RPRA
Resource Productivity & Recovery Authority

Registry Procedure
EEE Verification and Audit Procedure
Revised May 4, 2022

This Registry Procedure is incorporated by reference into the Electrical and Electronic Equipment (EEE) Regulation made under the Resource Recovery and Circular Economy Act, 2016.

Section 1, EEE Supply Data Verification, establishes how producers:

- determine EEE supply data;
- verify EEE supply data; and
- verify the weight of reductions to their management requirements.

Section 2, EEE Management Performance, establishes how:

- EEE processors will calculate and verify the Recycling Efficiency Rate (RER) of their processing facilities; and
- producers, or producer responsibility organizations (PROs) on their behalf, will conduct third-party audits verifying the resources recovered from the management of EEE used and collected in Ontario.

It is the intention of the Registrar to review this procedure on a regular basis beginning in 2021, in a public consultation process with registrants and other interested parties.

Section 1 – EEE Supply Data Verification

Determining Supply Data

The EEE Regulation requires producers to submit to the Authority the weight of the EEE they supply into Ontario for the purpose of determining the producer's management requirement. This weight must include all components, parts or peripherals, including batteries, that are provided with the product at the time of supply to the consumer, but must exclude the weight of any printed paper or packaging supplied with the product.

In the EEE Regulation there are two categories of EEE: information technology telecommunications and audio visual equipment (ITT/AV) and lighting.

EEE producers are required to report the weight of EEE they supply into Ontario for each category separately.

To determine the weight of EEE supplied into Ontario, the producer may need to determine how many units of EEE are supplied into Ontario.

a) Determining the number of EEE units

EEE producers may choose one of the following methodologies to determine the number of units supplied into Ontario:

1. The actual number of EEE units.

2. The number of EEE units calculated using the formula set out in **Appendix A** to determine the Ontario portion of the EEE units supplied into Canada.

The options described above do not reduce the obligation of a producer to provide accurate supply data or limit the ability of an Authority inspector to review the data and related records for the purpose of determining compliance.

b) Determining EEE weight

EEE producers may choose one of the following methodologies to report the weight of the EEE they supply into the Ontario market:

1. The actual weight of the EEE.

2. The weight of EEE calculated using the unit to weight conversion calculator provided by the Registrar. See **Appendix B** for the unit to weight conversion for the ITT/AV category and **Appendix C** for the unit to weight conversion for the lighting category.

3. The weight of EEE calculated using the total product and packaging weight, multiplied by a factor that reduces the total product and packaging weight by the weight of the packaging based on a documented methodology that must be retained by the producer and made available to an Authority inspector as may be required.

The options described above do not reduce the obligation of a producer to provide accurate supply data or limit the ability of an Authority inspector to review the data and related records for the purpose of determining compliance.

Verification of EEE Supply Data

[Verification of supply is mandatory for 2022 reporting. For more information, read the Registry Procedure – Batteries and ITT/AV Supply Data Verification]

The EEE Regulation requires EEE producers to verify the supply data they submit to the Authority, in accordance with this procedure.

Verification of the ITT/AV supply data reported in 2020 and 2021, and the lighting supply data reported in 2022 and 2023 is not required.

This does not reduce the obligation of a producer to provide accurate supply data or limit the ability of an Authority inspector to review the data and related records for the purpose of determining compliance.

Verification of supply data for ITT/AV will be required starting in 2022, and for lighting starting in 2024. All subsequent years of supply data are required to be verified when the data is reported.

For both ITT/AV and lighting, the verification must include an opinion on the accuracy of the supply data and the qualifications of the verifier to provide the opinion. The verifier must:

    - Assess and document the reasonableness of the producer's methodology for determining the EEE supply; and
- Obtain and review supporting evidence as required.

Reduction of Management Requirement

Producers may only reduce their management requirement by a maximum of 50%. The reduction applies only to the EEE category that meets the conditions set out in (a), (b) or (c) below.

(a) Post-consumer recycled content

Producers who supply EEE containing post-consumer recycled glass or plastic content or batteries supplied with EEE that contain post-consumer recycled content, i.e., content that was recovered from products or packaging that were used by consumers, may reduce their supply weight used to derive their management requirement by the weight of that recycled content in each year the recycled content was used in the EEE or batteries supplied by the producer into Ontario.

Verification of the weight of post-consumer recycled content in ITT/AV products reported in 2020 and 2021, and lighting products reported in 2022 and 2023, is not required. This does not reduce the obligation of a producer to report accurate data or limit the ability of an Authority inspector to review the data and related records for the purpose of determining compliance.

Beginning in 2022, producers will be required to verify the weight of post-consumer recycled content reported for ITT/AV and in 2024, reported for lighting. To do so, a producer must submit the following, on or before the supply data reporting deadline:

a. the weight of the recycled content in the EEE for which supply data is being reported (including the recycled glass or plastic content in ITT/AV or lighting and any recycled content in the batteries supplied with EEE);
b. the category of EEE; and
c. third party verification of the recycled content claim.

Third party verification may be done by Underwriters Laboratories of Canada (ULC), Intertek, or another third party proposed by a producer that is qualified to provide such verification.

(b) Manufacturer's warranty

Producers who provide a manufacturer's warranty for ITT/AV may receive a reduction in their management requirement. To qualify, the warranty must cover the ongoing functionality of the product for the purpose for which it was first marketed beyond one year from the date of purchase and be provided at no additional charge to a consumer.

For each full year beyond one year from the date of purchase, which is covered by the warranty, a producer may reduce the supply weight of the ITT/AV that was supplied with the warranty by five per cent.

Verification of the manufacturer's warranty for ITT/AV supply data reporting in 2020 and 2021 is not required. This does not reduce the obligation of a producer to provide accurate data or limit the ability of an Authority inspector to review the data and related records for the purpose of determining compliance.

(c) Repair

Producers who make information available to the consumer at no charge, and make tools and parts available, at no charge or on a cost recovery basis, to repair ITT/AV products, may reduce the supply weight reported for those products by ten percent, so long as the information, tools and parts remain available to the consumer at the time that the producer must fulfil its reporting obligations for that supply data. For example, repair information, tools and parts for products supplied in 2018 must still be available at the time 2018 supply data is being reported, in 2020.

Verification of the repair information, tools and parts related to the supply data reporting in 2020 and 2021 is not required. This does not reduce the obligation of a producer to provide accurate data or limit the ability of an Authority inspector to review the data and related records for the purpose of determining compliance.

Section 2 – EEE Management Performance

Definitions and Background

An “EEE processor”, as defined in the EEE Regulation, means a person who processes, for the purpose of resource recovery, EEE used by a consumer in Ontario.

For the purposes of this procedure, a downstream processor is a person that receives materials derived from EEE used and collected in Ontario. The materials are provided by an EEE processor to a downstream processor for the purpose of further processing. A downstream processor is not an EEE processor for the materials it receives from the upstream processing of EEE. A battery processor is not a downstream EEE processor.

For the purposes of this procedure, recovered resources from EEE that can be used to satisfy the management requirements under the EEE Regulation include:

- materials used or destined to be used by a person for the making of new products or packaging;
- if the processed material is glass, used as aggregate; and,
- EEE that are reused or refurbished.

For the purposes of this procedure, recovered resources from batteries supplied with EEE that can be used to satisfy the management requirements under the EEE Regulation include:

- materials used or destined to be used by a person for the making of new products or packaging;
- materials used to enrich soil;
- materials used as aggregate; and,
- batteries that are reused or refurbished.

Resource recovery includes the recovery of resources from:

- EEE;
- materials derived from the EEE by an EEE processor and sent to a downstream processor for resource recovery;
- batteries supplied with EEE;
- materials derived from the batteries supplied with EEE by a battery processor and sent to a downstream processor for resource recovery;

The weight of the recovered resources must only count once, must not be counted by more than one producer, and cannot be used toward another management requirement under a separate regulation (e.g., Batteries Regulation).
The following cannot be used to satisfy the management requirements under the EEE Regulation:

- materials derived from any product that is not ITT/AV or lighting, other than the components removed from those products that are ITT/AV or lighting;
- materials derived from EEE that were not used and collected in Ontario;
- materials that are land disposed;
- materials that are incinerated;
- materials that are used as fuel or a fuel supplement; and
- materials that are stored, stockpiled, used as a daily landfill cover, or otherwise deposited on land.

“Recycling efficiency rate” (RER), as defined in the EEE Regulation, means the ratio of the weight of resources recovered from EEE received by an EEE processor, to the weight of EEE received by that EEE processor.

“Information technology, telecommunications and audio visual equipment (ITT/AV)”, as defined in the EEE Regulation, means EEE, of which the primary purpose is collecting, storing, processing, presenting or communicating information, including sounds and images, recording or reproducing sounds and images.

“Lighting”, as defined in the EEE Regulation, means EEE that has the primary purpose of producing light, such as a bulb, lamp, light emitting diode or tube.

Calculation and Verification of RER

Every EEE processor is required to determine the RER, which must be reported to the Authority.

a) Calculation of RER

The RER for a calendar year is calculated for ITT/AV and lighting as follows:

$$(R / TW) \times 100\%$$

Where:

“R” is the weight of the recovered resources derived from all EEE received by the processor in a calendar year with the following limitations:

1. Processed glass used as aggregate may only account for up to 15% of the management requirement for ITT/AV
2. Processed glass used as aggregate may only account for up to 50% of the management requirement for lighting

“TW” is the total weight of all EEE received by the processor in the same calendar year.

If the processor's facility processes both ITT/AV and lighting, the RER must be calculated separately for ITT/AV and lighting.

If EEE is received by an EEE processor and transferred as intact or unprocessed EEE to another entity for processing, that EEE is not to be included in the calculation of the RER by the EEE processor transferring the EEE. Instead, that EEE is to be included in the calculation of the RER of the EEE processor receiving and processing the EEE.

If an EEE processor separates batteries from the EEE it has received, and sends those batteries to a battery processor, the weight of those batteries must be subtracted from the weight of EEE received by the EEE processor for the purpose of calculating the EEE processor's RER. The weight of those batteries will be included in calculation of the RER of the battery processor receiving and processing those batteries.

If EEE is received by an EEE processor and transferred as intact or unprocessed EEE to another entity for refurbishment, that EEE is not to be included in the calculation of the RER by the EEE processor transferring the EEE.

b) Downstream processing

An EEE processor must include the resources recovered from a downstream processor in its RER.

As an example, Processor A receives 100 tonnes of EEE. Processor A separates the components of the EEE with the following results:

- 50 tonnes of metal (to be sent to a smelter)
- 10 tonnes of glass (to be sent a glass recycler)
- 20 tonnes of plastic (to be sent to a plastic recycler)
- 20 tonnes of batteries (to be sent to a battery processor)

The smelter is not a downstream processor.
All 50 tonnes sent to the smelter count as recovered resources. Processor A has recovered 50 tonnes that can count as recovered resources in the RER formula above.

The glass recycler is a downstream processor.
Assuming the glass recycler's verified efficiency is 50%, 5 out of the 10 tonnes sent from Processor A is destined to be used to make new glass product. Therefore, Processor A can count those 5 tonnes as recovered resources in the RER formula above.

The plastic recycler is a downstream processor.
Assuming the plastic recycler's verified efficiency is 50%, 10 of the 20 tonnes sent from processor A is destined to be used to make new products or packaging. Therefore, processor A can count those 10 tonnes as recovered resources in the RER formula above.

The battery processor is not a downstream processor.

Since the weight of batteries separated from EEE received by the EEE processor is sent to a battery processor, that weight is excluded from the calculation of the EEE processor's RER and the weight of recovered resources from those batteries is also excluded. It will be up to the battery processor to process and report the management outcomes to the Authority in accordance with the Batteries Regulation.

Out of the 100 tonnes received by the EEE processor, 20 tonnes of batteries is subtracted. Out of the remaining 80 tonnes, 65 tonnes of resources were recovered in total and the EEE processor can report a RER of 81.25%.

The Batteries Regulation requires that, beginning in 2023, all battery processors, including a battery processor that may not be required to register and report, must have an average RER, calculated and verified in accordance with the Registry Procedure – Verification and Audit for batteries, of at least:

- 80%, for primary batteries weighing 5kg or less, and
- 70%, for rechargeable batteries weighing 5kg or less.

c) RER requirements and timing considerations

For the 2021 and 2022 performance periods for ITT/AV and 2023 and 2024 for lighting, producers who choose to meet their resource recovery obligation using the services of an EEE processor, directly or through a PRO, may use any EEE processor that is registered with the Authority.

The EEE Regulation requires that, beginning in 2023 for ITT/AV and 2025 for lighting, all EEE processors must have an average RER, calculated and verified in accordance with this procedure, of at least:

- 80% for ITT/AV;
- 50% for lighting; and
- 90% for mercury removed from lighting.

A registered ITT/AV processor's first report must be submitted to the Registrar no later than April 30, 2022. In this first report, the EEE processor must include a verified RER for the 2021 calendar year.

A registered lighting processor's first report must be submitted to the Registrar no later than April 30, 2024. In this first report, the EEE processor must include a verified RER for the 2023 calendar year.

The list of EEE processors that meet the RER thresholds, based on this first report, will be published on the Registry and communicated to registered producers and PROs as noted in the chart below:

Annual report	Year reported on	Approved processor list published	Processor approval period
April 30, 2022 (ITT/AV)	2021	June 30, 2022	2023 to 2025

April 30, 2024 (lighting)	2023	June 30, 2024	2025

For the 2023 to 2025 for ITT/AV and 2025 for lighting performance periods, producers, and PROs on behalf of producers, who are meeting EEE management obligations using recovered resources from EEE processing, may only do so with an EEE processor that meets the RER calculation and verification requirements described in this procedure, and is on this list.

This list will be updated to reflect new market entrants.

If an EEE processor did not process ITT/AV prior to 2022 or lighting prior to 2024, the EEE processor must contact the Registrar, by email to registry@rpra.ca, to confirm the appropriate RER data to be used in place of 2021 or 2023 RER data.

Following the April 30, 2022 report for ITT/AV and the April 30, 2024 report for lighting, EEE processors must submit an annual report no later than April 30 every year, which must include a verified RER for the previous calendar year.

The verified RERs will be averaged by the Registrar every three years and an updated list of EEE processors that meet the RER requirements, based on this average, will be published on the Registry and communicated to registered producers and PROs by June 30 of every third year, as noted in the chart below:

Annual report	Years reported on	Approved processor list published	Processor approval period
April 30, 2023 April 30, 2024 April 30, 2025	2022 to 2024 for ITT/AV (three-year average RER); 2023 and 2024 for lighting (two-year average)	June 30, 2025	2026 to 2028
April 30, 2026 April 30, 2027 April 30, 2028	2025 to 2027 for either ITT/AV or lighting (three-year average RER)	June 30, 2028	2029 to 2031
And so on			

For each three-year period, producers, and PROs on behalf of producers, who are meeting EEE management obligations using recovered resources from EEE processing, may only do so with an EEE processor that meets the RER calculation and verification requirements set out in this procedure, and is on the list for that period.

The list will be updated to reflect new market entrants.

If an EEE processor is a new entrant at any time after 2022 for ITT/AV or 2023 for lighting, the EEE processor must contact the Registrar, by email to registry@rpra.ca, to confirm the appropriate RER data to be used to establish the EEE processor's average RER.

d) Verification of RER

The RER must be verified by a licensed engineering practitioner who holds a license, limited license or temporary license under the Professional Engineers Act, R.S.O. 1990, c. P.28The verifier must prepare a verification report which must include:

- a description of the methodology used by the verifier;
- the information reviewed by the verifier; and
- the results of the verification.

The EEE processor must submit the verification report on or before April 30 of each reporting year as part of their annual report.

Management of EEE

Where the EEE Regulation requires a producer to audit the practices and procedures implemented to comply with the management requirements in the applicable years, the audit must be carried out by an independent auditor. The audit report prepared by the auditor must include an opinion on the accuracy of the reported data.

Where a producer has retained the services of a PRO, the PRO can arrange for the independent auditor to undertake the audit report on the producer's behalf. Where that PRO has more than one producer client, a single audit report may be submitted on behalf of all their producer clients.

In reaching an opinion, the auditor is expected to:

- Assess and document the reasonableness of the EEE producer's methodology, or the PRO's methodology where a producer has retained a PRO, to develop the data that is required to be prepared and submitted to the Authority;
- Obtain and review supporting evidence, as required.

The first audit report for ITT/AV is due April 30, 2024 for the performance periods January 1, 2022 to December 31, 2023.

The first audit report for lighting is due April 30, 2024 for the performance period January 1, 2023 to December 31, 2023.

Date	Revisions
Issued July 15, 2019	N/A
Reviewed May 2022	Updated with link to new Batteries and ITT/AV Supply Data Verification Procedure.

Appendix A

The estimated amount of an EEE category supplied into Ontario can be determined by using the formula:

(P1/P2) x Canada National Sales

“P1” is the population of Ontario, as reported by Statistics Canada in the most recent official census,

“P2” is the total population of provinces and territories in Canada in which the producer sells EEE in, as reported by Statistics Canada in the most recent official census.

“Canada national sales” is the total units of EEE that a producer sold in Canada in an EEE category in the calendar year.

Appendix B – ITT/AV Weight Conversion Factors

Weight Conversion Category	**Weight Conversion Factor (kgs)**	**These are examples of what is captured under each weight conversion category, it is not an exhaustive list.** **This list is not intended to capture all obligated EEE under the Regulation.**
Small IT Equipment/ Computer Peripherals	0.4	**Computer peripherals:** keyboard, mouse, webcams, modems, routers, pc's docking station **External drives and memory:** external DVD/optical drives, CD writers, external disk drives, USB sticks, memory cards **POS peripherals:** card reading appliance, money authenticator **Small IT equipment:** calculators (including those that have printing capabilities), translating devices, except portable translating devices (see Portable Audio and Video), laser pointers **Other:** power supply, adaptors **Not included:** battery chargers (see Small Personal Electronics), headphone/microphones (see Small Personal Electronics)
Desktop PCs	8.77	**Desktop PCs:** Desktop personal computers, all-in-on computers, data processing machines, central processing unit, thin and zero clients, microcomputer, minicomputers **Not included:** standalone monitors (see Flat Display Panel Monitors) For any accessories/peripherals sold bundled with a desktop computer, each relevant weight conversion factor should be used
Portable Computers (laptops and tablets)	0.85	**Portable Computers:** Laptops, notebooks, netbooks **Tablets:** slates, mini tablets, phablets **Not included:** e-readers (see Portable Audio and Video)
Desktop/Countertop Printers (includes printer cartridges sold with)	10.32	**Desktop Printers/Copiers/Scanner/Fax:** combination printer/copier/scanner/fax, desktop copiers, answering machines/fax combinations, inkjet printers, photo printers, laser printers, matrix printers, 3D-printers, picture scanners, fax machines

		Other printers: thermal printers, pricing devices, label printers **Other:** typewriters
Desktop Printer Ink Cartridges	0.12	
Non-Cellular Telephone and Answering Machines	0.45	**Telephones:** Cordless telephones, telephone sets, interphone, answering machines, videophones, telephone switchboard (small) **Other:** two-way radios, baby monitors without video (see Flat Display Panel Monitor for video baby monitors)
Mobile Phones	0.09	**Mobile phone:** Cellular phones, smartphones **Other:** pagers, personal assistant, PDA
IT Equipment, including wide format printers	48.02	**IT equipment:** servers, workstations, microfilm readers, electric multimedia table, professional electrical cabinet, ticket detector, barcode scanner, check filler, binding machine, accounting machines, postage-franking machines, ticket-issuing machines **Wide format printers:** blueprint devices, plotters
Floor Standing Printers	122.86	Large multi-functionals, floor-standing copiers/printers
Toner Cartridges for floor standing multi-functional equipment	0.84	
Flat Display Panel Monitors	5.5	LCD, LED, OLED monitors **Other:** game screens, digital photo displays, parts of LCD monitors, indicator panels, video baby monitors **Not included:** TVs (see Flat Display Panel TVs – appropriate size)
Small Personal Electronics, including chargers	0.39	**Small personal electronics:** Headphones, earphones, microphones, headphone/microphone combinations, Bluetooth headsets **Remote controls** (except those for use with game consoles – see Video Game Devices) **Chargers:** Battery charger, charger for primary and secondary batteries **Not included:** power supply, adaptors, batteries accumulators (see Small IT)

Portable Audio and Video	0.23	**Audio Players:** MP3 players, portable radios, portable CD/DVD/players, world receivers, clock radios, alarm cd-radios **Portable Speakers** (for other speakers see Speakers) **Car displays and navigation:** Portable navigation, navigation devices with monitors, GPS devices **E-readers** **Other:** portable translation device, tape recorder, voice recorders, karaoke machine
Non-Portable Audio Recording and Playing Devices	3.73	**Non-portable audio players/recorders:** radios, Hi-Fi, CD-players/recorders, car stereos, record players, MP3/CD players, tuners, minidisc players/recorders, tape decks
Musical Instruments	Use actual weight	**Musical instruments:** digital piano/keyboard/pianoforte, electric guitar, electrical organ, electrical accordions, synthesizers **Musical peripherals:** equalizer, audio delay, sound processor, sound mixer, effects pedal, music docking station **Other:** amplifiers
Video and Projectors (incl. antennas and receivers)	2.7	**Video players and recorders:** DVD-player, DVD-recorder, laser disc player, blue-ray player, video-DVD player combination, **Cameras**: cinematographic and television cameras (for other cameras see Cameras) **Projection equipment**: cinematographic projectors, overhead projectors, video projectors, slide projector **Antennas and receivers:** satellite receiver, satellite dish, cable TV, set-top box antenna, signal amplifier, antenna, satellite power amplifier, broadband amplifier, TNT receiver, satellite demodulator
Speakers	2.14	**Speakers:** single and multiple loudspeakers, multimedia speaker, small loudspeaker MP3 player **Other:** megaphone **Not included:** portable speakers (see Portable Audio & Video) For professional speakers use actual weights

Cameras, including security cameras	0.29	**Cameras:** Digital photo cameras, electrical still picture camera, camera lens, DSLR camera, camcorder/video recorder, video camera, security cameras **Not included:** cinematographic and television cameras (see Video and Projectors)
Flat Display Panel TVs less than or equal to 45 inches	10.2	LED, LCD, Plasma, OLED televisions **Other:** TV-DVD combination, TV-tuner combination, TV-video combination, portable TV **Not included:** monitors (see Flat Display Panel Monitors) For any accessories/peripherals sold bundled with a TV, each relevant weight conversion factor should be use
Flat Display Panel TVs greater than or equal to 46 inches	Use actual weight	LED, LCD, Plasma, OLED televisions **Other:** TV-DVD combination, TV-tuner combination, TV-video combination, portable TV **Not included:** monitors (see Flat Display Panel Monitors) For any accessories/peripherals sold bundled with a TV, each relevant weight conversion factor should be use
Video Game Devices, including portable and handheld devices	0.48	Game consoles for use with TV or monitor, portable video game devices, game console accessories, handheld video game devices
Drones	Use actual weight	Drones with audio-visual equipment

Appendix C – Lighting Weight Conversion Factors

Weight Conversion Category	**Weight Conversion Factor (kgs)**	**These are examples of what is captured under each weight conversion category, it is not an exhaustive list.** **This list is not intended to capture all obligated EEE under the Regulation.**
Compact Fluorescent Lamps	0.11	Compact CFL lamp, including retrofit and non-retrofit
Straight Tube Fluorescent Lamps	0.23	Straight fluorescent tubelamp HH, straight fluorescent tubelamp B2C, tanning lamp, solar, UV facial (lamp only)
Special Lamps	0.23	High pressure sodium lamp, low pressure sodium lamp, professional gas electric light mercury discharge lamp, discharge lamps (excluding fluorescent, hot cathode lamps, mercury or sodium vapor), professional halogen lamp
LED Lamps	0.11	Retrofit LED light, LED lamp with armature, LED lamps (including retrofit LED lamps)
Incandescent Lamps	0.085	Incandescent lamps, incandescent flood lamps