

**Policies and Procedures  
Industrial Maintenance Technician  
Customized Training Programs and Challenges  
to IMT Training Requirements**



NOTE: There is also a “Policies and Procedures Document for IMT Training Providers and IMT Standardized Training Programs”

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Technical Standards and Safety Authority (TSSA)

[www.tssa.org](http://www.tssa.org)

# **Policies and Procedures Industrial Maintenance Technician Programs**

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## **Policies and Procedures Industrial Maintenance Technician Programs**

### **Introduction:**

The purpose of this document is to inform IMT candidates, their employers, and training providers about the requirements for achieving IMT certification by means of customized training programs or challenges to the standardized IMT training requirements. The policies and procedures outlined in this document clarify the conditions under which a person can attain and retain a customized IMT certification. All persons applying for training exemptions to hold an IMT certificate to maintain, service, and/or install hydrocarbon-fueled appliances either at their employer's establishment or at other sites if the appliance is manufactured by their employer must follow these policies and procedures. The policies and procedures are subject to enhancement and revision as required.

### **Background and Intent:**

The legal requirement for a person to be certified to work on hydrocarbon fuel-fired appliances and equipment has been mandatory since the mid-1960's. A special certificate to address the needs of industry clients has also been available and mandatory since that date. Under various names – G5, GFM, IMT – this special certificate allowed the holder to work on gas or propane vapour appliances of any Btuh input located at the premise of his or her industrial employer if there was a record of site-specific training.

Prior to September 1996, successful completion of a theory exam was the only requirement to become certified under the Energy Act. Training was neither required nor standardized when delivered.

In September 1996, Regulation 348/96 concerning certificates under the Energy Act came into effect. This important document required that applicants for the various certificates under the Energy Act (including the Industrial Maintenance Gas Technician or IMT certificate) complete a standardized training program with a strict examination procedure delivered by a training provider registered by TSSA.

Since 1996, the requirements to become certified as an Industrial Maintenance Gas Technician have undergone various changes in response to feedback from industry clients, certificate holders, and training providers. The original 1996 IMT certification procedure relied heavily on the regular Gas Technician curriculum and training standards. However, referencing the regular Gas Technician programs did not adequately serve the special needs and customization requirements of IMT candidates. Therefore, the potential of IMT certification was not being realized.



From 1999 to mid-2001, TSSA responded to industry concerns with four major initiatives:

1. To address the training needs of unionized work places where duties are strictly divided between electricians and millwrights, an allowance was made to focus the IMT certificate along these established lines by creating two sub-certificates of the full IMT - the IMT-E (Electrical) and the IMT-M (Mechanical).
2. To address the needs of industries that use fuel oil as a back-up energy source for dual-fuel appliances, the scope of the IMT was extended to include fuel oil where appropriate training acceptable to TSSA was conducted and proven to be effective.
3. Between 1999 and early 2001, training providers were allowed to reduce the standardized training programs where a detailed assessment documented that the prior learning skills and knowledge of the trainees permitted such a reduction.
4. Inconsistencies in the customized training programs proposed by training providers along with a logical need to include an equipment assessment in the customization process caused TSSA to take exclusive responsibility for conducting the prior learning assessments and equipment assessment. Between mid-2001 and late 2002, TSSA held sole responsibility for producing the customized report identifying the minimum training needs to meet the certification requirements. With this new Policy and Procedures Document developed and published at the end of 2002, interested training providers are once again permitted to conduct the assessments under standardized guidelines subject to the approval of TSSA. TSSA also retains the right to conduct IMT assessments.

The new Fuel Industry Certificates Regulation 215/01, which replaced the previous Certificates Regulation 348/96 on June 27, 2001, confirmed the first two interim measures itemized above. The policies and procedures outlined in this document clarifies and extends the IMT assessment requirements resulting from lessons learned while conducting interim measures 3 & 4 above.

The IMT certificate is at once the most specialized and wide-ranging certificate required under the Fuel Industry Certificates Regulation. The regulation extended the IMT certificate's applicability to institutions and manufacturers of hydrocarbon appliances. To a large extent, the scope of work allowed under an IMT certificate is only limited by the focussed training provided on the equipment in the particular establishment where the certificate is valid or the particular appliance manufacturer for which the certificate is valid.

Although an individual holds the certificate, it is only valid if the employer of the certificate holder has proof, which is acceptable to TSSA, of the certificate holder's training on the site-specific (or manufacturer-specific) equipment. As such, the validity and scope of the certificate depends on a partnership between the applicant, employer, and TSSA.

A new IMT curriculum, which came into effect on April 1, 2001, replaced one referencing parts of the regular Gas Technician curriculum. Subsequent revisions to the IMT curriculum have been made to better serve the needs of the client as well as enhancing the training abilities of the training provider. The current curriculum is the product of a consultative process involving representatives from industry, training providers, and TSSA. Only the most current revision of the IMT curriculum should be used to develop a training plan.



A generic curriculum will seldom meet the training variables that are encountered by the various establishments and appliance manufacturers in Ontario. As such, the curriculum is to be viewed as a guideline for customizing training to specific training needs. The curriculum together with the certification regulation, the pre-assessment report, and this policies and procedures document will direct the customization process and training plan towards an effective end.

A pre-assessment report on the training needs and equipment types leading to a proposed scope of certificate and training requirements can be conducted by the applicant (candidate or employer), a private training consultant hired by the applicant, or by a TSSA training consultant. TSSA maintains responsibility for final approval of the training proposal and plan. If training is required, it is the responsibility of the training provider selected by the applicant to compile and implement a training package that meets the needs of the client and that is acceptable to TSSA. It is TSSA's responsibility to ensure that the training program and testing achieves the training needs and scope of certificate for each IMT candidate.



## Training Program and Delivery Prerequisites:

1. To identify and justify the content and time required in a customized IMT training program a report shall be prepared by the applicant (candidate or employer), a private training consultant, or a TSSA Training Consultant. The report shall identify:
  - a) The types of equipment in the industry or institution where the certificate will be valid or, in the case of appliance manufacturers, the appliance model numbers (see “IMT Equipment Assessment Form Template” in Appendix 4);
  - b) A scope of certificate for each trainee or group of trainees in relation to item (a) above (see “IMT Training Objectives and Proposed Scope of Certificate Form Template” in Appendix 3);
  - c) An assessment of the prior skills and knowledge of the candidates, which may be focussed on the areas identified as applicable in item (b) above (see “IMT PLA or training Prerequisites Report Template” in Appendix 3).
  - d) The minimum training hours and topics to be included and excluded for each module item in the IMT curriculum. This proposed training needs report shall be justified by the information provided in items a) through c) above. A group approach may be taken where it is first proven that the individuals in the group are at a similar level in regards to their skills, knowledge and competency.
2. Instructors for Industrial Maintenance Technician programs must be accredited specifically for the purpose by TSSA and the organization or company they work for shall be registered with TSSA. A training provider accreditation process is identified and outlined by TSSA in the IMT Policies & Procedures for Training Providers and is required to be followed to gain accreditation and registration. A non-mandatory Train-the-Trainer session is available to training providers to acquire the training necessary for the assessment reports.
3. All IMT training proposals and programs shall be submitted to TSSA for review written approval by TSSA prior to the commencement of all programs.
4. Applications for a certificate of qualification received from instructors who are not accredited and registered with the TSSA **or** applications from accredited and registered instructors who have not had the specific program approved by TSSA will not be processed.



## Training Program/Exemption Approval Process and Guidelines:

These guidelines present a standardized means of developing and delivering a customized IMT training program. There are eight steps or milestones each requiring input and action by the client, the instructor/training provider, and/or TSSA. In some cases, in order to move to the next stage, input from one or more of the training partners might be required.

The following table provides an overview of the 8 stages followed by a more descriptive section on each stage. All 8 stages may not apply as indicated below.

Stage	Deliverable(s)	Sign-off Required:
1. The applicant (candidate or employer) or an accredited training provider or TSSA produces the "IMT Training Requirements Report"	Designated report identifies the training objectives, scope of certificate, equipment assessment, prior learning assessment of the candidate(s) or training prerequisites and employs the information from these reports to justify the customized training requirements based on the standardized curriculum.	Client  Report Developer (Private Training Consultant or TSSA Consultant)
2. Review and acceptance of the "IMT Training Requirements Report" (this step is included in step 1 if TSSA creates the report)	The IMT Training Requirements Report must be reviewed by TSSA to determine if it meets the standards set for IMT certification.	Client (if changes are required to meet standards)  TSSA
3. Training Plan (if training is required by the accepted report)	Training provider produces and submits to TSSA an outline of the training plan that reflects the results of the assessment reports.	Training Provider  Client
4. Review and Approval of Training Plan (if training is required by the accepted report)	Although all parties have to agree on the training plan, the final approval is the sole responsibility of TSSA.	TSSA
5. Delivery of IMT Training Program (if training is required by the accepted report)	Instructor delivers training program as approved. TSSA may audit training delivery as per audit policies/ procedures	TSSA
6. Theory Examination(s) and Practical Assessments (required whether training is required or not)	Candidates prove theoretical competency by writing exam(s) that are created by TSSA.	Training Provider  TSSA



6. Theory Examination(s) and Practical Assessments (continued)	Candidates prove practical competency throughout the training program by means of practical exercises and assessments that are created and marked by the instructor as approved by TSSA. If training was not required by the accepted assessment report, a practical assessment by TSSA will be conducted.	
7. Certification	If a 75% or higher mark is achieved in both the theory exam(s) and practical assessment and all other application requirements are met, an IMT certificate is issued by TSSA to the candidate. The location or manufacturer where the certificate is valid is listed on the certificate and the "Scope of Certificate" must be maintained in the files of the certificate holder, the employer, and TSSA.	Training Provider (if applicable) Client TSSA
8. Maintaining and changing an IMT Scope Certificate.	<p>The certificate holder is responsible for renewing the certificate every 2 years and meeting any renewal requirements.</p> <p>The employer is responsible for ensuring that that the employee is certified and trained for the work being conducted. As new equipment or tasks are added to the IMT's scope, the employer is responsible for ensuring that the certificate holder has been properly trained and that a record of that training is available upon request by TSSA.</p> <p>Although prior approval by TSSA of this subsequent training is not required, it is recommended.</p>	Certificate holder Employer TSSA



## **Stage 1: Development of the IMT Training Requirements Report:**

In this first stage, either the applicant, a private training consultant, or a TSSA Training Consultant produces a standardized report outlining the:

- Client's training objectives
- Proposed scope of certificate for each candidate or group of candidates
- Equipment assessment
- Prior learning assessment for each candidate or group of candidates or prerequisite qualifications set by employer for IMT applicants
- Minimum hours per curriculum module of training
- Curriculum items to be excluded, included, or clarified for each training module

The resulting "IMT Training Requirements Report" is a standardized package of that includes and is informed by three reports:

1. IMT Training Objectives and Proposed Scope of Certificate Report
2. IMT Equipment Assessment Report
3. IMT Prior Learning Assessment or Training Prerequisite Report

All four-report templates are provided by TSSA for standardization purposes. Applicants, private training consultant, or a TSSA training consultant may complete these reports

The "IMT Training Requirements Report" serves four purposes:

1. Identifies the scope of certificate under which the training program will be customized to meet the needs of the client.
2. Identifies the type and complexity of the equipment and work activities related to the scope of certificate.
3. Identifies the prior skills, knowledge and qualifications that the candidates possess for comparison to the skills and knowledge required to hold the specific IMT certificate.
4. Presents the applicant's or training consultant's suggested training requirements (if any) to hold the specific IMT certificate based on the above information. In cases where the client chooses to employ TSSA consultant services to development the report, the training requirements identified in the report are mandatory rather than recommended.



## **Stage 2: TSSA Review of the “IMT Training Requirements Report”**

This stage only applies for reports submitted by an applicant (IMT candidate or employer) or a training provider since this step is included in stage 1 if TSSA creates the report.

The review of the assessment report determines whether the report and the suggested training requirements are in compliance with the standards and requirements for IMT certification. Any deficiencies will be identified and the developer of the report can provide further information to achieve TSSA’s final acceptance of the report.

The review and acceptance by TSSA of the “IMT Training Requirements Report” is required before proceeding to any of the following stages. This process ensures that the standards and requirements for the customized IMT certification are clearly identified.

A fee is charged to the person who submits the IMT Training Requirements Report as per the fee schedule in Appendix A.

## **Stage 3: Training Plan**

In exceptional cases, the accepted “IMT Training Requirements Report” may not require further training. In these cases, the applicant(s) proceed to stage 6 - the challenge exam and practical assessment.

In most cases, training will be required for IMT certification. As such, the training provider must prepare an outline of the training plan based on the assessment report. The plan must clearly indicate how the training requirements identified in the accepted “IMT Training Requirements Report” will be achieved. The information provided may include but is not limited to the following:

- The training schedule with dates and venue(s)
- The amount and type of practical training
- The amount and content of theoretical training.
- List of text material to be employed
- Practical training tools and equipment
- Practical training exercises and practical assessment methods
- Theory examination procedures.



#### **Stage 4: TSSA Review and Acceptance of the Training Plan**

The training plan must be submitted to TSSA for review and approval prior to implementation. The review of the training plan determines whether the requirements established in the accepted “IMT Training Requirements Report” will be achieved. Any deficiencies will be identified and the developer of the training plan can provide further information to achieve TSSA’s final acceptance of the plan.

A fee is charged to the person who submits the training plan as per the fee schedule in Appendix 2.

#### **Stage 5 Delivery of IMT Training Program**

Unless otherwise approved by TSSA, the training provider shall employ an IMT accredited instructor to deliver the training program as outlined in the accepted training plan. The requirements to be accredited to deliver IMT training are given in the “Policies and Procedures for IMT Training Providers”. In some cases, TSSA may allow an exemption from accreditation where qualifications and conditions warrant (e.g. manufacturer’s technical representatives delivering equipment specific training).

TSSA may audit the training program to determine if the accepted training plan is being delivered and the results achieve the requirements. Further information regarding these audits is provided in the “Policies and Procedures for IMT Training Providers”.

If an audit is conducted, audit fees are charged to the training provider as per the “Policies and Procedures for IMT Training Providers”.

#### **Stage 6: Theory Examination(s) and Practical Assessments**

Examinations on both practical and theory levels are required for certification. If training was required, examinations are also a measure of how successful the delivery of training has been. If training is not required, the theory and practical examinations conducted by TSSA prove whether the exemption from training was warranted.

Examination of knowledge and evaluation of practical skills is applied throughout the program with each required module item of training. One final theory exam or, at the most, two exams based on clusters of modules will be required for training programs.

The training provider may submit a list of questions that are directly applicable to the industry for consideration by TSSA for inclusion in the exam(s). The exam questions will be determined by TSSA.



The candidate will be evaluated on the practical skills demonstrated throughout their training (as applicable). Practical evaluation may be applied through either hands-on, written or a combination of a written and oral examination as designed by the training provider and as accepted by TSSA.

The practical skills assessments identified in the customized curriculum for the approved IMT training plan as well as other practical assessments conducted during any training program shall be documented and signed off by the instructor.

The candidate will be required to achieve a passing grade on the TSSA examination(s) and demonstrate a level of practical skills acceptable to the TSSA for each applicable module of training. Failure to complete any of the required modules in the manner prescribed will result in a failing grade. The candidate may rewrite the tests or be re-evaluated on those modules.

The passing grade on an examination and practical skills demonstration will be 75%. Appeals may be made to TSSA if the mark attained falls within 3%. Automatic waivers will not be allowed.

An impartial adjudicator shall oversee the written examination(s) as per the "Policies and Procedures for IMT Training Providers". The instructor is not permitted to adjudicate the exam(s). The adjudicator must be identified and acceptable to TSSA.

The instructor is required to submit the grades achieved on theoretical and practical examinations with the applications for certification. **Failing grades must also be included with the submissions.**

Candidates are only permitted to use translators during the course of an examination if the training provider takes reasonable precautions to ensure that the translator is not assisting in any way with answers or explanations beyond those permitted by any adjudicator.

## **Stage 7 Certification:**

Initial certification requirements are as follows:

1. In order to obtain a certificate from the Technical Standards and Safety Authority as an Industrial Maintenance Gas Technician for the first time, the candidate shall:
  - a) Be employed in an establishment equipped with hydrocarbon-fuelled appliances or employed by a manufacturer of hydrocarbon-fuelled appliances,
  - b) Submit an application for certification in a form designated by TSSA and accompanied by the prescribed fee of \$100, and



- c) Successfully complete an IMT training program approved by TSSA that is delivered by an accredited training provider registered with TSSA, or satisfy the Director that the applicant possesses the necessary knowledge and competency to hold an IMT certificate. Proof of successful completion of an approved training program shall be in the form accepted by TSSA.
2. The requirements for successful completion of an approved training program delivered through a training provider that is registered with, and accredited by TSSA are:
    - a) Score 75% or greater on the TSSA examination(s);
    - b) Score 75% or higher on the practical evaluation in the applicable modules within the training program; and
    - c) Maintain at least a 90% attendance record throughout the program training.
  3. Conditions prescribed in Items #1 and #2 above must be achieved in order to receive the initial certificate. Failure to meet any of the requirements will result in the rejection of the application. It is the responsibility of the applicant and his/her employer to meet the initial certification requirements.

Exemption from certification:

Clause 55 (4) of the Fuel Industry Certificates Regulation states:

A person who holds a certificate as an operating engineer is exempt from subsection 3 (1) [i.e. requirement for certification] when performing work that is within the scope of the person's certificate on equipment that is located at a registered plant at which the person is employed.

This exemption only applies to the equipment and activities for which the operating engineer has received training as part of his or her scope of certificate as an operating engineer.

There is no exemption for a Class 1, 2, 3, or 4 Operating Engineer to work on appliances other than those within his or her scope of certificate as an operating engineer. However, since the IMT training requirements are established by individual assessment, it is expected that the assessment of operating engineers would reflect that their skills and knowledge and would allow for reduced hours of training to gain IMT certification.



## Stage 8

### Maintaining and Changing an IMT Certificate:

#### Renewals:

1. Renewal period is two years as prescribed in the Regulations. Policies pertaining to renewals are as follows:
  - a) A certificate holder (any class) that fails to renew their certificate on time will have their certificate placed in suspension for a period of twelve months or until the renewal requirements have been met.
  - b) Certificate holders who have not renewed their certificate for a period *longer than twelve months*, and are requesting a re-instatement, will be considered as **new applicants** and will be subject to the same certification requirements as a new applicant, i.e. re-training, qualifying examination(s), practical skills evaluation.
  - c) Within four weeks after failing to renew, the certificate holder will be advised of the suspension and the implications of working in the occupation without a valid certificate. The applicant will also be advised of the manner in which they may rectify the situation.

NOTE: The certificate holder can designate two addresses. The employer's address can be designated as the primary or secondary point of notification. Renewals are sent to the secondary address only after failure to renew. Renewal times can also be coordinated so all certificate renewals for an employer can be set for a convenient date.

#### Requirements for transfer and/or change to existing certificates:

1. An applicant wishing to transfer an existing IMT certificate to become valid at another establishment or another appliance manufacturer must meet the following requirements:
  - a) The applicant must have held a valid IMT within two years of the request for transfer,
  - b) The applicant must have been trained by his or her new employer or by the equipment manufacturer or by a training provider approved by the TSSA with respect to the scope of certificate which is being applied for, and
  - c) A letter from the new employer must accompany the request for transfer of the IMT validation to the new establishment or appliance manufacturer. That letter must state that the training required by paragraph (b) above has been successfully completed. The scope of certificate, which is being applied for, shall also be provided.



2. An applicant wishing to change the scope of duties of an existing IMT certificate must meet the following requirements:
  - a) The applicant must have held a valid IMT certificate within two years of the request for a change to the scope of duties,
  - b) The applicant must have been trained by his or her employer or by a training provider approved by the Director or by the manufacturer with respect to the systems being maintained and serviced as it applies to the particular changes to the scope of the certificate, and
  - c) A letter from the employer must accompany the request for change in the scope of duties of the IMT and that letter must state that the training required by paragraph (b) of this subsection has been successfully completed. The scope of certificate, which is being applied for, shall also be itemized.
3. The employer of a prospective applicant for a change of an IMT scope of certificate shall maintain records of the training referred to in paragraphs 1 and 2 above and, upon request, shall give a copy of them to the Director.

#### Update and Upgrade Training:

The Fuel Industry Certificates Regulation requires certificate holders to complete an update training program whenever required by the director. For example, the Gas Technician Update Workshop is currently mandatory for IMT certificate holders who gained their certificate prior to November 1, 2001. The Workshop must be completed by December 1, 2003 to maintain the certificate. New training course starting after November 1, 2001 employ the new Act, Regulations and Codes to allow for the exemption of new certificate holders from this update requirement.

Accredited training providers of this mandatory workshop are encouraged to focus the update for the audience. As such, IMT certificate holders undertaking the update training should be informed about the changes to certification and training and encouraged to upgrade their training using the new system. The pre-conditions for holding a valid IMT certificate will be emphasized during this update course.



## **Industrial Maintenance Technician Certification Training Modules:**

### **Module# and Title**

- 01** Properties of the Fuels and Characteristics of Combustion
- 02** Acts, Regulations, Codes, Standards and Manufacturers' Instructions
- 03** Piping / Tubing Systems and Pressure Regulation
- 04** Industrial Appliances
- 05** Venting and Air Supply
- 06** Basic Electricity
- 07** Controls
- 08** Flame Safeguard Controls
- 09** Valve Trains and Burners
- 10** Oil-fired Equipment



## **Appendix 1**

### **Current IMT Certification Requirements Under the Fuel Industry Certificates Regulation 215/01**

The following clauses concerning IMT certification are reproduced for convenient reference:

#### **Qualifications**

5. (1) An applicant only qualifies for a certificate for which the applicant has successfully completed a program approved by the director that is conducted by an accredited training organization approved by the director and registered with the designated administrative authority.
- (2) Subsection (1) does not apply where the director is satisfied that the applicant possesses knowledge and competence with respect to each designation sought by the applicant that is equivalent to the applicant having taken the program referred to in subsection (1).
- (3) An applicant referred to in subsection (1) may be issued a certificate only with respect to a designation sought by the applicant if the applicant first successfully completes an examination or a series of examinations conducted or approved by the director that demonstrates that the applicant possesses the necessary knowledge and competence for each designation sought by the applicant.
- (4) If an applicant fails the examination or series of examinations for one designation, he or she is not entitled to take the examination or series of examinations for the same designation until,
  - (a) he or she makes a new application for the designation; and
  - (b) 30 days have passed since the applicant took the examination or series of examinations.

#### **Additional requirements for IMT certificate**

10. (1) In addition to the requirements set out in section 5, an applicant for an IMT certificate shall meet the following requirements:
  1. The applicant shall be employed in an industrial or institutional establishment equipped with hydrocarbon-fuelled appliances or by a manufacturer of hydrocarbon-fuelled appliances.
  2. The applicant shall have been trained by a training provider approved by the director on the systems being installed, maintained or serviced by the applicant.
- (2) The employer of an applicant for an IMT certificate shall maintain records of the training given to the applicant under paragraph 2 of subsection (1) and, upon request, shall give a copy of them to an inspector.
- (3) An applicant for an IMT certificate who has successfully completed a training program approved by the director on the electrical components of the equipment as they relate to the gas and fuel oil systems only may be issued a certificate with the additional designation "E".
- (4) An applicant for an IMT certificate who has successfully completed a training program approved by the director on the mechanical components of the equipment only may be issued a certificate with the additional designation "M".



## IMT Scope of Certification

30. (1) A person who is the holder of an IMT certificate may carry out work on the equipment for which the certificate is valid and perform any of the functions of a G.1 or OBT-1 certificate holder on which they have been trained, except the following work:
1. Install, service, remove or replace components and accessories that form part of a refrigerating or air-conditioning unit.
  2. Install, service, remove or replace tanks.
- (2) A person who is the holder of an IMT-E certificate may perform the functions of an IMT certificate holder with respect to electrical functions of the equipment only.
- (3) A person who is the holder of an IMT-M certificate may perform the functions of an IMT certificate holder with respect to mechanical functions of the equipment only.

### G.1 Scope of Certification (Referenced in the IMT Scope of Certificate)

20. (1) A person who is the holder of a G.1 certificate may install, inspect, alter, purge, activate, repair, service or remove a natural gas or propane appliance of any BTU input and the equipment and accessories essential to its operation.
- (2) A person who is certified to carry out the functions described in subsection (1) may also do the following:
1. Install, inspect, test, alter, purge, activate, repair, service or remove any piping or tubing, or component in a piping or tubing system, to an appliance downstream of the natural gas meter or propane vapour service valve.
  2. Install, inspect, alter, repair, service or remove any vent, vent connector, draft control device or other component in an appliance venting system.
  3. Disconnect and reconnect water piping in order to exchange, service or install an approved appliance and carry out the replacement of water pipe necessary to complete the reconnection or installation of controls, control systems, components and accessories that are essential to the operation of the appliance, but the person shall not perform any additional plumbing unless he or she is also the holder of a valid certificate of qualification as a plumber or steamfitter issued under the *Trades Qualification and Apprenticeship Act*.
  4. Maintain, service or replace a mechanical or electrical component or accessory that forms part of an appliance or that is essential to the operation of the appliance.
  5. Perform such tasks as are necessary to replace controls and components that form part of an appliance.
  6. Install, service, remove or replace components and accessories that form part of the gas-side of a refrigerating or air-conditioning unit, but the person shall not perform any work beyond the gas-side unless he or she is the holder of a certificate of qualification as a refrigeration and air-conditioning mechanic issued under the *Trades Qualification and Apprenticeship Act*.



7. Install, repair, service and maintain electrical wiring from an existing branch circuit containing overcurrent protection to appliances in order to exchange, service, repair or install an approved appliance and carry out the replacement of electrical wiring necessary to complete the reconnection or installation of controls, control systems, components and accessories that are essential to the operation of the appliance, but the person shall not run wiring back to the electrical supply panel or perform any additional wiring unless he or she is also the holder of a valid certificate of qualification as an electrician issued under the *Trades Qualification and Apprenticeship Act*.
8. Install, repair, service, remove or replace the plenum connection or components forming part of the plenum connection in order to complete the installation of a natural gas or propane appliance, but the person shall not perform any sheet metal work beyond the plenum connection unless he or she is the holder of a certificate of qualification as a sheet metal worker issued under the *Trades Qualification and Apprenticeship Act*.
9. Service a flue where an oil appliance is vented through the same flue as a gas appliance.
10. Remove a fuel oil appliance, and the equipment and accessories, but not the aboveground storage tanks associated with the fuel oil appliance during a conversion of the fuel oil appliance from fuel oil to natural gas or propane gas.

Please note that these sections should be read as a part of the total regulation and should not be taken out of context.



## Appendix 2 - IMT Fee Schedule

<p><b><u>Curriculum:</u></b>  The curriculum document provides a detailed breakdown of each module of study and training required for the specific subject. Curriculum is sorted by module.</p>
<p>Industrial Maintenance Technician Curriculum (Modules 1 to 9) \$25 ea.+HST</p>
<p><b><u>IMT Training Requirements Report Templates:</u></b>  Three template forms are available for use by applicants or training providers wishing to conduct IMT assessments leading to the IMT Training Requirements Report. The three templates are the Training Objectives and Scope of Certificate Document, Equipment Assessment Document, Prior Learning Assessment or Training Prerequisite Document. The IMT Training Requirements report submitted to TSSA for review and approval must include these completed documents or their equivalent as well as the suggested training requirements justified by these documents.</p>
<p>IMT Training Requirements Report Templates: Free</p>
<p><b><u>IMT Training Requirements Report conducted by TSSA:</u></b>  This consultation service produces an objective, authoritative and detailed report that will form the basis upon which to design a customized training program. It includes completed Training Objectives and Scope of Certificate Document, Equipment Assessment Document, Prior Learning Assessment or Training Prerequisite Document, as well as the training requirements justified by these documents.</p>
<p>The fee for the assessment report will vary with the complexity of the industry and the number of IMT candidates assessed. A set price will be provided for this service after a free initial visit to the client.</p> <p>For estimating purposes, the fee is usually in the range of \$300+HST per candidate with a minimum fee of \$2500+HST. Subsequent assessment fees at the same industry where an equipment assessment has already been conducted are in the range of \$150+HST per candidate.</p>
<p><b><u>Examinations:</u></b>  Exams for challenges to the IMT training process are drawn solely from an IMT databank maintained and administered by TSSA.  Exams for IMT certification training programs are custom designed by TSSA with input from the training provider.</p>
<p>IMT Challenge Exam: Sitting Fee, Challenge Exam or Re-write at TSSA \$200</p>
<p>IMT Challenge Exam: Sitting Fee, Challenge Exam or Re-write <b><u>off-site</u></b>. \$120/hour+HST</p>
<p>IMT Training Program Exam: Fee for consultation with training provider resulting in the review, approval, and production of exam(s) for a training program \$500+HST</p>
<p><b><u>Application for Certification:</u></b>  The following fee must accompany each application for IMT certification.</p>
<p>Certification Fee: \$100</p>
<p><b><u>Practical Skills Assessment:</u></b>  A requirement for those who are exempted from training by TSSA based on the “IMT Training Requirements Report”. The practical skills assessment is conducted with the TSSA Training Consultant or Fuel Safety Inspector after the relevant examination(s) has been successfully passed.</p>
<p>Practical Skills Assessment \$120/hour+HST (minimum 3 hours)</p>



## Appendix 3

### IMT Training Objectives and Proposed Scope of Certificate Form

Industry: \_\_\_\_\_

Location: \_\_\_\_\_

Industry Representative(s) Name and title:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Assessor: \_\_\_\_\_

Date: \_\_\_\_\_

Candidates' Names

PLA Submitted or Documented Prerequisites Met

_____	<input type="checkbox"/>	<input type="checkbox"/>
_____	<input type="checkbox"/>	<input type="checkbox"/>
_____	<input type="checkbox"/>	<input type="checkbox"/>
_____	<input type="checkbox"/>	<input type="checkbox"/>
_____	<input type="checkbox"/>	<input type="checkbox"/>
_____	<input type="checkbox"/>	<input type="checkbox"/>
_____	<input type="checkbox"/>	<input type="checkbox"/>
_____	<input type="checkbox"/>	<input type="checkbox"/>
_____	<input type="checkbox"/>	<input type="checkbox"/>
_____	<input type="checkbox"/>	<input type="checkbox"/>
_____	<input type="checkbox"/>	<input type="checkbox"/>
_____	<input type="checkbox"/>	<input type="checkbox"/>
_____	<input type="checkbox"/>	<input type="checkbox"/>
_____	<input type="checkbox"/>	<input type="checkbox"/>
_____	<input type="checkbox"/>	<input type="checkbox"/>



**The scope of certificate is to include and be limited to the following item(s):**

The following sites (or manufactured appliance models): \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Complete installation of piping systems.

Service, repair, and replacement of existing piping systems but not new installations.

The service, maintenance, repair, and replacement of all appliances located on site or manufactured by the candidate's employer that are fired on natural gas and/or propane and/or fuel oil and/or \_\_\_\_\_ (identify other fuels).

Note: stroke out any fuels that do not apply.

The service, maintenance, repair, and replacement of only the following listed appliances located on site or manufactured by the candidate's employer that are fired on natural gas and/or propane and/or fuel oil and/or \_\_\_\_\_ (identify other fuels).

Note: Stroke out any fuels that do not apply.

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Only the following specific task(s):

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_



### Sample Scope of Certificate for Customized IMT Certification

Establishment or Appliance Manufacturer where the certificate applies: \_\_\_\_\_.

Date of Training Program or Challenge Completion: \_\_\_\_\_

TSSA Training Consultant: \_\_\_\_\_

The scope of certificate for an IMT certificate holder as given in the *Fuels Authorization Regulation* made pursuant to the *Technical Standards and Safety Act* (copied on the reverse of this page) outlines the work allowed by a full IMT certificate holder. The training program completed by the subject certificate holder, as outlined below, further defines this general scope of certificate.

The customized certificate allows the holder to service, repair and maintain the following natural gas/ propane/ fuel oil/ other fuel-fired appliances at (or manufactured by) \_\_\_\_\_:

- 
- 
- 
- 
- 
- 

The certificate does not authorize the holder to conduct the following activities or to work on the following appliances since these were excluded from the customization assessment and/or training:

- 
- 
- 

It is the responsibility of the undersigned certificate holder and \_\_\_\_\_ to maintain records of training and to ensure that the work conducted is within the scope of certificate.

Signature of \_\_\_\_\_: \_\_\_\_\_

Signature of Company Representative: \_\_\_\_\_

Printed name and position of representative: \_\_\_\_\_



Excerpt from the *Fuel Industry Certificates Regulation 215/01* made pursuant to the *Technical Standards and Safety Act*

30. (1) A person who is the holder of an IMT certificate may carry out work on the equipment for which the certificate is valid and perform any of the functions of a G.1 or OBT-1 certificate holder on which they have been trained, except the following work:
1. Install, service, remove or replace components and accessories that form part of a refrigerating or air-conditioning unit.
  2. Install, service, remove or replace tanks.

**G.1 Scope of Certification** (Referenced in the IMT Scope of Certificate)

20. (1) A person who is the holder of a G.1 certificate may install, inspect, alter, purge, activate, repair, service or remove a natural gas or propane appliance of any BTU input and the equipment and accessories essential to its operation.
- (2) A person who is certified to carry out the functions described in subsection (1) may also do the following:
1. Install, inspect, test, alter, purge, activate, repair, service or remove any piping or tubing, or component in a piping or tubing system, to an appliance downstream of the natural gas meter or propane vapour service valve.
  2. Install, inspect, alter, repair, service or remove any vent, vent connector, draft control device or other component in an appliance venting system.
3. Disconnect and reconnect water piping in order to exchange, service or install an approved appliance and carry out the replacement of water pipe necessary to complete the reconnection or installation of controls, control systems, components and accessories that are essential to the operation of the appliance, but the person shall not perform any additional plumbing unless he or she is also the holder of a valid certificate of qualification as a plumber or steamfitter issued under the *Trades Qualification and Apprenticeship Act*.
4. Maintain, service or replace a mechanical or electrical component or accessory that forms part of an appliance or that is essential to the operation of the appliance.
5. Perform such tasks as are necessary to replace controls and components that form part of an appliance.
6. Install, service, remove or replace components and accessories that form part of the gas-side of a refrigerating or air-conditioning unit, but the person shall not perform any work beyond the gas-side unless he or she is the holder of a certificate of qualification as a refrigeration and air-conditioning mechanic issued under the *Trades Qualification and Apprenticeship Act*.
7. Install, repair, service and maintain electrical wiring from an existing branch circuit containing overcurrent protection to appliances in order to exchange, service, repair or install an approved appliance and carry out the replacement of electrical wiring necessary to complete the reconnection or installation of controls, control systems, components and accessories that are essential to the operation of the appliance, but the person shall not run wiring back to the electrical supply panel or perform any additional wiring unless he or she is also the holder of a valid certificate of qualification as an electrician issued under the *Trades Qualification and Apprenticeship Act*.
8. Install, repair, service, remove or replace the plenum connection or components forming part of the plenum connection in order to complete the installation of a natural gas or propane appliance, but the person shall not perform any sheet metal work beyond the plenum connection unless he or she is the holder of a certificate of qualification as a sheet metal worker issued under the *Trades Qualification and Apprenticeship Act*.
9. Service a flue where an oil appliance is vented through the same flue as a gas appliance.
10. Remove a fuel oil appliance, and the equipment and accessories, but not the aboveground storage tanks associated with the fuel oil appliance during a conversion of the fuel oil appliance from fuel oil to natural gas or propane gas.



## Appendix 4

### IMT Equipment Assessment Form Template

**Industry:** \_\_\_\_\_

**Location:** \_\_\_\_\_

**Assessor:** \_\_\_\_\_

**Date:** \_\_\_\_\_

Overview of equipment that will be addressed in the training program and scope of certificate for ALL candidates or only the following candidates: \_\_\_\_\_

#### 1. Fuel Types

- Natural Gas       Propane       Fuel Oil       Landfill Gas  
 Digester       Coke Oven Gas       Blast Oven Gas  
 Other: \_\_\_\_\_

Comments: \_\_\_\_\_  
\_\_\_\_\_

#### 2. Boilers

- Steam       Water  
 Packaged       Site-Built  
 Fire-tube       Water-tube       Sectional       Fin-tube  
 < 400 MBtuh       400 to 1,000 MBtuh       > 1MMBtuh  
Flame Sensor:  UV       Flame Rod       T/C       Photo cell       None

Flame Safeguard Control (FSG): \_\_\_\_\_

Number, Makes / Models, and Comments: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_



**3. Domestic Water Heating Appliances**

Underfire Storage Water Heaters     Instantaneous Water Heaters  
 < 400 MBtuh                       > 400 MBtuh  
Flame Sensor:    UV     Flame Rod               T/C     Photo cell     None  
Flame Safeguard Control (FSG): \_\_\_\_\_  
Number, Makes / Models, and Comments: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**4. Piping and Pressure System:**

Maximum Building Supply Pressure: \_\_\_\_\_  
Approximate size of piping system (Total length and range of diameters):  
 < 500 feet (160 m)     < 5000 feet (1600 m)               > 5000 feet (1600 m)  
 2” (5 cm) OD and less     > 2” OD (5 cm)               > 8” OD (20 cm)  
Piping /Tubing Types (check all applicable):  
 Copper     Threaded Steel     Welded Steel               Plastic  
 Flex connectors     Hose               Other: \_\_\_\_\_  
Locations:  
    Underground Steel Piping:    Approx. length: \_\_\_\_\_  
    Underground Plastic Piping:              Approx. length: \_\_\_\_\_  
    Aboveground Piping Only:              Approx. length: \_\_\_\_\_  
Approximate number of system regulators:  < 5     6 – 20               > 20  
Makes/Models: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
Meters other than utility meter:  
 bellows               rotary               orifice               turbine  
Comments concerning piping system: \_\_\_\_\_  
\_\_\_\_\_



**5. Process Appliances (Add as many pages as necessary)**

Name/Type: \_\_\_\_\_

Number of this type: \_\_\_\_\_

< 400 MBtuh       > 400 Mbtuh      Fuel(s): \_\_\_\_\_

Appliance & Pilot Regulators Make/Model.: \_\_\_\_\_

Inlet Pressure: \_\_\_\_\_ Manifold Pressure: \_\_\_\_\_

Safety Shut-off Valve(s) –SSOV:

Make(s): Main: \_\_\_\_\_ Pilot: \_\_\_\_\_

Model(s): Main: \_\_\_\_\_ Pilot: \_\_\_\_\_

Configuration / Comments: \_\_\_\_\_

\_\_\_\_\_

Input Control System:

Manual       On-Off SSOV only       Orifice Valve(s)

Zero Governor Make/Model: \_\_\_\_\_

Air/Gas Ratio Regulator Make/Model: \_\_\_\_\_

Modulating Valve Make/Model: \_\_\_\_\_

Safety Control Types:

High Temperature, make/model: \_\_\_\_\_

High Pressure, make/model: \_\_\_\_\_

Hi/Low Gas Pressure, make/model: \_\_\_\_\_

Combustion Air Proving, make/model: \_\_\_\_\_

Vent Proving, make/model: \_\_\_\_\_

Burner(s) Number: \_\_\_\_\_ Individually Controlled?  Yes  No

Make/Model: \_\_\_\_\_

Type:  Atmospheric     Raw Gas     Nozzle Mix     Premix

Flame Sensor:  UV     Flame Rod     T/C     Photo cell     None

Flame Safeguard Control (FSG) Make/Model: \_\_\_\_\_

Operating Control Type: \_\_\_\_\_

Venting System: \_\_\_\_\_

Unusual Features or Comments: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_



**6. Space Heating Appliances**

Unit Heaters

Forced Air Furnaces

< 400 MBtuh

> 400 MBtuh

Number, Makes / Models, Input, and Comments: \_\_\_\_\_

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Infrared Tube Heaters

High-intensity Infrared Heaters

< 400 MBtuh

> 400 MBtuh

Number, Makes / Models, Input, and Comments: \_\_\_\_\_

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Indirect-Fired Makeup Air Heaters

Direct Fired Makeup Air Heaters

< 400 MBtuh

> 400 MBtuh

Number, Makes / Models, Input, and Comments: \_\_\_\_\_

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Roof-top Heating/Cooling Units

Construction Heaters

< 400 MBtuh

> 400 MBtuh

Number, Makes / Models, Input, and Comments: \_\_\_\_\_

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General comments concerning space-heating equipment: \_\_\_\_\_

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**7. Other appliances that do not fall within the above categories:**

Name/Function: \_\_\_\_\_

Description: \_\_\_\_\_

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Name/Function: \_\_\_\_\_

Description: \_\_\_\_\_

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Name/Function: \_\_\_\_\_

Description: \_\_\_\_\_

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## Appendix 5

### **Prior Learning Assessment or Training Prerequisites Form Template**

The purpose of this document is to identify the prior skills and knowledge of each IMT candidate requesting an exemption from all or parts of the standardized IMT training requirements applicable to the customized scope of certificate for a specific establishment or appliance manufacturer. The identified skills and knowledge level(s) must justify any requested reduction in the standardized training requirements.

Two methods can be employed for identifying the prior skills and knowledge of IMT candidates.

The employer may state the prerequisite certificates of qualifications and/or work experience that the candidates will meet before attending the customized training program or challenging the training requirements. The prerequisites may include:

- Standardized and recognized certificates of qualifications (e.g. Gas Technician, Electrician, Millwright, Operating Engineer etc.)
- Non-standardized trade qualifications if a curriculum outline is available upon request (e.g. In-plant electrical certification, Instrumentation Technologist, Combustion Technician)
- Training programs successfully completed (e.g. Manufacturer training)
- Amount and type of work experience related to the scope of certificate (e.g. candidates will have 5 years experience in the maintenance department)

Copies of the above certificates and training must be available upon request by TSSA. The employer must provide a letter identifying the prerequisite(s) and stating that only candidates who meet the prerequisite(s) will attend the customized training program or challenge the training requirements.

The second method of identifying the prior skills and knowledge of IMT candidates is to conduct a prior learning assessment (PLA) of each candidate using either the forms provided by TSSA or equivalent methods acceptable to TSSA. The PLA documents supplied by TSSA require the applicant to identify their individual qualifications, skills, and knowledge as well as conduct a self-assessment related to the training objectives. A multiple-choice quiz provides a check and balance to the self-assessment.

The original forms and a summary of the PLA results must be available upon request by TSSA. Electronic versions of TSSA's Candidate Questionnaire, Candidate Self-Assessment based on Training Objectives, and the IMT Assessment Quiz are available upon request.



## Appendix 6

### IMT Training Requirements Form Template

This document identifies the minimum hours of training and outlines the focussed training topics per module. These requirements must be justified by the Training Objectives and Customized Scope of Certificate, the Equipment Assessment, and the PLA or Training Prerequisites.

**COMPANY:** \_\_\_\_\_ **Assessment Date:** \_\_\_\_\_

**IMT Candidates (list):**

#### **Training Requirements and Hours for Customized IMT Certification**

- |  |                                    |
|--|------------------------------------|
| Module 1: Fuel Properties & Combustion   | Module 6: Electricity              |
| Module 2: Acts, Regulations and Codes    | Module 7: Controls                 |
| Module 3: Piping and Pressure Regulation | Module 8: Flame Safeguard Systems  |
| Module 4: Industrial Appliances          | Module 9: Burners and Valve Trains |
| Module 5: Venting and Air Supply         | Module 10: Oil-fired Appliances    |

IMT Candidates	Group	Module Number											
		1	2	3	4	5	6	7	8	9	10	Total	



