Amendment Report

Application for Works Approval Amendment

Part V Division 3 of the *Environmental Protection Act 1986*

Works Approval Number	W6728/2022/1
Works Approval Holder	Kimberley Cotton Company Limited
ACN	649 678 197
File Number	DER2022/000388 APP-0029849
Premises	Kimberley Cotton Gin Lot 510 Mulligans Lagoon Road, Kununurra, WA 6743 Legal description – Lot 510 on Deposited Plan 421305 As defined by the Premises maps attached to the Revised Works Approval
Date of Report	13/08/2025
Decision	Issued

Table of Contents

1. Amendment summary

The Delegated Officer has determined to make amendments to Works Approval W6728/2022/1. The amendments do not alter the risk profile of the Premises, providing that activities, emissions and receptors as stated in existing approvals remain unchanged.

This Amendment Report documents the amendments made pursuant to section 59 and 59(B) of the *Environmental Protection Act 1986* (EP Act).

This Amendment Report documents the changes made under sections 59 and 59B of the *Environmental Protection Act 1986* (EP Act). The amendment was initiated by the Works Approval Holder and seeks to remove the requirement to install a sampling port and conduct emissions monitoring at the dust house exhaust stack during time-limited operations.

The Decision Report for the existing works approval will remain on the department's website for future reference and will act as a record of the department's decision making.

In amending the works approval, the department has considered and given due regard to its Regulatory Framework and relevant policy documents which are available at https://dwer.wa.gov.au/regulatory-documents.

Background

Works Approval W6728/2022/1 is held by Kimberley Cotton Company Limited (Works Approval Holder) for the Kimberley Cotton Gin (the Premises), located at 510 Mulligans Lagoon Road, Kununurra, WA 6743.

The Premises relates to the category and the assessed production capacity under Schedule 1 of the Environmental Protection Regulations 1987 (EP Regulations) which are defined in the existing Works Approval W6728/2022/1. The Works Approval was issued on 19 July 2023.

As of August 2025, the Kimberley Cotton Gin has been constructed and is commencing time-limited operations. The facility is designed to process seed cotton into various products including cotton lint, cotton seed, and gin motes, with cotton trash managed as a reusable by-product.

The site includes infrastructure for unloading, drying, cleaning, ginning, and baling, with processed lint stored on-site prior to export. Dust generated during operations is managed through a dedicated dust house system designed to minimise emissions and environmental impact.

Dust management system

Dust generated during ginning is managed via high-speed airflow systems that direct exhaust air through cyclones and rotary drum filters. Cyclones treat air from early processing stages, while final cleaning air is filtered in a dust house. This system is designed to reduce particulate emissions to ≤5 mg/m³ before discharge via a roof-mounted stack. Collected cotton trash is conveyed to a hopper and stored on a compacted gravel pad before being returned to farms for soil improvement.

DWER findings – Air Quality Impact Assessment (AQIA)

The initial decision to require stack emission monitoring was based on technical advice provided by Air Quality Science (AQS) in 2023. The air quality modelling used in the assessment (WRF-CALMET/CALPUFF) was deemed appropriate, and results indicated that particulate emissions from the cotton gin would comply with the National Environment Protection Measure (NEPM) ambient guideline values (AGVs) at nearby sensitive receptors.

However, the emissions inventory used in the modelling introduced uncertainty, as it was based on scaled data from a Queensland facility due to the absence of site-specific data, without sufficient justification that the data was representative of the Premises. The modelling also did not account for individual process emissions or potential equipment malfunctions. Although the applicant anticipated minimal dust control system failures, these upset conditions were not included in the assessment.

To address these uncertainties, verification monitoring of particulate matter—specifically particles with diameters of 10 microns (PM_{10}) and 2.5 microns ($PM_{2.5}$), at the dust house exhaust stack during time-limited operations was recommended to validate model predictions and inform future regulatory controls. While cumulative PM concentrations at one receptor approached AGVs, this was attributed to conservative background assumptions. When adjusted to more representative values (70th percentile), predicted concentrations were well below the AGVs.

2. Application summary

On 9 July 2025, the Works Approval Holder submitted an application to the department to amend Works Approval W6728/2022/1 under section 59B of the Environmental Protection Act 1986 (EP Act). The amendment seeks to remove the requirement to install a sampling port at the dust house exhaust stack (Table 1, item 3(f)) and the associated monitoring of air discharges during time-limited operations (Condition 13, Table 6).

The Applicant notes that stack monitoring is typically applied to cotton gin designs that discharge directly from cyclones, whereas the Premises uses a modern dust house system known for low emission levels. To support this, the Applicant submitted a Particulate Matter Emission Survey from Queensland Cotton Pty Ltd in Wee Waa, NSW, which reported dust house emissions ranging from 1.1 mg/m³ to 4.36 mg/m³.

Given the efficiency of the dust house and the high cost of monitoring, the Applicant has requested removal of the monitoring requirement, citing confidence in the system's ability to effectively control dust emissions.

3. Decision Rationale

The Delegated Officer has determined that stack emission monitoring is not required for the cotton gin premises based on the following rationale. The facility is located in a rural area where naturally high background dust levels are present, and the contribution of emissions to nearby sensitive receptors is expected to be minimal. The closest sensitive receptor is situated 650 metres from the emissions stack, which exceeds the recommended separation distance of 300

to 500 metres for cotton gin facilities, as outlined in the EPA's Guidance Statement 3.

The Applicant provided manufacturer specifications for the dust house, indicating a maximum exhaust concentration of 4.4 mg/m³ for combined PM_{10} and $PM_{2.5}$, with a particulate intake range of 300 to 600 mg/m³. These figures are consistent with emissions data from a Queensland cotton gin facility and demonstrate effective dust emission controls. The premises employ multiple dust mitigation measures, including extraction fans, cyclones, stripper fans, and drum filters within the dust house, ensuring that all generated dust is captured before discharge.

All dust generated during processing is directed to the dust house as the final point of collection before discharge through the exhaust stack. The dust house is designed to operate within a particulate intake range of 300 to 600 mg/m³, with a manufacturer-specified maximum exhaust emission concentration of approximately 4.4 mg/m³ (combined PM_{10} and $PM_{2.5}$). Given that the National Environmental Protection (Ambient Air Quality) Measure (NEPM) have set concentration limits at 50 µg/m³ for PM_{10} and 25 µg/m³ for $PM_{2.5}$ (24-hour averages) even if intake levels exceed the manufacturer's specified range, emissions from the dust house are expected to remain well below critical thresholds. This supports the assessment that emissions from the dust house pose a low environmental risk.

4. Conclusion

Given the efficiency of the dust control system and the low expected impact on air quality, the Delegated Officer considers verification monitoring unnecessary at this stage. This decision reflects confidence in the design and performance of the dust management infrastructure and the minimal risk posed to surrounding receptors.

5. Consultation

The Works Approval Holder was provided with the draft Amendment Report on 12 August 2025. On 12 August 2025 the Works Approval Holder waived the comment period.

6. Decision

Based on the assessment in this Amendment Report, the Delegated Officer has determined that an amended works approval will be granted, subject to conditions commensurate with the determined controls and necessary for administration and reporting requirements.

7. Summary of amendments

Table 1 below provides a summary of the proposed amendments and will act as a record of implemented changes. All proposed changes have been incorporated into the Revised works approval as part of the amendment process.

Table 1: Summary of works approval amendments

Condition no.	Proposed amendments
Condition 1	Table 1, item 3(f) removed
Condition 13	Condition removed

References

1. Environmental Protection Authority 2005, *Guidance for the Assessment of Environmental Factors, Separation Distances between Industrial and Sensitive Land*

Uses No.3, Perth, Western Australia.

2. Kimberley Cotton Company Ltd, 2025, *Works Approval Amendment Application*, APP-0029849.
3. Department of Water and Environmental Regulation, 2023, *Air Quality Technical Advice, AQ1744-M AQ Final.* DWERDT7580