MEMORANDUM

TO: Dan Blankenship/RFTA
CC: Mike Hermes/RFTA
FROM: Tony Haschke/SGM
DATE: January 15, 2018
SUBJECT: CNG Support

Project Summary

The purpose of this project is to support the Roaring Fork Transportation Authority (RFTA) in its effort to maintain the CNG-related safety components at the GMF.

Executive Summary

Inspections were conducted and there were three significant areas of concern to report.

- During the September 19, 2017 monthly inspection, we encountered an unattended diesel bus in the fueling bay being fueled. We notified the supervisor who responded accordingly.
- Responses from office staff, dispatch, drivers, and hostlers indicate varying degrees of familiarity with CNG training. Some say CNG training was only conducted when hired, some say they receive it every 6 months, some say annually. The training should be consistent. Blake had mentioned he is considering making some videos for continued training.
- SGM observed drivers walking through fueling bay on several occasions this quarter. Only hostlers and building maintenance personnel should be in the fueling bay. Drivers and other personnel should not walk through the fueling bay to meet safety standards of CNG fueling.

Noteworthy issues include:

- Building maintenance staff continues to do a commendable job keeping equipment maintained so that CNG fueling is safe and as uninterrupted as possible. SGM now reviews the maintenance reports in Trapeze.
    - Reviewing the maintenance reports indicated two instances when the diesel pump was left on. These two instances occurred on 12/16 and 12/29/2017.
- Staff that was interviewed about safety protocol generally was informed; however, drivers still have less CNG knowledge than hostlers and mechanics. Consistent training is recommended.
- SGM toured the roof on its last visit and inspected the HVAC equipment, exhaust fans, and event exhaust fans. Maintenance was being performed by building staff at the time. Air filters were replaced, belts were checked or replaced, bearings were greased, etc.

Unannounced Safety Inspection Summary

Task: At least once a month, confirm safety procedures are being followed by on-site observation. Procedures include use of fuel bay and maintenance bays.

Progress Report: Since the last report, fueling, vehicle maintenance, building maintenance, driver and administration staff on duty at the time was randomly surveyed with the questions listed in the 'Inspection Checklist'. In general, most staff (except drivers) was familiar with CNG safety protocol and was adhering to CNG procedures as outlined in the training manual. RFTA staff has consistently 'passed' inspections.

Quarterly Safety Inspections

Tasks:

1. Review maintenance checklists and methane detector calibration record completed by RFTA staff and/or contractors: Confirm whether maintenance and methane detector calibration is being documented regularly. *Yes to maintenance performed by RFTA staff. Yes to methane detection calibration.*

2. Review contractor bids and/or invoices: Verify that costs and billing are justified. *No invoices were present this time period.*

3. Physical inspection of equipment: Confirm whether maintenance is occurring regularly and that it is being performed properly. Inspected equipment includes CNG-related HVAC equipment, overhead doors, methane detectors (visual inspection only), horns and strobes, emergency generator and BAS system. SGM started receiving electronic copies of daily, monthly and quarterly maintenance logs from the Trapeze AssetWorks software after the first quarter of 2017. SGM has reviewed these files for last three quarters of 2017. *Spot visual inspection of equipment and maintenance records indicates that maintenance is being completed.*

4. Functional testing of the sequence of operations: Confirm whether the sequence of operations for CNG safety components as listed in the Emergency Response Plan is functioning as intended. This test will include setting off one methane detector for the sole purpose of verifying sequence of operations.

5. Run and review trend logs from BAS: Identify any irregular operations or malfunctions through the review of trend logs. **SGM needs RFTA network log on credentials for the BAS system review. Grimes has given SGM login credentials; however, SGM still needs a Cisco VPN Client from Andy Herms. I have sent many emails asking Andy for this access.**

Progress Report: GSC was contracted to perform quarterly service to equipment, which is now subcontracted to AR. RFTA Facilities Maintenance staff also performs daily, monthly and quarterly maintenance. RFTA staff has maintained its increased maintenance inspection interval from monthly to daily on several components that are critical to the CNG safety system.

All work appeared to be performed as required and there are no obvious signs to the contrary. RFTA staff maintenance logs were thorough and indicated no obvious signs of system failure.

Annual Safety Inspections

Task: Physical test of all methane detectors: Conduct 20% and 40% test of all methane detectors.

Progress Report: This inspection was conducted on November 14, 2017. The calibration by GSC was completed per manufacturer's recommendations.

Inspection Summary

CNG Support Inspection Report						
#	Inspection	Freq.	Pass/ Fail	Date	Inspector	Recommendation
1	Fueling procedures	Mnthly	pass	10/10/2017, 11/15/2017, 12/12/2017	Ty / SGM Ty / SGM Ty / SGM	Remind drivers not to walk through fueling bay. Remind hostlers to turn off diesel pump.
2	Vehicle maintenance	Mnthly	pass	10/10/2017, 11/15/2017,	Ty / SGM Ty / SGM	

	procedures			12/12/2017	Ty / SGM	
3	Building maintenance procedures	Mnthly	pass	10/10/2017, 11/15/2017, 12/12/2017	Ty / SGM Ty / SGM Ty / SGM	
4	Grimes Service & Al Ray's			11/14/2017		
a	Electronic detector testing	Qrtrly	pass	11/13/2017	GSC	Calibrated sensors.
b	EF & MAU Maintenance	Qrtrly	pass	11/14/2017	Al Ray	MAU 3 was noted to have dirty filters.
c	Sequence of Operations testing	Qrtrly	pass	11/14/2017	GSC	
d	BAS trend log review	Qrtrly	pass	11/14/2017	GSC	Issue with JACE battery was reported.
e	Report communication	Qrtrly	pass	11/14/2017	GSC	
5	Trillium Service	Qrtrly	n/a			None at this time.
6	Physical detector testing	Annual	n/a		GSC	Due in December
7	Other					

Inspection descriptions:

1. Verify that RFTA staff follows fueling procedures as outlined in 'Mechanics Training Manual for Compressed Natural Gas (CNG) Transit Vehicles' (CNG Training Manual).
2. Verify that RFTA staff follows vehicle maintenance procedures as outlined in the CNG Training Manual.
3. Verify that RFTA staff follows best practice maintenance procedures as outlined in 'GMF Maintenance Manual'.
4. Verify that Grimes Service Company, and now Al Rey is complying with its preventative maintenance contract as outlined in its May 1, 2013 Scope of Work.
5. Verify that Trillium CNG is complying with its service contract as outlined in its Exhibit D. Physically test methane detection system with gas.
6. Miscellaneous