RECOGNIZING SOFT VEHICLE TANK VACUUMS

This procedure addresses recognizing soft vacuum in vehicle tanks manufactured by Chart or NexGen Fueling. Use this procedure to identify if vacuum maintenance in LNG vehicle fuel tanks is needed.

1) Inspect the vehicle tank for the following events before it is sent into service for the shift:

   a. Observe exterior of tank for sweating.

   b. Touch the metallic shroud surface of the tank with one hand. Then with the same hand touch the metallic outer shell. Is there a noticeable difference in temperature between the tank shell and shroud? Is there a noticeable difference between the tank being inspected and tanks on other vehicles in the fleet?

   c. Read pressure on the vehicle tank pressure gauge. Is the tank pressure higher than that of the rest of the fleet?

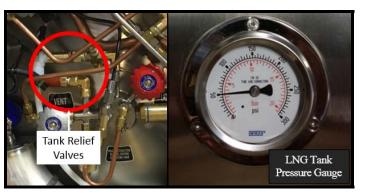   d. Check if tank is venting through vehicle tank relief valves.

Figure 1

2) Test the tank pressure rise. Refer to Operations Manual for proper tank testing procedures. Check tank for the following items before conducting test.

   a. Ensure vehicle tank is between ½ to ¾ full.

   b. Drive vehicle for 10 minutes to stabilize the tank pressure and temperature.

   c. Ensure vehicle tank is at normal operating pressure. (economizer set point)

3) Allow vehicle to sit motionless for 15 minutes to stabilize the system.

4) Record tank pressure and time at which pressure was taken.

5) Allow tank to set for at least 8 hours.

6) Record vehicle tank pressure and time at which pressure was taken.

Rate of Pressure Rise	Recommended Service Action
Rise/8hrs = less than 0.7 bar	Tank is normal
Rise/8hrs = greater than 0.7 bar, but less than 2 bar	Monitor tank and include vacuum maintenance at next periodic service for vehicle
Rise/8hrs = greater than 2 bar	Perform vacuum maintenance as soon as possible

This procedure is for use by trained mechanics experienced with using Liquefied Natural Gas systems and vacuum technology. Review all pertinent safety documents before starting this procedure.