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**BEFORE THE PUBLIC UTILITIES COMMISSION  
OF THE STATE OF CALIFORNIA**

Order Instituting Rulemaking Regarding Whether to  
Adopt, Amend, or Repeal Regulations Governing Safety  
Standards for the Use of 25kV Electric Lines to Power  
High Speed Trains

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R. 13-03-009

**UNION PACIFIC RAILROAD COMPANY'S**  
**REPLY TO THE CALIFORNIA HIGH- SPEED RAIL AUTHORITY'S RESPONSE**  
**IN OPPOSITION TO MOTIONS FOR EVIDENTIARY HEARINGS**

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March 7, 2014

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**I. INTRODUCTION**

Pursuant to Rule 11.1(f) of the California Public Utilities Commission's ("Commission") Rules of Practice and Procedure, Union Pacific Railroad Company ("Union Pacific") submits this reply to the California High-Speed Rail Authority's ("CHSRA") response to Union Pacific's motion for evidentiary hearings. This reply is submitted pursuant to permission given by ALJ Bemserfer to Union Pacific in his February 28, 2014 email to Union Pacific and all parties.

**II. DISCUSSION**

A project like CHSRA's has never been built in the United States. Yet, CHSRA wishes to start construction before new federally mandated Positive Train Control ("PTC") systems have been implemented, and before any testing has been done to determine whether there could be a conflict between the operation of PTC and nearby CHSRA electrical systems. The proposed project also presents serious questions about potential conflicts with existing railroad signal systems, necessary clearances to prevent these interferences, and the introduction of new hazards to employee and public safety. If these issues are not resolved correctly, CHSRA risks spending

billions of dollars to build a railroad that will not function. This is not hyperbole: Getting it wrong will mean CHSRA trains cannot move until millions or billions more are spent to fix fundamental problems.

This makes it difficult to understand why CHSRA would oppose Union Pacific's request for a hearing. Union Pacific is fully engaged in the workshop process and hopes to reach agreement on issues raised, but there is a wide gulf between where the parties are now and where they need to be, and there is no certainty that the gap will be closed on all (or even any) issues without a hearing.

Union Pacific provides further specific responses to CHSRA's arguments below.

**A. The CHSRA's Response Concedes That Union Pacific's Motion For Evidentiary Hearing Is Not Premature.**

In its response to the motions of the Joint Utilities and Union Pacific, CHSRA argues, on the one hand, that each motion is premature, while conceding on the other hand that the motions were filed pursuant to the schedule set forth in the Assigned Commissioner's Preliminary Scoping Memo ("Scoping Memo"). CHSRA's concession is correct – Union Pacific filed its motion for evidentiary hearings pursuant to the timeframe set forth in the Scoping Memo. In its motion, Union Pacific stated that it will continue to be engaged in Technical Workshops to address outstanding issues of fact with the Proposed General Order. Additionally, in the Joint Comments of Union Pacific and BNSF to the Technical Panel Report, the joint parties renewed their request for a third technical panel specific to freight railroads. ALJ Bemesderfer has not yet ruled on this renewed request; however, it is possible that the issues set forth in Union Pacific's motion for evidentiary hearings can be resolved with a third technical panel.

Since the CHSRA's response appears to be more directed towards the proposed timing of evidentiary hearings with respect to the completion of Technical Workshops, Union Pacific would agree to defer such hearings until after a third technical panel, or Stage 2, is complete. Union Pacific is not concerned about when the hearing happens; it is only concerned about preserving its right to request a hearing. It will be ready with authoritative witnesses and evidence when the time comes. In the meantime, Union Pacific is hopeful that the Commission will grant the request for technical workshops on railroad issues. Altering the timing of evidentiary hearings may provide the parties with more time to informally vet out the factual issues prior to utilizing the Commission's judicial resources.

**B. CHSRA Has Not Provided Extensive Research Related To The Electromagnetic Interference (“EMI”) Issues Identified In Union Pacific’s Motion.**

In its response, CHSRA contends that it “has already provided extensive information” during the technical panel workshops to address Union Pacific’s concerns regarding the impact of EMI. CHSRA misrepresents not only the information it provided, but the discussions that took place during the technical workshops. David McCord, Union Pacific’s electrical expert on signal interference, was present at all of the technical panel workshops. At several of the workshops, he discussed the reports upon which CHSRA relies for its position that there will be little to no impact on freight systems due to EMI. At those workshops, Mr. McCord relayed to CHSRA that the reports are inadequate because the railroad systems at issue in those reports do not operate at speeds above 150 m.p.h.; CHSRA proposes operating trains at 220 m.p.h.

CHSRA conceded in its Reply Comments that its project is unique because trains will reach speeds above 150 m.p.h.<sup>1</sup> It is not the 25 kv system alone that could create EMI; rather, the speeds at which the trains will travel influences the potential for EMI. Two systems having the same voltage and similar design does not mean they will have the same EMI. Induced voltage is proportional to current. Power is equal to current times voltage. To overcome wind resistance and friction, the faster trains move, the more power they will require. Since the voltage will remain constant, more power will needed to move CHSRA trains at 220 m.p.h. Accordingly, the current must also increase. As current increases, the EMI will proportionally increase as well. There remain, therefore, factual issues to resolve as to whether or not the proposed rules will adequately address EMI to prevent interference with existing freight signal and PTC systems. An additional issue is the design, construction, and implementation of PTC systems, which are currently not in operation and have not been tested or modeled in electrified corridors.

**C. Union Pacific’s Motion Is Not Procedurally Deficient**

The Commission should disregard CHSRA’s argument that Union Pacific’s motion is procedurally deficient. Union Pacific’s motion on its face complies with the requirements set forth in the Scoping Memo.

Union Pacific has identified four specific issues for resolution. CHSRA does not contest that two of the issues - whether CHSRA’s 25kv system will create electromagnetic interference

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<sup>1</sup> See CHSRA Reply Comments at pg. 4.

that will interfere with proper functioning of existing conventional railroad signal systems, and whether CHSRA's 25 kv system will create electromagnetic interference that will interfere with proper functioning of federally mandated Positive Train Control ("PTC") systems – are factual in nature.

CHSRA improperly characterizes the third issue – what mitigation measures should be adopted to reduce or eliminate electromagnetic interference with nearby railroad signal and PTC systems – as “policy” based. This is not a policy issue. In its Environmental Impact Report, CHSRA admitted that its electrification system “could interfere with the normal operation of the signal system, thereby indicating that there is no freight train present when, in fact, a train is present, or thereby indicating that a train is present when, in fact, no train is present.”<sup>2</sup> Mitigation measures that should be adopted will be based off of the “information and studies” CHSRA commits to providing.<sup>3</sup> This factual information will dictate what mitigation measures should be employed to protect the safety of motorists on California's roadways, the safety of railroad crews approaching railroad crossings protected by signal systems, and the safe operation of railroad equipment. Similarly, the mitigation measures that should be employed will address Union Pacific's fourth issue - whether or not this proposed new General Order should establish minimum clearances between CHSRA's electrification systems and conventional railroad systems.

Finally, without citing to any authority, CHSRA contends that Union Pacific was required to identify the witnesses it will produce at the evidentiary hearings. There is nothing in the Commission's Rules of Practice and Procedure or the Scoping Memo that requires Union Pacific to identify witnesses by name. Rather, Union Pacific has identified witnesses by subject area.

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<sup>2</sup> California High-Speed Train Project EIR/EIS, Merced to Fresno Section, Chapter 3.5: *Electromagnetic Fields and Electromagnetic Interference*, 3.5-16 – 3.5-17, available at [http://www.hsr.ca.gov/Programs/Environmental\\_Planning/final\\_merced\\_fresno.html](http://www.hsr.ca.gov/Programs/Environmental_Planning/final_merced_fresno.html) (Apr. 2012).

<sup>3</sup> See Response of California High-Speed Rail Authority In Opposition to Motions for Evidentiary Hearings, at pp. 2, 6.

**D. Evidentiary Hearings Are Permitted Where The Commission Lacks Sufficient Information To Reach Findings On All Relevant Issues.**

CHSRA is correct that evidentiary hearings are not required in quasi-legislative proceedings. However, as a matter of practice, evidentiary hearings are granted when “there is [in]sufficient information in the record to enable the Commission to reach findings on all the issues that California statutes require the Commission to address.” *In re Verizon Commc’n, Inc.*, 2006 WL 1479203, \*30 (Cal.P.U.C. 2006). This Commission “has broad jurisdiction over rail safety within the State of California . . . [The Public Utilities] Code empowers and directs the Commission to set standards for the safe operation of trains within the state.”<sup>4</sup> The unresolved issues raised by Union Pacific are directly related to rail safety. Therefore, the Commission should grant Union Pacific’s request for an evidentiary hearing.

**III. CONCLUSION**

Union Pacific respectfully requests that the party’s motions for evidentiary hearings be granted.

Respectfully submitted,

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<sup>4</sup> Decision Granting Petition for Rulemaking and Order Instituting Rulemaking to Determine Whether to Adopt, Amend, or Repeal Regulations Governing Safety Standards for the Use of 25kv Electric Lines to Power High-Speed Trains, at pg. 2, section 2.