BLUEGREEN ALLIANCE FOUNDATION

December 23, 2016

Mr. Saurabh Vasudeva
U.S. Department of Transportation
PHMSA
Office of Acquisition Services (PHA-30)
1200 New Jersey Avenue, SE, E22-305
Washington, D.C. 20590

Ms. Karen Lynch
U.S. Department of Transportation
PHMSA
Office of Pipeline Safety (PHP-20)
1200 New Jersey Avenue, SE, E22-230
Washington, D.C. 20590

Dear Mr. Vasudeva and Ms. Lynch,

On behalf of the BlueGreen Alliance Foundation (BGAF), I'm pleased to submit a final report for the $88,600 technical assistance grant awarded September 18, 2015 (DTPH5615GPPT02).

The primary goal of BGAF's RECAP California project is to educate labor and community partner organizations about pipeline safety – especially those directly linked to the gas sector – and to engage them in collaborative efforts to improve the identification and prevention of hazardous conditions.

Since October 2015, we have engaged in the following activities based upon the parameters established in the grant agreement:

1) Assure that members of BGAF's community/environmental partners and of BGAF's labor partners are aware of pipeline safety issues.

Beginning in October 2015 to the present, BGAF conducted outreach to state-based community, environmental and labor partners to include the district and local members of the Utility Workers Union of America (UWUA - employing approximately 4,000 gas sector workers at the Southern California Gas/So Cal Gas utility), International Brotherhood of Electrical Workers (IBEW - employing approximately 16,000 gas sector workers at the Pacific Gas & Electric/PG&E gas utility), United Association (UA - Plumbers, Pipefitters, Welders and Service Techs Union), Environmental Defense Fund (EDF), Sierra Club, Natural Resources Defense Council (NRDC), and others. This has been carried out via presentations, meetings and fact sheets outlining characteristics of California's distribution gas system, and potential repair and inspection remedies made possible by the Gas Pipeline Leak Repair and Emissions Reduction Act ('pipeline repair act').

In 2014, Governor Brown signed the pipeline repair act (also referred to its bill number, SB 1371) into law. The act compels the California Public Utility Commission (CPUC) to determine and implement best practices for leak identification, repair, and avoidance, as well as better

accounting of the climate change impact of natural gas leaks occurring throughout the distribution systems carrying gas under throughout California's cities and communities. It also gives the CPUC the authority to develop ratemaking mechanisms to fund needed repair and replacement activities.

2) Build awareness about and capacity for key constituents to identify how they can mitigate potentially hazardous conditions.

It is in the interest of workers, communities and policymakers to improve pipeline education, and broaden the base of support for pipeline safety in order to advance solutions that make natural gas systems safe. For union members in the natural gas sector, they are the 'first and worst' exposed to safety and health hazards; for communities, workers, and families, reducing the risk of damage to the environment and workplaces from explosions, air pollution and climate change impacts from natural gas leaks is a clear benefit.

BGAF convened the partners identified in section 1 to A) develop jointly-agreed upon best practices (to include more frequent pipeline inspection, improved leak classification, repair requirements in addition to leak monitoring, and improved training and safety programs), B) apprise additional stakeholders of the relevance of these practices in advancing safety and C) advance these priorities during public proceedings related to the implementation of the pipeline repair act. Key dates encompassing these activities include:

- Project kickoff – November 2015/San Francisco and San Ramon, CA. Key participants included representatives of UWUA, IBEW, and EDF.
- EPA Natural Gas Star Distribution Implementation Workshop – November 2015/Pittsburgh, PA
- Pipeline Safety Trust annual meeting – November 2015/New Orleans, LA
- Best practices development meeting – December 2015/Palm Springs, CA. Second convening for representatives of UWUA, IBEW and EDF.
- California Public Utilities Commission best practices workshop – January 2016/San Francisco, CA. Key participants include representatives/staff among the UWUA, IBEW, EDF, PG&E, So Cal Gas, Sempra Energy, Southwest Energy, Wild Goose, City of Long Beach, California Air Resources Board (CARB), and CPUC.
- Education and outreach phase – February 2016-present, statewide. A total of 66 state-based groups and public officials have been engaged in meetings and ongoing education and outreach with the project team, including, but not limited to: City and County of Los Angeles, City of Santa Monica, City of Garden Grove, City of Tustin, Coalition for Clean Air, Union of Concerned Scientists, Communication Workers of America, Physicians for Social Responsibility and more.
- In October 2016, the collaborative model hosted a 3-hour plenary session at the national

Inter Union Gas Conference in San Diego, which engaged 500 gas sector union leaders and workers from several states/utilities across the nation to educate them on the collaborative efforts conducted, and identify, record, and respond to challenges and opportunities regarding safety, leak reduction/repair and reducing emissions at their respective workplaces.

- In a collaborative partnership with the Mayor's Council on Pipeline Safety(MCPS)/City of Allentown, PA, this project added research from the MCPS/Accufacts, Inc. 2015 report to our awareness-building outreach on five distinct areas pertaining to pipe safety:
    - leak detection
    - defining more consistent and prescriptive distribution line safety regulations
    - development of a model Urban Pipeline Initiative in which utilities and cities share pipeline mapping information
    - prescriptive response best practices specific to urban communities
    - use of automatic shut off valves

3) Develop, propose and implement labor-community-business hazard prevention strategies in communities adjacent to distribution pipelines.

Our convenings, education and outreach activities identified the following opportunities to identify best practices to include more frequent pipeline inspection, improved leak classification, repair requirements in addition to leak monitoring, and improved training and safety programs. These ideas are as follows:

1. Consistent statewide standards should be established for gas leak grading. Classification by the utilities has not been consistent across the state. The terminology varies between utilities as some utilities refer to leaks by grades or codes. Additionally, there are some variations between how utilities define leaks.

2. California should repair non-hazardous leaks with a defined timeframe rather that continuous monitoring. Using a consistent California grading system of 1 through 3, grade 2 leaks and above-ground grade 3 leaks should be repaired within one year from discovery for all non-hazardous leaks. This would ensure utilities address leaks in timely fashion as opposed to maintaining tens of thousands of repairs in backlog and/or monitoring leaks for years.

3. California should prioritize the replacement of leak-prone pipe to include older plastic. California passed recent legislation compelling operators to prioritize the replacement of pipes that are more susceptible to leaks. Aldyl-A plastic and bare steel gas main are much more prone to leakage than advanced materials currently available for gas distribution; bare steel pipes are estimated to be 57 times more prone to leakage than protected steel mains; and Aldyl-A plastic mains often become brittle and crack well short of their anticipated service life. These standards

should require the replacement of all cast-iron pipes within 10-15 years and ensure that cast-iron pipes are replaced with the best materials, which would be coated steel or polyethylene (PE) plastic pipes.

4. Repair and replacements should target certain equipment that has higher chances of leaking. This includes the immediate replacement of anodeless (AL) risers in less than good repair (i.e. leaking, swollen, or showing noticeable corrosion). These conditions indicate that risers have lost their capacity to hold normal gas pressures and may be leaking. AL risers are typically located next to the foundation of homes, schools, hospitals and other residential and public buildings. Because they are located above a shut off or safety valve, a leak cannot be easily turned off, releasing gas within the vicinity of these buildings and serving as potential sources of ignition. A third of reported leaks by the public involve a Meter Set Assembly (MSA). MSA leaks are recommended to be repaired the same day/within 24 hours of discovery. These devices regulate and measure the volume of natural gas delivered to customers, and like risers, MSAs are typically located above ground and adjacent to the foundations of homes, schools, hospitals and other residential and public buildings.

5. Operator Qualifications should include strong standards for worker qualification and proficiency to help ensure the integrity and quality of pipe repair and modernization efforts. Effectively fixing pipes requires a strong focus on workers. Establishing job classifications for apprentices, journeyman, and specialists are critical to ensure that the people doing the work have the training and knowledge to do so. These programs should also incorporate comprehensive, formal training and mentorship programs that transfer best practices regarding maintenance, leak repair, and keeping the public safe as the age of the energy sector workforce is increasing much more rapidly than other sectors in the economy.

These priorities have been advanced in education efforts, which included comprehensively capturing these best practices and identifying paths forward to implementation through SB1371 during the outreach phase of the project (February 2016 to present). These ideas have been disseminated to partner groups via roundtable discussions, in-person briefings with state-based workforce, community, public health, environment & environmental justice groups, public works officials, city council members/mayors and state regulators, and through moderating the plenary session at the Inter-Union Gas conference.

The final report synthesized research, comprehensively assessed conditions, and recommended actions, and drew heavily from the collaborative model. The materials developed were made available via the BGA website: http://bit.ly/2igosyD.

If you have questions regarding our work, please don't hesitate to contact me at 415-549-5018 or jtengco@bluegreenalliance.org.

On behalf of everyone at the BlueGreen Alliance Foundation, thank you for supporting our efforts over the past several years to help educate our partners, policymakers, and the public about natural gas distribution pipeline safety. We look forward to working together again in the future should the opportunity arise.

Sincerely,

Jose Tengco
West Coast Director