

Salt Spring Island Fire & Rescue Trustees

June 15, 2015

Service Delivery Level Policy

By Reg Jefferd

This is in response to your request for input on this subject.

I submit that SSIFR does not have the water supply to choose a Service Level above Exterior currently. However, enough water to justify the Interior Level could be achieved by the time it is necessary to commit to a Level, June 30, 2016. This document will outline a plan to provide that water.

Since there is concern about the necessity to be able to enter the hospital and such buildings as retirement homes to fight fires, a permanent commitment to only Exterior Level is probably not acceptable to the community. However, considering the current water supply quantities, and reliability of such, the reality is that in almost every conceivable large building fire scenario, the Incident Commander is not going to be in a position to authorize entry. If he does so, and someone is hurt or killed, the Board will be liable for the injury or death, due to not properly training the Incident Commander to consider the reality of the water supply volume and reliability. Thus, for practical reasons, and legal reasons, the only Service Level that can be currently approved is Exterior Service Level. The next few paragraphs will provide the numbers to explain this reality.

The structures of this island can be divided into 3 groups:

- Small buildings served by Shuttle,
- Small buildings served by hydrants,
- Large buildings served by hydrants.

For small buildings served by shuttle, response times are not likely to be sufficient to allow for any entry. We should be recording response times to all fires to see if this is true. Currently there is no information. The FUS2015 Report contains on page 25, Figure 2 Fire Propagation Curve which shows that 10 minutes is the max that can be expected before flashover occurs, and it is no longer safe to enter. For these buildings the Incident Commander can easily make a decision, as his water supply is at least reliable, and possibly adequate, so there would be no problem with an Interior Service Level choice.

For small buildings served by hydrant, the above applies, except that the hydrant supply is not reliable.

For Large buildings served by hydrants, including the hospital, and Greenwood, we have a real problem. The hydrant system is just not adequate or reliable. FUS2015 recognises the North Salt Spring Waterworks only provisionally. The NSSWD system is so unreliable that it has not been tested due to fear of damaging a system that does not appear to be designed for fire flows (FUS2015 PAGE 58). These are the individual ratings received by NSSWD from FUS2015:

Adequacy of Supply Works:	St Mary: 54%	Maxwell: 43%
Reliability of Sources of Supply:	St Mary: 89%	Maxwell: 89%
Reliability of Pumping Capacity:	St Mary: 10%	Maxwell: 45%
Reliability of Power Supply:	92%	81%

Reliability Operation and Maintenance:	69%	69%
Fire Flow delivery by Mains	40%	40%
Reliability of Principal Mains	0.7%	0.7%
Installation of Pipes	3%	2%
Arrangement of Distribution System	28%	28%
Factors relating to supply and distribution	0%	0%
Distribution of hydrants	85%	85%
Fire Hydrants Size and type	72%	72%
Fire Hydrants condition and inspection	42%	42%
Other conditions affecting reliability	76%	76%
Management	61%	61%

The one test done on this system showed that the hydrant was only capable of supplying 40% of the Required Fire Flow. Plus the reliability numbers above are terrible. With those numbers in hand, it wouldn't take much for a lawyer to crucify the Board in court for authorizing entry thru Interior or Full Service Level.

Some say that the Superior Shuttle Service is an adequate backup for an unreliable hydrant system, or as former Trustee Chamney stated at a previous meeting " It's actually the primary system". However the Superior Shuttle System is not rated for commercial service...only residential. We are currently only tested at 200 IGPM due to fear of damaging the hydrant system. It would take 400 IGPM to get it rated commercial. We must strive to get that commercial rating immediately, and we don't dare get it from the hydrants.

But there is another issue. The current test for the downtown area was accomplished using a hydrant as its source. This means that the Shuttle System is not a backup at all. It is just a separate end delivery mechanism for the same unreliable system. To be a backup it needs to be independent of the hydrant system. This can be accomplished by obtaining a separate source such as a dry hydrant. We have dry hydrants, but not one where it is needed - Downtown Ganges. We need to instruct the Chief to research the possibility of installing a certifiable dry hydrant in the downtown area immediately.

There is a real bonus for doing so. Currently, if the crews were fighting a fire downtown using the hydrants, filling the shuttle from another hydrant would take away virtually all the pressure from the hoses,(even assuming the hydrant system survived at all) as the system is not looped. So the shuttle system as such is no benefit or backup at all, it just delays the delivery of the same water. However, if a dry hydrant existed, the 2 systems would be complementary, and could be added to each other to achieve a Fire Flow that might be legally sufficient and reliable to justify Interior Service Level.

Since we have one year until we must determine our Level of Service, I recommend that we state our intention to declare Interior Level , subject to achieving a certified dry hydrant in the downtown area, and Commercial rating for the Superior Shuttle System downtown.