

Submitting correct MIRO values for NVES

Guidance for regulated entities

August 2026

About this guidance

This guidance explains how [regulated entities](#) (entities) can ensure that Mass in Running Order (MIRO) data in Register of Approved Vehicles (RAV) submissions complies with requirements under the New Vehicle Efficiency Standard (NVES).

This guidance is intended to provide entities with an understanding of their legislative requirements. Entities should read it in conjunction with relevant legislation. It is not a substitute for independent legal advice.

What requirements apply to MIRO values for NVES

Entities must submit MIRO values for each covered vehicle entered on the RAV as required by the [Road Vehicle Standards \(Information on the Register of Approved Vehicles\) Determination 2021](#) (the Determination). Entities must ensure that all submitted vehicle data, including MIRO, is correct as required under section 8 of the [Road Vehicle Standards Rules 2019](#) (the Rules).

The definition of MIRO can be found in [Australian Design Rule \(ADR\) 111/00](#):

"Mass in running order" means the mass of the vehicle, with its fuel tank(s) filled to at least 90 per cent of its or their capacity/capacities, including the mass of the driver, fuel and liquids, fitted with the standard equipment in accordance with the manufacturer's specifications and, when they are fitted, the mass of the bodywork, the cabin, the coupling and the spare wheel(s) as well as the tools.

Several elements of this definition recognise that vehicles may be supplied or tested in different configurations, particularly cab-chassis vehicles without final bodywork fitted.

However, this flexibility is not open-ended: entities must keep evidence to support the method that has been used to determine the MIRO value declared on the RAV. Unlike carbon dioxide (CO₂) emissions values, interpolation is not permitted for MIRO. Each vehicle entered onto the RAV must have a MIRO specific to its own unique mass and characteristics.

For cab-chassis vehicles with no bodywork fitted when supplied or tested, the Determination allows the MIRO value declared on the RAV to be determined using one of the permitted cab-chassis methods. Later sections in this guidance provide more information about these exceptions from the standard definition.

Why accurate MIRO values matter

Accurate MIRO values are essential because they are used to calculate an entity's performance under the NVES. MIRO values affect the number of NVES units issued or the liability an entity may accrue if it does not beat the target.

The NVES Regulator may undertake validation and assurance activities to identify potential inconsistencies or data quality issues. However, responsibility for submitting accurate, complete and supportable MIRO data remains with the regulated entity.

Unlike CO₂, where reporting a higher value is a conservative approach, reporting a MIRO value that exceeds the configuration being provided to Australia can inadvertently advantage a vehicle's NVES position.

Definitions and references to MIRO may exist in other jurisdictions and for purposes other than NVES compliance. It is important that entities understand how MIRO is defined for NVES for RAV submissions.

How to identify and submit the correct MIRO value in RAV

Use the following 5 steps to identify and submit the correct MIRO value for vehicles covered under the NVES. Entities should still refer to the relevant legislation, ADRs and approval material when making compliance decisions.

The 5 steps are:

1. identify the exact vehicle configuration
2. start with the base vehicle mass
3. add the required MIRO components
4. apply the cab-chassis method if relevant
5. keep records and maintain data quality.

Step 1: Identify the exact vehicle configuration

Confirm the model, variant, body style, drivetrain, standard equipment and any fitted bodywork that matches the vehicle being entered on the RAV.

Step 2: Start with the base vehicle mass

Refer to manufacturer technical data, approval documentation, test reports, weighing records or supporting information used for emissions approval to find the correct base vehicle mass.

Do not rely on a mass value from a different variant unless the supporting evidence shows that the mass and relevant characteristics are the same.

Step 3: Add the required MIRO components

Under the ADR definition, add the following components to the base vehicle mass:

- fuel tank filled to at least 90%
- driver mass (75 kg)
- fuel and operating liquids
- standard equipment

- fitted bodywork, cabin, coupling, spare wheels and tools where applicable.

MIRO is based on a vehicle's fuel tank being filled to at least 90% of capacity, a manufacturer may calculate MIRO using 90 to 100% fuel load. Provided the fuel level is at least 90%, values within that range may be valid.

MIRO should **not** include passengers, payload/cargo or optional equipment unless it forms part of the standard specification or is otherwise required under the applicable method.

Step 4: Apply the cab-chassis method if relevant

For cab-chassis vehicles with no bodywork fitted when supplied or tested, the Determination allows the MIRO value declared on the RAV to be determined using one of the permitted cab-chassis methods:

- the highest MIRO value declared in the supporting information underpinning the CO₂ value declared for the chassis-cab by the manufacturer
- the MIRO value of the chassis-cab without bodywork fitted plus the average mass of the bodywork options offered for fitment to the vehicle by the vehicle's manufacturer
- the MIRO of the chassis-cab without bodywork fitted plus the maximum area of the body recommended for fitment to the vehicle by the vehicle's manufacturer (in square metres to one decimal place) multiplied by 50 kg.

Step 5: Keep records and maintain data quality

Record-keeping and documentation

Entities need to document assumptions, conversions, interpolation steps or calculations that were used to derive MIRO values.

Under the [Road Vehicle Standards Act 2018](#) (RVSA), entities must ensure that information entered on the RAV, including NVES-specific data, is true and correct. Keeping up-to-date supporting information is also required under section 30 of the Rules.

Good record-keeping provides other benefits, including:

- Providing evidence to demonstrate compliance, if the NVES Regulator asks questions about data assurance.
- Supporting data integrity and consistency when staff, systems or approval arrangements change.

The following table provides examples of the types of evidence that may support the MIRO method used for a vehicle entered on the RAV. The examples do not cover every situation, and entities should keep evidence that clearly demonstrates how the declared MIRO value was determined and how it relates to the vehicle's specific configuration.

Method used	Acceptable evidence
Standard MIRO method Vehicle with bodywork, coolant, oils, at least 90% fuel, 75 kg driver, spare wheel if provided and standard tools excluding passengers, payload and optional equipment.	Calculation based on RAV characteristics including: • test report for matching vehicle • manufacturer technical specifications • approval documentation identifying configuration and mass • weighbridge or calibrated weighing record showing configuration, fuel level and fitted equipment • manufacturer declaration confirming MIRO and method.
Cab-chassis method 1 Highest MIRO value declared in supporting information for the chassis-cab CO ₂ value.	Test report for matching vehicle including: • CO₂ supporting information; manufacturer technical documentation identifying the highest MIRO for the chassis-cab

Method used	Acceptable evidence
	- approval or emissions documentation linking the CO₂ value and declared mass - manufacturer declaration confirming the highest MIRO relied on.
Cab-chassis method 2 Chassis-cab MIRO without bodywork plus average mass of manufacturer-offered bodywork options.	RAV-based MIRO calculation including: - average bodywork mass calculation - list of manufacturer-offered bodywork options - bodywork specification sheets - manufacturer catalogue, build guide or ordering data - version-controlled calculation file showing source data, assumptions, formulas and review details.
Cab-chassis method 3 Chassis-cab MIRO without bodywork plus maximum recommended body area, in m ² to one decimal place, multiplied by 50 kg.	RAV-based MIRO calculation including: - maximum body area calculation - manufacturer documentation identifying recommended maximum body area - engineering or CAD drawings, dimensional data, body builder guide, fitment guide or technical bulletin - version-controlled calculation file showing source data, assumptions and review details.

Data quality checks

Before submitting vehicles to the RAV, entities should complete internal checks to confirm that the data is correct. This includes checking:

- model and variant identifiers are correct
- submitted MIRO value matches supporting technical material
- MIRO value is reasonable when compared with the vehicle's tare mass and Gross Vehicle Mass (GVM) to identify potential errors, as these values are commonly confused
- each model variant has a distinct MIRO value that reflects its motive power, engine size and factory-standard accessories.

Entities may also choose to engage an audit provider or conduct independent internal assurance to test data quality and identify areas for improvement. This is not mandatory, but it can improve confidence in the accuracy, completeness and traceability of the data that underpins NVES compliance.

Difference between MIRO, tare mass and GVM

The following table explains practical difference between MIRO, tare mass and GVM.

For NVES and RAV purposes, entities should use the MIRO value required under the applicable NVES and ADR requirements, rather than relying on tare mass or GVM.

Term	What it means	Generally includes	Generally excludes or limits
MIRO	The vehicle's mass including a driver, when ready for normal operation.	The vehicle, standard equipment, operating fluids, fuel filled to at least 90% of capacity, 75 kg driver, and fitted bodywork, cabin, coupling, spare wheel and tools where applicable.	Passengers, payload or cargo, and optional equipment that is not part of the standard specification.
Tare mass (kg)	The unoccupied mass when ready for normal operation but without a full fuel tank.	Tare mass of a vehicle (other than a motorcycle or motor tricycle) ready for service, unoccupied and unladen, with all fluid reservoirs filled to nominal capacity except for fuel, which shall be 10 litres only, and with all standard equipment and any options fitted.	Passengers and cargo. It may not include the same driver and fuel assumptions as MIRO.
GVM	The maximum legal or approved loaded mass of the vehicle.	The vehicle plus driver, passengers, fuel, fluids, accessories, cargo or payload, and fitted bodywork up to the approved limit.	GVM is not an actual measured ready-to-run mass. It is the maximum permitted loaded mass.

When to contact the NVES Regulator

If you have questions or concerns about the correct basis for MIRO values, we encourage you to contact us before vehicles are entered on the RAV. Contacting us early can reduce delays and avoid the need to correct RAV entries later.

How to contact us:

- Email: NVESRegulator@infrastructure.gov.au
Please note we may take up to 3 business days to respond.
- Phone: 1800 248 610 (if outside Australia: +61 2 6136 9088)

Our phone line is open Monday to Friday 9:00 am to 5:00 pm (Australian Capital Territory time) and closed on public holidays Australia-wide or as observed in the Australian Capital Territory.

For more information about the NVES, you can visit our [website](#) or YouTube playlist. You can also [subscribe to our newsletter](#) or follow us on [LinkedIn](#) to keep updated.