

**UA Sprinkler Fitters Local 853 & CASA**  
**Re: Sprinkler Fitter and Fire Protection Installer Ratio Review**  
**Submission**

**Background**

United Association (UA) Sprinkler Fitters Local 853 was chartered in 1976 and currently represents 1350 active members in across the province. The Canadian Automatic Sprinkler Association (CASA) is an organization that includes fire and building officials, industry representatives and architects from across the county. Under charter since 1961, CASA promotes, defends, enhances and improves the business of installing and manufacturing fire sprinkler devices and systems.

In Ontario, UA Local 853 is the only Training Delivery Agent (TDA) for sprinkler fitters designated by the Ministry of Training, Colleges and Universities (MTCU). This TDA currently tracks sprinkler fitter apprentices registered with the government and offers them the opportunity to attend their trade school. Recent upgrades funded by MTCU and the National Joint Training and Apprenticeship Committee (JTAC) over the past two years have invested over \$225,000 into equipment and the shop.

Local 853 accepts all who are willing to take the course at the Markham training facility for the fire protection industry: every class offered has seats that are held open for non-union tradespeople interested in improving their skills and being properly trained as a sprinkler fitter. The capacity is there to accommodate more apprentices and expand if demand continues to grow.

Both Local 853 and CASA are heavily involved in the fire protection industry. With representation on the Interprovincial Program Guide committee for sprinkler red seal trade national curriculum review, we have an awareness of trade-specific issues across Canada. We

regularly appear at trade shows and are actively involved in community outreach through a variety of activities including the Hammer Heads program.

Sprinkler fitters and fire protection installers perform work in virtually all types of buildings and structures – residential, commercial, industrial and institutional. According to the National Fire Protection Association, a combination of sprinklers and smoke alarms can reduce the risk of death in a home fire by 80%. Automatic sprinklers also help to dramatically reduce risks to fire services personnel when combating a blaze.<sup>1</sup>

The province of Ontario has lagged behind other regions in integrating sprinkler systems into building practice and the Provincial Building Code. Over 220 jurisdictions in North America have requirements for sprinklers in residential buildings.<sup>2</sup> Sprinkler systems are required in high-rise buildings across Canada; it was only in 2010 that changes to the Ontario Building Code mandated all new condominiums and apartments taller than three storeys to be outfitted with sprinkler systems. Just recently in January 2013 the provincial government indicated that it would move ahead with options for increasing fire protection in seniors' residents and care facilities, with one of the proposals being mandatory sprinkler systems.

Given these changes, it can be anticipated that trained and qualified sprinkler & fire protection installers will be increasingly in demand in Ontario. The current ratio can accommodate this growth without compromising the quality of training. Anticipated regulatory changes and overall increased demand led to a ratio change in 2007 from 2:1 to 1:1. As a result of this change, the sprinkler fitting industry has the flexibility to meet current and future labour market demands.

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<sup>1</sup> Ontario Association of Fire Chiefs. "Position Paper, Residential Fire Sprinklers". December 2007. Page 1. <http://www.oafc.on.ca/sites/default/files/uploads/documents/DiscussionPapers/07-1211%20Position%20Paper%20Residential%20Fire%20Sprinklers.pdf>

<sup>2</sup> Same as above.

Sprinkler and fire protection systems are only of use if they function properly. It is vitally important to the safety of Ontario buildings, the people who reside and work in them and the equipment and goods they contain that sprinkler systems are installed correctly. Incidents of equipment failure in this industry have demonstrated a clear link between training, supervision and quality of work. The ratio is at the very base of this linkage.

According to the National Fire Protection Association (US),

When sprinklers fail to operate, the reason most often given (53% of failures) was shutoff of the system before fire began, as may occur in the course of routine inspection maintenance. Other leading reasons were inappropriate system for the type of fire (20%), lack of maintenance (15%), and manual intervention that defeated the system (9%). *Only 2% of sprinkler failures were attributed to component damage.* (emphasis added)

When sprinklers operate but are ineffective, the reason usually had to do with an insufficiency of water applied to the fire, either because water did not reach the fire (43% of cases of ineffective performance) or because not enough water was released (31%). Other leading reasons were inappropriate system for the type of fire (12%), manual intervention that defeated the system (5%), and lack of maintenance (4%). *Only 4% of cases of sprinkler ineffectiveness were attributed to component damage.*<sup>3</sup> (emphasis added)

The current journeyman to apprentice ratio of 1:1 ensures that proper installation is a priority at all times on the worksite and balances the needs of all parties involved in this industry. It is the most effective way for industry to prevent the scenarios described above through training and supervision. This submission will demonstrate to the Review Panel that the current ratio should be maintained at 1:1.

**i. The scope of practice of the trade.**

Sprinkler system Installers, or “sprinkler fitters” as they are commonly known, have detailed knowledge of fire codes and methods for installation of sprinkler piping systems, and a responsibility for public safety in residential, commercial and industrial applications. They install wet, dry, pre-action, deluge, and chemical fire protection and extinguishing systems, just to name a few.

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<sup>3</sup> John R. Hall. “U.S. Experience with Sprinklers and other Automatic Fire Extinguishing Equipment”. National Fire Protection Association Fire Analysis and Research Division, February 2010.

On the job, sprinkler fitters may perform some or all of the following duties:

- Read and interpret drawings, specifications and fire codes to determine layout requirements;
- Install clamps, brackets and hangers to support piping systems and sprinkler and fire protection equipment, using hand and power tools;
- Select, measure, cut, ream and thread pipe, install sprinkler heads and mount prepared pipe in supports;
- Join pipes and piping sections using soldering and welding equipment;
- Connect piping system to water mains, supply tanks, pumps, compressors and control equipment;
- Installs valves, alarms and associated equipment;
- Test system for leaks using air or liquid pressure equipment;
- Service and repair sprinkler system;
- May prepare cost estimates for clients; and
- Maintain high and low pressure piping, equipment and devices to supply fire protection systems with water, foam, carbon dioxide and other materials in hospitals, commercial buildings, manufacturing plants, homes and apartment buildings.

On the surface, the work performed by sprinkler fitters may look like simple pipe fitting, and many of the components used are similar to regular plumbing jobs. The important difference is how those components are used and strict code requirements that the work must adhere to.

Fire protection systems used in buildings in Ontario are complex, integrated systems that use many components. If the system is improperly installed, serviced or inspected, it places the building, the people within it and its contents at risk. Today's sprinkler fitters, not to mention those who will be doing the job in future years, must possess an in-depth understanding of water pressure, water supplies and their application to fire pumps, backflow preventers and the various types of sprinkler heads that are not only available, but are best suited for the building in which they are being installed. They need to understand the hydraulic calculations used in the design of the sprinkler system and its relationship with the available water supply to ensure the system meets exact pressure and flow requirements.

The installer must also have intimate knowledge of the approved uses and locations for sprinkler heads and the different degrees of hazard and occupancy. Modern innovations like

specialized quick response sprinklers, extended coverage sprinklers and the increasing use of plastic pipe makes sprinkler fitting a much more complex trade.

The installation of these systems is heavily regulated by building and fire codes. The National Fire Protection Standards in the 2007 edition of the Ontario Building Code contain more than 2,000 pages and are continually being updated and revised to keep up with changes and advances in technology. It is important that sprinkler fitters are aware of updates and are properly trained to ensure they are adhered to.

**ii. The apprenticeship program established by the College.**

The sprinkler & fire protection installer apprenticeship program is 7200 hours. Within Local 853, the average time to complete is 4 years. This is consistent with MTCU standards. The closest related trade - that of a plumber - gets less than five per cent of the specialized training of a sprinkler fitter apprentice.

It is worth noting that there are few empty seats at our TDA. Even though the TDA is through a unionized local, attendance is determined by a joint trade-apprenticeship committee. This helps ensure all seats are filled, especially when the seat is for a non-union tradesperson.

Apprentices spend 720 hours in the classroom and 6480 hours applying their theoretical knowledge. Future curriculum reviews will be conducted by the Ontario College of Trades trade board with Local 852 as a technical advisor.

**iii. How the journey person to apprentice ratio for the trade may affect the health and safety of apprentices and journeypersons working in the trade and the public who may be affected by the work.**

The ratio for sprinkler & fire protection installers has significant health and safety implications on apprentices, journeypersons and the public. It is well-established that sprinkler systems are

effective in combating fires. For those systems to work properly, however, the current ratio acts as a safeguard while apprentices are learning and journeypersons are teaching on operating jobsites. It only takes a few sprinkler heads improperly installed or maintained to compromise the integrity of an entire system in any given building and substantially reduce the level of fire protection.

As we have already noted, there is likely to be unprecedented inclusion of sprinkler systems in new and existing buildings. The 1:1 ratio will be more important than ever for public safety as Ontario moves towards legislation requiring sprinkler installation. Ratios ensure that training goes beyond the minimum required standards and help to ensure worker safety, resulting in a reduction of lost time due to injuries and inevitably lower WSIB premiums. In the case of sprinkler & fire protection installers, the current ratio is appropriate to meet health and safety concerns.

It is highly likely that a lower ratio will lead to poor quality work and increased risks. Apprentices will not receive enough supervision and instruction, and journeypersons will be split between juggling apprentices and performing the work expected of them. Shoddy installation can lead to serious health and safety risks. Some of the many examples of recent problems with improper and uncertified sprinkler system installation include:

- Improper maintenance of the sprinkler system in an Ottawa nursing home caused the system to freeze, and then flood the facility. The system was turned off and left out of service for the winter.
- Sprinkler heads at the Peterborough Sports Complex were installed above a suspended ceiling, providing no protection below the ceiling.
- Toronto office workers were put at risk when sprinkler heads were installed in the ceiling, but no pipes were connected to the heads.
- A dry system in Kingston was filled with anti-freeze, a poisonous substance that threatened the safety of the people of the building and had the potential to contaminate the public water supply.

Ontario residents have every right to expect the fire sprinkler systems that are installed for their safety are in proper working order. The current ratio is an important tool used to reduce the amount of substandard work when installing life-saving sprinkler systems.

To underscore the importance of the ratio to properly installed sprinkler systems, it is helpful to understand some of the serious health risks a fire may pose to the public. These risks are much higher in buildings without sprinklers or with improperly installed and maintained systems.

Fatalities and injuries due to fire are most often caused by smoke inhalation and not the flames themselves. Common chemicals that are produced as a result of a fire are asphyxiant gases such as carbon monoxide, hydrogen cyanide, and irritant gases such as hydrogen chloride, and oxides of nitrogen.<sup>4</sup> For individuals in the immediate vicinity of a fire environment (room or building), asphyxiant gases can become lethal in a matter of minutes.

Incidents involving fire in buildings often lead to a flashover fire, where the limited amount of oxygen in an enclosed space leads to all of the combustible materials and gases igniting at the same time at a high temperature. In many cases flashover can take place before the arrival of fire services.<sup>5</sup> This kind of fire produces high levels of carbon monoxide, hydrogen chloride, carbon dioxide as well as other organic and inorganic gases.<sup>6</sup> Fires involving plastics – which are in abundance in many buildings, commercial, residential or otherwise – pose the greatest hazard to public health for those at close range to the fire as well as those outside the immediate vicinity.<sup>7</sup>

Vulnerable population groups are especially at risk of the hazards due to fire. Children and the elderly have greater difficulty in escaping smoke and flames. Those who have asthma or other

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<sup>4</sup> J.C. Wakefield. "A Toxicological Review of the Products of Combustion". Health Protection Agency, Feb 2010. [http://www.hpa.org.uk/webc/HPAwebFile/HPAweb\\_C/1267025520632](http://www.hpa.org.uk/webc/HPAwebFile/HPAweb_C/1267025520632)

<sup>5</sup> Ontario Association of Fire Chiefs. "Position Paper, Residential Fire Sprinklers". Page 1. <http://www.oafc.on.ca/sites/default/files/uploads/documents/DiscussionPapers/07-12-11%20Position%20Paper%20Residential%20Fire%20Sprinklers.pdf>

<sup>6</sup> Same as above, 2.

<sup>7</sup> Same as above, 25.

pre-existing respiratory diseases as well as pregnant women are far more susceptible to the toxic effects of hazardous fires.<sup>8</sup> Additionally, low oxygen concentration in buildings can cause motor impairment, fatigue and faulty judgement in average adults, seriously hindering escapes from hazardous fire situations.<sup>9</sup> Considering that residential fires occur most often between the hours of midnight and 6:00 am while people are generally sleeping, properly installed sprinklers undoubtedly save lives in the 2.2 – 4.3 minutes it can take for a freely burning fire to flashover.<sup>10</sup> The current ratio that allows apprentices and journeypersons to consistently install and maintain these life-saving sprinklers cannot be underestimated in its importance.

These hazards are not hypothetical. Ontario's poor record on fire safety in general and in seniors' residences in particular is a testament to the need for properly trained apprentices and journeypersons to install sprinkler systems. The incidents below involve fires where there was no sprinkler system in retirement homes.

1980 – 25 residents of the Extencicare Retirement Home in Mississauga die in a fire.

1995 – 8 residents of the Meadowcroft Place Retirement Home in Mississauga die in a fire.

2008-2009 - Fire at Rowanwood Retirement Residence home in Huntsville caused more than \$8 million in damage. Two off-duty police officers alerted the residents and all 56 seniors escaped.

-Niagara Falls Cavendish Manor Retirement Residence resulted in the hospitalization 11 seniors, including three in critical condition.

-Fire at the Muskoka Heights retirement home in Orillia resulted in the deaths of four seniors; three others have permanent brain damage.

May 2012 – Elderly couple dies during a fire in a nursing home in Hawkesbury.

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<sup>8</sup> Ontario Association of Fire Chiefs. "Position Paper, Residential Fire Sprinklers". Page 23. <http://www.oafc.on.ca/sites/default/files/uploads/documents/DiscussionPapers/07-12-11%20Position%20Paper%20Residential%20Fire%20Sprinklers.pdf>

<sup>9</sup> Same as above, Page 8.

<sup>10</sup> Same as above, Page 1.

There have been a total of 48 deaths in retirement homes due to fire since 1980.<sup>11</sup> Upwards of 40,000 Ontarians live in approximately 690 seniors homes. This number is expected to grow by 2017, when for the first time there will be more people over 65 than children under 15. Again, the importance of the ratio to properly installed and maintained sprinkler systems cannot be underestimated for vulnerable groups in particular, and the public at large. A malfunction or system failure may pose the same health risks as a fire with no sprinklers at all.

While there is a significant public risk if sprinkler systems are not properly installed, sprinkler fitters themselves work in a hazardous environment. The safety of the worker could be compromised without the current 1:1 ratio.

Training reinforced by the ratio assists in decreasing the number of workplace fatalities, accidents and injuries by ensuring apprentices are aware of proper handling techniques of harmful materials. Some of the hazardous materials and situations that may threaten the health and safety of sprinkler fitters include:

- Exposure to asbestos during installation, removal, or repair of pipes in buildings contaminated with asbestos;
- Exposure to lead during installation or removal of lead pipes and work with lead-based solder;
- Exposure to welding fumes, ultraviolet light, heavy metals and chlorinated compounds during welding or torch cutting;
- Contact with solvents, adhesives and epoxies during repair or installation of PVC/ABS pipes;
- Exposure to materials and liquids in old pipes during repair or removal;
- Exposure to exhaust fumes from gas- or diesel-powered equipment;
- Awkward postures, vibration and hazardous noise while using power tools, grinders, saws and mobile equipment;
- Dust exposure on construction sites and from grinding activities;
- Contact with biological materials in pipes and drains; and
- Exposure to hazardous materials from industrial work sites.

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<sup>11</sup> The Canadian Press. "Fire Chiefs Want Sprinklers in all Seniors' Homes". May 27 2012. CBC News Toronto. <http://www.cbc.ca/news/canada/toronto/story/2012/05/27/ontario-sprinkler-systems-retirement-homes.html>

These risks are present in many different scenarios encountered by sprinkler and fire protection installers on a daily basis. The ratio is essential to keeping everyone safe while they work on an active job site. The current ratio achieves this level of safety while balancing the needs of apprentices, journeypersons, unions and employers.

**iv. The effect, if any, of the journeyperson to apprentice ratio of the trade on the environment.**

When materials burn, they spew chemicals and potentially harmful substances into the air. Fire protection sprinkler systems better control the spread of flames and therefore better control the emission of pollutants released by fires.

Considerations for sustainable, energy efficient buildings include sprinkler systems in all areas of our work: industrial, residential and water supply. The ratio supports training that protects the environment across the province.

Fires, particularly those with no or faulty sprinkler systems, are destructive and often produce a large amount of waste. More often than not there is little to be salvaged and the debris ultimately ends up in a land fill, taking up much needed space and adding potentially toxic materials to the mix of garbage. Additional harm is done to the environment with the use of materials and energy to rebuild following a destructive fire. When sprinklers operate correctly, which can be attributed in part to the current ratio, the destruction of property is significantly reduced and less resources are needed for repairs. The sprinkler system operations reinforced by the ratio also considerably reduces the toxic smoke and chemicals that would otherwise have been produced by a freely burning fire. These toxins include:

- Particulate matter in the form of smoke particles, fluid droplets or silica
- Toxic Gases - generally carbon monoxide and dioxide; sulfur oxides;
- Nitrogen oxides; hydrogen cyanide; hydrogen chloride, fluoride, or
- Bromide; chlorine or bromine; simple hydrocarbons; amines; nitrites;
- Benzene;

- Irritant Gases - such as aldehydes, organic acids, ketones and acrolein
- Gases absorbed onto smoke particles or dissolved in liquid aerosols
- Heat;
- Oxygen deficiency;
- Trace compounds.<sup>12</sup>

Water conservation is another environmental concern addressed by sprinklers & fire protection installers. Properly functioning sprinkler systems do much to reduce the large quantities of water that can be used by fire departments. In the case of a fire, water consumption to contain and extinguish the flames is limited to the number of sprinklers operating (typically one or two) – equating around 346 gallons per fire. In an average fire department response 2,935 gallons are discharged by fire hoses, with potential runoff with chemicals or toxins flowing into groundwater or nearby creeks, streams and lakes. Additionally, water mist systems used in industrial applications reduce the amount of water that would be used in a conventional wet pipe system as much as 50 to 80 percent. Ratios reinforce this water conservation measure because they are an effective buffer against apprentices making unsupervised mistakes that could compromise the system.

Properly functioning sprinkler systems have a significant impact on the environment. Ratios are a fundamental way for industry to teach apprentices of the importance of these issues while including them on actual worksites. The current 1:1 ratio has proven to be appropriate for the environmental impacts for the sprinkler and fire protection installer trade.

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<sup>12</sup> Nellie J. Brown. "Health Hazard Manual for Firefighters". Ithaca, NY: Cornell University, Chemical Hazard Information Program. 1990. Available at <http://digitalcommons.ilr.cornell.edu/manuals/4>

- v. **The economic impact of the journeyman to apprentice ratio of the trade on apprentices, journeymen, employers and employer associations and, where applicable, on trade unions, employee associations, apprentice training providers and the public.**

In 2010, the province of Ontario mandated the installation of sprinkler systems in high-rise buildings and long-term care facilities. This was a milestone in fire protection in Ontario, however, it is equally as important that the system is installed properly by supervised apprentices and trained journeymen so that when needed, it functions properly. When sprinkler systems operate properly they are effective 97% of the time.<sup>13</sup> Because of this exemplary record, it is common practice for companies to use sprinklers to protect valuable assets, such as computer systems and inventories, not to mention their workforce.

#### Costs to Individuals and Businesses

There is an economic benefit to the current ratio in reconstruction costs following a fire. The effectiveness of properly installed fire sprinkles has reduced reconstruction costs by 72 per cent. In the case of a system failure, there is often significant property damage. The current ratio is important to preventing this eventuality.

The economic benefits of the ratio go beyond the simple protection of property. Improper fire sprinkler installations have resulted in operational shut downs, which further result in costs to business and industry in terms of relocating staff, repairing damage and lost production. This costs the Ontario economy millions of dollars annually.

#### Government investments

A recent move by the Ontario government provides a glimpse of the kind of demands that will be on this industry in the near future. After signaling their intent to change the Building Code to

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<sup>13</sup> John R. Hall. "U.S. Experience with Sprinklers and other Automatic Fire Extinguishing Equipment". National Fire Protection Association Fire Analysis and Research Division, February 2010. Available at <http://www.nfpa.org/assets/files/pdf/ossprinklers.pdf>

mandate sprinkler systems in seniors' residences and care facilities, the government announced \$20 million in funding to older care homes to install sprinkler systems. The completion of this work will fall to sprinkler & fire protection installers, who must be properly trained for the systems to protect the lives of Ontario's seniors. The current ratio has the economic impact of ensuring that the province's investment is well spent on functioning systems and allows opportunities for apprentices to become journeypersons. The 2007 ratio change from 2:1 to 1:1 ensures that industry will be well-positioned to meet these anticipated increases.

### Labour versatility

The current ratio also has the economic impact of producing well-rounded journeypersons that are versatile in the different kinds of work they can perform. Today we have more than 3000 different styles and types of sprinklers. Many of these sprinklers differ in installation and involve capabilities of providing protection for the ever growing fire scenarios in the modern world.

NFPA 13 (standard for the installation of sprinkler systems) has increased significantly in size to accommodate the changes in product/building occupancy and to the strategies/requirements needed to protect them with sprinklers. Requirements are specified in NFPA 13 with respect to installation, spacing and obstructions where deviations as small as mere inches will affect the performance of the sprinkler enough to potentially allow the fire to overcome sprinkler activation. There are sprinklers designed for storage, residential, flammable liquids, structural integrity and protection of specialized equipment all with their own installation requirements beyond that are specified in the code.

Installation techniques are also rapidly changing. To be cost effective, today the variables are analyzed and determined through computer hydraulic programs and systems and are calculated in some cases to the nearest .5psi of the required pressure. Without care and consideration to the hydraulic impact, small changes to the system installation can leave a sprinkler system

vulnerable and possibly inadequate to provide the protection it was designed to provide. The current ratio assists in keeping both journeypersons and apprentices up-to-date with sprinkler technology and allows them to take a wide variety of installation jobs rather than receive employment insurance in the case of a layoff.

Maintenance is an aspect of this trade that generates a significant amount of economic activity. With increasing use of sprinkler systems, the fire sprinkler industry serves the need to inspect, test and maintain the existing sprinkler system currently installed. As a sprinkler system is not an active operating system and only truly operating in a fire scenario, it can be said that without a properly implemented inspection, testing and maintenance program, it is not known if the system will perform as intended.

A strong knowledge base in the fundamentals of sprinkler systems along with training in the inspection, testing and maintenance requirements/procedures is necessary to properly inspect and test a sprinkler system to verify operation. Code based knowledge is needed to identify potential changes to the building or sprinkler system that may impede the system performance or operation. Current training must be maintained to ensure compliance with code and manufacturer requirements. Familiarity with current and older technology is expected to address systems both old and new. Identification to component defects/recalls is important as well as providing the source of an approved remedy to repair such deviations. The current ratio provides an apprentice with the kind of one-on-one instruction and supervision necessary for them to be able to conduct this sensitive work. The current ratio achieves the goal of producing a journeyperson that is well-trained and flexible in the job market – a clear economic benefit to the individual and the province of Ontario.

**vi. The number of apprentices and journeypersons working in the trade.**

Local 853 2012-13 fiscal year, 1<sup>st</sup> quarter

- Active apprentices: 412
- Active Certificate of Qualification holders: 1,967

TCU Data

- Number of Apprentices: 423
- Number of Journeypersons: 1,968

**vii. The rates of completion for apprentices in an apprentice training program for the trade.**

The Local 853 TDA has a completion rate among the best in the construction trades, including the unionized sector. It is estimated that 95% who start the process pass their Certificate of Qualification exam and the completion rate for apprentices is 80%.

These numbers are high because Local 853 has taken the initiative to ensure its registered apprentices are properly trained and certified to install fire protection sprinkler systems. The challenge remains to ensure non-union sprinkler fitters are properly trained and certified to do this important job.

Because sprinkler fitting is not a compulsory trade, there is no impetus for non-union contractors to register their apprentices, and if they do they are less likely to complete the process. At Local 853 the 1:1 ratio is used to make sure that an apprentice completes and is fully trained by qualified journeypersons.

2011-12

62 Certificates of Qualification issued  
 62 Certificates of Apprenticeship issued  
 Pass rate: 72 %

2010-11

79 Certificates of Qualification issued  
 79 Certificates of Apprenticeship issued  
 Pass rate: 88 %

**viii. The journeyperson to apprentice ratio, if any, for a similar trade in other jurisdictions.**

NFLD = 1:2 (with 3:1 option if one of 3 are in their final year)  
NS = 1:1  
NB = 1:1  
ON = 1:1  
MB = 1:1  
SK = 1:2  
AB = 1:2  
BC = 1:1

**ix. The supply of, and demand for, journeypersons in the trade and in the labour market generally.**

In 2012, Local 853 had an average of 11 apprentice new hires per month with a total of 135 over the year. There were 12 intakes in 2012.

- Total intakes (2010)=75
- Total intakes (2011)=87

Currently, Local 853 is at approximately 2% unemployment. The numbers of applicants consistently exceed the accepted candidates at Local 853. Additional apprentices are accepted through the sponsorship of a contractor.

There are 1325 journeypersons and 367 apprentices with Local 853. This leaves 958 potential places available for new apprentice hires. Within the next year, another 75 of the current 367 apprentices will achieve journeyman status, increasing to 100 new journeypersons in the next 3 years.

**x. The attraction and retention of apprentices and journeypersons in the trade.**

Those interested in being a sprinkler & fire protection installer can submit an application with their resume and high school transcript to Local 853. They then proceed through an interview

process to determine suitability. Alternatively, an individual can be sponsored by contract before going through the same requirements.

Training as a sprinkler fitter is a clear path to a rewarding career. There are very few people who pass through the sprinkler fitter TDA who do not end up practicing the trade for life, or something very close to it. The majority of people who get a sprinkler fitter ticket practice the trade as a journeyman.

An additional attraction for Local 853 is that members are offered ongoing training through the Ontario Joint Training and Apprenticeship Committee at various locations throughout Ontario on a regular basis. This allows them to keep their skills sharp and gain new skills for evolving technologies.

Wage rates are also an attraction to the trade. Local 853 wage rates are:

- 1<sup>st</sup> year - \$33.95/hour
- 2<sup>nd</sup> year - \$38.33/hour
- 3<sup>rd</sup> year - \$42.72/hour
- 4<sup>th</sup> year - \$47.08/hour
- Journeyman - \$55.84/hour

UA Canada is currently establishing a recruitment and assessment program to filter all applicants to the appropriate province and trade local to meet industry demands at a national level. Agreements have also been established with Australia to increase the network on an international level to provide an even larger potential workforce of skilled and qualified sprinkler and fire protection installers. This level of organization is an attraction to the trade because it provides apprentices and journeymen with a great deal of labour flexibility.

**xi. The average age of apprentices and journeymen in the trade and the projected attrition of journeymen working in the trade.**

TCU Data

Average age of Apprentice: 30

Average age of Journeyman: 51

The current ratio allows for the industry to compensate for the attrition rate.