

To: Electoral Area Services Committee

Date: 2025-09-04

From: Stacey Barker, Director of Regional Services/Deputy CAO

Subject: Fire Underwriters Survey

Reviewed by: Jennifer Kinneman, Chief Administrative Officer

RECOMMENDATION

This report is being brought forward for the Board's information and there is no staff recommendation.

BACKGROUND

Owners of private property may insure against the risk of property loss, including from fire. Any person with a mortgage will typically be required by the lender to take out such insurance. When insurance companies set the premiums (fees) for fire insurance, they take into consideration several risk factors, including the level to which the insured property is protected from fire determined by the Fire Underwriters Survey (FUS).

FUS is a national organization that provides data on public fire protection for fire insurance statistical work and underwriting purposes for insurance companies within Canada. Underwriting is the process of evaluating risk and determining whether to offer insurance coverage, and at what terms, for a specific applicant. It is a critical function in the insurance industry as well as in lending and investment banking, used to assess the likelihood of losses and to set prices for products and services such as loans.

While FUS does not directly set property insurance rates, it is responsible for publishing the Canadian Fire Insurance Grading Index which is used by insurers across Canada to base insurance rates upon. FUS is recognized by the Insurance Bureau of Canada as being the only organization authorised to publish fire insurance grades in Canada. FUS subscribers represent approximately 85 percent of the private sector property insurers in Canada.

To assist insurance companies, FUS establishes Dwelling Protection Grades (DPGs) and Public Fire Protection Classifications (PFPCs). DPGs generally apply to single family detached residences, whereas PFPCs apply to multi-family residential, commercial, industrial, and institutional buildings. For the purposes of this report, we will be focusing on DPGs only as this is usually the focus of rural communities.

The DPG rating system is graded on a scale from 1 – 5 **where "1" is the best possible rating** meant for urban settings within municipalities that have career firefighters (fulltime, ready to respond from the hall 24 hours a day, 7 days a week) as well as high performing and reliable pressurized hydrant systems.

A rating of “3” is more applicable to rural or more remote areas serviced by volunteer halls, and the lowest grading of “5” indicates that the area is unprotected or unable to comply with main criteria. The full grading system is complex, and FUS considers a significant number of factors, but a simplification is provided in the table below.

DPG	Overview
1	Career, hydrant water system
2	Composite, hydrant water system
3A	Volunteer/Paid-on-Call (POC), hydrant water system
3B - L	Volunteer/POC/Career, hydrant water system via large diameter hosing
3B - S	Volunteer/POC/Career, Superior Tanker Shuttle Service
3B	Volunteer/POC/Career, Standard Tanker Shuttle Service
4	Significant deficiency in requirements
5	Unprotected

DISCUSSION

When setting DPGs, FUS evaluates the general effectiveness of a fire department to extinguish fires by looking at many factors. Some of the factors that are considered for determining grading that are of significance to the FVRD have been summarized/simplified below.

Apparatus - Type, Condition, and Age

In general, to achieve any level of grading, a fire department must have at least two fire trucks: one to serve as first-line duty (primary truck) and another for second-line duty (back-up truck). The fire trucks **must meet specific standards and be “triple combination pumpers” which means that they must have a pump, a water tank, and hose storage within a single vehicle.** This design allows firefighters to respond to fires with a self-contained water supply and the ability to pump water to fight the fire.

FUS will generally consider the primary truck effective until it is twenty years of age. The back-up truck can remain in service for up to 30 years with conditional status through an application process. Extensions can sometimes be granted to extend the age stipulation provided it meets the annual pump testing requirements and successfully obtains a temporary conditional extension. Typically, once the primary truck passes 20 years of age it is moved into the back-up position, the older secondary truck is then sold/disposed, and a fire department must obtain a new primary truck. Local governments wishing to receive a DPG higher than 5 must strategically save for significant equipment expenditures to ensure the right age-balance of primary and secondary trucks.

In addition to the two fire trucks, if the fire service area does not have a public-type pressurized water supply (fire hydrants), then the fire department is also required to have a minimum of one mobile water

supply unit (a water tanker/tender). The unit must meet specified operational standards as well as age requirements (~30 years).

If the main fire department also has a satellite fire hall, the satellite fire hall is required to have at least one fire truck. One mobile water supply unit is recommended if the area served has no fire hydrants. A satellite fire hall is a secondary sub-hall that is dependant on a main hall and its chief. For reference, the Boston Bar and Yale Fire Departments each have a main hall and a satellite hall, while North Fraser Fire Department has a main hall and two satellite halls.

Although fire departments may also have various other essential vehicles, like a smaller squad truck or rescue truck, they do not factor into the DPG evaluation.

Members – Required Numbers and Training

FUS requires a minimum of 15 trained volunteer firefighters for the fire protection classifications that are applicable to the FVRD. This minimum number of firefighters ensures a sufficient number of volunteers are available to respond to fires.

If a fire department has a satellite hall, then each satellite hall is required to have an additional 10 firefighters specifically assigned to it. This means departments with one satellite hall (Boston Bar and Yale) would each require 25 members total, while North Fraser Fire Department with two satellite halls requires 35 members.

To receive full credit for an auxiliary firefighter, the firefighter needs to live and work within 8 km of their assigned fire hall and all firefighters must be fully trained in accordance with the BC Structure Firefighter Minimum Training Standards.

Maintaining an adequate number of volunteer firefighters is a constant struggle for most of the **FVRD's** fire halls. Recruitment and retention are very difficult in small rural areas and the continual time commitment to maintain training is significant. This is of particular concern in Boston Bar/North Bend and Yale. Population decline and an aging demographic has been challenging in these communities. FUS can offer conditional standing if membership is insufficient in an effort to give local governments some time to rectify the situation, but it is time limited.

Water Supply System

FUS considers the presence and capabilities of a pressurized water supply hydrant system, including factors such as water flow, supply reliability, and system redundancy. Only properties within 300 m of a hydrant will be considered as serviced by such, unless the fire department is accredited for the use of large diameter hoses in which case this may extend to 600 m.

The majority of FVRD's fire service areas do contain some zones with hydrant service. Hydrants are typically found in areas of higher housing density and are associated with the provision of potable

water. If/when the expansion of potable water provision is contemplated by the Board, it would be important to factor in the associated savings in fire insurance premiums those residents may receive.

Where no hydrant system is present, FUS looks at the ability of the fire department to access, load, transport, and unload water. While hydrant water supply is not required, a fire department must have adequate equipment, training, and access to approved alternative water supplies to deliver water, referred to as Standard Tanker Shuttle Service. Properties without hydrants are given a lesser DPG rating.

Fire Departments can also pursue an advanced Superior Tanker Shuttle Service (STSS) where hydrants are not present. STSS is achieved through the efficient use of tanker trucks to shuttle water from static water sources or hydrants to the fire scene **where hydrants aren't present**. The accreditation for this service is difficult to achieve and departments must go through a demanding documentation, training, and testing process. They must also acquire additional apparatus (i.e., two water tankers) and have the ability to house that apparatus appropriately inside a fire hall, as well as the citing and installation of required water storage infrastructure. Fire departments offering STSS must prove it can provide an alternative water supply and delivery system that can establish and maintain a specified flow within five minutes of a fire engine arriving on the scene of a fire. The water supply must be sustained for two hours, and the water supply point must be within 5 km of the graded properties. **None of the FVRD's** fire departments have this accreditation.

Distance – Proximity Requirements

A residential property must be within 8 km by road network of a recognized main fire hall or satellite hall to be recognized as protected (a DPG rating higher than 5).

It is also important to note that a satellite fire hall must be located within 16 km from its main fire hall. For reference:

- Boston Bar Fire Hall is approximately 4 km from its North Bend satellite hall.
- The two Yale fire halls are approximately 6.5 km apart.
- **North Fraser's satellite halls are located between 12-15 km away from the main hall.**

When considering the addition of any new satellite halls, the FVRD must ensure that it is within 16 km from the main hall and within 8 km of the properties it is intended to service.

COST

The cost of home insurance has increased significantly in recent years. Several factors are driving this upward trend, including the rising input costs for rebuilding and the increase in natural disaster claims. Although FUS ratings are just one of the factors that are considered by individual insurers, they have a substantial impact.

The reduction in insurance premiums is significant as properties with a DPG ratings of 1 for example can receive as much as a 60-70% reduction. The majority of properties within an FVRD fire service areas would be considered semi-protected (DPG ratings of 3A-3B) and could possibly receive a 30-40% reduction in premiums. However this is a generalization, and each property will have unique issues to consider, including the property's location, size, building materials, overall rebuild value, past insurance claims, etc.

It is important to note that the FVRD cannot guarantee home insurance rate reductions, as all insurance companies operate differently. However, most residents typically report that the insurance discount they received from entering a rural fire protection area is greater than their taxation contribution toward the fire service.

CONCLUSION

FUS grading is a significant driving factor in fire department budgeting. Although obtaining FUS grading is not necessarily a requirement to operate a fire hall, it sets the goal posts for continual capital replacement, water supply standards, and operational efficiencies that are important to achieve regardless of associated insurance reductions.

Staff are currently waiting for updated letters from FUS for each of its fire service areas. This information, expected this fall, will go forward to the Board as it becomes available.