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Food to go

A kerbside food waste collection project reaped the benefit of advanced planning and industry sector engagement. **GREG DEARSLY** reports.

A local council is planning to implement a food waste collection service as part of its waste minimisation strategy. Given the perceived and actual risk of personal injury to both contractors and the public, the council needed to satisfy itself that all health and safety risks associated with providing a kerbside organics collection system had been fully assessed before making a final decision on its preferred methodology.

Early project research had seen health and safety issues included and formalised through a review of food waste collections globally. I became involved in phase two of the project which involved:

- Review of the international research report.
- Industry engagement workshops.
- Risk and hazard identification processes.
- Potential contractual conditions/ requirements.
- Monitoring of trials being undertaken.
- An internal workshop to further consider all information to enable an assessment of what is reasonably practicable.

TWO KEY RISKS

A range of solutions was considered to ensure all health and safety issues were identified and controls developed, taking into account the feedback from the international research, health and safety legislation, industry requirements and industry engagement. Two particular risks associated with any kerbside collection are working in the road corridor and manual handling.

The waste industry has for some time identified the need to mechanise kerbside collections wherever possible, to reduce the need for or minimise the risk to runners. In 2013 a project undertaken between NZTA and WasteMINZ developed criteria and a training programme to ensure more visibility

for kerbside collection staff and vehicles. There are also behaviour protocols for those working in this environment and these needed to be assessed against the proposed food waste collection service.

Manual handling is one of the biggest health and safety issues facing the waste and recycling industry. Any manual handling aspect of the proposed activity would need to be significantly reduced and appropriately managed.

BIN SIZE OPTIONS

Council's initial thinking on its collection system design and methodology options consisted of either a manually handled 23 to 25 litre container or a mechanically lifted 60 or 80 litre bin modified with a false floor to limit capacity to 25 litres. After further study and evaluation Council's preferred option was the manually handled 23 to 25 litre container using a vehicle with a payload capacity of 3 to 5 tonnes. This is based on a daily collection rate of approximately 1000 containers. The proposal includes a significant reduction in the size and type of receptacle traditionally used in waste collection. This preferred system was presented to the industry via workshops held during 2014, and a presentation on the status of the project was delivered to an industry conference in late 2014.

An existing kerbside bin widely used throughout the UK specifically for food waste collections was used in the trial, which helped to assess both operational and health and safety factors facing the collection operators.

A series of reviews to look at the health and safety implications of the trial were undertaken, including discussions with the drivers about their experiences with completing such a collection and the issues associated with the ever-changing work environment. There was also on-site assessment of the bin design

specifically related to the manual handling aspect of the collection task.

ERGONOMIC REVIEW

In discussion with the client it was decided to undertake a formal ergonomic review of the activity which would look at key specifications for bin design, activities associated with operator movements and design criteria for the collection vehicle receptacle. In addition the ergonomist would undertake a field visit to observe various truck type and operator configurations to gain an appreciation of working practices, risks and other ergonomic issues.

A literature review related to the manual handling of loads was also undertaken appropriate to the repetitive handling of food container bins, and there was an assessment of anthropometric data related to the population demographics of collection workers.

At the most basic level, hazard identification is required for any new equipment, task or process and this project has all three aspects. Using a simple safety in design process has identified findings from international research, legislation review (both current and an assessment of possible future legislative requirements), physical trials, and industry feedback.

Advanced planning is a critical aspect of any project's success, including the achievement of health and safety goals associated with the final product or service. Historically, project success has been determined on the basis of meeting deadlines, budgets and product or service performance.

Engagement with all relevant stakeholders has become an equally important aspect when developing a project. On this project, feedback from industry has been highly beneficial in guiding the council towards selecting the right solution.