



**BETTER  
BUILDINGS  
PARTNERSHIP**

# **OPERATIONAL WASTE GUIDELINES:**

procurement, management  
and reporting  
July 2018

# part e: waste data integrity rating protocol

When reporting on waste outcomes and recovery, it is important to understand the quality of the data. This rating protocol has been developed to provide organisations with the ability to:

- enable transparency to provide credibility and confidence in waste data
- improve the overall level of accuracy of waste data
- enable meaningful and accurate comparisons and benchmarking to be conducted within portfolios and across the property sector
- achieve greater resource recovery by more accurately measuring current performance.

Organisations should use this protocol in waste/cleaning contracts when specifying waste reporting requirements.

This protocol is designed for site-level reporting and is for use by Building Owners/Managers. If targeting a portfolio-level rating, a limited assurance approach to auditing is acceptable, with disclosure.

The rating system described below is an evaluation of the **quality** and **integrity** of the waste data it is not a rating of actual performance. NABERS Waste is a tool used to rate the actual performance of a building.

The NABERS waste rating is based on an underlying basis of high quality, valid data to determine the diversion rates and hence star ratings.

## E.1 Rating

The most accurate data is obtained where a site's waste and recycling streams are weighed at the time of collection and where contamination in recycling streams is accounted for.

The summary rating table below outlines the ratings and the evidence required.

**TABLE E.1: RATING**

Rating	Evidence requirements
<b>Platinum</b>	Actual weights (AW) Two sources of data Independent audit Site contamination adjustment Adjustment to reflect grading of recycling pathway
<b>Gold</b>	Actual weights (AW) Two sources of data Independent audit Site contamination adjustment
<b>Silver</b>	Site densities (SD) Two sources of data Independent audit Site contamination adjustment
<b>Bronze</b>	Site density (SD) One source of data Measurement and verification Facility contamination adjustment
<b>Nominal</b>	Industry/national density (ID) Contractor unverified data No contamination adjustment

## E.2 Evidence criteria

All streams reported on-site and representing more than 2 per cent of the total materials generated on-site from daily tenant activity must be included in the rating process, regardless of how the stream is managed. Grease trap waste is excluded, as this stream often comprises a limited amount of recoverable material.

*For example, a confidential document streams managed by tenants, where this stream may equal or exceed 2 per cent of the total waste generated on-site, must be included.*

To comply with a Platinum, Gold or Silver rating, a minimum 95 % of the total waste generated by the site (e.g. waste and recycling streams including tenant managed waste streams such as secure paper) must be compliant with the criteria.

Please Note: Ratings of bronze and below should not be publicly reported.

**TABLE E.2: EVIDENCE CRITERIA**

Criteria	Details
<b>Actual weights (AW)</b>	<p>May be gained from any of the following:</p> <ul style="list-style-type: none"> <li>■ the Contractor's on-vehicle scales</li> <li>■ use of weighbridge – acceptable for compactors/skips only</li> <li>■ on-site scales used to weigh bins prior to collection.</li> </ul> <p>All weighing devices used must be supported by evidence of calibration tests to NMI standards at least every six months. Some waste contractors with on-vehicle scales are calibrated daily. Evidence of this process is acceptable.</p>
<b>Sources of data</b>	<p>Data sources must be independent of each other. Sources may include:</p> <ul style="list-style-type: none"> <li>■ Waste contractor invoice</li> <li>■ Cleaner bin tally</li> <li>■ Report from on-site scales showing individual bin weights</li> <li>■ Automated bin readers</li> <li>■ Weighbridge docket</li> <li>■ CCTV video</li> </ul> <p>For example, a site may have bins weighed on-site by their waste contractor at time of collection. To support this, a cleaner tally of bin numbers would also be required.</p>
<b>Independent audit</b>	<p>The audit must be conducted by someone independent of the “sources of data”. This will typically be parties independent of the waste and cleaning Contractor.</p> <p>The audit must comply with the audit guidelines provided in <b>Part E.5</b>.</p> <p>A NABERS Waste audit satisfies this criteria.</p>
<b>Measurement and verification</b>	<p>Management and verification processes require collecting data and confirming the credibility of data by a competent person.</p>
<b>Contamination adjustment</b>	<p>Refers to recycling streams only.</p> <p>Site contamination is obtained following an independent compositional audit to determine non-acceptable items, as per the processing facility criteria.</p>

Bin densities for the following wastes vary substantially, as such the BBP has determined that a density calculation method is outside an allowable error for a rating. If the following wastes are included in the waste reported for the site then actual weights are required:

- E-waste
- Printer cartridges
- Lighting (lamps)
- Batteries
- Green waste



### E.3 Contamination audit

To determine the contamination rate, a contamination audit of each recycling stream per site is required annually. This audit must be overseen by an independent and competent person. Where the site is also seeking NABERS Waste certification, this audit must be supervised by a NABERS accredited auditor.

Where a site has already undertaken a NABERS Waste Audit, or GECA Waste Audit the contamination results from these audits may be used noting the following:

- Where a NABERS Waste audit was conducted, the audit may not have included ALL recycling streams on site as such additional contamination audits may be required of tenant managed recycling streams to comply with the BBP data integrity rating
- Where a GECA audit was conducted, again not all recycling streams may have been included. In addition the GECA audit must have been conducted at the site in question to allow the findings to be used.

#### Contamination Audit process:

Some waste streams are not required to be audited because the contamination rates for that waste are very low. Streams NOT requiring contamination rate audits are:

- Landfill stream
- Secure Paper/Confidential documents
- Cooking Oil
- Batteries
- Green waste
- Light globes/tubes
- E-waste
- Printer cartridges

For all other recycling streams, regardless of management (e.g. tenant vs. building management) the following process, (as defined within the NABERS Waste protocol), is to be followed:

- The audit must be conducted on a normal operating day so that the sample is reflective of normal operating conditions. A normal operating day is one where greater than 75% of full-time equivalent staff are present.

- For one full day's generation, the contents of the sample are to be audited to determine the level of "non-acceptable" items. The sample will consist of all bins normally presented for collection. If a single waste stream has more than 25 bins, then apply the Slovin's Formula to determine the total number of bins to be audited. The Slovin's Formula is:

$n = N / (1 + ne^2)$  where n is the sample size, N is the population size and e is the margin of error (or a sample size that results in a 90% confidence level)

- Bins are audited as normally presented for collection – this means that a building can perform any operations it normally conducts to sort or consolidate its waste
- Non-acceptable items must be as advised by the receiving facility.

Contamination audits should not occur during the following periods:

- Two weeks before or after the end of the financial year
- Public holidays and public school holidays relevant to the location of the building
- During January
- In the last two weeks of December
- Any other unusual operating day.

The contamination rate is determined as follows:

- The total weight of "non-acceptable" items is expressed as a percentage of the total weight of the contents of all bins in the sample per stream.

For example, if 24 kg of contamination is found in the mixed recycling stream, and the total weight of the contents of all mixed bins presented for the audit period (including the contaminated material) is 300 kg, then the contamination rate is 24/300, or 8 per cent.

If a bin has a contamination rate above the rate allowed by the waste facility then the assessor must record the contamination weight for that bin as if the entire bin is sent to landfill.

Where a change in recycling facility is made (other than on an interim basis), and where the new facility's acceptance criteria differs from the original facility, a new contamination audit must be completed within two months of the change of facilities.

Note: A contamination audit profiles contaminants only, as compared to a full waste audit which profiles the recycling.

Refer to NABERS Waste for the key stages in undertaking a Contamination audit.

## E.4 Independent audit

An independent audit must be undertaken to verify the authenticity of the data sources. This audit may be conducted by building management/owners, providing a senior manager reviews and accepts the audit findings.

- The audit must establish that the data presented reflects actual practice. Interested parties must not be advised of the audit date. This would include at a minimum cleaners and waste contractors.

**Where a NABERS Waste audit has been undertaken, in compliance with the NABERS protocol, or a GECA audit undertaken as part of GECA Certification, then such audits meets this requirement.**

Where a NABERS audit has not been undertaken and is not planned, the following Audit verification processes should be followed:

1. **Verification of bin weights:** The Auditor is to observe the normal on-site weighing procedure. Using calibrated scales, the Auditor is to separately weigh a sample of bins and compare results with those obtained from the normal process. Where the bins are weighed by the waste vehicle as collected, bins will need to be weighed by the Auditor prior to collection. It is important that the bins are weighed as presented and collected. Where the total audit bin weights on average vary by greater than 20 per cent, a “non-compliance” rating is to be noted. The auditor should investigate any reasons for this variation to determine if it is based on activities at the site and hence a change in the nature of the waste stream, or if it is attributed to errors in weighing and reporting.
2. **Verification of total quantities:** based on the previous twelve months average collections, the Auditor is to compare these averages to the audit day for each stream. Where the quantities presented on the audit day vary by greater than 20 per cent of the average, a “non-compliance” rating is to be noted.
3. **Verification of contamination rate:** a visual inspection of, as a minimum, 20 per cent of bins from each recycling stream is to be undertaken and the visual contamination rate noted. The Auditor must be able to determine this rate based on weight. The Auditor must independently obtain from the processing facility their acceptance criteria. Where the contamination rate observed varies by more than 10 per cent, a “non-compliance” rating is to be noted.
4. **Verification of processing facilities:** verification that the material is taken to the nominated facility is required for all streams representing greater than 5 per cent of the total waste and recycling stream. This evidence may include security footage showing registration and times of each stream as it is collected. This data to be matched to tipping dockets from the processing facility. Where a significant time lag exists between collection and tipping, where the streams are not collected separately, or where the streams are not transported to the approved facility, a “non-compliance” rating is to be noted.

Where “non-compliance” ratings are noted, the Site has one month to address non-compliance. A follow-up audit is required using the process above. Failure to address non-compliance or undertake successful follow-up audits will result in a “nominal” rating.

## E.5 Quick reference – waste data integrity rating

Rating	Evidence requirements	Criteria	Comments
<b>Platinum</b>	Actual weights (AW)	95% of all waste generated by the site is weighed on site by cleaners using calibrated scales or waste trucks with weighing capabilities.	
	Two sources of data	Data sources must be independent of each other. Sources may include: Waste Contractor Invoice, Cleaner Bin Tally, Automated bin readers, Weighbridge dockets	
	Independent audit	The audit must comply with the audit guidelines provided in Part E.5.	
	Site contamination adjustment	Site contamination is obtained following an independent compositional audit to determine non-acceptable items, as per the processing facility criteria.	
	Outcomes based Adjustment	Adjustment to reflect grading of recycling pathway reflecting highest resource recovery options	
<b>Gold</b>	Actual weights (AW)	95% of all waste generated by the site is weighed on site by cleaners using calibrated scales or waste trucks with weighing capabilities.	
	Two sources of data	Data sources must be independent of each other. Sources may include: Waste Contractor Invoice, Cleaner Bin Tally, Automated bin readers, Weighbridge dockets	
	Independent audit	The audit must comply with the audit guidelines provided in Part E.5.	
	Site contamination adjustment	Site contamination is obtained following an independent compositional audit to determine non-acceptable items, as per the processing facility criteria.	
<b>Silver</b>	Site densities (SD)	Waste streams are weighed once a quarter. The average weight of each stream is applied to the bin count each night to achieve a weight.	
	Two sources of data	Data sources must be independent of each other. Sources may include: Waste Contractor Invoice, Cleaner Bin Tally, Automated bin readers, Weighbridge dockets	
	Independent audit	The audit must comply with the audit guidelines provided in Part E.5.	
	Site contamination adjustment	Site contamination is obtained following an independent compositional audit to determine non-acceptable items, as per the processing facility criteria.	
<b>Bronze</b>	Site density (SD)	Waste streams are weighed twice a year. The average weight of each stream is applied to the bin count each night to achieve a weight.	
	One source of data	One source of data which may include: Waste Contractor Invoice, Cleaner Bin Tally, Automated bin readers, Weighbridge dockets	
	Measurement and verification	Management and verification processes require collecting data and confirming the credibility of data by a competent person.	
	Facility contamination adjustment	The percentage output of the recycling facility is applied to the overall recycling performance.	
<b>Nominal</b>	Industry/national density (ID)	Average industry weights are applied to a bin count for weight conversions.	
	Contractor unverified data	No verification process to access credibility of data.	
	Facility contamination adjustment	The percentage output of the recycling facility is applied to the overall recycling performance.	

A minimum 95 per cent of the total waste generated by the site (eg. waste and recycling streams) must be compliant with the criteria.