthifolia, Hakea propinqua, Epacris paludosa, Olearia quercifolia, and Restio australis*. These species are indicators of either the EEC of Montane Peatlands & Swamps, or the EEC of Newnes Pleateau Shrub Swamps.

Photo 3 & 4: Benson & McRae[65] Site 6-7 in Lambs Creek Swamp - described as 6b: *Closed Heath comprising Baeckea linifolia, Grevillea acanthifolia, etc. Can you see any closed heath? The clumps on the right are dried up fern stumps.*

Vegetation Structure 6b was mapped at Sites 6, 7, 8 and 14. Map coordinates provided. LEG has surveyed all four Sites, and found none of the above species. Two pathces of 6b mapped on Lambs Creek have dried up after being undermined by LWs 4 -8. Two patchesmapped due east of Angus Place Coliery Pit Top are now highly disturbed areas infested with Blackberry, exotic grasses and other weeds. Site 14 in the upper part of Kangaroo Creek was recently disturbed by LW 910 & 920.


Photo 5 & 6: Benson & McRae[65] Site 14 - upper Kangaroo Creek Swamp has since been undermined by LW 920 & 940 Coral Fern (Gleichenia dicarpa) *was the first species to die. It cannot tolerate disturbance and is water-dependent.[69]*

Despite the above Centennial claim that *"Vegetation monitoring at Kangaroo Creek Swamp has not demonstrated changes to the flora community within the swamp."*

On page 13 Benson & McRae state that:

> "*Subsidence will have two surface manifestations, alteration of hydrology and initiation of rockfalls. Alteration to hydrology can involve either lowering of the watertable, due to drainage of water down cracks in the bedrock, or an increase in the catchment area and raising of the watertable, due to cracks upslope channelling water. The swamp in the lower portion of Kangaroo Creek has been undermined. Here the absence of dried-out swampland and the presence of dead trees around the swamp margins suggest that the latter effect may have occurred. Recent rockfalls are common in the area, and are mostly associated with the coal mining activities. There is much evidence of incipient cliff collapse."*

LEG finds it interesting that a Flora Consultant predicted 32 years ago the very same impacts that Centennial are again asserting will not occur with this proposal!

The lower valleys of Lambs and Kangaroo Creeks have now dried up, bar one small iron-stained seepage area on Lamb's Creek. LEG has recorded 13 major cliff falls in the Lambs Creek area. Pells (1991)[67] reported of Angus Place Colliery that:

"About sixteen rock falls occurred during mining of the first eight longwall panels. Ten rock falls were observed in the vicinity of longwall 9. These ranged in volume from 20 to 5500 cubic metres. Photograph 2 shows one of the larger falls."

Photograph 2
Rock fall at Angus Place

Photo: Cliff Fall from *Pells, PJN (1991)*[67]

Photo 8: Cliff fall near Lambs Creek taken in 2010

Kingston and Allen (1982)[68] from the Australian Museum prepared the Fauna Study for the same Angus Place extension proposal. They described the vegetation type Swampy Heath (6b) as –

> "*Dominated by a wide variety of shrub species including Grevillea acanthifolia, Epacris paludosa and Leptospermum species*. (once again indicator species of the EEC of NPSS)
>
> *Two major areas of Swampy heath occur within the Lease areas, one lying along Kangaroo Creek above the escarpment, and the second associated with the same creek but below the escarpment. The former is a narrow strip immediately alongside the creek [*Site 14*], while the latter is much wider forming the most extensive area of swampy heath in the region."*

That '*most extensive area of swampy heath in the region'* is now dessicated and dead. The '*narrow strip immediately alongside the creek'* has been terminally damaged by LW 910 & 920 (Photo 4 & 5)

Kingston and Allen[68] go on to say that -

> *"Subsidence of strata resulting from underground mining could have impact on faunal habitat via two pathways:*
>
> ***Rock Falls:** The Origma [*Rockwarbler or O. solitaria*] nest under rock ledges and so some nests are likely to be disturbed.*

Alteration of surface drainage pattern: *This is a likely result of subsidence below creeks and swamps. An increase in water depth in the swamps would cause drowning of the swampy heath vegetation. The decrease in cover could lead to a reduction of breeding by swamp inhabiting birds including the two species mentioned above* [Tawny Grassbird and Beautiful Firetail are described in the report as being uncommon in NSW, restricted in distribution, and worthy of special consideration]"

Kingston and Allen[68] made only two Recommendations - both relateing to swamp vegetation -

1) Preservation of swamp vegetation, and hence the protection of the swamp-associated fauna should be attempted by minimising the degree of subsidence below these formations.

2) A small amount of supplementary survey of the fauna of the lower swamp should be carried out during late spring / early summer to investigate amphibians, reptiles, and birds breeding in this habitat.

Once again a Consultant identified over 30 years ago the very same impacts Centennial still claim won't occur, to swamps that have in the intervening years been listed as Nationally Endangered!!!

Photograph 2.16 from EIS[1]: Waterhole Kangaroo Creek

Photo 10: Same waterhole on 16 May 2014 – it is bone dry!!!

LEG considers Photograph 2.16 on page 91 of the EIS Main Report_ Part 1 to be misleading. This waterhole is now bone dry, and has been for several of years due to subsidence from LW 940.

Despite the denials, on 16 April 2007 stream flow monitoring on Kangaroo Creek downstream of the SMP showed a loss of flow (Angus Place SMP, 28 August 2007)[57]. The groundwater monitoring site on Kangaroo Creek Swamp then indicated a sharp fall in groundwater levels on 17 June 2008 with the passage of longwall 940 under the swamp. That fall was attributed to subsidence cracking and the creek stopped flowing at that point. Creek flows above Longwall 940 were reported to

occur “through fractures in the underlying rock” (Angus Place SMP, August 2008). Subsequent monitoring has revealed continued low water flows in the creek (Angus Place SMP, Dec. 2009).

The flow of Kangaroo Creek has been much reduced since May 1996 when longwall operations commenced under a swamp in its headwaters. Very low flows from the headwaters of Kangaroo Creek have continued ever since. Kangaroo Creek dam downstream of the mined area has never been full since 1997. Aerial photography from the 1980s shows the dam full.

Photo 11: Kangaroo Ck Dam has been dry for over 10years

Photo 12: Kangaroo Ck Flow Guage - 25 March 2009

The Flow Gauage in the bed of Kanagroo Creek has since been removed, no doubted because there was no flow to record! The western ends of Angus Place longwalls 930 to 980 passed under the creek with a 260m depth of cover, cracked the creekbed, and drained the swamps that feed it.

Photo 13: A healthy Olearia quercifolia (ROTAP: 3RC)

Photo 14: A dying Olearia amongst dead Coral Fern

Olearia quercifolia (ROTAP: 3RC-) is restricted to Blue Mountains swamps. Benson & McRae[65] recorded it in the upper Kangaroo Ck in 1982. It is moisture dependent - longwall mining is a killer.

East Wolgan and Narrow Swamps

When LEG first recorded the crack below in 2008 at the northern end of Springvale LW411 in East Wolgan Swamp, there was a well worn path around it through the Coral Fern. Centennial's consultants were clearly aware of it, and had been for some time. Yet it was not acknowledged in any SMP reports, nor to Centennial's "…*high profile NGOs"* BMCS and the Colong Foundation?

Photo 15: Crack in East Wolgan Swamp (Lat: -33.365111°; Long: 150.168417°) intercepting all of the approx. 5 ML/day Emergency Discharge minewater flow from LDP004. October 2008.

Photo 15: The same crack after the emergency minewater discharge from LDP004 had stopped.

In fact to this day the only acknowledgement LEG has read from Centennial that this very wide subsidence crack in a nationally endangered Newnes Plateau Shrub Swamp ever existed is in Sprinvale's SMP Status Report for March 2009 which incorrectly claimed that the crack was *'minor'*[57].

This crack ran in an east-west direction at right angles across East Wolgan Swamp, and was large enough to intercept the entire emergency discharge from LDP004, estimated to be 5ML/day. Any rainfall or natural surface flow through East Wolgan Swamp would also have been intercepted. And yet Centennial persist in asserting that there is *"no net loss of water from stream catchments".*[3]

Photo 16: Springvale LDP004 at the head of East Wolgan Swamp flowing at 5ML/day, and nil flow. Note the Thistles.

Centennial subsequently asserted that the flow was re-emerging downstream. Yet the very reason LEG volunteers were in this swamp in October 2008 was to conduct water quality monitoring, and our Electrical Conductivity Meter could not detect any highly saline water emerging downstream.

Subsequent to the cracking, a number of large sink-holes appeared in East Wolgan Swamp, the largest pictured below at almost 2 metres deep. This may have been due to water flowing down a large crack, and 'tunnelling' sideways beneath the swamp. Regardless of the cause, the vegetation is dead, has not recovered in 4 years and has gotten worse, and there has been no rehabilitation.

Photo 17: Sinkhole East Wolgan Swamp on 16 May 2010

Photo 18: The same sinkhole on 16 May 2014




Photos 19 -23: East Wolgan changed from a biodiverse wetland to a barrenThistlefield after Springvale LW411

Furthermore this was not the only surface or upsidence crack that LEG has recorded in that area. Twelve (12) more cracks have been recorded in East Wolgan and adjacent Narrow Swamp. These were however larger highly visibility cracks, and many smaller cracks were likely to have gone unseen in dense undergrowth. Cracks are notoriously difficult to find in swamps. But in cumulative terms many small cracks can cause as much water loss from a catchment as a single large crack.

Critically, a number of these other cracks were found on the valley sides. East Wolgan and Narrow Swamps are valley in-fill swamps, but are also fed by hanging swamps on the valley slopes. The impermeable sandstone barrier of these hanging swamps may also have been compromised, as evidenced on the side of East Wolgan Swamp where *Gleichenia dicarpa* dieback is occurring. LEG considers Gleichenia fern to be good indicator of subsidence damage, because it does not tolerate root disturbance[69], and is highly moisture-dependent[69]. It also prefers acidic soils[69] found in swamps, and is unlikely to adapt well to alkaline and eco-toxic minewater discharges.

The Southern Coalfield Inquiry[49] and the Metropolitan Inquiry both recognised valley-infill swamps as especially vulnerable to subsidence impacts, and these conclusions are equally relevant to Newnes Plateau. Contrary to the assertions by Centennial in the Swamp Plan, the Newnes Plateau would appear to have topography similar to the Southern Coalfield. The stream-pattern depicted in the maps of the Swamp Plan do sit well with the plan's assertion that the Proposal area is *'a relatively flat plateau intersected by few streams'.*

Photo 24 & 25: Narrow Swamp is equally as dead, but in this instance Angus Place LWs 920 -950 are to blame.

Narrow Swamp (north and south) sit entirely above Angus Place Colliery. In 2008 a significant reduction in flow was observed between the 8 ML/day at Springvale's discharge point LDP005 at the head of Narrow Swamp, and the 4 ML/day registered at the weir downstream of Narrow Swamp (Angus Place SMP, August, 2008, pg 26). This discrepancy amounted to 244 megalitres over the discharge period from May to July 2008.

A second monitoring effort found a discrepancy of 217 ML upstream, apparently associated with the yet to be mined northern half of the swamp (Angus Place, December 2008, pg 11). Once emergency discharges ceased, the near-surface groundwater fell rapidly below the base of monitoring bores (Angus Place SMP, December 2009, pg 10). It is probable that the mine-related cracking and fracturing, possibly also exacerbated by the Wolgan Lineament, has increased downwards porosity of the rock strata under the southern end of swamp. The large stream flow discrepancies and rapid falls in groundwater levels within Narrow Swamp may be explained by the rapid downward drainage in the damaged aquifers. A possible drawdown of an unconfined surface aquifer within the northern part of the swamp may be somehow associated with the losses.

G.E. Holt & Associates undertook an assessment of Subsidence Predictions and Subsidence Impact Assessment for Angus Place LWs 930 - 980 and found:
"There has been minimal surface cracking associated with subsidence from the mining of the 920 Longwall panel. The same results are expected for subsequent panels 930-980. Consequently, the likelihood of significant negative impacts from mining on Newnes Plateau Shrub Swamps is very low."

"*The geological sequence that overlies the Angus Place mine workings is one that accommodates mining related movements better than most. The predominantly sandstone sequence is not extremely brittle compared with the sandstones of the Southern Coalfield and appears to allow reduction in subsidence more than what would be expected from a cursory study of the mining parameters. Coupled with this is the fact that mining is moving underneath a relatively flat plateau, intersected by few streams and those streams form the uppermost tributaries where subsidence impact on the stream beds is benign compared with the incised valleys of the Southern Coalfield*"

Nevertheless LEG found 12 cracks above Springvale LW411 and Angus Place LWs 930 – 980 on a single day in October 2008 with little effort, including the large 150mm+ wide crack in East Wolgan Swamp near the north end of LW411. How much other subsidence damage isn't being reported?

Baal Bone Creek Swamp

This 2km swamp was undermined by Baal Bone Coliery Long Wall Panels 19 - 25 in early 2000's. LEG observed the swamp in its final stages of decline. Once again a biodiverse swamp community was displaced by a Thistle-field, as occurred at East Wolgan and Narrow Swamps. Similar to Angus and Springvale LDP4 & 5, attempts were made to recharge this swamp with saline minewater via Baal Bone LDP3 & 6, which only increased weed growth and impeded natural regeneration. If the minewater is finally turned off, this swamp will completely die. There has been no rehabilitation.

Long Swamp, Ben Bullen State Forest

Long Swamp and feeder tributaries of the Coxs River have suffered subsidence damage from Bord and Pillar and long-wall mining for decades. This EEC swamp has also been damaged by saline minewater discharges from 2 Invincible Colliery Licenced Discharge Points approved in 1983 & 1991

Most recently Baal Bone Colliery LW's 28 – 3 caused 'anomolous groundwater behaviour', in other words the swamp dried up. It recovered after heavy rain but was dry again earlier this year. LEG belives that the aquifers have been seriously compromised amnd the swamp is now too porous.

Another area of EEC swamp on the north-east arm of Long Swamp mysteriously collapsed and died in 2004. Some recovery has occurred though it is too early to say if it will survive long-term. Its proximity to the northwest ends of Angus Place LWs 7 – 9 suggests these may be implicated.

Clarence Colliery

The swamp below was damaged by old long-wall panels of the 1990's. Clarence Colliery has since converted to Bord & Pillar type mining. The dead swamp is very similar in appearance to Lamb's Creek Swamp on page 12, because very little appears to be regenerating after 20 – 30 years.

The swamp below was a small Hanging Swamp near Clarence Colliery Air Vent, within the old long-wall panel area. It may since have been burnt in the State Mine Fire of October 2013, dead swamps can suffer severe damage and subsequent erosion after fire.

Farmer's Creek Swamp has been significantly damaged by the Clarence Colliery Water Transfer.

Clearly the damage to Kangaroo, Junction, Narrow, East Wolgan. Farmers Creek, Long Swamp and others has not been a 'benign impact' nor an isolated event. Why have the regulatory agencies not questioned the above assertions of mining companies given the 100's of cliff falls and 1000's of surface cracks that have occurred on Newnes Plateau caused by Angus Place Colliery?

LEG therefore believes that the Swamp Plan is based on incorrect geological, geomorphological and hydrological assumptions, and is flawed. Similalry a monitoring strategy that could not detect and/or report damage to Junction, Kangaroo, East Wolgan, or Narrow Swamps in a timely fashion.

This disastrous history of deficiencies most definitely does not bode well for the future of 60+ other NPPSS and hanging swamps that will be undermined by this and the Springvale Extension over the proposed 15 years, and demonstrates that the coal industry cannot be trusted to protect significant environmental values such as the nationally endangered swamps found in the Gardens of Stone. Effective mine Subsidence Protection Zones are needed for these “protected” swamps.

Other Swamp damage

In addition to mine subsidence and minewater discharge damage there are other mine related impacts to endangered swamps which musrt be avoided. For example, LEG believes that the trailbike tracks below running from Campbell’s Road down into East Wolgab Swamp were initially started by Consultants monitoring for Springvale and/or Angus Place Colliery, and subseqyently have been used by other trail bike riders. The resultant erosion gullies are very deep and is causing localised drying out of a hanging swamp. We believe that Centennial should be required to remediate the tracks put in by their Consultants.

As previously mentioned, bushfire is a serious problem for damaged swamps, as the peat can burn deeply, can massively accelerate erosion, and subsequently affect natural regeneration. Centennial’s rehabiltation efforts at East Wolgan Swamp pictured above left could all be gone in a matter of minutes. It is better not to damage swamps in the first place, but when damage has been done then some fire management planning must be undertaken by those responsible.

5. UNACCEPTABLE LOSS OF NATURAL WATER FLOWS IN CARNE CREEK AND THE WOLGAN RIVER

Despite 1000's of pages of documentation for this EIS, it stands to reason that if Centennial Coal transfer 43.8ML/day from aquifers feeding Carne Creek and the Wolgan River which flow north, to the Coxs River which flows south, then the Wolgan Valley and World Heritage Listed Wollemi National Park will suffer.

The conclusion of the EIS after hydraulic investigation and modeling is that after cracking the ground of 1000's of hectares and subsequently pumping away 43.8 ML/day will have *"…minimal impact on the shallow and perched aquifer systems across Newnes Plateau "* (p.479).

In contrast chapter 7.3.1 of Appendix E p.76, states that*" From the piezometric and water table contours presented on Figures 26 to 30, and with reference to Section 5.2.5, it is apparent that the initial groundwater levels are considerably impacted by current and historical mining operations."*

Given the volume of water to be pumped out from the mine as well as the undoubted effect this will have on underground aquifers (which it is impossible to predict), any normal person would agree that conclusion defies scientific evidence and logical argument.

The Emirates Wolgan Valley Resort & Spa, Newnes Hotel and Cabins, local fermers, graziers and residents depend on this water for survival. Centennial must be required to enter into compensation arrangements in the evnt that Carne Creek or the Wolgan River either cease flowing, or become polluted to the point of being unfit for human cxonsuption due to emergency minewater discharges.

6. UNACCEPTABLE LOSS OF NATURAL WATER FLOWSAND POTENTIAL MINEWATER POLLUTION IMPACTS ON THE WORLD HERITAGE ARAE WOLLEMI NATIONAL PARK

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7. INADEQUATE BIODIVERSITY OFF SET PACKAGE

The Director General's requirements for the Offset Strategy requires Centennial Coal to develop 'An offset strategy, which is clearly quantified, to ensure that the development maintains or improves the terrestrial and aquatic biodiversity values of the region in the medium to long term' (App. I. page1, Vol 2 Angus Place EIS).

LEG is concerned that Centennial Coal made a miserly interpretation of this direction.

Centennial's approach considers plant communities that are allegedly directly impacted, such as The Tablelands Snow Gum, Black Sallee, Candlebark and Ribbon Gum Grassy Woodland, an Endangered Ecological Community under the Threatened Species Act needlessly impacted by a proposed second easement for a pipeline for the proposed SDWTS duplication.

Centennial distinguished plant communities that are allegedly indirectly impacted from those that are directly impacted. By indirectly impacted, Centennial means plant communities that have been subjected to longwall mining where it claims there is no significant impact to these communities. Notwithstanding the fact that longwall mining is a Key Threatening Process for nationally threatened swamps, Centennial has conveniently found that longwall mining is 'unlikely' to have an impact on these swamps.

Only Matters of National Environmental Significance and Endangered Ecological Communities are considered in relation to these so-called indirect impacts. For example, the offset analysis has not been applied to the 200 hectares of the Birds Rock Flora Reserve that will be damaged by the proposed mining. A flora reserve is considered an IUCN category 2 reserve and some flora reserves in NSW are World Heritage listed.

The Lithgow Environment Group disputes that the impacts on the three EECs that comprise the Temperate Highlands Peat Swamps on Sandstone (THPSS) are indirectly impacted by the proposed longwall mining operations. Longwall mining is a Key Threatening Process and is likely to directly impact on THPSS through mine subsidence. Damage to swamps above the area of direct influence of the mining operations is clearly a likely impact.

Centennial, having relieved itself of direct impacts to EEC swamps, claiming that 'the residual impacts following avoidance and mitigation are not significant, direct offsets are not required' (page 3 App. I, Vol 2 of EIS)[2]. Centennial, having found themselves not responsible for impacts, magnanimously offers an offset 'provision of land to compensate potential impacts' to these nationally endangered swamps.

Centennial claims the proposed longwall mining will have no likely cause extinction for local populations of the Giant Dragonfly, Blue Mountains Skink, and *Boronia deanei* due to the drying out of nationally endangered swamps that paradoxically would be a direct impact of mining. The analysis of the impact on these species is not unlikely or low, as claimed, but likely as longwall mining is a key threatening process to the swamp habitat in with they live.

The swamps to be impacted upon by the proposed mining are the best remaining on Newnes Plateau. The reported findings in Table 2 to Table 5 (App. I) are inaccurate and misleading in relation to swamps and the abovementioned species found within them as they are inconsistent with the evidence. The claim in Appendix I that the proposed mining is consistent with the threat abatement plan for Blue Mountains Skink is wrong, as the impacts are not adequately mitigated by the proposed longwall mining arrangements.

To conclude in Table 4 of Appendix I that bulldozing an unnecessary road and ten metre wide pipeline easement through a Tablelands Snow gum - Black Sallee - Candlebark and Ribbon Gum Grassy Woodland is unlikely to have an adverse impact on this Threatened Ecological Community is also wrong. The analysis regarding frog impacts in Table 2 to Table 5 is also wrong, as it assumes that swamps and streams are unaffected by the proposed longwall mining.

Centennial Coal proposes to protect for the conservation by setting aside 342.2 hectares of former farmland in the Capertee Valley it claims may have 160 fauna species and various endangered communities (page 3 App. 1, Vol 2 of EIS). This all sounds promising except that none of the proposed offset compensate 'like-fo- like' the loss of nationally endangered swamps or the impacted Tablelands Snow gum - Black Sallee, - Candlebark and Ribbon Gum Grassy Woodland on or below Newnes Plateau.

The 342.2 hectare offset covers all recent proposed operations by Centennial Coal in the Western Coalfield. The offset for Angus Place and Springvale is only Lot 135/DP755757.

Lot 135 also covers the new Angus Place Vent Shaft No 2 and Springvale Bore 8, as well as the Western Coal Services Upgrade Project. The proposed offset is also to cover, for reasons that are not explained, the Clarence Reject Emplacement Area VI.

The total of 100 hectares of swamps and 31.5 hectares of native forest cleared for infrastructure for the two current mine extensions as explained in the tables 11 to 15 is misleading. It is unclear how much clearing and so-called indirect impacts on EEC are being compensated by this one offset, perhaps an additional 200 hectares, perhaps much more land is directly impacted.

The omission of the total land area to be cleared and that 'indirectly impacted' means that the offset analysis in Appendix I does not comply with the Director General's requirement for clear quantification. To be clear, <u>the offsets for Angus Place Vent Shaft No 2 and Springvale Bore 8, Western Coal Services Upgrade Project and the Clarence Reject Emplacement Area VI are not quantified.</u>

Lot 135 DP 755757 is only 86.7 hectares in size (App I, section 6.2 and Table 17), so the earlier reference to '342.2 hectares of critically endangered ecological community and habitat for over 160 fauna species' on page 3 is wrong. The area of endangered ecological community is very small.

Table 18 reveals that only 10 hectares of a critically endangered Box Gum Woodland and Derived Native Woodlands exists on the site. All the claimed threatened animals listed in Table 18 are not recorded from observation, rather it is claimed that the woodlands are 'very likely' to provide

habitat for such wildlife (page 23 and note that title of Table 18 is species recorded in the site *and locality* [my emphasis].

Most of the EEC is Derived Native Woodland that is heavily cleared farmland that has been grazed for perhaps a century or more. Figure 1 on page 25 and Figure 2 on page 27 are also misleading as the offset for all the above works is in the western-most portion adjoining the Castlereagh Highway, Lot 135. Note that this portion is one third cleared land and does not connect with the existing Capertee National Park. Most of the EEC is cleared land, the Derived Native Grassland (see map unit 62 in Fig. 2) and the uncleared White Box – Yellow Box – Blakely's Gum Grassy Woodland is only about two hectares in extent (see map unit 20, Fig. 2).

The critically endangered woodland offset of only two hectares is an unacceptably poor exchange for the loss of 63 important near-pristine EEC swamps covering 100 hectares. The presentation is also extremely misleading as irrelevant material is scattered throughout the analysis presented in Appendix I.

The offset for the proposed Newbeck open-cut (lot 163 DP 48336) of 260 hectares really consists of only 15 hectares EEC of which the majority is derived native grassland (read former cattle paddocks). This Newbeck analysis has nothing at all to do with the Angus Place extension or Springvale Mine proposals.

The Biobanking credit values in Table 17 and Table 19 are mostly for non-threatened environments. There are 245 hectares of farmed woodlands in the offset proposed for the Neubeck open-cut and 76.7 hectares of farmed woodlands in the offset proposed for the two longwall mining operations, as well as all the approved activities described above.

As non-threatened degraded woodland species are used for the credits, then non-threatened species for the indirectly impacted woodlands and forests on Newnes Plateau should also be part of the offset calculation. The proposed Angus Place extension covers 2,638 hectares and the proposed Springvale extension covers 1,860 hectares (including the 131.5 hectares of EECs and clearing). These impacted forests are part of a reserve proposal initially put forward by the National Parks and Primitive Areas Council in 1932.

The Lithgow Environment Group believes the offset analysis wrongly calculates credits. The analysis is mostly for non-EECs farmed woodlands proposed to offset near-pristine EEC swamps damaged by longwall mining and proposed forest clearing for infrastructure.

The Centennial analysis ignores the vast indirect impacts to (4,498 - 131.5 hectares) woodlands due to loss of near surface groundwater following longwall mining. Centennial can't have it both ways, either the credit offsets for non-EECs must be ignored, or the offset cost for 4,366.5 hectares forest damaged by longwall mining is included in the offset analysis.

The offset analysis is further confused by the statement that 'Both the Springvale Mine Project and the Angus Place Project will not impact upon 'credit species' and therefore only ecosystem credits are required' (Page 30, App. I). This statement is wrong. Giant Dragonfly, Blue Mountains Sink, and *Boronia deanei* will be impacted causing the loss of local populations.

The offset analysis does not properly consider naturally rare ecosystems, like the three swamp EECs and other Groundwater Dependent Ecosystems. In Table 21 all the Temperate Highlands Peat Swamps on Sandstone (BioBank Units 562 and 592, equivalent to MU's 50,51 and 52), for example, receive a total score of only -1,306 units and, remember, this is for damaging 100 hectares in 63 near-pristine EEC swamps. This score compares with a total score of -1,424 units given for clearing 23 hectares open forest and shrubby woodlands at the proposed Angus Place extension for facilities. The latter result seems reasonable for common sclerophyll forests and woodlands, the former result is grossly underestimated for swamps extending over five times the area being impacted by a key threatening process.

These EEC swamps should not be damaged as they represent the best examples remaining on Newnes Plateau. A biobanking result of at least three orders of magnitude higher is appropriate for these very important swamps. The analysis should generate a score something like -1,306,000 units.

The Ecosystem Credit Balance in Table 21 does not properly recognise the important value of these swamps and is completely unacceptable. The analysis demonstrates has reducing ecosystems to numbers does not inform decision making, but rather confuse the issue.

The offset analysis is also deficient as the values for known populations of threatened species at risk of local extinction are not individually calculated. Further, the statement regarding MU20 made on page 32 and in Table 23 is not reported in Table 17 and appears as double counting. It should be ignored.

Eliminating the 8 hectares of cleared derived grassland that appears to be cattle paddocks leaves just 2 hectares of a critically endangered community in the proposed offset. The proposed exchange of 2 hectares of critically endangered box gum woodlands on farmland for 100 hectares of diverse, intact EEC swamps is presented in a grossly misleading manner.

The proposed offset is far too small, not like-for-like, and degraded by cattle grazing. So what that the offset connects with a state forest and though cleared land with another proposed offset and thought that offset to a national park. So what that the two hectare offset is alleged to be a higher conservation priority. So what that the proposed offset can endure, and be enforceable and auditable. So what if it is habitat for 167 animals that Centennial believes are found in the general area. It is just two hectares of remnant of a critically endangered community, with 8 hectares formerly grazed cleared grasslands tacked onto it. According to the completion criteria (page 34, App. I), the offset needs extensive rehabilitation and management, including exclusion of cattle. It could not be a significant addition to the conservation estate.

The claimed opportunity cost of $140,000 per hectare for conserving old farmland is far too high for land in the Capertee Valley. The BioBanking Calculator must be defective, or the land is very degraded and not worthy of conservation. The opportunity cost should be around $14,000 per hectare.

Supplementary measures

LEG does not consider the proposed research to be an appropriate supplementary measure for the loss of threatened plants and animals through development. Recovery plans and research are needed, but not at the expense of retaining important habitat. Swamp ecosystems can not be replanted or repaired following damage by longwall mining.

The mechanisms for establishing these research programs include 'Adding funds to the existing agreement between Springvale Coal, Centennial Angus Place and the Australian National University. This agreement was established as the outcome of an enforceable undertaking (page 37). The Colong Foundation believes that extending research funded by the 1.4 million in reparations paid for wreaking swamps four years ago with biobank credits may influence the outcomes of the independent research. Centennial believes that its longwall mining will not have significant impacts on nationally threatened swamps. Centennial does not believe longwall mining is a key threatening process. Centennial is now offering to pay for swamp research that may otherwise be critical of its future operations.

It is also of interest that part of the proposed research is for mapping. The THPSS on Newnes Plateau should have been mapped in detail as part of these longwall mining extension proposals. Centennial Coal is not undertaking its environmental assessments properly and is now seeking research to undertake its mapping work.

Monitoring

LEG believes that the monitoring of the nationally endangered swamps is misleading and that proper mapping of these swamps is still incomplete after decades of ineffective management. Despite the expense, the mapping is inadequate so that dramatic changes to mined vegetation communities over time have not been reported.

LEG does not consider that monitoring of offsets can be subsidised by a reduction in the monitoring effort for nationally endangered swamps, as Centennial proposes (page 40, App. I).

The suggestion that the tiny offset proposed for the loss of nationally endangered swamps can through Centennials Biodiversity Strategy improve conservation outcomes has no credibility. The offset strategy conserves only 2 hectares of land with high priority biodiversity values; it provides financial support for the offset land by reducing funding for important monitoring of swamp damage; offers access to 86.7 hectares farmland for tourism and recreation ignoring the large national parks nearby; and may ensure ongoing investment in research but doing so makes the work dependent on the mining industry.

LEG has examined the OEH draft Biodiversity Offsets Policy on with the above proposals are based. The prioritisation of coal mining over the protection of threatened plants and animals under such an offset policy will contribute to the incremental and permanent loss of significant biodiversity in NSW. The above proposals by Centennial Coal illustrate how this policy will accelerate the loss of biodiversity in NSW.

8. RECOMMENDATIONS

8.1 Springvale Colliery Extension Recommendations

The mining footprint must be significantly lessened and mining methods reduced in intensity to protect Carne Creek, pagodas, cliffs and the nationally endangered swamps associated with these proposals. Centennial Coal must be required to consider alternative bord and pillar mining methods for its proposed Springvale extension. Centennial's Airly mine in the Capertee Valley operates to depth of 405 metres underground in the same geology, with bad mine roof conditions, including many structural defects. If Centennial can operate Airly Colliery as a bord and pillar mine, then it can also operate Springvale mine in this manner.

The intensity of mining must be reduced to avoid damage to pagodas, cliffs and the many nationally endangered swamps that the current proposal puts at risk.

The proposed Springvale mine extension should not be granted development consent unless:

- The development consent is staged, with a review every five years;
- No surface cracking of stream beds, under swamps or of pagodas, rock outcrops or cliffs;
- The intensity of longwall mining is reduced so that all nationally endangered swamps are protected – this includes significantly narrowing longwalls in the northern longwalls 416 to 422 to prevent surface cracking under the best developed, largest and most intact swamps on Newnes Plateau;
- Shortening longwalls 432, 431, 430 and 429 to prevent damage to the Marrangaroo swamps, and shortening longwalls 425 and 426 to prevent Paddys Creek Swamp;
- Longwall 501 should also be shortened to protect cliffs and pagodas;
- All proposed discharge of up to 43.8ML/day of mine effluent to the Coxs River via the Springvale-Delta Water Transfer Scheme (SDWTS) is treated by Reverse Osmosis (RO) to remove salt and metals to a standard that protects the Coxs River, the downstream Sydney drinking water supply, and near-pristine ecosystems in the World Heritage Area;
- Any malfunction of SDWTS, such as following a bushfire, must not result in emergency discharges to the World Heritage Area via Wolgan River or Carne Creek, but be reinserted underground into the mine;
- Reinserted mine effluent must not then re-emerge in an unauthorised or unregulated manner, but be properly treated;
- No emergence of near surface groundwater with elevated levels of salt or metal precipitate in Carne Creek;
- Representative sites for the piezometers must be chosen for the groundwater in swamps and streams by a third party agency;

- Monitoring guidelines must clearly specify how the condition of groundwater dependent indicator plant species and the general condition of groundwater dependent ecosystems will be performed;
- All past tracks and trails created by Centennial Coal and its Consultants, including those established by trail bikes, need to be recorded and plans set in place to rehabilitate these trails on an on-going basis and as soon as practicable as part of the on-going rehabilitation program for this mine.
- Subsidence monitoring should be by a third party agency, such as the Office of Environment and Heritage, and monitoring should be paid for by Centennial Coal.
- Monitoring of surface flow and near-surface groundwater monitoring must create a comprehensive picture of the sub-catchments affected by mining.
- Monitoring of changes in ecosystem condition must include well exposed, wide angle impacts of affected areas with GPS co-ordinates.

8.2 Angus Place Extension Recommendations

The mining footprint must be significantly lessened and mining methods reduced in intensity to protect Carne Creek, pagodas, cliffs and the nationally endangered swamps associated with these proposals. Centennial Coal must be required to consider alternative bord and pillar mining methods for its proposed Angus Place extension. Centennial's Airly mine in the Capertee Valley operates to a depth of 405 metres underground in the same geology, with bad mine roof conditions, including many structural defects. If Centennial can operate Airly Colliery as a bord and pillar mine, then it can also operate Springvale mine in this manner.

The proposed Angus Place mine extension should not be granted development consent unless:

- Development consent is staged, with a review every five years;
- No surface cracking of stream beds, under swamps or of pagodas, rock outcrops or cliffs;
- The intensity of longwall mining is reduced so that all nationally endangered swamps are protected – this includes shortening longwalls 1017 and 1016 to protect Trail 6 swamp and shortening longwalls 1004, 1005 and 1006 to protect the Tri Star Swamp complex;
- Narrowing and/or splitting the longwall panels 1007, 1008, 1009 and 1010 to prevent fracturing damage in the Birds Rock Flora Reserve;
- Splitting longwalls 1013 and 1014 to prevent damage to pagodas and cliffs, as proposed;
- All proposed discharge of up to 43.8ML/day of mine effluent to the Coxs River via the Springvale-Delta Water Transfer Scheme (SDWTS) is treated by reverse osmosis technology to remove salt and metals to a standard that protects, the Coxs River, the downstream drinking water supply and near-pristine ecosystems in the World Heritage Area;

- Any malfunction of SDWTS, such as following a bushfire, must not result in emergency discharges to the World Heritage Area via Wolgan River or Carne Creek but be reinserted underground into the mine;
- Reinserted mine effluent must not then re-emerge in an unauthorised or unregulated manner but be properly treated;
- No emergence of near surface groundwater with elevated levels of salt or metal precipitate in Carne Creek;
- Representative sites for the piezometers must be chosen for the groundwater in swamps and streams by a third party agency;
- Monitoring guidelines must clearly specify how the condition of groundwater dependent indicator plant species and the general condition of groundwater dependent ecosystems will be performed;
- All past tracks and trails created by Centennial Coal and its Consultants, including those established by trail bikes, need to be recorded and plans set in place to rehabilitate these trails on an on-going basis and as soon as practicable as part of the on-going rehabilitation program for this mine.
- Subsidence monitoring should be by a third party agency, such as the Office of Environment and Heritage, and monitoring should be paid for by Centennial Coal.
- Monitoring of surface flow and near-surface groundwater monitoring must create a comprehensive picture of the sub-catchments affected by mining.
- Monitoring of changes in ecosystem condition must include well exposed, wide angle impacts of affected areas with GPS co-ordinates.

13. CONCLUSION

We thank you for the opportunity to comment on this Referral, and trust that the above submission meets with your favourable consideration.

Yours sincerely,

Chris Jonkers
Vice President
Lithgow Environment Group Inc.

APPENDIX 1:

Angus Place Colliery (EPL 467) Licence Non-Compliances 2000 - 2102

2012

Licence Condition number	Type of non-compliance	EPA actions	No. of times occurred
L2.1	Total suspended solids limit exceeded at two locations. Non-compliances resulted from a heavy rainfall event in March 2012.	S.58 notice being negotiated to change licence conditions(s)	2

2011

Licence Condition number	Type of non-compliance	EPA actions	No. of times occurred
L2.1	Limits for Total Suspended Solids exceeded at LDP1 (once), LDP2 (3 times) and LDP3 (twice) due to various reasons. Various action taken to prevent recurrence.	Appropriate Action taken by licensee	6
L2.2	90% concentration limit for pH and Total Suspended Solids exceeded at points LDP2 and LDP3 respectively. Various actions taken to prevent recurrence.	Appropriate Action taken by licensee	1
L6.1	Noise emissions above the evening criteria at receptors due to unusually high engine noise from trucks and weather conditios. Consultant engaged to assess noise reduction strategies.	Appropriate Action taken by licensee	2
M7.1	Volumetric sewerage monitoring at Point 5 was undertaken at the incorrect frequency due to equipment recording a cumulative flow rate. The flow monitoring program has been updated to allow weekly readings.	Appropriate Action taken by licensee	1

2010

Licence number: 467

Annual Return Start: 01 Jan 10

Annual Return End: 31 Dec 10

Date Received: 02 Mar 11

Licence Condition number	Type of non-compliance	No. of incidents
L3.1	Exceeded total suspended solids discharge limit at LDP2 (x6) & LDP3 (x7). and minor exceedance of pH limit at LDP2. Licensee report due to heavy rainfall events throughout the year. Commiissioned dosing plant in Jan 2011 to ensure future compliance.	1
L6.1	Noise emissions associated with truck movement along the Wallerawang private haul road exceeded evening criteria at 3 receptors on the 7/9/10. No complaints were received. Protocols were put in place to limit the number of trucks on road.	1
M6.1	Licensee monitored on an annual rather than weekly basis the volume of effluent irrigated on application area. Licensee was able to calculate average weekly volumes No environmental harm resulted from non-compliance.	1

2009

Licence number: 467

Annual Return Start: 01 Jan 09

Annual Return End: 31 Dec 09

Date Received: 02 Mar 10

Licence Condition number	Type of non-compliance	No. of incidents
A2.1	Minor exceedance of total coal mined during the 2009 reporting period due to the cyclical nature of longwall mining (3.69 Mtpa mined versus a licence scale limit of 3.5 Mtpa). No environmental impact.	1
L3.1	Total suspended solids exceeded at LDP001 (x 3 - minor exceedances), LDP2 (x 2 - maximum of 111 mg/L) & LDP3 (x 1 at 320 mg/L).	1
M2.1	Failure to monitor surface water discharges at LDP3 on three occassions due to short duration of rain event and resultant discharge., and data logger not fitted with telemetry function to warn licensee of impending overflow.	1
M2.1	PM10 and TSP sampling not collected to time frame due to misinterpretation of licence condition. Measurments were collected over a 24 hour range rather than 6 day. Since corrected by licensee	1
M6.1	The volume of liquids discharged to water was not monitored for 24 days due to datalogger failure at LDP002. Temporary flow meter with data logger installed until New Monitoring Station complete.	1
O1.1	Pumping to the utilisation area from the sewage oxidation lagoons has not been carried out due to failure of the pumping system. Resulted in minor overflows at times of heavy rain.	1

2008

Licence number: 467

Annual Return Start: 01 Jan 08

Annual Return End: 31 Dec 08

Date Received: 02 Mar 09

Licence Condition number	Type of non-compliance	No. of incidents
L3.1	Minor exceedance of discharge concentration limits for Total Suspended Solids at LDP01, LDP02 & LDP03, and Oil & Grease at LDP02.	4
L6.1	Exceedance of evening noise limits at two residences	1
M2.1	TSP and PM10 high volume dust sampling not carried out until December 2008 due to difficulties in obtaining necessary equipment.	1
O1.1	Pumping to utilisation area from the sewage oxidation lagoons was not carried out resulting in minor overflows from pond on occasion following heavy rain.	1

2007

Licence number: 467

Annual Return Start: 01 Jan 07

Annual Return End: 31 Dec 07

Date Received: 29 Feb 08

Licence Condition number	Type of non-compliance	No. of incidents
L3.1	Minor exceedance of pH and TSS limits during the reporting period	6
M2.1	Failed to undertake TSP and PM10 high volume dust sampling as reguired by licence (point 15).	10
O1.1	pumping to the utilisation area from the sewage oxidation lagoons has not been carried out due to failure of the pumping system	1
R2.2	TSS and PH levels exceeded and were not reported to DECC within specified time frames	6

2006

Licence number: 467
Annual Return Start: 01 Jan 06
Annual Return End: 31 Dec 06
Date Received: 19 Feb 07

Licence Condition No.	Type of non-compliance	No. of incidents
L3.1	Multiple exceedances of pH and TSS at licensed Discharge Point 1	7

2005

Licence number: 467
Annual Return Start: 01 Jan 05
Annual Return End: 31 Dec 05
Date Received: 27 Feb 06

Licence Condition No.	Type of non-compliance	No. of incidents
L3.1	Exceedance of pH 8.5 for LD001 Exceedance of TSS 30mg/L for LD001	5

2004

Licence number: 467
Annual Return Start: 01 Jan 04
Annual Return End: 31 Dec 04
Date Received: 23 Feb 05

Licence Condition No.	Type of non-compliance	No. of incidents
L3.1	pH limit exceeded at Point 1 in November 2004	1

2003

Licence number: 467
Annual Return Start: 01 Jan 03
Annual Return End: 31 Dec 03
Date Received: 24 Feb 04

Licence Condition No.	Type of non-compliance	No. of incidents
L3.1	Exceedence of licence concentration limit for Total Suspended Solids from LD2	1
M6.1	Technical non-compliance whereby datalogger experienced problems resulting in 3 days where flow monitoring was not recorded at LD1.	1

2001

Licence number: 467
Annual Return Start: 01 Jan 01
Annual Return End: 31 Dec 01
Date Received: 07 Feb 02

Licence Condition No.	Type of non-compliance	No. of incidents
2.1	Licensee failed to sample at the frequency at monitoring point 3, as required by licence.	1
3.1	Licensee exceeded concentration limit for TSS and pH as required by the licence	1
3.2	Licensee exceeded pH quality limit for monitoring point 2.	1

2000

Licence number:	467
Annual Return Start:	01 Jan 00
Annual Return End:	31 Dec 00
Date Received:	23 Feb 01

Licence Condition No.	Type of non-compliance	No. of incidents
L3	Exceedance of licence limit for TSS at discharge point 3.	1
M2	Monitoring not undertaken on monthly basis for Discharge Point 3 as required by licence due to the infrequent discharge from the point.	1

Licence Variation
Licence - 467

CENTENNIAL SPRINGVALE PTY LIMITED ABN 64 052 096 812
SPRINGVALE SK KORES PTY LIMITED ABN 71 051 015 402
PO Box 42 WALLERAWANG NSW 2845

Notice Number: 1515230

File Number: LIC07/996

Date: 29-Jul-2013

NOTICE OF VARIATION OF LICENCE NO. 467

BACKGROUND

A. CENTENNIAL SPRINGVALE PTY LIMITED (“the licensee”) is the holder of Environment Protection Licence No. 467 (“the licence”) issued under the Protection of the Environment Operations Act 1997 (“the Act”). The licence authorises the carrying out of activities at WOLGAN ROAD, LIDSDALE, NSW, 2790 ("the premises").

B. In 2009 the EPA completed an investigation /assessment into sources of contaminants entering the Coxs River across the Upper Coxs River catchment. The investigation identified a number of point sources that were having a noticeable impact on the Upper Coxs River which included the discharge of mine water from the premises at LDP1. Consistent with its approach of establishing pollution reduction programs to address point source discharge issues identified, the EPA first introduced licence condition U1.1 to the licence on 17 February 2010 by Notice 1109300. U1.1 required the licensee to report to the EPA by 30 June 2010, all practicable and reasonable options for the reduction or removal of salt in the mine water presently discharged to Kangaroo Creek via LDP1.

C. A report was provided but no options were presented. The EPA wrote to the licensee on 15 September 2010 requesting a preferred salinity management option and the licensee responded on 29 October 2010 with the preferred option identified being the piping of mine water to the Wallerawang Power Station. The EPA subsequently varied licence condition U1.1 on 9 May 2011 by Notice 1124602 to require a feasibility report for the development of a water treatment facility to treat mine water to an EC of 350 us/cm by 30 August 2011.

D. The EPA met with the licensee on 2 September 2011 in relation to the feasibility report and the licensee outlined a new proposal whereby, through appropriate management by the licensee LDP1 would become a nil discharge point under normal operating conditions by June 2013, as the mine would have sufficient capacity to store the water underground. The EPA accepted the proposal put forward by the licensee and again amended licence condition U1.1 to require that no groundwater be discharged through LDP1 under normal site operating conditions from 30 June 2013.

E. On 3 April 2013 the EPA wrote to the licensee regarding several matters. In that letter the EPA reminded the licensee that as per licence condition U1.1 licence discharge point 1 (LDP1) will cease to be a licensed discharge point under normal site operating conditions as of 1 July 2013 and that the licence will be varied again to either remove LDP1 from the licence or convert LDP1 to a point of discharge during an emergency only.

F. The licensee requested a meeting with the EPA. The EPA met with the licensee at the Bathurst office of the EPA on 15 April 2013, where the licensee advised that it would not be able to meet its commitment to cease the discharge from LDP1 by 30 June 2013. The licensee advised that it had only recently inspected the bore they had intended to utilise to transfer water underground and found that it had now collapsed. The EPA advised the licensee to reconsider its position of not meeting the 30 June 2013 deadline.

G. The licensee sought another meeting between the licensee and the EPA which occurred at Lidsdale House on 25 June 2013. At that meeting the licensee advised the EPA that it had made changes to mine water management such that the discharge from LDP1 had now been reduced from 6-7 ML/day to <2 ML/day. The licensee also advised that they could also meet the requirements of licence condition U1.1 (by 30 June 2013), however in doing so at this time, ceasing the discharge completely from LDP1 under current operating arrangements could only be maintained for approximately 470 days after which mine water levels within the underground workings would be such that mine water would need to again discharge via LDP1.

H. Having considered the reduction in discharge volumes from LDP1 achieved in the last 6 months and that requiring the licensee to no longer discharge via LDP1 at this time will most likely result in an increase in the water to be discharged at LDP1 in 1 to 2 years time, the EPA has decided to amend licence 467 to incorporate the changes as listed below.

I. Several additional changes have also been made to the licence in line with the discussions at the 25 June 2013 meeting.

VARIATION OF LICENCE NO. 467

1. By this notice the EPA varies licence No. 467. The attached licence document contains all variations that are made to the licence by this notice.

2. The following variations have been made to the licence in relation to LDP1 and the discussions of 25 June 2013:

- The reduction of the volume discharge limit at LDP1 from 30,000 KL/day to 2,000 KL/day;
- The amendment of condition U1.1 requiring the licensee to prepare a report that identifies all reasonable and feasible options available to it for the cessation or treatment of groundwater discharge via LDP1;
- The removal of discharge point LDP16 (formally LDP6) - the Newnes Plateau emergency discharge point - from the licence.

3. Further changes have also been made by the EPA as part of this Notice to vary the licence:

- The addition of turbidity as a pollutant to be monitored for at LDP1; and
- The inclusion of discharge point LDP2 in condition L2.5 regarding 95%, 5 day rainfall events.

.....
Darryl Clift
Head Regional Operations Unit
South - Bathurst
(by Delegation)

Notice Number: 1124602
File Number LIC07/996
Date: 09-May-2011

NOTICE OF VARIATION OF LICENCE NO. 467

BACKGROUND

A. CENTENNIAL SPRINGVALE PTY LIMITED (“the licensee”) is the holder of Environment Protection

Licence No. 467 (“the licence”) issued under the *Protection of the Environment Operations Act 1997* (“the Act”). The licence authorises the carrying out of a Scheduled Activity - Premises Based at WOLGAN ROAD, LIDSDALE, NSW.

B. Licence discharge point 1 (LDP1) discharges groundwater, sourced from the licensee’s underground workings, to Kangaroo Creek which in turn flows to the Coxs River. The Coxs River catchment is part of the Sydney drinking water catchment.

C. The EPA is concerned with the elevated concentrations of salts being discharged from LDP1 to the Coxs River catchment. An estimate has been made by the EPA that approximately 1,000 tonnes of salt is deposited in to Kangaroo Creek a year based on average flow rates (provided by the licensee) and salinity concentrations (measured by the EPA) at LDP1.

D. The EPA wrote to the licensee on 15 September 2010 requesting that a preferred salinity management option be developed for the discharge from LDP1. The licensee responded on 29 October 2010 with the preferred option identified being the piping of waters from LDP1 to the Wallerawang Power Station.

Notice Number 1109300
File Number LIC07/996
Date 17-Feb-2010

NOTICE OF VARIATION OF LICENCE NO. 467

BACKGROUND

A. CENTENNIAL SPRINGVALE PTY LIMITED and SPRINGVALE SK KORES PTY LIMITED (“the licensee”) are the holders of Environment Protection Licence No. 467 (“the licence”) issued under the *Protection of the Environment Operations Act 1997* (“the Act”). The licence authorises the carrying out of Scheduled Activity - Premises Based at WOLGAN ROAD, LIDSDALE, NSW

B. The EPA recently completed an investigation/assessment into sources, distribution and concentrations of contaminants in the Upper Coxs River catchment. These contaminants include heavy metals, salts and nutrients. Part of study included the sampling of surface waters at key locations within the catchment including Kangaroo Creek, downstream of licence discharge point 1.

C. Laboratory results for total dissolved solids from this location, in conjunction with average discharge rates over the previous four years, indicates that Angus Place mine is discharging approximately 1,000 tonnes of salt into the Coxs River every year.

D. In line with pollution reduction programs being required by other licensees within the Upper Coxs River catchment where high concentrations of contaminants in the discharge have been identified, the EPA is varying the licence to include licence condition U1 which requires the licensee to investigate and report on options for the reduction or removal of salt being discharged from point 1.

Appendix 2

Springvale Colliery (EPL 3607): Licence Non-compliances 2000 – 2012

2012

Licence Condition number	Type of non-compliance	EPA actions	No. of times occurred
L2.1	Exceed pH and TSS limits at EPA Points 1 and 6 (multiple). pH exceedances were due to failures in the pH dosing system during low/high flow (P1) and groundwater influence (P6). TSS exceedances followed heavy rainfall. EPA has issued Advisory Letter.	S.58 notice issued to change/amend licence conditions(s)	7
L3.1	Exceed discharge volume limts at various times to high intensity rainfall events in the area at EPA Point 6. EPA to vary licence to remove volume discharge limit.	S.58 notice issued to change/amend licence conditions(s)	12
M2.2	Not all monitoring requirements met due to no flows at time of inspection & contractor failing to take specific samples for oil & grease & fluoride. Sampling schedule reissued to contractor & monitoring to continue as per licence.	EPA has written to licensee regarding non-compliance and relevant action	3
M4.1	Daily evaporation was not recorded or calculated for the Springvale weather station during reporting period due to a new program not routinely calculating & recording data. The site monitoring contractor has been engaged to reprogram the station.	Appropriate Action taken by licensee	1
L2.1	Licence limits for oil and grease and total aluminium exceeded at emergency licence discharge point. Licensee is undertaking actions to improve performance at this new emergency discharge point.	S.58 notice issued to change/amend licence conditions(s)	8

2011

Licence Condition number	Type of non-compliance	EPA actions	No. of times occurred
L2.1	Exceed limit for pH at LDP001 during first quarter of reporting period. A pH dosing unit was commissioned on the 16 March 2011 to correct this matter.	EPA to monitor future compliance with this condition	16
L2.1	Water samples collected at LDP6 were outside of pH limit at LDP6 (6.5-8.5) on three occassions with readings of 6.16, 6.16 and 6.47.	Appropriate Action taken by licensee	3
L3.1	Daily discharge volume at LDP6 exceeded limit in Dec 2011. Probably anomalous results due to changeover from temporary data logger to new logger installation as part of a major upgrade. Old system will continue to operate to assess differences.	Appropriate Action taken by licensee	5
M2.2	Nickel (filtered) was analysed for LDP6 in January 2011, whereas Nickel (total) in discharge waters was required by the EPL on a monthly basis. A review identified oversight, laboratory advised & all subsequent samples correctly analysed.	Appropriate Action taken by licensee	1

M4.1	Weather Station data logger failed and was found to be unserviceable. A new unit was installed and a specialist contractor engaged to regularly inspect monitor and repair all data loggers on site.	Appropriate Action taken by licensee	1

2010

Summary

Licence number:	3607
Annual Return Start:	01 Jan 2010
Annual Return End:	31 Dec 2010
Date Received:	03 Mar 2011

Licence Condition number	Type of non-compliance	No. of incidents
L3.1	Exceedence of pH limit range at discharge point LDP001 and LDP006 during reporting period.	1
O2.1	Discharge of groundwater on Newnes Plateau from Springvale-Delta water pipe line following the dislodging of a hose fitting on a temporary water transfer pump. No environmental harm resulted.	1
M6.1	Sewage plant did not record data between 1/12/10 to 21/12/10 for LDP002 (volume of effluent discharged to utilisation area) as a result of datalogger power failure. Techical non-compliance - no environmental harm resulted.	1
O2.1	Weir structure at LDP6 not designed to manage maximum discharge volume. New weir to be installed to enable maximum flow without flooding. Technical non-compliance. No environmental harm resulted. Weir to be upgraded during 2011.	1
M7.1	Weather station did not record data between 7/12/10-19/12/10 on account of a power failure. Technical non-compliance - no environmental harm resulted.	1
L4.1	Daily volume limit exceeded at LDP6. Reported as result of significant rainfall over a number of days contributed to main dam overflowing with runoff from saturated surface catchments exited thru site.	1
M2.1	Failure to analyse several samples for iron, manganese, oil and grease and total suspended solids at LDP4 and LDP5, and analysed two water samples collected from LDP6 for dissolved nickel rather than total nickel as required by the licence.	1
L3.1	Exceedence of total suspended solids limits at discharge point 1, 6 and 7 following several days of heay rainfall.	1
U1.1	Works required to collect and reuse rainfall runoff works from Coal Washery area under PRP was not completed by licence due date due to substantial rainfall in Nov-Dec 2010.	1

Licence number: 3607

Annual Return Start: 01 Jan 10

Annual Return End: 31 Dec 10

Date Received: 03 Mar 11

Licence Condition number	Type of non-compliance	No. of incidents
L3.1	Exceedence of total suspended solids limits at discharge point 1, 6 and 7 following several days of heay rainfall.	6
L3.2	Exceedence of pH limit range at discharge point 1 during reporting period. Licensee misunderstood footnote to licence limit and noted this mistake at end of reporting period. Water treatment plant and further investigations are being implemented.	35
L4.1	Daily volume limit exceeded at LDP6 on account of significant rainfall over a number of days contributed to main dam overflowing with runoff from saturated surface catchments exited thru site.	23
M2.1	Failure to analyse for 'weekly during discharge' analytes (iron, manganese, oil and grease and total suspended solids) at LDP4 and 5 during a short duration emergency discharge event.	1
M2.1	Licensee inadvertently analysed two water samples collected from LDP6 for dissolved nickel rather than total nickel as required by the licence.	2
O2.1	Discharge of groundwater from Springvale-Delta water pipe line following the dislodging of a hose fitting on a temporary water transfer pump. No environmental harm resulted.	1
O2.1	Sewage plant did not record data between 1/12/10 & 21/12/10 (application to utilisation area) as a result of datalogger power failure. Technical non-compliance - no environmental harm resulted.	1
O2.1	Weather station did not record data between 7/12/10-19/12/10 on account of a power failure. Technical non-compliance - no environmental harm resulted.	1
O2.1	Weir structure at LDP6 not designed to manage maximum discharge volume. New weir to be installed to enable maximum flow without flooding. Technical non-compliance. No environmental harm resulted. Weir to be upgraded during 2011.	1

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2009

Licence number: 3607

Annual Return Start: 01 Jan 09

Annual Return End: 31 Dec 09

Date Received: 02 Mar 10

Licence Condition number	Type of non-compliance	No. of incidents
L3.1	Exceedance of suspended solids limit on 2 ocassions due to turbid water from underground pumped to surface 'fire dam' which subsequently overflowed to LDP001. A water dosing plant was commissioned by Springvale Colliery in Sept 09 to fix turbidity	2
M2.1	Dust Gauge 4 Monthly dust sample not obtained July 09. Sample bottle missing presumed stolen.	1
M6.1	Failure to log daily discharge volumes. Daily water flow not monitored/recorded due to the solar panel's inability to provide sufficient battery voltage to a remote datalogger.	1

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2008

Licence number: 3607

Annual Return Start: 01 Jan 08

Annual Return End: 31 Dec 08

Date Received: 02 Mar 09

Licence Condition number	Type of non-compliance	No. of incidents
L1.1	Water overflow from gravity tank - non-licensed discharge	1
L3.1	Exceeded total suspended solids discharge limit on a number of occasions, though volume of water discharge at these times was very low .	6
L7.1	Minor exceedance of blast overpressure limits at Lamberts gully. Exceeded maximum 120 dB limit once, and 5.56% of blasts were over 115 dB (limit is 5%). Action taken by licensee to ensure future compliance. DECC to monitor future compliance.	2
M1.3	Failed to record all blast monitoring records as required by licence.	1
M2.1	Dust gauge not positioned correctly with regard to testing method AM-19	1
M2.1	Minor non-compliance. Conductivity readings at LDP1 were collected at an incorrect frequency (every 7 days vs every 5 days). DECC to review licence monitoring interval.	1
M2.1	Minor non-compliance. One sampling event not undertaken during an emergency discharge event.	1
M3.2	Samples sent to a testing laboratory that is non NATA accredited for certain analytes.	1
M6.1	failure to record volume of water discharge at discharge point 1 on 5Mar08 and point 6 on 3Jun08 due to failure of data logger.	2
R4.2, E3.5	Airblast overpressure exceedance report and one emergency discharge report submitted late. Minor non-compliance	2

2007

Licence number: 3607
Annual Return Start: 01 Jan 07
Annual Return End: 31 Dec 07
Date Received: 29 Feb 08

Licence Condition number	Type of non-compliance	No. of incidents
L3.3	Minor exceedance of **TSS** limits at discharge points 001 and 006. Minor exceedance of **pH** limit at point 001 on 16/10/07.	8
M2.1	Failure to collect a dust sample for June for dust gauges 1, 2, 4, & 5 due to gauges being broken.	1
M6.1	Failure to log daily discharge volume on 03/01/07, 04/01/07, 05/01/07 due to faulty monitoring probe.	3

2006

Licence number: 3607
Annual Return Start: 01 Jan 06
Annual Return End: 31 Dec 06
Date Received: 26 Feb 07

Licence Condition number	Type of non-compliance	No. of incidents
L3.1	monitoring condition M2.2 for filterable **Mn** concentration in receiving water exceeded those specified in the clean waters regulation 1972, schedule 2 for P class waterways	1
L3.1	monitoring condition M2.2 for filterable **Mn** concentration in receiving water exceeded those specified in the Clean Waters Regulation 1972, schedule 2 for P class waterways	3
L3.1	monitoring under condition M2.2 for Filterable **Iron** has shown the concentrations exceeded those specified in Clean Waters Regulation 1972, schedule 2 for C class	1

	waterways.	
L3.1	Monitoring condition M2.2 for Filterable **Mn** concentration in receiving water exceeded those specified in Clean Waters Regulations 1972, schedule 2 for C class waterways.	1
L7.1(a)	air blast ovepressure criteria of 115dB exceeded on four out of 42 blasts. this represents 9.52% of blasts and exceeds the limits of no more that 5% of blasts exceeding 115dB	4
M6.1	Daily monitoring required at LD1. Only 315 obtained. Period 12 Jan to 2 March not logged.	50
M6.1	Daily monitoring required. Only 212 obtained. Period 1 July to 30 Nov 2006 not logged.	153
M6.1	failure to provide data logger and to record data for discharge volumes	150

2005

Licence number: 3607
Annual Return Start: 01 Jan 05
Annual Return End: 31 Dec 05
Date Received: 01 Mar 06

Licence Condition number	Type of non-compliance	No. of incidents
L1.1	Unlicensed discharge from settling ponds on 4/10/05, and concentrations of Filterable **Manganese** discharged at LDP1, LDP4, LDP5, and LDP6, and Filterable **Iron** at LDP1 exceeded Clean Waters Reg.	15
L3.1	Pollutant concentration limits exceeded at LDP1 (TSS x 2/pH x 6); LDP4/5 (TSS x 2); LDP6 (TSS x 1); LDP9 (TSS x 2/**manganese** x 1)	14
M6.1	Failed to monitor the volume of liquids discharged to effluent reuse area (LDP2)	365

2004

Licence number: 3607
Annual Return Start: 01 Jan 04
Annual Return End: 31 Dec 04
Date Received: 28 Feb 05

Licence Condition number	Type of non-compliance	No. of incidents
L3.1	licencee exceeded allowable **pH** difference from upstream to downstream at LDP001.	15
L3.1	Licencee exceeded **Oil and Grease** discharge from LDP001.	1
L3.1	Licencee exceeded **pH** variation at LDP06. Due to inappropriate Licence Condition. Action to write to DEc to remove licence condition.	1
L3.1	Licencee exceeded **Total Suspended Solids** as per licence at LDP04/0. Due to mine water discharge at LDP4/5 and fine kaolinite clay washing out of goaf in 408 longwall panel. Action to be taken includes a new pipelint to transfer water to Wallerwang.	5
L3.1	Licencee exceeded **Total Suspended Solids** limit at LDP009. Due to mine water discharge and fine kaolinite clay wahing from goaf in 408 longwall panel. Action consists of new pipeline to Wallerwang for waste water.	1
L3.1	Licensee exceeded Total Suspended Solids concentration at LDP001.	7
L4.1	Licensee exceeded volume limit of 100 kL per day at LDP006.	1
M2.2	Licensee exceeded limits for Filterable **Manganese** on 4 occasions, **Iron** on 2 occasions, and **Selenium** on 1 occasion.	7

2003

Licence number: 3607
Annual Return Start: 01 Jan 03
Annual Return End: 31 Dec 03
Date Received: 16 Feb 04

Licence Condition number	Type of non-compliance	No. of incidents

L3.1&L1.1	Greater than 0.5 **pH** unit variation in recieving waters during discharge from LD6	1
L3.1&L1.1	Filterable **Magnanese** and Filterable **Iron** concentrations exceeded those specified in Clean Waters Regulations Schedule 2 for Class C Waters from discharge from LD6.	1
L3.1&L1.1	Filterable **Magnanese** concentration exceeded those specified in Clean Waters Regulations Schedule 2 for Class C Waters from discharge from LD1	1
L3.1&L1.1	Filterable **Magnanese**, Filterable **Iron**, **Chromium VI** and **Selenium** concentrations exceeded those specified in Clean Waters Regulations Schedule 2 for Class C Waters from discharge from LD4/5	1

2002

Licence number: 3607
Annual Return Start: 01 Jan 02
Annual Return End: 31 Dec 02
Date Received: 10 Feb 03

Licence Condition number	Type of non-compliance	No. of incidents
L3.3	minor exceedence of **TSS** limit	1

2000

Licence number: 3607
Annual Return Start: 01 Jan 00
Annual Return End: 31 Dec 00
Date Received: 21 Feb 01

Licence Condition number	Type of non-compliance	No. of incidents
1.1	Licensee failed to complete all of the data required for the annual return.	1
3.1	Licensee exceeded concentration limit conditions for **pH, TSS** monitoring points 1 and 4.	1
4.1	Licensee exceeded discharge limits for discharge and monitoring point 6.	1

- **Licence Variations**

Notice Number 1126999
File Number LIC07/1083
Date 05-Jul-2011

NOTICE OF VARIATION OF LICENCE NO. 3607

BACKGROUND

A. SPRINGVALE COAL PTY LIMITED ("the licensee") is the holder of Environment Protection Licence No. 3607 ("the licence") issued under the *Protection of the Environment Operations Act 1997* ("the Act"). The licence authorises the carrying out of a Scheduled Activity - Premises Based at CASTLEREAGH HIGHWAY , LIDSDALE, NSW.

B. The Environment Protection Authority (EPA) has amended the licence to remove all conditions associated with blasting following the cessation of mining operations at the Lamberts Gully open cut. The EPA has also made minor amendments to the completion dates for Pollution Reduction Programs U1.1.1(i) and U2.1 following a request from the licensee on 23 June 2011.

D. Pollution Reduction Program U3 has been added which formalises ongoing and proposed water quality improvement works at licensed discharge point 1.

E. These changes are detailed by this Notice.

- Notice Number 1114246

File Number LIC07/1083
Date 10-Sep-2010

NOTICE OF VARIATION OF LICENCE NO. 3607

BACKGROUND

A. SPRINGVALE COAL PTY LIMITED ("the licensee") is the holder of Environment Protection Licence No. 3607 ("the licence") issued under the *Protection of the Environment Operations Act 1997* ("the Act"). The licence authorises the carrying out of Scheduled Activity - Premises Based at CASTLEREAGH HIGHWAY, LIDSDALE, NSW.

B. On 9 September 2009 the EPA varied the licence to include a pollution studies and reduction program for the investigation of elevated heavy metals in the discharge water at Lamberts Gully (licensed discharge point 6). In response, the licensee provided a report prepared by GHD Pty Limited dated 22 January 2010. The EPA reviewed the GHD report and provided comment back to the licensee in a letter dated 30 March 2010. The letter outlined what the EPA believed were appropriate discharge quality targets for Nickel, Zinc, and electrical conductivity, and requested confirmation as to what options the licensee intends to adopt to achieve these targets, and by when.

C. The licensee advised the EPA in a letter dated 26 April 2010 of a number of water management related actions it proposed to implement to address elevated metals and EC in the discharge from LDP6. The licensee also advised that it did not believe that there was sufficient data to determine discharge quality targets for the metals of interest at LDP6 which suggests that the licensee is not supportive of the targets nominated by the EPA in its letter of 30 March 2010.

D. By this notice, the EPA varies licence 3607 to include the actions proposed by the licensee as a pollution reduction program under condition U1. As the licensee is not supportive of the LDP6 discharge quality targets proposed by the EPA in its letter of 30 March 2010, the variation also includes a requirement (condition U2) that the licensee undertakes further investigation and report on what it believes are appropriate discharge quality targets for water discharged to Nuebecks Creek at LDP6.

E. The licence has also been varied to incorporate changes to monitoring requirements at licence discharge point 6.

- Notice Number 1103012; File Number 260803

Date 09-Sep-2009

NOTICE OF VARIATION OF LICENCE NO. 3607

BACKGROUND

A. SPRINGVALE COAL PTY LIMITED ("the licensee") is the holder of Environment Protection Licence No. 3607 ("the licence") issued under the *Protection of the Environment Operations Act 1997* ("the Act"). The licence authorises the carrying out of Scheduled Activity - Premises Based at CASTLEREAGH HIGHWAY , LIDSDALE, NSW.

B. Licence has been varied as an outcome of the licence review conducted by the EPA as required under s78 of the Act.

C. In addition, the EPA has also conducted a review (which included sampling in 2008 and 2009) of the distribution and concentrations of heavy metals in the waters of the upper Coxs River catchment above Lake Lyell. The review identified a number of elevated heavy metals in the discharge from Lamberts Gully. This included **nickel** at concentrations of between 120-140 µg/L, **zinc** at concentrations of between 110-120 µg/L, **aluminium** at 8.2 mg/L, **iron** at 2.7-7.0 mg/L and **manganese** at 2.6-3.3 mg/L. The ANZECC 2000 trigger value for nickel is 11.0 µg/L, zinc 8.0 µg/L, aluminium 0.055 mg/L, iron 0.3 mg/L and Manganese 1.9 mg/L. Results upstream and downstream of LD006 indicate LD006 is most likely elevating some metals in Neubecks creek.

D. By this notice, the EPA also varies licence 3607 to include licence condition U1 which requires the licensee to investigate heavy metals in the discharge from LD006 and to report back to the EPA on the findings of the investigations. The report should include options to treat or contain sources of elevated heavy metals in the discharge.

- 15 August 2007: temporary discharge of mine water in to the Wolgan River catchment in order to assess flow characteristics. The proposal is to discharge at a rate of 10 ML/day for a period of up to 3 days and a second discharge of 2 ML/day for a period of up to 7 days.

- 19 April 2006: the addition of two (2) emergency groundwater discharge points to be used in the event that there is a failure in the overland mine discharge water pipeline running from Springvale Colliery to Wallerawang Power Station. The 2 discharge points are to be located at the former licensed discharge points LD4 and LD 5 located in the headwaters of the Wolgan River in the Newnes State Forest.
- 29 September 2005: emergency discharge point (LDP 09) on licence 3607 be removed as no longer required and condition U1 of licence 3607 “Dewatering Option Study” be removed as it was completed by 1 June 2005.
- 28 September 2004: temporary (6 mth) additional emergency discharge point to unnamed tributary of Wolgan catchment to enable licensee to discharge water which is flooding mine underground workings. The discharge will initially be at maximum 3.5 ML/day for up to one month to remove current accumulated flooding, and after at rate dependant on mine water make, until such time as pipeline to existing discharge point(s) to Wolgan R is in place. EPA has assessed application and determined the impact from the discharge, as sought by the variation, would not result in a significant increase in the environmental impact of the activity (*bullshit*) authorised by environment protection licence 3607 as Wolgan catchment is already impacted by existing mine water discharges from Springvale coal, the discharge will need to comply with Schedule 2 of the NSW Clean Waters Regulation 1972,and the proposed discharge will only be short term until the pipeline to the existing discharge point(s) is installed, and ultimately the pipeline to Wallerawang power station is installed.
- 30 October 2003: variation requested is to permit construction of an overland coal conveyor to Wallerawang Power Station for which the EPA previously issued General Terms of Approval for (Notice No. 1020914).

17 March 2003: variation of licence to enable works on a ventilation shaft for the Springvale Colliery for which the EPA has issued General Terms of Approval (Notice No. 1022966 issued on 17 December 2002).

APPENDIX 3:

ENFORCEABLE UNDERTAKING

Environment Protection and Biodiversity Conservation Act 1999

Section 486DA

Undertaking to the Minister for Sustainability, Environment, Water, Population and Communities given for the purposes of section 486DA

by

Springvale Coal Pty Limited (ACN 052 096 769)

and

Centennial Angus Place Pty Limited (ACN 101 508 945)

1. Person giving undertaking

The persons giving the undertaking are Springvale Coal Pty Limited (***Springvale Coal***) and Centennial Angus Place Pty Limited (***Centennial Angus Place***).

Springvale Coal is giving the undertaking in its capacity as the Manager of the Springvale colliery. Springvale Coal manages the Springvale colliery pursuant to the Springvale Joint Venture Agreement for and on behalf of the owners of the Springvale colliery, Centennial Springvale Pty Limited and Springvale SK Kores Pty Limited. Springvale Coal has registered offices at: Level 18, 1 Market Street, Sydney NSW 2000.

Centennial Angus Place is giving the undertaking in its capacity as the Manager of the Angus Place colliery. Angus Place manages the Angus Place colliery pursuant to the Springvale Joint Venture Agreement for and on behalf of the owners of the Angus Place colliery, Centennial Springvale Pty Limited and Springvale SK Kores Pty Limited. Centennial Angus Place has registered offices at: Level 18, 1 Market Street, Sydney NSW 2000.

2. Preamble

The Springvale and Angus Place collieries are underground coal mines located near Lithgow in NSW. These collieries are adjacent to one another, as depicted in **Figure 1**.

Coal mining at the Angus Place colliery has been undertaken by long wall mining methods since circa 1979, and since circa 1995 at the Springvale colliery.

Combined groundwater from these collieries, can be discharged through Springvale colliery's licensed discharge points 4 and 5 in an emergency under Environment Protection Licence 3607.

Groundwater from the Angus Place colliery only can be discharged through Angus Place colliery's licensed discharge point 6 in an emergency under Environment Protection Licence 467.

The *Environment Protection and Biodiversity Conservation Act 1999* (Cth) (***EPBC Act***) commenced operation on 16 July 2000. When the EPBC Act came into operation, Springvale Coal and Centennial Angus Place held all requisite "specific environmental authorisations" (as defined in section 43A(2) of the EPBC Act) to lawfully operate the Springvale and Angus Place collieries.

The Springvale and Angus Place collieries contain stratum which are contiguous to the Temperate Highland Peat Swamps on Sandstone threatened ecological community. The Temperate Highland Peat Swamps on Sandstone ecological community was listed as "endangered" under the EPBC Act on 12 May 2005.

Since the listing of the Temperate Highland Peat Swamps on Sandstone ecological community, Springvale Coal and Centennial Angus Place have varied and obtained "environmental authorisations" (as defined in section 43A(2) of the EPBC Act), relevantly, including the following.

(a) Springvale colliery was issued with Environment Protection Licence 3607 on 8 June 2000 under the *Protection of the Environment Operations Act 1997* (NSW). Environment Protection Licence 3607 was varied on 3 October 2006 for the addition of two emergency groundwater discharge points (being licensed discharge points 4 and 5) to be used in the event that there was a failure in the overland mine discharge water pipeline running from the Springvale colliery to the Wallerawang Power Station.

(b) Centennial Angus Place was granted a Part 3A Project Approval on 13 September 2006 pursuant to section 75J of the *Environmental Planning and Assessment Act 1979* (NSW) for the "Angus Place Coal Project" (Project Application Number 06_0021).

Consequently, the Minister for Sustainability, Environment, Water, Population and Communities considers that section 43A of the EPBC Act no longer applies to the Springvale and Angus Place collieries.

3. Breach of the EPBC Act

The Minister considers that Springvale Coal and Centennial Angus Place have contravened the EPBC Act in that, contrary to section 18(6) of the EPBC Act, Springvale Coal and Centennial Angus Place have undertaken an action (being coal mining, and/or related mine groundwater discharge, at the Springvale and Angus Place collieries) without approval. The Minister considers that this action has had a significant impact on Temperate Highland Peat Swamps on Sandstone, specifically:

(a) Narrow Swamp;

(b) East Wolgan Swamp; and

(c) Junction Swamp

These swamps are part of the threatened ecological community Temperate Highland Peat Swamps on Sandstone listed as "endangered" under the EPBC Act, and are also depicted in **Figure 1**.

4. The Undertaking

Without conceding that it has breached the EPBC Act or any other Act, but acknowledging that the Minister considers that the action has had a significant impact on Temperate Highland Peat Swamps on Sandstone, Springvale Coal and Centennial Angus Place hereby undertake, for the purposes of section 486DA of the EPBC Act, to pay the total sum of $1,450,000 to the Fenner School of Environment and Society, Australian National University, for the purpose of undertaking a Research Program, the terms of which are set out in **Attachment A**.

Payment of the total lump sum for the Research Program will be made within 30 days of execution of this undertaking.

Oversight of the Research Program will be provided by a Research Program Steering Committee which will be established in accordance with the Terms of Reference at Schedule 2 of **Attachment A**.

The Minister acknowledges and agrees that, on the basis that Springvale Coal and Centennial Angus Place will fulfill the requirements of this undertaking, the Minister will not pursue further action against Springvale Coal or Centennial Angus Place in relation to the activities, works and impacts affecting Narrow Swamp, East Wolgan Swamp and Junction Swamp referred to in this undertaking.

5. Reporting

Springvale Coal and Centennial Angus Place will report the whole or any part of payment described in clause 4 to the Department of Sustainability, Environment, Water, Population and Communities by sending a letter to the Assistant Secretary of the Compliance and Enforcement Branch, Department of Sustainability, Environment, Water, Population and Communities, GPO Box 787, Canberra, ACT, 2601.

Other reporting will be in accordance with the Research Program Agreement, refer **Attachment A**.

6. Acknowledgement

Springvale Coal and Centennial Angus Place acknowledge that:

(a) the Minister will make this undertaking available for public inspection including on a public register;

(b) the Minister and/or the Commonwealth may from time to time publicly refer to this undertaking through, but not limited to, media releases.

Signed by Springvale Coal Pty Limited by:

Signature of Director

Signature of ~~Director~~/Secretary

STEVE BRACKEN

Name of Director (print)

Tony Macko

Name of ~~Director~~/Secretary (print)

Signed by Centennial Angus Place Pty Limited by:

Signature of Director

Signature of ~~Director~~/Secretary

STEVE BRACKEN

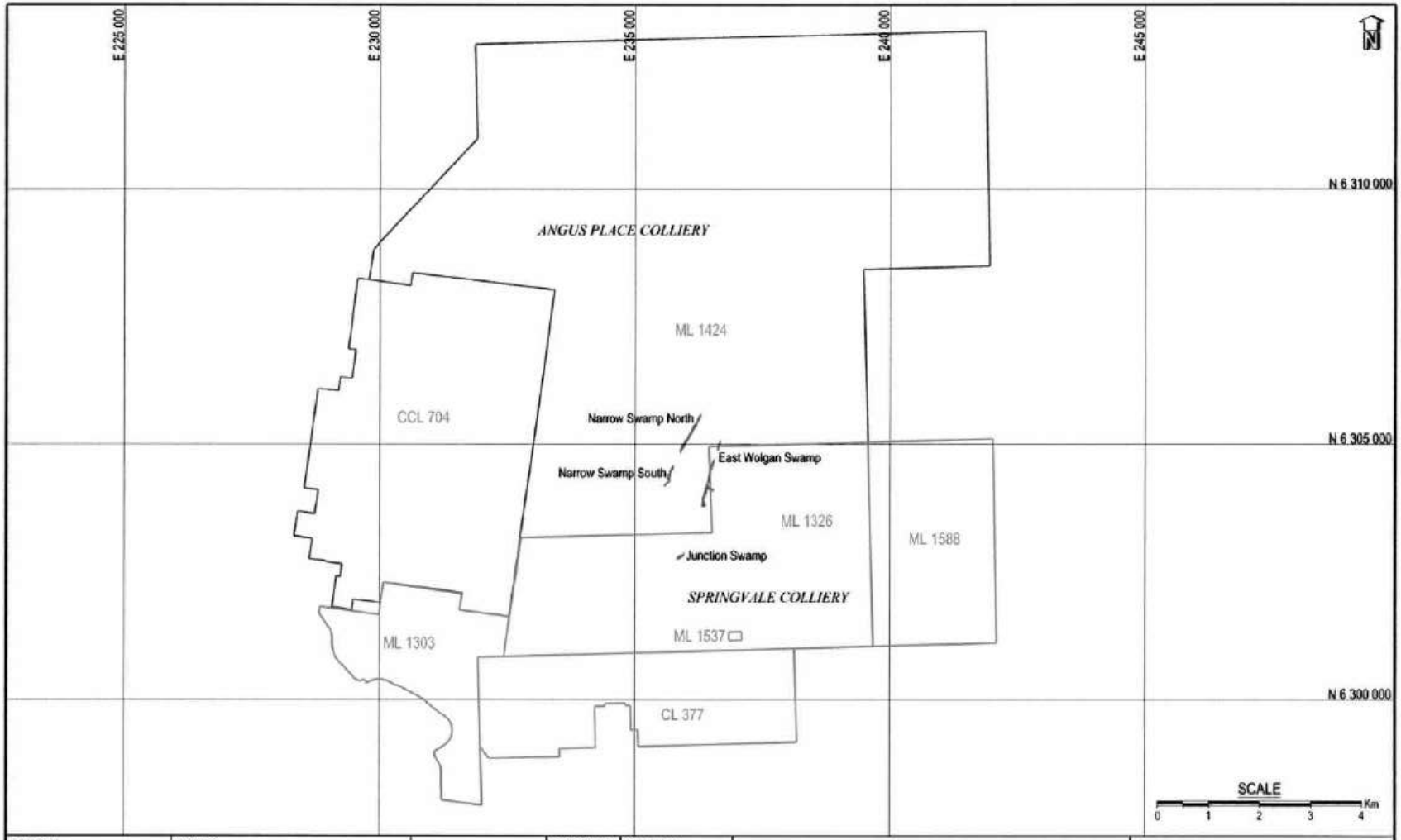
Name of Director (print)

Tony Macko

Name of ~~Director~~/Secretary (print)

Accepted by the Minister for Sustainability, Environment, Water, Population and Communities under section 486DA of the Environment Protection and Biodiversity Conservation Act 1999 on this 12 day of October 2011.

Signature of TONY BURKE


E 225 000
E 230 000
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N
N 6 310 000
N 6 305 000
N 6 300 000
ANGUS PLACE COLLIERY
ML 1424
CCL 704
Narrow Swamp North
East Wolgan Swamp
Narrow Swamp South
ML 1326
ML 1588
Junction Swamp
SPRINGVALE COLLIERY
ML 1537
ML 1303
CL 377
SCALE
Km
0 1 2 3 4
LEGEND
Swamp Area
Mining Lease
NOTES
1. Springvale titles are mining leases ML1326, ML1588, ML1537, CL377 and ML1303.
2. Angus Place titles are mining leases ML1424 and CCL704.
LOCATION SVC / APC
SEAM Lithgow
DRAWN P.J.M.
CHECKED
APPROVED
SCALE Not to Scale
ENFORCEABLE UNDERTAKING
FIGURE 1
Centennial Coal
DATE: 26-Nov-2010
PC3517

APPENDIX 4: Dept of Sustainability, Environment, Population and Communities

MEDIA RELEASE

21 October 2011

Mining company to pay for environmental damage

A New South Wales mining company has committed to pay $1.45 million after causing damage to a nationally threatened ecological community.

An investigation by the federal environment department found that the long wall coal mining operations of Centennial Coal on the Newnes Plateau, near Lithgow, New South Wales, had caused a significant impact on the endangered *Temperate highland peat swamps on sandstone* ecological community.

The mining activities caused a loss of ecosystem function shown by loss of peat, erosion, vegetation dieback and weed invasion in three swamps. They also caused the formation of a large slump hole, several metres wide and more than one metre deep, at the East Wolgan swamp.

These changes mean the swamps can no longer serve their important hydrological role of acting as water filters and releasing water slowly to downstream watercourses.

Centennial Coal will pay $1.45 million towards a research program to be administered by the Fenner School of Environment and Society at the Australian National University.

This research program will be of great conservation benefit for these protected swamps and inform better understanding of the impacts of land use change.

The program will map the distribution and extent of the swamps, explore their functions, water dynamics, ecology and history, and look at human impacts on the swamps. It will provide valuable knowledge to protect *Temperate highland peat swamps on sandstone* and to promote land management practices that minimise impacts on these swamps.

The payment will be made as an ‘enforceable undertaking’ under national environment law—the *Environment Protection and Biodiversity Conservation Act 1999*.

This is an effective way to hold companies accountable for environmental damage without going through lengthy and costly legal proceedings.

This outcome shows the Australian Government takes environmental protection seriously, and will not tolerate companies causing needless damage to the environment.

Media contact: 6275 9880

Appendix 5

Blue Mountains Conservation Society v Delta Electricity

On behalf of the Blue Mountains Conservation Society, EDO NSW ran civil enforcement proceedings in the NSW Land and Environment Court against Delta Electricity under the *Protection of the Environment Operations Act 1997*(POEO Act), for water pollution into the Coxs River which is part of Sydney's drinking water supply.

The litigation ran for over two and a half years, and was finally settled out of Court by the parties in October 2011. There were a number of judgments on various aspects of the case in that time, including:

• On 9 September 2009, EDO NSW successfully obtained a maximum costs order in the amount of $20,000, limiting the Society's liability to pay Delta's costs if unsuccessful. Justice Pain of the Land and Environment Court made the order on the basis that the case was brought in the public interest, was likely to raise novel questions of law and that the applicant could not continue unless an order capping costs was made. Justice Pain also ordered BMCS to provide security for Delta's costs in the amount of $20,000.

• On 18 October 2010, the Court of Appeal (Beazley JA, Basten JA and Macfarlan JA) dismissed Delta's appeal against the orders made by Justice Pain, confirming that the litigation may be characterised as being in the public interest.

• On 26 August 2011, Justice Pepper of the Land and Environment Court dismissed Delta's application to have the Society's case struck out of Court, on the grounds that the Society had the right to bring civil enforcement proceedings for a breach of s.120 of the POEO Act, and that stopping the continuing pollution would be a practical remedy that could be imposed in respect of the past breaches. The Court awarded costs in favour of the Society.

Following the Court's rejection of Delta's strike-out motion, the parties agreed to try to resolve the issues through voluntary mediation. On 11 October 2011, the Society agreed to discontinue the proceedings on the following grounds:

1. Delta admits that it has discharged waste waters containing the pollutants between May 2007 and August 2011, and that it polluted waters within the meaning of s. 120 of the POEO Act, without authorisation under its licence, except in relation to salt; and

2. Delta submits an application to the EPA to vary its licence to specify maximum concentration levels for copper, zinc, aluminium, boron, fluoride, arsenic, salt and nickel; and

3. Delta submits an application to the EPA to include a condition in its licence requiring the implementation of a program of works for the full treatment of cooling tower blowdown water from Wallerawang power station.

Delta has agreed it will do the works necessary to stop the pollution, and in the interim will apply for limits to be set on those pollutants. What those limits will be is a matter to be determined by the EPA, and must include input from the community. The admission from Delta is important in this case because it is an acknowledgment that unless there is express authorisation under an environment protection licence to discharge pollutants, any such discharge is unlawful, even where the company is required to monitor the discharge of those pollutants. This has implications for many other licences in NSW that may have similar conditions.

EDO NSW is grateful to barrister Tom Howard who appeared on behalf of BMCS throughout the various proceedings, and for his ongoing assistance in this matter.

Judgment - Summary dismissal refused

APPENDIX 6

Sydney Catchment Audit 2010 http://www.environment.nsw.gov.au/water/sdwc2010.htm

This Audit provides a comprehensive analysis of the current condition of the Coxs River catchment and subcatchments relevant to this Proposal. It contradicts many of the claims made by Centnenial in the EIS pertaining to water quality impacts. The most relevant sections are:

- Chapter 3: Land Use and Human Settlement, pages 30 - 32;
- Appendix C: Sub-Catchment Summaries, pages 9 - 20;
- Chapter 7: Audit Recommendations.

The extracts below are provided for your convenience.

Case study 2: Upper Coxs River licensed discharges

Local environment groups and the Environmental Defenders Office have publicly raised concerns about unnaturally high concentrations of heavy metals in the Upper Coxs River and its tributaries. These metals were claimed to be present at elevated concentrations with respect to environmental guidelines and were suggested to be having a negative impact on both the river environment and the quality of Sydney's drinking water. The environment groups claimed that the elevated metals were directly attributable to the coal mining industry and to the two Delta Electricity power stations.

In July 2008 and February 2009 the DECCW and the SCA undertook a joint sampling program of the Upper Coxs River. The samples were analysed for an extensive range of contaminants including heavy metals. The results of this sampling indicated that a number of heavy metals were present in water samples at concentrations greater than ANZECC/ARMCANZ (2000) guideline values. These metals included aluminium, boron, copper, nickel and zinc. Articles in *The Sydney Morning Herald* (SMH, 2 December 2008, p.5; SMH 18 June, 2009, p.1; SMH, 19 June, 2009, p.1) highlighted potentially toxic concentrations of other heavy metals, for example arsenic and fluoride, from the Wallerawang Power Station discharge (often referred to as the 'blowdown'). Follow-up water quality and macroinvertebrate sampling by DECCW in September–October 2009 confirmed a number of areas where contaminant levels were relatively high.

It is understood that in response to these concerns, Delta Electricity has implemented a number of improvements aimed at reducing salt loads and contaminants in its discharges to the Coxs River catchment. Delta is also currently in the process of constructing a reverse osmosis plant at Wallerawang Power Station and a pipeline to Mt Piper Power Station for treatment (Delta Electricity submission 2010a). DECCW has also been working closely with industry to try and address these issues.

The following sections provide a summary of the results of analyses of water quality and macroinvertebrates in the Upper Coxs River catchment (DECCW 2010b).

Water quality in the Upper Coxs River sub-catchment

Heavy metals

Analysis of total and dissolved metal levels in water samples collected from the Upper Coxs River catchment identified 4 distinct clusters of sites:

1. sites associated with and downstream of Wallerawang blowdown discharge
2. sites associated with Neubecks Creek
3. sites associated with Sawyers Swamp Creek below the ash dam
4. all other sites (with generally lower dissolved metal levels).

The water quality analyses indicated that dissolved metals and total metals were generally higher in waters downstream of the Wallerawang blowdown discharge, in Neubecks Creek and in Sawyers Swamp Creek below the ash dam. Relatively increased metal levels in water samples could be identified for at least 6–7 km downstream from the Wallerawang blowdown source (DECCW 2010b).

Salinity

Salinity is also an important issue in the Upper Coxs River and there are concerns about saline discharges affecting the aquatic ecology above and below Lake Lyell. Salinity has previously been shown to have an impact on species retention rates in Victorian and South Australian streams (Kefford et al. 2010) with species retention rates often decreasing as salinity levels increased. Wallerawang blowdown discharges are currently around 2500 µS/cm conductivity, while those of the minewater discharges are typically around 1200 µS/cm.

Streams high up in the Catchment typically have much lower conductivity levels (often between 20 and 100 µS/cm). If the major salt ions (sodium, calcium, magnesium and potassium) are considered, then the blowdown discharge and Neubecks Creek sites are identified as having elevated salt ion levels. The salt signature of minewater discharges is also very similar to that of the blowdown discharge. This is not surprising since minewater is currently transferred from Centennial Coal's operations to Delta Electricity and subsequently used for cooling water purposes. Some concentration of salts in the blowdown discharge is expected simply due to evaporation.

Investigation of historic water quality data generally indicated that, since the 1960s–1990s, salinity levels have noticeably increased in the Coxs River at locations upstream of the Wallerawang Power Station, downstream of the Great Western Highway, at Lake Lyell and downstream of Lake Lyell as far as Duddawarra.

Nutrients

In contrast to the metals and salt data, the nutrient data indicate alternative sources for the majority of nutrients in the Coxs River catchment. Sites in Farmers Creek downstream of Lithgow township and the Lithgow STP have elevated nutrient levels compared to most other sites in the catchment. Nutrient levels in Lake Lyell are also often elevated as a result of inflows from both Farmers Creek and the Upper Coxs sub-catchment. While recent improvements have been made to the Lithgow STP, this remains an important source of elevated nutrients in the Coxs River catchment. In addition, the urban areas around Lithgow are also potential contributors to elevated nutrients in Farmers Creek and Lithgow Council has recently undertaken an assessment of the environmental impacts of the sewerage collection systems (Aurecon 2009b).

Macroinvertebrates in the Upper Coxs River sub-catchment

Elevated contaminants in water were considered to be having an effect on the aquatic biota, including macroinvertebrates. DECCW sampled a large number of sites for macroinvertebrates in the Coxs River catchment in September–October 2009. The fauna assemblages at most sampled sites in the Coxs River catchment were dominated by pollution-tolerant taxa such as worms and chironomids. This was particularly evident in the Coxs River between the Neubecks Creek confluence and Lake Lyell; Farmers Creek downstream of the STP and Lithgow township; Neubecks Creek; and Sawyers Swamp Creek. The site on Kangaroo Creek downstream of the Angus Place discharge was found to have a depauperate macroinvertebrate community.

Analyses indicated that the invertebrate assemblages were influenced by the elevated salinity levels, with the assemblages of sites with elevated conductivity and salts being more similar to each other than to other sites with lower conductivities. There were two caddisfly genera, three mayfly genera and two dipterans that were collected only from sites of lower conductivity. Dragonflies and damselflies were less common at sites of higher salinity, and the total number of taxa collected from each site was generally lower with increasing conductivity. The invertebrate fauna collected from Farmers Creek downstream of the STP were indicative of nutrient pollution, having low diversity and being dominated by dipterans and oligochaetes.

Conclusion

The major conclusions of the DECCW (2010b) assessment were that:

- salinity and metals were elevated in river reaches of the Upper Coxs River subcatchment as a result of power station and mine water discharges, mine water runoff and re-use
- nutrients were elevated downstream of Lithgow township and STP
- these water pollutants were having a detrimental effect on the aquatic biota.

As a result of the above conclusions the Auditor considers that a reduction in the salt and metal loads in the Upper Coxs River sub-catchment is highly desirable and necessary. While efforts by industries have been made to reduce the level of contaminants in their discharges, at this stage this is not sufficient to protect the

ecosystem health of the waterways. The Auditor therefore recommends that the Environmental Protection Licence limits for these discharges be reviewed with a view to reducing the heavy metal and salinity concentrations and loads being discharged to the Coxs River catchment.

Recommendation 4: DECCW review licence limits in the Upper Coxs sub-catchment for all licensed discharge points with a view to reducing the heavy metal and salinity concentrations and loads being discharged to the Coxs River catchment.

Chapter 7: Audit Recommendations

All of the Audit Recommendations are relevant to this proposal, but specifically the following -

Recommendation 2: The Department of Planning should undertake detailed consideration of the potential cumulative impacts of all mining activities within the SCA Special Areas.

Recommendation 3: Where significant streams and wetlands in the Catchment are impacted by longwall mining there should be a requirement that these impacts are remediated at the expense of the mining company.

Recommendation 4: DECCW review licence limits in the Upper Coxs River subcatchment for all licensed discharge points with a view to reducing the heavy metal and salinity concentrations and loads being discharged to the Coxs River catchment.

Recommendation 6: The SCA continue to undertake follow-up monitoring at macroinvertebrate monitoring locations that have scored an AusRivAs rating of significantly impaired, severely impaired or extremely impaired where there is no obvious driver for an impacted rating. (eg. Nuebeck's Creek and Coxs River Lidsdale are rated 'significantly impaired" with "a consistent decline in macroinvertebrate health")

Recommendation 9: Lithgow City Council and Centennial Coal should ensure that water transfers from the Clarence Water Transfer Scheme are piped around, rather than flow through, Farmers Creek Swamp.

Recommendation 10: DECCW finalise its Draft Upland Swamp Environmental Assessment Guidelines in order to achieve consistency in the application of risk assessment methodology for swamps over areas of longwall mining in the Catchment.

Recommendation 11: DECCW and the SCA should finalise their classifications of wetlands to produce a complete and consistent coverage of wetlands in the Catchment.

Recommendation 20: The operators and regulators of sewage treatment systems in the Catchment should continue efforts to reduce nutrient loads.

Recommendation 26: The SCA in cooperation with other state and local government agencies explore ways to integrate individual monitoring programs into a broader ecosystem health monitoring program for the entire Catchment.

Recommendation 28: The SCA ensure these combined databases are readily available to be used in future catchment audits and/or other programs relying on assessments of catchment health.

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