



# City and County of San Francisco LIFELINES COUNCIL



Edwin M. Lee, Mayor  
Naomi Kelly, City Administrator

Lifelines are the systems and facilities that provide services vital to the function of an industrialized society and important to the emergency response and recovery after a natural disaster. These systems and facilities include communication, electric power, liquid fuel, natural gas, transportation (airports, highways, ports, rail and transit), water, and wastewater.

- American Society of Civil Engineering Technical Council on Lifeline Earthquake Engineering (TCLEE), 2009

## MEETING NOTES

### Meeting #11 – Launching the Lifelines Council Work Program

Thursday, April 4, 2013

2:00 PM – 4:00 PM

PORT OF SAN FRANCISCO OFFICES

Pier 1

Bayside Conference Room

#### Co-Chairs

Naomi Kelly, City Administrator, General Services Agency, City and County of San Francisco  
Chris Poland, Co-Chair, SPUR Resilient Cities Initiative, and Chairman, Degenkolb Engineers

## REPRESENTED AGENCIES

Bay Area Association of Governments	Laurie Johnson Consulting	San Francisco Earthquake Safety Implementation Program
Bay Area Center for Regional Disaster Resilience	Pacific Gas & Electric	San Francisco Fire Department
California Resiliency Alliance	Port of San Francisco	San Francisco Office of the City Administrator
Champion Telecom	San Francisco Department of Emergency Management	Urban Resilience Strategies
Degenkolb Engineers	San Francisco Department of Public Works	Verizon Wireless

### 1) Welcome and Introductions

Naomi Kelly and Chris Poland, Co-Chairs

John Updike, Director of Real Estate, San Francisco General Services Agency, substituted for Co-Chair Naomi Kelly. Mr. Updike and Co-Chair Chris Poland welcomed the group and thanked the San Francisco Port for hosting the meeting at their offices. Mr. Poland briefly reviewed the background and objectives of the Lifelines Council, highlights of recent meetings, and the purpose of meeting #11: Launching the Council's 2013-2014 Work Program.

### 2) Lifelines Interdependency Study Update - The Final Stretch

Laurie Johnson  
Laurie Johnson Consulting | Research

Dr. Johnson provided an update on the progress to date on the Lifelines Interdependency Study and some of the initial lessons learned from the study. In terms of progress, she reported that ten operator sectors have been interviewed so far and that the remaining infrastructure operator interviews will be taking place in the next two months. A summary of each interview is being prepared and sent back to the operators for approval. Next, all of the interview results will be integrated into a final draft report that will provide, for the first time, a scenario of multi-sector lifeline performance in San Francisco following a potential M7.9 San Andreas earthquake (similar to the 1906 earthquake). Insights about the



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likely levels of disruption and restoration times for different lifeline systems, system restoration dependencies and critical interdependencies, and lessons learned for future planning and mitigation will also be contained in the draft report. The participating operators will all have an opportunity to review the draft report before it is publically available. A presentation on the study results will be made at the next Lifelines Council meeting scheduled for June 26, 2013.

Discussion focused on next steps once the study is completed. It was suggested that there will be value in analyzing the impacts on San Francisco social-economic systems and emergency planning assumptions in light of the study results. It was also suggested that the study should be expanded to consider regional lifeline performance and interdependencies in a M7.9 San Andreas earthquake scenario.

### **3) PG&E's Gas and Electric System Upgrades Plan**

**Ontario Smith  
Government Relations, Pacific Gas & Electric**

Mr. Smith presented on the 5-year plan (which PG&E announced on February 27, 2013) to make more than \$1.2 billion in infrastructure improvements in San Francisco. These include: reconstruction of major electric substations, installation of a new electric transmission line, streetlight upgrades and replacements, and a series of upgrades to both the gas and electric systems. An infrastructure improvement map that Mr. Smith displayed showed project locations across the city.

Mr. Smith reviewed the proposed Embarcadero-Potrero Transmission Project (which he previously discussed at Meeting #9 of the Lifelines Council held on September 6, 2012.) This project would construct a new 3.5 mile long, 230 kilovolt (kV) cable transmission line to connect the Embarcadero substation and the Potrero Switchyard. The purpose of this project is to link up PG&E's 115 kv and 230 kv transmission systems in San Francisco, to enhance PG&E's ability to reroute power within the city and decrease the system's vulnerability to a single, high-impact event, like a repeat of the 1906 earthquake or M7.0 Hayward Fault earthquake. According to Mr. Smith, PG&E estimates that a prolonged outage to the Embarcadero substation could potentially cause billions in damage, with lasting impacts to BART, MUNI, the Port of San Francisco, and 80,000 business and resident customers in the Embarcadero substation service area which includes downtown San Francisco.

He reported that the preferred route for the project will lay approximately 2.5 miles of cable in mud under San Francisco Bay. He said that by routing the cable under the Bay, there will be less disruption to city streets during construction and that the cable-laying process—which uses a hydro-plow—will only a few months to complete. He added that by taking the Bay route, there will be substantially fewer splices in the system which translates into fewer “weak links.”

Asked if there were any regulatory or environmental concerns, Mr. Smith said that PG&E is working with the Bay Conservation and Development Commission (BCDC) and the Port of San Francisco to ensure that there is no harm to wildlife. He said that the Port recently worked with the Transbay Cable team on their project, which has been helpful in the review process.



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Mr. Smith said that PG&E has gotten initial approval for the project and hopes to start construction by September 2014. If so, then the new system would be in service by December 2015. Asked about the financing for the project, Mr. Smith said that transmission costs are born by all ratepayers in California and will amount to a small amount per month, per customer.

Next, Mr. Smith reviewed PG&E's plans to upgrade the city's electric distribution system and several substations. Distribution upgrades include the installation of intelligent switches to help isolate trouble and shorten the duration of power outages, and the replacement of cables and switches on older distribution lines to improve service reliability. PG&E is spending more than \$25 million over 5 years to upgrade over 1,300 streetlights. He said that PG&E also plans to spend over \$400 million on upgrades to several substations, including the Potrero, Larkin, Mission and Embarcadero substations. The upgrades include the restoration of internal and external infrastructure, some seismic reinforcements, and improvements to the building facades, landscaping and lighting that will help the facilities to blend in with the surrounding community. At the Potrero switchyard, a new 230 kV switchyard will be constructed next to the existing 115 kV switchyard.

Finally, Mr. Smith reviewed PG&E's plans to upgrade both the natural gas transmission and distribution systems in the city. He said that to date, PG&E has replaced about 240 miles of older cast iron gas distribution pipeline with modern, flexible plastic piping that is more resistant to corrosion and earth movement. He said that about 26 miles of cast iron pipe remains in San Francisco and it will be replaced by the end of 2015. He said that, in all, PG&E has replaced more than 95% of the more than 800 miles of cast iron mains in PG&E's service territory. Lastly, he reported that PG&E performed a successful hydrostatic test of Gas Transmission Line 132 in 2012.

Asked about whether PG&E construction work is aligned with other work being done on infrastructure, Mr. Smith said that PG&E coordinates through the City's Department of Public Works (DPW) to schedule projects and give other operators a chance to locate their lines and coordinate any work that needs to be done at a particular site. Mr. Smith closed by discussing emergency planning efforts at PG&E, including the agreements that are now in place to have City police and fire escorts to get to emergency service locations.

### **3) Launching the Lifelines Council 2013-2014 Work Program**

**Chris Poland, Co-chair, and  
John Updike, Director of Real Estate, SFGSA**

Mr. Poland started off the discussion by reviewing the work program planning process to date. At the September 6, 2012 meeting, Council members broke into small groups to discuss potential work program topics, considering: the Lifelines Council's objectives; the recommendations from the SPUR Resilient City reports; and, the priority issues that have emerged from the lifelines interdependency study. Following this meeting, the set of topics recommended by these groups were assimilated into a survey that was sent to all Council members to review and prioritize. Then, at the November 29, 2012 meeting, the Council reviewed top vote getters and discussed which would be best suited to pursue in 2013-2014 as part of the Council's work program. He then introduced the 3 topics that are being recommended for the Council's 2013-2014 work program:

- Priority Routes and Access Work Group



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- Permanent and Temporary Cell Site Permitting Work Group, and
- Lifelines Interdependency Table-top Exercise Work Group

He said that it is now time for Council members to discuss and decide which group(s) they would like to join. Each work group will be charged with further defining the problem, deriving solutions, and finding “best practice” examples, when possible; identifying financing and implementation issues; and, reporting back to the Council with recommendations.

Mr. Updike first discussed the Permanent and Temporary Cell Site Permitting Work Group. He said that the City had already started a process to talk with providers about improving the consistency in agreements it has for sites on City-owned property. He said that this group would address cellular communication siting and permitting standards, with an emphasis on providing adequate back-up power generation, fuel supplies, or alternative power supplies and plans so that cellular service is not lost following a major disaster. He said that having more permanent or quasi-permanent installations may also help with short-term events (like concerts) as well as with disasters.

Mr. Rob Dudgeon, Deputy Director of San Francisco’s Department of Emergency Management (DEM), led the discussion on the Lifelines Interdependency Table-top Exercise Work Group. This group would design and conduct a multi-operator table-top exercise and identify areas needing additional pre-planning for collaboration. He said that this group will launch this summer, once the Golden Guardian exercise is completed. Jill Raycroft, DEM exercise planner, will be involved. He also raised concerns that there are a number of planning initiatives, such as those led by the State and UASI, that are happening simultaneously and are not all well-connected. He said that it would be good to get people who know something about these other planning efforts involved in this group.

Mr. Updike also led the discussion on the Priority Routes and Access Work Group on behalf of DPW. This group would look at issues of developing pre-designated access routes and staging areas and linking the recommendations of this group with future debris removal exercises. Mr. Peter Ohtaki suggested inviting someone from the grocery industry to participate in this group since they would really benefit from knowing about priority restoration routes. It was then questioned whether distribution points will be identified as part of this group’s work. Mr. Dudgeon cautioned that the work of this group needs to be connected with other planning initiatives. He said that DEM needs to first understand where operators need to be and DEM can lead on planning for personnel and distribution. It was also recommended that this group consider how the uses of limited open spaces will be prioritized and allocated so that multiple entities don’t attempt to use the same locations that might also be in use as a shelter site, for example. It was recommended that this group should give some direction to lifelines operations to use in their own response and restoration planning.

Mr. Mark Gonzales, San Francisco Fire Department, asked whether interdependency issues of water and fire and the need for a more robust portable water system were going to be addressed by a work group. Dr. Johnson clarified that this issue was raised during the interdependency study interviews with the San Francisco Public Utilities Commission and the Fire Department and that it will be part of the final interdependency report. Thus, it could be a topic for future work.



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Mr. Urdike closed the discussion by asking Council members to sign up for one of the work groups. He also asked the work group leaders have at least one meeting with interested participants and outline some of next steps. Work groups should plan to make a progress report at the Lifelines Council's next meeting.

### **3) SPUR's "Safe Enough to Stay" report and the Neighborhood Support Center concept**

**Laurence Kornfield, Earthquake Safety Implementation Program, SFGSA**

Mr. Lawrence Kornfield introduced the San Francisco Planning and Research (SPUR) organization's "Safe Enough to Stay" report which made a series of recommendations on improvements San Francisco needed to make to its building stock, post-disaster building inspection processes, and repair and habitation standards so that residents could stay in their homes while they are being repaired following the expected earthquake. He noted that committee also found that there was a need for a neighborhood based support networks to provide community support services while people stay in their homes.

He described how a temporary exhibit was built at the SPUR center that showed what the inside of a damaged housing unit might look like and how it could be inhabited safely following an earthquake. The exhibit also featured a mock-up of a neighborhood support center. He then showed a SFGOV-TV video of an interview between himself and Ms. Sarah Karlinsky, Deputy Director, SPUR, discussing the centers concept: what services they could provide (i.e. phone charging stations, shared computer for emails, coffee pots), what kinds of information and supplies might be distributed from them (i.e. water, food, information on city inspections and services), and how they might be operated by volunteers. Mr. Kornfield then asked the Council for their input on the concept of post-disaster neighborhood support centers.

Mr. Dudgeon started off the discussion by stating that it is the City's position to keep as many people as possible in San Francisco after a major disaster even if that is contrary to FEMA or State policy. He raised concerns that neighborhood centers are merely a concept and that it needs a lot more work to become a reality. He expressed his view that when disaster strikes, it is likely that these sorts of centers will happen organically and government needs to develop a more formal way to support them, and link them together with the City. He also raised concerns that there needs to be a lot more than the concept of a support center can reasonably address: we need to create viable temporary communities in the city.

Mr. Ken Flattler, Verizon, said that his company typically deploys a truck or stocks a site that is highly visible with cell phones chargers and data providers. He cautioned that there would be a limit on the number of trucks or sites that they could support in such a situation. Ms. Chakos suggested that the City should look into social media applications to get information to nodes all over the city; these centers will need to "pull" information. Other concerns raised: water and sanitation services need to be provided within 24 hours; people also need to have a place to work, access to schools and transportation, and a lot more. It was informally agreed that a lot more needs to be taken into account in developing this concept.



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## 4) Next Steps and Announcements

**Chris Poland and John Updike**

Mr. Poland and Mr. Updike brought the discussion to a close and thanked members for their input. Mr. Updike urged people to sign up for one of the work groups and for the groups to move ahead and have their first meetings.

## 5) Adjourn

The meeting adjourned at 4pm.

The Lifelines Council meetings are held on a quarterly basis. Dates for upcoming meetings in 2013 are set for: June 26, September 11, and December 4.