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Our Ref: EFILE2018/29878

Mr Mark Medew
Operations Manager
PFG Group Victoria Pty Ltd trading as Kiel Industries
87-93 Tramway Road
MORWELL VIC 3840

Dear Mr Medew,

RE: PRODUCT APPROVAL FOR ROTA-LOO - WATERLESS COMPOSTING TOILETS

Reference is made to your application seeking transferral of product approval for the above systems from Kiel Industries Pty Ltd to PFG Group Victoria Pty Ltd trading as Kiel Industries.

I advise that, pursuant to Public and Environmental Health Regulation 91, a product approval is granted to market and sell the **Rota-Loo RL650, RL950 and RL2000 models** ("the system") in the Northern Territory.

The product approval number is PROD2018-019. This approval supersedes the product approval issued to Kiel Industries Pty Ltd on 21 August 2017.

1. Description of the System

- 1.1. The system is designed to receive and treat human waste from one or more toilet pedestals. Organic material may be added to the system as a bulking agent at intervals specified by the manufacturer. The system is designed to reduce such wastes after a specified composting period into an innocuous relatively dry waste that is capable of being disposed of without nuisance or risk to health.
- 1.2. The system comprises a circular outer tank, inside which is a turntable divided into six (6) or eight (8) equal sections, each section holding a removable composting bin. The system is situated below floor level and directly under the toilet pedestal to which it is connected by a waste chute. Access to the bins is provided by a hatch type door fitted on one vertical side of the outer tank. The outer tank, turntable, waste chute and bins are manufactured of medium density polyethylene.
- 1.3. Each bin has holes in the base and side to permit drainage of liquid and movement of air through the waste pile to maintain an environment for aerobic composting activity. The bins are supplied with a geotextile filter pad to ensure effluent solids are contained in the bin.
- 1.4. An air venting system is attached to draw warm fresh air through the outer tank and out through an above-roof level vent. A low powered fan (DC or AC), located in the vent pipe, draws air through the outer tank to ensure adequate air flow to evaporate liquids,

provide oxygen to the composting material and create a negative air pressure to prevent any odour rising into the toilet room. The vent system is manufactured from readily available DWV PVC pipe and fittings.

1.5. The composting capacity and usage of the system models is as follows:

Model	Capacity - fulltime equivalent persons	Outer tank dimensions	Composting bins	Estimated composting time
RL650	4	Ø 1200 x 650 high	6 x 30L	324 days
R950	8	Ø 1200 x 950 high	6 X 65L	351 days
RL2000	20	Ø 1900 x 1000 high	8 X 150L	480 days

2. Conditions of Approval

2.1. General

- 2.1.1. Product approval is granted **until 21 August 2022** (reflects expiry date of previous approval) and will lapse unless renewed by the submission of an application and receipt of a product approval from the Director Environmental Health at least 1 month prior to the expiry date.
- 2.1.2. The system is approved for loading from premises for the number of equivalent persons detailed in 1.5.
- 2.1.3. The system is manufactured by PFG Group Victoria Pty Ltd trading as Kiel Industries ("the manufacturer") and shall be supplied, constructed and installed in accordance with the drawings and documentation submitted to the Department of Health (DoH).
- 2.1.4. The systems are not to be used for the disposal of greywater or other liquid material except for cleaning fluids of a type recommended by the system manufacturer. All household greywater shall be treated and disposed of in accordance with the Code of Practice for On-site Wastewater Management (the Code).
- 2.1.5. The systems shall be manufactured in accordance with the requirements of AS/NZS 1546.2:2008 Waterless Composting Toilets as per Certificate No. OMK30059 granted by OceanaMark expiring on 18 June 2022.
- 2.1.6. Any modification or variations to the design of the systems shall be submitted for separate consideration by DoH.
- 2.1.7. All openings, covers, etc, providing access to system components of the unit are to be provided with child proof covers.
- 2.1.8. All components are to be suitable and durable for their intended purposes and operating environment within the Northern Territory.
- 2.1.9. If a mains fan is supplied then all electrical components are to be compatible with a 240 volt power supply.

- 2.1.10. The systems shall be permanently and legibly marked with the following information:
- Brand name of the system;
 - Manufacturer's name or registered trademark; and
 - Month and year of manufacture.
- 2.1.11. The systems must comply with the provisions of the *Building Act* and Regulations and the *Public and Environmental Health Act* and Regulations that refer to the Code, the Administrative Procedures linked to the Code and any amendments to these documents.
- 2.1.12. DoH reserves the right to request from the manufacturer, results of field-testing of the system that were carried for other Regulatory Authorities.
- 2.1.13. Officers from DoH and the Department of Infrastructure, Planning and Logistics – Building Advisory Services (DIPL) reserve the right to inspect system installations and also to assess installation and their performance.
- 2.1.14. DoH, by written notice, may cancel this product approval and require the repair, replacement, rectification, alteration of the system or part thereof:
- Should the system or component thereof no longer be manufactured or available for purchase; or
 - If the system is defective and not able to perform the function for which the approval is issued; or
 - If the system is operated in a manner that is prejudicial to public and environmental health or causes environmental nuisance; or
 - If the manufacturer fails to comply with one of more approval conditions; or
 - If the manufacturer within 30 days, fails to remedy a breach for which written notice has been given by DoH.

2.2. Installation, Operation and Maintenance

- 2.2.1. The systems must be installed by a licensed plumber in accordance with the *Building Act* and Regulations (within Building Control Areas) and the *Public and Environmental Health Act* and Regulations (outside Building Control Areas). DIPL can confirm the extent of Northern Territory Building Control Areas.
- 2.2.2. System installations shall comply with the manufacturer's installation instructions and shall comply with the minimum setbacks as specified in the Code.
- 2.2.3. All electrical work must be carried out by a licensed electrician and accordance with the relevant provisions of AS/NZS 3000 if a mains fan is supplied.
- 2.2.4. The walls of the room housing a system shall not impose any load on the shell of the system or be affected by the positioning of the system.
- 2.2.5. The location, lighting and ventilation of a room in which a system is installed shall satisfy the requirements of the Building Code of Australia.
- 2.2.6. The systems must be installed with suitable hand washing facilities connected to an approved greywater disposal system where there is no reticulated sewerage connection. Greywater is not permitted to discharge to the system.

- 2.2.7. Where a system is to be provided with entry external to a dwelling, the closet room must have adequate lighting and ventilation and be rendered fly-proof by the installation of fly screens on all windows, vents and be fitted with a self-closing fly screened door.
- 2.2.8. The exhaust fans must be installed in such a manner as to operate continuously. Battery backup must be provided where solar power is employed. The fan must also be installed in such a manner and location that allows easy access for repairs and replacement.
- 2.2.9. In installations where high liquid loads occur (typically public use facilities) provision must be made to drain excess liquids into an absorption trench or a secondary liquid evaporation system.
- 2.2.10. Bulking material should only be added through the toilet chute in the amounts and frequency as suggested by the manufacturer.
- 2.2.11. The composting end product shall be retained for a period specified by the manufacturer before the first chamber is emptied. Statements to that effect must be included on any accompanying literature.
- 2.2.12. The humus from the composting chambers must be disposed of in a 300 mm deep trench covered with 100 mm soil.
- 2.2.13. The waste chute is to be cleaned at least daily or more frequently when it becomes fouled with excreta.
- 2.2.14. A permanent notice containing basic usage instructions and maintenance requirements must be affixed in a prominent position adjacent to each system.
- 2.2.15. The system is not to be installed in remote communities unless there is prior approval from DoH.
- 2.2.16. Vehicular traffic is to be excluded from the area around the system.
- 2.2.17. Commercial applications for the system will be dealt with on an individual basis and require a DoH Wastewater Works Design Approval.
- 2.2.18. The manufacturer shall supply each purchaser with a comprehensive manual containing details of:
 - Installation procedures to ensure correct installation of the system;
 - Maintenance procedures necessary to ensure the efficient and safe operation of the system; and
 - All warranties.
- 2.2.19. Each system once installed, must be maintained in a fully operational and sanitary state at all times by the user / owner in accordance with the product approval conditions, manufacturer's requirements and any other specific requirements by DoH or DIPL.
- 2.2.20. The manufacturer must maintain records of all systems installed in the Northern Territory and provide details to DoH upon request.

Yours sincerely

Peter Rogers

Peter Rogers
Senior Program Development Officer
Environmental Health Branch
Department of Health

30 November 2018

cc Environmental Health Officers
DIPL - Building Advisory Services