



*The Education and Training Inspectorate -  
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**Department of Education  
Department for Employment and Learning  
Department of Culture, Arts and Leisure**



INVESTOR IN PEOPLE

## **Education and Training Inspectorate**

### **Report of an Inspection**

#### **Plumbing and Mechanical Services Training Limited**

**Inspected: May 2009**

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In this report, proportions may be described as percentages, common fractions and in more general quantitative terms. Where more general terms are used, they should be interpreted as follows:

Almost/nearly all	-	more than 90%
Most	-	75% - 90%
A majority	-	50% - 74%
A significant minority	-	30% - 49%
A minority	-	10% - 29%
Very few/a small number	-	less than 10%

All the statistics in this report have been supplied and verified by Plumbing and Mechanical Services Training.

### Grading System

During the 2007/2008 academic year the Education and Training Inspectorate (the Inspectorate) piloted a new 6-point grading scale to replace the original 4-point scale. Since September 2008 the grade descriptors have been amended and are as set out below.

<b>GRADE</b>	<b>DESCRIPTOR</b>
1	Outstanding and the quality of pastoral care is also outstanding
2	Very good; major strengths.
3	Good; important strengths in most of provision. The organisation has the capacity to address the areas for improvement identified.
4	Satisfactory but with areas for improvement in important areas which need to be addressed.
5	Inadequate with significant areas for improvement which require prompt action.
6	Unsatisfactory with major shortcomings which require urgent action.

## **SUMMARY**

### **1. CONTEXT**

1.1 Plumbing and Mechanical Services Training Limited (PMST) was established in April 2007 to provide training for Plumbing and Mechanical Services apprentices in Northern Ireland. Plumbing and Mechanical Services Training Limited is a joint venture between the Scottish and Northern Ireland Plumbing Employers Federation, the Heating and Ventilating Contractors' Association, and Building Engineering Services Training.

1.2 Since September 2007, PMST has been contracted by the Department for Employment and Learning (the Department), to supply training under the ApprenticeshipsNI programme, at levels 2 and 3 in plumbing, heating and ventilating, and refrigeration and air conditioning.

1.3 In September 2008 PMST was awarded a further contract to deliver domestic natural gas installation and maintenance training, at level 3, across all regions of Northern Ireland.

### **2. PROVISION**

2.1 At the time of the inspection, PMST was providing training for 99 apprentices. Of these, 36 were following apprenticeships in plumbing at level 2, 31 at level 3 and 25 were following domestic natural gas installation and maintenance at level 3. In addition, four apprentices were being trained on refrigeration and air conditioning apprenticeship programmes at level 2, and three on heating and ventilating programmes; two at level 2 and one at level 3. Only one of the apprentices was female.

2.2 Forty [56%] of the apprentices had achieved at least five General Certificate of Secondary Education (GCSE) passes at grades A\*-C on entry to their programme. Sixty two apprentices [86%] have achieved at least a grade C in English; 55 [76%] have achieved a least a grade C in mathematics.

2.3 Plumbing and Mechanical Services Training Limited sub-contracts all of the directed training, for its ApprenticeshipsNI programmes, to the six area based colleges. The apprentices attend directed training either one day or two days per week at their local college. During directed training, they are provided with a range of practical training activities using the facilities provided within the colleges. A minority also attend discrete training sessions to develop their essential skills.

### **3. THE INSPECTION**

3.1 The inspection took place over two phases, and focused on the quality of training and standards achieved by the apprentices on the ApprenticeshipsNI programme. The first phase of the inspection took place in March 2008, when PMST had been operating in Northern Ireland for seven months; the second phase took place in March 2009. This report is based on an inspection of the practical and written work of the apprentices, and of the directed and work-based training provided for them. The inspection focused on the apprenticeship programmes within the vocational area of plumbing, and domestic natural gas installation and maintenance.

3.2 During the inspection, a team of two inspectors and one associate assessor observed 42 apprentices in 13 directed training sessions across the six area based colleges. Nine apprentices were visited in the workplace and an additional inspector visited four employers' premises. Discussions were held with PMST's general manager, administration manager and training advisers. During visits to the six area based colleges, to observe directed training sessions, the inspection team met with deputy directors, heads of department, programme managers and lecturers. Samples of apprentices' work, vocational skills portfolios, internal verification documents and external verifier reports were examined.

3.3 Prior to the inspection the majority of the apprentices completed a questionnaire, which provided them with the opportunity to comment on the arrangements for pastoral care, and on the quality of their training experiences. The senior manager also completed a questionnaire relating to the provision for pastoral care and child protection.

#### **4. MAIN FINDINGS**

4.1 In the areas inspected, the quality of training provided by Plumbing and Mechanical Services Training Limited is good. The organisation has important strengths in most of its educational and pastoral provision. The inspection has identified areas for improvement which the organisation has demonstrated the capacity to address. The Inspectorate will monitor the organisation's progress on the areas for improvement.

##### **The main strengths are the:**

- good strategic links with industry;
- good pastoral support provided for apprentices, by PMST and the colleges;
- effective systems in place to monitor the apprentices' attendance;
- good standards of work demonstrated by almost all of the apprentices in the workplace, and in directed training; and
- good quality of training and learning across most of the provision.

##### **The main areas for improvement are the:**

- limited involvement of employers in planning the apprentices' training, and setting and monitoring their short-term training targets;
- insufficient communication with apprentices, directed training providers and employers in relation to the transition arrangements for apprentices transferring, from other organisations, to PMST for level 3 training; and
- underdeveloped support arrangements to provide apprentices with good quality careers education, information, advice and guidance.

## 4.2 GRADES

Overall Grade	3
Leadership and Management	3
Achievements and Standards	2
Quality of Provision for Learning	3
<u>Contributory Grades</u>	
Apprentice Support	2
Careers Education Information Advice and Guidance	4

Apprenticeship NI Programme	Number Registered	Grade
Plumbing	67	3
Domestic Natural Gas Installation and Maintenance	25	2

## OVERALL QUALITY OF PROVISION

### 5. LEADERSHIP AND MANAGEMENT

5.1 The ApprenticeshipsNI programmes in PMST are well managed. The general manager has developed clear roles and responsibilities for the training advisers and administration staff, who work well as a team, to ensure the effective management of the programmes. The general manager has worked hard to promote PMST's plumbing and mechanical services programmes across the whole of Northern Ireland

5.2 Plumbing and Mechanical Services Training Limited has developed satisfactory to good working relationships with the six area based colleges. Table 1 illustrates the directed training provided by the six area based colleges, to support PMST apprentices in the following programmes; plumbing; domestic natural gas installation and maintenance; refrigeration and air conditioning, and heating and ventilating.

Table 1

College	Programme			
	Plumbing	Domestic natural gas installation and maintenance	Refrigeration and air conditioning	Heating and ventilating
Belfast Metropolitan College	Level 2 & Level 3	Level 2	---	Level 2 & Level 3
Northern Regional College	Level 2 & Level 3	---	---	---
North West Regional College	---	Level 2	---	---
South Eastern Regional College	Level 2	---	Level 2	---
Southern Regional College	Level 2	---	---	---
South West College	Level 3	---	---	---

5.3 Plumbing and Mechanical Services Training Limited has good relationships with almost all of the apprentices' employers. The employers report that they are updated regularly on the apprentices' attendance in directed training, and that PMST and the college staff, provide the apprentices with good pastoral care, support and guidance. Employers also report that, PMST's training advisers, during workplace visits, provide very good targeted training support to those apprentices' who are not progressing well in their training. In contrast, most employers report that they are not involved in negotiating, with the training advisers, the apprentices' training plans or setting the apprentices' short-term training targets.

5.4 Plumbing and Mechanical Services Training Limited has made limited progress in developing an on-line tracking and monitoring system, to provide the management with:

- an overview of each apprentices' progress across the full framework, including the NVQ, technical certificate and essential skills; and
- information on the key performance indicators, alerts and trends, to support the effective management of all training programmes, including retention, success, progression and redundancies.

5.5 The training advisers are enthusiastic and are committed to helping the apprentices' progress in their programmes. They hold relevant qualifications and have the necessary expertise to meet the appropriate curricular needs, and management responsibilities.

5.6 Plumbing and Mechanical Services Training Limited has worked well with Energy and Utility Skills, Belfast Metropolitan College and the North West Regional College, to develop a well designed programme to meet the needs of the domestic gas industry in the Greater Belfast and Northwest regions. The two colleges, which provide the domestic natural gas installation and maintenance apprenticeship programme, have invested significant resources to provide good practical training areas for gas apprentices and update their lecturers' gas qualifications. Both colleges, through their good links with industry, have received significant sponsorship from gas appliance suppliers, who in some cases have supplied free equipment. In one college a large manufacturer has provided equipment to train installation engineers in boiler and solar appreciation courses. The same equipment is used well, during practical exercises, to train apprentices on up-to-date practices and procedures.

5.7 Across almost all the colleges, apprentices and employers report that they do not receive sufficient information, from PMST, to inform them about transition arrangements for apprentices transferring from other organisations to PMST for level 3 training. As a result, the apprentices are not fully aware of the transfer procedures, or when they will take place.

5.8 In a majority of colleges the apprentices have limited access to information learning technology resources across most of the provision and as a result do not have sufficient opportunities to progress in the development of their information and communication technology skills.

5.9 Plumbing and Mechanical Services Training Limited has in place appropriate policies and procedures in relation to the protection of Young People and Vulnerable Adults, including a handbook for apprentices and their parents, which describes clearly the child protection procedures staff must follow in the event of a disclosure.

5.10 The quality improvement process within PMST is effective. Plumbing and Mechanical Services Training Limited made good progress in addressing the areas for improvement identified, in March 2008, during the first phase of the inspection.

## **6. ACHIEVEMENTS AND STANDARDS**

6.1 The standards achieved in plumbing and mechanical services, and gas training are very good. Overall, the apprentices meet the needs of industry and their employers, and are well motivated and enthusiastic about their training. Almost all are in good work placements, where they achieve good or better occupational standards. In contrast, during directed training lessons, most of the apprentices have few opportunities to develop their information and communication technology skills including on-line research, the use of specialist software, and the contextualised use of word processing or spreadsheet software.

6.2 Plumbing and Mechanical Services Training encourages apprentices to achieve high standards through the promotion of competitions and by recognising achievement. In 2007, a PMST plumbing apprentice won the Department for Employment and Learning's best first year apprentice award, and another won a City and Guilds Excellence Award.



6.3 Almost all of the apprentices achieve good standards of practical work in both directed training and at work. During directed training apprentices take part in work-related practical exercises, which are designed well to replicate typical industrial tasks. Most of the apprentices demonstrate a good or better standard of oral communication, which enables them to build good relationships with their workplace supervisors and develop good problem-solving skills.

6.4 In one college, during directed training, the gas apprentices take part in very well-planned practical sessions, where they self-select practical gas installation exercises, and work in pairs to complete them to industrial standards. The apprentices plan their work carefully, and develop their self confidence and capacity to work collaboratively to solve technical problems.

6.5 Most of the apprentices have previously achieved Grade C English and mathematics, and are exempt from essential skills training in literacy and numeracy. The remaining apprentices, who registered on plumbing and mechanical services programmes in 2007, have successfully completed their essential skills level 2 qualifications in literacy and numeracy.

6.6 Most of the employers report that there is a need to set minimum entry criteria for apprentices entering plumbing and mechanical services, and domestic gas installation programmes. In addition, the employers report that the building services industries are developing very quickly more complex heating, ventilating and air conditioning systems, including renewable energies. As a result, there is a need for a significant number of apprentices to progress, via bridging programmes, into Higher National building services courses or Foundation Degrees, to learn the skills of design, estimating and costing, and installation of modern systems.

6.7 At the time of the inspection, the technical certificate tests, for gas installation had not arrived with the colleges' examination centres. The lateness of the tests' arrival has hindered the progress of the apprentices through their technical certificate, and prevented the lecturers in assessing the apprentices' progress in their qualification.

6.8 Since the commencement of the programme in September 2007, PMST recruited approximately 84 apprentices to plumbing and mechanical services programmes; the retention rate is excellent at 90%. In the same period PMST recruited 25 apprentices to the domestic gas installation and maintenance programme, the retention rate is excellent at 100%.

## **7. QUALITY OF PROVISION FOR LEARNING**

7.1 The overall quality of the training and learning in PMST's apprenticeship programmes is good. The quality of the directed training, provided by the colleges, across the plumbing and gas installation programmes varies from satisfactory to outstanding, and is in the main good.

7.2 In almost all of the lessons observed, the tutors plan well for learning and provide a good range of learning experiences, which meet the needs of the individual apprentices. In contrast, in a minority of lessons, there are few opportunities for the apprentices to be involved in well managed question and answer sessions, or to use information learning technology in an interesting and challenging way.

7.3 The gas apprentices report that there is a very good match between the directed training and the training provided for them in the workplace. At work, they recognise types of equipment and installation practices, which they have previously encountered in the college, and as a result they approach their tasks competently and confidently.

7.4 In directed training, the lecturers track and record well the apprentices progress towards their learning goals and qualifications. Almost all of the apprentices receive regular feedback, and are well informed about their progress and how they might improve. The majority of apprentices report that they progress well in their learning as they complete successfully the technical certificate tests; success in the tests motivates them and builds their confidence. In contrast, due to the late arrival of the tests for the domestic gas installation and maintenance programme, the gas apprentices had not been able to verify their learning against the national standards.

7.5 Almost all the gas apprentices use regularly, a well developed virtual learning environment to learn independently. They use the virtual learning environment to revise for tests; review topics, which they may have missed through illness; and return to the parts of the course that they did not understand previously. The majority of plumbing apprentices are provided with good access to virtual learning environments. In contrast, a minority of plumbing apprentices are unable to access independently course notes, learning materials and practice tests.

7.6 The quality of the induction provided by PMST for apprentices is satisfactory and covers mostly administrative requirements and health and safety issues. The personal training plans, for a small number of apprentices who are identified during initial assessment as having additional learning needs, do not reflect fully the findings of the initial assessment. As a result there is insufficient planning to support these apprentices in their learning.

7.7 The quality of the personal training plans is satisfactory; they do not, however, include measurable evaluations of each apprentice's progress at work, against short-term training targets. Most employers are not fully consulted on the design and development of the plans. The apprentices are visited in their workplace regularly by the training advisers, who review their progress and complete workplace assessments. The assessment procedures are appropriately paced and rigorous; the apprentices are well prepared for assessment.

7.8 Almost all of the apprentices report that they are well cared for, guided and supported by PMST, and receive good support from their training advisers in the workplace.

7.9 Most of the apprentices receive insufficient careers education, information, advice and guidance, and they do not understand the overall structure of the building services and renewable energy industries or the career pathways within them. As a result, they are not aware of the modern career pathways available to them within their chosen industry.

7.10 One company, in addition to the apprenticeship framework, offers their apprentices a range of additional qualifications including opportunities to achieve a driving licence in the first year of their apprenticeship, to complete CORGI registration in the second year and to undergo a trainee gas service engineer programme in the third year.

7.11 The arrangements for monitoring the apprentices' attendance at directed training is very good, and the employers are regularly updated on their apprentices' attendance. In contrast, the majority of employers report that they receive limited information on their apprentices' progress.

## **8. AREA OF LEARNING REPORTS**

### **8.1 AREA OF LEARNING: PLUMBING**

#### **Programmes inspected: ApprenticeshipsNI Level 2 and 3**

In the area inspected, the quality of training provided by PMST is good. The organisation has important strengths in most of its educational and pastoral provision. The inspection has identified areas for improvement which the organisation has demonstrated the capacity to address. The Inspectorate will monitor the organisation's progress on the areas for improvement.

#### **The main strengths are the:**

- good pastoral support provided for apprentices, by PMST and the college staff;
- good strategic links with industry;
- effective systems in place to monitor the apprentices' attendance;
- good standards of work demonstrated by almost all of the apprentices in the workplace and in directed training; and
- good quality of training and learning across most of the provision.

#### **The main areas for improvement are the:**

- limited involvement of employers in setting and monitoring progress on short-term training targets;
- insufficient communication with apprentices, directed training providers, and employers in relation to transition arrangements for apprentices transferring from other organisations to PMST for Level 3 training; and
- limited opportunities for apprentices to develop their information, communications and technology skills.

### **8.2 AREA OF LEARNING: DOMESTIC NATURAL GAS INSTALLATION AND MAINTENANCE APPRENTICESHIP LEVEL 2**

In the area inspected, the quality of training provided by PMST is very good. The organisation is meeting very effectively the educational and pastoral needs of the apprentices and has demonstrated its capacity for sustained self-improvement.

**The main strengths are the:**

- very well designed programme to meet the needs of the local gas industry;
- good pastoral support provided for the apprentices, by PMST and the college staff;
- good standards of work achieved by the apprentices in work;
- very well planned practical sessions;
- effective systems in place to monitor and review the apprentices attendance; and
- well developed virtual learning environment, which develops the apprentices independent learning skills.

**The main areas for improvement are the:**

- limited involvement of employers in the development of training plans; and
- underdeveloped procedures for monitoring and tracking the apprentices' progress across the full framework.

**9. CONCLUSION**

In the areas inspected, the quality of training provided by Plumbing and Mechanical Services Training Limited is good. The organisation has important strengths in most of its educational and pastoral provision. The inspection has identified areas for improvement which the organisation has demonstrated the capacity to address. The Inspectorate will monitor the organisation's progress on the areas for improvement.

**10. KEY PRIORITIES FOR DEVELOPMENT**

Plumbing Mechanical Services Training needs to revise the annual development plan to take account of the following key priorities:

The involvement of employers in planning their apprentices' training, and in setting and monitoring their short-term training targets.

Improved communication with apprentices, employers and directed training providers, to improve transition arrangements for apprentices transferring to level 3.

The development of effective support arrangements, to provide ongoing good quality careers education, information, advice and guidance, to apprentices.

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