



December 9, 2015

To: Capital Planning Committee

From: David Behar, San Francisco PUC
 Chair, Sea Level Rise Technical Committee

Re: Recommendations from the Sea Level Rise Technical Committee to the CPC regarding the CPC Sea Level Rise Guidance and Related Documents

Action Requested:

Approval of revisions to the “Guidance for Incorporating Sea Level Rise into Capital Planning in San Francisco” and related documents (SLR Checklist, Supplemental Document “Sea Level Rise Scenario Selection and Design Tide Calculation”)

The Capital Planning Committee adopted the “Guidance for Incorporating Sea Level Rise into Capital Planning in San Francisco” (Guidance), developed by the Sea Level Rise Technical Committee (SLRTC), on September 14, 2014. Subsequently, City departments received the Guidance and related materials, were trained in its use, and successfully implemented the Guidance in connection with the 10 Year Capital Plan adopted by the CPC and Board of Supervisors in early 2015. In the process of that implementation, we learned a tremendous amount about where the Guidance, and the related “Sea Level Rise Checklist,” could be improved and clarified. Overhaul was not considered necessary because the fundamental science, vulnerability assessment procedures and other elements of the Guidance remain valid. Consistent with the charge of the SLRTC, however, helpful revisions have been the subject of substantial work across City departments under the leadership of the SLRTC since that time. The documents for consideration today reflect that work and the consensus recommendation of the SLRTC.

The key revisions reflected in this draft and the reasoning in proposing them follow.

1. Revision of the Recommended Sea Level Rise Estimates for San Francisco (Table 2, p. 10). Last year’s Guidance directly transcribed SLR figures from the National Research Council’s 2012 report (NRC). This report presented five SLR estimates for any given year: lower end of range; projection minus one standard deviation; projection; projection plus one standard deviation; and upper end of range (see Table 1). The revised Guidance eliminates all but two of these figures: projection and upper end of range. Five scenarios for each year were deemed too many and not particularly useful for planning, and three were eliminated in Table 2. The lower end of the range is associated with very low global GHG emissions scenarios that are likely overly optimistic. The standard deviations, in turn, while in the NRC report, are somewhat controversial and don’t add great value. Overall, the

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Committee felt that a streamlining of SLR estimates would benefit planners while maintaining adherence to best available science. (In addition, planners naturally were turning to these two figures, and the Planning Department uses them in CEQA compliance). As an example, with this new approach SLR figures recommended for use for the year 2100 are now 36 inches and 66 inches; in the adopted Guidance, those figures were 17, 26, 36, 46, and 66 inches.

2. Revision of the Sea Level Rise Checklist (Appendix 4, and stand-alone document). The SFPUC, SFMTA, Port of San Francisco, Public Works, and San Francisco Airport completed a total of 61 checklists related to projects in the 10 Year Capital Plan. We learned a tremendous amount from this process, including a number of areas where the Checklist needed to be clearer and easier to use. We solicited and received input from planners involved in that process and made substantial revisions to reflect that feedback and add clarity. This revised Guidance has gotten positive feedback for increased clarity from those reviewing it at the request of the SLRTC.
3. Better definition of “adaptive capacity” (pp. 16, 19). The concept of adaptive capacity is at the heart of the Guidance’s approach to uncertainty, but we learned while training capital planners in implementation and in the implementation process itself that we needed to do a better job explaining adaptive capacity and how to use it.
4. Replacement of Appendix 3 with the Supplemental Document “Sea Level Rise Scenario Selection and Design Tide Calculation.” Appendix 3 previously contained information on SLR and storm surge from Alameda County as a placeholder, and did not provide project planners water elevations under a variety of storm and SLR scenarios for the San Francisco shoreline. This caused some confusion on the part of capital planners, and reduced the overall accuracy of shoreline information used in implementation. The previous Appendix 3 has been eliminated and replaced with the Supplemental Document. It provides specific tidal elevations along the San Francisco shoreline as well as a step-by step process for selecting an appropriate planning horizon and sea level rise scenario for project planning. This document also provides information to assist project planners in calculating a design tide water level elevation. It is intended to be used in conjunction with both the SLR Guidance and the SLR Checklist, and capital planners have provided positive feedback that this document assists in implementing the Guidance.