San Francisco Water Power Sewer

Emergency Firefighting Water System Program FAQ's

1. What is the Emergency Firefighting Water System?

The Emergency Firefighting Water Supply System (also known as the Auxiliary Water Supply System), is an independent high-pressure water supply system dedicated to fire protection. Built in 1913 in response to the 1906 Great Earthquake, the system consists of a 135-mile pipeline network, a high elevation reservoir, two large capacity tanks, two pumping stations, fireboats, underground water tanks (cisterns), and Bay water intakes (suction connections). The system has unique capabilities, including the ability to deliver water at much higher pressures and the ability to use unlimited water from the Bay.

2. What is the Emergency Firefighting Water Supply System used for?

Following an earthquake or other major disaster, the San Francisco Emergency Firefighting Water System is vital for protecting against the loss of life, as well as the loss of homes and businesses by providing an additional layer of fire protection, in addition to the domestic water system. The system is also used in response to multiple-alarm fires on a daily basis by the San Francisco Fire Department.

3. How does Emergency Firefighting Water System work?

The system delivers water at high pressure from approximately 200 cisterns, 1,600 hydrants and 3,900 valves throughout San Francisco. The San Francisco Fire Department is able to pull from these facilities in the event of a major fire nearby. Additionally, the system includes 52 suction connections along the northeastern waterfront, which allow fire engines to pump water from San Francisco Bay, and two fireboats that supply seawater by pumping into any of the five manifolds connected to pipes.

4. What is wrong with the Emergency Firefighting Water System?

The Emergency Firefighting Water System's core facilities were built in the early 1900s and are in need of renovation. Inspections and assessments of the system's core facilities show deterioration, seismic deficiencies, and corrosion due to rust, poor foundations, leakages, and outdated technologies. These renovations are crucial to ensuring San Francisco's firefighters can protect homes, businesses and other buildings in the event of a major fire.

5. What are the benefits of upgrading the Emergency Firefighting Water System?

Upgrading the Emergency Firefighting Water System will:

- Provide seismic and operational improvements to five core facilities, expand the existing pipeline and tunnel components, and repair and install new cisterns.

- Reduce vulnerability of the emergency firefighting water system to damage from earthquakes.
- Increase system reliability to deliver sufficient water to respond to emergencies at all times.
- Increase system reliability by providing redundancy needed during a seismic event or other emergency.

6. How will the renovations be paid for?

San Francisco voters passed the Earthquake Safety and Emergency Response Bond Program (ESER) in June 2010. A portion of the bond ($102.4 million) is allocated for restoring and seismically upgrading the Emergency Firefighting Water System's core facilities, cisterns, and pipes and tunnels.

7. When will the renovations begin and how long will construction last?

The project is still in the study phase. The planning, design and construction schedule is currently being developed. There will likely be multiple projects taking place throughout the City, and it is anticipated that major construction will begin in early 2013 and continue through 2018.

8. How can I follow the progress of the bond projects?

We recommend visiting the project webpage on the SFPUC website for regular updates (include URL here). In addition, bond program status reports and summaries are published monthly on the ESER bond website (http://sfearthquakesafety.org). The project team also delivers annual progress updates to the SF Fire and Police Commissions.