

3 June 2020

610.19222-L01-v1.0.docx

FDC Construction (NSW) Pty Ltd
c/-Project Strategy
PO Box 271
Sutherland NSW 1499

Attention: Anthony Murr

Dear Anthony

Horsley Drive Business Park - CFC Air Quality Assessment Response to Submissions

SLR Consulting Australia Pty Ltd (SLR) was engaged by FDC Construction & Fitout Pty Ltd (FDC) to prepare an Air Quality Assessment (AQA) for the proposed construction and operation of a large-scale warehousing and distribution facility (the Project) at the Horsley Drive Business Park (HDBP), located west of Cowpasture Road, NSW (the Project Site). SLR delivered the AQA report (610.19222-R02-v1.0) for the Project on 24 January 2020 (the AQA).

On 29 April 2020, a response to submissions letter was issued by the NSW Department of Planning, Industry & Environment (DPIE) detailing issues raised by submissions during the exhibition of the development application for the Project.

In relation to Air Quality, the response to submission letter mentions:

the 'qualitative risk-based approach' within Appendix O – Air Quality Assessment has not been adequately justified in lieu of a quantitative assessment and is not supported.

Based on discussions between SLR and DPIE, it is understood that to address this issue, DPIE require justification that the adopted approach does not compromise the assessment outcomes. This letter has been prepared to provide further explanation of and justification for the qualitative approach adopted for the construction and operational phases of the Project.

1 Construction Air Quality Assessment

As outlined in the AQA, the *IAQM Guidance on the Assessment of Dust from Demolition and Construction*, developed in the United Kingdom by the Institute of Air Quality Management, was used to provide a qualitative assessment method.

While a quantitative (modelling) assessment in accordance with the NSW Environment Protection Authority document *Approved Methods for the Modelling and Assessment of Air Pollutants in NSW* (the Approved Methods) could be prepared for the construction phase of the Project to predict particulate concentrations and dust deposition levels at nearby sensitive receptors, the inputs into the model would be subject to a high degree of uncertainty as:

- a large number of assumptions are required to quantify emissions (e.g. location and operational time of each emission source);
- there is a high degree of uncertainty associated with the available emission factors for specific fugitive dust emissions which are designed to be used for more steady-state mining and quarrying operations;
- emission factors are not available for all potential sources of air emissions associated with the proposed construction works; and
- generic emission factors (those that are applied to the whole of the construction site rather than individual activities), express the amount of particulate matter emitted by area disturbed per month of activity, therefore the estimated quantity of dust produced is not dependent on the type of construction but merely on the area of land disturbed.

The high level of uncertainty associated with the output of such studies means it would be of limited value and would not (in itself) assist with the identification of air quality control measures to actively manage the risks.

Based on SLR's experience, for almost all construction activities, provided effective mitigation is adopted, the residual air quality impact will be insignificant. The adopted quantitative assessment approach identifies the appropriate mitigation measures based on the level of risk during each phase of the construction works and is therefore deemed to be a more appropriate methodology than quantitative modelling.

2 Operational Air Quality Assessment

A qualitative risk-based approach was also adopted by the AQA for the operational phase air quality assessment. Similar to the construction phase air quality assessment, a quantitative assessment in general accordance with the Approved Methods could be prepared for the operational phase of the Project, however, the inputs into the model would be subject to a high degree of uncertainty as:

- Detailed information on the proposed operational activities is not yet available for all the identified sources (ventilation rates, potential emission rates, location of ventilation stacks, etc.); and
- There is a very high degree of uncertainty associated with quantification of emissions from the bakery and waste/food handling as no published emission factors are available for such sources and the emission inventory would need to rely on publicly available pollutant concentrations measured at other sites which may handle different types of food and have different management practices. The availability of such data is also very limited and a number of assumptions would need to be made to be able to apply it to the Project to compile the stack and emission data required for a modelling assessment.

As a first step, the qualitative risk-based approach adopted for the operational phase air quality assessment refers to published separation distances to evaluate the potential risk of conflicting land uses. As there are no separation guidelines issued by NSW EPA, guidelines set by other regulatory agencies in Australia have been reviewed and the most conservative separation distances applicable to each identified source were adopted for the risk based assessment.

In states where separation distance guidelines are published, the separation distances are typically used as a screening tool to identify if a detailed quantitative assessment is required. As such, these separation distances, which are typically based on quantitative modelling studies, history of complaints and air quality monitoring data are considered to be conservative in nature and overestimate the level of risk associated with emission sources.

Separation distances were available for:

- Fuel storage and van refuelling operations; and
- Bakery operations.

The adopted separation distances for these activities were met.

No separation distance guidelines directly relevant to the handling and storage of food and waste and operational phase traffic were identified.

In relation to the handling and storage of food and waste, the air quality risk was assessed by reviewing the distance to the nearest sensitive receptors, site-specific meteorological conditions and proposed mitigation measures. The risk of any adverse amenity impacts due to odours from these activities was concluded to be of intermediate/minor significance with a potential to be reduced to neutral significance if additional mitigation measures (such as covering of waste during transport, storage of all organic waste is in closed containers and staff and contractor awareness and training) are put in place to reduce the frequency and duration of any odour events.

In relation to the operational phase traffic, the level of risk was assessed by reviewing the scale of vehicular traffic anticipated to be generated by the site in comparison to the surrounding road network. The projected increase in vehicle movements is minimal and thus the risk of any adverse air quality impacts at sensitive receptor locations due to traffic-related emissions from the Project was concluded to be of intermediate/minor significance with a potential to be reduced to neutral significance if additional management measures (such as staff and contractor awareness and training, appropriate use and maintenance of all vehicles and encouraging staff to use sustainable modes of travel) are put in place to reduce air quality impacts associated with vehicle emissions.

Based on the qualitative assessment performed, which takes into account the scale and nature of the proposed operations, site location and mitigation measures adopted, SLR concludes that any exceedances of the relevant air quality criteria due to the Project are highly unlikely and further quantitative assessment is not appropriate or warranted. SLR does not believe the outcome of the study is compromised by the methodology adopted. The additional mitigation measures recommended in the AQA will assist in further reducing the risk of any air quality impacts.

Yours sincerely



ALI NAGHIZADEH
Associate - Air Quality

Checked/
Authorised by: KL