Regulatory Compliance Mark

For Australia/New Zealand electrical & electronic equipment

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1. Introducing the RCM

What it’s used for & what it replaces
Overview & introducing the RCM

- The RCM symbol is shown here: 

- Electrical & electronic equipment
  - Replaces C-Tick, A-Tick and previous safety marks

- Mandatory from 01 March 2016

- This presentation deals mostly with Australian requirements

- Further information and references are available in the detailed companion paper:
  “Regulatory Compliance Mark for Australia/New Zealand electrical and electronic equipment”
Regulations covered by the RCM

- Indicates compliance for all of:
  - Electrical safety regulations
  - Australian Communications & Media Authority (ACMA) regulations:
    - Electromagnetic compatibility (EMC)
    - Radio communications
    - Electromagnetic radiation (EMR) human exposure
      - Australia only
    - Telecommunications
      - Australia only

5 3/31/2016
Before sale or offer to supply

- Must register the supplier on EESS database
  - *EESS = electrical equipment safety system
- Apply RCM to products (where required)
- Comply with applicable standards
- Keep compliance records
  - Regulator may inspect
- Register product safety compliance on database
  - Details and fees according to risk level
  - Not applicable to ACMA regulations
2. About Australia & New Zealand

Regulatory and mutual recognition environment
Australia:
- Commonwealth (national) government
- State & Territory governments (x8)
- Commonwealth law: mutual recognition between State laws

New Zealand is a separate nation

Mutual recognition (limited) between nations
Australia laws basis

- ACMA is a Commonwealth regulator
- Electrical safety regulations are State based
  - Mutual recognition of approvals between States
- Electrical Regulatory Authorities Council (ERAC)
  - Consultative forum between State regulators & NZ
  - No intrinsic regulatory powers
  - Developed EESS rules & model legislation
  - Recommended to States to adopt
Making RCM into law

- ACMA adopted RCM in regulatory labelling notices
  - Introduced 01 March 2013, mandatory 01 March 2016

- Queensland adopted EESS/RCM via regulations
  - Introduced 01 March 2013, mandatory 01 March 2016

- Some other States considering EESS/RCM

- Not all States plan to adopt the EESS

- All States recognise the RCM authorised by any other State regulator
NZ recognises RCM authorised in Australia for:
- Safety
- EMC
- Radio communications (where spectrum is harmonized)
- Does not recognise RCM for telecommunications

ACMA recognises RCM issued by NZ regulations

NZ does not issue safety Certificates of Approval
3. The RCM Standards

Standards for use with the RCM
The RCM Standard(s) - EESS

- **AS/NZS 4417.1:2012 - Use of the Mark**

- **Electrical Safety Rules (ESR)**
  - level 1 articles must use AS/NZS 3820 (generic safety), with an equipment-specific standard if exists, such as:
    - AS or AS/NZS standard if exists, or
    - IEC standard, if no specific AS or AS/NZS standard

- **AS/NZS 4417.2:2012 - Specific requirements for regulatory applications**
  - Lists products and standards for compliance levels 2&3
    - Australian or Australian/New Zealand standards
    - IEC standards
SCOPE of EESS:
- All **new electrical equipment** rated at:
  a) > 50 V AC or 120 V DC, and
  b) < 1000 V AC or 1500 V DC
- Designed/marketed for household, personal or similar
- Not exempt equipment also used for commercial/industrial

Second-hand equipment not included

Supplier to prove equipment is out of scope
- But the regulator has the last word
Various labelling notices apply
- Apply RCM without reference to AS/NZS 4417
- Define applicable government standards
- Date of mandatory application: 2016-03-01

Government standards reference technical standards for equipment compliance such as:
- AS or AS/NZS standards, or
- ARPANSA standard, or
- CISPR standards, or
- CENELEC EN standards etc.
Compliance levels

- Usually have three compliance risk levels
  - Low risk - compliance level 1,
  - Medium risk – compliance level 2,
  - High risk – compliance level 3.

- Some ACMA notices use just two risk levels:
  - High risk, or
  - Not high risk
Brief RCM History prior to 2012

- AS/NZS 4417: 1996
  - Was four parts, Parts 3 and 4 now withdrawn

- Was a voluntary alternative to:
  - Electrical safety
  - ACMA C-Tick (not A-Tick)

- Supplier identification number (SCN) applied
  - SCN no longer required
  - SCN data no longer issued or available
  - EESS database supplier registration now used for tracking
4. Is the RCM Mandatory?

And how does it apply?
Is the RCM mandatory?

- The RCM:
  - Was introduced transitionally from 01 March 2013
  - Became mandatory on 01 March 2016
    - For all ACMA regulations
    - For Qld electrical
  - Safety marking approved in Qld is recognised in all States
  - New South Wales (NSW) requires NSW compliance mark if product was approved in NSW
  - If sold Australia-wide, need RCM in any case for Qld
Exempt or out of scope products?

- RCM not required if, for all regulations, product is
  - Exempt, and/or
  - Out of scope

- Where out of scope of all labelling regulations:
  - Products must still be safe
  - Products must still not cause interference
Non-RCM requirements

- Other marking requirements may apply, such as:
  - Energy efficiency rating,
  - Medical and therapeutic devices,
  - Explosion protection,
  - Water efficiency rating,
  - Gas compliance, etc.

- Non-RCM requirements are not dealt with in detail in this presentation/paper
5. National Database

For supplier and equipment registration
Supplier registration

- Supplier registration is mandatory to use RCM
- Requires Australian or NZ business presence
- Database registration number issued
- Authorised persons may act for supplier
- Renew supplier registration every year
- Notify supplier changes promptly
Supplier registration (cont ...)

- Register for EESS or ACMA or both
- Annual fee for electrical safety (EESS)
- Online declaration for safety includes:
  - All products supplied are safe meet applicable standards
  - All products supplied comply with the EESS and relevant electrical safety laws
Equipment registration

- Not required by ACMA

- Required for EESS regulations
  - Level 1 equipment (no fee):
    - Register brand, product type, model
  - Level 2 & 3 equipment (fee applies):
    - The relevant standards applicable
    - Identifiable brands and model number
    - Trademarks applicable to the type of equipment
    - Level 2: test reports uploaded or location recorded
    - Level 3: link to certifier’s Certificate of Conformity
Level 2 & 3 electrical equipment

- Registration term: one, two or five years
- Term for level 3 equipment can not exceed its Certificate
- Before expiry, if still to be offered for sale, supplier must
  - Renew Certificate of Conformity
  - Renew equipment registration
- Equipment declaration required with registration
  - All equipment electrically safe and meets relevant standards
Other EESS database uses

- Public lookup access
  - Level 2 & 3 electrical equipment lookup (basic info only)
  - Level 1 equipment optionally registered

- Certifiers access
  - Upload Certificates of Conformity (CoC)
  - Link CoC to suppliers
  - Apply password restrictions to CoC
6. Compliance Standards

Technical standards applicable to equipment
Electrical safety standards

- **Level 1 electrical equipment:**
  - AS/NZS 3820 (generic safety standard) plus:
    - Applicable AS or AS/NZS safety standard if exists
    - Or applicable IEC safety standard (if exists)

- **Level 2 or 3 electrical equipment:**
  - AS/NZS 4417.2 Annex B “Class specifications”
  - For example, Class B.2.1 Appliance connector standards:
    - Appliance coupler—AS/NZS 60320.1
    - Sewing machine appliance coupler—AS/NZS 60320.2.1
    - Interconnection appliance coupler—AS/NZS 60320.2.2

- **Other standards agreed by regulator**
ACMA standards - EMC

EMC Labelling Notice specifies:

- The Radiocommunications (Electromagnetic Compatibility) Standard 2008 (“EMC Standard”), which specifies:
  - 58 categories of EMC standards on ACMA’s Web site
- Personal computer example, use any 1 of 6 standards:
- The exact edition specified is required
Radiocommunications Labelling Notice specifies:

– Government standards & compliance levels available at:

– These reference product specific standards

– For example: the Radiocommunications (Short Range Devices) Standard 2014 calls out AS/NZS 4268 covering:
  ▪ the class of transmitter,
  ▪ the permitted frequency band,
  ▪ the maximum equivalent isotropically radiated power (EIRP)
  ▪ the EIRP for spurious emissions, plus
  ▪ supplementary requirements
The EME (or EMR) Labelling Notice specifies:

- The Radiocommunications (Electromagnetic Radiation — Human Exposure) Standard 2014, which calls out:
  - ARPANSA standard: Radiation Protection Standard for Maximum Exposure Levels to Radiofrequency Fields - 3 kHz to 300 GHz (2002).
    - The ARPANSA exposure values are based on:
      - The 1998 Guidelines of the International Commission on Non-Ionizing Radiation Protection (ICNIRP)
Telecommunications Labelling Notice (TLN)

- Lists applicable government standards & compliance levels
  - Example: for customer equipment (CE) connected to a public telephone network, the standard is:
    - Telecommunications Technical Standard (Analogue Interworking and Non-interference Requirements for Customer Equipment for Connection to the Public Switched Telephone Network – AS/CA S002) 2015
  - This in turn references Communications Alliance AS/CA S002:2010 standard of almost the same name, which is the actual standard to use for testing
7. Applying the RCM symbol

How and where to display the symbol
The RCM symbol

› Shows compliance with requirements for:
  – Technical, regulatory, records-keeping, registration

› Shown on external surface of equipment
  ▪ See it without a tool
  ▪ Locate near equipment model identification
  ▪ Durable and legible
  – Any size from 3 mm and up
    ▪ No specific colour
  – If can’t apply to surface, may apply to packaging
  – May apply via a built-in display image
  – Optional use permitted in promotional material of product

3/31/2016
8. Compliance Records

What to keep, how and for how long
Compliance records

- Requirements vary by regulation and risk level

- Some common requirements:
  - English language
  - Available to regulator within 10 days
    - or 5 days for telecommunications DoC
  - Retain for 5 years after last sale
    - in case of safety products: also 5 years after registration ends

- Additional specific requirements on following pages
Safety level 1:
- Evidence the equipment meets relevant standard

Safety level 2 (in addition to level 1):
- Test reports from approved testing entity or suitably qualified person
  - Description of test method, & results of tests
  - List of relevant standard(s)
  - Safety-critical component listing
  - Qualifications, competence & accreditation details of test entity
Safety level 2 (continued)

- Record & retain the following:
  - Make & model number
  - Design descriptions, circuit diagrams, drawings
  - Specifications
  - Rating label drawings or images
  - Internal & external colour photographs showing construction
  - Instructions for operation and installation, and safety

Option to upload level 2 records to EESS database
Safety level 3 records

- Certificate of Conformity (CoC) from a regulatory authority (RA) or recognised external certification scheme (RECS)
- CoC filed in database by RA or RECS for supplier linking
- To obtain a CoC, Safety level 2 docs are required
  - Send with application form & fee to RA or RECS
  - Some RECS can do their own testing as an option
  - Test report endorsed by an accredited test lab
    - Accredited by NATA or NATA-recognised scheme
ACMA common records

- Supplier’s Declaration of Conformity (SDoC)
  - Use the model SDoC on ACMA’s web site or
  - Customise any SDoC with ACMA’s model information
  - Declare explicitly to all applicable ACMA labelling notices
  - Record test report lab, report number, date & standard(s)

- Model number of device
  - And related model numbers for a family of devices

- Supplier’s agent may keep records for supplier
  - Retain written agency agreement
If can’t label the device:
- Record reason & record location of mark on packaging
- Apply mark to the packaging and product documentation

For variants of a device
- Document the differences to original device
- Provide technical rationale for conformity
ACMA EMC records

- Description of the device
  - Software/firmware version info if affects compliance
  - May include photographs (inside & outside)

- Test report for the device showing compliance
  - Endorsed report from accredited lab if high risk device
  - Technical construction file (TCF) alternative to test report
  - Installation & operation instructions, if affects compliance
Description of the device
– So can uniquely identify the actual device from the records
– May include photos, sketches or illustrations showing internal and external aspects

Level 2:
– Test report/written compliance evidence for radio use
– Also: test report may be required for ARPANSA standard

Level 3: Endorsed test report from accredited lab
– Need to have endorsed report for ARPANSA standard too
+ACMA telecomms records

- Description of the device
  - To uniquely identify the actual device from the records
  - Must include photographs (inside & outside)
  - Software/firmware version info if affects compliance

- Test report or statement from Certification Body
  - Showing compliance with applicable standards
  - Level 3: test report must be endorsed by accredited lab
  - Certificate of compliance from RA may be used
  - Installation/operation instructions, if affect compliance
9. Laboratory Accreditation

and endorsed test reports
Endorsed test reports

- Test report requirements vary with risk level
  - Higher risk requires higher trust
  - Highest trust (level 3) is established by:
    ▪ Endorsed test report from
    ▪ Accredited test laboratory
    ▪ Where lab is accredited for the actual tests
    ▪ Lab is accredited by NATA or NATA MRA partner

- For a safety certificate of conformity (L3 EESS)
  - Certifier (RA or RECS) is accredited by JAS-ANZ
  - Certifier examines the endorsed test report
  - Certifier may examine equipment to check test report
IECEE CB test reports (optional)

- CB report & CB certificate must be supplied
- Cover the IEC standard that AS/NZS standard is harmonized with in Australian regulations
- Include the Australia/New Zealand national differences compliance results
- For EESS: Certification Body (RA or RECS) may check test report against the equipment
- For ACMA: an Australian-based issuing and recognising NCB statement is also required
10. Market surveillance & enforcement

Giving teeth to the regulations
Market surveillance by regulators
- Particularly retail level products
- May include online products
- Check for labels
- Check for visible anomalies
- Check testing by regulator of targeted product types

Field issues: regulators will likely investigate:
- Complaints from users and competitive suppliers
- Alleged non-compliance with standards or labelling
- Alleged safety incidents

Random targeted supplier’s records audit (ACMA)
Enforcement tools

- Cancellation of equipment registration (EESS)
  - Prohibits supply of that specific equipment

- Cancellation of supplier EESS registration
  - Prohibits the sale of all in-scope products by supplier

- Equipment check-testing by regulators
  - Mandatory for suppliers to cooperate

- Mandatory safety incident reporting within 48 h
  - In cases where medical treatment is needed or given

- Product recalls
  - Voluntary recall, overseen by regulator or
  - Regulator-imposed mandatory mandatory recall
Plenty of penalties

- Giving false supplier registration info
- Not updating supplier details
- Making false declarations
- Selling unlabelled equipment
- Not supplying sample to regulator for check testing
- Not keeping compliance records
- Not keeping compliance evidence
- Not marking RCM in conformance with regulations
- Not keeping EESS L3 certificate
- Marking RCM on non-compliant equipment
11. Concluding remarks

And recap
Concluding remarks

RCM system looks complex but:

- The RCM replaces previous marks with simpler mark
  - Not required to mark supplier code or approval number
- Most technical and records requirements pre-existed
- New requirement: fees, database registration for suppliers & level 2 & level 3 EESS articles
  - This is why don’t need supplier codes and approval numbers
- Was used voluntarily since 1996 under different rules
- Introduced in 2013 under the present rules
  - Now mandatory (2016-03-01)

Future to include more State regulators

- Directly or via intergovernmental agreements (IGAs)
Concluding remarks (cont...)

- New Zealand generally recognises the mark
  - Excluding telecommunications

- RCM does not cover all regulations
  - Additional requirements might apply, for example:
    - Energy efficiency labelling
    - Medical/patient treatment apparatus
    - NZ telecommunications

- Further information and references are available in the detailed companion paper: 
  “Regulatory Compliance Mark for Australia/New Zealand electrical and electronic equipment”
End of presentation

Question time