



NTSB Board Response to Dr. Shama's Submission of Petition for Reconsideration

Miami, FL

HWY18MH009

(4 pages)



National Transportation Safety Board

Washington, D.C. 20594

Response to Petition for Reconsideration

Date: October 28, 2020

Dr. Ayman Shama, P.E.
Represented by Legal Counsel
G. Robert Gage, Jr. of Gage Spencer & Fleming LLP Attorneys at Law
410 Park Avenue
New York, New York 10022

Petitioner: Dr. Ayman Shama, formerly with Louis Berger

On December 20, 2019, Dr. Ayman Shama, through counsel, submitted to the National Transportation Safety Board (NTSB) a letter requesting changes to highway accident report NTSB/HAR-19/02, *Pedestrian Bridge Collapse Over SW 8th Street, Miami, Florida, March 15, 2018*, which the Board adopted on October 22, 2019. The petitioner is a former associate vice president and director of seismic engineering at Louis Berger, the architecture and construction development company that conducted an independent peer review of the pedestrian bridge at Florida International University in Miami. NTSB investigators also interviewed Dr. Shama during the investigation of the bridge collapse. Pursuant to Title 49 *Code of Federal Regulations (CFR)* 845.32(a)(3), a petition for reconsideration “must be based on the discovery of new evidence or on a showing that the Board’s findings are erroneous.” In addition, petitioners must be parties or other persons having a direct interest in an investigation.¹ After verifying that the other parties to the investigation were notified (in February 2020) of Dr. Shama’s letter as required, the NTSB initiated a reconsideration of the report.

With respect to new information, Dr. Shama references an e-mail from January 31, 2017, between design manager Mr. Dwight Dempsey and general counsel Ms. Nancy Duessel (both of the design consultant company Figg Bridge Engineers, Inc. [FIGG]). Dr. Shama states that FIGG never submitted this e-mail to the NTSB during the investigation.² The e-mail contained a discussion about the independent peer review of the bridge that Louis Berger was contracted to perform, and it included the following statement by Ms. Duessel:

¹ Consistent with Title 49 *CFR* 845.32(a)(1), Dr. Shama has standing to offer this request for reconsideration because he was the engineer responsible for the required peer review of the bridge.

² Exhibit E, FIGG 16805, in the December 20, 2019, petition.

The request we sent for the independent review had scope/limitations of what independent review was covered. Should we reference the scope? I don't know if there was any discussion about how to limit the scope, etc. to know if we have any concern. Other than that I just saw a few clean up points. If all else is ok probably let them go as I saw in the initial e-mails on this change order the sensitivity around the point[.]

Mr. Dempsey replied, "We can discuss in the morning. The independent peer review is approx. 90% complete and will be completed in the next 2 weeks."

Further, in his assertion that the Board's findings were erroneous, Dr. Shama asks that we amend the report and any associated conclusions to reflect his interview statements that analysis of the connection nodes/joints was never part of the scope of work (referencing a July 25, 2016, draft proposal regarding the scope of work that Dr. Shama submitted to Ms. Jamey Barbas of Louis Berger). In response, we offer the following discussion.

The FIGG-provided Bridge Factors Attachment 63 (which is a grouping of 656 pages of documents) includes about 30 e-mails between FIGG and Louis Berger that refer to bids by Louis Berger and others for the independent peer review.³ On August 11, 2016, an internal e-mail between Mr. Chris Gagnon and Ms. Jamey Barbas, both of Louis Berger, discussed the scope of the independent peer review, listing five items in the peer review description. Their e-mail exchange was followed by an e-mail from FIGG's Mr. Dempsey to Ms. Barbas, stating, "I understand the original scope remains unchanged, just the fee has been revised." Ms. Barbas replied, "No reduction in Scope. Okay." On August 15, 2016, Ms. Barbas replied to a request from Mr. Dempsey to shorten the schedule, and she stated, "If we make the detail connection analysis part of the last submission, yes."⁴

The only written revision to the scope of the peer review was found in engineering change order 01 from MCM (Munilla Construction Management, the design builder) to FIGG, and resulted from the fact that, instead of listing five items in the description of scope, MCM listed only four (specifically, the bridge superstructure was listed once rather than twice for the 90 percent and 100 percent review).⁵ The Florida Department of Transportation was aware that the 90 percent review was not made, but department officials indicated that the intent of the 90 percent review was met. No other revisions of scope could be found. Finally, in Bridge Factors Attachment 19 (docket item 45), titled "Agreement between FIGG and Louis Berger," the September 16, 2016, signed agreement included exhibit B, the scope of work by Louis Berger, which stated that the independent peer review included "develop[ing] finite element model for the bridge and estimation of demands on all elements due to different load combinations."

Regarding the new information in the e-mails that Dr. Shama asserts FIGG did not provide to the NTSB, we acknowledge that FIGG general counsel Ms. Duessel noted some sensitivity involving the initial e-mails on this change order. The change order was necessary for MCM to

³ See NTSB [docket](#) item no. 88.

⁴ These e-mails are located on pages 444–447 of Bridge Factors Attachment 63 in the NTSB docket.

⁵ The change order is located on page 564 (FIGG attachment 6.5-40) of Bridge Factors Attachment 63.

document that it had to pay for an independent peer review that FIGG had failed to request in the early development of the contract, although required. In any event, as Mr. Dempsey indicated to Ms. Duessel in the FIGG e-mail of January 31, 2017, this matter was to be resolved in a personal discussion between the two of them the next morning; no record exists of that discussion nor of any other discussion about limiting the scope of the review.

The NTSB reviewed the 100 percent superstructure plan submittal letter (part of the peer review documentation that Louis Berger provided to FIGG), the e-mail correspondence between Ms. Jamey Barbas and Mr. Dwight Dempsey, as well as Dr. Shama's interview statements and his petition, and concluded that the original proposal did include analysis of the connections on the bridge superstructure. Further, there is no evidence that the scope of the independent peer review was subsequently revised to exclude the connections analysis. The peer review requirement—as stipulated by the Florida Department of Transportation for comprehensive, thorough, and independent design verification—specified in section 26.12, item 6, of the *Plans Preparation Manual* that the reviewer should include “structural analysis methodology, design assumptions, and independent confirmation of design results” when evaluating the bridge. Such a review includes evaluation of connections and all nodal forces.

Based on its analysis of the facts, the NTSB maintains that no evidence indicates that the scope of the independent peer review of the pedestrian bridge was revised and reaffirms its finding 16 in the report that “Louis Berger was not qualified by the Florida Department of Transportation to conduct an independent peer review and failed to perform an adequate review of the FIGG Bridge Engineers design plans and to recognize the significant under-design of the steel reinforcement within the 11/12 node, which was unable to resist the horizontal shear between diagonal 11 and the bridge deck.” The NTSB also reaffirms finding 17, which states, “FIGG Bridge Engineers' failure to adhere to the Florida Department of Transportation *Plans Preparation Manual* requirements for a complex category 2 bridge structure within its work proposal to MCM, calling for an independent firm to conduct a comprehensive peer review, led to the inadequate peer review performed by Louis Berger, which failed to detect the under-design of the bridge.”

Disposition

After reviewing the evidence, the petition for reconsideration and modification concerning the NTSB's accident report on the pedestrian bridge collapse in Miami, Florida, on March 15, 2018, is denied in its entirety.

Chairman SUMWALT, Vice Chairman LANDSBERG, Member HOMENDY, Member GRAHAM, and Member CHAPMAN concurred in this response.