



MN-PV-CIS-011

Fuel Truck Competency Manual

MN-PV-CIS-011 – Fuel Truck Competency Manual
Rev 4

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Training Expectation Letter

It is required that this document is completed prior to the Employee starting training on a Fuel Truck. This document will serve as formal record that all parties have reviewed and understand the expectations for training on the Fuel Truck.

Trainee Name:

Date of Discussion:

Expectations of Supervisor/Leader

- Ensuring trainee has scheduled time for training.
- Ensure trainee has reviewed and understand the technical documentation
- Ensure trainee has been provided a demonstration on equipment operation
- Verify field competency sign offs once completed
- Ensure trainee is working with a competent mentor until they are competent themselves
- Provide support for the assessor, mentor, trainer and trainee whenever possible.
- Ensure training documentation is sent to CEDA Training Department

Expectations of Trainer, Mentor, assessor

- Must be qualified in the position for which he/she is training.
- Educate and support trainee with technical review package.
- Ensure trainee has been provided a demonstration on equipment operation
- Review trainee's technical knowledge and verify acceptable understanding
- Educate and support trainee with field tasks identified in the competency check sheet
- Verify trainee has the ability to perform tasks identified in the competency check sheet
- Communicate to Supervisor that the technical review and field competency is complete

Expectations of Trainee

- Complete all prerequisites outlined within the training program.
- Understand the training process outlined in this document.
- Understanding systems and spending time in the field.
- Ensure all lessons and tasks are signed off by the appropriate personnel as indicated on the training documents.
- Inform Supervisor/Leader on progress of training through face to face meetings.
- Will utilize all the materials provided to ensure a comprehensive training program is followed.
- Provide feedback on the training process and any updates that are required to the training material.
- Inform Supervisor/Leader of any training barriers that may exist during the training process.

Training Expectation Acceptance Agreement

I, _____ understand the expectations of me as a trainee as outlined in this document

(Operator Name)

Operator\Trainee

Name

Signature

Date (MM\DD\YY)

Supervisor/Leader

Name

Signature

Date (MM\DD\YY)



Acknowledgement

This manual has been developed using information and knowledge obtained from manufacturer's documentation and input from experienced Operators. Additionally, this manual has been validated by numerous Subject Matter Experts at CEDA. We welcome any comments or suggestions pertaining to this manual and its contents.

Many thanks to those who have demonstrated a clear dedication to CEDA and our values by participating in the creation of this program.





Objective

Welcome to CEDA Fuel Truck Operation Training Process

This program is designed to provide you with the training necessary to carry out your job in a manner that safeguards yourself, those around you and our environment. Upon Completion of this Module you will be able to:

- 11.01 Operate Fuel Truck
- 11.02 Operate One-Ton Fuel Truck

Employee(s) will demonstrate knowledge & skill in the proper application of equipment through practical application.

Instructions

All material must be completed in the order presented to ensure that prerequisites are met.

Employees will demonstrate knowledge and skill in the proper application of equipment through practical demonstration and application.

NOTE: All forms and procedures included are those required by CEDA. Work must be performed in accordance with these standards. On Client work sites, there may be additional standards and modified work procedures that will also have to be met.

Description: This is a knowledge and practical skill that requires written material to be reviewed along with the completion of an on-the-job demonstration prior to the test being written.

Whenever possible, the on-the-job demonstration should be completed at a job site or the shop under controlled conditions.

Arrange a time with your Mentor/Supervisor/Trainer to complete the On-the-Job Demonstration, where you will observe the proper operation of the Steamer unit and its components.

Assessment of Competency: Successful completion of this competency requires:

- A score of 100% on the written examination.
- A successful demonstration by trainee requiring a sign-off from Trainer.

Renewal Period

The entire Module must be redone after:

- Leaving the employ of CEDA for a 6-month period,
- Leaving the Fuel Truck operations for a period of 6 months,
or
- As deemed required by CEDA.



Prerequisites

- CEDA Orientation
- CSO/BSO
- NFPA 472 Awareness Plus Course (offered by CERT)

Below is a list of the learning resources that are included and others you must obtain the most recent version from your Supervisor.

- CEDA Pre-Trip Inspection (Vehicle Inspection Report)
- Site specific documentation
- Job Hazard Analysis for the work
- CEDA FLHA
- Other CEDA procedures and practices that pertain to the job being completed
- Fuel Truck loading/offloading procedure

NOTE: All forms and procedures included are those required by CEDA. Work must be performed in accordance with these standards and can be found in CEDA Health, Safety and Environment Management System (HSEMS) or be requested from your Leader. On Client work sites, there may be additional standards and modified work procedures that will also have to be met.

General Overview

Federal & Provincial Legislation

All work must be completed in accordance with applicable Municipal, Provincial, & Federal Acts & Regulations, including but not limited to:

Transportation of Dangerous Goods (TDG)

- Vehicle must be DOT Approved and be equipped with appropriate safety devices
- DOT approved vehicles will have sticker on side of unit
- Operator must place appropriate placards on side of vehicle
- Operator must prepare bill of lading prior to transporting materials

The Workplaces Hazardous Materials Information System (WHMIS)

- All CEDA field employees working with or around equipment will have WHMIS and TDG training prior to starting work.

Occupational Health & Safety (OH&S)

Seat Belts

Anytime a vehicle (CEDA owned or personal) is being operated during business hours for business use, or on CEDA property, the occupants must be wearing seatbelts.



Personal Protective Equipment (PPE)

To operate the Fuel Truck, employees must have and utilize the following personal protective equipment (PPE):

- CSA Certified Hard Hat
- CSA Certified Safety Boots (Boot Grips when required)
- Fire Retardant Coveralls
- Hearing Protection (plugs or muffs)
- Approved Gloves for the Site/Task
- Safety Glasses with Side Shields.
- Rain Gear as Required



Workplace Organization

CEDA's goal is to reduce waste (time, energy and materials) by maintaining an orderly and clean workplace, including our trucks and equipment. We ask that you take pride in the equipment you operate; treat it as if it were your own. A clean and organized vehicle/workspace is a safer vehicle/workspace. There are many ways to eliminate waste:

Allocation & Utilization of Resources: Have the right people and equipment in the right place, at the right time. Use equipment and resources on tasks and activities that are required and add value to our business.

Improve Productivity: Eliminate redundant or unnecessary steps/tasks without negative impact to the safety or quality of our products and services.

Use of Materials: Ensure equipment is stocked with required supplies (filter bags, duct tape etc.) before leaving for jobsite – replace the materials you have used during the shift to ensure that the next crew is adequately stocked. Use the correct materials in the quantities required to do the job safely & correctly.

Preventative Maintenance: Tools and equipment should be assessed as per the performance maintenance schedule to ensure safe operation. Regular maintenance will reduce costly breakdowns in the field.

There are steps we can take to improve our current state and move towards a more productive, organized and safe work environment. Improving workplace organization will reduce costs, improve morale and create a safer work environment. The following steps outline how best to achieve an organized workplace:

Sort, organize and eliminate unnecessary items from the workplace to eliminate clutter. Keep only essential items.

- Tools and equipment that are not utilized for day-to-day operations should be repurposed within the organization or discarded.
- Garbage or loose items should be removed or properly stored.

Prioritize tools, parts and materials based on usage and keep them in easily-accessible places.

- A place for everything and everything in its place.

Create storage areas that are easy to access and clearly laid out:

- Tools and equipment should be stored clean and ready for use.
- Storage areas and stored items should be properly identified using signage, labels or a visual outline.

Set clear standards for workplace organization:

- Hold yourself and others accountable for keeping the work areas clean and safe. Make workplace organization a standard work rule in your area.
- Clean general work areas and equipment after each shift.

- Put clean tools away in the proper place.
- Note any spills, leaks or other messes – clean and report if equipment requires maintenance
- Inspect the area(s) regularly and immediately record and correct any infractions. Handle deviations from work rules in a timely manner.
- Review processes and procedures regularly and adjust as required.

11.01 Operate Fuel Truck

Fuel Truck Operation – General

Fuel trucks are used to transfer diesel fuel from one location to another. CEDA is contracted to fuel storage tanks, compressors, light plants, small and heavy machinery at various worksites.

Major Components of the Fuel Truck

The following section identifies and describes the general components found on the fuel truck. Please refer to the appropriate operator's manual for more detail, as necessary.



Fuel truck loading at fueling station



Although each unit may vary slightly, a typical fuel truck is composed of the following main components:

1. Tank
2. Tank Hatch
3. Bottom Load Connection
4. Grounding and Scully Systems
5. Fuel Delivery System
6. Belly Valve
7. Pump
8. Safety Equipment

1. Tank

The tank on the fuel truck is made from carbon steel and depending on the type of unit, will have different capacities. The single axle units have one compartment with a capacity of 10,000 L. The tandem axle units have three compartments and three separate loading ports. Starting at the front of the unit, the first compartment has a capacity of 5,000 L, the second (middle) has a capacity of 4,000 L, and the last compartment has a capacity of 6,500 L. It is extremely important to be aware of the capacities of each compartment; especially during the loading procedure.

The tanks on the fuel trucks are not pressurized and are loaded to 90% capacity.

Each tank is bottom loaded with a special connection. The fuel is loaded at a rate of 2,250 L per minute. Therefore, the single axle unit (10,000 L) will fill in approximately four minutes.

2. Tank Hatch

The tank hatch is located on the top of the tank and is not normally opened during fueling. The fuel trucks do not have a safety rail installed on the top of the tank, therefore climbing the tank is prohibited. However, there are circumstances when the tank hatch is opened:

- On occasion, a fuel truck may break down. In this situation, the remaining fuel in the vehicle must be loaded into another fuel truck. The only way to offload fuel from one unit and into another is through the tank hatch. If this occurs, Fall Arrest training and Fall Protection equipment may be necessary. Check with your Supervisor before attempting this activity.
- During maintenance and inspection, maintenance crews are required to open the hatch and inspect the inside of the tank for damage or wear.

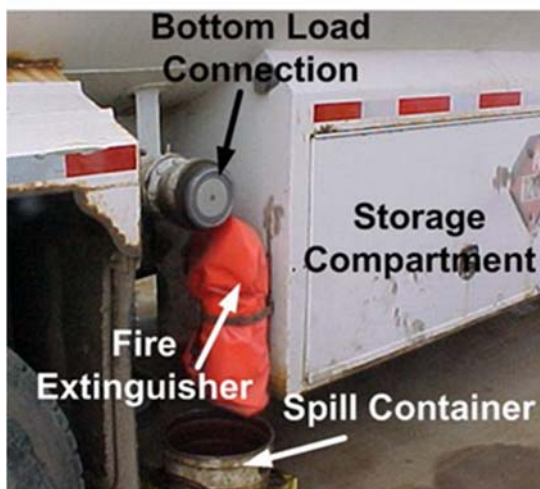


Tank Hatch

3. Bottom Load Connection

The bottom load connection is the main inlet line to the tank and all fuel is loaded through this line.

Precautions must be taken in order to limit spills. A spill container is placed below the bottom load connection to ensure residual fuel does not contaminate the loading area. This spill container is metal/polyethylene in construction. **Plastic pails or containers ARE NOT allowed in the area because plastic containers are prone to static discharge.** Plastic is a non-conductive material and therefore does not dissipate the static charge. The result is an accumulation of static, and possible discharge.



← Bottom Load Connection

When the vehicle is preparing to load fuel, a loading arm is attached to the bottom load connection. However before this connection is made, a ground connection and Scully plug must be attached to the unit.



Fuel Truck Operator attaching Loading Arm to Bottom Load Connection (Simulated)

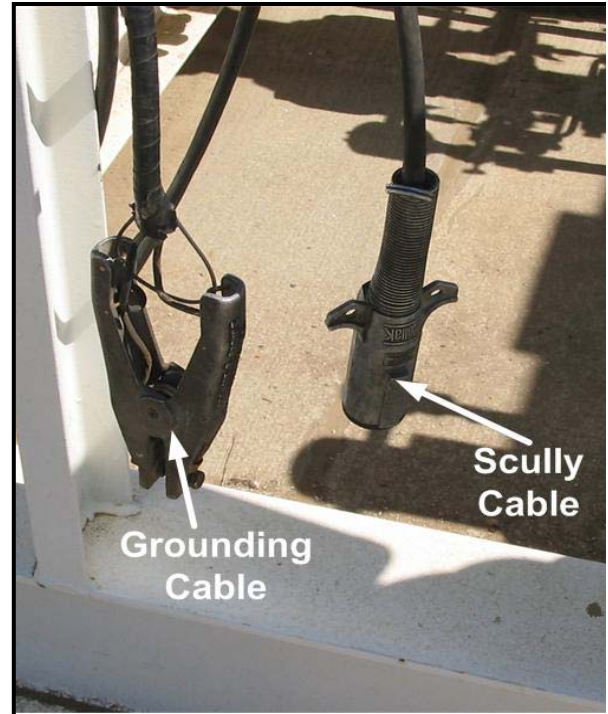
4. Grounding and Scully Systems

Two of the most important safety features of the loading station are the grounding and Scully systems. Both of these systems must be properly utilized before loading can begin.

a) Grounding System

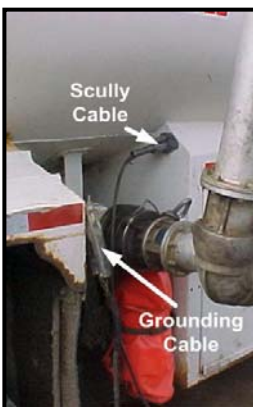
Fuel trucks need to be grounded directly to the earth or bonded to another object that is inherently grounded, such as a large storage tank or underground piping. Grounding minimizes the electrical potential differences between objects and the earth to prevent a static charge. Grounding brings all parts of any system to zero electrical potential by allowing electrical currents to dissipate to earth.

The fuel trucks rely on two grounding systems: one that is used for loading, and one that is used during offloading. During loading, a grounding cable will be located at the fueling station



Grounding and Scully Cables located at Fueling Station

Before **loading** procedures begin, the grounding cable must be attached to the fuel truck. Grounding locations on fuel trucks may vary.



Before **unloading** procedures begin, the grounding cable located inside the storage compartment must be attached to the equipment being fueled. (See below grounding system)

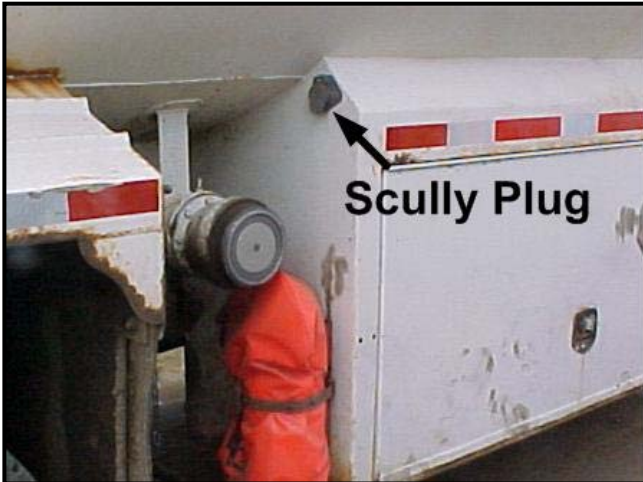


^ Ground and Scully Cables attached to Fuel Truck

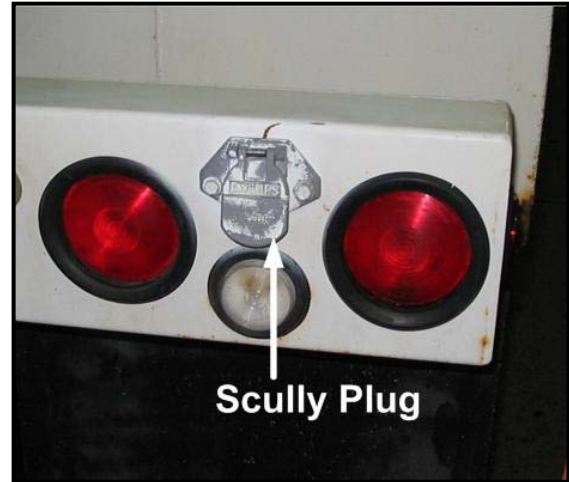
b) Scully System

The Scully system is also known as the overfill protection system. The Scully cable must be properly installed before loading can begin. The Scully system is connected to a computer system on the loading rack and helps prevent the fuel truck from over-filling. There is also a sensor on the fuel truck and as the tank fills to 90% capacity, the Scully system will automatically shut down to prevent overfill.

The Scully plug locations may vary on fuel trucks.



Scully Plug Located on Side of Unit



Scully Plug Located on Rear Bumper

When both the grounding and Scully systems are properly installed, the grounding and Scully indicators will illuminate green.

The panel on the left (red label) is for the Scully Plug and the panel to the right (green label) is for ground. Both panels must illuminate green before fuel will be delivered.

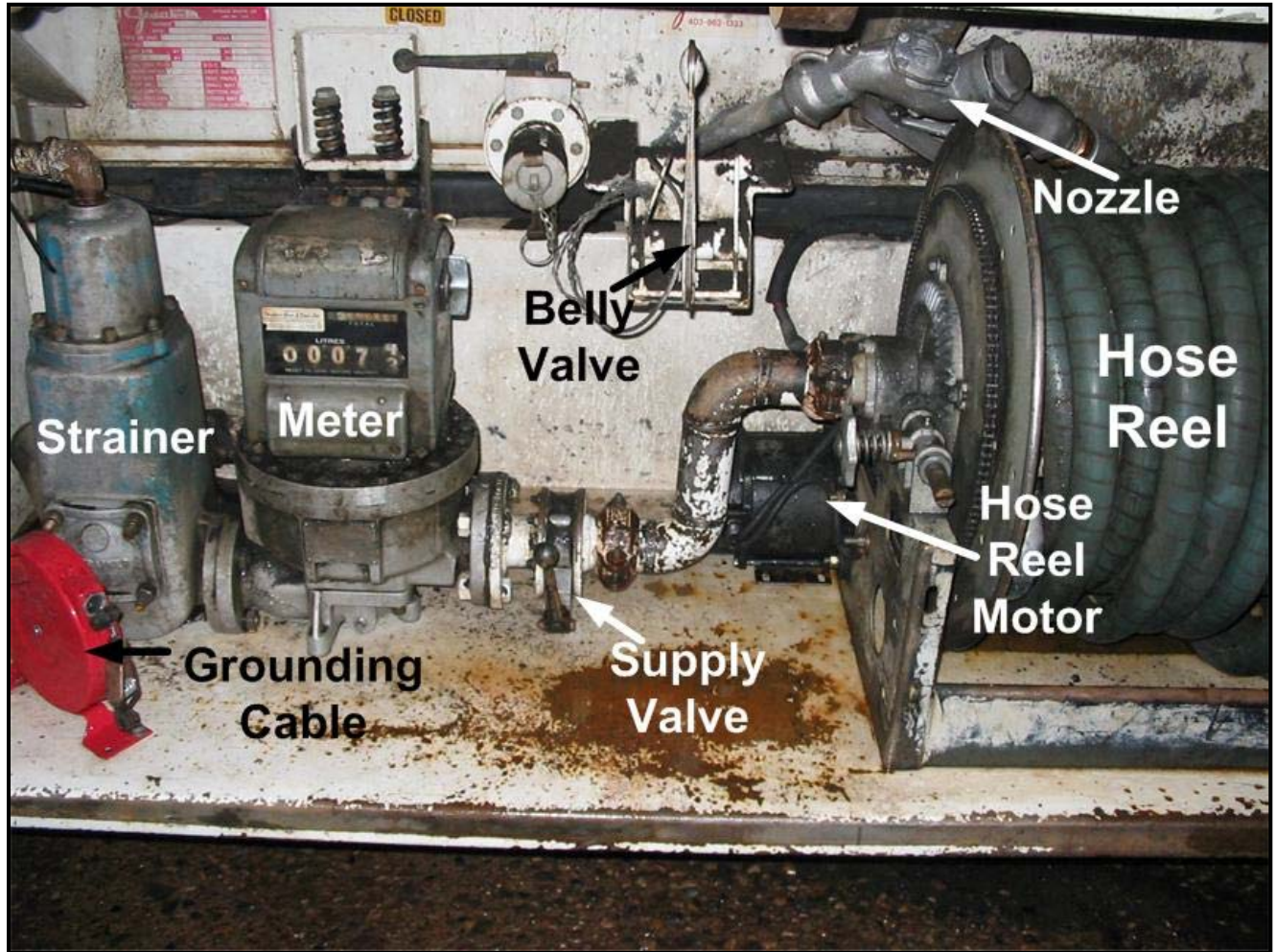
If either system is indicating a red light, fuel will not be delivered to the tank.



Ground Indicator and Scully Indicator – Both indicators are red

5. Fuel Delivery System

Many components of the fuel delivery system are contained inside a storage compartment below the tank.



Delivery components mounted below the tank.

a) Strainer

During delivery, fuel is pumped through a strainer mounted before the meter. The strainer has a filter that removes debris from the fuel that might damage the meter.

The image to the right shows the location of the filter.



Strainer Filter Location

b) Flow Meter

The flow meter is used to measure fuel delivery. All measurements are in Litres (L).

The meter is reset after each delivery using the dial on the right side of the device.



Meter and Reset Dial

c) Supply Valve

The supply valve is opened when delivering fuel. This valve is to remain closed during transportation and loading.



Supply Valve

d) Hoses/ Fittings and Electric Hose Reel

The fuel hose is 100 feet with an inside diameter of 1¼ inches. When fueling a storage tank or piece of equipment, the operator will manually pull the hose from the reel.

In most cases, the operator will position the vehicle as close as possible to the equipment being fueled.

When the operator has completed refueling a piece of equipment or tank, the hose must be rewound on the reel. An electric “explosion proof” motor attached to the reel accomplishes this.

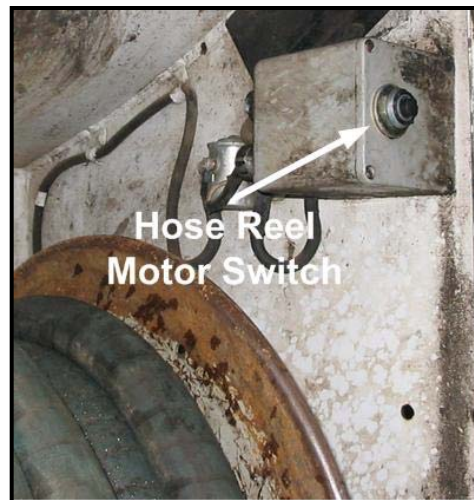
The motor is operated by a switch located above the reel. When the switch is pressed, the reel will automatically rewind the hose.

In the event the electric motor fails, the operator can manually rewind the hose.

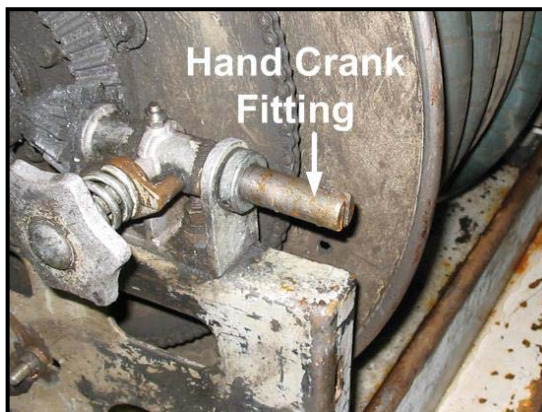
The image to the right demonstrates the location where a manual hand crank can be inserted. The operator simply turns the hand crank to rewind the hose.



Hose Reel Motor



Hose Reel Motor Switch



Hand Crank Fitting for Manual Rewind

e) Fuel Nozzle

The fuel nozzle is very similar to one you would find at a regular gas station; however, those found on fuel trucks are much larger.

During routine fueling operations, the operator must always remain with the nozzle. For example, as the nozzle is unwound from the reel, the operator must prevent the nozzle from dragging.

Also, at the completion of fueling a tank or piece of equipment, the operator must walk back to the fuel truck unit with nozzle in hand and rewind the hose. The hose should never be rewound in a manner that allows the hose to drag on the ground. Allowing the nozzle to drag on the ground is unsafe and could cause damage.

All hoses and fittings must be visually inspected before each use.



Fuel Hose Nozzle

f) Spit Tank

The spit tank may be mounted on the inside or outside of the delivery compartment. (The image to the right is an example of a spit tank mounted on the outside of the delivery compartment.)

Water or condensation may form inside the delivery system and will collect in the spit tank.

The spit tank must be drained daily. All fluids drained from the tank should be handled as environmentally hazardous and disposed into designated waste tanks.



Spit Tank and Drain

6. Belly Valve

The belly valve is opened during loading and offloading. The belly valve is typically opened from the delivery side of the vehicle using a lever.

The belly valve is to remain closed during transport.



Belly Valve Lever

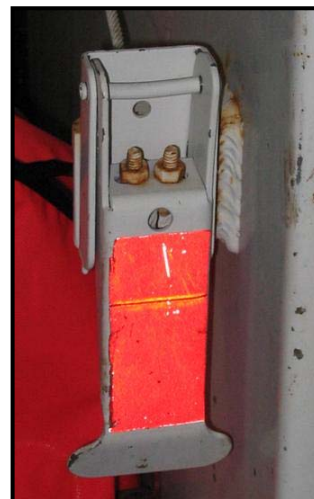
The belly valve lever is also connected to the tank vent. When the lever is moved to the open position, the vent on the top of the tank automatically opens.



Tank Vent

A secondary lever on the non-delivery side of the fuel truck is also available to the operator and operates the belly valve/ tank vent.

This lever is used in emergency situations.



Secondary Lever

7. Pump

The pump is used to offload (deliver) fuel from the tank and is not visible from the side of the vehicle.

The pump is powered by the Power Take Off (PTO). The PTO is engaged from inside the cab of the vehicle. The control box is located in the cab.

The pump speed is controlled by the engine. When offloading fuel for small equipment, use engine idle only (approx 700 rpm). For large storage tanks idle engine to approximately 1,200 rpm.



PTO Control Box

8. Safety Equipment

a) Engine Shutoff Switch

The operator has the ability to shut down the fuel truck at any time by tripping an emergency shutdown switch located near the delivery compartment.



Engine Shutoff

b) Fire Extinguishers and Floor Dry

There must be two fire extinguishers located on the vehicle at all times (one on each side). These extinguishers should be routinely inspected to ensure they have been recently serviced and are not out of date.



Fire Extinguisher

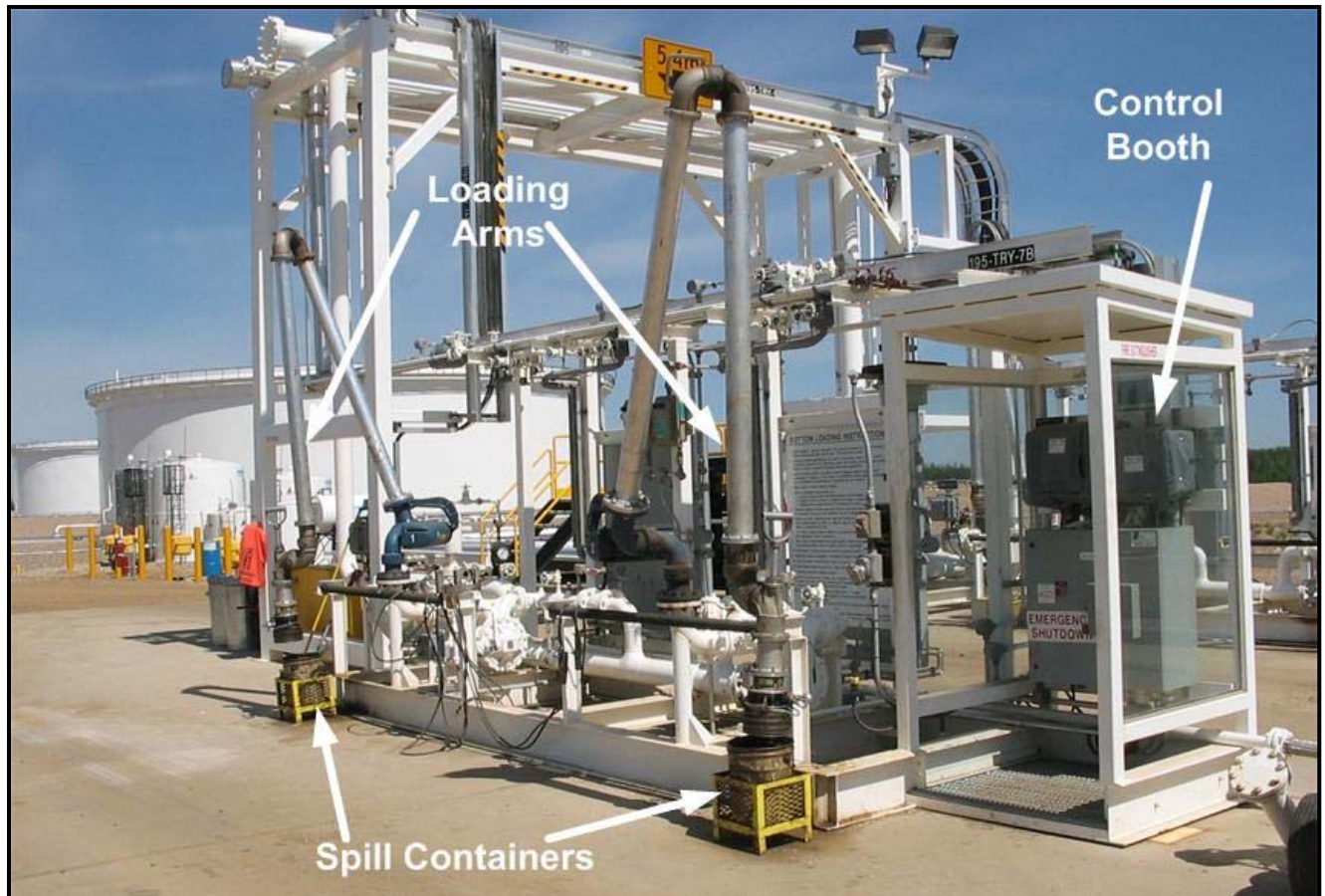
Floor dry must also be plentiful in case any spills occur during filling and offloading. Floor dry will be found in the storage compartment mounted below the tank together with a spill kit.



Emergency Spill Kit and Floor Dry

Fueling Station

It is important to be familiar with all the equipment at the fueling station.



Enbridge Fueling Station in Ft. McMurray

The control booth is where the fuel truck operator programs the fuel capacities into the loading equipment.

The operator must first use a security card to activate the station.



Operator Activating Control Panel

The operator can program the fuel load and determine which loading arm will be used to fuel the truck.

It is important the operator know the capacity of the tank(s) being filled, and it is preferred the fuel trucks arrive empty to the fueling station.



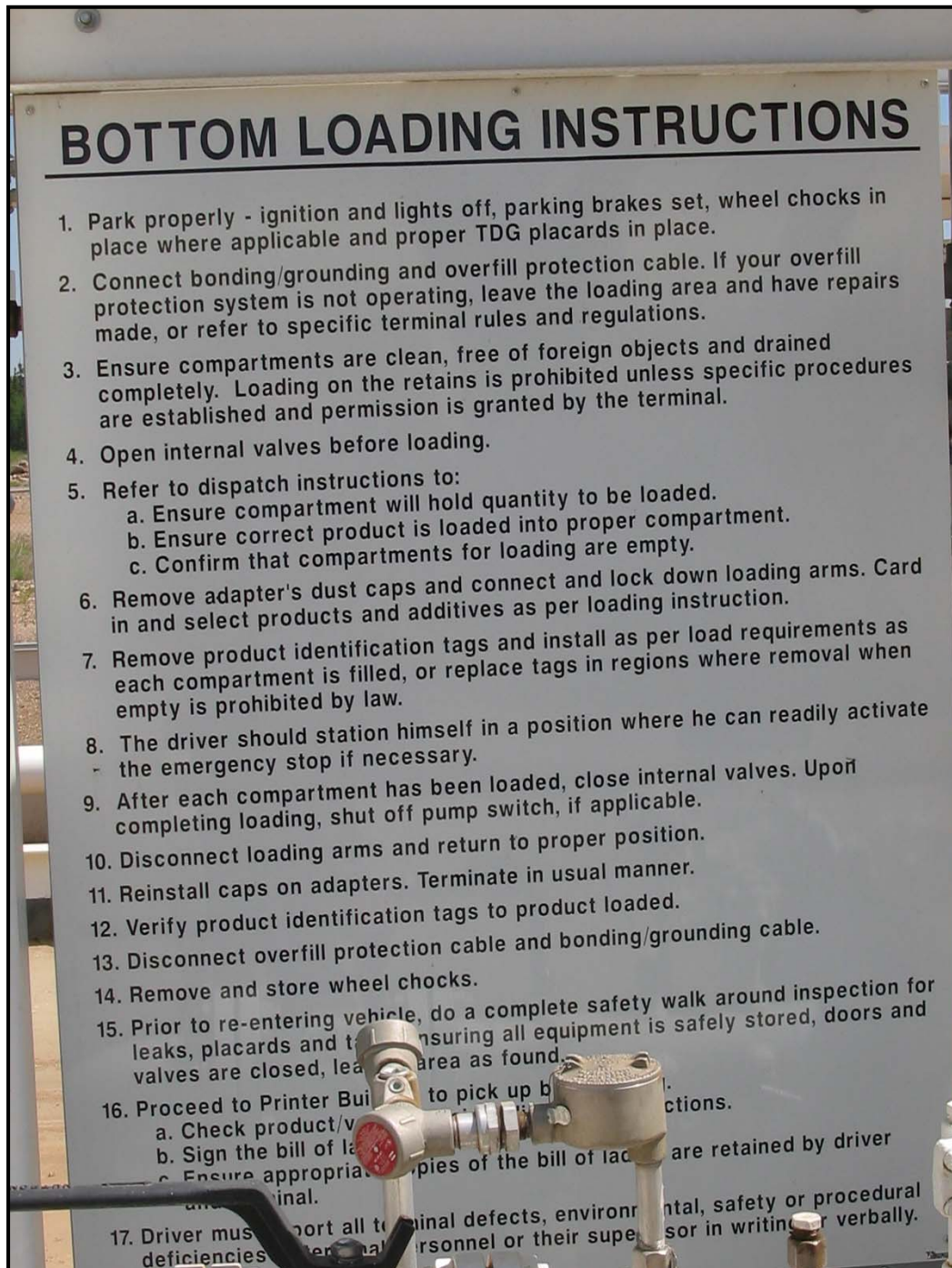
Programming Fuel Load

The operator can locate the emergency shut down button below the control panel.



Emergency Shutdown Button

In case the operator is not sure of the proper loading procedure, he/ she can refer to a large placard positioned near the control booth.



Loading Procedure Placard



Potential Job Hazards

Vapor Hazards

Diesel fuel has the potential to vaporize. Operators should avoid/ minimize exposure to these vapors since headaches and dizziness may result. If diesel fuel is spilled on clothing, the clothing must be removed. If your eyes or skin has been exposed to diesel, immediately flush with large amounts of water. If irritation persists, notify your supervisor and get medical attention.

Diesel fuel vapors pose an explosive hazard and can ignite if exposed to an ignition source. Smoking is not permitted while performing fuel truck operations. This includes loading, driving and offloading the fuel truck.

When heavy equipment is being fueled, ensure the equipment is not running. If the heavy equipment operator refuses to shut down the equipment, fuel will NOT be delivered, as per CEDA policy. Deviation is only allowed by special permit. If you are transferring fuel to another fuel truck, be sure the unit you are filling is shut off and grounded.

Safety Precautions

Personal Protective Equipment (PPE)

Personal protective equipment must be worn when operating the fuel truck. The minimum PPE required is:

- approved hard hat
- approved safety glasses with side shields
- hearing protection
- leather or rubber gloves
- Nomex coveralls (long sleeves)
- high visibility vest
- barrier Cream (optional – used to protect your skin as diesel fuel dries the skin)
- wristlets in Upgrading Area (keeps loose fitting coveralls from catching on equipment)

The personal protective equipment must not be altered in any way and must be properly worn by the operator. Also, if the equipment does not fit properly, notify your supervisor.

Tool Box Talk Meeting

It is the responsibility of all fuel truck operators to be familiar with the work site and to be aware of the safety procedures necessary in case of emergency. A Tool Box Talk meeting is conducted by the supervisor, identifying work procedures, required permits, potential risks and the required steps to minimize hazards.



Safe Work Practices

Most fuel truck operations are conducted by a work team of two individuals; a driver and a spotter. The spotter will assist the driver with positioning the unit during loading and offloading operations. When a spotter is not available, follow the CEDA “Backing Up Alone Procedure”. Both the driver and the spotter are responsible for the safe operation of the unit.

Many jobs are performed at a client site where fuel truck operators must be aware of the safety practices and workplace procedures prescribed by the client in addition to those mandated by CEDA. For example, when you are filling a vehicle, the driver is to stay with the nozzle at all times to prevent overfilling, in case the auto-stop mechanism fails.

When arriving at the fuel location, park your unit in a safe manner. Make sure the equipment to be filled is on the same side as your delivery hose. Do not drag your hose around the unit. Park within 10 feet of the equipment that has to be filled and perform a visual check to ensure there is no source of ignition (i.e. welders and grinders).

It is also necessary to adhere to all safety procedures when conducting fuel truck operations including, but not limited to, securely placing wheel chocks to prevent the vehicle from rolling, filling to 90% capacity to prevent overfilling, and knowing where to meet (assembly area) in emergency situations.

Environmental Precautions

The operator must notify his supervisor in the case of a spill. The operator must also take all necessary steps to prevent and remedy any adverse effects of the spill. This includes preventing the spill from entering sewers, water courses or low areas, and to minimize exposure to ignition sources. Absorbent material must be carried on the fuel trucks at all times and used in the event of a spill.

Complete Job Preparation Requirements

Proper planning is necessary when preparing the fuel truck for service.

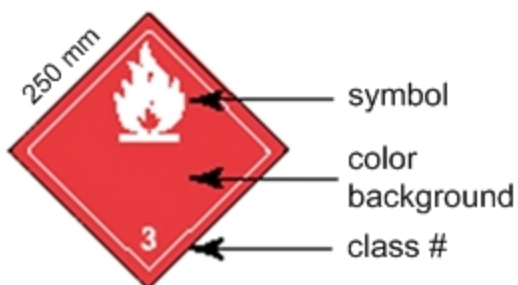
Placards

The Transportation of Dangerous Goods (TDG) regulations require that vehicles transporting dangerous materials be clearly identified with placards when carrying more than 450L (approx. 119 US gallons) of a dangerous substance.

A placard is a sign that is posted on the vehicle and is identified by a symbol, color and class to identify the contents contained inside the tank (see below).



Placard for Drum or Container



The Symbol to the left indicates a flammable and combustible material.

The background color (red) indicates flammability.

The class indicates the type of material transported.
Class 3 indicates flammable liquid

Placard for Tank Truck

The placard located to the right is one that must be placed on each side and each end of a tank transporting Diesel Fuel (total of four placards).

You will notice the number 1202 is also on the placard. This four digit number is referred to as the UN (United Nations) number and identifies hazardous substances by number, in this case Diesel Fuel.



Once the fuel truck has been loaded, the operator will proceed to deliver the fuel as required. Prior to leaving the fueling station the operator will be provided with a bill of lading which he/ she must sign.

[illegible]



Job Report Form



The following is an example of a Daily Pre-Job Checklist that operators should complete before every job.

Daily Pre-Job Checklist for Fuel Truck

	YES	NO	N/A
FLUID LEVELS:			
1) FRONT ENGINE			
SEALS:			
1) TOP HATCH SEAL			
2) BELLY VALVE SEAL			
MISCELLANEOUS:			
1) SCULLY PLUG IN GOOD WORKING CONDITION			
2) ARE ALL HOSES AND CAMLOCK FITTINGS ON LOAD LINE IN GOOD WORKING CONDITION			
3) IS ALL PLUMBING IN GOOD WORKING ORDER			
4) DAILY DRAIN OF SPIT TANK			
5) GROUND CABLE IN GOOD CONDITION			
6) CHECK ALL EQUIPMENT FOR FUEL LEAKS			
7) CHECK CONDITION OF HOSE REEL			
8) DO YOU HAVE A VEST FOR THE SPOTTER WHEN ASSISTING TO POSITION EQUIPMENT			
EQUIPMENT TO PERFORM TASK:			
1) WORK PROCEDURE			
2) HOSES			
3) PROPER P.P.E.			
4) PYLONS			
5) FLOOR DRY			

OPERATOR: _____

LABOURERS: _____

Note: The above checklist is a copy of the actual checklist used in Fort McMurray. In addition to the items in the above list, two fire extinguishers must be present on each truck.

Diesel Fuel MSDS

The Material Safety Data Sheet (MSDS) for Diesel must be in the operator's possession.



Material Safety Data Sheet

WHMIS (Pictograms)	WHMIS (Classification)	Protective Clothing	TDG (pictograms)
 	B-3, D-2B	   	

Section 1. Chemical Product and Company Identification			
Product Name	DIESEL FUEL		Code W104 SAP: 120, 121, 122, 287
Synonym	Diesel 50, Diesel 50 LS, #1 Diesel, #1 Diesel LS, Diesel LC, Seasonal Diesel, Seasonal Diesel LS, Diesel AA, Domestic Marine Diesel, International marine Diesel, Seasonal Diesel Locomotive, Domestic Marine diesel LS, diesel -20°C (LS), LSD, Low Sulphur Diesel, dyed diesel, marked diesel, coloured diesel, Naval Distillate.		Validated on 3/2/2001.
Manufacturer	PETRO-CANADA P.O. Box 2844 Calgary, Alberta T2P 3E3		In case of Emergency Petro-Canada: 403-296-3000 Canutec Transportation: 613-996-6666 Poison Control Centre: Consult local telephone directory for emergency number(s).
Material Uses	Diesel fuels are distillate fuels suitable for use in high and medium speed internal combustion engines of the compression ignition type.		

Section 2. Composition and Information on Ingredients					
			Exposure Limits (ACGIH)		
Name	CAS #	% (V/V)	TLV-TWA(8 h)	STEL	CEILING
1) Diesel oil. 2) Proprietary additives. 3) Aromatic content is 50% maximum (benzene: nil). 4) * Notice of Intended Change (2000): 100 mg/m ³ , skin, A3.	68334-30-5 Not available	>99.9 <0.1	Not established* Not established	Not established Not established	Not established Not established
Manufacturer	Not applicable				
Recommendation					
Other Exposure Limits	Consult local, state, provincial or territory authorities for acceptable exposure limits.				

Section 3. Hazards Identification.	
Potential Health Effects	Eye contact may cause mild eye irritation. Skin contact can cause moderate to severe irritation and produce drying, cracking, or defatting dermatitis. Inhalation of vapours can cause CNS depression with symptoms of nausea, headaches, vomiting, dizziness, fatigue, light-headedness, reduced coordination, unconsciousness and possibly death. Inhalation can also cause irritation of nose and throat. Aspiration of liquid drops into the lungs may produce potentially fatal chemical pneumonitis (fluid in the lungs), severe lung damage, or respiratory failure. For more information, refer to Section 11.

Section 4. First Aid Measures	
Eye Contact	IMMEDIATELY flush eyes with running water for at least 15 minutes, keeping eyelids open. Seek medical attention.
Skin Contact	Remove contaminated clothing - launder before reuse. Wash gently and thoroughly the contaminated skin with running water and non-abrasive soap. Seek medical attention.
Inhalation	Evacuate the victim to a safe area as soon as possible. If the victim is not breathing, perform artificial respiration. Allow the victim to rest in a well ventilated area. Seek medical attention.
Ingestion	DO NOT induce vomiting because of danger of aspirating liquid into lungs. Seek medical attention.
Note to Physician	Not available

Section 5. Fire-fighting Measures			
Flammability	Class II - combustible liquid (NFPA).	Flammable Limits	LOWER: 0.7%, UPPER: 6%
Flash Points	Diesel Fuel: Closed Cup: >40°C (>104°F) Marine Diesel Fuel: Closed Cup: >60°C (>140°F)	Auto-Ignition Temperature	225°C (437°F)
Fire Hazards in Presence of Various Substances	Flammable in presence of open flames, sparks, or heat. Vapours are heavier than air and may travel considerable distance to sources of ignition and flash back. This product can accumulate static charge and ignite. May accumulate in confined spaces.	Explosion Hazards in Presence of Various Substances	Containers may explode in heat of fire. Do not cut, weld, heat, drill or pressurize empty container. Vapour explosion hazard indoors, outdoors or in sewers. Runoff to sewer may create fire or explosion hazard.
Products of Combustion	Carbon oxides (CO, CO ₂), nitrogen oxides (NO _x), sulphur oxides (SO _x), sulphur compounds (H ₂ S), water vapour (H ₂ O), smoke and irritating vapours as products of incomplete combustion.		

Continued on Next Page

Available in French

DIESEL FUEL		Page Number: 2
Fire Fighting Media and Instructions	NAERG96, GUIDE 128, Flammable liquids (Non-polar/Water-immiscible). CAUTION: This product has a moderate flash point above 40°C: Use of water spray when fighting fire may be inefficient. If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also consider initial evacuation for 800 meters (1/2 mile) in all directions. SMALL FIRES: Dry chemical, CO₂, water spray or regular foam. LARGE FIRES: Water spray, fog or regular foam. Do not use straight streams. Move containers from fire area if you can do it without risk. Fires Involving Tanks or Car/Trailer Loads: Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting devices or any discolouration of tank. ALWAYS stay away from the ends of tanks. For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible withdraw from area and let fire burn. Wear positive pressure self-contained breathing apparatus (SCBA). Structural firefighters' protective clothing will only provide limited protection.	

Section 6. Accidental Release Measures	
Material Release or Spill	NAERG96, GUIDE 128, Flammable Liquids (Non-polar/ Water-immiscible). ELIMINATE ALL IGNITION SOURCES. Avoid contact. Stop leak if without risk. Contain spill. Absorb with inert absorbents, dry clay, or diatomaceous earth. Avoid inhaling dust of diatomaceous earth for it may contain silica in very fine particle size, making this a potential respiratory hazard. Place used absorbent in closed metal containers for later disposal or burn absorbent in a suitable combustion chamber. DO NOT FLUSH TO SEWERS, STREAMS OR OTHER BODIES OF WATER. Check with applicable jurisdiction for specific disposal requirements of spilled material and empty containers. Notify the appropriate authorities immediately.

Section 7. Handling and Storage	
Handling	Keep away from heat. Keep away from sources of ignition. Empty containers pose a fire risk. DO NOT reuse empty containers without commercial cleaning or reconditioning. Ground/bond line and equipment during pumping or transfer to avoid accumulation of static charge. DO NOT ingest. Do not breathe gas/vapour/spray. In case of insufficient ventilation, wear suitable respiratory equipment. If ingested, seek medical advice immediately. Avoid contact with skin and eyes. Practice good personal hygiene. Wash hands after handling and before eating. Launder work clothes frequently. Discard saturated leather goods.
Storage	Store in tightly closed containers in cool, dry, isolated, well-ventilated area, and away from incompatibles. Ground all equipment containing material.

Section 8. Exposure Controls/Personal Protection	
Engineering Controls	For normal application, special ventilation is not necessary. If user's operations generate vapours or mist, use ventilation to keep exposure to airborne contaminants below the exposure limit. Make-up air should always be supplied to balance air removed by exhaust ventilation. Ensure that eyewash station and safety shower are close to work-station.
Personal Protection -	The selection of personal protective equipment varies, depending upon conditions of use.
Eyes	Eye protection (i.e., safety glasses, safety goggles and/or face shield) should be determined based on conditions of use. If product is used in an application where splashing may occur, the use of safety goggles and/or a face shield should be considered.
Body	Wear appropriate clothing to prevent skin contact. As a minimum long sleeves and trousers should be worn.
Respiratory	Where concentrations in air may exceed the occupational exposure limits given in Section 2 (and those applicable to your area) and where engineering, work practices or other means of exposure reduction are not adequate, NIOSH approved respirators may be necessary to prevent overexposure by inhalation.
Hands	Wear appropriate chemically protective gloves. When handling hot product ensure gloves are heat resistant and insulated.
Feet	Wear appropriate footwear to prevent product from coming in contact with feet and skin.

Section 9. Physical and Chemical Properties			
Physical State and Appearance	Bright oily liquid.	Viscosity	1.3-4.1 cSt @ 40°C (104°F)
Colour	Clear to yellow / brown. Low sulphur diesel fuels (<0.05 wt % sulphur) are colourless to light yellow (and may be dyed red for taxation purposes). Regular sulphur diesel fuels (0.05-0.50 % sulphur) may be colourless to yellow / brown and are usually dyed red for taxation purposes.	Pour Point	Variable, 0°C to -50°C (32°F to -58°F)
Odour	Petroleum oil like.	Softening Point	Not applicable.
Odour Threshold	Not available	Dropping Point	Not applicable.
Boiling Point	150-371°C (302-700°F)	Penetration	Not applicable.
Density	0.85 kg/L @ 15°C (Water = 1).	Oil / Water Dist. Coefficient	Not available
Vapour Density	4.5 (Air = 1)	Ionicity (in water)	Not applicable.

Continued on Next Page

Available in French



DIESEL FUEL		Page Number: 3	
Vapour Pressure	1.0 kPa @ 20°C (7.5 mmHg @ 68°F).	Dispersion Properties	Not available
Volatility	<0.1 (Butyl acetate = 1), less than gasoline.	Solubility	Insoluble in cold water, soluble in non-polar hydrocarbon solvents.

Section 10. Stability and Reactivity

Corrosivity	Not available		
Stability	The product is stable under normal handling and storage conditions.	Hazardous Polymerization	Will not occur under normal working conditions.
Incompatible Substances / Conditions to Avoid	Reactive with oxidizing agents and acids.	Decomposition Products	May release COx, NOx, SOx, H2S, H2O, smoke and irritating vapours when heated to decomposition.

Section 11. Toxicological Information

Routes of Entry	Skin contact, eye contact, inhalation, and ingestion.		
Acute Lethality	Acute oral toxicity (LD50): 7500 mg/kg (rat).		
Chronic or Other Toxic Effects			
Dermal Route:	Skin contact may cause moderate to severe irritation. Repeated exposure would produce drying and cracking or defatting dermatitis.		
Inhalation Route:	Inhalation of vapours can cause CNS depression with symptoms of nausea, headaches, vomiting, dizziness, fatigue, light-headedness, reduced coordination, unconsciousness and possibly death. Inhalation can also cause irritation of nose and throat.		
Oral Route:	Aspiration of liquid drops into the lungs may produce potentially fatal chemical pneumonitis (fluid in the lungs), severe lung damage, or respiratory failure.		
Eye Irritation/Inflammation:	Eye contact may cause mild irritation, but no permanent damage.		
Immunotoxicity:	Not available		
Skin Sensitization:	This product is not expected to be a skin sensitizer, based on the available data and the known hazards of the components.		
Respiratory Tract Sensitization:	This product is not expected to be a respiratory tract sensitizer, based on the available data and the known hazards of the components.		
Mutagenic:	This product is not expected to be a mutagen, based on the available data and the known hazards of the components.		
Reproductive Toxicity:	This product is not expected to be a reproductive hazard, based on the available data and the known hazards of the components.		
Teratogenicity/Embryotoxicity:	This product is not expected to be a teratogen or an embryotoxin, based on the available data and the known hazards of the components.		
Carcinogenicity (ACGIH):	ACGIH Notice of Intended Change (2000): proposed A3: animal carcinogen. [Diesel oil]		
Carcinogenicity (IARC):	This product is not known to contain any chemicals at reportable quantities that are listed as group 1, 2A or 2B carcinogens by IARC.		
Carcinogenicity (NTP):	This product is not known to contain any chemicals at reportable quantities that are listed as carcinogens by NTP.		
Carcinogenicity (IRIS):	Not available		
Carcinogenicity (OSHA):	This product is not known to contain any chemicals at reportable quantities that are listed as carcinogens by OSHA.		
Other Considerations	No additional remark.		

Section 12. Ecological Information

Environmental Fate	Not available	Persistence/Bioaccumulation Potential	Not available
BOD5 and COD	Not available	Products of Biodegradation	Not available
Additional Remarks	No additional remark.		

Section 13. Disposal Considerations

Waste Disposal	Preferred waste management priorities are: (1) recycle or reprocess; (2) incineration with energy recovery; (3) disposal at licensed waste disposal facility. Ensure that disposal or reprocessing is in compliance with government requirements and local disposal regulations. Consult your local or regional authorities.
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Section 14. Transport Information

TDG Classification	Diesel Fuel UN1202 3 III	Special Provisions for Transport	Not applicable.
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Section 15. Regulatory Information

Other Regulations		This product is acceptable for use under the provisions of WHMIS-CPR. All components of this formulation are listed on the CEPA-DSL (Domestic Substances List).																													
		All components of this formulation are listed on the US EPA-TSCA Inventory.																													
		All components of this product are on the European Inventory of Existing Commercial Chemical Substances (EINECS).																													
		This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all of the information required by the CPR.																													
		Please contact Product Safety for more information.																													
DSD/DPD (Europe)		Not evaluated.	HCS (U.S.A.)		CLASS: Irritating substance. CLASS: Target organ effects. CLASS: Combustible liquid having a flash point between 37.8°C (100°F) and 93.3°C (200°F).																										
ADR (Europe) (Pictograms)		NOT EVALUATED FOR EUROPEAN TRANSPORT NON ÉVALUÉ POUR LE TRANSPORT EUROPÉEN.	DOT (U.S.A) (Pictograms)																												
HMIS (U.S.A.)		<table><tr><td>Health Hazard</td><td>2*</td></tr><tr><td>Fire Hazard</td><td>2</td></tr><tr><td>Reactivity</td><td>0</td></tr><tr><td>Personal Protection</td><td>H</td></tr></table>	Health Hazard	2*	Fire Hazard	2	Reactivity	0	Personal Protection	H	NFPA (U.S.A.)		<table><tr><td rowspan="3"></td><td>Fire Hazard</td><td>Rating</td><td>0 Insignificant</td></tr><tr><td>Reactivity</td><td></td><td>1 Slight</td></tr><tr><td>Specific hazard</td><td></td><td>2 Moderate</td></tr><tr><td></td><td></td><td></td><td>3 High</td></tr><tr><td></td><td></td><td></td><td>4 Extreme</td></tr></table>		Fire Hazard	Rating	0 Insignificant	Reactivity		1 Slight	Specific hazard		2 Moderate				3 High				4 Extreme
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Personal Protection	H																														
	Fire Hazard	Rating	0 Insignificant																												
	Reactivity		1 Slight																												
	Specific hazard		2 Moderate																												
			3 High																												
			4 Extreme																												

Section 16. Other Information

References	Available upon request. * Marque de commerce de Petro-Canada - Trademark		
Glossary	ACGIH - American Conference of Governmental Industrial Hygienists ADR - Agreement on Dangerous goods by Road (Europe) ASTM - American Society for Testing and Materials (BOD5 - Biological Oxygen Demand in 5 days CAN/CGA B149.2 Propane Installation Code CAS - Chemical Abstract Services CEPA - Canadian Environmental Protection Act CERCLA - Comprehensive Environmental Response, Compensation and Liability Act CFR - Code of Federal Regulations CHIP - Chemicals Hazard Information and Packaging Approved Supply List COD5 - Chemical Oxygen Demand in 5 days CPR - Controlled Products Regulations DOT - Department of Transport DSCL - Dangerous Substances Classification and Labeling (Europe) DSD/DPD - Dangerous Substances or Dangerous Preparations Directives (Europe) DSL - Domestic Substance List EEC/EU - European Economic Community/European Union EINECS - European Inventory of Existing Commercial Chemical Substances EPCRA - Emergency Planning and Community Right to Know Act FDA - Food and Drug Administration FIFRA - Federal Insecticide, Fungicide and Rodenticide Act HCS - Hazardous Communication System HMIS - Hazardous Material Information System IARC - International Agency for Research on Cancer IRIS - Integrated Risk Information System LD50/LC50 - Lethal Dose/Concentration kill 50% LDLo/LCLo - Lowest Published Lethal Dose/Concentration NAERG'96 - North American Emergency Response Guide Book (1996) NFPA - National Fire Prevention Association NIOSH - National Institute for Occupational Safety & Health NPRI - National Pollutant Release Inventory NSNR - New Substances Notification Regulations (Canada) NTP - National Toxicology Program OSHA - Occupational Safety & Health Administration PEL - Permissible Exposure Limit RCRA - Resource Conservation and Recovery Act SARA - Superfund Amendments and Reorganization Act SD - Single Dose STEL - Short Term Exposure Limit (15 minutes) TDG - Transportation Dangerous Goods (Canada) TDLo/TCLo - Lowest Published Toxic Dose/Concentration TLM - Median Tolerance Limit TLV-TWA - Threshold Limit Value-Time Weighted Average TSCA - Toxic Substances Control Act USEPA - United States Environmental Protection Agency USP - United States Pharmacopoeia WHMIS - Workplace Hazardous Material Information System		
For Copy of MSDS	Prepared by Product Safety - TAR on 3/2/2001.		
Fuels & Solvents:	Data entry by Product Safety - JDW.		
Western Canada, telephone: 403-296-4158; fax: 403-296-6551			
Ontario & Central Canada, telephone: 1-800-668-0220; fax: 1-800-837-1228			
Quebec & Eastern Canada, telephone: 514-640-8308; fax: 514-640-8385			
For Product Safety Information: (905) 804-4752			



Operating Limits

Below are the operating limits of the fuel truck:

Physical Limits	Consequences of Deviations
Engine Idle Maximum 700 rpm (when filling small equipment)...	... <i>spillage.</i>
Engine Idle Maximum 1,200 rpm (when filling heavy equipment)...	... <i>spillage.</i>
Tank Maximum – do not overfill...	... <i>fire/ explosive risk.</i>
	... <i>loss of product.</i>
	... <i>spillage.</i>
	... <i>risk of contaminating environment.</i>
Filling equipment while running...	... <i>fire/ explosive risk. If operator refuses to shut-down, DO NOT FUEL. This is an OH&S policy, as well as a Suncor policy. Deviation is by Permit only.</i>

Maintenance

Most of the maintenance conducted on the fuel truck is performed by certified mechanics. Fuel trucks are serviced every 250 hours (roughly every two weeks).

Fuel truck operators are required to submit a CEDA Work Order Form each time the vehicle requires service.

The form is titled "CEDA-REACTOR LTD. W.O. FORM for repairing company equipment". It includes fields for "UNIT #", "LOCATION", "DATE", "SERVICE", and "DATE". There is a section for "Service Requested" and "Service Completed (and comments)". Below this is a table for "Parts Required & P.O. #". The table has columns for "Part # or P.O. #", "Part Description", "Quantity", "Unit Price", and "Total Price". To the right of the table is a section for "Mechanics' Comments" and "TOTAL SHOP HOURS". At the bottom, there are fields for "TOTAL P.O. VALUE AND PARTS COST \$", "TOTAL W.O. COST \$", and "MAINTENANCE CENTRAL FILE".

CEDA Work Order Form



Troubleshooting Chart

Problem	Possible Cause	Solution
No Flow	Air lock	Close all valves. Disengage PTO. Follow all procedures to start-up.
	Closed valve	Ensure valves are in proper position.
	Spit tank is full	Drain spit tank.
Red Light on Scully Indicator	Plug contacts not making contact	Check contacts on plug (call plant operations to rectify situation, if necessary).
Slow Flow (Loading)	Valve partially closed	Ensure all valves are completely opened on unit.
Slow Flow (Offloading)	Spit tank full	Drain spit tank.
	Pump beginning to wear out	Generate work order for pump inspection/ repair.
Electric Hose Reel Does Not Work	Switch or solenoid worn out/ broken	Use manual crank. Generate work order for inspection/ repair.

Fuel Truck Loading Procedure

CAUTION/ WARNING: Smoking is strictly prohibited at all times. Any spill over 10 L must be reported.

ACTION	NOTES
Loading Fuel (Loading Station) Procedure	
1. DON proper PPE.	
2. PREPARE fuel truck for loading...	<i>... complete daily pre-job checklist. ... ensure placards are in place.</i>
3. APPROACH loading area...	<i>... follow traffic pattern. ... wait at the stop-line until a loading position is available. ... do not proceed to loading area if there is evidence of a spill.</i>



4. PARK properly...	<i>... ignition and lights off.</i>
5. CONNECT bonding/ grounding and overfill protection cable (Scully)...	<i>... leave loading area if grounding and overfill equipment is not properly operating.</i>
6. ENSURE compartments are clean, free of foreign objects and drained completely.	
7. OPEN internal valves before loading.	
8. VERIFY compartment will hold quantity to be loaded.	
9. REMOVE bottom load connection cap, connect and lock down loading arm(s).	
10. REMOVE product identification tags and install as per load requirements as each compartment is filled, or replace tags in regions where removal when empty is prohibited by law.	
11. REMAIN positioned where emergency stop can be readily activated.	
12. CLOSE internal valve after each compartment is loaded...	<i>... shut off pump switch if applicable.</i>
13. DISCONNECT loading arms and return to proper position.	
14. RE-INSTALL dust caps.	
15. VERIFY product identification tags to product loaded.	

ACTION	NOTES
Loading Fuel (Loading Station) Procedure continued	
16. DISCONNECT overfill protection and bonding/ grounding cables.	
17. REMOVE and Store wheel chocks.	
18. CONDUCT safety inspection of vehicle prior to re-entry into cab...	<i>... check for leaks, placards, and tags. ... ensure all equipment is stored, doors and valves are closed.</i>
19. PROCEED to printer building to receive bill of lading...	<i>... check product volume against dispatch instructions.</i>
20. SIGN bill of lading...	<i>... ensure appropriate copies of the bill of lading are retained by driver and terminal.</i>
21. PROCEED to deliver fuel.	



Fuel Truck Off-Loading Procedure

CAUTION/ WARNING: Smoking is strictly prohibited at all times.
No equipment is to be refueled when there is any source of ignition within 3 metres of the equipment.
Any spill over 10 L must be reported.

ACTION	NOTES
Off-Loading Fuel Procedure	
1. OBTAIN vehicle entry permit...	<i>... for specific area.</i>
2. REVIEW work procedure.	
3. PROCEED to designated fuel drop.	
4. POSITION vehicle, set parking brake and wheel chocks...	<i>... avoid backing up when possible.</i>
5. DON proper PPE.	
6. POST pylons in front and rear of unit.	
7. GROUND unit.	
8. OPEN supply line and belly valve.	
9. ENSURE meter is reset to zero.	
10. ENSURE equipment being fueled is shut off...	<i>... if operator refuses to shut down equipment DO NOT deliver fuel.</i>
11. ENGAGE PTO at idle speed.	

ACTION	NOTES
Off-Loading Fuel Procedure continued	
12. INCREASE idle speed to max 1,200 rpm for larger containers.	
13. FILL to 90% capacity only...	<i>... operator must remain with nozzle at all times.</i>
14. DISENGAGE PTO.	
15. RETURN hose and ground cable to unit...	<i>... DO NOT allow nozzle to drag on the ground when rewinding hose.</i>
16. CLOSE belly and supply valves.	
17. RETURN wheel chocks and pylons to unit.	



18. LOG unit number of designated equipment, litres and area.	
19. SIGN OFF permit.	
20. PROCEED to next fuel drop.	
21. ENSURE spit tank is emptied at the end of shift.	

11.02 Operate One-Ton Fuel Truck

Fuel trucks are used to transfer diesel fuel from one location to another. CEDA is contracted to fuel storage tanks, compressors, light plants, small and heavy machinery at various worksites.



Front View



Side View

Major Components

The following section identifies and describes the general components found on the one-ton fuel truck. Please refer to the appropriate operator's manual for more detail, as necessary.

Although each unit may vary slightly, a typical fuel truck is composed of the following components:

- | | |
|-------------------------------|---------------------|
| 1. Cab Switches | 6. Pump |
| 2. 900L Enviro Tanks | 7. Cap Vent |
| 3. Grounding System | 8. Spare Tire |
| 4. Fuel Delivery System | 9. Safety Equipment |
| 5. Rear Exterior Power Source | |

1. Cab Switches

The cab switches provide power to the exterior power sources.



Cab Switches

2. 900L Enviro Tanks

There are two tanks on the fuel truck that are made from carbon steel and can hold up to 900L of fuel each. It is extremely important to be aware of the capacities of each compartment, especially during the loading procedure. Each tank has a separate pump, power switch and meter.

The tanks on the fuel trucks are not pressurized and are loaded to 90% capacity.



2-900L Enviro Tanks

3. Grounding System

One of the most important safety features of the loading station is the grounding system. This system must be properly utilized before loading can begin.

Grounding Cable

Fuel trucks need to be grounded directly to the earth or bonded to another object that is inherently grounded, such as a large storage tank or underground piping. Grounding minimizes the electrical potential differences between objects and the earth to prevent a static charge. Grounding brings all parts of any system to zero electrical potential by allowing electrical currents to dissipate to earth.

Before **loading** procedures begin, the grounding cable must be attached to the fuel truck. Grounding locations on fuel trucks may vary.

Before **unloading** procedures begin, the grounding cable, located at the rear on the deck must be attached to the equipment being fueled.



Grounding System

4. Fuel Delivery System

a) Flow Meter

The flow meter is used to measure fuel delivery. All measurements are in Litres (L).

The meter is reset after each delivery using the dial on the side of the device. Turn the flow meter clockwise to reset.



Flow Meter and Reset Dial

b) Hose and Hose Reel

The fuel hose measures 50 feet long with an inside diameter of 3/4 inches. When fueling a storage tank or piece of equipment, the operator will manually pull the hose from the reel.

In most cases, the operator will position the vehicle as close as possible to the equipment being fueled.

When the operator has completed refueling a piece of equipment or tank, the hose must be rewound on the reel.

The hose will rewind back into the hose reel when the hose is pulled forward tightly and released.



Hose



Hose Reel

c) Fuel Nozzle

The fuel nozzle is very similar to one you would find at a regular gas station; however, those found on fuel trucks are much larger.

During routine fueling operations, the operator must always remain with the nozzle. For example, as the nozzle is unwound from the reel, the operator must prevent the nozzle from dragging.

Also, at the completion of fueling a tank or piece of equipment, the operator must walk back to the fuel truck unit with nozzle in hand and rewind the hose. The hose should never be rewound in a manner that allows the hose to drag on the ground. Allowing the nozzle to drag on the ground is unsafe and could cause damage.

All hoses and fittings must be visually inspected before each use.



Fuel Nozzle

5. Exterior Power Sources

The exterior power sources are located at the rear of the truck, in-between the meters. The exterior power sources provide power to the fuel tanks and their individual components.

These switches are to be turned OFF after EACH delivery.



Exterior Power Sources



Power/ Overload Control – Close Up

6. Pump

The pump is located on top of the Enviro Tank. The pump transports the fuel from the tank to the hose.



Pump

7. Cap Vent

The cap vent is located on top of each Enviro Tank. It de-pressurizes the Enviro Tank. De-pressurization occurs automatically when necessary.



Cap Vent

8. Spare Tire

The spare tire is located directly in front of the 900L Enviro Tanks. Consult Operator's Manual on the correct tire-changing procedure.



Spare Tire



9. Safety Equipment

a) Fire Extinguishers and Floor Dry

There must be two fire extinguishers located on the vehicle at all times (one on each side). These extinguishers should be routinely inspected to ensure they have been recently serviced and are not out of date. A blue tag can be found around the neck of the fire extinguisher, stating the day it was last serviced, and the day it is due to expire.

Floor dry must also be plentiful in case any spills occur during loading and offloading. Floor dry is located in the side box on the passenger side.



Fire Extinguisher



Emergency Spill Kit and Floor Dry

Operating Limits

Below are the operating limits of the fuel truck:

Physical Limits	Consequences of Deviations
Engine idle (when filling small equipment)...	... spillage.
Tank maximum – do not overfill...	... fire/ explosive risk.
	... loss of product.
	... spillage.
	... risk of contaminating environment.
Filling equipment while running...	... fire/ explosive risk. If operator refuses to shut-down, DO NOT FUEL. This is an OH&S policy. Deviation is by permit only.



Troubleshooting Chart

Problem	Possible Cause	Solution
No Flow	Air lock	Close all valves. Follow all procedures to start-up.
	Closed valve	Ensure valves are in proper position.
Slow Flow (Offloading)	Pump beginning to wear out	Generate work order for pump inspection/repair.

One-Ton Fuel Truck Operation

Daily Pre-Job Checklist

The following is an example of a **Daily Pre-Job Checklist for Fuel Truck** that operators should complete before every job.

	YES	NO	N/A
FLUID LEVELS:			
1) FRONT ENGINE			
FUEL CAPS:			
1) CHECK FUEL CAPS ON EACH ENVIRO TANK			
MISCELLANEOUS:			
1) ALL HOSE FITTINGS ON DELIVERY HOSES IN GOOD WORKING CONDITION			
2) IS ALL PLUMBING IN GOOD WORKING ORDER			
3) GROUND CABLE IN GOOD CONDITION			
6) CHECK FOR FUEL LEAKS			
7) CHECK CONDITION OF HOSE REEL'S			
8) DO YOU HAVE A VEST FOR THE SPOTTER WHEN ASSISTING TO POSITION EQUIPMENT			
9) TWO FIRE EXTINGUISHERS ARE ON TRUCK			
EQUIPMENT TO PERFORM TASK:			
1) WORK PROCEDURE			
2) HOSES			
3) PROPER P.P.E.			
4) FLOOR DRY			

OPERATOR: _____

LABOURERS: _____



Load Fuel Truck Procedure

CAUTION/ WARNING: Smoking is strictly prohibited at all times.
Any spill over 10 L must be reported.

ACTION	NOTES
Load Fuel (Loading Station)	
1. DON proper PPE.	
2. PREPARE fuel truck for loading...	<i>... complete daily pre-job checklist. ... ensure placards are in place.</i>
3. APPROACH loading area...	<i>... follow traffic pattern. ... wait at the stop-line until a loading position is available. ... do not proceed to loading area if there is evidence of a spill.</i>
4. PARK properly...	<i>... ignition and lights off.</i>
5. CONNECT bonding or grounding cable...	<i>... leave loading area if grounding and overfill equipment is not properly operating.</i>
6. ENSURE compartments are clean, free of foreign objects and drained completely.	
7. REMOVE fuel caps.	
8. VERIFY compartment will hold quantity to be loaded.	
9. REMOVE Enviro Tank fuel caps...	<i>... to load from another fuel truck.</i>
10. FILL each tank to 90% capacity...	<i>... operator must remain with nozzle until filling is complete</i>
11. PLACE fuel caps back on.	
12. DISCONNECT ground cable.	
13. CONDUCT safety inspection of vehicle prior to re-entry into cab.	



Off-Load Fuel Truck Procedure

CAUTION/ WARNING: Smoking is strictly prohibited at all times.
No equipment is to be refueled when there is any source of ignition within 3 metres of the equipment.
Any spill over 10 L must be reported.

ACTION	NOTES
Off-Load Fuel	
1. OBTAIN vehicle entry permit...	<i>... for specific area.</i>
2. REVIEW work procedure.	
3. PROCEED to designated fuel drop.	
4. POSITION vehicle and SET parking brake...	<i>... avoid backing up when possible.</i>
5. DON proper PPE.	
6. GROUND unit.	
7. TURN ON power source in cab and on rear.	
8. ENSURE meter is reset to zero.	
9. ENSURE equipment being fueled is shut off...	<i>... if the operator in which fuel is being delivered to refuses to shut down equipment DO NOT deliver fuel.</i>
10. PULL hose from hose reel.	
11. FILL to 90% capacity...	<i>... operator must remain with nozzle at all times.</i>
12. RETURN hose and ground cable to unit and SHUT OFF interior and exterior power sources...	<i>... DO NOT allow nozzle to drag on the ground when rewinding hose.</i>
13. LOG unit number of designated equipment, litres and area.	
14. SIGN OFF permit.	
15. PROCEED to next fuel drop.	



Multiple Choice Questions (Technical Quiz)

Complete the following test, and have it graded by your assessor. If any questions are answered incorrectly, your assessor will explain what the correct answer is, and why it is correct. Once you understand the correct answer, both the assessor and students initials are required to indicate that mentoring or coaching has taken place.

Question	Assessor's Initials	Student's Initials
11.01 FUEL TRUCK		
1. The tandem axle fuel truck has a single compartment of 10,000L. a. True b. False		
2. Fuel truck tanks are filled to _____ capacity. a. 90% b. 95% c. 100% d. None of the above		
3. The tank hatch is routinely used for top loading fuel. a. True b. False		
4. Plastic pails can be used during fueling operations. a. True b. False		
5. The Scully system must be used when loading fuel. a. True b. False		
6. The grounding system must be used during loading, but is optional for offloading. a. True b. False		
7. The spit tank should be drained: a. daily b. weekly c. every 2 weeks d. None of the above		
8. When the belly valve is opened, the vent is closed. a. True b. False		
9. The operator must remain with the nozzle at all times during fueling and hose rewinding. a. True b. False		
10. Smoking is permitted while performing fuel truck operations. a. True b. False		
11. Placards displaying UN1202 must be placed on four sides of the vehicle. a. True b. False		
11.02 ONE-TON FUEL TRUCK		
12. The one-ton fuel truck has two Enviro Tanks that each hold 900L.		



	a. True b. False		
13.	The two Enviro Tanks on the one-ton fuel truck are filled to _____ capacity. a. 90% b. 95% c. 100% d. None of the above		
14.	The cap vent automatically depressurizes that Enviro Tanks. a. True b. False		
15.	The flow meter does not need to be reset after each use. a. True b. False		
16.	The grounding cable must be used when loading and offloading fuel. a. True b. False		
17.	The equipment being fueled must be turned off during fueling. a. True b. False		
18.	If the tank maximum is exceeded, the possible consequences are : a. fire/ explosive risk b. loss of product c. spillage d. All of the above		
19.	Two fire extinguishers must be present on the vehicle at all times. a. True b. False		
20.	The operator must remain with the nozzle at all times during fueling. a. True b. False		
21.	All hoses and fittings must be visually inspected before each use. a. True b. False		
22.	It is okay to allow the fuel nozzle to drag on the ground. a. True b. False		



Practical Assessment – Fuel Truck Operations

This form is to be filled out by the assessor as they observe the student successfully demonstrate these items in order to be deemed competent.

Assessment Check List

11.01 Practical Assessment – Operate Fuel Truck			
The following tasks must be completed in the prescribed sequence. Any exceptions must be noted in the comments section with justification. Assessor will check YES column if the item was actioned satisfactorily, or circle the number in the NO column if it was not. If enough demerits are accumulated to warrant a fail, or employee performs an unsafe or dangerous action, the assessment may be terminated immediately. If necessary, all near-miss/incident reporting requirements must be met. <i>*Copies of the completed Daily Inspection, FLHA and Procedure must be attached to the assessment.</i>			
Loading Fuel (Loading Station)			
ITEM		YES	NO
1	Don proper PPE.		
2	Prepare fuel truck for loading.		
3	Approach loading area.		
4	Park properly.		
5	Connect bonding/ grounding and overfill protection cable (Scully).		
6	Ensure compartments are clean, free of foreign objects and drained completely.		
7	Open internal valves before loading.		
8	Verify compartment will hold quantity to be loaded.		
9	Remove bottom load connection cap, connect and lock down loading arm(s).		
10	Remove product identification tags and install as per load requirements as each compartment is filled, or replace tags in regions where removal when empty is prohibited by law.		
11	Remain positioned where emergency stop can be readily activated.		
12	Close internal valve after each compartment is loaded.		
13	Disconnect loading arms and return to proper position.		
14	Re-install dust caps.		



15	Verify product identification tags to product loaded.		
16	Disconnect overfill protection and bonding/ grounding cables.		
17	Remove and store wheel chocks.		
18	Conduct safety inspection of vehicle prior to re-entry into cab.		
19	Proceed to printer building to receive bill of lading.		
20	Sign bill of lading.		
21	Proceed to deliver Fuel		

Off -Loading Fuel

TASK		YES	NO
1	Obtain vehicle entry permit.		
2	Review work procedure.		
3	Proceed to designated fuel drop.		
4	Position vehicle, set parking brake and wheel chocks.		
5	Don proper PPE.		
6	Post pylons in front and rear of unit.		
7	Ground unit.		
8	Open supply line and belly valve.		
9	Ensure meter is reset to zero.		
10	Ensure equipment being fueled is shut off.		
11	Engage PTO at idle speed		
12	Increase idle speed to max 1,200 rpm for larger containers.		
13	Fill to 90% capacity only.		
14	Disengage PTO.		
15	Return hose and ground cable to unit.		
16	Close belly and supply valves.		
17	Return wheel chocks and pylons to unit.		



18	Log unit number of designated equipment, liters and area.		
19	Sign off permit.		
20	Proceed to next fuel drop.		
21	Ensure spit tank is emptied at the end of shift.		

Comments:

11.02 Practical Assessment – Operate One-Ton Fuel Truck

The following tasks must be completed in the prescribed sequence. Any exceptions must be noted in the comments section with justification. Assessor will check YES column if the item was actioned satisfactorily, or circle the number in the NO column if it was not. If enough demerits are accumulated to warrant a fail, or employee performs an unsafe or dangerous action, the assessment may be terminated immediately. If necessary, all near-miss/incident reporting requirements must be met.

One-Ton Fuel Truck Components

Identify the following...		YES	NO
1	Cab switches		
2	900L Enviro Tanks		
3	Grounding System		
4	Fuel Delivery System		
5	Rear Exterior Power Sources		
6	Pump		
7	Cap Vent		
8	Spare Tire		
9	Safety Equipment (fire extinguisher and floor dry)		

Load Fuel (Loading Station)

1	Don proper PPE.		
2	Prepare fuel truck for loading.		



3	Approach loading area.		
4	Park properly.		
5	Connect grounding protection cable.		
6	Ensure compartments are clean, free of foreign objects and drained completely.		
7	Remove fuel caps.		
8	Verify compartment will hold quantity to be loaded.		
9	Remove Enviro Tank fuel caps.		
10	Fill each tank to 90% capacity.		
11	Remain with nozzle until fueling complete.		
12	Place fuel caps back on after tanks are loaded.		
13	Disconnect grounding cable.		
14	Conduct safety inspection of vehicle prior to re-entry into cab.		
Off-Load Fuel			
1	Obtain vehicle entry permit.		
2	Review work procedure.		
3	Proceed to designated fuel drop.		
4	Position vehicle, set parking brake.		
5	Don proper PPE.		
6	Ground unit.		
7	Turn on power source in cab in on rear.		
8	Ensure meter is reset to zero.		
9	Ensure equipment being fueled is shut off.		
10	Pull hose from hose reel.		
12	Fill to 90% capacity only.		
13	Return hose and ground cable to unit.		
14	Log unit number of designated equipment, litres and area.		
15	Sign off permit.		
16	Proceed to next fuel drop.		



Section 3		
The following precautions must be observed at all times. Assessor will check YES column if the item was actioned satisfactorily or NO column if it was not. If the employee fails to adhere to any of these precautions at any time, it constitutes a fail and the assessment shall be terminated immediately. If necessary, all near-miss/incident reporting requirements must be met.		
PPE: Has all necessary PPE to perform task. PPE has been inspected and is in good condition. Proper PPE is worn at all times.	YES	NO
Backing: Operator- Proper spotter briefing and walk down of area with spotter before backing. window down, radio off, hearing protection removed. Confirmed hands signals with spotter before backing for the first time. Sounds horn prior to backing, keeps spotter in mirror, follows spotters direction.	YES	NO
Backing: Labourer- Proper spotter briefing and walk down of area with operator before backing. wears high visibility vest, confirms hand signals with operator before backing for the first time. Uses proper hand signals, does not walk backwards while spotting or repositioning, always facing unit while it is in motion.	YES	NO
Line of fire: Does not place themselves in the line of fire at any time. This includes standing off to the side when opening valves, removing caps, and disconnecting hoses. Does not place themselves directly in front of/behind unit while in motion. Uses whip checks on all connections	YES	NO
Communication: Has established and reviewed method of communication with co-workers to ensure equipment is operated safely and all hand signals are understood.	YES	NO
Paperwork: Properly complete or participate in the completion of any required paperwork. Have necessary paperwork completed prior to commencing a task.	YES	NO
If there are any items that are marked NO, it is a failure of the assessment	PASS	FAIL
Comments:		



Assessment Sign Off

All boxes must be completed before signing an employee competent.

- ☐ Expectation Letter Signed
- ☐ Minimum 100 hours of on the job training completed
- ☐ On the Job Practical Assessment Completed by an approved Assessor
- ☐ Has reviewed and understands the operator manuals
- ☐ Reviewed and understands Procedures and Safety Documentation
- ☐ Technical review and Knowledge Exam complete
- ☐ Training documentation sent to CEDA Training Department

Assessor

I, _____ have taken the below named employee through this Assessment, and he/she has successfully demonstrated competence in the areas identified.

Signature Date

Student

I, _____ have completed this competency, including the on-job demonstration, practical assessment and multiple-choice questions. I understand the information presented and agree to follow all of the rules and procedures set out by CEDA.

Signature Date



Revision Log

Revision Date	Section Affected	Changes Made
January 9, 2023	All	Updated Template, multiple changes throughout.



Training Change Request Form

Date: _____

Location: _____

Name: _____

Contact information: _____

Email/Phone number

Description

Please use the back of this sheet to make additional comments.

Section Name: _____

Page Number: _____

Description of Problem/ Suggested Resolution:
