

# CHECK TESTING REPORT

**2022-2023**

**STANDING COMMITTEE OF OFFICIALS (SCO)**

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More information is available on the internet ([www.eess.gov.au](http://www.eess.gov.au)).

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# Introduction

## This report presents the results of the 2022-2023 check test program on in-scope electrical equipment.

Electrical safety legislation of participating EESS jurisdictions focus on the prevention of death, injury and destruction of property caused by electricity. Within the legislation there are requirements on parties in the supply chain of equipment to ensure safe electrical equipment is supplied.

This includes manufacturers and importers of electrical equipment (responsible suppliers) being required to ensure they test the equipment they supply to show it is electrically safe. Jurisdictions that apply the EESS have legislative requirements for in-scope electrical equipment regulated under the EESS. The EESS is a system safeguarding the supply chain of in-scope electrical equipment (low voltage electrical equipment for household personal or similar use).

Responsible Suppliers (Australian or New Zealand based manufactures or importers) make a declaration that all equipment they supply is electrically safe and meets relevant safety standards. It is the duty of the responsible supplier to ensure this by having appropriate processes in place to ensure ongoing compliance of all equipment they manufacture or import.

Regulators have established an annual testing program to check compliance of in-scope electrical equipment with the relevant electrical safety standard. The objective of the check testing program is to identify and remove non-conforming electrical equipment from the marketplace before it becomes, or is revealed to be, a safety issue.

### Check Testing Objective

To improve consumer safety for household electrical equipment in Australia and New Zealand by:

- sourcing in-scope electrical equipment from the marketplace and testing it to the relevant standard.
- taking regulatory action on non-compliances.
- providing information about results to stakeholders; and
- stop sale of, remove, or rectify any identified non-compliant equipment.

Check Testing is conducted as part of the EESS activities where in-scope electrical equipment is purchased from the marketplace and subject to tests to the relevant standard by independent accredited test laboratories. Where non-compliances occur, the Regulator engages with the Responsible Supplier and will take appropriate enforcement actions based on the severity of risk the non-conformity presents. Irrespective of the resulting compliance action taken, all non-compliances are required to be rectified by the Responsible Supplier before supplying any further equipment.

The 2022-23 Check Testing Program focused on level 3 in-scope electrical equipment, tested to selected safety clauses. Equipment types selected for testing were chosen using a risk assessment selection tool to identify the most appropriate equipment for testing.

The selection tool included various factors such as incident data, recalls, previous equipment history, characteristics of the equipment type and previous check testing results. Testing on all equipment was conducted at accredited laboratories in Australia and New Zealand.

For the 2022-23 Check Test Program the following was tested:

Nightlights, Portable fans, EPODs, Pool chlorinators, Refrigerator appliances,  
Heaters and Kitchen machines

Equipment to be tested was purchased nationally from retailers, wholesalers, and national online sellers, with Trade Names/Brands and Models chosen irrespective of price or Trade Name/Brand name.

# Our Check Testing Strategy

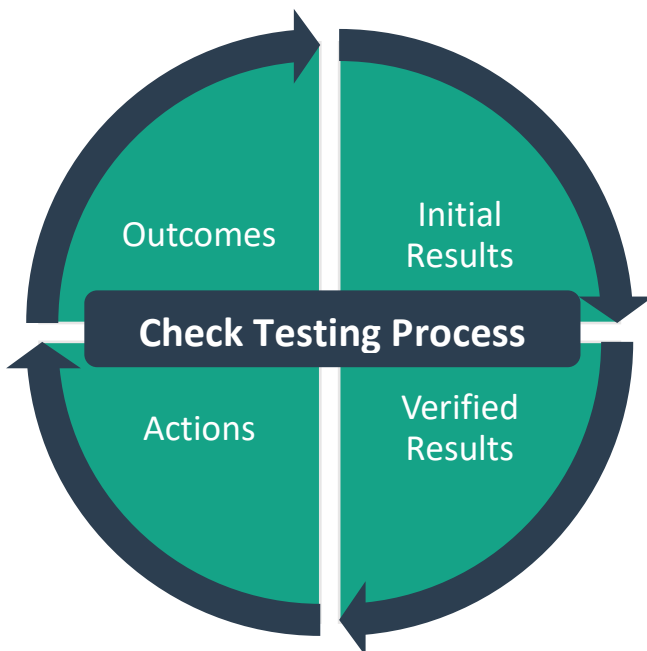
The EESS uses a targeted approach when selecting equipment for check testing. Equipment is identified using a selection tool. The selection tool aims to highlight equipment with a greater likelihood of non-compliance or has a significant consequence if non-compliant.



## Targeted Choice of Tests

Tests chosen as identified for the equipment type as being likely non-compliant, or if non-compliant would be a significant issue, such as:

- Heating
- Abnormal operation
- Clearance distances and creepages (distances from live parts to accessible parts)
- Resistance to fire (flammability)
- Weatherproof ratings (IP ratings)
- Markings
- Electric strength (high voltage tests)
- Resistance to heat (ball pressure on plastics)
- Strength of contacts /withdrawal forces (power boards/appliance connectors)
- Insulation thickness
- Earthing
- Flexing
- Residual current/operation test/fault current ratings.



## Severity Category

All non-compliances must be rectified by Responsible Suppliers irrespective the level of severity. Below is a ratings classification that the Regulator may apply. The action the regulator may take increases, as the severity increases.

Passed	Severity Category 1	Severity Category 2	Severity Category 3	Severity Category 4	Severity Category 5
Passed	Minor non-compliance (e.g. failure of markings)	Medium non-compliance (e.g. failure of a safety related clause by a small margin that is within uncertainty /repeatability limits). Multiple minor non-compliances.	Mid-level non compliances. (e.g. clear failure to a safety related clause).	Major non-compliance (e.g. multiple failures to safety related clauses in a model or multiple samples fail a safety related clause).	Significant non-compliance. (e.g. failure of critical safety related clause or significant failures of safety related clauses - failure notably not within limits or many samples fail).

## Non-Compliance Categories

After the test results have been received from the testing laboratory, the results must be confirmed as legitimate and accurate results. Once the test report and results have been confirmed, the classification of severity category level of can be determined.

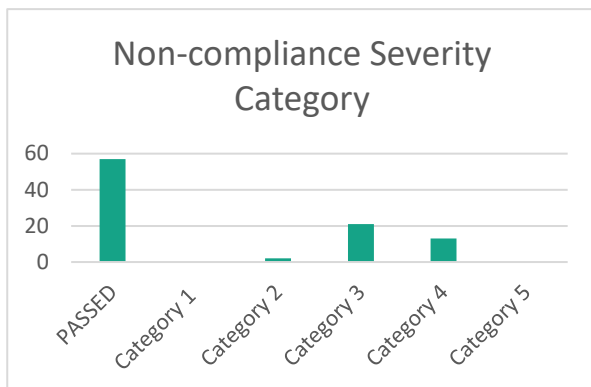
The severity should be taken on a case-by-case basis and there may be some overlap between categories (that is there is not a hard cut off between categories). Actions that may be taken by the Regulator are dependent on the severity and can range from a notice to stop sale, rectify, or modify equipment before further sale, cancellation of registrations or certification, recalls or infringement notices or other prohibition activities.

# 2022-2023 Check Testing Findings



## Overall Results of Check Testing

After all results were classified into severity ratings, they were tabled in a graph for easy comparison of levels as shown below. The more severe classifications were reviewed for any trend.



**57 out of 93 models passed**

Of the 93 models tested, there were no non-compliances classified Severity Category 5.

## Key trends identified:

- 7 nightlights (70% of those tested) had enclosure securement non-compliances.
- 10 Pool chlorinators (100% of those tested) had marking non-compliances.
- 5 Outlet devices (20%) had non-compliance to Resistance to heat – ball pressure test failure on overprotection device actuator.

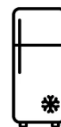
## Highlights and Lowlights

### Top Non-Compliance



**100% failure for pool chlorinators** including severity category 2, 3 and 4 failures.

### Top Compliance



**100% pass for refrigerating appliances**

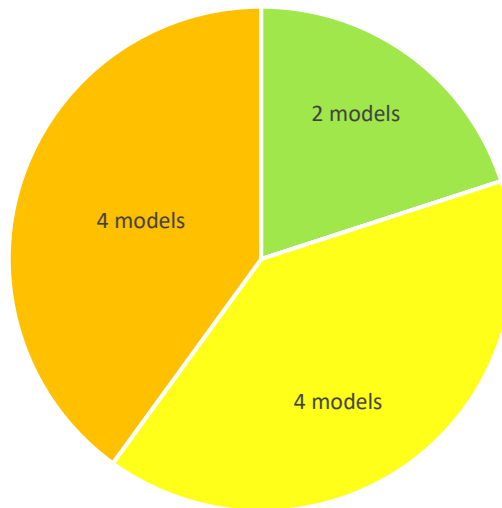
# Nightlight

Number of models tested	Standard/s	Clauses tested
10	AS/NZS 60598.2.12:2015	12.7.2 Appendix J of AS/NZS 3112 (partial assessment)
		12.7.3 Impact test
		12.7.6 Enclosure securing assessment
		12.10 Protection against electric shock
		12.12 Insulation resistance and electric strength
		12.13 Creepage distances and clearances
	12.15 Resistance to heat, fire, and tracking	
	AS/NZS 60598.1:2017 Amendment 1:2017 Amendment 2:2020	4.10 Double and reinforced insulation
		4.11 Electrical connections and current carrying parts
		4.15 Flammable materials
4.29 Luminaire with non-replaceable light source		
AS/NZS 3112:2017	J4.3.1 Tumble barrel test	

### Non-Compliances:

- Enclosure securing assessment – sensor aperture/main body/lighting aperture.
- Tumble barrel test
- Impact test
- Resistance to heat, fire and tracking

### Results: Nightlight



■ Pass ■ Category 1: ■ Category 2: ■ Category 3: ■ Category 4: ■ Category 5:



### Regulator Actions

- Stop sale
- Responsible Supplier to rectify before further sales
- Monitor for incidents
- Quality assurance/control to be reviewed by Responsible Supplier – additional reports show compliance
- Education to ensure tests are correctly applied
- Require retest

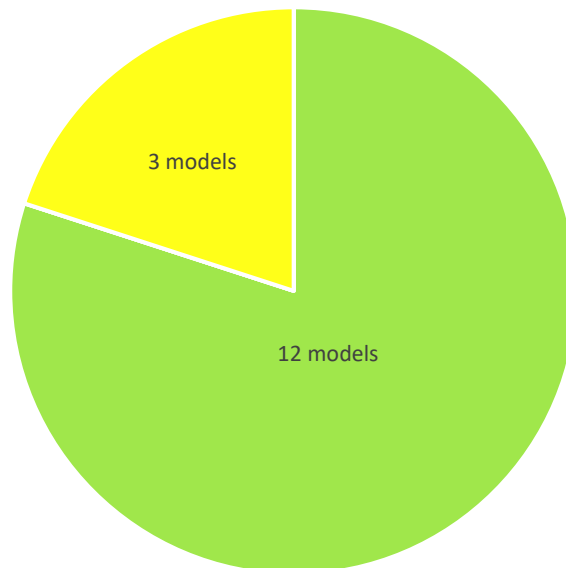
# Fan - Portable Fan

Number of models tested	Standard/s	Number of clauses	Clauses tested
15	AS/NZS 60335.2.80:2016 Amendment 1:2020	8	Protection against access to live parts
		11	Heating
		19	Abnormal operation (except 19.11.4.1 to 19.11.4.7)
		20.2	Protection of moving parts
		21	Mechanical strength
		22	Construction
		23	Internal wiring
		25	Supply connection and external/flexible cords
		30	Resistance to heat and fire

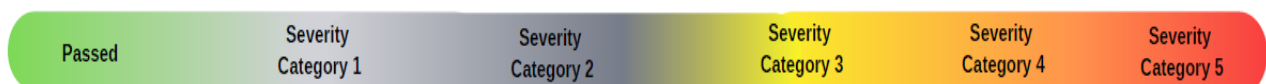
**Non-Compliances:**

- Protection against access to live parts - basic insulation
- Mechanical hazard
- Resistance to heat and fire

## Results: Fan - Portable Fan



■ Pass ■ Category 1: ■ Category 2: ■ Category 3: ■ Category 4: ■ Category 5:

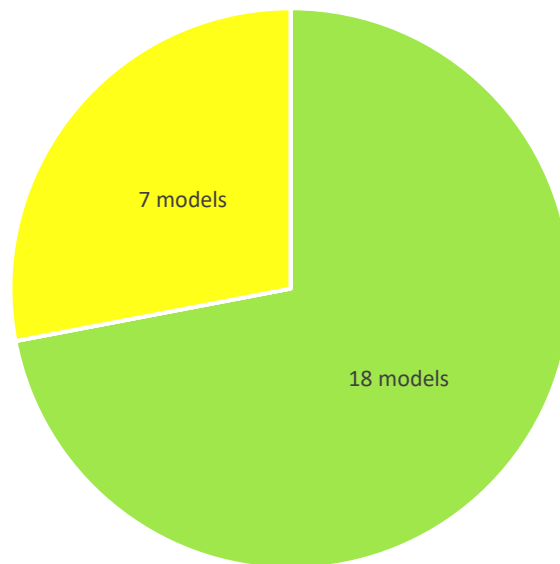


Regulator Actions
<ul style="list-style-type: none"> <li>• Stop sale</li> <li>• Responsible Supplier to rectify before further sales</li> <li>• Require retest</li> </ul>

# Outlet Device – Electrical Portable Outlet Device (EPOD)

Number of models tested	Standard/s	Clauses tested
25	AS/NZS 3105:2014 Amendment 1:2017	5.5.2 Socket Outlets 5.7 Earthing 10.4 Mechanical strength 10.6 Overload protection 10.8 Abnormal operation 10.11 Determination of ignitability and combustion propagation 10.12 Resistance to heat
	AS/NZS 3112:2017 Amendment 1:2021	3.3.3 Entry or withdrawal 3.3.4 Depth of contact 3.14.8 Strength of contact tests
<b>Non-Compliances:</b>		
<ul style="list-style-type: none"> <li>• Resistance to heat</li> <li>• Depth of contact</li> <li>• Strength of contact</li> </ul>		

## Results: EPOD



■ Pass ■ Category 1: ■ Category 2: ■ Category 3: ■ Category 4: ■ Category 5:



Regulator Actions
<ul style="list-style-type: none"> <li>• Stop sale</li> <li>• Responsible Supplier to rectify before further sales</li> <li>• Educate industry on correct test requirements</li> <li>• Monitor for incidents</li> <li>• Retest</li> </ul>

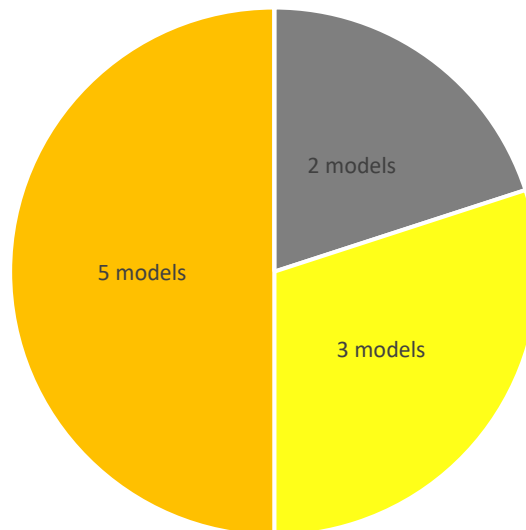
# Swimming pool or spa equipment - Pool Chlorinator

Number of models tested	Standard/s	Clauses tested
10	AS/NZS 3136:2001 Amendment 1:2001 Amendment 2:2005	2.1 General Requirements of AS/NZS 3100 5 Means of connection 6 Enclosures 7 Earthing 8 Double insulation 9 Equipment wiring 10 Capacitors 11 Insulating material 12 Motors 13 Heating units that are immersed 14 Transformers 15 Switches 16 Temperature control devices 17 Marking 18 Rating 19 Tests

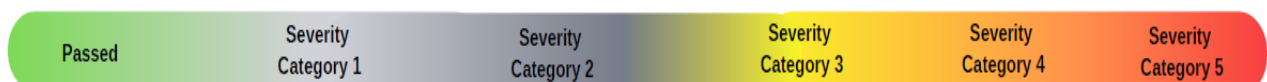
### Non-Compliances:

- General requirements of AS/NZS 3100
- Means of connection
- Marking
- Rating
- Tests – cord anchorage
- Tests – normal operation
- Tests – enclosure test
- Tests – abnormal operation
- Tests – resistance to heat, fire and tracking

Results: Swimming pool or spa equipment - Pool Chlorinator



■ Pass ■ Category 1: ■ Category 2: ■ Category 3: ■ Category 4: ■ Category 5:



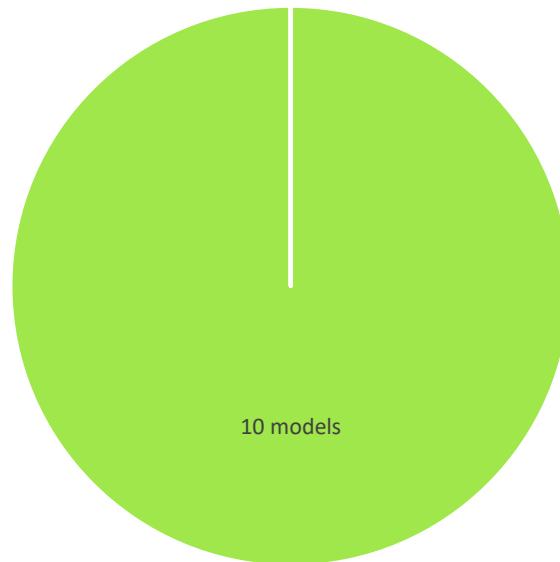
### Regulator Actions

- Stop sale
- Responsible Supplier to rectify before further sales
- Monitor for incidents
- Educate industry on compliance requirements
- Responsible Supplier to be audited
- Retest

# Refrigerating Appliance

Number of models tested	Standard/s	Clauses tested
10	AS/NZS 60335.2.24:2010 Amendment 1:2013 Amendment 2:2018	8 Protection against access to live parts
		13 Leakage current and electric strength at operating temperature
		16 Leakage current and electric strength
		19 Abnormal operation (except clause 19.11 and 19.12)
		22.117 Construction (observation only – metal or plastic construction)
		27 Provision for earthing
		29 Clearances, creepage distances and solid insulation (except PTI testing)
		30 Resistance to heat and fire
<b>Non-Compliances:</b>		
<ul style="list-style-type: none"> <li>Nil</li> </ul>		

## Results: Refrigerating Appliance



■ Pass ■ Category 1: ■ Category 2: ■ Category 3: ■ Category 4: ■ Category 5:



Regulator Actions
<ul style="list-style-type: none"> <li>Nil</li> </ul>

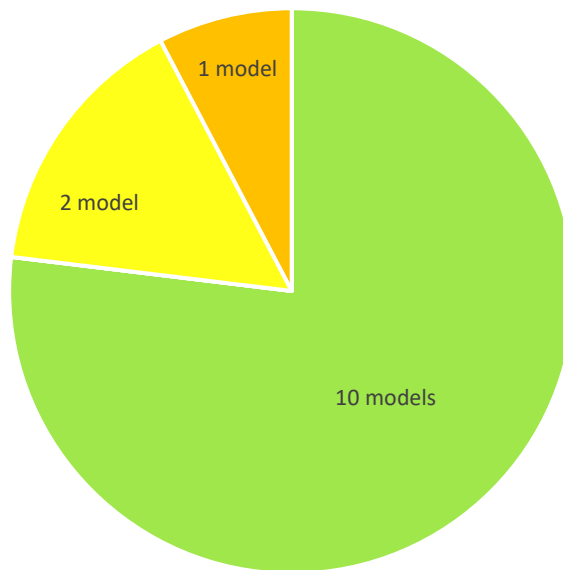
# Room Heater

Number of models tested	Standard/s	Number of models	Clauses tested
13	AS/NZS 60335.2.30:2015	7	Marking and instructions
	Amendment 1:2015	11	Heating
	Amendment 2:2017	19	Abnormal operation
	Amendment 3:2020	21	Mechanical strength
	Amendment 4:2021	24	Components
		25	Supply connection and external/flexible cords
		30	Resistance to heat and fire
			IPX4 test for heaters for use in greenhouse

**Non-Compliances:**

- Marking
- Heating – no documentation to specify requirements for minimum space above heater in wall mount mode
- Abnormal operation - no documentation to specify requirements for minimum space above heater in wall mount mode
- Resistance to heat and fire
- IPX4 fail

## Results: Room Heater



■ Pass ■ Category 1: ■ Category 2: ■ Category 3: ■ Category 4: ■ Category 5:



Regulator Actions
<ul style="list-style-type: none"> <li>• Stop sale</li> <li>• Responsible Supplier to rectify before further sale</li> <li>• Monitor for incidents</li> </ul>

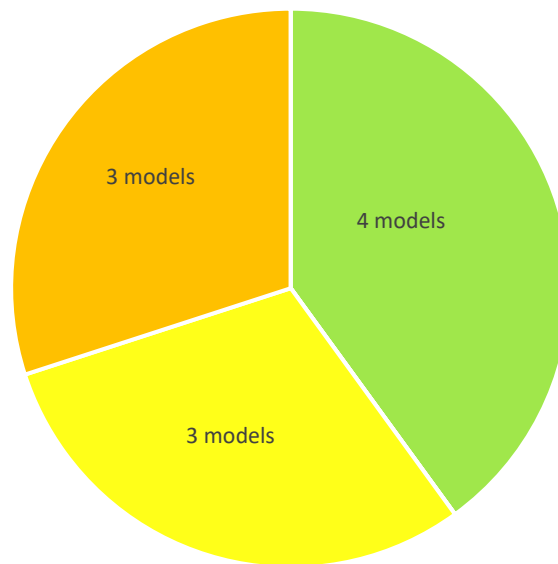
# Kitchen Machine - Multi-Function Kitchen Machine

Number of models tested	Standard/s	Number of clauses tested	Clauses tested
10	AS/NZS 60335.2.15:2019	11	Heating
		15.2	Moisture resistance – spillage test
		21	Mechanical strength
		22.102	Construction
		24	Components
		25	Supply connection and external/ flexible cords
	60335.2.14:2017 Amendment 1:2020	30	Resistance to heat and fire
		20.104	Stability and mechanical hazards

### Non-Compliances:

- Moisture resistance – spillage test
- Heating
- Construction - water ejected from appliance at maximum motor speed
- Mechanical strength
- Resistance to heat and fire

### Results: Multi-Function Kitchen Machine



■ Pass ■ Category 1: ■ Category 2: ■ Category 3: ■ Category 4: ■ Category 5:



### Regulator Actions

- Stop sale
- Responsible Supplier to rectify before further sales
- Monitor for incidents