

BOARD of SUPERVISORS



City Hall  
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## MEMORANDUM

TO: Harvey Rose, Budget and Legislative Analyst  
Naomi Kelly, City Administrator  
Mary Ellen Carroll, Executive Director, Department of Emergency Management  
Jeanine Nicholson, Chief, Fire Department  
Harlan Kelly, Jr., General Manager, Public Utilities Commission

FROM: John Carroll, Assistant Clerk,  
Public Safety and Neighborhood Services Committee

DATE: October 16, 2019

SUBJECT: HEARING MATTER INTRODUCED

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The Board of Supervisors' Public Safety and Neighborhood Services Committee has received the following resolution, introduced by Supervisor Mar on October 8, 2019:

**File No. 191029**

**Resolution declaring a state of urgency to rapidly expand the City's Emergency Firefighting Water System (EFWS) to protect all neighborhoods in the event of a major earthquake and fire, and calling for a comprehensive EFWS action plan to expand the City's EFWS to cover all unprotected neighborhoods by 2034; to expand the Fire Department's firefighting apparatus such as portable hose tenders to provide interim protection to neighborhoods not currently covered by the EFWS; and to require an annual report to the Board of Supervisors on the state of the City's EFWS preparedness for a major earthquake and fire.**

If you have any comments or reports to be included with the file, please forward them to me at the Board of Supervisors, City Hall, Room 244, 1 Dr. Carlton B. Goodlett Place, San Francisco, CA 94102.

c: Debra Newman, Office Budget and Legislative Analyst  
Severin Campbell, Office Budget and Legislative Analyst  
Gabriela Loeza, Office Budget and Legislative Analyst  
Brian Strong, Office of the City Administrator  
Lynn Khaw, Office of the City Administrator  
Victor Lim, Department of Emergency Management  
Theresa Ludwig, Fire Department  
Juliet Ellis, Public Utilities Commission  
Donna Hood, Public Utilities Commission  
John Scarpulla, Public Utilities Commission  
Mona Panchal, Public Utilities Commission

1 [Declaring a State of Urgency - Expanding the City's Emergency Firefighting Water System]

2  
3 **Resolution declaring a state of urgency to rapidly expand the City's Emergency**  
4 **Firefighting Water System (EFWS) to protect all neighborhoods in the event of a**  
5 **major earthquake and fire, and calling for a comprehensive EFWS action plan to**  
6 **expand the City's EFWS to cover all unprotected neighborhoods by 2034; to expand**  
7 **the Fire Department's firefighting apparatus such as portable hose tenders to provide**  
8 **interim protection to neighborhoods not currently covered by the EFWS; and to**  
9 **require an annual report to the Board of Supervisors on the state of the City's EFWS**  
10 **preparedness for a major earthquake and fire.**

11  
12 WHEREAS, The United States Geological Survey (USGS) estimates that the  
13 probability an earthquake magnitude 6.0 or larger will occur in the San Francisco region  
14 before 2043 is 98 percent, the probability of at least one earthquake of magnitude 6.7 or  
15 larger is 72 percent, and the probability of at least one earthquake of magnitude 7.0 or larger  
16 is 51 percent; and

17 WHEREAS, In San Francisco, the most densely populated city in California, over 90  
18 percent of buildings are constructed from wood, many of them directly touching their neighbor  
19 buildings, and earthquakes in places with this type of construction have caused the two  
20 largest peacetime urban fires in history: in 1906 in San Francisco and in 1923 in Tokyo, and  
21 San Francisco remains highly vulnerable to fire after an earthquake, as explained in a 2008  
22 article for the *International Association for Fire Safety Science*; and

23 WHEREAS, The San Francisco Fire Department (SFFD), the San Francisco Public  
24 Utilities Commission (SFPUC), and this Board of Supervisors share a common goal of  
25 increasing the firefighting capabilities of all areas of San Francisco; and

1 WHEREAS, The EFWS is a high-pressure fire suppression water system that can be  
2 utilized during large fires and is vital for protection against the loss of life, homes, and  
3 businesses from fire following a major earthquake and non-earthquake multiple-alarm fires;  
4 and

5 WHEREAS, The EFWS does not cover large parts of nor adequately protect  
6 Supervisorial Districts 1, 4, 7, and 11, roughly one-third of the City's developed area, which  
7 also have the fewest cisterns, and each fewer than ten miles of EFWS mains and fewer  
8 than 50 EFWS fire hydrants; and

9 WHEREAS, In June 2003, the 2002-2003 Civil Grand Jury recommended that the  
10 EFWS be extended "to serve all parts of the City," and 16 years later many neighborhoods still  
11 do not have new EFWS pipelines; and

12 WHEREAS, The SFPUC is developing a preliminary list of potential projects for various  
13 parts of the City where there is currently limited access to the EFWS, as well as other projects  
14 to reinforce or otherwise improve the existing EFWS; and

15 WHEREAS, The City does not have an agreed-upon timeline to fund and complete  
16 development of EFWS for all areas of the City, including neighborhoods that historically have  
17 not been as well protected as other areas of the City; and

18 WHEREAS, Unless the City increases funding levels, it will be several decades (i.e.,  
19 after the USGS predicts one or more major earthquakes will occur) before some parts of the  
20 City have a high-pressure, multi-sourced, seismically safe emergency firefighting water  
21 supply; and

22 WHEREAS, While the amount of money needed to implement EFWS citywide is  
23 estimated to be in the hundreds of millions of dollars, the potential loss of life and potential  
24 property damage could be far greater if an extremely large earthquake strikes San Francisco;  
25 and

1 WHEREAS, Based on the City's current pace of issuing ESER Bonds, it could take  
2 approximately 35 years or more to build out EFWS pipelines to serve all neighborhoods,  
3 unless the timing of the ESER Bond issuances are expedited or other sources of funding are  
4 identified; and

5 WHEREAS, SFPUC and SFFD are in the process of analyzing the best method for  
6 bringing a robust and resilient high-pressure firefighting water system to the Western  
7 neighborhoods in San Francisco that is capable of providing water to the SFFD firefighters at  
8 the high-pressure needed for firefighters to combat large fires after a seismic event, and are  
9 examining several options for the Westside, including potential development of a potable  
10 EFWS with over 14 miles of new EFWS pipelines and two new pump stations that could be  
11 supplied by four water sources; and

12 WHEREAS, To best utilize the existing EFWS and serve areas where the EFWS is  
13 lacking, it is critical that the SFFD obtain new updated Hose Tenders; and

14 WHEREAS, SFFD hose tenders are specialized apparatus designed for pumping and  
15 transporting large volumes of water from any source, are recognized worldwide for their ability  
16 to successfully move large amounts of water to a fire at high-pressures and volumes for  
17 firefighting, and are the ideal solution for areas with limited access to the EFWS because  
18 these vehicles can be dynamically deployed to any area of the City; and

19 WHEREAS, The SFFD currently has five Hose Tenders, three from 1973, one  
20 from 1987, and one from 1992, all of which are two-wheel drive, and do not have the capacity  
21 to draft or pump water; and

22 WHEREAS, In FY 2019-20 SFFD submitted a request for funding to purchase 20  
23 Portable Water Supply System (PWSS) hose tenders, the Board of Supervisors and Mayor  
24 funded four new PWSS hose tenders, and the State of California funded one; and  
25

1 WHEREAS, On October 8, 2019 Supervisor Gordon Mar requested the Budget and  
2 Legislative Analyst to study through an equity lens and issue a report to the Board no later  
3 than December 31, 2020 (a) which areas of the City do not have sufficient water supplies for  
4 the anticipated demand for water to fight fires following a major earthquake similar in  
5 magnitude to the 1906 earthquake, and (b) options to address the issue in both the short term  
6 and the long term; and

7 WHEREAS, On October 1st, 2019, the San Francisco Board of Supervisors adopted a  
8 Resolution responding to the Presiding Judge of the Superior Court on the findings and  
9 recommendations contained in the 2018-2019 Civil Grand Jury Report, entitled "Act Now  
10 Before It Is Too Late: Aggressively Expand and Enhance Our High-Pressure Emergency  
11 Firefighting Water System," on file with the Clerk of the Board of Supervisors in File  
12 No. 190786, which is hereby declared to be a part of this Resolution as if set forth fully herein;  
13 now, therefore, be it

14 RESOLVED, That the Board of Supervisors hereby declares a State of Urgency to  
15 rapidly expand the City's EFWS to protect all neighborhoods in the event of a major  
16 earthquake and fire, given that the vulnerability of the City poses a serious and urgent threat  
17 to the well-being of San Francisco and the safety of its inhabitants and environment; and, be it

18 FURTHER RESOLVED, That the Board of Supervisors urges the SFPUC, SFFD and  
19 the Office of Resilience and Capital Planning to develop a comprehensive EFWS action plan,  
20 including funding sources, to install a high-pressure, multi-sourced, seismically safe  
21 emergency water system to fight fires in the event of a major earthquake in all the parts of the  
22 City where it is lacking by June 30, 2034, to be submitted to the Board of Supervisors by  
23 December 31, 2021; and, be it

1 FURTHER RESOLVED, That the Board of Supervisors urges the SFPUC and SFFD to  
2 complete a study for adding an EFWS saltwater pump station on the Westside of San  
3 Francisco to be presented to the Board no later than June 30, 2021; and, be it

4 FURTHER RESOLVED, That the Board of Supervisors urges the SFPUC to continue  
5 its efforts to complete more detailed analysis of emergency firefighting water needs by  
6 neighborhood and prepare a completed analysis by June 30, 2021; and, be it

7 FURTHER RESOLVED, That by June 30, 2022, the City should analyze whether to  
8 propose a separate bond for the development and implementation of EFWS projects for areas  
9 of the City with limited EFWS access as part of the City's regular capital planning process;  
10 and, be it

11 FURTHER RESOLVED, That the Board of Supervisors urges the Mayor to prioritize  
12 funding for the purchase of new PWSS hose tenders, apparatus, and equipment to replace  
13 and expand SFFD's currently inadequate inventory within the next three Fiscal Years; and, be  
14 it

15 FURTHER RESOLVED, That the Board of Supervisors urges the Department of  
16 Emergency Management, SFPUC, SFFD, and the Office of Resilience and Capital Planning  
17 to provide a consolidated annual report to the Board of Supervisors on the state of the City's  
18 EFWS preparedness for a major earthquake and fire and planned funding from the ten-year  
19 Capital Plan for EFWS.

**Introduction Form**

By a Member of the Board of Supervisors or Mayor

RECEIVED  
BOARD OF SUPERVISORS  
SAN FRANCISCO2019 OCT 8 PM 12:25  
Time stamp  
or meeting date

I hereby submit the following item for introduction (select only one):

- ☒ 1. For reference to Committee. (An Ordinance, Resolution, Motion or Charter Amendment).
- ☐ 2. Request for next printed agenda Without Reference to Committee.
- ☐ 3. Request for hearing on a subject matter at Committee.
- ☐ 4. Request for letter beginning : "Supervisor [ ] inquiries"
- ☐ 5. City Attorney Request.
- ☐ 6. Call File No. [ ] from Committee.
- ☐ 7. Budget Analyst request (attached written motion).
- ☐ 8. Substitute Legislation File No. [ ]
- ☐ 9. Reactivate File No. [ ]
- ☐ 10. Topic submitted for Mayoral Appearance before the BOS on [ ]

Please check the appropriate boxes. The proposed legislation should be forwarded to the following:

- ☐ Small Business Commission      ☐ Youth Commission      ☐ Ethics Commission
- ☐ Planning Commission      ☐ Building Inspection Commission

**Note: For the Imperative Agenda (a resolution not on the printed agenda), use the Imperative Form.**

Sponsor(s):

Mar; Fewer, Yee

Subject:

Declaring a State of Urgency to rapidly expand the City's Emergency Firefighting Water System to protect all neighborhoods in the event of a major earthquake and fire

The text is listed:

Resolution declaring a State of Urgency to rapidly expand the City's Emergency Firefighting Water System (EFWS) to protect all neighborhoods in the event of a major earthquake and fire and calling for a comprehensive EFWS action plan to expand the City's EFWS to cover all unprotected neighborhoods by 2034, to expand the San Francisco Fire Department's firefighting apparatus such as portable hose tenders to provide interim protection to neighborhoods not currently covered by the EFWS, and to require an annual report to the Board of Supervisors on the state of the City's EFWS preparedness for a major earthquake and fire.

Signature of Sponsoring Supervisor: [ ]

For Clerk's Use Only