Transport for NSW

Responses to Post-hearing questions

Public Works Committee

Inquiry into the costs of remediation of sites containing coal ash repositories

Hearing Date – Friday, 16 October 2020

QUESTIONS ON NOTICE

QUESTION:

1. The Hon. TREVOR KHAN: Can I just say, I can understand Scone, because it is pretty close to Liddell, for instance, so I can see you using it there. What happens if you are doing a bypass or a highway at Ballina? Can you use it there or is distance a disinhibitor?

Ms HENDERSON: I cannot answer for Ballina. For the Woolgoolga to Ballina bypass, which is just underneath Ballina, which was a bit over 150 kilometres, that was a cement road that we put in, so we used fly-ash on the road.

The Hon. TREVOR KHAN: But you did not use any in the road base, in terms of the bottom ash?

Ms HENDERSON: I would have to take that on notice and see the specific details.

ANSWER:

While bottom ash was not used on the Woolgoolga to Ballina project, bottom ash has been used in other major road projects like Ballina Bypass and the M1 Motorway at Minmi.

QUESTION:

2. The Hon. TREVOR KHAN: Are we able, in terms of that Pacific Highway development, in terms of the various stages of that road, are we capable of identifying where fly-ash and bottom ash was used and the percentages that we used? I know the project is coming to an end. I have seen media releases put out by various National Party leaders to that effect. It seems to me that has been one of the largest road projects we have seen in a heck of a long time and I am interested to see how much of this coal ash was used in the project.

Ms HENDERSON: I do not believe we could get all of the specific details of the percentages, the where's and the what's. But I can take it on notice and see what detail I can get.

ANSWER:

- TfNSW estimates that 90,000 tonnes of Grade 1/Class F fly ash was used on the Woolgoolga to Ballina project in the concrete pavement.
- No bottom ash was used on the project.
- Fly ash was sourced from both Queensland and New South Wales power stations; approximately 27,000 tonnes from Gladstone in Queensland and approximately 63,000 tonnes from Eraring in NSW (with lesser amounts from other NSW power stations).

QUESTION:

3. The CHAIR: Are you explicit about contractors using New South Wales coal ash?

Ms HENDERSON: I would have to take that on notice.

ANSWER:

- TfNSW is not explicit about using New South Wales coal ash.
- In NSW there are a small number of coal ash suppliers and occasionally there are shortages of suitable fly ash (one of the coal ash products). As recently as last September 2020, TfNSW were advised by industry of a shortage of fly ash.
- TfNSW has worked with cement suppliers to manage fly ash shortages by allowing fly ash from a wider supply network.

QUESTION:

4. The CHAIR: When Mr Khan asked you about the use of coal ash in the Scone bypass and you made reference to the Woolgoolga to Ballina bypass—interesting the amount that is being used—is that coming from New South Wales?

Ms HENDERSON: I would have to take that on notice. Haulage costing does considerably come into it.

ANSWER:

- Bottom ash was not used at Scone Bypass
- Scone Bypass did use fly ash from NSW, sourced from the Vales Point power station.
- TfNSW estimates 1,500 tonnes of fly ash was used on the Scone Bypass.

QUESTION:

5. The CHAIR: Do you mind, on notice, being able to provide as much detail as possible as to your knowledge of the supply chain and the point of origination of the coal ash that is being used by the major projects, if possible?

Ms HENDERSON: I can take it on notice and seek information.

ANSWER:

- Sourcing of fly ash is a commercial matter between fly ash suppliers and cement producers.
- Eraring, Mt Piper and Bayswater (all from NSW) are the top three suppliers for ash used in concrete mixes.

Fly ash used in	Supplier	Fly Ash Source
Bridge and Pavements	Fly Ash Australia	Eraring Power Station, NSW
Bridge and Pavements	Fly Ash Australia	Mt Piper Power Station, NSW
Pavements	Fly Ash Australia	Bayswater Power Station, NSW
Bridge	Hyrock NSW	Bayswater Power Station, NSW
Pavements	Cement Australia	Gladstone Power Station, QLD

Bridge and Pavements	Morgan Ash	Vales Point, NSW
Bridge and Pavements	Cement Australia	NSW ash/ Central QLD/Melbourne Fly Ash Terminal, VIC
Bridge	Cement Australia	Clyde, NSW
Bridge	Millmerran Fly Ash	Millmerran Power Station, QLD

QUESTION:

6. Ms ABIGAIL BOYD: Under those contracts, has Treasury been contacted by an operator about a pre-existing contamination claim prior to them telling the EPA?

Ms ALEXANDER: I do not think so. I do not think so.

Ms ABIGAIL BOYD: Do you need to take it on notice?

Ms ALEXANDER: I can take it on notice and check.

Ms ABIGAIL BOYD: Thank you.

ANSWER: This is a matter for the NSW Treasury.

QUESTION:

7. The CHAIR: Right. Is that a discretionary choice for Transport for NSW to use that standard, or are you legally required to use that standard?

Ms HENDERSON: I would take it on notice. My general understanding of Australian standards is, from an engineering perspective, you would need good reasons not to adopt an Australian standard.

ANSWER:

- It is discretionary choice for TfNSW to use the Australian Standard (AS AS3582.1 2016). Although discretionary, it is TfNSW's preferred reference standard where applicable to TfNSW activities.
- TfNSW specifications are specific to road building and regularly reference the Australian Standards. TfNSW specifications include a mixture of performance and prescription and are used to manage technical risk.
- There is no guidance in the Australian Standard on the application of fly ash or how to interpret test data to meet the limitations, and it is not specific to the use of fly ash in road construction.
- Fly ash is a variable product and the TfNSW specification prescibes how to interpret the variability in test data for the purpose of complying with the Australian Standard and adopt this information from the road construction perspective. This is required to manage technical risk in concrete mix production.

QUESTION:

8. The Hon. TREVOR KHAN: Would you be able to take on notice—because it would require investigation—as to whether Delta or the other companies have made approaches with regards to the use of more fly-ash or bottom ash?

Ms HENDERSON: I can take it on notice.

ANSWER:

- In early 2019, discussions were held with a representative from Origin Energy regarding the use of fly ash in road projects and Roads and Maritime Services specifications.
- TfNSW representatives are part of the National Technical and Education Committee which includes representatives from energy companies (including Delta). The committee is chaired and managed by the Ash Development Association Australia and also includes guests from academia and consulting engineering companies when relevant. Greater usage of coal ash, among other issues, are discussed.
- A Delta representative reached out to TfNSW following a contact centre request on 28 August 2020 to enquire about coal ash usage in roads.

QUESTION:

9. The CHAIR: The time for this part of the hearing has expired but I will just put one more question to Ms Henderson to be taken on notice, if possible. Ms Henderson, is it possible that you could take on notice further details of the feasibility study that you referred to in your opening statement? What exactly are its terms of reference? Who is involved in it? Is it Transport for NSW exclusively or Transport for NSW plus others? When is it due to report?

Ms HENDERSON: I did note that it is subject to funding so many of those answers would be subject to funding.

The CHAIR: Yet to be determined.

Ms HENDERSON: Yes, particularly the last one.

The CHAIR: Could you therefore provide us on notice with whatever information you can about the feasibility study?

Ms HENDERSON: Will do.

ANSWER:

- Due to the performance variation of concrete caused by unburnt carbon in fly ash, TfNSW has a comprehensive acceptance criteria for this product. The fly ash acceptance criteria test to be assessed is called the “Loss on Ignition” test (LoI).
- TfNSW proposes to conduct testing on 45 different concrete mixes to assess various LoI levels with concrete performance. TfNSW will also assess whether special concrete additives (admixtures) can be used to limit performance with variable LoI levels.
- If a broader LoI acceptance limit can be accommodated, more fly ash could be harvested for future projects.

- The reference will be a compliant concrete mixture typically used in TfNSW projects that contains fly ash. The reference concrete mixture will comply with the TfNSW Quality Assurance Specification 3211 (Cementitious Materials, Binders and Fillers) and have satisfactory performance requirements (i.e. workability and strength).
    - TfNSW QA 3211 specification references Australian Standard 3582.1.
    - The comparison of the assessed mixes (with various LOIs) will be made against the reference mixture.
- Subject to state-wide funding priorities, the project will be led by TfNSW with laboratory testing to be conducted either at a university laboratory or a concrete supplier's NATA accredited laboratory, depending on the availability of required equipment and cost.
- Estimated timeframe to complete this project and report results is 12-18 months from approval and market interest.

QUESTION:

10. The CHAIR: If you have any estimate as to the amount that you have sourced from each of those locations, over what period of time, that would be really useful.

Ms HENDERSON: Yes, which will be on notice.

ANSWER:

- TfNSW does not hold information on the quantity of fly ash used from each source.
- Refer to the response to Question 5, above, in relation to relevant information held by TfNSW.