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★ OFFICIAL PROGRAM STANDARDS NOTIFICATION ★

Issued: April 7, 2011

Program: Refrigeration & Air Conditioning Mechanic (Refrigeration Mechanic)

To: ITA Training Providers
Construction Industry Training Organization (CITO)
ACE IT School Districts

RE: REF: 2011 013
**UPDATE TO REFRIGERATION & AIR CONDITIONING MECHANIC
(REFRIGERATION MECHANIC) PROGRAM**

Timing: Effective: January 1, 2012

Information: Please be advised that an updated program standard for the Refrigeration & Air Conditioning Mechanic (Refrigeration Mechanic) apprenticeship program has been approved by the Industry Training Authority (ITA). An updated program profile and program outline is posted on the ITA website at www.itabc.ca.

Delivery of training for the Refrigeration & Air Conditioning Mechanic (Refrigeration Mechanic) apprenticeship program is to be based on the updated program outline as of January 1, 2012.

Background

The Construction Industry Training Organization (CITO) has completed the program outline after extensive consultation with industry and training providers. The program review has resulted in content changes to all four levels of technical training. Training providers will need to ensure their curriculum is aligned to the competencies identified in the new program outline.

Assessment

In-school Training

Training providers delivering Refrigeration & Air Conditioning Mechanic (Refrigeration Mechanic) apprenticeship in-school technical training are required to enter the following assessment result for each apprentice in ITA Direct Access:

- An in-school mark in the form of a percentage
(Minimum 70% is required for a pass)

Each Level final in-school mark is derived from a combination of theory and practical assessments determined on the basis of theory, practical subject competencies and Level in-school examination. A table showing the subject competencies, Level percentage weightings and Level examination weightings are shown in the attached Grading Sheet: Subject Competencies and Weightings Tables document.

The Level in-school mark for entry in ITA Direct Access is calculated by:

- Totaling the Level theory subject competencies noted in the Grading Sheet: Subject Competencies and Weightings Tables and multiply the total by:
 - 70% for Level 1, 2 & 3 to produce a weighted theory result; and
 - 90% for Level 4 to produce a weighted theory result.
- Totaling the Level practical subject competencies noted in the Grading Sheet: Subject Competencies and Weightings Tables and multiply the total by:
 - 30% for Level 1, 2 & 3 to produce a weighted practical result; and
 - 10% for Level 4 to produce a weighted practical result.
- For Level 1, 2, 3 & 4; add each Level theory and practical competency results and multiply the total by 70% to acquire the final weighted in-school result.
- For Level 1, 2, 3 & 4; multiply the Level exam score by 30% to produce a weighted Level exam result.
- Add the final weighted Level in-school result with the weighted Level exam result to acquire the final Level in-school mark.

Successful completion of the in-school training for each Level is defined as an in-school mark of 70% or greater.

ITA Standardized Level Examinations

ITA standardized Level exams for the Refrigeration & Air Conditioning Mechanic (Refrigeration Mechanic) apprenticeship program have been developed and are currently being field tested. Once finalized, these exams will replace the proprietary theory Level exams being used by training providers delivering in-school training for the Refrigeration & Air Conditioning Mechanic (Refrigeration Mechanic) apprenticeship program.

The Construction Industry Training Organization (CITO) is responsible for the administration and invigilation of exams being field tested. Field testing is being conducted by CITO at a limited number of training provider sites. Training providers will be notified when the ITA standardized Level exams are ready for use by training providers.

Questions regarding the administration of field testing should be directed to: Dave Coleman at the Construction Industry Training Organization (CITO) at davec@bccito.ca or 604-431-1994.

Interprovincial (Red Seal) Exam

Refrigeration & Air Conditioning Mechanic (Refrigeration Mechanic) apprentices are required to write the Refrigeration & Air Conditioning Mechanic Interprovincial (Red Seal) exam after completing their in-school training levels, in order to be certified. A score of 70% or greater is required for a pass.

Interprovincial (Red Seal) exams may be requested by training providers via the usual ITA procedure.

The ITA will administer and invigilate the Interprovincial (Red Seal) exam and score and record exam results in ITA Direct Access.

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ASSESSMENT GUIDELINES

Program: Refrigeration & Air Conditioning Mechanic (Refrigeration Mechanic) Apprenticeship

Requirements: In School Training

Training providers delivering Refrigeration & Air Conditioning Mechanic (Refrigeration Mechanic) apprenticeship in-school technical training are required to enter the following assessment result for each apprentice in ITA Direct Access:

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Each Level final in-school mark is derived from a combination of theory and practical assessments determined on the basis of theory, practical subject competencies and Level in-school examination. A table showing the subject competencies, Level percentage weightings and Level examination weightings are shown in the attached Grading Sheet: Subject Competencies and Weightings Tables document.

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 - 70% for Level 1, 2 & 3 to produce a weighted theory result; and
 - 90% for Level 4 to produce a weighted theory result.
- Totaling the Level practical subject competencies noted in the Grading Sheet: Subject Competencies and Weightings Tables and multiply the total by:
 - 30% for Level 1, 2 & 3 to produce a weighted practical result; and
 - 10% for Level 4 to produce a weighted practical result.

- For Level 1, 2, 3 & 4; add each Level theory and practical competency results and multiply the total by 70% to acquire the final weighted in-school result.
- For Level 1, 2, 3 & 4; multiply the Level exam score by 30% to produce a weighted Level exam result.
- Add the final weighted Level in-school result with the weighted level exam result to acquire the final Level in-school mark.

Successful completion of the in-school training for each Level is defined as an in-school mark of 70% or greater.

ITA Standardized Level Examinations

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Grading Sheet: Subject Competencies & Weightings Tables

Program:		Refrigeration & Air Conditioning Mechanic (Refrigeration Mechanic) Apprenticeship	
In-school Training:		Level 1	
ITADirectAccess Code:		0103RE01	
Line	Subject Competencies	Theory Weighting	Practical Weighting
A	Use of Safe Work Practices	5%	10%
B	Use of Tools and Equipment	10%	20%
C	Organize Work	25%	10%
D	Apply Fundamentals of Refrigeration	25%	25%
E	Apply Electrical Concepts	25%	25%
F	Plan & Install Refrigeration & Air Conditioning Systems	10%	10%
	Total	100%	100%
	Level 1 individual subject competency weighting	70%	30%
	Combined theory and practical subject competency multiplied by	70%	
	Level 1 Exam score multiplied by	30%	
	Level 1 in-school mark	X%	

Program:		Refrigeration & Air Conditioning Mechanic (Refrigeration Mechanic) Apprenticeship	
In-school Training: ITADirectAccess Code:		Level 2 0103RE02	
Line	Subject Competencies	Theory Weighting	Practical Weighting
B	Use Tools and Equipment	5%	-
C	Organize Work	10%	-
D	Apply Fundamentals of Refrigeration	15%	25%
E	Apply Electrical Concepts	30%	25%
F	Plan & Install refrigeration & Air Conditioning Systems	30%	25%
H	Maintain & Service Refrigeration & Air Conditioning Systems	10%	25%
	Total	100%	100%
	Level 2 individual subject competency weighting (Practical assessment on Lines B & C will be included in Lines D, E, F & H)	70%	30%
	Combined theory and practical subject competency multiplied by	70%	
	Level 2 Exam score multiplied by	30%	
	Level 2 in-school mark	X%	

Program:		Refrigeration & Air Conditioning Mechanic (Refrigeration Mechanic) Apprenticeship Level 3 0103RE03	
In-school Training: ITADirectAccess			
Code:			
Line	Subject competencies	Theory Weighting	Practical Weighting
B	Use Tools & Equipment	5%	-
D	Apply Fundamentals of Refrigeration	15%	25%
E	Apply Electrical Concepts	30%	25%
F	Plan & Install Refrigeration & Air Conditioning Systems	35%	25%
G	Commission Refrigeration & Air Conditioning Systems	10%	-
H	Maintain & Service Refrigeration & Air Conditioning Systems	5%	25%
Total		100%	100%
Level 3 individual subject competency weighting (Practical assessment on Lines B & G will be included in Lines D, E, F & H)		70%	30%
Combined theory and practical subject competency multiplied by		70%	
Level 3 Exam score multiplied by		30%	
Level 3 in-school mark		X%	

Program:		Refrigeration & Air Conditioning Mechanic (Refrigeration Mechanic) Apprenticeship Level 4	
In-school Training:		0103RE04	
ITADirectAccess:			
Line	Subject competencies	Theory Weighting	Practical Weighting
C	Organize Work	5%	-
E	Apply Electrical Concepts	20%	25%
F	Plan & Install Refrigeration & Air Conditioning Systems	65%	75%
H	Maintain & Service Refrigeration & Air Conditioning Systems	10%	-
Total		100%	100%
Level 4 individual subject competency weighting (Practical assessment on Lines C & H will be included in Lines E & F)		90%	10%
Combined theory and practical subject competency multiplied by		70%	
Level 4 Exam score multiplied by		30%	
Level 4 in-school mark		X%	