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President: Peter Jordan Secretary: Grahame Kelly

25 November 2013

Director General
Department of Planning and Infrastructure
GPO Box 39
SYDNEY NSW 2001

Dear Sir/Madam

RE: SUBMISSION T4 PROJECT ENVIRONMENTAL ASSESSMENT – CONSTRUCTION, FORESTRY, MINING AND ENERGY UNION .

The Construction, Forestry, Mining and Energy Union (CFMEU), Mining & Energy Division, Northern Mining & NSW Energy District welcomes the opportunity to comment on the T4 Project Environmental Assessment.

The CFMEU is the peak Union representing mineworkers in New South Wales. The Mining & Energy Division is a Division of the CFMEU under the Federal Workplace Relations Act 1996, with over 120,000 members working in operations throughout NSW.

The strategic objective of the CFMEU is to secure an environment that provides clarity and certainty for mineworkers in NSW in a commercially, politically, socially and environmentally responsible manner.

Mining to NSW and the importance of infrastructure to opening up new regions to mining and the economic development of regional NSW, the CFMEU considers that mining sectors should be represented during the exhibition of such projects.

The T4 Project is required to provide additional coal export capacity to service increasing market demands and ensure coal can continue to be shipped to export markets from mines in the Hunter Valley and broader NSW. In recent years there has been a substantial increase in international demand for and production of coal from the region serviced by Port Waratah Coal Service (PWCS). While PWCS has responded to the increased demand with

almost continual upgrades since 1993, coal production and export demand has outstripped the capacity of the existing coal export facilities. This has contributed to reduced efficiencies, a large offshore vessel queue, and associated environmental, safety and economic costs and risks.

The T4 Project is underpinned by Capacity Framework Arrangements (CFAs), which provide a long term operational framework for the Hunter Valley Coal Chain. The CFAs were developed by the NSW Government and the coal industry and were authorised by the Australian Competition and Consumer Commission in December 2009. The CFAs form a critical part of the long-term export plan for coal produced in the region.

The CFAs include contractual obligations for PWCS to ensure its terminal facilities have enough capacity to meet the contracted coal throughputs. PWCS's existing contracts with coal producers exceed the capacity of CCT and KCT, and demand is forecast to increase further in coming years. Therefore, in accordance with the CFAs, PWCS must gain approvals and construct and operate a new terminal (the T4 Project), either at the location proposed in the Environmental Assessment (EA), or an alternative location within the Port of Newcastle or nearby.

The T4 Project will also result in proactive management of existing contamination in the T4 Project area, which will benefit the surrounding environment, including the Hunter Wetlands National Park and the Hunter River.

The T4 Project area is predominately reclaimed land that was previously used to dispose of industrial waste and dredged materials. It is highly modified, dominated by bare ground, disturbed grassland and artificially constructed drainage depressions and ponds, some of which now support wetland communities and provide fauna habitat. Contamination is present in some areas. There is some remnant mangrove and saltmarsh vegetation along he north band of the Hunter River South Arm, at the locations of the proposed wharves and berths, as well as to the north and west of the existing Kooragang Island main rail line, where the proposed rail and utility corridor will be.

T 4 Project Overview

The T4 Project is proposed to start construction in 2013, with the first coal proposed to be shipped in late 2015. Construction will take place in nominally three stages over an estimated 10 year timeframe. The actual construction timing for the second and third stages will be driven by capacity demands nominated by coal producers.

The maximum coal throughput capacity will be nominally 120 Mtpa. This will be in addition to PWCS's approved capacity of 120 Mtpa at KCT and 25 Mtpa at CCT, giving PWCS a total approved capacity of 265 Mtpa.

Ground treatments and placement of dredged material across the T4 Project area will take place and terminal infrastructure will then be developed in stages. Construction will be concurrent with operations from around late 2014 onwards.

Beyond ground works, the principal elements of the T4 Project will be:

- **Rail infrastructure and coal receival:** rail infrastructure will ultimately comprise up to eight arrival tracks, converging into up to four dump stations, where coal will be unloaded from trains. Coal trains will proceed onto one of up to eight departure sidings, which will combine into a single track around the outside of the existing KCT rail loop, leading to a single departure track that will re-join Kooragang Island's single departure track over the Hunter River rail bridge.
- **Coal stockyard and stockpiles:** the coal stockyard development will include emplacing compacted fill to create a relatively level area and constructing benches and berms following ground treatments. Coal stockpiles and yard machinery for stacking and reclaiming coal will be constructed and operated. At full development, there will be up to seven stockpiles, with a total capacity of around 5.3 Mt.
- **Wharves and berth infrastructure**: wharf and berth facilities are proposed on both sides of the Hunter River South Arm, near the Tourle Street Bridge, and will include ship loaders and ancillary facilities. Berthing for up to five ships is proposed. At maximum capacity, two ship loaders are proposed at the north bank wharves and two at the south bank wharves.
- **Conveyors**: coal conveyors, feeders and transfer stations will extend throughout the stockyard to deliver coal from the dump stations to the stockpiles, and to the wharves to deliver coal to the ship loaders.
- **Infrastructure and services**: new infrastructure will be constructed including roads and water management infrastructure, and some existing infrastructure and services will be relocated. Existing KCT infrastructure, systems and workforce, including administration, stores and maintenance facilities and environmental management systems, will also be used.
- **Workforce**: staff levels will be the highest during the initial stage of construction, ranging from about 25 to 100 workers in the first few months to an estimated 1 511

workers in the peak month of Stage 1 construction. When completed, the R4 Project will be largely operated by the existing KCT workforce, which comprises of approximately 400 employees, 16 apprentices and an average of more than 750 contractors.

Stakeholder Engagement

According to the proponent a stakeholder engagement strategy was used to identify and engage relevant stakeholders and ensure issues raised were effectively addressed in the project planning phase and the EA. The principal engagement tools used include:

- Meetings and briefings with Commonwealth, State and Local Government agencies, service providers and community and special interest groups;
- Multi-government meetings;
- More than 400 telephone surveys from local residents;
- Distribution of two community information sheets to more than 12 000 households and businesses; and
- Two community information sessions, held at Stockton and Mayfield in October 2011.

Aboriginal stakeholders have been consulted in accordance with relevant OEH guidelines.

The proponent indicates stakeholder engagement will continue to involve relevant government agencies, local community and special interest groups, including environmental organisations.

Contamination and soils

A contamination assessment and identification of management and remediation options were undertaken by consultants Douglas Partners and independently reviewed by Dr Bill Ryall.

The following licensed waste emplacement facilities have operated in the T4 Project area:

- Kooragang Island Waste Emplacement Facility: general refuse dumps and disposal cells that contain waste from the former BHP steelworks and BHP subsidiaries;
- Delta EMD site: landfill cells overlying former KIWEF disposal cells that contain waste from an electrolysis manganese dioxide plant; and
- Fines disposal facility (FDF): that contains dredged material from the Hunter River.

The project has been designed to minimise disturbance of contaminated materials and so, excavation will be limited. General contamination across the T4 project area will be adequately managed by monitoring and capping strategies currently approved by OEH for the KIWEF and Delta EMD site under Environmental Protection Licences 6437 and 7675.

Groundwater

A groundwater assessment was prepared by Douglas Partners and independently reviewed by Dr Noel Merrick.

In the T4 Project area there is an unconfined aquifer in the waste and dredged fill, and a generally confined aquifer within the underlying estuarine sediments. Groundwater, primarily within the Fill Aquifer, interfaces with surface water bodies. It has elevated concentrations of contaminants, including metals and PAH's and elevated pH.

The 'loading' with fill material and infrastructure and the associated 'squeezing' of the soil profile is likely to cause short-term increases in groundwater flows, which could temporarily increase leaching of soil contaminants and the rate of contaminated groundwater movement towards surface water bodies. To mitigate these effects and manage groundwater contaminants, the following measures are proposed:

- Construction of a soil-bentonite barrier wall to contain tar waste in Ponds 5 and 7;
- Install permeable reactive barriers that maintain northerly groundwater flows while 'treating' any leachate from the lead dust/asbestos area and the FDF;
- Pump out the Delta EMD site with a low permeability liner or cap before emplacing dredged material, to reduce vertical infiltration of saline dredge water; and
- Install a liner in the water body known as "Deep Pond' before dredging material emplacement, to prevent saline dredge water from seeping through the rail embankment into wetlands to the west and north-west.

Modelling results show that, with the proposed mitigation measures, off-site contaminant levels will not increase to an extent that would threaten environmental values or human health. The proposed mitigation measures will improve the long-term environmental condition of the T4 project area and surrounds by addressing risks associated with the existing contamination.

Some saline water from the Hunter River will infiltrate to groundwater when dredged material is placed across the T4 project area. With the proposed mitigation measures in place, the

changes in salinity levels in ponds and wetlands outside the footprint of T4 Project infrastructure will be insignificant. These water bodies experience natural fluctuations in salinity that will continue to occur with the T4 Project. There will be some saline inflows to tidal flats to the north, but these are naturally saline due to tidal influences.

No significant changes to water levels at surface water bodies surrounding the T4 project area are anticipated. The levels are mainly controlled by rainfall, evaporation and tidal inundation, not by groundwater.

When ground preparation is completed, capping will reduce rainfall infiltration and groundwater flow rates and levels, resulting in a decrease in the flux of contaminants. This is a beneficial outcome and will reduce long-term risks posed by contaminants in the T4 Project area.

The T4 Project, will not impact the three bores on Kooragang Island licensed for irrigation and industrial use.

Surface Water

A surface water and flooding assessment was prepared by Worley Parsons and SMEC.

It was found that the T4 Project will alter existing surface flow regime within the T4 Project area. However the proposed water management systems and controls will ensure there are no significant adverse impacts to water quality or flow regimes in surrounding wetlands or the Hunter River, including the Hunter Wetlands National Park and Hunter Estuary Wetlands Ramsar site.

The proposed rail infrastructure will cross the southern ends of estuarine watercourses that abut the existing rail embankment, some of which influence the tidal regime at wetlands to the north. Drainage works will be undertaken to maintain tidal flows to these wetlands, including constructing a realigned channel to the north of the rail embankment, connecting Mosquito Creek and one of its tributaries.

Other proposed surface water controls include containing and treating surface runoff by de-silting in settling ponds; erosion, sediment, spill and leak controls; and surface water monitoring to assess the effectiveness of the controls and to identify any requirements for additional mitigation measures.

Modelling determined that the proposed settling ponds during construction and operation will be large enough to meet the relevant requirements for sediment retention.

During operations, runoff from operational areas will be captured, directed to settling ponds and re-used. Water balance, modelling indicates that 76% of site runoff will be captured and re-used to meet 73% of the T4 Project's process water demands.

Modelling indicated that the T4 Project is unlikely to be significantly impacted by flooding as the proposed filling will reduce inundation by floodwaters. Further the T4 Project is unlikely to impact flooding or effects of sea level rise at any downstream area.

Ecology

An ecology assessment was undertaken by Umwelt and peers reviewed by a range of persons in their fields of expertise.

The T4 Project's ecological impacts will mainly arise from clearing and habitat loss. Some 75ha of natural vegetation and habitat will be disturbed, made up of 18.8 ha of Saltmarsh, 28.9 ha of Mangrove Forest and 27.3 ha of Freshwater Wetland (of which 4 ha are listed as an EEC under the TSC Act). A further 21.3 ha of open water, including 20.3 ha of the artificial Deep Pond, will be disturbed as well as 183.1 ha of other highly disturbed and modified land.

The R4 Project is likely to impact known habitat of 23 threatened fauna species, including the Australasian bittern and green and golden bell frog, which may be significantly impacted in the absence of mitigation measures. It is also possible that the project could significantly impact a further six threatened fauna species, one threatened flora species and migratory shorebird species listed under international conservation conventions. Conversely the T4 Project is not expected to adversely affect the adjacent Hunter Wetlands National Park or Hunter Estuary Wetlands Ramsar site.

The R4 Project has been designed to avoid or minimise ecological impacts as much as possible. PWCS will use a range of management strategies to limit impacts on native flora and fauna in the project area and in adjacent habitats, including creating an extensive and complex series of habitat features for the green and golden bell frog that form a linkage across the T4 Project area.

To compensate for residual impacts, a Biodiversity Offset Strategy has been developed, which has the following objectives:

- To maintain or improve the biodiversity values of the project area and its surrounds in the medium to long-term; and
- To maintain the viability of significantly affected threatened species by securing and/or restoring habitat in the lower Hunter Valley or elsewhere within their range.

In combination, the mitigation measures and the Biodiversity Offset Strategy will conserve most affected vegetation and habitat locally and, where local conservation is not possible, ensure those species are conserved within their range. The result will be no net loss of ecological values in the medium term and a probable net ecological gain for NSW in the longer term.

Noise and Vibration

A noise and vibration assessment was prepared by SLR consulting and peers reviewed by a Senior Acoustic Engineer.

Noise levels were predicted to comply with the relevant criteria for all assessed scenarios and conditions and at all assessment locations, with the following exceptions:

- T4 Project construction only - exceedances in the Hunter Wetlands National Park during the day and evening, at the nearest accessible point within 50m of its boundary. There are no park facilities at the location and while accessible, it is unlikely this area would be regularly visited. The criterion for the National Park only applies when this area is in use.
- T4 Project Stage 2 construction, concurrent with KCT and T4 Project Stage 1 operations – minor to moderate (1 to 4 dBA) exceedances of the intrusive criteria at some locations at Fern Bay and Stockton during the evening and/or night. These exceedances are due to the approved KCT operating noise, not the T4 Project.
- T4 Project operations only – minor (1dBA) exceedance of the amenity criterion of 38 dBA at one assessment location in Mayfield during night-time north-westerly winds when the Project is operating at maximum capacity. A 1 to 2 dBA difference in noise would not be noticed by most people.
- T4 Project and KCT operations – minor to moderate (1 to 4 dBA) exceedance of the intrusive and amenity criteria at some Fern Bay and Stockton locations during the evening and/or night, from the combined operation of the T4 Project and KCT at

maximum capacity. These exceedances are due to the approved KCT operating noise, not the T4 Project.

The cumulative assessment, considering all existing and approved future industrial developments as well as the T4 Project operating at maximum capacity, found there would be no appreciable incremental increase in cumulative noise levels. The increase due to the T4 Project under worst-case noise enhancing meteorological conditions was predicted to be minor (1.6 dBA) at Sandgate and negligible (<1 dBA) at all other assessed locations.

The change in road traffic noise as a result of the T4 Project is predicted to range from nil to a negligible 0.8 dB increase during peak of Stage 1 construction.

Although coal trains travelling to the project area are beyond the operational control of PWCS, a broad assessment of rail noise was made. The maximum increase in rail noise due to coal trains servicing the T4 Project is predicted to be up to 0.9 dBA during Stage 1 of operations and up to 1.5 dBA during Stage 3 of operations. Rail noise currently exceeds the OEH trigger levels and EPL goals at some houses near the rail corridor. As a result of the T4 Project, these trigger levels and goals are predicted to increase by up to 50m. Maximum pass-by noise levels would not change. ARTC is responsible for managing, monitoring and regulating rail noise.

There is minimal potential for vibration impacts. Buffer distances between proposed piling and sensitive receivers are sufficient to achieve compliance with the criteria for damage and annoyance.

Air Quality

An air quality assessment was undertaken by ENVIRON, which was also peer reviewed.

Air quality predictions were made at ten locations, selected as representative of the closest sensitive receptors in each of the surrounding suburbs. Dispersion of emissions from the T4 project was also modelled across a broader 18 km by 15 km area.

The air quality assessment determined that all assessed air pollutants will remain well below the applicable air quality criteria and standards, other than 24-hour average concentrations of particulate matter PM_{10}.

Baseline 24-hour average PM_{10} concentrations were predicted to exceed the OEH criterion at the assessment locations on one to two days over the year assessed. This would still meet the Ambient Air Quality goal of no more than five exceedances per year. The T4 Project is not predicted to result in exceedances of any additional days of the year. This meets OEH's requirement that where background concentrations are elevated, it must be demonstrated that no additional criteria exceedances will occur as a result of the proposed activity.

Very fine particles $PM_{2.5}$ were also assessed. No exceedances of the Ambient Air Quality standards were predicted. While exceedances of this stand have previously been recorded in the region during events such as bushfire and dust storms, the T4 Project related increment is predicted to be small.

Although coal trains travelling to the project area are beyond the operational controls of PWCS, a broad assessment of rail dust was made. Assuming a coal delivery rate of 120 Mtpa, peak 24-hour PM_{10} concentrations from rail wagons travelling to the project area, were predicted to be 3 to 13 $\mu g/m^3$ 20m from the rail corridor. The lower range is considered negligible. The upper range is based on conservatively high emission estimates; the significance of this increment will depend on the baseline air quality en-route and the presence of sensitive receptors close to the rail corridor.

Greenhouse Gases

An energy and greenhouse gas assessment was undertaken by ENVIRON.

To minimise the T4 Project's energy use and GHG emissions, PWCS proposes to implement a number of design, control and operational management measures, including conveyor control systems that allow energy efficiencies, selection of energy-efficient equipment and the establishment of a GHG reduction target and monitoring plan.

Transport

A traffic assessment was undertaken by EMM which was also peer reviewed.

Traffic congestion occurs on the arterial route through Kooragang Island in the morning and afternoon peak-hour periods, with delays and queues at several intersections. Main Road 108, which includes Tourle St, Cormorant Rd and Teal St is progressively being expanded to four lanes, to provide more road capacity and help address congestion. However, there remains a two-lane section along Cormorant Rd and the Tourle St Bridge. RMS has

prepared plans to expand this section to four lanes but there is not firm timeframe for its construction.

Peak-hour performance of intersection that will be used by T4 Project traffic was assessed, including the following intersections identified by SIDRA analysis to be operating at or beyond capacity:

- Industrial Drive/Woodstock St, which was operating over capacity during the four peak hour traffic periods assessed;
- Cormorant Rd/NCIG Wharf Access Road which was operating over capacity during three of the four peak-hour traffic periods assessed;
- Cormorant Rd/Pacific National Access Road and Cormorant Road/Delta EMD Access Road which were operating over capacity during two of the four peak-hour traffic periods assessed; and
- Cormorant Rd/Egret St and Teal St/Raven St which were operating over capacity during the 4 to 5pm peak.

To reduce peak traffic volumes a shuttle bus is proposed to transport approximately 300 construction workers to and from the T4 Project's work sites on Kooragang Island. With this service, the peak workforce that will travel by car (around 1 200) will be no greater than the existing KCT, and NCIG construction workforce. Therefore, the peak T4 Project construction traffic will replace the existing KCT and NCIG construction traffic, with no net change in daily traffic volumes on the surrounding road network. After the peak months of Stage 1, the construction workforce is likely to drop considerably and traffic generation will be significantly less than currently occurs for KCT and NCIG.

Daily traffic generation is predicted to be highest on the Tourle St Bridge, with 2 510 vehicle movements during the peak months of Stage 1 construction and 1 319 in the peak months of Stages 2 and 3. This equates to an 8.6% increase to average daily traffic volumes recorded in RMS's recent surveys at the Tourle St Bridge.

The traffic assessment found that subject to implementing described measures, the T4 Project will not have any significant adverse impact on capacity, congestion or road safety on the surrounding roads. The proposed road upgrades will improve road safety and level of service at several intersections.

The T4 project area is large enough to accommodate the estimated peak demand of 980 car parking spaces on site.

There is potential to implement a workplace travel plan for the T4 Project, in conjunction with other industry in the area. This could include measures to address Kooragang Island's existing public transport deficiencies, or continuing the proposed shuttle bus services.

Visual

A visual assessment of the T4 project was undertaken by Spackman Mossop Michaels.

There will be views of the T4 Project from locations immediately adjacent to it, elevated land up to 3 km to the south, and potentially from Ash Island and parts of the Hunter Wetlands National Park. There are more distant views from headlands at the Hunter River mouth, to the south-east, however the impact on these views will be reduced by the viewer distance of more than 6km. Views from other areas are obstructed by topography, distance, vegetation and buildings.

Twenty five representative viewpoints were initially assessed, using criteria including the likely extent of visual change and sensitivity of viewers to visual change. It was found that most viewers will experience only low levels of visual change after the T4 Project is introduced into the landscape. The five potentially most affected viewpoints were selected for a more detailed assessment. Of these, two were located in public open space, one in a residential zone and two in road corridors.

It was found that coal stockpiles and some elevated infrastructure such as yard machinery, ship loaders, conveyors and buffer bins will be visible at most affected view points, which may increase the extent of industry visible. Elevated infrastructure is likely to break the skyline at some viewpoints.

PWCS details a commitment to implementing mitigation measures including planting vegetation to screen infrastructure; camouflage paint treatments to elevated infrastructure; and lighting controls to minimise light spill and glow to surrounding areas. The T4 Project will successfully integrate with the existing landscape and its visual impacts will not be significant.

Heritage

A heritage assessment was undertaken by EMM.

Inspections identified that the area was disturbed and had no archaeological potential because of filling, waterlogging and landform modification. No archaeological survey was warranted. The representatives of Mur-Moo-Ma Inc and Nur-Run-Gee Pty Ltd present on 20 December 2011 confirmed that no specific Aboriginal heritage values were present. It was not considered necessary to survey the remainder of the T4 project area as it is modified and disturbed to the extent there is no potential for archaeological visibility or survival of archaeological evidence, or has previously been surveyed and found to have no Aboriginal sites or potential for Aboriginal sites.

No non-Aboriginal historic items were identified within the T4 project area.

Economics

The T4 Project will service growing market demands and provide additional coal export capacity. The main economic benefit will be the associated coal export earnings, which will occur sooner with the T4 Project than would otherwise be the case.

The large investment proposed to construct and operate the T4 Project will provide substantial economic stimulus to the NSW and regional economies. During the peak year of construction the T4 Project is predicted to generate 4256 direct and indirect jobs in NSW and 2 919 in the region. In addition, at its maximum operating capacity, the project will generate around 723 indirect jobs in NSW and 389 in the regional economy per annum.

While there is uncertainty around the future coal prices and export demand, it is evident that the T4 Project, associated infrastructure and mining will have major economic benefits to the Australian, NSW and regional economies. Approval of the T4 Project will overcome the predicted port capacity constraints and ensure Australia and NSW can capture the economic benefits of supplying increasing world coal demand.

Conclusion

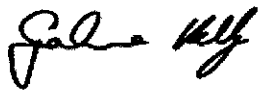
There is a pressing need for the T4 Project, driven by the requirement for additional coal export capacity at the Port of Newcastle to service growing market demands and ensure coal can continue to be shipped to export markets. The need for the project is underpinned by Commonwealth, State and local strategic planning policies.

While the T4 Project could cause some adverse impacts, mitigation or compensation measures have been developed to address each of these and residual impacts will be minor.

At the same time, environmental benefits will result from a decrease in the risk of contaminant release from the site and establishment of a large area of ecological offsets. The potential benefits of the T4 Project significantly outweigh its costs.

In Summation

The Environmental Assessment has comprehensively examined all potential impacts associated with the proposed T4 Project, as well as the need for the project and alternative development options. It provides the basis for determining whether the project can be justified on social, environmental and economic grounds, including consideration of its consistency with applicable objectives of the EP & A Act and EPBC Act.



Grahame Kelly
DISTRICT SECRETARY