



Risk Management of Alternative Solutions Based on Sprinkler Protection

Date:	Wednesday, November 02, 2011
Time:	9:00 AM - 10:00 AM
Venue:	2210 West Mall, Campus and Community Planning, Gardenia Room
Attendees:	Edmond Lin, Joe Stott – UBC Campus and Community Planning Aleks Padrewski – UBC Utilities Ron Holten – UBC Risk Management

Increasingly new building projects are relying on additional or enhanced sprinkling proposals to allow for a variety of trade-offs to prescriptive Building Code Requirements as alternative solutions. To better evaluate the reliability of the water supply and risk management, feedback from Utilities and Risk Management are sought. The following points were discussed:

Current Water Supply Infrastructure at UBC

Waterline Integrity

The waterlines in UBC have been upgraded throughout the years to steel with seismic restraint. There are still lines that are cast iron. The waterlines are also a loop system which provides for redundancy in the event of a break.

Water Pressure

The high pressure zone which services the core of the Campus are supplied by electric booster pumps in a seismic upgraded area of the Powerhouse. The electric booster pumps are backed up by diesel pumps which are located in an area of the powerhouse that has not been seismically upgraded and is susceptible to damage in a seismic event. The water pressure received from Metro Vancouver through the Sasmat Reserve fluctuates between day and night but generally at a minimum pressure of 50 PSI.



Water Supply in the Sasamat Reservoir

There had been cases where due to failure of the water valves at UBC, the demand for water exceeded the water supply from Metro Vancouver to Sasamat Reservoir.

It was concluded alternate solutions based on sprinkler protection will need to be able to accommodate the minimum pressure of 50 PSI entering the building as part of the design.

Exit Enclosures Using Glazing Dedicated Sprinkler Protection

Exits are required to protect the occupants during evacuation of the building as a result of an emergency event which includes fire and seismic events. Prescriptive Building Code requirements mandate fire tested rated assemblies which are mainly composed of gypsum wallboard assemblies or masonry/concrete construction. In addition to water supply concerns, the structural integrity of a wall glazing system is also a concern during a seismic event. UBC is keenly aware of the recent global seismic events and is committed to ensure life safety to its occupants during these types of events and a robust reliable construction of the exit system is a key to this. The glazed exit enclosure does not appear to fit these criteria. There are other jurisdictions that permit half of the required exit enclosures to be composed of glazing with dedicated sprinkler protection. However, it is felt that this practice does not provide adequate safety during a seismic event.