

Facilities Optimization for Introduction of NGV Fleets

Background

The fleet vehicle industry is in a significant transition period as many diesel vehicles are being replaced at the end of their useful life with cleaner NGV technology that runs on compressed or liquefied natural gas. Today, the most common examples of transitional fleets are CNG-fuelled refuse haulers and transit buses.

Given the nature of gaseous fuels, such transitions require the construction or modification of facilities to meet appropriate safety and functionality criteria.

Where to Start: Make Informed Decisions that Best Serve Fleet Needs

There are four key areas that require informed decision-making when planning the facilities for your natural gas fleet: Fuelling, Vehicle Repair & Maintenance, Vehicle Storage when not on the road, and in some cases, Cargo Handling.

Type of fleet:

Return to base and/or Over the road and/or Other facility NG vehicles

Decisions to make for your fleet needs:

Vehicle Fuelling	Repair & Maintenance	Vehicle Storage	Cargo handling
<input type="checkbox"/> Onsite <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>	<input type="checkbox"/> Major and minor onsite	<input type="checkbox"/> Indoor	<input type="checkbox"/> Indoor
<input type="checkbox"/> Indoor	or	or	or
<input type="checkbox"/> Sheltered Outdoor	<input type="checkbox"/> Minor only onsite	<input type="checkbox"/> Sheltered	<input type="checkbox"/> Sheltered
or	or	<input type="checkbox"/> Outdoor	<input type="checkbox"/> Outdoor
<input type="checkbox"/> Outdoor	<input type="checkbox"/> Major and minor offsite	<input type="checkbox"/> Outdoor	<input type="checkbox"/> Outdoor
or			
<input type="checkbox"/> Combination of onsite and offsite <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>			
or			
<input type="checkbox"/> Offsite			

Fast-fill and/or Slow-fill
 Onsite component

Change Energy assists fleet operators to make decisions that can be implemented to serve the unique set of factors and requirements that pertain to their operations.

An operator's typical vehicle attrition and replacement practice is one of many decision factors. Some operators require a purpose-built CNG facility to serve an all-new CNG or LNG fleet. Others look to modify an existing facility so that they can begin to systematically introduce CNG or LNG vehicles into their fleet.

Implement a Holistic Solution

Once a fleet's full set of needs has been assessed and gaps have been identified, Change Energy will apply its extensive expertise of the industry's best practices and related codes to design and deliver an optimal, holistic solution.

Facility Design Elements (applies to new facility or integration of new/existing):

- Compression compound – Sizing and procurement of equipment
- Fuelling area – Optimized layout and dispenser selection (fast fill vs. slow fill) for safe and efficient fuelling to accommodate typical cyclical demands
- Repair Garage / Defuelling area – Application of in-depth knowledge of safety measures that align with standard repair and procedures
- Vehicle Storage Area – Optimized layout for space usage, traffic flow and, above all, safe storage
- Systems (HVAC, Electrical, Detection systems, Shutdown) – Incorporation of current best practices and time-tested technologies

Design and Installation Approvals: As there is no written code that specifies the requirements for NGV facilities, Authorities Having Jurisdiction (AHJs) typically handle the process by using a set of technical guidelines published by the industry in 2012. Change Energy's many years of designing and constructing NGV facilities provides them with experience in a wide range of AHJ and jurisdictional approaches to NGV approval requirements.

Hazard Identification and Risk Assessment (HIRA): Our holistic approach to risk assessment encompasses people, systems, equipment, and cost issues over the life cycle of your facility. The ultimate facility design will mitigate risks to ensure a safe environment for employees, the neighbouring community and your capital assets.

Safety System Management: With expertise in all applicable facility-related standards, we assist with the development and implementation of safety and health management systems that will meet independent certification.

Emergency Response Plan: A facility-specific emergency response plan will activate your system to engage appropriately for all types of potential upset conditions. It will mobilize your people to execute the correct and timely response.

Personnel Training: The 'people factor' is critical to your facility's overall performance in all respects, safety and otherwise. Change Energy routinely delivers training programs including but not limited to:

- Workplace Specific Training
- Hazard Identification and Risk Assessment
- Facility Accident Investigation
- Management System Training
- Safety Audit

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