



### 3. COMMITTEE ITEMS

- a. Subject: Update on California WaterFix  
Presented by: Bay-Delta Initiatives Manager Steve Arakawa

Mr. Arakawa updated the committee on the approval process, noting key milestones that happened in 2015 and 2016, as well as what is expected to happen in 2017 and 2018. He also discussed the California WaterFix Science Peer Review.

Director Steiner entered the meeting at 9:37 a.m.

- b. Subject: Project Implementation considerations for California WaterFix:  
*Presentation by Construction Cost and Risk Assessment Experts  
Patrick L. Pettiette and Bob Goodfellow*  
Presented by: Assistant General Manager Roger Patterson

Mr. Patterson introduced California WaterFix Program Manager Chuck Gardner.

Mr. Gardner, the coordinator for the presentation, discussed how the project cost estimate was developed. He discussed best practices and the importance of risk management.

Mr. Gardner introduced Patrick L. Pettiette, Consultant, 5RMK.

Mr. Pettiette discussed 5RMK's qualifications, the scope of the estimate, and the construction cost estimate in 2014 dollars and how the estimate was generated.

Mr. Pettiette then introduced Robert Goodfellow, Consultant, Aldea Services.

Mr. Goodfellow presented information on his qualifications and those of his company. He showed a risk management flow chart and explained a three-step risk management process, US Guidelines for risk management on tunnel projects, described program cost estimates, projected annual expenditures with risk and inflation costs, and a construction cost distribution profile.

Mr. Gardner concluded the presentations with a side-by-side comparison of the 5RMK estimate and an additional independent cost estimate by Jacobs Engineering.

Staff and guests addressed several questions and comments from the committee, including potential risk regarding delay in property acquisition, additional risk factors involved, why the Jacobs estimate is less than the 5RMK estimate, cost and management of big projects, and cost for mitigating risk.

