

July 25, 2018

BOARD MEMBERS

Dan Richard

CHAIR

Thomas Richards

VICE CHAIR

Ernest M. Camacho

Daniel Curtin

Bonnie Lowenthal

Nancy Miller

Michael Rossi

Lynn Schenk

EX-OFFICIO

BOARD MEMBERS

Honorable

Dr. Joaquin Arambula

Honorable Jim Beall

Brian P. Kelly

CHIEF EXECUTIVE OFFICER

EDMUND G. BROWN JR.
GOVERNOR



Susan.Macadams@gmail.com

Dear Madam:

Thank you for your correspondence of April 11, 2018 to California High-Speed Rail Authority CEO Brian Kelly regarding track design for the high-speed rail system. Mr. Kelly has asked me to respond on his behalf.

We have reviewed your comments and concerns and we understand that they broadly fall into the following categories:

1. The alignment is not straight;
2. The trains will operate at speeds up to 220 mph on curves built on alluvial soils
3. Concerns that the curve design includes curves and transitions on structures that are 60 – 100 feet tall, imposing unacceptable loads upon the structures;
4. There are overlapping horizontal and vertical curves;
5. The combination of items 1-4 create a dangerous condition where the track design cannot be easily built, or safely maintained, thereby creating a significant risk of derailment;
6. An excessive amount of superelevation (track cant) is allowed in curves and the rate that the superelevation was applied is too high;
7. In addition, a concern was raised regarding the effect of the extreme hot and cold temperatures in Fresno on the interaction of the rail and the structures.

We have reviewed your concerns and offer the following assessment:

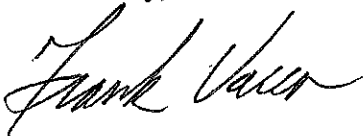
1. Ideally any alignment would be straight with no elevation change. This would result in the shortest alignment and would impose minimal vertical or horizontal acceleration forces upon the infrastructure, the train equipment or the passengers. Unfortunately, in reality, this is seldom the case and alignments must be engineered to accommodate physical features (rivers, built up areas, schools, environmental concerns such as parks, protected species) etc. Throughout the extensive National Environmental Policy Act and California Environmental Quality Act environmental review processes, multiple alignment alternatives are evaluated and the Least Environmentally Damaging Practical Alternative (LEDPA) was selected. In 2012, the final alignment was selected for the Merced to Fresno project section, with the selection of the final alignment for the Fresno to Bakersfield project section in 2014. These two project sections comprise the final alignment for the high-speed rail alignment through the Central Valley.

In addition, you made a reference was made to the 2013 rail accident near Santiago de Compostela in Spain. Please note that the Spanish accident was totally unrelated to any of the items (1-7) above. The accident was caused when a train, under manual control, attempted to go through a curve designed for operation at 50 miles per hour at 111 mph and subsequently derailed. The train was an express train enroute from Madrid Chamartin Station to Ferrol. This route is comprised of high-speed rail tracks and conventional tracks. The high-speed tracks employ an automatic train control system that continuously monitors the train speed and compares it to the maximum allowed speed. If the train speed exceeds that allowed speed, the system will override the driver and will automatically apply the brakes. This type of automatic train control system is used on all existing high-speed rail systems in Europe and Asia. Some of the conventional tracks do not employ an automatic train control system and speed control is solely dependent on the driver. In the Spanish accident, the train had just left the high-speed track area and was operating on conventional track – this section of conventional track did not have automatic train control and was totally dependent upon the driver to obey the speed limit. The driver failed to do so and attempted to go through the curve at more than double the maximum allowed speed. It should be noted that because of the investigation into the accident, an automatic speed control system was installed at this location to prevent recurrence. It must be stressed that this accident was not a track design failure but a failure of the driver to obey speed limits – it must further be stressed that the Authority will employ an automatic train control system that will continuously monitor the train speed and, if the train speed exceeds the maximum allowed speed, will override any driver input and will automatically apply the brakes.

Thank you again for your comments. The Authority is committed to designing and building a safe and reliable high-speed rail system, and the safety of the future high-speed rail riders and the public is our top priority. The Authority's design requirements for track curves are more stringent than those successfully used in proven high-speed rail systems internationally.

Please feel free to contact me at (916) 403-6930.

Sincerely,

A handwritten signature in cursive script, appearing to read "Frank Vacca".

Frank Vacca
Authority Chief Program Manager
Rail Operations Branch

CC: CEO Brian Kelly