FIELD ENGINEERING AND TECHNOLOGY

Review of Refrigeration and Air Conditioning unit standards

Subfield	Domain	ld	
Mechanical Engineering	Refrigeration and Air Conditioning	3824, 3825, 3828-3853	

Competenz has completed the review of the unit standards listed above.

Date new versions published

June 2006

Planned review date

December 2011

Summary of review and consultation process

Meetings involving Competenz, and mechanical engineering and provider representatives were convened in 2004 and 2005 to consider the review of Mechanical Engineering unit standards specific to the engineering industry.

During that time feedback was received from industry and providers, matters raised were incorporated into the review of the unit standards above, and a course of action was agreed upon.

The representatives consulted were asked to consider the following:

- the currency of the unit standards and their suitability for existing and proposed qualifications
- the appropriateness of the unit standards to their domain
- the accuracy and appropriateness of their content
- how levels and credits aligned with performance outcomes
- any gaps in skills and/or knowledge that could be captured by the development of new unit standards.

Main change resulting from the review

- Improved special notes to better convey assessment parameters, including improved definitions, updated references to legislation, and the amount of evidence required to show competence.
- Improved and updated range statements, including clearer use of range statements that are mandatory, or are included to provide guidelines for the collection of evidence, in which case the range begins with *may include but is not limited to.*
- Sundry editorial changes to performance criteria.
- An amendment to the level of unit standard 3831, from 2 to 3, to reflect the level of skill required by the candidate, the extent of supervision, and the overall learning demand.
- Amendments to the credits of unit standards 3837, 3841, and 3846 from 12 to 20; unit standard 3842 from 15 to 25; unit standard 3847 from 10 to 20; and unit standard 3852 from 20 to 25. These amendments better reflected the notional learning time it was expected to take candidates to meet the outcome and performance requirements in these unit standards.
- The expiry without replacement of unit standards 3828, 3832, 3833, 3838, 3840, 3843, 3845, 3848, 3850, and 3853; none of which met current industry requirements.

Unit standards categorised as category C or D expire at the end of December 2010.

Impact on existing provider accreditations

Current Accreditation for			Accreditation extended to		
Nature of accreditation	Classification or Id		Nature of accreditation	Classification or Id	Level
Subfield	Mechanical Engineering	2	Standards	3831	3
Domain	Refrigeration and Air	2		22702	
	Conditioning			22704	
				22707	

Impact on Accreditation and Moderation Action Plan (AMAP)

AMAP 0013 has been updated to reflect the changes made to the standards.

Impact on existing qualifications

Qualifications that contain the reviewed standards or classifications are tabled below.

Affected	The qualification lists a reviewed classification (domain or subfield) in an elective set		
	The qualification lists a standard that has changes to level or credits		
	The qualification lists a C or D category standard		
Not materially affected	The qualification lists a standard that has a new title		
	The qualification lists a standard that has a new classification		

The following Competenz qualifications are affected by the outcome of this review and are being revised/reviewed in 2006.

Qualification title	Classification or standard in the qualification
National Certificate in Refrigeration and Air Conditioning (Level 4) [Ref: 0130]	3824, 3829-3841, 3844-3851
National Certificate in Refrigeration and Air Conditioning (Level 5)	3825, 3840-3843, 3847, 3848,
[Ref: 0720]	3852, 3853

Summary of main changes

All changes are in **bold**.

Key to review category

- A Dates changed, but no other changes are made the replacement standard carries the same ld and a new version number
- **B** Changes made, but the overall outcome remains the same the replacement standard carries the same Id and a new version number
- C Major changes that necessitate the registration of a replacement standard with a new Id
- D Standard will expire and not be replaced

Subfield

Mechanical Engineering Refrigeration and Air Conditioning Domain

Domain	Refrigeration and Air Conditioning	1	0 !!!	- ·
ld	Title	Level	Credit	Review Category
3824	Design and develop refrigeration and air conditioning systems with technical supervision	3	35	С
22705	Apply design principles to commercial RAC systems installation	3	15	
3825	Design and develop residential and light commercial refrigeration and air conditioning systems	4	15	С
22708	Apply design principles to commercial RAC systems	4	15	
3828	Design and develop large central plant air conditioning systems	6	20	D
3829 and	Assemble and manufacture refrigeration and air conditioning system components with technical supervision	1	20	С
3830	Assemble and manufacture residential and light commercial refrigeration and a/c system components	1	10	С
22706	Assemble commercial refrigeration and/or air conditioning system components under supervision	2	10	
3831	Assemble and manufacture commercial and light	2	10	В
	industrial refrigeration and a/c system components Assemble and fabricate commercial refrigeration and/or air conditioning system components	3		
3832	Assemble and manufacture industrial refrigeration system components	3	10	D
3833	Assemble and manufacture large central plant air conditioning system components	3	10	D
3834 and	Install refrigeration and air conditioning systems with technical supervision	1	30	С
3839	Commission refrigeration and air conditioning systems with technical supervision	3	20	С
22702	Install and commission commercial refrigeration and air conditioning	3	15	
3835 and	Install residential and light commercial refrigeration and air conditioning systems	2	12	С
3836	Install commercial and light industrial refrigeration and air conditioning systems	3	12	С
22707	Install commercial refrigeration and/or air conditioning systems	3	20	
3837	Install industrial refrigeration systems Modify industrial refrigeration systems	3	12 20	В
3838	Install large central plant air conditioning systems	4	12	D
3840	Commission residential and light commercial refrigeration and air conditioning systems	4	12	D

ld	Title	Level	Credit	Review Category
3841	Commission commercial and light industrial	4	12	В
	refrigeration and air conditioning systems			
	Commission commercial refrigeration and/or		20	
0040	air conditioning systems	_	45	D.
3842	Commission industrial refrigeration systems	5	15 25	В
3843	Commission large central plant air conditioning systems	5	15	D
3844 and	Maintain refrigeration and air conditioning systems with technical supervision	2	15	С
3849	Service refrigeration and air conditioning systems with technical supervision	3	20	С
22704	Maintain and service refrigeration and air conditioning systems	3	20	
3845	Maintain residential and light commercial refrigeration and air conditioning systems	3	12	D
3846	Maintain commercial and light industrial	3	12	В
	refrigeration and air conditioning systems			
	Maintain commercial refrigeration and/or air		20	
00.4=	conditioning systems		1.0	
3847	Maintain industrial refrigeration systems	4	10	В
	Perform maintenance operations on industrial refrigeration systems		20	
3848	Maintain large central plant air conditioning systems	4	10	D
3850	Service residential and light commercial refrigeration and air conditioning systems	3	15	D
3851	Service commercial and light industrial refrigeration	4	20	В
	and air conditioning systems			
	Service commercial refrigeration and/or air			
3952	Conditioning systems Sorvice industrial refrigeration systems	4	20	В
3852	Service industrial refrigeration systems	4	2 5	D
3853	Service large central plant air conditioning systems	5	20	D
22701	Demonstrate knowledge of refrigeration and air	3	15	New
20522	conditioning principles and applications		4 =	
22703	Apply knowledge of electrical and electronics principles in RAC	3	15	New
22709	Apply design principles to industrial	5	15	New
	refrigeration systems			