

INTERIM REPORT OF THE INDEPENDENT REVIEW PANEL

INVESTIGATION OF THE SEPTEMBER 9, 2010 PG&E GAS PIPE FAILURE

February 7, 2011

Introduction

The Independent Review Panel (Panel) was announced on October 14, 2010. After preliminary discussions by phone and email, the five Panel members convened in person for the first time on November 18, 2010. At that time, the Panel was introduced to selected staff of the California Public Utilities Commission (CPUC). The Panel heard the staff's description of and perspectives on the September 9 PG&E gas transmission pipeline failure and the resultant explosion, fire and terrible aftermath in San Bruno. Eight people died, a 38-home neighborhood was destroyed, and many questions have subsequently surfaced.

The members of the Panel are:

Patrick Lavin, International Brotherhood of Electrical Workers 7th District International Executive Council Member.

Karl S. Pister, Chair of the Governing Board of the California Council on Science and Technology, Chancellor Emeritus, University of California, Santa Cruz, Dean and Professor of Engineering, Emeritus, University of California, Berkeley.

Paula Rosput Reynolds, President and Chief Executive Officer, PreferWest, LLC; former Chairman, President, and Chief Executive Officer of AGL Resources.

Jan Schori, counsel to the law firm Downey Brand LLP; former General Manager and Chief Executive Officer of the Sacramento Municipal Utility District.

Larry N. Vanderhoef, Chair of the Panel, Chancellor Emeritus, University of California, Davis.

The Panel has worked collaboratively and diligently since its creation. We find that our diverse professional experiences are contributing positively to our ongoing deliberations. We believe that we will fulfill our charter and bring important findings to the Commission and others who are all seeking to assure that a tragedy of this type never recurs.

Technical Root Cause Analysis

The media attention on this matter has been largely focused on the question: Why did the pipe physically fail? The technical root cause analysis of the failure is currently being investigated by the National Transportation Safety Board (NTSB). We see no justification in replicating the work of the experts that the NTSB employs in an investigation of this kind. Rather, the Panel has reviewed NTSB's findings to date and will use these and subsequent findings as input to our own investigation. Furthermore, we have resources available to us (as discussed further below) that can support the Panel, as necessary, in the proper interpretation of any and all technical materials that the NTSB releases.

At this juncture, we know through the NTSB's published findings, that the segments that failed were fabricated of a wide diameter welded steel pipe installed in the mid-1950's whose welds were not of sufficient integrity to support the pressure at which the entirety of the transmission line was rated to operate. PG&E (with whose representatives we have also met, as discussed further below), was not aware of the presence of this particular type of pipe, nor the defects in these segments, until after the NTSB's findings highlighted same.

Panel's Initial Focus

The Panel is interested in the above-described "first cause," but only insofar as "first cause" conclusions inform us about the decision-making approach to public safety and the quality of the pipeline integrity management efforts of the operator, PG&E. We have, thus far, met with PG&E's top management in two

sessions to learn about the company's safety and operating culture, goals, policies, practices, organization, performance measures, risk management framework, budgeting and spending on infrastructure maintenance and improvements. In addition, we have met with PG&E's responsible top technical management to learn about its gas engineering and operations, its methods of setting priorities for spending on system improvements, its overall pipeline integrity management philosophy and program, its technology platforms, systems and methods of managing critical historical and current data on its gas system. We have inquired as to the state of its automation, investment in technology, and ability to diagnose and respond to emergencies on its gas system in real time. Thus our efforts are intended to examine both the scope and quality of the **preventative** efforts and the **response** capabilities of the company.

The Panel is also asking a second category of questions. What is the role of the responsible regulators in the oversight of PG&E and its pipeline system? In this regard, we will solicit views of several parties who have been involved in the regulatory process of reviewing PG&E's operations and setting authorized levels of revenues necessary to fulfill PG&E's mandate for the public safety of its gas system. In addition, we have received and will review the 2005 and 2010 pipeline integrity audits performed by the Safety Branch of the CPUC. We intend to interview the relevant members of the CPUC staff regarding their technical capabilities, resources, policies, procedures and perceived effectiveness.

Although we have yet to meet a second time in person with the CPUC staff, it is important that you know that CPUC officials have taken certain important actions to facilitate this Panel's work. As referenced above, the staff was extremely helpful in providing the background on the pipe failure that we needed to begin our work. Second, a budget and facilities have been made available that seem adequate to the task. Third, CPUC administrators and staff have made themselves, and whatever CPUC talents they could call upon, available for our needs. Finally, these administrators and staff have used CPUC influence to help us in our scheduling of other agencies and parties.

Resources to Support the Panel

Almost from the beginning of our deliberations, the Panel identified the need to understand the best practices in the industry. We believe it is essential to evaluate the degree to which PG&E as an operator – and indeed all California natural gas pipeline operators – are being held to such best practices standards. In this regard, the Panel reached out to a number of reputable firms that do work on pipeline integrity management and natural gas pipeline engineering for support. As a result of this outreach, the firm of Jacobs Consultancy, and its team of internationally-known natural gas pipeline experts, has been retained. Jacobs Consultancy, which had been a contributor to the development of the most current industry standards, was vetted by the Panel, was found to be technically qualified, and was determined not to have performed any prior work for either the CPUC or regulated utilities operating in the state that would compromise its ability to render independent analysis. (The contracting procurement has followed state guidelines and is being administered through the CPUC’s contract administration program.) In general, the Jacobs firm will serve as our principal technical support for detailed investigation into all aspects of safety, pipeline integrity management, pipeline operations and maintenance, and quality assurance. [As a side note, you should also be aware that Jacobs and the Panel are scheduled to meet with the state’s other major natural gas pipeline operator, Sempra, to learn, among other things, about how Sempra approaches pipeline integrity management, risk management, and regulatory oversight. However, we do not intend to expand the scope of our investigation beyond San Bruno or PG&E.]

In addition to Jacobs, the Panel is currently in the process of retaining several other advisors. In particular, the Panel will be advised by Dr. Robert Nickell, a distinguished international expert in the area of dynamic response and structural integrity of vessels and piping to impulsive loadings, such as internal detonations, and the associated materials, metallurgy, and failure issues. Dr. Nickell will, among other things, assist the Panel on the technical interpretation of various reports and other information being prepared by outside agencies, such as the U.S. National Transportation Safety Board (NTSB), and the Panel’s other advisors.

The Panel is also in discussion with a prominent expert in the field of enterprise risk management and a firm with relevant pipeline regulatory expertise. These latter two experts will assist the Panel in: (1) determining the issues associated with having an effective corporate risk management program as well as the degree to which a gas operator has properly weighed the tradeoffs among options that enhance safety and reliability and the cost and effectiveness of those options ; and (2) evaluating best practice comparisons in the regulatory arena, including considerations such as the CPUC's present policy of a "graduated enforcement" system for pipeline safety and the CPUC's capital budgeting and rate-setting processes used for PG&E's gas transmission operations.

Summary

The Panel is proceeding apace. We are reasonably optimistic that we will complete our work by mid- to late-May. We are mindful that the level of public interest and concern regarding the San Bruno incident and the safety of the PG&E natural gas transmission system remains high. However, we also believe that the public will be best served by allowing us to be thorough in our multi-faceted investigation into this tragedy.

Sincerely,

A handwritten signature in blue ink that reads "Larry N. Vanderhoef". The signature is fluid and cursive, with the first letters of the first and last names being capitalized and prominent.

Larry N. Vanderhoef
Panel Chair