GOVERNMENT OF THE NORTHWEST TERRITORIES

PETROLEUM PRODUCTS DIVISION

CONTRACTOR'S MANUAL

For the

FUEL DELIVERY SERVICE AGREEMENT &

FUEL DISTRIBUTION SERVICES

Revised 2004

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Maureen Hall
Manager, Operations
Petroleum Products Division

TITLE

1.0 GENERAL INFORMATION

1.1 BACKGROUND

The Government of the Northwest Territories (GNWT), through the Petroleum Products Division (PPD) of the Department of Public Works & Services (PWS), is responsible for the operation and supply of various petroleum products to the bulk fuel storage facilities, located at 15 communities in the Northwest Territories.

The PPD makes arrangements with local businesses (Fuel Contractors) to sell, dispense and deliver the various petroleum products to the customers in 15 communities, by:

- Providing storage tanks and a bulk fuel storage facility for storing petroleum products until they are delivered to customers;
- Providing fuel trucks, which are leased to the Fuel Contractor, as well as meters, and other delivery equipment;
- Buying the petroleum products and making sure they are delivered to the community;
- Hiring a Fuel Contractor, who takes care of and sells the petroleum products;
- Monitoring what goes on at the bulk fuel storage facility and helping with the problems.

1.2 CONTRACTOR'S RESPONSIBILITIES

The Director of the Petroleum Products Division in Yellowknife must be satisfied with the way work described in this manual is performed by the Fuel Contractor;

The Fuel Contractor is responsible for the following, concerning the selling of petroleum products:

- Delivering fuel only to customers who are intended to get the fuel;
- Recording the sales on forms provided by the GNWT, accurately and as soon as possible;

- Completing the required paperwork each day;

- Sending a written account of all fuel deliveries and a cheque for cash sales to the Regional Petroleum Products Office **each week**.

The Fuel Contractor, is responsible for the following items concerning equipment and safety:

- Ensuring the general safety of all personnel, members of the public, the environment and property by using common sense and by following established safety guidelines and procedures described in this manual.

- Ensuring the quality of all fuel handled by PPD and the Fuel Contractor, including fuel used for aviation. Quality shall be ensured by following established procedures, as described in this manual. For aviation fuels, quality control includes the regular testing of fuels following the procedures described in this manual.

- Ensuring that all equipment is maintained in good condition and is working properly.

- Conducting regular inspections of the fuel storage facility and its equipment, checking for leaks and other potential problems; and following up with prompt maintenance where necessary.

- Reporting any problems immediately to the Regional Petroleum Products Office;

- Reporting of spills to the NWT 24 Hour Spill Line and the Regional Petroleum Products Office.

- Ensuring that all work is completed properly and safely, even during periods of the Fuel Contractor's absence;

- Ensuring that no unauthorized persons enter the fuel tank farm or inside the fuel delivery truck.

1.3 INITIAL TRAINING BY PETROLEUM PRODUCTS DIVISION

1.3.1 FUEL CONTRACTOR'S EMPLOYEES

Upon the successful awarding of a new Fuel Delivery Contract, PPD shall provide, at no cost to the Fuel Contractor, the initial training of the Fuel Contractor's employees responsible for all areas of fuel handling and facility operations. The training will include, but not necessarily be limited to:

- Safety;
- Tank farm operations & maintenance;
- Fuel vehicle operations & maintenance;
- Administrative and record keeping;
- Aircraft refuelling procedures;
- Emergency response;
- Dangerous Goods handling; and
- Inventory control procedures.

1.3.2 FUEL CONTRACTOR'S OFFICE STAFF

Upon the successful awarding of a new Fuel Delivery Contract, PPD shall also provide, at no cost to the Fuel Contractor, the initial training of the Fuel Contractor's employees responsible for office-related tasks. This training will include, but not necessarily be limited to:

- Responsibilities of the Fuel Contractor;
- PPD-related paperwork;
- Reporting procedures;
- Cash flow – record keeping; and
- Sending of documents and money.

If PPD is required to provide more initial training to additional new employees, on account of staff turnover, the Fuel Contractor shall be responsible for the travel costs and expenses of the PPD staff.

1.4 PETROLEUM PRODUCTS (FUEL TYPES)

The GNWT distributes five (5) types of petroleum products. Each petroleum product is given a number, or **"product code",** which is entered on the meter tickets and reports instead of the name of the petroleum product.

Diesel has four (4) product usages, one (1) for each of the various ways in which it is used, because taxes are different for each way it is used.

The product codes are:

Product	Usage	Description
01	**01**	**Diesel, Heating Fuel**
01	**02**	**Diesel, Automotive Fuel**
01	**03**	**Diesel, Aviation Fuel (Uncertified)**
01	**10**	**Diesel, Non-Motive Fuel (e.g. NTPC – Northwest Territories Power Corporation)**
04	**00**	**Gasoline**
05	**00**	**AVGAS 100 LL (Drums only)**
07	**00**	**Naphtha**
08	**00**	**Jet A – 1**

1.5 METERS

1.5.1 MECHANICAL METERS

Each fuel truck and fuel dispenser have a metering system attached. The meters have three major parts:

1. Measuring Chamber (measures fuel)
2. Registrar (records the measurements)
3. Imprinter (prints on the ticket)

Ensure the counter is always at **zero** before starting each delivery.

On the upper corner of the registrar there is a smaller meter called the totalizer. It measures and indicates the total volume of the petroleum product that is delivered. Each morning, record the Opening Read Numbers on the Weekly Sales Batch Control Report. At the end of the night the Closing Read Numbers will also be recorded. The totalizer is also used to record the monthly sales for the Tank Gauge Report. The Meter Read Numbers show the daily amount of petroleum product that has been sold during that week.

1.5.2 TEMPERATURE COMPENSATING METERS

Fuel expands and contracts depending on the weather, therefore some fuel trucks and dispensers have Temperature Compensating Meters. These meters calculate the volume of fuel to 15°C. Each Temperature Compensating Meter has three major parts which are similar to Mechanical meters:

1. Measuring Chamber (measures fuel)
2. Electronic Registrar with a temperature sensor (records the measurement and the temperature)
3. Computer and Printer (temperature corrects fuel to 15°C and prints the ticket).

Ensure the counter is always at **zero** before starting each delivery.

The Temperature Compensating Meters also have small meters in the upper corner of the registrars called totalizers. Each morning and night, record the Opening and Closing Read Numbers on the Weekly Sales Batch Control Report. Tickets have to be inserted into the printer for the system to work. The tickets will record the sequence, date, and time of sale. Midcom meters can give a daily ticket sales total by printing a shift total at the end of the day.

Note: ***The morning Meter Read Number should be the same as the Meter Read Number from the night before.***

1.6 CASH OR CREDIT

- The Fuel Contractor can sell the petroleum products either for cash or on GNWT approved credit. There are specific rules that apply to credit sales;

- The Fuel Contractor can only sell fuel on credit to authorized customers who the GNWT has approved for buying petroleum products on credit. **A meter ticket is always used to record credit sales**. The GNWT is responsible to send a monthly invoice to the customer who has been approved for credit. Unauthorized credit sales to customers will be charged back to the Fuel Contractor.

1.7 MONEY

Each week the Fuel Contractor is responsible to collect and submit to the GNWT all monies received from the cash sale of petroleum products. The customer who has approved credit is responsible to submit payment on a monthly basis direct to the GNWT for any sales showing on their invoice.

1.8 AUTOMATIC FILL CUSTOMERS – HEATING FUEL

Certain PPD customers are designated as "automatic fill customers". These are customers who automatically receive fuel deliveries from the Fuel Contractor (e.g. NTPC). The GNWT will provide a listing (Unit Table) that lists the automatic fill customers to the Fuel Contractor.

The Fuel Contractor is responsible for maintaining Automatic Fill Customers' fuel tanks at an acceptable fill level at all times to prevent fuel from running out. The GNWT will assess all run-out incidents and the findings may impact on the Performance Rating of the Fuel Contractor responsible for causing the incident.

The Fuel Contractor shall be responsible to pay for any damages caused from fuel run-out incidents to Automatic Fill Customers. The Fuel Contractor shall have Insurance that specifically covers the Fuel Contractor for this type of incident. This is why Fuel Contractors are required to have Business Insurance.

The GNWT is not responsible for any damages occurred due to the non-delivery of Petroleum Products by the Fuel Contractor to an Automatic Fill Customer's tank.

1.9 PERFORMANCE REVIEWS

The PPD Office, on a quarterly basis will conduct the Fuel Contractor's Performance Review. The performance reviews will reflect the Fuel Contractor's ability to comply with the Agreement's terms and conditions.

Performance shall be rated as follows:

Satisfactory		**Unsatisfactory**

1.10 REGIONAL PETROLEUM PRODUCTS OFFICES

The mailing addresses and phone numbers for the Regional Petroleum Products Offices.

Fort Smith Region: Senior Operations Officer
Petroleum Products Division
Public Works and Services
Government of the Northwest Territories
P.O. Box 710
Milton Bldg.
Fort Simpson, NT, X0E 0N0
Ph: (867) 695-7257 Fax: (867) 695-2815

Inuvik Region:
Petroleum Products Officer
Petroleum Products Division
Department of Public Works and Services
Government of the Northwest Territories
P.O. Box 1638
3rd Flr Perry Bldg, X0E 0T0
Inuvik, NT,
Ph: (867) 777-7159 Fax: (867) 777-3463

PPD HQ:
Coordinator Fuel Operations
Petroleum Products Division
Department of Public Works and Services
Government of the Northwest Territories
P.O. Box 1320
2nd Flr Stuart Hodgson Bldg.
Yellowknife NT, X1A 2L9
Ph: (867) 920-3153 Fax: (867) 873-0192

1.11 LOSS ALLOWANCE POLICY

1.11.1 There will be no allowance given to Fuel Contractors when reported sales are less than metered sales.

Fuel Contractors will be held accountable on a quarterly basis when reported sales are less than metered sales. Once reconciliation's are received by PPD Finance (Fort Simpson), adjustments to inventory records will be made.

Exceptions:

Exceptions will be made for all losses resulting from PPD's actions (e.g. tank cleaning, meter calibration, etc.) and malfunctioning metering devices. All exceptions must be approved by the Director, PPD.

1.11.2 Losses of product inventory due to metering devices when reported sales equal meter sales will only be accepted when:

a) Certification is received from a qualified firm indicating that the metering devices were recording incorrectly.

b) Certification is received from the Manager, Operations, PPD, indicating the amount of the adjustment to be made.

c) Formal write off/down report is received with the monthly reconciliation's. Normal signing approval is required with supporting documentation.

1.11.3 Loss allowance for product shrinkage and product evaporation will be established using the following criteria:

The Percentage of Sale Allowance Standard will be established for each product and each tank farm at the beginning of the contract with the Fuel Delivery Contractor. This standard will apply for the full term of the contract.

a) Where mechanical meters are installed, Percentage of Sales Allowance Standard is:

3.5%	LSDL, Heating Fuel
3.5%	Jet A-1 Aviation Fuel
8.0%	Gasoline, Automotive

b) Where Temperature Compensating meters (TCM's) are installed, Percentage of Sales Allowance Standard is:

1.0%	LSDL, Heating Fuel
1.0%	Jet A-1 Aviation Fuel
1.0%	Gasoline, Automotive

1.11.4 Loss due to product shrinkage and product evaporation will be reviewed on a quarterly basis by Regional and Headquarters staff. The review will cover:

a) Contractor Training
b) Metering Devices
c) Security of Product
c) Type of Storage Tanks
d) Tank Farm Maintenance
e) Venting System

1.11.5 All metering devices will be certified at least once every two years for their accuracy by a firm designated as an inspector pursuant to the Department of Industry Act for the purpose of enforcing the Weights and Measures Act. If more frequent certification is required, the metering devices will be replaced.

1.11.6 Losses reflected in the inventory records that have been explained by wrong tank dips will only be accepted when at least one of the following criteria are met:

a) New tank dips have been taken and manual reconciliation indicates no product loss due to leaking tanks.

b) Reported sales equal meter sales, which would indicate all sales have been considered.

c) Certification from the Manager, Operations, PPD, indicating that the monthly tank dips were wrong and that appropriate corrective and reconciliation action has been taken.

d) Receipt of a copy of a letter from the Manager, Operations, PPD, to the Fuel Contractor, that expresses concern that wrong dips were taken, and offering training assistance.

When two wrong dips are received during a fiscal year the PPD Staff will travel to the community to retrain Fuel Contractor's personnel. All travel costs and expenses shall be billed to the Fuel Contractor.

1.11.7 Inventory losses above the established standard will be charged to the Fuel Contractor. Exceptions will be made when it can be demonstrated to the Manager, Operations, that the loss was not caused by non-performance by the Fuel Contractor.

1.12 DEFINITIONS

Description	Ch	Definition
Av-Gas 100LL	1	Aviation gasoline used in piston engine aircraft.
Diesel, Automotive Fuel	1	Petroleum product used in a mobile piece of equipment, such as a loader
Evaporation	1	Heat turns the liquid into a vapour that rises into the air and escapes.
Fuel Dispenser	1	The equipment which allows the petroleum product to be pumped out of the delivery tank
Jet A-1 Fuel	1	Aviation fuel used in Turbo prop aircraft & Jets.
Monthly Commission	1	Money paid to the Fuel Contractor for selling petroleum products for the GNWT.
Naphtha	1	Camp stove fuel
Shrinkage	1	Cold will make the liquid appear to be less than before by reducing the volume of liquid present.
TCM	1	Temperature Compensating Meters
Totalizer	1	An adding machine which continues to add the amount of the latest delivery to the total of all previous deliveries.

2.0 SAFETY RULES AND REGULATIONS

2.1 INTRODUCTION

Follow these safety rules. They will help stop accidents that can hurt people or damage equipment. It is dangerous to handle fuel in the wrong way. It is very important to be careful and make sure that conditions are safe.

The Regional PPD Officer meets with each Contractor to review and explain all the safety rules about how to handle fuel safely. This happens when the contract is signed and once a year after that.

These rules can't tell you how to deal with every thing that could happen. Use your common sense and good judgment to decide what action is needed when you think more must be done.

You are responsible for making sure:

- that all fuel is handled the right way.
- that safe work rules are made.
- that the rules are followed to prevent accidents.

Nothing needs to be done so fast that it can't be done safely and the right way.

2.2 GENERAL

New Employee – When you have a new employee working with fuel, make sure that a person who knows how to do the job is helping. The person with experience should tell how to do the job and how to handle fuel safely. All people who handle fuel products must use the safety rules.

Danger – If there is a dangerous condition or if a problem comes up, tell the Regional PPD Office right away. This lets us fix the problem as soon as we can.

Train Your Staff – Make sure your employees know all the fire and safety rules for fuel and tank farms. The GNWT will send copies of the Territorial Safety Acts if you ask. Talk to the Hamlet Office about local fire safety laws.

2.3 HOW FUELS ARE DANGEROUS

2.3.1 FLAMMABILITY (means it burns easily)

a) All fuel products create vapours all the time. These vapours burn very easily and can explode.

> **What is Vapour?** It is like a mist. You can't see it and sometimes you can't even smell it, but it is part of the air near the fuel or other liquid.

b) Vapours from fuel explode when the temperature of the fuel rises to a certain level. The temperature at which the fuel explodes is called the **flash point** of that product.

c) When combined with air, vapours from fuel become explosive. Some products, such as gasoline, create a more explosive mixture than other products and must be handled with special care.

d) Vapours from fuel products can be found in unexpected places:

- Fuel vapours are heavier than air. This means they sink down and collect in low places. The vapours might be in lower parts of ships and storage tanks.

- Think about a stream of water. That's how vapours move in the air. They flow down and collect in pools in low places. They will travel a long distance even when the wind is not very strong.

- When tanks are being filled, vapours come out through the vents and burn easily in the air.

- The vapours mostly have no colour and sometimes you can't smell them either.

2.3.2 HOW VAPOURS ARE POISONOUS

- When fuel vapour gets in the air we breathe it replaces the oxygen. People must have oxygen to live. So, when the oxygen in the air is gone, so is life.

- In a small space with fuel vapours, you will have trouble breathing.

- Vapours from gasoline are poisonous to humans. Try never to breathe in gasoline vapours.

2.3.3 FUEL ON YOUR SKIN OR CLOTHES

a) Fuel and vapours can burn your skin and cause bad skin rashes. Protect yourself:
   - Wear protective clothing.
   - Work safely.
   - Use the right equipment.
   - Do required maintenance in the right way.

b) If fuel gets on your **skin**:
   - Wash that area of skin carefully with soap and water.
   - Rinse many times to remove the fuel.

c) If your **clothes** get soaked with fuel oil:
   - Take them off as soon as you can.
   - Soak them in water.
   - Wash them with soap before wearing them again.

d) If fuel oil is sprayed on your **face**:
   - Do not rub your eyes.
   - Wash your eyes out immediately with lots of fresh water.
   - After this treatment, go directly to the nursing station.
   - Tell the nurse what happened. Have her recheck your eyes and arrange for more treatment.

e) Always get rid of **shoes** that are soaked with fuel oil.

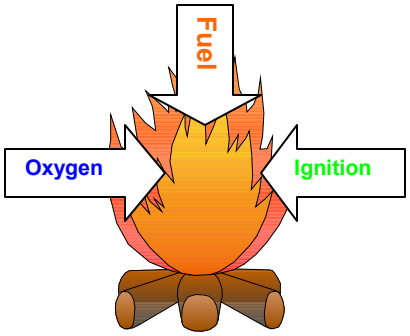
2.4 LEARN ABOUT FIRE

2.4.1 HOW FIRE BURNS

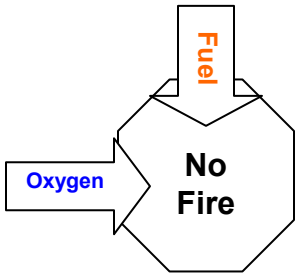
a) Vapours of fuel can catch fire and burn. Uncontrolled burning of fuel is a fire hazard.

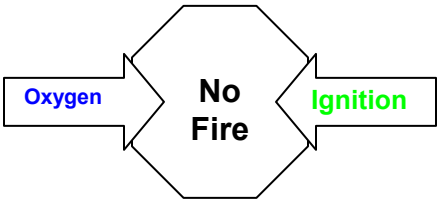
b) To produce fires, three things are needed:

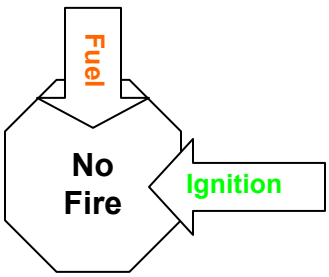
FUEL	:	vapours that can burn
IGNITION	:	something that lights the fire
OXYGEN	:	in the air



c) If any of these three things are missing, there won't be a fire.







2.4.2 CLASSES OF FIRES

Fire experts talk about 4 kinds or classes of fire. The class depends on what fuel is burning. The fire classes are:

- Class A - Ordinary Combustible: wood, cloth, paper, rags, rubbish
- Class B - Flammable Liquids/Gasses: gasoline, oil, paints.
- Class C - Electrical Equipment: electrical motors, controls, wiring
- Class D - Combustible Metals: fires in magnesium, titanium.

Around tank farms and fuel trucks, you mostly worry about **Class B** fires.

2.5 FIRE PREVENTION

2.5.1 STOP VAPOURS FROM BEING A DANGER

a) Stop leaks and spills of fuel:
   - Use safe work habits.
   - Use the right equipment.
   - Do needed maintenance the right way.

b) If fuel spills, take these steps:
   - Shut off the spill source.
   - Shut off any machinery or power sources.
   - Get help.
   - Keep the spill from spreading.
   - Follow the right steps to remove the spilled fuel and any contaminated soils.

c) Store fuels in closed containers.

d) Do not store fuel or oily rags inside buildings in open containers.

2.5.2 DON'T LET FIRES START

- Make sure there are no open flames, cigarettes or sparks near the place where fuel is being handled or stored.

- Keep ground cable connections in good condition always.

- Use only approved equipment. It is made so it will not explode when it is in an area that has dangerous vapours and fuel.

2.6 STATIC ELECTRICITY

What is Static Electricity? You know when you rub your socks on the carpet and then go touch your cousin and give him a shock? That shock is caused by static electricity. It is a build-up of electric charge, and it can happen with fuel too.

With fuel, static electricity is created when the fuel flows through pipelines, into empty tanks, and through filters. Static electricity is a common cause of starting fuel fires. You must do everything possible to stop this from happening. Here are the rules that will reduce the possibility of a fire starting because of static electricity:

- Never let fuel splash around while you are filling the fuel truck. Keep the flow of the fuel small until the nozzle is well covered.
- Wait 15 minutes after you fill the fuel tanks before opening any hatches. Wait to do dipping. Wait to take samples. By waiting, static electricity that builds up while filling the delivery tank has time to go away.
- Keep clean all grounding cables, as well as fastenings, plugs, posts and connections. Make sure they are in good condition.
- Before you fill the delivery tank, turn off the truck engine, radio equipment, truck lights, and all equipment on the truck that is not needed.
- Do not repair equipment while the delivery tank is being filled or when fuel is being delivered to a customer.

2.7 FIRE PROTECTION

2.7.1 FIRE AT THE TANK FARM

a) Shut off the source of the fuel, if possible. If valves control the flow of fuel, close them.

b) If the fire is out of control, go to a safe distance immediately. **DO NOT TRY STEPS (c) and (d). GO TO STEP (e) NOW.**

c) Move all vehicles to a safe place away from the tank farm.

d) Cover the fire with material (like sand) that will keep oxygen from feeding the fire. Aim the Class B fire extinguisher at the bottom of the flames.

e) Call the local fire department.

f) Tell the Regional Petroleum Products Office once the fire is under control.

2.7.2 FIRE THAT HAPPENS AWAY FROM THE TANK FARM

2.7.2a FUEL TRUCK FIRE

a) Stop the truck, away from buildings and other vehicles if possible.

b) If the fire is under the hood:
- Take the fire extinguisher.
- Use gloves.
- Do not touch the hood unless your hands are protected. The metal could be hot.
- Pop the hood but **do not raise the hood**. The fire could jump out at you and burn your face and hands.
- Aim the fire extinguisher under the hood and squeeze the trigger.

c) If a fire starts while you are delivering fuel, shut off the flow of the fuel right away.

d) Call the local fire department right away.

e) Tell the Regional Petroleum Products Office once the fire is under control.

2.7.2b FIRE ON A CUSTOMER'S PROPERTY

a) Stop the flow of the fuel from the truck.

b) Drive the fuel truck to a safe distance away from the fire.

c) Call the local fire department right away.

d) Use the fire extinguisher that is in the fuel truck. Do not wait for the fire department to arrive.

2.7.3 KNOW ABOUT FIRE EXTINGUISHERS

All employees of the Fuel Contractor must learn all about the type of fire extinguisher they may have to use. Make sure that all employees know where every fire extinguisher is and how to use them to put out fires.

a) Multipurpose (ABC) Dry Chemical Extinguisher

- Covers the fire with a powder. Cuts off the supply of oxygen to the fire.
- Use this type of extinguisher for Class A, Class B, and Class C fires.

ALL GNWT TANK FARMS HAVE MULTIPURPOSE LOW TEMPERATURE DRY CHEMICAL EXTINGUISHERS

b) Water Extinguisher

- Three types: pump tank, stored pressure, and cartridge.
- Cools the fire.
- Use this type of fire extinguisher for Class A fires (wood, paper, garbage).

c) Chemical Foam Extinguisher

- Covers the fire with foam. Cuts off the oxygen supply.
- Use on Class A and Class B fires. (A=wood, paper, garbage) (B=gas, oil, paint).

d) Compressed Gas Extinguisher

- Uses CO_2 (Carbon Dioxide).
- Covers the fire and cuts off the oxygen supply.
- Use for Class B and Class C fires. (B=gas, oil, paint) (C=electrical)

e) Dry Chemical Extinguisher

- Types: stored pressure, cartridge operated.
- Covers the fire with a powder. Cuts off the oxygen supply.
- Use for Class B and Class C fires. (B=gas, oil, paint) (C=electrical).

f) Dry Powder Extinguishers

- Types: special ones for some metals that burn easily.
- Use on Class D fires (D=metals).

2.7.4 IF CLOTHING CATCHES FIRE

a) If your clothes catch fire, **Stop, Drop and Roll**. Do **NOT** run! Running makes the fire worse. Wrap a parka or blanket around you, if you can.

b) If someone else's clothes catch fire:
- use water; OR
- cover the person with a blanket or heavy coat such as a parka and roll the person on the ground to put the fire out. Remove the blanket immediately after the fire is out.

c) Move the person away from the source of the fire. Make sure they do not run.
- After you have stopped the clothing fire, and while you wait for a doctor or nurse, gently remove all burnt clothing that does not stick to the person and cover them in clean wet towels.

d) Be very careful moving this person. Any rough movement could hurt them even more. They need to see a doctor immediately.

2.8 WORKERS' COMPENSATION BOARD, NWT

You must
- Make sure all employees have a safe and healthy workplace.
- Follow the rules in the NWT Safety Act and General Safety Regulations.
- Report all serious injuries and accidents to the Workers Compensation Board.

WCB Headquarters –1-800-661-0792 for all Regions.

2.8.1 REPORT ALL ACCIDENTS

- If an employee is hurt in any way, the incident must be reported to the employee's supervisor.

- Report these things to the WCB:
  i. an injury (for example, someone gets a cut or breaks a leg)
  ii. an accident

- Write down information about all injuries, even small ones. Write the name, date and time, and what the injury is. This helps make sure the WCB will pay if the injury gets worse.

2.8.2 FIRST-AID KIT

a) If an employee is hurt while working, make sure he gets medical aid as soon as possible.

b) Use the First Aid kit to give medical aid to the employee. This helps to stop infection.

c) Every tank farm and fuel truck must have a First Aid kit. The kit must meet the standards of the St. John Ambulance Society (see the list in Appendix C).

d) Keep these First Aid kits in a place that can be easily reached when they are needed.

e) When items in the First Aid kit are used, tell the Regional Petroleum Products Office. Then new items can be sent to you.

2.8.3 INJURIES TO THE PUBLIC

a) What do you do if an employee or fuel truck is part of an accident where a person gets hurt or dies? First, help the injured person. Give first aid or make sure they get to the health centre.

b) Next, tell your supervisor. The supervisor calls the Regional Petroleum Products Office right away.

2.9 IF THERE IS DAMAGE TO PROPERTY

a) Report right away to the Regional Petroleum Products Office:
   - all damage to the tank farm;
   - potential or existing dangers;
   - emergencies; and
   - risks to the tank farm.

   Also call the Fire Dept or RCMP if necessary.

b) Report all potential and existing problems at the tank farm to the Regional PPD Office.

c) Report any of the following to the Regional PPD Office:
- If an employee or the fuel truck damages a customer's property;
- A fuel spill;
- If 2 fuel products are mixed together; or
- If something wrong has been added to the fuel.

2.9.1 IF FUEL IS SPILLED

a) Shut off the source of the spill, if this is possible.

b) Shut off any equipment or machinery. That might create sparks to start a fire at the spill.

c) Make sure there are no lighted cigarettes nearby.

d) Do not let any equipment, people, or vehicles move into the area of the spill.

e) Leave the area right away if there might be an explosion.

f) Safely contain and stop the spilled fuel from spreading. Make a barrier to stop the flow.

g) Contact your Supervisor, the local RWED Officer, the RCMP, or the Fire Department.

h) Contact the Regional Petroleum Products Office and report the spill.

i) After the spill has been contained, and there is no more danger, stay at the spill site. Don't let equipment or people enter the area. Stay until someone comes to clean up the spill area.

2.9.2 IF FUEL IS MIXED WITH SOMETHING ELSE

Mixing together different kinds of fuel, or by mistake putting a product into the wrong tank or part of a tank, is very dangerous! It can cause a disaster if it is not fixed. It is very important to tell someone about the mistake.

As soon as someone knows about the mistake:

a) Stop working right away. Shut off all equipment.

b) Do not try to remove the fuel from the tank or truck. Wait for qualified help.

c) Contact your Supervisor and the Regional PPD Office right away.

2.10 ADDITIONAL SAFETY NOTES

2.10.1 FIRE NOTIFICATION PROCEDURES

- Make sure that all employees know the telephone numbers of the community fire department and nursing station.

2.10.2 DRUMS DISPOSAL

- Move any old fuel drums away from the tank farm and put them in an area that has been made safe from contamination. This way they will not be dangerous to the community.

- If you don't know where the best place to put these drums is, talk to the Hamlet Office or the local Fire Dept to find out where.

- Take out the plugs from the drums before you take them away.

2.10.3 SIGNS

- **"NO TRESPASSING"** and **"NO SMOKING"** signs should be hung up around the tank farm to warn people.

- Where possible, **"NO TRESPASSING", "NO SMOKING", "STOP YOUR ENGINES"** and other signs should also be in the local dialect. Talk to the Regional PPD Office about getting some of these signs if you do not already have some.

- Pictograph signs will be used at the tank farm

- Ensure that the Emergency Action Posters have been put up at the tank farm.

2.11 STORAGE TANK SAFETY

CLIMBING STORAGE TANKS

- When you are climbing up the stairs on a storage tank, hold the handrail with one hand. Never run on the stairs.

- Only one person at a time is allowed to be on a fixed or straight ladder that is attached to the side of a storage tank.

- If you are short of breath when you reach the storage tank hatch due to the climb, take the time to catch your breath before beginning any other activity. Sit down if it helps. Do not lift the cover until you are able to breathe normally again. The vapours released when opening the hatch are potentially harmful and may cause breathing difficulty if you are short of breath.

- When you are on top of the storage tank, always stay inside the barrier. DO **NOT WANDER AROUND THE TOP OF THE STORAGE TANK.**

- If there is no barrier, use ropes and a belt to secure yourself to the storage tank, using appropriate safety guidelines from the Workers' Compensation Board. Ask the Regional PPD Office to supply a copy should you require one.

- Always use the catwalks when you are moving between storage tanks.

OPENING THE HATCH

- Use a disposable-style industrial facemask when opening the hatch. Potentially harmful vapours may escape when the hatch cover is raised. If you inhale vapours or feel sick, close the hatch immediately and sit down until you can breath properly again.

- Providing it is safe to do so, always keep your back to the wind when opening the dome cover so that any vapours are blown away from you.

DO NOT ENTER THE STORAGE TANKS

- Fuel Contractors are not allowed to enter any storage tanks, even if the storage tank is empty. It is very dangerous to enter a storage tank without proper training and self-contained breathing apparatus.

HATCH COVERS

- Except when you are sampling or measuring fuel, always keep the hatch covers closed and locked. Never slam the hatch cover closed.

ACTIVITIES THAT ARE NOT ALLOWED

- Never carry matches or cigarette lighters on your person when measuring the amount of fuel in the storage tanks.

- Never wear boots or shoes that have metal attached to their bottoms (e.g. cork boots) because they can cause sparks when walking on storage tanks.

2.12 DEFINITIONS

Description	Ch	Definition
Bungs	2	Plug or bung that fills the hole in a fuel drum. It is removed to let the fuel to come out.
Cab	2	The driver's part of the fuel truck.
Catwalk	2	Metal walkway between storage tanks.
Chock Blocks	2	Wedges to put in front or behind the truck wheels. They keep the parked truck from moving.
Combustible	2	This thing can burn. (Same as flammable.)
Connector Arm	2	For trucks that load at the bottom, fuel flows through this tube from the storage tank into the truck tank.
Contractor's Insurance	2	Insurance the Contractor arranges to cover the operations of his business.
Drum	2	A large metal barrel.
Emergency Flashing Lights	2	Coloured lights blink on and off to warn other drivers of a problem ahead (also called hazard lights).
Filter	2	The fuel flows through this to remove things like dirt and contaminants
Flammability	2	How easily a fuel will burn.
Ground Cable Connections	2	Cables used to connect storage tanks to the ground so lightning cannot hurt the tanks.
Grounding Facilities	2	A cable that connects the tanks to the ground in case of a lightning strike.
Hand Rails	2	The metal rail that follows the stairs to the top of the tank.
Hose Rewind Equipment	2	Used to pull the hose back into the fuel truck.
Leaking Fittings	2	Any equipment that is leaking fuel. Includes valves, pipe joints, and connections.
Loading Valve	2	A valve (with a spring attached) that lets the fuel flow.
Manhole Cover	2	Lid for an opening that a trained person uses to enter the storage tank.
Padlock	2	A lock with a U-shaped bar which can be put through the valve and then inserted back into the padlock. It stops the opening of valve by unauthorized people.
PPD	2	Petroleum Products Division. Part of the NWT Government's Department of Public Works and Services. PPD is in charge of providing fuel to small

Description	Ch	Definition
		communities.
PPD Bulk Fuel Storage Facility	2	A place where petroleum products are stored, in large above ground tanks. Also called a tank farm.
Rack Platform	2	Platform that connects storage tanks.
Reflector Signals	2	Equipment placed on the road to reflect the lights of other vehicles. They warn of something unusual ahead. They tell drivers to slow down, be careful and be ready to stop.
Solvent	2	A liquid that dissolves another substance.
Sound Limits	2	How much engine noise the fuel truck is allowed to make.
Stair Treads	2	Steps of the ladder to the top of the tank.
Static Electricity	2	Electrical energy that is caused when things move past each other, like fuel in pipeline. Static electricity can cause a spark which might start a fire.
Vapours	2	Fumes, gases, escaping from liquid fuels.
Vent Cover	2	Lid covering the hatch opening (also called a hatch cover).
Winding Handle	2	Handle connected to measuring tape wheel for lowering or raising the tape.

3.0 PROCEDURES - FILLING OUT FORMS & REPORTS

3.1 OVERVIEW

It is very important for the Fuel Contractor to remember these rules:

- Allow only GNWT approved credit customers to buy fuel on credit.
- Complete and send in a meter ticket for each fuel delivery that the customer buys on credit.
- Do **not** use the same meter ticket for more than one fill-up.
- Stamp all copies of the meter ticket "Not Certified For Aircraft Use" when P-50 is sold to an aviation company and use product code "3".

3.1.1 UNIT TABLE REPORT

The Fuel Contractor will be provided with a new updated Unit Table Report each month by PPD, no later than the 10th of the month;

- Throughout the current month the Regional PPD Office will provide the Fuel Contractor with updates for any changes made to the Unit Table Report.
- These updates can be for new customers, new units, changes to the existing units, or instructions to stop delivery to a customer on credit.
- All changes are effective immediately.
- The Fuel Contractor should note these changes on the current monthly Unit Table Report and also ensure that the drivers are notified of all changes.
- Upon receipt of each new monthly updated Unit Table Report, the Fuel Contractor will review the Report for accuracy and compare it with all of the updates provided by the Regional PPD Office the previous month. The Regional PPD Office is to be informed of any errors or omissions.
- During the current month, the GNWT may revoke a customer's credit privilege. If this event occurs, the PPD Office will notify the Fuel Contractor to update the current Unit Table Report. The Fuel Contractor will also notify the driver of this action.

- After the review, the Fuel Contractor will destroy the previous month's Unit Table Report.

- If a new monthly updated Unit Table Report is not received by the 10th of the month, the Fuel Contractor is to contact the Regional PPD Office immediately and request an updated copy.

- Check the Unit Table Report everyday.

- The Fuel Contractor is responsible for making any updates to their copy of the Unit Table Report, as they are received from the Regional PPD Office.

- **Do not** allow a customer whose name does not appear on the Unit Table Report to receive fuel on credit. Customers may receive fuel on credit **only if** the GNWT has already approved them for credit.

- If the Fuel Contractor provides fuel on credit to a customer who has not been approved by PPD, the Fuel Contractor shall be held responsible for collecting all money owed for that fuel delivery. If the Fuel Contractor is unable to collect the payment from the customer, then the Fuel Contractor must pay the GNWT instead. The Regional PPD Office will charge the Fuel Contractor's account for any unauthorized sales.

- If a customer's credit has been suspended, their name will not appear on the Unit Table Report, or the Regional PPD Office will have advised you to remove their name from the Report.

- Customers who are not listed on the current Unit Table Report must pay cash for fuel delivery.

3.2 METER TICKETS – CREDIT SALES

3.2.1 OVERVIEW

- The Fuel Contractor is responsible for all the meter tickets issued to them by PPD. The Fuel Contractor shall:

- Record all the numbers from the meter tickets received.

- Store all of the unused meter tickets in a secure locked location.

- Provide a quantity of unused meter tickets to the driver each morning. Ensure that they start with the lowest meter ticket number. Record the numbers of the meter tickets that are provided to the driver.

- Submit all “voided” meter tickets with the Weekly Sales Batch Control Report (WSBCR).

- Each meter ticket has a different number on it. The GNWT assigns meter tickets to each Fuel Contractor. All tickets must be accounted for, either through a sale, or a report identifying the tickets loss or damage.

- The Driver will ensure that:
    - All meter tickets provided by the Fuel Contractor each day will be stored in a secure place where they will not be lost or stolen;
    - Meter tickets that are damaged are returned to the GNWT;
    - All used and unused meter tickets are returned to the Fuel Contractor at the end of each day.

- When you use the meter tickets, start with the meter ticket with the lowest number (located in the top right corner) and use them in sequence of number.

- If a ticket is lost or destroyed, the Supervisor must be notified.

- If a mistake is made on the meter ticket, write **“VOID”** across the meter ticket and change the volume to “0” and the unit number to **“VOIDED”**. All copies of that meter ticket must be given to the Supervisor.

- Make sure that each meter ticket is stamped using the meter printer so that it shows how much fuel was delivered.

PROCEDURES FOR SELLING FUEL ON CREDIT

For a “**credit sale**”, the customer uses credit to pay for the petroleum product. When it is delivered, the GNWT sends them a bill for the amount they owe for the fuel, and they pay the GNWT

Applications for credit are available through PPD Headquarters – Finance in Fort Simpson, or through the Regional PPD Offices.

Once credit has been approved to a customer by the GNWT, the Regional PPD Office will inform the Fuel Contractor in writing, identifying the new customer number and the unit number. The Fuel Contractor shall update their current Unit Table Report with these numbers. The unit number will appear on the next issue of the Unit Table Report. **Do not sell fuel on credit if the customer’s name does not appear in the Unit Table Report unless authorized by the Regional PPD Office.**

The following will help the Fuel Contractor in processing credit sales:

a) The driver delivers the fuel and stamps the meter ticket.

b) The meter ticket must be signed by the customer at the time of delivery unless the sale is for automatic delivery of heating fuel.

c) The driver gives the customer **Copy 1** of the meter ticket unless the sale is for automatic delivery of heating fuel. The driver cannot accept any payment.

d) The Contractor collects the meter tickets and submits them to the Regional PPD Office with the Weekly Sales Batch Control Report.

e) The PPD Head Office invoices the customer for credit sales each month; the customer submits the monthly payment directly to the PPD Office.

f) If the customer is behind in payment for fuel already received, their credit may be suspended. In this case, the Fuel Contractor will be notified and the customer's name will be removed from the Unit Table Report.

Do not accept payment from credit customers. They must wait for the invoice to come in the mail.

3.2.2 FILLING OUT METER TICKETS

See Example 1 – Meter Ticket – Appendix "A"

a) Make sure that there are enough meter tickets on hand for the number of scheduled deliveries for that day for customers who pay on credit.

b) Before making a delivery, fill out the meter ticket:

- Community Code
- Delivery date
- Name of the customer and identifying information such as an aircraft number or the name of a government department
- Unit Number
- Type of petroleum product
- Dispenser I.D. number

3.2.3 FUEL DELIVERY - CREDIT & CASH SALES

a) Make sure the meter ticket or cash sales memo is filled in for each delivery scheduled for that particular day.

b) When delivering the fuel, insert the meter ticket or cash sales memo into the meter.

c) Deliver the correct amount of fuel for a cash sale.

d) When the delivery is complete, turn the handle on the meter to stamp the amount on the meter ticket or cash sales memo.

e) Remove the meter ticket or cash sales memo from the meter.

f) Write on the meter ticket or cash sales memo the amount delivered in the section labelled –"**Quantity Delivered**"

g) Sign the meter ticket or cash sales memo.

3.2.4 OBTAINING THE CUSTOMER'S SIGNATURE

Make sure that you get the customer's signature for the following:

a) All deliveries to NTPC (automatic delivery).

b) Deliveries to each unit that doesn't get an automatic delivery.

c) All deliveries to Airlines (be sure to record the Plane's call sign - e.g. C-GVIK).

d) All meter tickets for products other than "automatic heating fuel" must have the customer's signature at the time of delivery.

e) Always give the customer Copy 1 of the signed meter ticket.

3.2.5 END OF DAY

Once all deliveries are finished for the day:

Write down the **closing meter read** from the truck's meter.

a) Write down the **closing meter read** number from all of the dispensing pumps **after** they have been locked.

b) Take the following items to the office:

- All of the used and unused meter ticket copies;
- The Meter Read numbers from the truck's meter recorded at the beginning and end of the day;
- The Meter Read numbers from all of the dispensing pumps recorded at the beginning and end of the day;
- Copy 2 and Copy 4 from each of the cash sales memos.

3.3 CASH SALES MEMO

See Example 2 – CASH SALES MEMO - Appendix "A"

The Fuel Contractor is the sole party responsible for making sure the GNWT receives all cash revenue received for the delivery of fuel. If cash is lost or stolen, it must be reimbursed by the Fuel Contractor **(SHOULD HAVE BUSINESS INSURANCE PROTECTION)** and paid to the GNWT. The Fuel Contractor is also responsible for recovering any money owed for a NSF (bounced) cheque from the customer.

- The Fuel Contractor will be charged a cheque handling fee for any NSF (bounced) cheques written to the GNWT.

- Meter tickets are not to be used for cash sales.

- If a customer is not on the Unit Table Report (i.e. not approved for credit), use a **Cash Sales Memo** and make sure the customer pays in cash.

- Make sure that the customer pays for the fuel **before** any fuel is delivered into their tank. The customer may pay with dollar bills or by a cheque – both are considered cash sales.

- All cheques should be written out to the Fuel Contractor, **not** the GNWT. The Fuel Contractor is responsible for the collection of any NSF cheques for cash sales, not the GNWT.

- There are five (5) parts to the **Cash Sales Memo**. Distribute each copy as follows:

    - After the delivery of the fuel, the driver signs the memo and gives **copy 4 (yellow)** to the **customer**.
    - The **Fuel Contractor** keeps **copy 5 (buff)**.

- The other three copies are sent to the Regional Petroleum Products Office, which then distributes them in this way:
    - Copy 3 (pink) to the Regional Office,

- Copy 2 (blue) and Copy 1 (white) to the Headquarters Accounting Office.

- If you will be delivering fuel to customers who pay with cash, make sure that the cash sales memos have already been filled out.

The Fuel Contractor is allowed to sell fuel for cash to customers. The responsibility belongs to the Fuel Contractor to submit the money to the GNWT when selling fuel for cash. The procedures are generally as follows:

a) The customer tells the Fuel Contractor that they need a specific cash amount of fuel (e.g. $20.00 worth of gasoline).

b) The Fuel Contractor makes out a Cash Sales Memo for the customer. The Contractor should divide the total amount of cash by the GNWT-approved Retail Price List to determine how many litres of fuel to dispense to the customer.

- Example: If the customer wants $20.00 worth of gasoline and the GNWT- approved Retail Price List for gasoline is $0.865, than the Fuel Contractor should dispense approx. 23.1 L of gasoline to the customer ($20.00 / 0.865 $/L = 23.12 L).

c) The Fuel Contractor then proceeds to pump out the pre-determined volume of fuel for the customer.

d) The Fuel Contractor stamps the Cash Sales Memo with the meter reading of how much fuel was dispensed, signs the Cash Sales Memo and gives the top copy (white) of the Memo to the customer as their receipt once the customer has paid for the fuel.

e) If the Fuel Contractor decides to accept a cheque in lieu of cash, the cheque must be made **payable to the Fuel Contractor**, not to the GNWT. The Fuel Contractor assumes the responsibility for payment to the GNWT when accepting cheques in lieu of cash.

f) The Fuel Contractor keeps the bottom (yellow, hard) copy for their own records and attaches the middle (also white) copy to the Weekly Sales Batch Control Report. For income tax purposes, Fuel Contractors are required to maintain these records for 6 years.

g) At the end of the week, the Fuel Contractor must submit payment to the Regional PPD Office for all cash payments received during the week. The payment and the copies of the cash sales memos are to be included with the Weekly Sales Batch Control Report. The GNWT will have the

option to withhold payments-on-commission for any amount owing for cash sales.

- The fuel delivery driver is required to fill out a LOG for each cash sale of heating fuel. A sample of the LOG with a list of instructions in included in Appendix A Example 12.

  These LOGS are to be attached to the WSBCR and sent to the Regional PPD office on a weekly basis. It is important that the LOG is filled out correctly.

3.4 WEEKLY SALES BATCH CONTROL REPORT

(COMPLETING THE WEEKLY SALES BATCH CONTROL REPORT**)**

OVERVIEW

At the end of each day, the Fuel Contractor must complete each day's section for every Weekly Sales Batch Control Report. There must be a Weekly Sales Batch Control Report for each fuel and dispenser.

SEE EXAMPLE 3 – WEEKLY SALES BATCH CONTROL REPORT [WSBCR] – APPENDIX "A"

Each day's section (F to M) must be completed, even if there are no sales of a particular fuel for that day. If there are no sales, enter '0' for sales.

Submit a Weekly Sales Batch Control Report each week, for each dispenser, even if the meter readings are "0".

Also, submit all "Voided" Weekly Sales Batch Control Reports.

RECORD METER READING NUMBERS AT START OF DAY

a) The Fuel Contractor will make sure that the driver records the meter reading numbers displayed on the truck and each of the fuel dispensers before he starts delivering fuel for the day.

b) The Fuel Contractor needs the meter reading numbers in order to fill out the WSBCR.

METER READINGS - DAILY

Each day, the Fuel Contractor shall request from the fuel delivery driver the meter reading numbers that were recorded at the beginning ("opening read") and at the end of that day ("closing read"). These numbers are required from all truck meters and from all dispensers.

Separate the meter tickets for each dispenser I.D. and for each fuel type.

a) Verify that all of the meter tickets have been properly completed. Ensure the meter tickets are in numerical order and that they have only been used for selling fuel on credit.

b) If you notice any changes or corrections to the printed numbers on the meter tickets, consult with your fuel delivery driver and confirm that they made them. Document any notes about the meter tickets-in-question for use as a reference in the event of a dispute by the customer in the future.

c) The customer and driver must both sign off (*initial*) any changes to the meter ticket.

d) Using **only** the meter tickets for one fuel type and one dispenser ID, add the meter read numbers stamped at the top of each meter ticket. Write the total volume on the Weekly Sales Batch Control Report as **daily credit volume**.

e) Repeat the above procedure for each fuel type and dispenser I.D.

f) Provide Copy 1 of the meter ticket to customers who have received the amount of fuel indicated on the meter ticket.

g) The other 4 copies of the meter tickets are **sorted like this:**

Copy 1	1st White copy	Customer's copy	To be given to customers who receive the fuel on the meter ticket.
Copy 2	2nd White copy	Data entry	In numerical order by meter ticket number starting at lowest number
Copy 3	Green copy	Rev. & Inv.	To be attached to the Monthly Invoice.
Copy 4	Pink copy	H.Q.	In order by meter ticket number
Copy 5	Hard copy	Fuel Contractors	Sort in order by meter ticket number and file with Fuel Contractors copy of the Weekly Sales Batch Control Report

h) Keep Copies 2, and 4 of the meter tickets in a safe place so they can be sent with the Weekly Sales Batch Control Report to the Regional Office each week.

i) Inspect and keep unused meter tickets in a secure place. Make sure none have been lost. If a meter ticket cannot be found, write a note that explains what has happened to it.

3.4.1 WEEKLY SALES BATCH CONTROL REPORT (WSBCR) - DAILY

At the end of each day, fill in the WSBCR for each fuel type (D) and dispenser I.D. (E):

a) Enter the **Opening Read** (G) and the **Closing Read** (H);

b) Enter the **Daily Pumped Volume** (I); this is the difference between (G) and (H);

c) Enter the **Daily Credit Volume** (J): this is the total volume on all meter tickets for the day;

d) Enter the **Daily Cash Volumes** (K): this is the total volume of all cash sale memos for the day;

e) Enter the **Daily Sales Volume** (L): this is the total of (J) plus (K);

Note: the Daily Pumped Volume (I) should equal Daily Sales Volume (L). If they are not the same, find out why.

f) Enter the difference in (M): circle one of Short / Over;

g) In the area provided at bottom of page, explain why there is a difference.

Keep the WSBCR accessible in a convenient place for the following day's entry.

3.4.2 WEEKLY SALES BATCH CONTROL REPORT (WSBCR) – WEEKLY

There are three parts to the Weekly Sales Batch Control Report (WSBCR). For user convenience, directions for individual sections are identified with an alphabetic letter.

The Fuel Contractor is required to fill out a separate WSBCR for each fuel type and dispenser ID each week.

The WSBCR is a record of all fuel sales delivered either for cash or on credit each week. It also organizes the information in a format that can be used in other reports and for verification purposes.

Beginning each week, a WSBCR is started for each fuel type and dispenser ID. Daily readings for the week are recorded as follows:

Region Number & Name
- The Regional Petroleum Products Office will give this number to you, the Fuel Contractor.

Community Code & Name
- The Regional PPD Office will give you the Community Code.

Contractor I.D. & Name
- The Regional PPD Office will assign an I.D. number.

Product Code & Name
- See list in Chapter 1.

Dispenser I.D. & Description
- Each dispenser has a different 2 letter indicator (e.g. diesel tank farm dispenser I.D. is AB)

Sales Date
- The dates for each day of the week the report covers.

Opening Meter Reading
- Enter the meter reading before the start of each day's sales (the reading should be the same as the previous day's Closing Meter reading).

Closing Meter Reading
- Enter the meter reading at the end of each day's sales.

Daily Pumped Volume
- Subtract the Opening Meter readings from the Closing Meter readings (i.e. H-G=I).

Daily Credit Volume
- Total volume of all sales on meter tickets (for credit sales only).

Daily Cash Volume
- Total volume of all sales on cash sales memos.

Daily Sales Volume
- Total volume of all credit and cash sales (i.e. J+K=L).

Short/Over
- The difference between Daily Sales Volume and Daily Pumped Volume (i.e. L-I=M). Any differences must be explained in the space provided in the lower left hand area of the report.

At the end of the weekly reporting period (Readings/Totals), fill in the following areas:

Opening Read

- This is the Opening Meter reading from the first day of the reporting period.

Closing Read

- This is the Closing Meter reading from the last day of the reporting period.

Total Daily Pumped Volume

- Subtract the opening read from the closing read (i.e. O-N=P). This volume must be the same as the weekly total of all the Daily Pumped Volumes (i.e. P=I). Double check the numbers.

Total Daily Credit Volume

- Total of all Daily Credit Volume amounts (J). The adding machine tape confirming volume totals from meter tickets must be attached to the Weekly Sales Report.

Total Daily Cash Volume

- Total of all Daily Cash Volume amounts (K). This value should be the same amount as in (T) below.

Total Daily Sales Volume

- The total of all Total Daily Credit Volumes (J) and Total Daily Cash Volume (K). This volume must be the same as the total of all the Daily Sales Volumes (L).

Breakdown of Total Cash Volume By Usage

- For Diesel, you must list the volumes sold for each usage code on a separate line. The usage codes for Diesel are as follows:

  Usage Code:

01 – Diesel	Heating Fuel
02 – Diesel	Motive
03 – Diesel	Aviation Fuel (Uncertified)

- For all products except Diesel this will be one line only with usage Code “00”.

- The Total Cash Volume in the breakdown box must be the same as the Total Daily Cash Volume (R) above.

After entering the price/litre from your retail price list, multiply the Total Cash Volume (T) by the price/litre and enter the value under Cash Amount. Total the cash amounts in the space provided.

Make a cheque or money order out to 'Petroleum Products Division, GNWT' for the amount shown in the Cash Amount. Record the "cheque or money order number" and the amount in the space provided on the WSBCR.

Review the Weekly Sales Batch Control Report to make sure you have filled it in correctly. Include all of the meter tickets covered by the WSBCR. Send the report, along with the batched meter tickets, adding machine tape, and the cheque or money order to pay for the cash sales, to the Regional PPD Office. Also include the "Weekly Sales Batch Control Report" in the package.

Fort Simpson Regional PPD Office:
Public Works & Services
Government of the Northwest Territories
2nd Flr Nahendeh Küe
P.O. Box 710
Fort Simpson, NT
X0E 0N0

Inuvik Regional PPD Office
Public Works & Services
Government of the Northwest Territories
3rd Flr Perry Building
P.O. Box 1638
Inuvik, NT
X0E 0T0

At The End Of The Week

- Write in the date of the last day's reported sales.

Number Of Tickets

- Add up the number of meter tickets used in the week, including any meter tickets you have voided, and write it in the space provided. See section 5.3 below for more information.

Meter Ticket Hash Total

- This is the number you get by adding together all of the meter ticket numbers you have used to complete this report, including any voided meter tickets. For this total you must **attach your adding machine tape** to the Weekly Sales Batch Control Report (see 5.2 below).

Fuel Contractor

- Sign the completed report.

3.4.3 BATCHING

Sort all of the meter tickets according to their dispenser I.D. number:

a) All meter tickets with the same dispenser I.D. number are to be attached to the Weekly Sales Batch Control Report for that dispenser.

b) Split each ticket into its individual copies. For each dispenser I.D. you should have 3 piles.

c) Take all of the accounting copies of the tickets in the batch and place them in numerical order. Repeat this for the regional office copy (pink).

d) Total all serial numbers printed on these tickets to get the Hash Total;

e.g.,	Mt. no.	104001
	Mt. no.	+104002
	Hash total	208003

"VOIDED" METER TICKETS MUST BE ADDED TO THE HASH TOTALS. MAKE SURE THAT YOU INCLUDE YOUR ADDING MACHINE TAPE.

3.4.4 TOTALS

a) Make sure the Hash Total in block (W) on the Weekly Sales Batch Control Report has been entered.

b) Make sure the total number of meter tickets in the batch has been entered in block (V) on the WSBCR.

c) Separate the parts of the completed Weekly Sales Batch Control Report.

- Weekly Sales Batch Control Report (wrapper);
- Copies 1 & 2; and
- Copy 3.

d) Wrap copies 1 & 2 of the **Weekly Sales Batch Control Report** around copies 2 (Data Entry), 3 (Regional Headquarters) and 4 (Revenue) of the **meter tickets** for shipment to the Regional Office.

e) Wrap copy 3 of the **Weekly Sales Batch Control Report** around copy 5 (Contractor's copy) of the **meter tickets**. Keep this copy for your records. File it in numerical order.

f) Contractors must send in their **green** copies of Meter Tickets with the weekly sales.
- Sort the green copies numerically and paper clip together
- **Do not** staple them together
- **Do not** send in "void" green copies

3.4.5 RECONCILE CASH SALES - WEEKLY

a) Separate the cash sales memos into a pile for each dispenser I.D. and each fuel type. Put Copy 5 of each cash sales memo with the filled-in copy of the same cash sales memo. If you cannot find a filled-in copy to go with a Copy 5, keep that Copy 5 for tomorrow*.
*This means the customer has not picked up their fuel yet.

b) Using **only** the cash sales memos for one fuel type, add the meter numbers stamped at the top of each cash sales memo. Write the total of these numbers on the Weekly Sales Batch Control Report as the **daily cash volume**.

c) Multiply the total of these numbers by the retail cash price per litre, found on the Price List. The result is how much customers have paid for the fuel sold today – the "dollar" value.

d) Repeat the above step for each fuel type and dispenser ID.

e) Add all of the dollar values. You now have the **total dollar value**.

f) Count the dollar values of the cash, cheques, and money orders you have received for these cash sales. (Do not include money already received for fuel which has not yet been delivered – any Copy 5 that has not been filled-in yet will show this amount which must not be included.) This is the **total cash on hand**.

g) **The total cash on hand must equal the total dollar value**.

If the total cash on hand is less than the total dollar value, the Fuel Contractor must pay the difference.

3.5 TANK GAUGE REPORTS

See Example 4 – Tank Gauge Report – Appendix "A"

3.5.1 MONTH END TANK GAUGE REPORT

a) The Fuel Contractor is responsible to measure all of the fuel in the storage tanks and in the trucks on a monthly basis. Generally this measurement (tank dips) will be performed at the end of each month unless the Regional PPD Office requests the Fuel Contractor provide measurements at another time during the month.

b) The fuel measurements are to be taken on the weekend closest to the end of the month. The day selected by the Fuel Contractor to perform the fuel measurement of the tanks will be designated as the **"Dip Day".**

c) Upon completion of all sales and deliveries on Dip Day, the Fuel Contractor will then take the tank dips as required.

d) The Tank Gauge Report (TGR) will be done at the same time that the end-of-period report is completed for the Weekly Sales Batch Control Report.

e) The Fuel Contractor will telephone the Regional PPD Office with the Tank Gauge Report no later than **two working days** after Dip Day (i.e by the following Tuesday).

3.5.2 FILLING OUT THE TANK GAUGE REPORT

The Tank Gauge Report (TGR) consists of three sections, all of which need to be filled in. The TGR is used for:

a) Recording the amount of fuel in the storage tanks and fuel trucks.

b) Recording the number of drums and packages of fuel.

c) Recording the meter read numbers on the dispensers.

d) Calculating the amount of fuel in storage.

3.5.3 AT THE BULK FUEL STORAGE FACILITY

a) Measure the amount of fuel at the bulk fuel storage facility. Make sure you measure the amount of fuel in every storage tank. If there is a leak that has not been noticed elsewhere, it will show up in the monthly measurements.

b) To measure the amount of fuel in the tank, use the dipping procedure described in **3.5.4**, Dipping Tanks.

c) Measure the level of both the water and the fuel in each tank using the plumb bob with paste for water and gauge tape for fuel. Record the height of both levels in metres-centimetres-millimetres (e.g. 2 | 21 | 7 = 2 metres, 21 cm, 7 mm). You will also need to find the temperature **of the fuel** inside the tank. The procedure for finding the fuel temperature is described in section **3.5.4** (p – t).

3.5.4 MEASURING FUEL IN STORAGE TANKS

Fuel storage tanks are measured:

- Monthly
- Before and after resupply
- Year end audit, and
- When requested by PPD personnel

DIPPING TANKS

To determine the volume of fuel in each storage tank, the Fuel Contractor shall perform the following tasks:

a) Measure the volume of fuel in the storage tank.

b) Measure the volume of water in the storage tank.

c) Determine the temperature of the fuel in the storage tank.

Since fuel will move through the connecting lines to another tank, the volume of fuel in a storage tank will not always remain the same. Therefore, every time that tank measurements are taken, the Fuel Contractor must dip each of the storage tanks.

The Fuel Contractor shall follow all safety rules when climbing to the top of storage tanks to perform tank dips.

WHERE TO MEASURE THE FUEL

- Measure the fuel in the storage tanks only at the dip hatches.

- Never measure the fuel through open manholes

The following items are required when doing the tank dips:

- paper;
- dipping tape;
- product level indicator paste;
- water level indicator paste;
- plumb bob;
- alcohol or mercury thermometer (only one kind per Fuel Contractor); and
- pen or pencil.

DIPPING TAPE

- When you raise or lower the gauge tape and plumb bob, make sure the gauge tape always touches the edge of the hatch in order to prevent sparks and reduce static electricity build-up.

- In order to avoid finger cuts, use the winding handle to control the gauge tape.

DIPPING EQUIPMENT

- Make sure all dipping equipment is kept clean and in good condition.

- If you drop the gauge tape, the plumb bob, the thermometer, or anything else into the storage tank, **leave it there. DO NOT TRY TO GET IT.** The small cost of the lost equipment is not worth the danger you would put yourself in trying to find it. Contact the Regional PPD Office to replace the item. You will not be charged for the replacement of the dipping equipment.

Upon reaching the top of the tank, proceed with the following steps:

a) Open the tank hatch – stand back to avoid inhaling any potentially harmful fuel vapours;

b) Once the fumes have cleared, look into the tank and determine the approximate depth of the fuel in the tank;

c) Hook the plumb bob onto the gauging tape;

d) Put the water level indicator paste on the plumb bob;

e) Begin to let the gauging tape wind off the reel into the tank;

f) When the measurement number on the gauging tape is close to the predetermined depth of the fuel, put product-level indicator paste on the gauging tape;

g) As the plumb bob gets near the bottom of the tank, unwind the gauging tape more slowly;

h) When the end of the plumb bob touches the tank bottom, stop unwinding the gauging tape;

i) Rewind the gauging tape onto the reel until you see the indicator paste. The fuel will change the colour of the indicator paste.

j) Look at the product-level indicator paste on the gauging tape and read the measurement number. Write this number down, in metres, centimetres, and millimetres.

k) Clean off the product level indicator paste, and wind the rest of the gauging tape onto the reel.

l) Find the place on the plumb bob where the paste has turned to red. This is the water measurement.

m) Repeat steps (d) to (l) several times. Determine the average of these measurements and record the value on the Tank Gauge Report or the Petroleum Products Resupply/Transfer Certificate. This is the petroleum product measurement.

n) Record the water measurement on the Tank Gauge Report or the Petroleum Products Resupply/Transfer Certificate.

o) Remove the plumb bob and clean it.

p) Hook the thermometer on the gauging tape.

q) Determine what the middle depth of the fuel in the tank is. (Do this by taking the height of the tank less half of the petroleum product measurement.)

r) Lower the thermometer into the tank until it is at the mid-depth of the fuel.

s) Hold the thermometer at that depth for five minutes.

t) Wind the gauging tape onto the reel. Read the temperature on the thermometer and write that number down for that tank.

u) Close the tank hatch and proceed to the next tank. Repeat the same procedures until all tanks in the facility have been dipped.

WIPING UP SMALL SPILLS

- Wipe off anything that has spilled on the gauge tape, plumb bob and thermometer.

- Wipe off any oil spills or drips before you leave the storage tank. Never leave oily rags in the area of the storage tanks.

3.5.5 METERS

a) Read the numbers on the dispenser I.D. meters for each product. Record each of these numbers in the Tank Gauge Report in the section "Truck and Bulk Fuel Storage Facility Meter Reads." This will be your Closing Read for the month; your Opening Read should be your Closing Read from the month before.

3.5.6 TRUCK

a) Read the number on the meter of the fuel truck and record it in the same section as indicated above.

b) Find the volume in the fuel truck and enter the amount in the Tank Gauge Report in Column 6 under 'Total Inventory'.

3.5.7 DRUMS / PACKAGE PRODUCT

a) If you store any fuel in drums/packages, count the number of drums/packages and write this number in the section 'Total Inventory' under 'Drum / Pkg Count.' Multiply this amount by the number of litres per drum/package, and enter the value in Column 7; 'Drum / Pkg Volume'.

3.5.8 BACK AT THE OFFICE

a) Complete the remaining sections of the Tank Gauge Report using the previous month's TGR and the tank tables.

3.5.9 TOTALIZER

- Copy the End Totalizer numbers from the previous month's Tank Gauge Report onto the current month's report as the 'Opening Read'.

3.5.10 CALCULATE VOLUMES

For each tank, find out the **Gross Volume**:

- Find the Tank Table for each tank. The tank information is printed on your Master Tank List.
- Locate your Tank Measurement in the Depth Column on the Tank Table for each tank.
- Note the volume under Capacity. Enter this number under Gross Volume in the Tank Gauge Report.

For each tank, find out the **Water Volume**:

- Using the Tank Table, locate the Water Measurement in the Depth Column.
- Note the volume under Capacity. Enter this number under Water Volume in the Tank Gauge Report.

Calculate the **Product Volume** by subtracting the Water Volume from the Gross Volume. Enter the Product Volume in column 3 of the Tank Gauge Report.

Find the **Temperature Correction Factor** for each tank:

- Using a mercury thermometer, measure the temperature of the fuel in each tank.
- Use the Temperature Correction Factor Table to find the exact Temperature Correction Factor.
- On the left side of the table, locate the current temperature of each fuel tank.
- Find the correct Temperature Correction Factor for each product code in columns 1 – 5.

- Enter the value in column 4 on the Tank Gauge Report.

To calculate the **Volume at Standard Temperature (15^{o}C)**, multiply the number in Column 3 times the number in Column 4. Enter the value in Column 5.

To calculate the **Total Amount of Fuel Delivered**, subtract the Opening Meter Read from the Closing Meter Read. Enter the value in Column 6.

Calculate the Total Inventory**:**

a) Multiply the number of drums times 205. Enter the volume in Column 7, Drum/Pkg Volume.

b) Multiply the number of cans times 4. Enter the volume in Column 7, Drum/Pkg Volume.

c) Add the volumes from Column 5, 6 and Column 7 and enter the value in Column 8 - 'Stock Total'.

3.5.11 CHECK YOUR CALCULATIONS!!!

- Use the following steps to make sure your numbers are correct. Use additional pieces of paper to make your rough notes and any other calculations.

- Using the previous month's Tank Gauge Report, write down the Total Volume at Standard Temperature, Column 8, for each fuel type.

- Subtract the current month's Volume numbers, which are in the section 'Truck and Bulk Fuel Storage Facility Meter Reads', from the above volume.

- The result should be the same as the current month's Volume at Standard Temperature (Column 8). If the numbers are not the same, the difference between them is called the '**variance**'.

3.5.12 FINISHING THE TANK GAUGE REPORT

a) Sign the Tank Gauge Report.

b) Fax the Regional PPD Office and report the numbers on the Tank Gauge Report you have just completed.

c) The following documents are to be sent to the Regional PPD Office at the end of each month:

- Copies 1 and 2 of the Tank Gauge Report;
- Motor Vehicle Inspection Report;
- Tank Farm Inspection Report;
- Weekly Sales Batch Control Report;
- Cheque or money order for any fuel sales;
- Any additional supporting documents (e.g. adding machine tape); and
- Aviation Sales Log (Inuvik Region only).
- Driver's Delivery Log

File Copy 3 of the Tank Gauge Report for future use. You will need to use it next month to calculate meter readings and volume numbers.

Complete the identification sections located at the top of the form:

a) The Region Number and Name,

b) Community Number and Name,

c) Fuel Contractor I.D. and Name,

d) Document Date, and

e) Bulk Fuel Storage Facility Indicator.

f) Write in the Product Codes for each tank and their Tank Numbers.

g) Ensure the driver has either filled up or emptied the delivery tank on the fuel truck. Enter this volume on the TGR.

3.6 FUEL DELIVERY VEHICLE INSPECTIONS

FUEL DELIVERY VEHICLE INSPECTION REPORT (*See Example 5 – Appendix "A"*)

3.6.1 FUEL DELIVERY TRUCK INSPECTION - DAILY

Before the truck begins its day's run, the following safety checks should be made:

(TURN THE TRUCK LIGHTS ON BEFORE MAKING THE CIRCLE CHECK)

- Fuel tank contains enough fuel;
- All tires for proper inflation;
- Motor-oil level is adequate;

- Cooling system is working;
- Turn signals, horn, headlights, tail-lights, and other electrical equipment are working;
- Start engine and secure vehicle;
- Brakes are working;
- Windshield is clean, washer and wipers work;
- Mirrors are adjusted correctly;
- Fire extinguishers are sealed, fully charged and ready to be used;
- Steering gear is working properly;
- Wheel chocks are in the rack provided;
- Spill Bag/Kit;
- First Aid Kit; and
- Visual inspection of tank body – Report any leaks.

a) Before the truck is driven, the motor should be idled to warm it and to test that it is operating satisfactorily. Within the yard area, the parking and service brakes should be tested.

b) There must always be at least one Low Temperature Fire Extinguisher on the fuel truck. Make sure that it is full and is ready to be used. It should have an inspection tag attached certifying it has been checked no longer than **six months** previously. If there is no inspection tag, tell the Supervisor.

c) If the fuel truck's delivery tank is not full, fill it according to the procedures outlined below.

d) Before leaving the tank farm, make sure that all valves are closed, that all other items that should be secured are locked, and that everything in the tank farm is in good condition.

e) Any problems with either the delivery vehicles or at the tank farm should be immediately reported to the Supervisor. If the Supervisor is not available, report the problem directly to either the Public Works & Services personnel in the community or phone the Regional PPD Office.

3.7 MAKING SURE BULK FUEL STORAGE FACILITIES ARE SAFE

a) Any substance that might cause somebody to slip or trip (e.g. oil, banana peels, etc.) inside the fuel storage area should be removed or fixed immediately.

b) Stay away from the top of a storage tank during an electrical storm. Lightning bolts can hit the storage tank, creating a dangerous situation.

c) All valves on the storage tanks must be locked with a padlock so that only authorized persons can open or close the valves.

d) Make sure manhole covers on all storage tanks are closed correctly at all times. They are never to be removed.

3.8 MONTHLY INSPECTIONS

TANK FARM INSPECTION REPORT (See Example 6 – Appendix "A")

OVERVIEW

The Fuel Contractor shall inspect the Bulk Fuel Storage Facility each day. The Fuel Contractor shall ensure that all dispensers and Bulk Fuel Storage Facility valves are closed and locked when they are not in use. The Regional PPD Office will provide these locks upon request.

The Fuel Contractor shall ensure that all tank and gauge hatches are properly closed and locked. If any damage is observed, the Fuel Contractor shall report it immediately to the Regional PPD Office.

3.8.1 TANK FARM INSPECTIONS

Inspect every storage tank and the bulk fuel storage facility, complete the monthly tank farm inspection – Look for the following:

- Is there any damage?
- Is there a break or leakage?
- Are all items where they should be and in good working condition?
- Can you read the tank numbers well?
- Do you believe the meter register is working well?

Write a checkmark for each question you answer "yes."

a) If a repair or a replacement is needed, explain what it is and why.

b) Sign the Tank Farm Inspection Report and make a second copy. Keep one copy for your own records and send the other copy to the Regional PPD Office along with the Tank Gauge Report.

3.9 DEFINITIONS

Description	Ch	Definition
Daily Cash Volume	3	The total amount of a specific fuel type sold that day for cash.
Daily Credit Volume	3	The total amount of a specific fuel type sold that day on credit.
Daily Pumped Volume	3	The total amount of fuel delivered that day.
Gauge Hatch	3	The opening in the tank where the amount of fuel in the tank is measured.
Global Customer	3	Customer who is set up as a credit customer in more than one community.
Meter Number	3	The amount of fuel delivered to a customer and stamped on the meter ticket after the delivery.
Payments-on-Commission	3	If a Fuel Contractor owes money to Petroleum Products, PPD gets the money from the Fuel Contractor by taking it out of the commissions owed to the Fuel Contractor.
Reconcile Cash	3	Make sure the money received and submitted for sales is the same as the amount on the cash sales memos for those sales.
Run Date	3	The date on which the computer report was printed.
Tank Vent Hatches	3	Lids over pipe that allows air to escape from the tank.
Total Cash In Hand	3	The amount of money actually received for the fuel sold that day.
Unit #	3	Customer – a separate unit # is written down for each fuel the customer receives and for each location where fuel is delivered.
Weekly Sales Batch Control Report (WSBCR)	3	A report filled out on each day of the week that states how much fuel has been sold during the past week.
Automatic Customer	3	Customers who have deliveries on a regular basis and are not required to make arrangements each time a delivery is needed.
Cash Sales Memo	3	The form used when selling petroleum products for cash.
Gasoline Dispensing Pump	3	It forces the gasoline out of the tank (this is the delivery tank)
Monthly Inventory	3	Counting how much of each product the Contractor has on hand.
Unit Number	3	A number given to each customer for each delivery location.
Unit Table Report	3	A list sent to the Contractor that states the names of customers who are allowed to pay on credit.

"VOIDED"	3	When this is written on the meter ticket it means that the meter ticket cannot be used. Any voided tickets must be sent to the Regional PPD Office at the end of the month.
Diesel Fuel Motive	3	P-50 diesel used in a mobile equipment engine, such as in a loader.
Diesel Fuel Non-Motive	3	P-50 diesel used in a stationary generator to produce power, such as the NTPC power plant engines.
Dispenser's Signature	3	Signature of the person who delivered the fuel to the customer.
Metric Vertical	3	Measurements shown are in metric; the measurements are "vertical" – up and down, rather than side to side.
Plumb Bob	3	Heavy brass metal weight that hooks to the end of the measuring tape to assist in lowering the tape into the tank.
Product Level Indicator Paste	3	Liquid paste that is put onto the measuring tape; it changes colour to indicate how high the fuel is in the tank.
Short-Over	3	The difference between 'Quantity pumped' and 'Total Sales' for each day must be explained.
Water Level Indicator Paste	3	Liquid paste that is put onto the plumb bob; it changes colour to indicate how much water is at the bottom of the tank (fuel will float on top of any water in the tank).

4.0 FUEL CONTRACTOR'S DUTIES

The Fuel Contractor is solely responsible to ensure that the designated fuel delivery Truck Driver ("Driver") has read this chapter and complies with all the procedures described within.

REMEMBER…

The Fuel Contractor is accountable for every meter ticket received from PPD. The meter tickets should be stored in such a manner that the lowest numbers are on top. Also, the tickets should be stored in a cabinet or a secured location with a lock in place.

4.1 DRIVER'S DELIVERY LOG

A sample of the log is in Appendix A – Example 7

This log is to be filled out for all fuel deliveries from the truck.

The fuel delivery contractor will ensure the fuel truck driver will fill out a "Driver's Delivery Log".

This log is to be filled out daily and handed in to the contractor at the end of each shift along with the meter tickets and cash sales memos.

The contractor will send in copies of each "Driver's Delivery Log" with the weekly WSBCR.

4.1.1 CONTRACTOR'S AND DRIVER'S RESPONSIBILITIES

a) The Fuel Contractor will ensure that the driver:

- Holds a valid class 3 Driver's Licence with Air Brake Endorsement;
- Holds a valid TDG Certificate;
- Has received WHMIS training;
- Is familiar with the loading and unloading procedures; and
- Has received emergency response training.

b) All drivers loading at the tank farm must be certified in the following:

- Safe handling of petroleum products;
- TDG Regulations; and
- WHMIS Regulations.

PUTTING FUEL IN THE FUEL TRUCK

Never load fuel if there is lightning nearby, or during an electrical storm.

Never leave the fuel truck at the loading area unattended, especially when in the middle of fuelling operations.

4.1.2 BOTTOM LOADING

Bottom fuelling is the preferred method of filling up the fuel truck. It is safer than top loading, and is less likely to result in any spills. Nevertheless, the Driver should monitor the level of fuel in the tank and shut down the loading operation when the fuel level approaches the top of the tank.

Once bottom fuelling has begun, the driver should do a **pre-check inspection** on the truck fuel tank to make sure that the automatic high-level shutoff system is working properly.

At least once a month, the Fuel Contractor should check to make sure that the bottom-fuelling valve on the fuel delivery truck closes all the way. If the Fuel Contractor notices any stains under the valve where the truck is normally parked, the Fuel Contractor should take a careful look at the bottom-fuelling valve.

4.1.3 TOP LOADING

Top loading is the old method of filling up the fuel truck. Although not recommended any more, it is still a common practice in many communities. Any Fuel Contractors that continue to fill the fuel truck via top loading should make sure they are doing it correctly in order to avoid any spills.

a) Before filling up the fuel truck with fuel, shut off the fuel truck's ignition, lights, and any equipment in the driver's area, such as radios, heater or any other electrical equipment.

b) Place chock blocks behind the wheels any time the fuel truck is parked on a slope and the driver must leave the driver's seat.

c) Connect the bonding cable from the back of the truck to metal on the dispensing cabinet. Bonding is to remain in place until after fuelling is complete and all vents have been closed.

d) Make sure all valves that allow the fuel to flow **out** of the fuel truck are closed.

e) The employee who delivers the fuel must be able to identify where the valves are and what they are used for.

f) Be careful when climbing the ladder to the top of the delivery tank on the fuel truck and when walking along the top of the fuel truck to the hatch cover.

g) Before opening the hatch cover all the way, first lift it a little bit to release pressure inside the delivery tank.

h) Touch the nozzle to something metal before beginning to fill the delivery tank. Once the fuel is flowing through the spout into the delivery tank, make sure that the nozzle is always touching the hatch lid in order to reduce static electricity.

i) Hold the nozzle open by hand. To avoid creating static electricity, start by filling the delivery tank slowly. Try to reduce the amount of splashing that takes place by letting the fuel run down the inside of the fuel tank wall.

j) When filling the delivery tank, stay in a place where you can quickly shut off the flow if there is an emergency and where you will know the delivery tank is filled.

k) Never use anything to keep the loading valve open.

l) Do not move the fuel truck while the downspout is still in the delivery tank opening if filling the delivery tank through the top, or while the connector arm is still attached if filling through the bottom, or while the bonding cable is still connected to the fuel truck.

m) Remove the hose nozzle slowly from the delivery tank and allow it to drain completely into the fuel tank.

n) Close the cover of the dome carefully and secure it.

o) Never let the nozzle hit hard against the dome, covers or markers; this could create a spark and start a fire.

p) When you have finished filling the delivery tank and have closed all vents, remove the bonding cable and chock blocks.

4.2 NWT AND LOCAL COMMUNITY LAWS

Follow all laws about speed limits, traffic signs and truck routes in communities. Follow the rules about parking lights, brakes, mirrors, wipers, sound limits, and general operation and maintenance that have to do with fuel trucks.

Alcohol and Drugs

Do not drink alcohol when you are responsible for a fuel truck or when you are working. If you drive the fuel truck and must use prescription drugs, check with a nurse or doctor first to see if it will be safe to drive.

Smoking

NEVER smoke at the tank farm, in the fuel truck cab, or anywhere near a fuel truck.

Make sure no one else ever smokes near the fuel truck. This includes while it is parked, when the truck's tank is being filled, or when fuel is being delivered to a customer.

Fire Extinguishers

The law states that every fuel truck must carry a fire extinguisher. The fire extinguisher must be inspected on a regular basis. Make sure everyone knows where the fire extinguisher is. It must be easy to reach when it is needed.

No Hitch-hikers

Unless the situation is an emergency, the driver of the fuel truck must not allow anyone in the fuel truck unless that person is authorized to be there.
NOTE: The Contractor's insurance does not include passengers.

Reflector Signals

All fuel trucks must be equipped with emergency reflector signals.

First Aid Kits

Every fuel truck must carry a NWT #1 approved First Aid Kit. It must be complete.

Chock Blocks

Every fuel truck must carry chock blocks. Use them to block the wheels when parking on a hill.

Where To Put a Full Fuel Truck at the End of the Day

When the delivery tank of a fuel truck still has remaining fuel in it at the end of the day, you must make sure that there is enough empty space inside the fuel tank to make room for any increase in the volume of the fuel because of the temperature difference.

When parking the truck inside a building, make sure that there is no fuel leaking from anywhere on the truck or tank before you leave.

Neatness

Make sure the fuel truck cab and the dispensing cabinet on the side of the truck are always clean and tidy.

Fuel Truck is for Work Only

Use the fuel truck only for work. Never use it for personal business, like grocery shopping.

Maintenance of Fuel Truck

Keep the fuel truck in good working condition. Follow the “Vehicle Lease Agreement” section of the Fuel Delivery Agreement.

4.3 DELIVERIES

4.3.1 BEFORE BEGINNING DELIVERIES TO CUSTOMERS

a) **Before** beginning fuel deliveries each day, write down the number showing on the truck’s meter. This is called the **opening meter read**. This must be recorded in the Fuel Truck Log Book.

b) Before unlocking the gasoline-dispensing pump, write down the number on the meter.

c) Prepare the delivery schedule for the day.

4.3.2 FILLING CUSTOMER HOLDING TANKS WITH FUEL

a) Approach the unloading area slowly and position the fuel truck so that you can unload on the same side as the receiving valves. DO NOT position the truck so that the hoses run beneath the truck.

b) At each stop before getting out of the fuel truck to fill a customer's holding tank, apply the parking brake.

c) Shut off all unnecessary electrical equipment. The engine may only be left running if it is required for the pump-off. Make sure fire extinguishers are operational and nearby. Place chock blocks behind the wheels any time the fuel truck is parked on a slope and the driver must leave the driver's seat.

d) Turn on all emergency-flashing lights.

e) Walk around the fuel truck before beginning delivery of the fuel to the customer. Look for dangerous situations, such as someone smoking, flames, or dangerous electrical sources near the fuel truck. Make sure that there are no sources of ignition within 15 m of the fuelling operation.

f) Put the meter ticket or Cash Sales Memo into the meter printer.

g) Pull the hose from the fuel truck to the customer's holding tank. Make sure not to drag the hose over or leave it on anything that might put a hole in it.

h) Touch the nozzle to something metal on the fuel tank before placing it in the customer's holding tank filler tube.

i) Return to the fuel truck to start the pump at idle speed.

j) Go back to the customer's holding tank and open the nozzle lever by hand.

k) **Never use anything, such as a piece of wood, to keep the nozzle lever open. Stay beside the customer's holding tank while you are filling it.**

l) When pressure from the customer's holding tank causes the nozzle lever to close, stop filling the holding tank. Keep an eye on the level of fuel in the tank in case the nozzle does not close. Stop pumping before the tank can overflow.

m) Shut off the pump.

n) Remove the nozzle from the customer's holding tank slowly and drain any fuel left in the nozzle into the holding tank.

o) Carry the nozzle end of the hose to the fuel truck, then use the hose rewind equipment to pull the hose back on the fuel truck.

p) Never leave the nozzle at the customer's holding tank while rewinding the hose back on the fuel truck. The nozzle will fill with dirt and other material and could be damaged.

q) Stamp the Meter Ticket or Cash Sales Memo using the meter printer. Make sure to get the customer's signature.

r) You have now finished the delivery. Before leaving, walk around the fuel truck and make sure there are no children or objects behind it. Something may be there now which was not there when you started filling the holding tank.

s) Remove the chock blocks, turn off the emergency flashing lights, release the parking brake, and continue on to your next delivery location.

4.4 MONTH END

a) On the same day that the Fuel Contractor does the monthly inventory, the driver must do the following:

- Make sure the delivery tank on the fuel truck is either empty or full and record the volume on the Tank Gauge Report.
- Advise the Contractor whether the delivery tank on the fuel truck is empty or full.
- Write down the meter read numbers and dispenser I.D. numbers for the records:

    - Truck meter
    - Gasoline dispenser meter
    - Diesel dispenser meter
    - All other dispenser meters

In every community, the truck driver must also:

i. Measure the amount of fuel in every storage tank (Section 3.5.4 explains how to measure the amount of fuel in the storage tanks).

ii. Count all of the fuel drums and packaged fuel products (e.g. naphtha) stored at the bulk fuel storage facility.

iii. Give these numbers to the Supervisor.

b) Report any problems to the supervisor.

4.5 BULK FUEL STORAGE FACILITIES

4.5.1 HOW EACH FUEL TYPE IS IDENTIFIED

a) Know how to identify each fuel type by colour and identification tag.

b) Make sure the identification tags and colours on lines, containers and valves on the equipment are correctly labelled for the fuel being delivered.

4.5.2 INSPECTIONS

a) The Fuel Contractor is responsible for the operation and maintenance of the Bulk Fuel Storage Facility and its contents. The facility is to be always maintained in a satisfactory working condition. Following the procedures described in this manual and conducting regular inspections of work practices, the facility, and the equipment will help ensure the continued safe and effective operation of the tank farm.

b) There may be occasions when fuel is lost or made useless because of contamination, either from a problem with the containers in which the fuel is kept, or with the equipment used to deliver the fuel to the fuel truck. (This does not include the fuel truck.) Making sure that you follow all standard work procedures, carry out a regular inspection and maintenance program, and keep the Regional PPD Office updated on any concerns about lost or contaminated fuel will help ensure that you are not held accountable for any losses of fuel. If PPD has reason to believe that you have not been diligent in your responsibilities, you may be required to reimburse the PPD the value of the lost fuel.

c) Make it a priority to do daily checks on the condition of the fuel tanks and equipment. A more thorough check should be done at the end of each week. Report any potential damage or faulty equipment that

could result in an incident or loss of fuel to the Regional PPD Officer immediately.

d) Carry out a regular inspection once a month. Be sure to check each vehicle and storage tank, as well as the entire bulk fuel storage facility. Use the 'Motor Vehicle Inspection Report' and the 'Tank Farm Inspection Report' to report to the Regional PPD Office the condition of everything at the time of the monthly inspection.

4.5.3 FENCES AND GATES AT THE BULK FUEL STORAGE FACILITY

a) The Fuel Contractor is responsible for the day-to-day security of the Fuel Storage Facility.

b) The Fuel Contractor shall ensure that all fences are complete and capable of preventing access to the Fuel Storage Facility. There should be no gaps or holes that will permit a person entry through them.

c) Report any gates or fences that need to be repaired to the local PW & S representative and send a copy of the report to the Regional PPD Office.

d) The gates around the bulk fuel storage facility must be kept closed and locked at all times in order to stop anyone from trespassing.

4.5.4 KEEP THINGS CLEAN AND TIDY

a) The Fuel Contractor is responsible to ensure that the bulk fuel storage facility is always clean, neat, orderly and in good and safe working order in accordance with industry standards.

b) **Report all fuel oil leaks immediately to the PPD's designated local maintenance representatives and to the Regional PPD Office.** *Any size of spill (small or large) must be reported. This is important because it helps PPD keep track of any potential fuel contamination that will have to be cleaned up in order to keep the environment and the community clean and healthy.*

c) Store all materials safely and properly.

d) Dispose of oily waste, rags, and clothes as per the procedures. Put them in metal containers. When full, take these containers to a garbage dump for proper disposal of fuel contaminated items. Oil soaked clothing and material is dangerous to leave lying around as

they can catch on fire by spontaneous combustion, or leak fuel into the ground.

e) Make sure there is never any garbage lying around in the bulk fuel storage facility yards or in areas where fuel is being put into or taken out of tanks. See section 2.10.4a for more information.

4.5.5 REPORT ANY HAZARDS OR POTENTIAL PROBLEMS

a) Report all emergencies, hazards, dangers, or risks associated with the bulk fuel storage facility immediately to the Regional PPD Office and appropriate emergency response agencies.

b) Report the following, verbally and in writing, to the local PW&S representatives and to the Regional PPD Office:

- Damaged hoses or grounding facilities; leaking fittings, pipes, tanks, and pumps; broken stair treads or hand rails; worn gauge hatch gaskets; or any other unsafe condition or faulty equipment which requires repairs.

- Existing or potential hazards, problems or unsafe conditions that are present at the time and place of a fuel delivery to a customer.

4.6 ANNUAL SUMMER RESUPPLY

- Before the resupply takes place make sure the tanks at the airport are full of Jet A-1 aviation fuel.

- The annual summer resupply of fuel to the communities in the Northwest Territories occurs between June and October. The Fuel Contractor will be advised by the Regional PPD Office of the Estimated Time of Arrival (ETA) for the annual resupply vessels due into their community.

4.6.1 DIPPING TANKS

Please refer to section 3.5.4.

4.6.2 BEFORE RESUPPLY

Prior to the start of refilling the storage tanks with fuel, the Fuel Contractor shall make sure that all of the local customers have sufficient fuel on hand

to avoid delivery requirements during this time. Until the storage tanks are refilled and measured, no fuel can be withdrawn from the tanks.

During the resupply period, the Fuel Contractor shall ensure that the fuel delivery trucks have been filled in order to supply fuel in case of an emergency.

4.6.3 RESUPPLY ASSISTANCE / MEASUREMENT

The Fuel Contractor shall assist the PPD Staff, as necessary, during the resupply period:

a) **Prior to fuel delivery into the storage tanks:** assist the PPD Staff and the representative of the shipping company to measure the amount of fuel presently in the storage tanks;

b) **After the storage tanks have been filled:** assist the PPD Staff and the representative of the shipping company to measure the amount of fuel that is now in the storage tanks;

The PPD Staff will provide the Fuel Contractor with a signed copy of the Petroleum Product Resupply/Transfer Certificate. This document shows the measurements taken before and after the fuel delivery to the storage tanks. Subtracting the 'before-dip' from the 'after-dip' will give the total volume of fuel delivered to each tank.

4.6.4 AFTER RESUPPLY

The Fuel Contractor will make sure that once the fuel resupply has been completed, the following is completed:

- All the valves have been closed and relocked;
- All gauge hatches are closed and locked;
- All vents are secured and working properly.

4.7 FUEL TRANSFERS

(See Example 8 – Resupply/Transfer Certificate)

OVERVIEW

There are times when the fuel delivery contractor will be required to complete fuel transfers as part of their fuel delivery contract. These fuel transfers take place at the following places:

- NTPC – Direct Line
- NTPC – Truck Delivery
- Tank Farm to Airport Tanks Transfer

IT IS VERY IMPORTANT THAT YOU CONTACT THE PPD OFFICER BEFORE FUEL TRANSFERS ARE STARTED, AND LET THE PPD OFFICER KNOW WHEN THE TRANSFER IS COMPLETED.

4.8 ORDERING FORMS

To order copies of GNWT Petroleum Products Division forms, send a 'Forms Requisition' to the Regional Petroleum Products Office.

4.8.1 HOW MANY FORMS SHOULD YOU ORDER?

(*See Example 11 – Forms Requisition - Appendix "A".)*

- How many meter tickets do you use in one month? How many of the other forms do you use in one month? When the number of forms you have is less than enough for two months, order more.
- Use the 'Forms Requisition' form to order enough copies of each form for at least three months.
- Write in the address of the Regional Petroleum Products Office, the date, the community code, and the name of the community.
- For each type of form you need, fill in the number required on the correct line.
- Sign the form.
- Send Parts 1 and 2 to the Regional Petroleum Products Office.
- Keep Part 3 for your files.

4.8.2 WHEN THE FORMS ARRIVE

a) The Regional PPD Office will send you the forms you have asked for, and will also send you Part 1 of the 'Forms Requisition'. You will see that certain parts of Part 1 have now been filled in – the number of forms sent to you, and the batch sequence numbers of each form.

b) Retrieve Part 3 from your files.

c) For each type of form, count how many you have received. Is the total for each form the same as the number stated under quantity supplied on the requisition?

d) If the answer is 'Yes', put a checkmark by 'Quantity Supplied', on both Part 1 and Part 3.

e) If the answer is 'No', cross out the wrong number and write in the correct number on both Part 1 and Part 3.

f) For meter tickets, make sure the batch sequence numbers of the tickets match those listed.

g) In the remarks space, write "Received" and the date. If the numbers were wrong, add "Note corrections to quantities supplied."

h) In the remarks space, sign your initials.

i) Send Part 3 to the Regional Petroleum Products Office.

j) Keep Part 1 for your files.

Keep the new forms in a safe place

4.9 SEASONAL

4.9.1 PUMPING OUT OF BERMS

Whenever the berm has a significant amount of water trapped inside it, it needs to be pumped out. This is because if there was ever a spill while the water was in the berm, the fuel would be more likely to overflow the berm wall since the berms are only designed to hold the fuel, not the fuel and water.

In order to pump water out of the berms, the Fuel Contractor should use the sump pump provided by the Regional PPD Office. Attach the suction hose (stiff, non-collapsible) to the intake of the pump and place the other end in the sump hole. This is the lowest point of the berm floor, so the water should be deepest here.

The pump will need priming so fill the reservoir on the pump with water.

Attach the discharge hose to the output connection and set up the hose so that it pumps the water out as far away as possible from the berm walls.

If the water in the berm has a sheen on top that means there is fuel present. This fuel will be removed by laying absorbent pads on top of the water until the sheen is gone, then remove the water.

If the berm wall does not hold water (i.e. even after a rain fall, no water stays in the berm), tell the Regional PPD Office. If the berm does not hold water, it will not hold spilled fuel, most likely because the liner has a hole in it somewhere that needs to be fixed.

4.9.2 PUMP OUT RESUPPLY CATCHMENT BASIN

The resupply catchment basins are to be kept empty and free of garbage. Any water is to be removed only after the oily sheen has been removed by laying absorbent pads down to absorb the sheen.

4.9.3 REMOVE VEGETATION

Vegetation is to be removed from within the fenced area of the tank farm every summer and fall.

4.10 YEAR END INVENTORY AUDIT

JOINT DIPS

The Fuel Contractor and a PPD representative will jointly measure the amount of fuel in each of the storage tanks at least twice per year. These measurements will be conducted when the storage tanks are filled after the annual resupply, and again at the end of the GNWT's fiscal year end (March 31). Joint dips may also be required at other times during the year following a request by the Regional PPD Office.

4.11 DEFINITIONS

Description	Ch	Definition
Closing Meter Reading	4	The number on the meter after the driver finishes delivering petroleum product that day
Opening Meter Reading	4	The number on the meter before the driver starts delivering petroleum product that day
Variance	4	Difference between the meter reading and the sales.
Dip Day	4	The day on which the Fuel Contractor measures the amount of fuel in the tanks.
Dips	4	Lowering a measuring tape into the tank to measure the amount of fuel.
Fiscal Year	4	A 12 month period used by an organization for planning how its funds will be used – in this case, April to March.
Joint Dips	4	Measuring the amount of fuel with a PPD representative present.
Meter Reading End This Period	4	The number on the Totalizer at the end of the period for which the Fuel Contractor is writing the report.
Month End	4	Not necessarily the last day of the month – it's the day that the Fuel Contractor does the final measurements and calculations for the period since the previous month end until this month end, and sends them to the Regional Petroleum Products Office.
Tank Gauge Report	4	A form on which the Contractor records the amount of fuel in a tank.

5.0 AIRPORT OPERATING PROCEDURES

5.1 GENERAL

When Fuel Contractors deliver aviation turbine fuel (Jet A-1) to an airplane, there are a lot more rules that they have to follow because airplanes and aerodromes have national standards as well as territorial standards.

Because of the increased potential for a big accident involving fuel and airplanes, Fuel Contractors must be extra careful when working around Jet A-1 fuel and around airplanes in general.

The following procedures apply specifically to delivering Jet A-1 to the airport fuel tanks.

5.2 FUEL TRANSFER PROCEDURES

5.2.1 FUELLING OF STORAGE TANKS

Fuel Contractors must make sure to use the bonding cables:

- each time they deliver fuel to an airplane
- each time they transfer fuel from the truck to the tanks at the tank farm.

Bonding cables should be attached **before** beginning any fuelling operation and should be left in place **until** everything else is finished. This will stop static electricity from building up and possibly starting a fire.

Fuel delivery must always be done by an experienced employee. The person dispensing the fuel should not use anything to jam the fuel nozzle open in order to avoid having to hold the nozzle the whole time.

When transferring fuel into a storage tank, never fill the tank more than 95% full. The volume of the fuel inside the tank can increase a lot if the temperature rises. This could lead to structural damage to the tank or a fuel spill if the tank has been filled to the top.

5.2.2 FUELLING OF AIRPLANES

Although Fuel Contractors are trained to refuel airplanes, it is but the responsibility of the pilot themselves to refuel their own plane. Fuel Contractors should ask the pilot first before starting any refuelling operation.

When the Jet A-1 or Avgas 100 LL is supplied by 205 L fuel drums, the Fuel Contractor is only responsible for supplying the drum to the airplane. Once the drum is in place beside the airplane, it is up to the pilot to refuel the plane.

5.3 AVIATION FUEL DRUMS

5.3.1 AVIATION FUEL DRUM STORAGE

Aviation fuel drums should be stored

(a) upright; or

(b) on their sides, with the bungs horizontal (i.e. at the 3 o'clock and 9 o'clock positions), and with the bung seals immersed in the fuel.

Aviation fuel drums may be stored either

(a) outdoors, they should be slanted slightly to keep water from covering the bungs; or

(b) in storage containers that comply with the National Fire Code of Canada and have been approved by the Fire Marshall's Office.

Aviation fuel drums shall only be stored on one level (i.e. fuel drums are not to be stacked on top of each other as shown in Figures 1 and 2).

5.3.2 DELIVERY OF AVIATION FUEL DRUMS TO AIRCRAFT

It is the responsibility of the aircraft flight crew to fuel the aircraft from any fuel drums provided by the Fuel Contractor. The Fuel Contractor is only responsible for supplying the fuel and delivering the fuel drums to the aircraft fuelling location.

The aircraft flight crew will take over from here. Stand by in case assistance is required, or additional fuel drums are necessary.

Fill out the Meter Ticket or Cash Sales Memo, as well as the Aviation Fuel Sales Log *(See Example 9 – Appendix "A")*. Get the pilot to sign **both** the Sales Log and either the Meter Ticket or Cash Sales Memo.

5.3.3 PARTIALLY FULL DRUMS

Partially full fuel drums have already been purchased by an aircraft company and are therefore not the responsibility of the Petroleum Products Division or the Fuel Contractor.

5.4 EMERGENCY PREPAREDNESS

5.4.1 SAFETY

No vehicle should be allowed to come any closer than 15 m (50 ft) away from the airplane during fuelling operations. No vehicles should drive under or park beneath the airplane's wings.

Any employee of the Fuel Contractor that works directly with the fuelling operations should wear clothing that is not likely to generate an electrostatic charge (e.g. cotton is safe).

Fuel Contractors should make sure that anything that could produce an open flame or spark is not allowed within 15 m (50 ft) of the airplane or fuelling truck while fuelling is taking place. This includes carrying matches or lighters in your pockets while handling the fuel.

5.4.2 FIRE EXTINGUISHERS

Fuel Contractors should make sure before any fuelling operations begin that there is a fire extinguisher within easy reach of the fuel dispenser. The fire extinguisher should be fully charged and have been inspected within the last six months.

5.4.3 EMERGENCY RESPONSE

Fuel Contractors should keep the Emergency Spill Response Action Plan in a place where employees can use it if they need to.

Environment

Fuel Contractors must always be careful to avoid spilling any fuel on the ground. Any fuel that is spilled must be cleaned up as soon as possible and all used cleaning materials disposed of properly so there is no leakage or additional contamination.

If the spill is too big for a single absorbent pad to wipe up completely, or the fuel has had time to soak into the ground, the spill must be reported to the NWT 24 Hr. Spill Line (0 867 920-8130). Callers can call collect if they tell the operator they want to report a spill. These spills should also be

reported to the Regional PPD Office so that they can keep track of any contamination that might have to be cleaned up later.

5.5.4 LIGHTNING

If there is lightning in the area, the Fuel Contractor should stop all fuelling operations until all lightning has moved far enough away so that it is not a potential threat.

5.5 OPERATIONS AND MAINTENANCE

In general, the practice of fuelling an aircraft while the engine is still running (known as 'hot fuelling') is not recommended at all because it is considered very risky.

PPD does not allow its Fuel Contractors to fuel any aircraft with the engine still running. If a pilot chooses to hot fuel their aircraft, the Fuel Contractor and their employees must stand well clear of the aircraft. Only the pilot should be allowed anywhere near the aircraft.

5.5.1 FUEL CONTRACTOR AVIATION TRAINING

It is the responsibility of the Regional PPD Office to provide the initial aviation training to the Fuel Delivery Contractors in order that they become certified to dispense aviation fuel to aircraft on their own.

Refresher training and recertification is required annually.

The Fuel Contractor must pass the initial three day training course to become certified, and annual recertification testing every year afterwards.

5.5.2 VEGETATION AND GARBAGE

Ground areas around airport fuel storage facilities shall be kept free of vegetation, trash, or other unnecessary materials.

5.5.3 EMERGENCY SHUTOFF SYSTEM

Access to emergency shutoff switches shall be kept clear at all times.

Note: If the fuel is stopped for any reason, it should first be presumed that the emergency shutoff switch has been operated. The cause of the shutoff should be corrected before fuel flow is reinstated.

5.5.4 QUALITY CONTROL

A **Clear and Bright** test on Jet A-1 fuel shall be conducted at every fuelling if the final filter is a filter-separator.

Fuel Contractors should make sure that there are enough employees available to carry out all refueling operations.

Equipment shall only be operated by personnel who have been trained to a satisfactory level by the Regional PPD Staff.

Where direct reading gauges have small filters in their inlets, they shall be cleaned monthly, or replaced if necessary, to assure proper operation.

5.5.5 SECURITY

The Fuel Contractor shall maintain a secure facility by ensuring the following:

- all gates and access doors are kept locked when area is unattended;
- all fences and gates are secure; and
- all tank openings, valves, sump drains, fill caps, loading and unloading hoses, master electrical switches, and other accessible fittings are kept locked at all times when not in use.

5.5.6 MAINTENANCE

A maintenance program shall be established for airport fuel facilities and equipment.

Fuel Contractors should make sure that all of the fire extinguishers are checked every six months. They are there for your safety! All fire protection equipment must be regularly maintained and will be inspected by the NWT Fire Marshall's Office in accordance with the National Fire Code of Canada.

Any flammable material or residue shall be removed to a land fill site and stored in covered metal containers.

5.6 AIRPORT TANK FARM

5.6.1 PROTECTING THE QUALITY OF AVIATION FUEL

Fuel that has already been pumped should not be returned to storage. Under no circumstances should defuelled product be pumped back into the bulk fuel storage tanks.

Note: Defuelled products may be contaminated, off-specification, or of unknown origin.

5.6.2 SETTLING TIME

When aviation fuels are added to a storage tank and the tank is lined or has a floating suction, the settling time for Jet A-1 fuel shall be:

(a) 1 hr for horizontal tanks; or
(b) 2 hr for vertical tanks.

Note: The settling time is independent of the number of tanks or tank size.

If the fuel is not filtered into the storage tank and the tank is not lined or does not have a floating suction, the settling time shall be 3 hr/m (1 hr/ft) depth of liquid in the tank for aviation turbine fuel (Jet A-1).

If you are not sure if the storage tank is lined or not, ask the Regional PPD Staff.

5.6.3 FUEL RECEIVED, STORED, AND DISPENSED

Jet A-1 aviation fuel should always be clear and bright (this means that the fuel does not appear cloudy or contain anything in it, such as water, sediment, or other grades of oil) when tested with the **Clear and Bright Test**.

Fuel Contractors should dispense fuel into storage tanks or fuel delivery trucks at a medium flow rate.

A **Clear and Bright Test** should be performed each time Jet A-1 is received into storage, dispensed from storage, or dispensed into the aircraft. There should never be any free water in the sample.

If the **Clear and Bright Test** shows any sign of contamination of the Jet A-1 fuel, the fuel should be re-circulated until no more contamination can be found.

5.6.4 TANK FILLING AND GAUGING

When filling empty tanks with aviation fuels, make sure to dispense the fuel very slowly until the end of the fill line is completely covered by fuel.

The following restrictions shall apply:

(a) 50 mm (2 in) line flow rate restricted to 130 L/min (28.5 IMP gal/min);
(b) 75 mm (3 in) line flow rate restricted to 275 L/min (60.5 IMP gal/min);
(c) 100 mm (4 in) line flow rate restricted to 500 L/min (110 IMP gal/min);
(d) 150 mm (6 in) line flow rate restricted to 1090 L/min (240 IMP gal/min);

The pressure differential of the receiving filter shall be monitored during receipt.

The Fuel Contractor should look for any signs of leaks while the fuel is being offloaded into the tank.

5.7 INSPECTIONS AND RECORDS

Once a month, the Fuel Contractor must take an inventory of the fuel levels in each storage tank. This should be done by comparing fuel measurements with the dispenser meter readings, shipments and deliveries. These inventories need to be summarized and sent in to the Regional PPD Office at the end of each month.

Maintenance records for fuelling vehicles, equipment, and facilities shall be kept for two years by the Fuel Contractor. The maintenance records should be kept on file and should document that corrective action has been taken when necessary.

The **Aviation Dispensing Cabinet Log and Plane Day Inspection Checklist** *(see Example 10 - Appendix "A")* should be completed at the beginning of each plane day. The Fuel Contractor should

(a) inspect each item on the list;

(b) make a note of any items that need to be fixed. These items should be fixed as soon as possible; and

(c) forward a completed copy to the PPD Office every month.

These inspection reports should also be kept on file for a minimum of two years.

All records of inventory, maintenance and operations inspections should be kept for two years by the Fuel Contractor, and for an additional five years by the Regional PPD Office.

5.7.1 FILTER VESSEL DIFFERENTIAL PRESSURE

The differential pressure reading shall be taken and recorded each plane day. For accuracy, these checks shall be undertaken when the flow rate is steady and as close as possible to the maximum operating flow rate. Tests on individual pieces of equipment shall be carried out at the same flow rate, if possible.

Note: The purpose of observing differential pressure across a filter vessel is to monitor the changing condition of the elements. Whenever fuel passes through a filter, a drop in pressure should occur. The difference in pressure between the inlet and the outlet of the filter is known as differential pressure and is one of the more apparent indications of filter element conditions.

The differential pressure gauge lines and valves should be checked once a month to ensure they are not blocked.

5.7.2 AIRPORT TANK FARM - INSPECTION CHECKS

Daily

Each plane day, the Fuel Contractor should inspect each item on the **Aviation Dispensing Cabinet Log and Plane Day Inspection Checklist**.

(a) For each item on the checklist, place a checkmark under the date of the inspection once the item has been checked and found to be in good condition.

(b) If there is something wrong with the item, make a note of what the problem is and try to get it fixed as soon as possible. Contact the Regional PPD Office and let them know about it.

(c) Perform the **Clear and Bright Test** on samples taken under pressure from the sumps on each fuel tank. Place a checkmark in the box if the samples are good.

(d) Under normal flow conditions, check and record differential pressure across all operational filters; correct to maximum flow rates through the vessel in accordance with the manufacturer's instructions.

(e) Visually check static bonding cables and clamps. Immediately replace or repair any damages or broken cables and clamps.

(f) Inspect and record the condition of all fuel hoses, swivels, and nozzles for wear, damage, and leakage.

- Check hoses for abrasions, cuts, soft spots, carcass separation, worn covers, blisters, exposed reinforcement, cracks, twists, and sharp bends that give the appearance of pending failure.

- Check that the locking devices are operational on all swivels.

- Check the condition of the hose and poppet seals on nozzles for cuts, nicks, and water.

- Immediately repair or replace any fuel hose, swivel, or nozzle that is defective or leaking.

(g) Make sure that fire extinguishers are charged and in their proper places with unobstructed access for immediate use. If the seal is broken, replace the fire extinguisher and take it out of service until it has been recharged and tagged as serviceable.

(h) Inspect aboveground piping, meters, and pumps for leaks. Check meters for seal integrity, and ensure they are in good repair. Promptly repair any leak and clean up any spill. Immediately investigate evidence of any recent fuel spill.

(i) Check and ensure proper operation of the deadman control system. The deadman is a safety mechanism that the fuel operator must be physically applying pressure to in order for the equipment to work (e.g. the lever on the nozzle handle of the fuel dispenser).

(j) Check fuel storage facilities for any security, fire, or safety deficiencies requiring immediate attention.

(k) Check the fuel containment dikes for visible defects, including vegetation growth. Remove any significant vegetation growth as soon as possible.

Monthly

Perform a monthly inspection and record all findings. Include the following procedures:

- Verify that equipment is clearly marked with the type of fuel it contains and with “FLAMMABLE”, “NO SMOKING”, and emergency shutoff markings.

5.7.3 FUELLING OPERATIONS

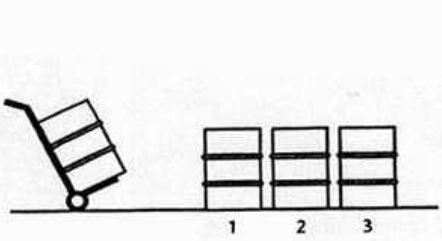
Aircraft shall be bonded with a stranded cable to the fuel dispenser before any loading operations begin. The cable is to remain attached to the aircraft and the fuelling unit until all loading operations are finished.

5.8 DEFINITIONS

Description	Ch	Definition
Additives	5	PPD does not add additives to any fuel products.
Aircraft Servicing Apron	5	The area or position at an airport used for the fuel servicing of an aircraft.
Airport Fuel Storage Facilities	5	Tanks and associated facilities for the storage of aviation fuel, generally located away from the aircraft servicing and movement areas.
Airside Vehicle Driver Permit	5	A document by an aerodrome operator authorizing a person to drive a vehicle on aircraft movement areas that normally have restricted access.
Aviation Fuel	5	Any approved fuel for use in aircraft engines.
Aviation Turbine Fuel	5	Commercial fuel for use in aircraft turbine engines, usually referred to as Aviation Kerosene Types Grade Jet A-1.
Bonding	5	The process of connecting two or more conductive objects together by means of a conductor.
Cargo Tank	5	Any container with a capacity greater than 380 L (83.6 IMP gal), either mounted permanently or otherwise secured upon a tank vehicle, used for carrying flammable liquids. The term “cargo tank” does not apply to any container used solely for supplying fuel for driving the tank vehicle itself.
Coalescer Element	5	A filter element that removes solid particles and separates free water from fuel. It is the first-stage cartridge in the filter-separator vessel. It is upstream of the separator cartridge.
Contaminated Fuel Monitor	5	A filter that monitors the fuel continuously as the fuel passes through it. It is generally installed to filter particulate matter and absorbs water as the last filter prior to the aircraft but can be used anywhere in the fuel system and provides a shutoff of flow when the level of water or solids in the fuel systems is unacceptable.
Deadman Control	5	A safety device that requires a positive, continuing action by the operator to allow the flow of fuel.
Dip Stick	5	A calibrated measuring device, used for determining the amount of fuel in the tank.
Driver’s Licence	5	An official government document recognized by the NWT, which permits the holder the privilege of driving or operating a vehicle without direct supervision.
Environmental Emergency Response Procedures	5	A set of procedures outlining the emergency response for containment, cleanup, and disposal of hazardous and contaminated materials. It includes references to training, incident reporting, individual responsibilities, and resources.
Environmental Management Plan	5	A document that outlines the PPD’s policies, guiding principles, and operational objectives/ procedures related to pollution control (short- and long-term), compliance procedures addressing standards and regulatory requirements (as stipulated by the authority having jurisdiction), organizational structure, training requirements, and exercise/ audit process.
Facility	5	The fixed equipment installation for the receipt, storage, and dispensing of fuels.
Filter-Separator	5	A two-stage filter system that combines free water while separating it from

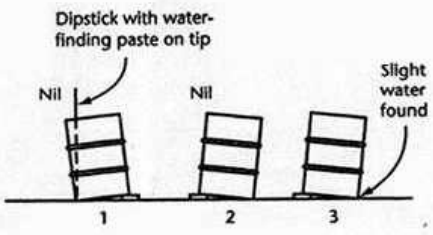
		the fuel and filters particulate matter down to the micron size specified.
Fixed Fuelling System	5	An arrangement of aviation fuel storage, pumps, piping, and associated equipment, including cabinets, at an airport, designed to service aircraft at locations established by the installation of the equipment.
Floating Suction	5	A suction device that swings on a sealed joint under the buoyancy of floats and draws from only the upper layers of the fuel in storage.
Free Water	5	Water other than dissolved water, generally in droplets, which may cause cloudiness and may settle due to gravity and form a defined layer at the bottom of the container.
Fuel Handler (Tank Farm Operator)	5	Any person or company that maintains or operates fuel storage facilities.
Fuel Spill	5	A discharge of aviation turbine fuel, diesel fuel, or aviation or automotive gasoline from, or out of, a structure, vehicle, aircraft, or other container, which is likely to cause a safety hazard to persons or property, or have adverse effects on the environment.
Fuel Transfer	5	The act of moving fuel from one storage facility to another. This may apply to transfers from tank vehicles to fixed storage, tank vehicles to aircraft, pipelines to storage tanks, pipelines to aircraft, or one fuel tank within the aircraft to a second tank within the aircraft.
Fueller	5	Any person or company engaged in the storage, handling, or dispensing of fuel to an aircraft whether as owner, lessee, employer, or otherwise; with respect to an aircraft fuelling operation, this means the person in charge of an operation, whether as an employee, agent, or representative.
Fuelling Cabinet	5	A fixed, aboveground structure with hose, meters, and auxiliary equipment, from which fuel can be dispensed into the aircraft without any additional equipment.
Fuelling Operator	5	The company that provides the airport fuelling service.
Fuelling Service	5	The fuel handling and into-place service performed by airports by one of the following parties: (a) a fueller; (b) a fuelling operator; or (c) an oil company or its designated dealer or agent.
Grounding	5	The process of connecting one or more conductive objects to the ground.
Hot Fuelling	5	Fuelling of an aircraft while an engine used for the propulsion of the aircraft is operating. **This practice is not allowed by PPD.**
Leak	5	Any loss of petroleum product because of a defect in the storage, piping, or delivery system.
Operations Manual	5	A manual used by a fuelling operator detailing the procedures for the safe storage, handling, and dispensing of aviation fuel.
Receptor	5	The site at which a toxicant interacts with the environment, such as a stormwater collection system, sanitary sewer system, soil, water, or air.
Relative Density	5	The ratio of the mass of a given volume of a liquid to the mass of an equal volume of water. For aviation fuels, this is sometimes expressed as API gravity. API gravity is an arbitrary scale used in the petroleum industry and is calculated as follows: $\text{Degrees API} = \frac{141.5}{\text{specific gravity}} - 131.5$

Description	Ch	Definition
Relaxation Time	5	The time provided in the fuel system to allow static electricity to dissipate.
Separator Element	5	The second-stage cartridge or shroud in a filter-separator vessel that allows passage of fuel, but rejects fuel water droplets. It is downstream of the coalescer cartridge.
Static Electricity	5	An electrical potential generally built up by friction (e.g. filter, or filter-separator and fuel, and pipelines and fuel). A buildup of static electricity may be great enough to cause sparking or arcing capable of causing fire.
Tank Vehicle	5	A self-propelled or towed vehicle, equipped with storage tanks, filters, pumps, hoses, and controls, used to transport and deliver fuel to an aircraft.



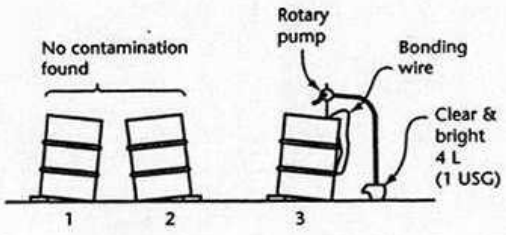
Step 1

- Ready drums at side of parking ramp; **or**
- Stop next to aircraft using hand warehouse cart.
- Do not roll drums into place.
- **Airline company buys the full drum.**
- **Pilot pumps off the drums.**



Step 2

- Tilt drums forward large bung using blocks.
- Loosen bungs — large and small.
- Reseal each in turn.

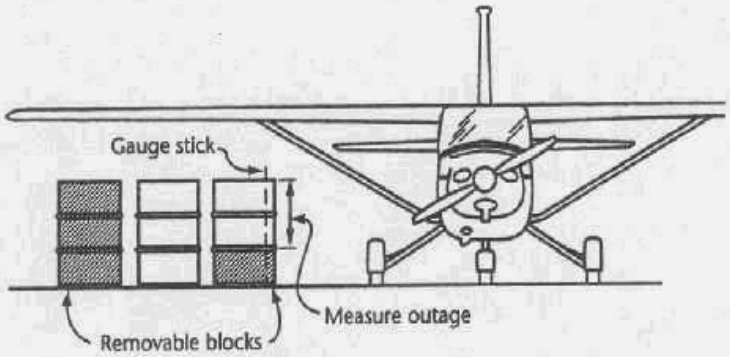


Step 3

- Those drums with negligible or trace contamination shall then be tilted in the opposite direction, towards small bung.
- Those drums with contamination shall be pumped off with a rotary "fine stringer" equipped hand pump, which has been properly bonded prior to reopening.

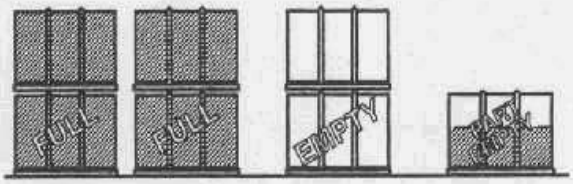
Note: *Sequence of events listed under each step shall be followed exactly to ensure maximum safety.*

Figure 1
Dispensing from Drums



Step 4

With fueling completed
- Separate empty, partially empty, and full drums.
- Remove tilting blocks.



Step 5

- Tighten all bung seats, whether they are empty, partly full, or full.
- Return each type to their own clearly designated storage area.
- Collect tilting blocks for future use.

Figure 2
Dispensing from Drums

APPENDIX A:

PETROLEUM PRODUCTS DIVISION

FUEL CONTRACTOR'S MANUAL

EXAMPLES OF FORMS

WEEKLY SALES BATCH CONTROL REPORT WS

PETROLEUM PRODUCTS DIVISION

FOR WEEK ENDING
DDMM YY

Region Number
Community Code
Contractor I.D.
Product
Dispenser I.D.

HASH TOTALS
Number of Tickets
Meter Ticket HASH Total

Date (DD/MM/YY) ▶							Readings / Totals
Opening Read	(1)						OPENING READ
Closing Read	(2)						CLOSING READ
Daily Pumped Volume	(3)						TOTAL DAILY PUMPED VOL.
Daily Credit Volume	(4)						TOTAL DAILY CREDIT VOL.
Daily Cash Volume	(5)						TOTAL DAILY CASH VOL. (7)
Daily Sales Volume	(6)						TOTAL DAILY SALES VOL.
Short / Over (3-6)							

Date	Short/Over Variance Explanation	Comments:

Breakdown Total Cash Volume (7) By Usage.

USAGE	CASH VOLUME	PRICE/LITRE	CASH AMOUNT
TOTALS			FOR AMOUNT

NWT1600401/96

PPD Officer	Contractor

Comment [c1]: Example 3

Comment [c2]: Petroleum Products DivisionCONTRACTOR'S MANUAL

Comment [c3]: Government of the Northwest Territories

Comment [c4]: Appendix A

Comment [c5]: PPD - CONTRACTOR'S MANUAL

Comment [c6]: Revised 2004

Northwest Territories

Meter Ticket

Petroleum Products Division

E 10001

Date DD MM YY

Customer Account Number

Unit Number

Customer Name

"X" Product Usage ("X" one only)

- ☐ 01 - P50 Heating Fuel
- ☐ 02 - P50 Diesel Motive
- ☐ 03 - P50 Aviation Fuel
- ☐ 10 - P50 Diesel Non Motive
- ☐ 00 - Gasoline
- ☐ 00 - AVGAS 100LL
- ☐ 00 - Naphtha
- ☐ 00 - Jet A-1
- ☐

- Meter Reading -

X Customer's Signature

Qty Del'd (Litres)

X Contractor's Signature

Delivery Method
Truck 1 D-Line 2

Dispenser I.D.

Northwest Territories

CASH SALES MEMO

Petroleum Products Division

Price Includes GST
GST# R107442691

Product Code	Date - **d / m / y**
Customer's Name	

Quantity	Unit Price	$ Amount ¢
	TOTAL	

- Meter Reading -

X
Contractor Signature

NWT1681/0203

Northwest Territories

WEEKLY SALES BATCH CONTROL REPORT

PETROLEUM PRODUCTS DIVISION

WS

FOR WEEK ENDING
DD MM YY

Region Number —
Community Code —
Contractor I.D. — : : :
Product —
Dispenser I.D. —

HASH TOTALS

Number of Tickets

Meter Ticket HASH Total

Date (DD/MM/YY) ▶							**Readings / Totals**
Opening Read (1)							OPENING READ
Closing Read (2)							CLOSING READ
Daily Pumped Volume (3)							TOTAL DAILY PUMPED VOL.
Daily Credit Volume (4)							TOTAL DAILY CREDIT VOL.
Daily Cash Volume (5)							TOTAL DAILY CASH VOL. (7)
Daily Sales Volume (6)							TOTAL DAILY SALES VOL.
Short / Over (3-6)							

Date	**Short/Over Variance Explanation**	**Comments:**

Breakdown Total Cash Volume (7) By Usage.

USAGE	CASH VOLUME	PRICE/LITRE	CASH AMOUNT
TOTALS			
			FOR AMOUNT

NWT10554/0195

PPD Officer	Contractor

Northwest Territories

TANK GAUGE REPORT

PETROLEUM PRODUCTS DIVISION

TG

Region Number [ ] — [ ]

Community Number [ ] — [ ]

Contractor I.D. [ ] — [ ]

DD MM YY

Document Date [ ]

Bulk Fuel Storage Facility [ ]

Product Code	Tank No.	Measure: Gauge Tape	Measure: Water	Temperature	1 Gross Volume	2 Water Volume	3 Product Volume (1 - 2 = 3)	4 Temp Corr Factor	5 Vol at Std. Temp. (3 x 4 = 5)

TRUCK AND BULK FUEL STORAGE FACILITY METER READS

Product Code	Dispenser I.D.	Opening Read	Closing Read	Volume

TOTAL INVENTORY

Product Code	6 Truck Volume	Drum/Pkg. Count	7 Drum/Pkg. Volume	8 Stock Total (5 + 6 + 7 = 8)

HASH Total ▶

PPD Officer Signature	Contract Signature

NWT10553/0894

PPD Officer's Copy

Petroleum Products Division **Example 5**
Fuel Contractor's
MONTHLY MOTOR VEHICLE INSPECTION CHECKLIST

MOTOR VEHICLE INSPECTION REPORT

Submit this report monthly with your tank gauge reports.

Vehicle No._____

Gauge Report No._____ Date_____ Community_____

	OK	REPAIR	REPLACE
1. TIRES			
2. LIGHTS			
3. HORN			
4. BATTERY			
5. WINDSHIELD WIPER			
6. PARK BRAKE			
7. MIRRORS			
8. GLASS			
9. FIRE EXTINGUISHERS			
10. CAB			
11. CHASIS			
12. FUEL OIL TANK			
13. HOSE			
14. METER			
15. PUMP			
16. HOSE REEL			
17. NOZZLES			
18. OIL LEAKS			

NOTE: Identify Repairs/Replacement items required on Reverse Side.

Signed:_____

Petroleum Products Division **Example 6**
Fuel Contractor's
MONTHLY TANK FARM CHECKLIST

Tank Gauge Report No. _____ Date _____

Community _____

NO.	INSPECTION	OK	REPAIRS	REPLACE
1	TANKS			
2	VALVES			
3	PIPELINES			
4	GAUGE HATCHES			
5	AIR VENTS			
6	DISPENSING CABINETS			
7	BERM			
8	FENCING			
9	LOCKS			
10	GASOLINE / DIESEL PUMPS			
11	HOSES			
12	STAIRWAY			
13	GAS & DIESEL PUMPS			
14	BUILDING & TANK FARM LIGHTS			
15	TANK IDENTIFICATION			
16	CLEANLINESS OF BUILDINGS & TANKS			
17	FIRE EXTINGUISHERS			
Date of last Fire Extinguisher Inspection:				

COMMENTS: _____

_____

_____

_____

_____

SIGNATURE: _____ _____
CONTRACTOR *PPD OFFICE*

NOTE TO FUEL CONTRACTOR:
This checklist is to be submitted monthly to the Regional PPD Office, along with the corresponding Tank Gauge Report.

NOTE TO REGIONAL PPD STAFF:
Attach copy of work orders. Identify "Repair" and "Replacement" items. Submit a copy of this report to the attention of the Manager, Operations, PPD.

Petroleum Products Division **Example 6**
Fuel Contractor's
MONTHLY TANK FARM CHECKLIST

INSTRUCTIONS

NO.	INSPECTION LIST
1	Check each tank's exterior surface for signs of rust, pitting, dents, leaks, shell distortions, settling of tank bases, and condition of the foundation.
2	Check all valves for signs of leakage around stems or bonnets. Check all valves for proper operation in "open" and "closed" positions. Lubricate as required.
3	Check pipeline and pipe supports for weldseam integrity. Inspect all bolted pipe supports and adjust to ensure a straight run of pipe. Ensure level base support.
4	Check gauge hatch covers for good operation and ensure that locks are in place. Clear hatch of snow or ice and any oily deposits or debris.
5	Check tank air vents to ensure their proper operation. Ensure that vent hoods are free of snow and ice and any accumulated debris.
6	Check dispenser cabinets / loading racks for unusual operationof system components. Ensure that these areas are clean and tidy.
7	Check berm area for cleanliness, liner exposure and clear of vegetation. Check dike walls for any sign of deterioration. Ensure that these areas are clean and tidy.
8	Check fencing for integrity of wire mesh and check gates for damage to hinges and hasps. Ensure that ground wires are bonded to fence frame.
9	Check for locks on all gates, dispenser buildings, tank hatches and valves. Ensure that these locks are operating properly. Replace if required.
10	Check gasoline and fuel meters for proper registering of meter tickets. Any discrepancies are to be reported to the Regional PPD Staff.
11	Check hoses and hose couplings for signs of wear, cracks or leaks. Ensure that diesel and gasoline hoses are clean and operating properly.
12	Check tank stairwells, catwalks and stiles for weldseam integrity. Clear all walkways and handrails of snow, ice, oily deposits and debris.
13	Check operation of gas and diesel pumps during normal operating conditions. Check for unusual noise, leaks and restricted flow rate.
14	Check building and Tank Farm lights for burnt-out lamps and bulbs. Replace only with lamps and bulbs of same wattage and voltage.
15	Check tanks and pipelines for proper identification of product. Ensure tank numbers conform to Tank Master List. Notify the PPD Officer of any discrepancies.
16	Check all dispenser buildings and tank farm compound for cleanliness and tidiness. Remove any garbage or debris in buildings and compound.
17	Check Fire Extinguishers for proper type and location. Ensure seals are intact; tags are signed and dated by authorized personnel; and units are fully charged.

Record the date of the last Fire Extinguisher Inspection.

1) **Follow-up with PPD Office on "Repair" items to determine if they are completed or being put in action.**

2) **Follow-up with PPD Office on "Replace" items to determine if they have been replaced or are on the ordering list.**

Petroleum Products Division **Example 6**
Fuel Contractor's
MONTHLY TANK FARM CHECKLIST

GNWT Tank Farm

Community:_____ **Date**:_____ **Tgr #**: _____

NO.	INSPECTION	OK	REPAIRS	REPLACE
1	TANKS			
2	VALVES			
3	PIPELINES			
4	GAUGE HATCHES			
5	AIR VENTS			
6	DISPENSING CABINETS			
7	BERM			
8	FENCING			
9	LOCKS			
10	GASOLINE / DIESEL PUMPS			
11	HOSES			
12	STAIRWAY			
13	GAS & DIESEL PUMPS			
14	BUILDING & TANK FARM LIGHTS			
15	TANK IDENTIFICATION			
16	CLEANLINESS OF BUILDINGS & TANKS			
17	FIRE EXTINGUISHERS			
Date of last Fire Extinguisher Inspection:				

COMMENTS:_____

_____

_____

_____

_____

SIGNATURE: _____ _____

CONTRACTOR *PPD OFFICE*

NOTE TO FUEL CONTRACTOR:
This checklist is to be submitted monthly to the Regional PPD Office, along with the corresponding Tank Gauge Report.

NOTE TO REGIONAL PPD STAFF:
Attach copy of work orders. Identify "Repair" and "Replacement" items. Submit a copy of this report to the attention of the Manager, Operations, PPD.

Petroleum Products Division **Example 6**
Fuel Contractor's
MONTHLY TANK FARM CHECKLIST

INSTRUCTIONS

NO.	INSPECTION LIST
1	Check each tank's exterior surface for signs of rust, pitting, dents, leaks, shell distortions, settling of tank bases, and condition of the foundation.
2	Check all valves for signs of leakage around stems or bonnets. Check all valves for proper operation in "open" and "closed" positions. Lubricate as required.
3	Check pipeline and pipe supports for weldseam integrity. Inspect all bolted pipe supports and adjust to ensure a straight run of pipe. Ensure level base support.
4	Check gauge hatch covers for good operation and ensure that locks are in place. Clear hatch of snow or ice and any oily deposits or debris.
5	Check tank air vents to ensure their proper operation. Ensure that vent hoods are free of snow and ice and any accumulated debris.
6	Check dispenser cabinets / loading racks for unusual operationof system components. Ensure that these areas are clean and tidy.
7	Check berm area for cleanliness, liner exposure and clear of vegetation. Check dike walls for any sign of deterioration. Ensure that these areas are clean and tidy.
8	Check fencing for integrity of wire mesh and check gates for damage to hinges and hasps. Ensure that ground wires are bonded to fence frame.
9	Check for locks on all gates, dispenser buildings, tank hatches and valves. Ensure that these locks are operating properly. Replace if required.
10	Check gasoline and fuel meters for proper registering of meter tickets. Any discrepancies are to be reported to the Regional PPD Staff.
11	Check hoses and hose couplings for signs of wear, cracks or leaks. Ensure that diesel and gasoline hoses are clean and operating properly.
12	Check tank stairwells, catwalks and stiles for weldseam integrity. Clear all walkways and handrails of snow, ice, oily deposits and debris.
13	Check operation of gas and diesel pumps during normal operating conditions. Check for unusual noise, leaks and restricted flow rate.
14	Check building and Tank Farm lights for burnt-out lamps and bulbs. Replace only with lamps and bulbs of same wattage and voltage.
15	Check tanks and pipelines for proper identification of product. Ensure tank numbers conform to Tank Master List. Notify the PPD Officer of any discrepancies.
16	Check all dispenser buildings and tank farm compound for cleanliness and tidiness. Remove any garbage or debris in buildings and compound.
17	Check Fire Extinguishers for proper type and location. Ensure seals are intact; tags are signed and dated by authorized personnel; and units are fully charged.

Record the date of the last Fire Extinguisher Inspection.

1) **Follow-up with PPD Office on "Repair" items to determine if they are completed or being put in action.**

2) **Follow-up with PPD Office on "Replace" items to determine if they have been replaced or are on the ordering list.**

PETROLEUM PRODUCTS DIVISION
FUEL DELIVERY DRIVER – DAILY LOG

COMMUNITY: _____

CUSTOMER NAME	ACCOUNT NUMBER	LITRES DISPENSED	PRODUCT CODE

DATE: _____

OPENING METER READING: _____

CLOSING METER READING: _____

NOTE: Start a new Log sheet every DAY and send to the Regional PPD Office WEEKLY along with your WSR.

Northwest Territories

RESUPPLY/TRANSFER CERTIFICATE

RT

PETROLEUM PRODUCTS DIVISION

Region Number — Community Number — Contractor I.D. — Bulk Fuel Storage Facility — Resupply/Transfer (R/T) — Emergency (Y/N) — Product

Purchase Order — Barge No. — Shipped From

Commenced (DD MM YY) — Time — Completed — Time

	Tank Number ▶						
BEFORE	Product Dip						
	Water Dip						
	Temperature						
	Product Quantity						
	Water Quantity						
	Net Quantity						
	Temperature Conversion						
	Net Quantity Std. Temp.						
AFTER	Product Dip						
	Water Dip						
	Temperature						
	Product Quantity						
	Water Quantity						
	Net Quantity						
	Temperature Conversion						
	Net Quantity Std. Temp.						
	Net Qty Rec'd/Transf'd						

Opening Inventory
Sum - Net quantity at standard temperature, plus volume of drum product.

Pipeline	Full	Empty	Temp.	
			Length	
			Diameter	

Drums/Packages	No. of	Volume/Qty.
On hand-before		
Resupplied/trans		

Certified Correct

Regional PPD Officer	Operations Manager

Loss

Shipping Firm Representative	PPD Officer	PPD Contractor

NWT2430/1095

Total Quantity Received/Transferred Tanks
Quantity Drawn While Pumping
Pipeline Quantity Adjustment
Spillage
Net Quantity Received/Transferred Tanks

Total Quantity Resupplied/ Transferred

Net Quantity Received/Transferred Drums
Total Quantity Resupplied/Transferred
Bill of Lading Quantity
Retain Left on Barge
Over/Short Quantity from Bill of Lading

Closing Inventory
Opening inventory, plus or minus total quantity received/ transferred

Aviation Fuel Sales Log

Settlement: _____ No. _____

Date DD/MM/YY	Time	A/C Registration	Company	Quantity (in Litres)	Type of Fuel	Meter Ticket #	C & B	Remarks

PETROLEUM PRODUCTS DIVISION

AVIATION DISPENSING CABINET LOG – PLANE DAY INSPECTION CHECKLIST

OPERATING INSTRUCTIONS

INSPECTION CHECKLIST LISTED BELOW IS TO BE CARRIED OUT AT LEAST ONCE PER DAY. DEFICIENCIES FOUND ARE TO BE CORRECTED IMMEDIATELY AND/OR BROUGHT TO THE ATTENTION OF THE PPD OFFICER.

MONTH: _____

SATISFACTORY WORK √ NOT SATISFACTORY WORK X	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
1. **TANKAGE – CHECK**																															
FLOATING SUCTION OPERATION (MONTHLY CHECK)																															
CLOSURE HATCHES. CONDITION GASKETS, ETC.																															
2. FILTER SEPARATOR – MONITOR																															
CLEAR & BRIGHT SAMPLE FROM SUMPS UNDER PRESSURE																															
READ DIFFERENTIAL PRESSURE & RECORD WHILE FUELING																															
3. NOZZLES – CHECK																															
SCREENS CLEAN & FREE OF DAMAGE (WEEKLY CHECK)																															
DUST CAP SECURED TO NOZZLE																															
4.HOSE – CHECK																															
CONDITION OF TOTAL LENGTH UNDER PRESSURE																															
CONNECTIONS SECURE & FREE OF LEAKS																															
5. GROUNDING AND BONDING – CHECK																															
CABINET TO AIRCRAFT (CONDITION & CONTINUITY)																															
NOZZLE TO AIRCRAFT (CONDITION & CONTINUITY)																															
6. GENERAL																															
PRODUCT IDENTIFICATION																															
SERVICEABILITY OF FIRE EXTINGUISHERS																															
LUBRICATION OF PUMP, MOTOR & VALVES																															
PRODUCT LOSS (LEAKING VALVES, JOINTS, ETC.)																															
HOUSEKEEPING & CABINET APPEARANCE																															
PRESSURE VACUUM VENTS – MONTHLY CHECK																															
TIME																															
SIGNATURE																															

FORMS REQUISITION

PETROLEUM PRODUCTS DIVISION

Request Date DD MM YY

Region —

Community —

Contractor —

Form Name		Quantity Required	Quantity Supplied	Sequence Number from	Sequence Number to
Meter Tickets	NWT 1689				
Meter Tickets	NWT				
Meter Tickets	NWT				
Cash Sales Memo	NWT 1681				
Inv. Var. Reconciliation	NWT 1609				
Resupply/Transfer Certificate	NWT 2430				
Meter & Sales Reconciliation	NWT 4054				
Form Requisition	NWT 10547				
Tank Gauge Report	NWT 10553				
Weekly Sales Report	NWT 10554				
Unit Update Request	NWT 3547				
Batch Control Log	NWT 10550				
Stock Control Card	NWT 3249				
Credit Application (Personal)	NWT 10673				
Credit Application (Corporate)	NWT 10674				

Remarks:

Supplied as indicated:

Contractor	PPD Officer	Issue Date (D/M/Y)

NWT10547/0594

Week Ending

DD	MM	YY

PETROLEUM PRODUCTS DIVISION
WEEKLY HEATING FUEL **CASH SALES** LOG

Community _____

Contractor _____

WSR Number _____

Total Number of Cash Sale Memos _____

Page____of____

Date	Print Customers Name	House Number or Address	Sales Volume

Total Cash Sales Volume _____

PETROLEUM PRODUCTS DIVISION
WEEKLY HEATING FUEL CASH SALES LOG

INSTRUCTIONS
EFFECTIVE 2004

It is the Fuel Delivery Contractor's responsibility to ensure the Driver fills out this LOG SHEET.

- **Fill in the Community Name.**
- **Fill in the Contractors Name.**
- **Fill in the Weekly Sales Number (WSR).**
- **Fill in the Week Ending Date.**
- **Record on a DAILY basis every CASH SALE for Heating Fuel that is dispensed from the fuel truck (Product Code 1);**
    - **Fill in the Date**
    - **Print the Customers Name**
    - **Fill in the House Number or Address**
    - **Fill in the Volume of Fuel dispensed**
    - **Fill in the number of LOG SHEETS that you have completed (e.g. Page 1 of 3)**
    - **Fill in the Total Cash Sales Volume per page**
    - **Fill in the Total Number of Cash Sales Memos for all pages**
- **Attach one copy of the signed Cash Sales Memos to the Log Sheets.**
- **Send them in with your WSR to the Regional PPD Office.**

END OF ACTION

APPENDIX B:

PETROLEUM PRODUCTS DIVISION

FUEL CONTRACTOR'S MANUAL

FUEL TRUCK FIRST AID KIT CONTENTS

FUEL DELIVERY TRUCK FIRST-AID KIT LIST OF CONTENTS

The First-Aid kit in each fuel delivery truck is the St. John's Ambulance 'Vehicle Kit' package. First-Aid kits should be kept in the fuel delivery truck and the operator's shelter.

Below is a list of items that come in the First-Aid kit. Fuel Contractor's should document any incidents requiring first-aid in the Record Book. This information can be important later on if the injury worsens, or a claim to WCB is entered.

Additional first-aid supplies can be ordered through the Regional PPD Office.

ST. JOHN'S AMBULANCE 'VEHICLE KIT'

QTY.	ITEM	DESCRIPTION
10	Cleansing Wipes	
25	Adhesive Bandages	1.9 cm x 7.5 cm
4	Knuckle Bandages	
4	Fingertip Bandages	
3	Gauze Pads	5 cm x 5 cm
3	Gauze Pads	7.5 cm x 7.5 cm
3	Gauze Pads	10 cm x 10 cm
1	Elastic Gauze Bandage	5 cm x 4.5 m
1	Elastic Gauge Bandage	7.5 cm x 4.5 m
1	Pressure Bandage	10 cm x 10 cm
1	Abdominal Pad	12 cm x 22 cm
2	Oval Eye Pads	
10	Butterfly Closures	
6	Cotton Tip Applicators	
3	Tongue Depressors	
2	Pr. Vinyl Gloves	
1	Pr. Scissors	14 cm
1	First-Aid Pocket Guide	
1	Adhesive Tape	2.5 cm x 4.5 cm
1	SOS Signal	
1	Pr. Tweezers	
1	Cold Compress	
1	Triangular Bandage	

APPENDIX C:

PETROLEUM PRODUCTS DIVISION

FUEL CONTRACTOR'S MANUAL

AVIATION QUALITY CONTROL AND TEST PROCEDURES

APPENDIX C QUALITY CONTROL AND TEST PROCEDURES

C.1 FREE WATER CONTENT TEST

Free Water Tests shall be conducted using visual detection, water-sensitive paste or paper, or chemical water-test kits as specified below.

Procedure

When using a visual detection method to determine water content, the procedure described below shall be followed.

Water-Sensitive Paste or Paper

Chemically treated paste or paper may be used to indicate the presence of free water. These materials change when they contact water. They do not readily react to low concentrations of water, such as a hazy fuel sample. These pastes and papers are normally applied to gauging sticks and tapes when checking storage tank bottoms for bulk water. The test method used shall be performed in accordance with the manufacturer's instructions.

Chemical Water Kits

When checking for the presence of free water in the fuel in the amount of 30 mg/L (30 ppm) or higher by chemical reaction, any of several different chemical kits may be used. The test method used shall be performed in accordance with the kit manufacturer's instructions.

Note: The following kits are commonly used for this test:

(a) Shell Water Detector
(b) Velcon Hydrokit; and
(c) Aqua-glo kit.

Other equivalent commercial chemical test kits may be used.

C.2 Clear and Bright Test (Visual Inspection)

Note: The purpose of this test is to detect possible water or solid contaminants in aviation fuel by visual inspection.

Test Method

In a transparent container, the fuel shall be visually observed for a clear and bright condition. Samples for Clear and Bright tests shall be obtained from the

(a) point of receipt;
(b) storage tank;
(c) filter vessel sump or discharge (fixed and mobile);
(d) refueling tank; or
(e) aircraft tank.

Equipment

A clear glass, transparent, dry, capped cylindrical container capable of holding 1 – 4 L (0.2 - 0.9 IMP gal) of liquid shall be used. The bottle or container shall have a clear, undistorted bottom and an opening large enough to accommodate the fuel sampling tap described below. A 0.5 L container may be used when sampling a fuelling cabinet or tank vehicle.

Procedure

Perform the following procedure:

(a) Flush the fuel sample container before gathering the sample.
(b) Flush the fuel sampling tap at the maximum flow rate prior to drawing the fuel sample. This will free the fuel sampling tap of any loose contamination.
(c) Take the fuel sample at the operating pressure whenever possible.
(d) Let the sample settle for 1 min to remove air bubbles.
(e) Observe the sample against a light background for a clear and bright condition. Swirl the bottle or container to create a vortex. Free water and solids tend to collect beneath the vortex.

Note: The presence of contamination is much more evident when the sample is taken from a pressurized system. Samples removed from a static system may indicate little contamination when actually significant contamination can be found under a low or pressurized condition.

Interpretation of Test Results – Rating of Clear and Bright Sample

The samples shall be clear and bright. Record the visual clarity as '**clear and bright**' or '**not clear and bright**'. Record if particulate matter or water **was** or **was not** observed at the bottom of the vortex.

Note: The expression "clear and bright" has no relation to the natural fuel colour. Turbine fuel colour varies from water white to straw colour to amber, depending on the processing, the crude source, or both. A fuel that is clear and bright has no floating or suspended matter, Brightness is a quality independent of the sample colour and refers to the lack of suspended or free water in the sample. Bright fuel tends to sparkle.

C.3 API Gravity

Note: The purpose of this procedure is to verify the gravity of the aviation fuel and that it remains unchanged from the certified batch from the supplier. This procedure describes the means for measuring the gravity of fuel with a hydrometer. A significant change in gravity may indicate contamination by another fuel. Hydrometers may be calibrated in one of the following units of gravity measurement: API gravity, relative density, or density. The term "gravity" will be used throughout this procedure as a general term to avoid repeating these measurement terms.

Description

The scale reading at the intersection of the fuel surface on a freely floating hydrometer and the temperature of the fuel at the time of the test shall be observed and recorded. The observed readings shall be used to correct the gravity to the standard temperature for the test.

Equipment

For measuring the gravity of aviation fuel, the following sets of equipment shall be used:

(a) a set consisting of
   i. a clear glass or clear plastic hydrometer cylinder; and
   ii. an ASTM-approved thermohydrometer graduated in °API gravity and °F. ASTM 4HL or 5HL thermohydrometers are recommended for testing Jet A or Jet A-1 fuel types.

(b) a set consisting of
   i. a clear glass or clear plastic cylinder;
   ii. an ASTM-approved plain-form hydrometer graduated in °API gravity and °F. Plain-form hydrometers do not contain a built-in thermometer. ASTM 4 HL or 5 HL plain-form hydrometers are recommended for testing Jet A or Jet A-1 fuel types.
   iii. an ASTM-approved thermometer graduated in °C or °F. ASTM-approved thermometers designated as ASTM 12C (graduated in °C) or 12F (graduated in °F) are recommended. Thermometers are not required where thermohydrometers are used.

Procedure

Perform the following procedure:

(a) Collect the sample in a clean hydrometer cylinder, and place it in a vertical position in a location free from air currents. Allow a minute or two for air bubbles to dissipate. Remove any air bubbles that remain on the surface of the sample by touching them with the corner of a clean paper towel.

(b) When using a thermohydrometer, gently lower it into the sample. When it has settled, depress it about two scale divisions into the liquid. Release the

thermohydrometer and gently spin it when releasing it. This will assist in bringing the termohydrometer to rest, floating freely away from the cylinder walls.

(c) When the thermohydrometer has come to rest and thermometer is showing a steady reading, read and record the temperature of the sample to the nearest 0.5°C or 1°F. Then read the hydrometer scale to the nearest scale division and record the value. The correct hydrometer reading is that point on the hydrometer scale at which the principal surface of the liquid cuts the scale.

(d) When using a plain-form hydrometer, first measure the temperature with an approved thermometer. Continuously stir the sample with the thermometer, taking care that the mercury bulb is kept fully immersed. As soon as a steady reading is obtained, read and record the temperature of the sample to the nearest 0.5°C or 1°F, then remove the thermometer. To obtain the hydrometer reading, follow the procedure described in Items (b) and (c) above, as applicable.

(e) Correct the observed hydrometer reading to the standard temperature of 15°C (60°F) for API gravity, relative, density, or density, using the appropriate correction table as given in *API Manual of Petroleum Measurement Standards*.

(f) Report the corrected gravity measurement.

(g) Inspect hydrometers and thermometer periodically to ensure that they are not cracked and that there are no separations in the mercury column.

Interpretation of Results

Once a batch of fuel is produced, its corrected gravity remains relatively constant. A significant change in gravity from that previously determined might indicate contamination with another product and should be investigated immediately. Very slight differences in test results might occur as a result of differences in test operators or sample location, but these are usually minimal (i.e. less than 0.3°API).

The following equations may be used to convert between °API and relative density:

$$°API = \frac{141.5}{\text{Relative Density}} - 131.5$$

$$\text{Relative Density} = \frac{141.5}{°API + 131.5}$$

The above procedure provides a means to detect possible contamination of fuel by comparing gravity measurements. To correct hydrometer readings to a standard temperature, the appropriate correction table, as given in *API Manual of Petroleum Measurement Standards*, shall be used.

Note: Another use of hydrometers is to determine fuel weight at the fuelling temperature. In this case, temperature correction should not be made. This measurement should be reported as “observed” or “uncorrected”.

C.4 Density

Note: The purpose of this procedure is to measure the density of fuel with a hydrometer. A significant change in density might indicate contamination by another product.

Description

The scale reading at the intersection of the fuel surface on a freely floating hydrometer and the temperature of the fuel at the time of the test shall be observed and recorded. The observed readings shall be used to correct the density to the standard temperature for the test.

Equipment

For measuring the density of aviation fuel, the following sets of equipment shall be used:

(a) a set consisting of
   i. a clear glass or a clear plastic hydrometer cylinder; and
   ii. an ASTM-approved thermodyrometer graduated in kg/m^3 and °C. ASTM 304HL or 305HL thermohydrometers are recommended for testing Jet A or Jet A-1 fuel.

(b) a set consisting of
   i. a clear glass or a clear plastic hydrometer cylinder; and
   ii. an ASTM-approved plain-form hydrometer graduated in kg/m^3 and °C. Plain-form hydrometers do not contain a built-in ASTM 304HL or 305HL thermohydrometers are recommended for testing Jet A or Jet A-1 fuel.

Procedure

Perform the following procedure:

(a) Collect a sample and measure the temperature and the density as described above for the API Gravity Test procedure Items (a) – (c).

(b) Correct the observed hydrometer reading to the standard temperature of 15°C for density, using the appropriate correction table given in *API Manual of Petroleum Measurement Standards*, Chapter 11 (Table 53B for Jet A or Jet A-1 type fuel and aviation gasoline).

(c) Report the corrected density measurement.

Interpretation

Once a batch of fuel is produced, its corrected density remains relatively constant. A significant change in density from the density previously determined might indicate contamination with another product and shall be investigated immediately. Very slight differences in test results might occur as a result of differences in test operators or sample location, but these are usually minimal (less than 1.2 kg/m^3).

The procedure presented here is used to detect possible contamination of fuel by comparing density measurements. Hydrometer readings shall be corrected to the standard temperature of 15°C using the appropriate tables as specified above.

Note: Another use of hydrometers is to determine fuel weight at the fuelling temperature. In this case, temperature corrections should not be made. This measurement should be reported as "observed" or "uncorrected".

C.5 SOLID PARTICLE CONTAMINATION (MEMBRANE FILTRATION) TEST

Notes:

(1) This test provides a field method of particulate matter in aviation turbine fuel. It is particularly useful in monitoring the cleanliness of fuel received and in evaluation of the performance of filter vessels.

(2) Because method produces results that are not quantitative, it should not be used as the basis for rejection of the fuel. It does, however, provide an alert signal that indicates the need for further investigation using other methods.

When visible particles are found in the membrane, whether wet or dry, the condition of filtration equipment shall be promptly investigated.

C.6 MILLIPORE TEST

OVERVIEW:

(see diagram 1 for a description of parts)

- Insert a monitor (diagram 3) into the test kit housing (diagram 2 & 3, item E) Note that the **YELLOW** dust plug is the top, the **RED** dust plug is the bottom (dust caps must be removed to complete the test. Re-insert the dust plugs once the monitor has been drained of excess fuel).

- Insert J (diagram 1,2,5) into the pipeline testpoint (ensure that the test kit is set to the "STOP" position, as per diagram 4).
  Upstream = inlet – before the filter/ separator
  Downstream = outlet – after filter/ separator

- Insert I into the back of the test kit housing (see diagram 1).

- Place the end of the hose into a 4 litre glass jar.

- Connect the two ground clips on the hose, to the dispensing equipment, pipeline, or other items which are grounded to the building.

- Open the valves required to set up the system flow in the Recirculation (Recirc) mode. (see **VALVE SEQUENCE** page)

- IF the fuel is required to pass through the meter in the recirc mode, ensure that you record both the "opening" and "closing" readings. (If the product does not pass through the meter, disregard this step)

- Start the pump and make sure the fuel is flowing freely (from the tank, through the filter/ separator, and back into the tank). Once again, ensure that the kit is in the **STOP** position.

- If all is operating correctly, turn on the small blue handle on the tertpoint and then switch the kit to the **FLUSH** position for approx. 5 seconds. Now switch to the **TEST** position.

- Continue in the **TEST** position until the 4 litre jar is full.

(cont'd…./2)

Once the Jar is Full

- Switch the test unit to **STOP** and then turn off the blue testpoint valve.

- Turn off the dispenser pump.

- Remove the **MONITOR** from the test kit housing (being careful not to pull the monitor as it is actually two pieces).

- Using the SUCTION UNIT **H** (see diagram 1), insert the end of the unit into the "Bottom" of the monitor. Pull back on the plunger and this will draw the excess fuel from the monitor (empty the suction unit by pushing the plunger while aiming into the jar or sample barrel). Repeat this process until the monitor does not contain and "liquid".

- Replace the dust caps (**YELLOW – TOP / RED – BOTTOM**), then dry off the outside of the monitor, once again being careful so it doesn't come apart.

- Wrap the monitor in some "Masking" tape and write the following info:

  PRODUCT
  AIRPORT or STORAGE FACILITY
  DATE
  COMMUNITY

- When testing has been completed at both the Airport and the Storage Facilities, return the test kit and monitors to:

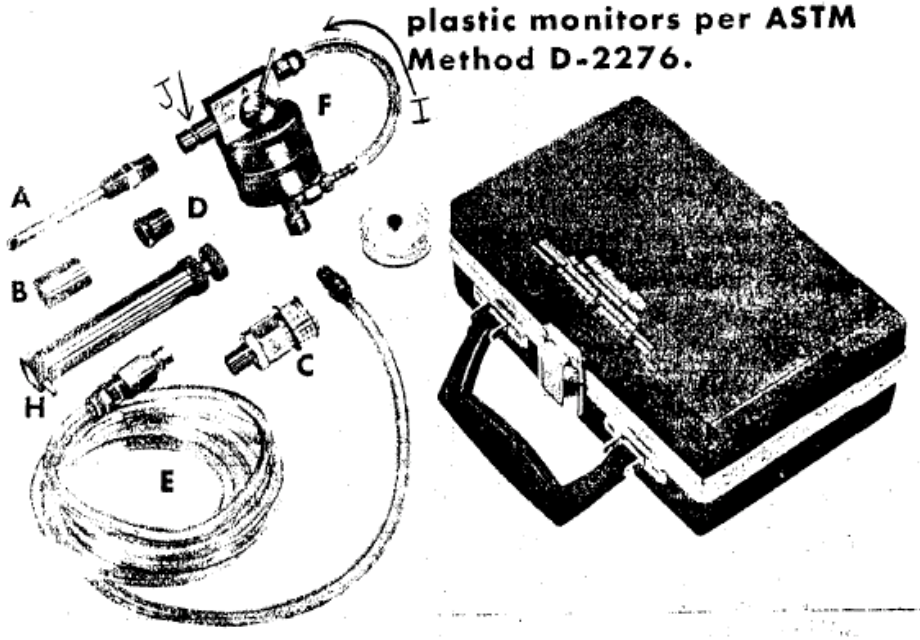
  PETROLEUM PRODUCTS DIVISION
  P.O. BOX 1638
  INUVIK, NT
  X0E 0T0
  (send via counter to counter / charge to PPD)

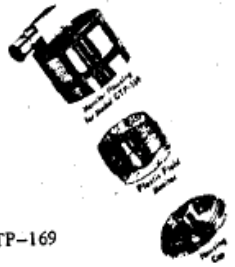
  NOTE: - If you are not sure about these procedures, please call PPD (0-867-777-7159).

- If you do not feel confident about the test you have completed, go ahead and repeat it (we have spare monitors). It's important to complete the test properly.

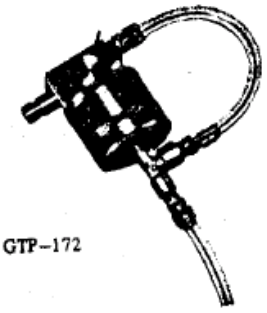
DIAGRAM # 1

MiniMonitor® Kit—developed specifically for field testing of aircraft fuel with plastic monitors per ASTM Method D-2276.





GTP–169



GTP–172

DIAGRAM 3

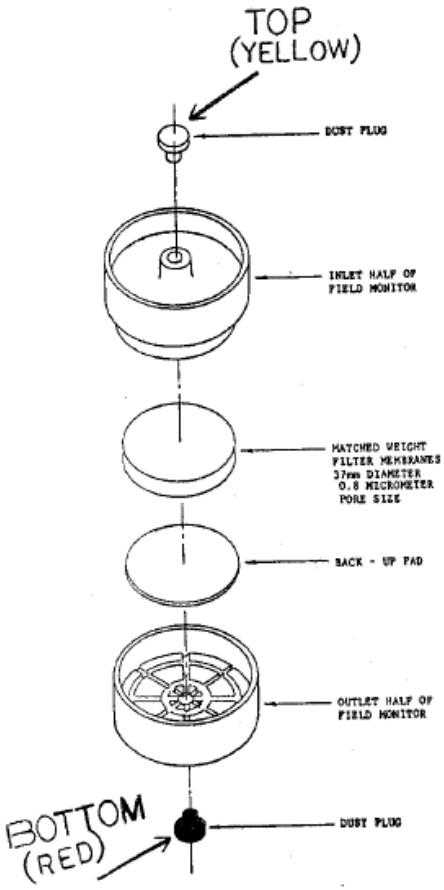


FIG. 4—Matched weight field monitor

DIAGRAM 2

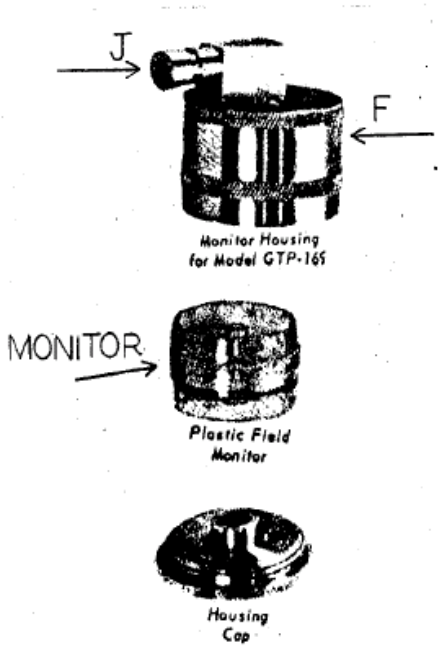


DIAGRAM 4

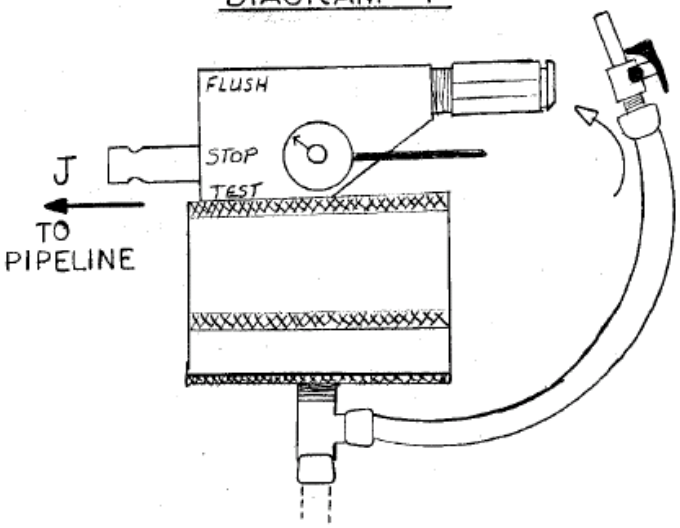
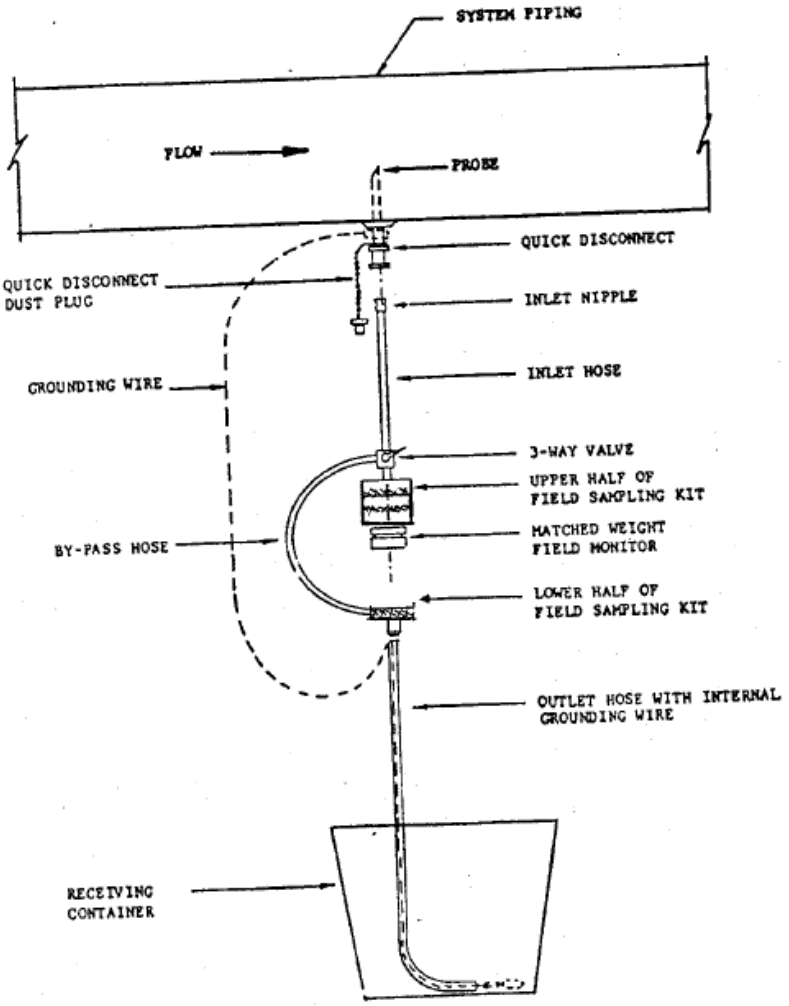


DIAGRAM 5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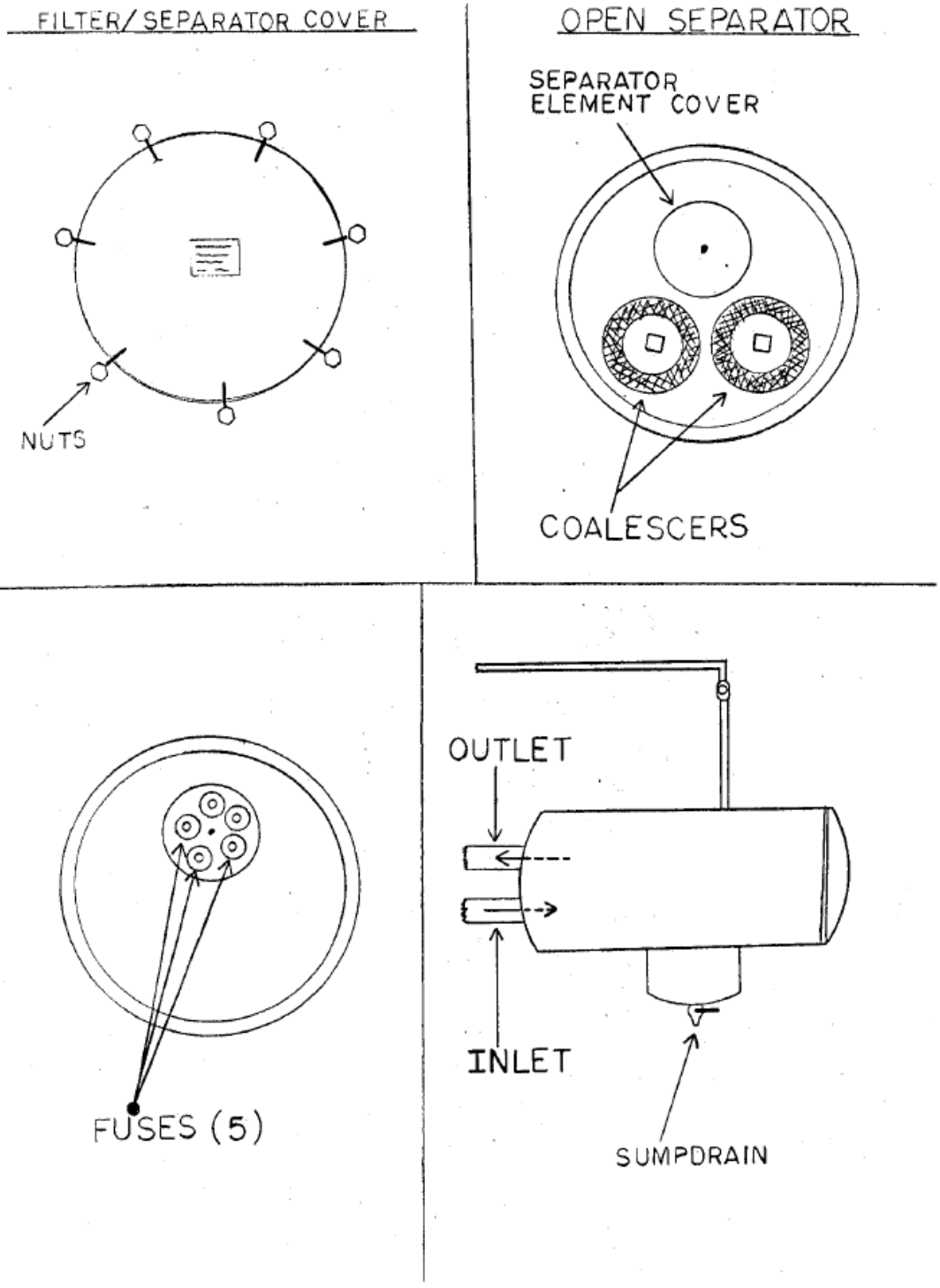
FLOW
PROBE
QUICK DISCONNECT
QUICK DISCONNECT DUST PLUG
INLET NIPPLE
INLET HOSE
GROUNDING WIRE
3-WAY VALVE
UPPER HALF OF FIELD SAMPLING KIT
MATCHED WEIGHT FIELD MONITOR
BY-PASS HOSE
LOWER HALF OF FIELD SAMPLING KIT
OUTLET HOSE WITH INTERNAL GROUNDING WIRE
RECEIVING CONTAINER


FILTER/SEPARATOR COVER
NUTS
OPEN SEPARATOR
SEPARATOR ELEMENT COVER
COALESCERS
FUSES (5)
OUTLET
INLET
SUMPDRAIN

VALVE SEQUENCE
SACHS HARBOUR

AIRPORT FACILITY Valve Sequence (Re-circulation Mode)

1. On Tanks # 7 & # 8 one or both tanks can be open (front of tanks) & open the Return Line Valves at the back of the tanks.

2. Behind the Dispenser Building are two other valves for the Dispenser & Return line.

3. Tank valve open in dispenser (resupply line closed).

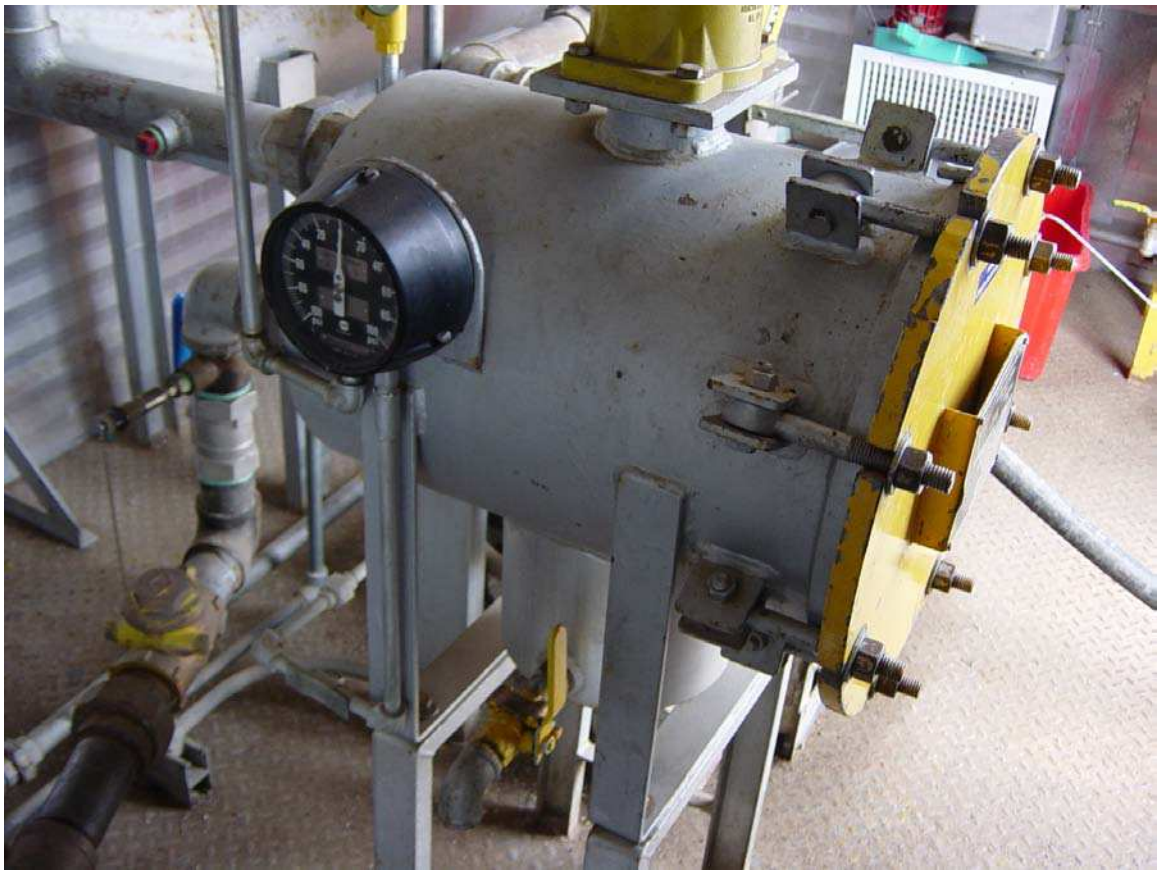
4. All filter valves open, return line open & hose reel line closed (at end of relaxation
chamber)

5. Test point for Millipore is just before the filter & just after the filter in the 2-inch pipe.

Close all tank valves & return line valves upon completion of the Millipore Test.

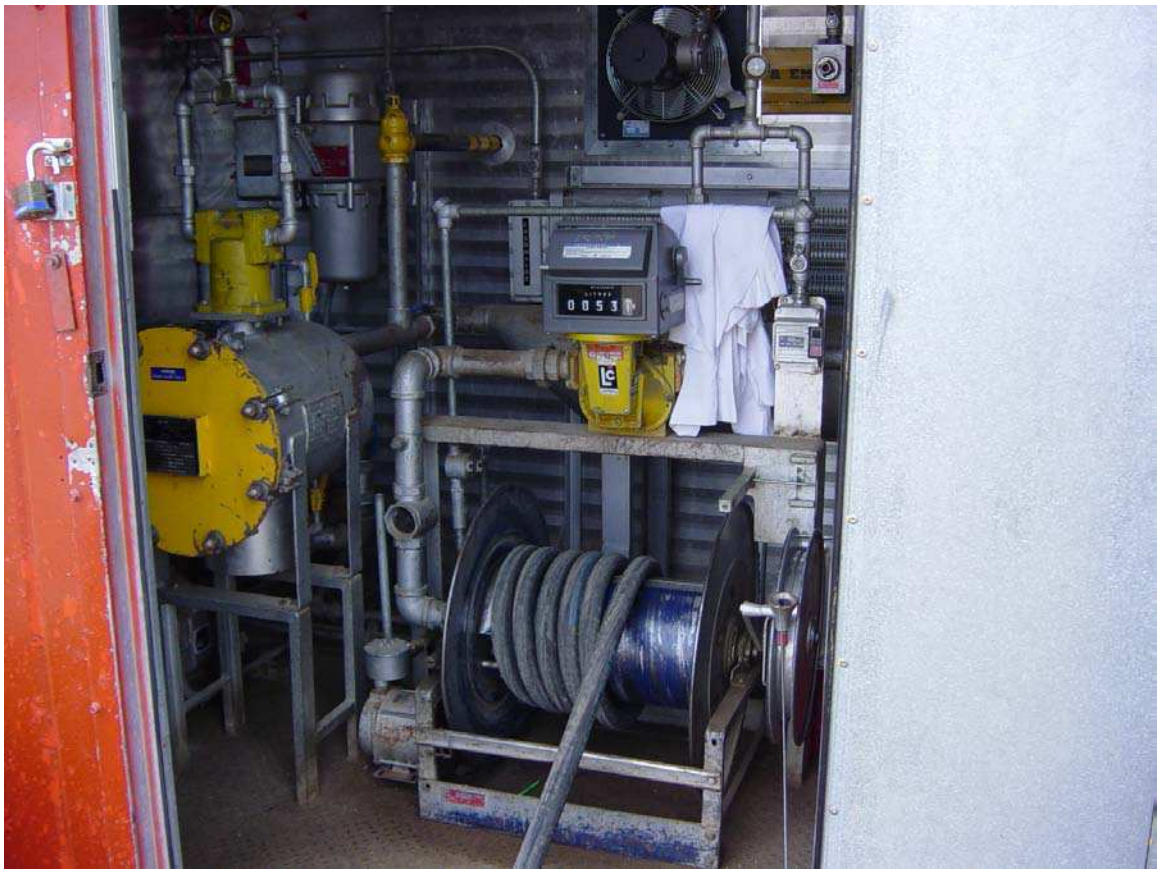
VALVE SEQUENCE

Sachs Harbour Airport Facility



VALVE SEQUENCE

Sachs Harbour Airport Facility



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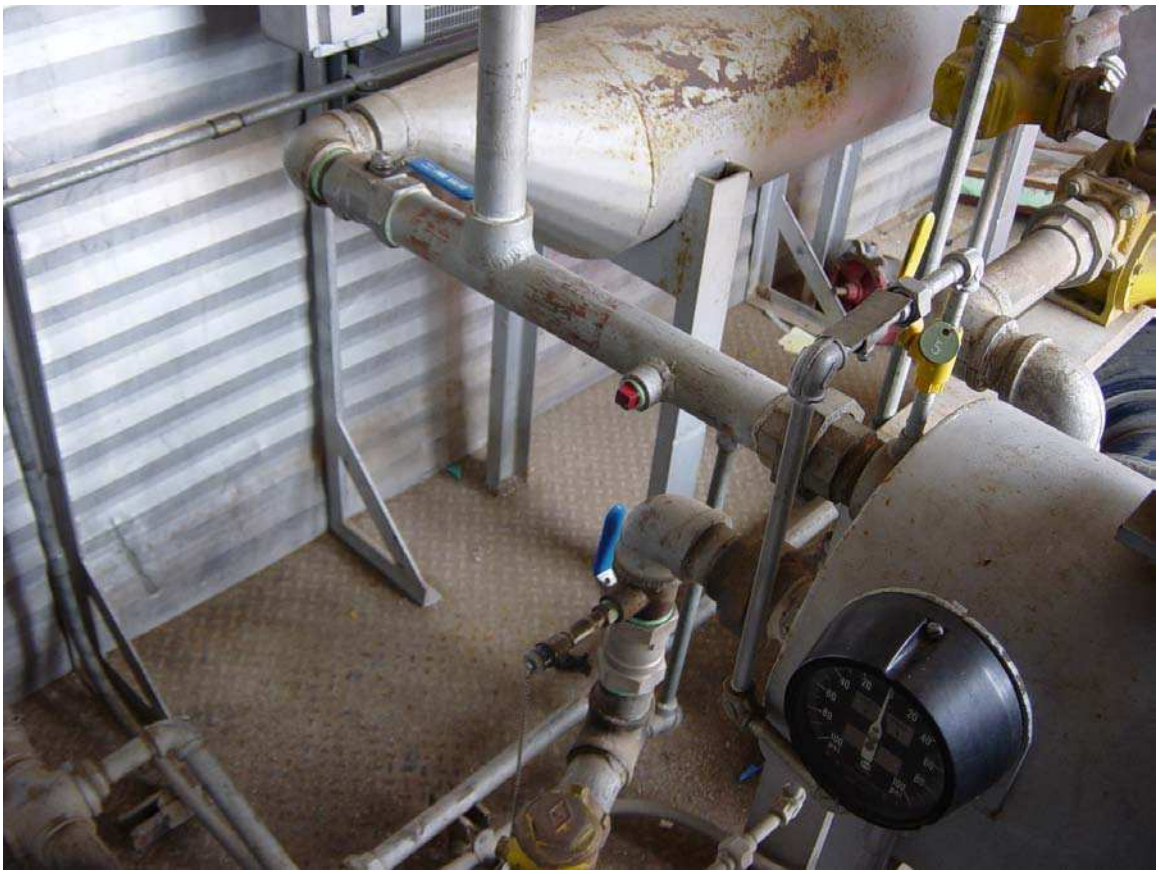


VALVE SEQUENCE
HOLMAN

AIRPORT FACILITY Valve Sequence (Re-circulation Mode)

1. Tank # 7 can be open (main tank valve) & the return line valve that goes to
   the top of tank.

2. Behind the Dispenser Building are two other valves for the Dispenser & Return line.

3. Tank valve open in dispenser (resupply line closed).

4. All filter valves open, return line open & hose reel line closed (at end of Relaxation chamber)

5. Test point for Millipore is just before the filter & just after the filter in the 2-inch pipe.

Close all tank valves & return line valves upon completion of the Millipore Test.

VALVE SEQUENCE

Holman Airstrip Facility

VALVE SEQUENCE

Holman Airstrip Facility

VALVE SEQUENCE

Holman Airstrip Facility

VALVE SEQUENCE
PAULATUK

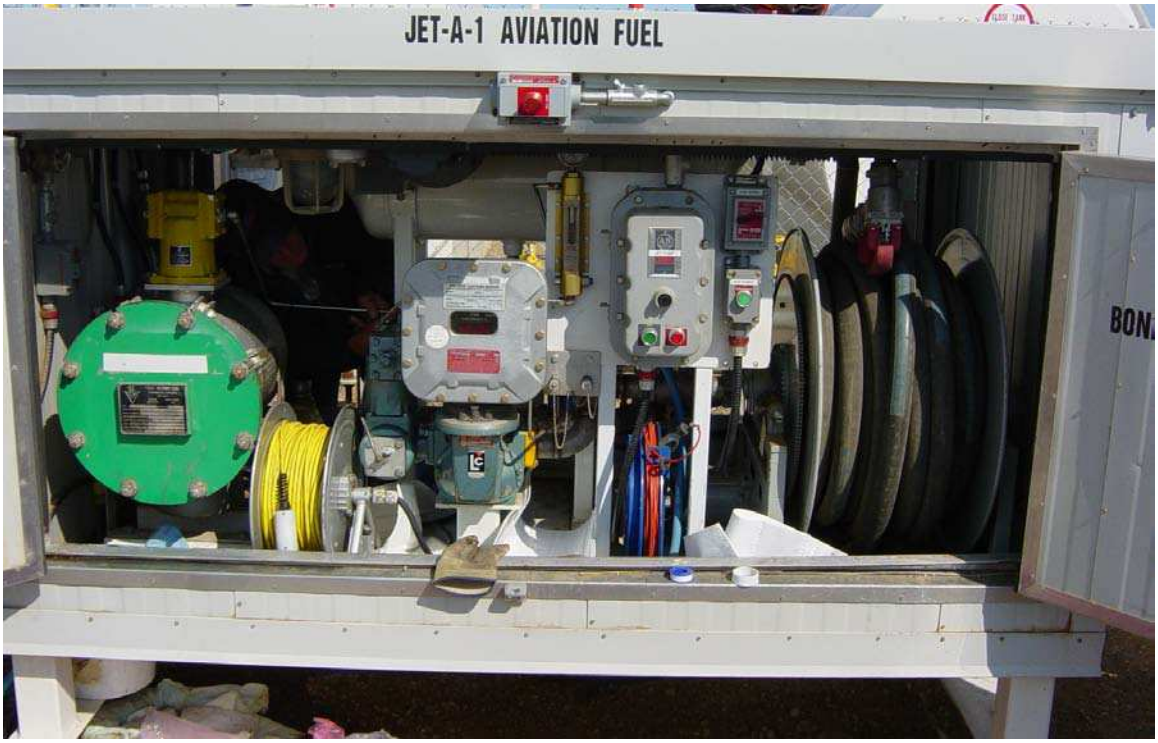
AIRPORT FACILITY Valve Sequence (Re-circulation Mode)

1. Tanks #1 & #2 can either be re-circulated one at a time or both together.
2. Open main tank Valve, Open return Line Valve that goes to the top of the tank.
3. Open valve behind the Dispenser Cabinet
4. Close the Hose Reel Line, Open the Re-circulation Line.
5. Millipore fittings are in the front of dispenser beside the pressure differential gauge.

Close all tank valves & return line valves upon completion of the Millipore Test.

VALVE SEQUENCE

Paulatuk Airport Facility



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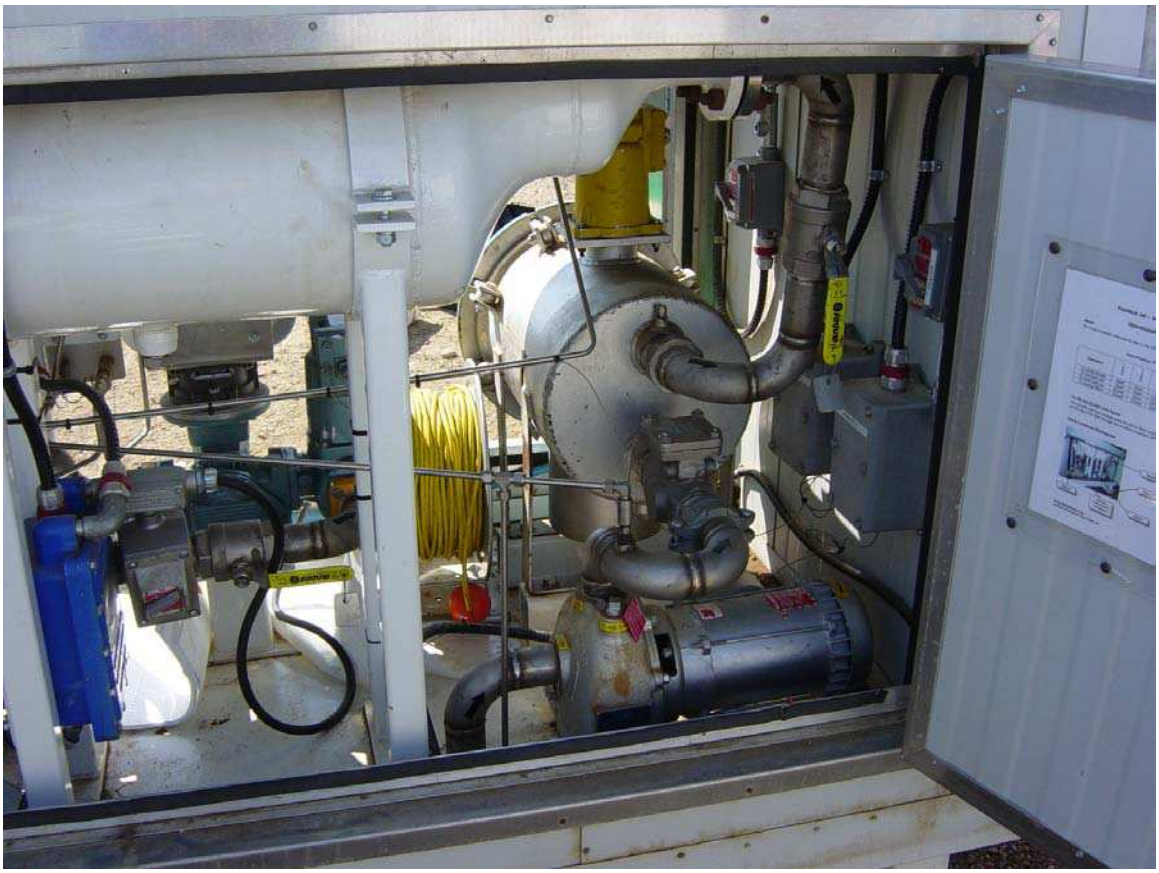
Paulatuk Airport Facility

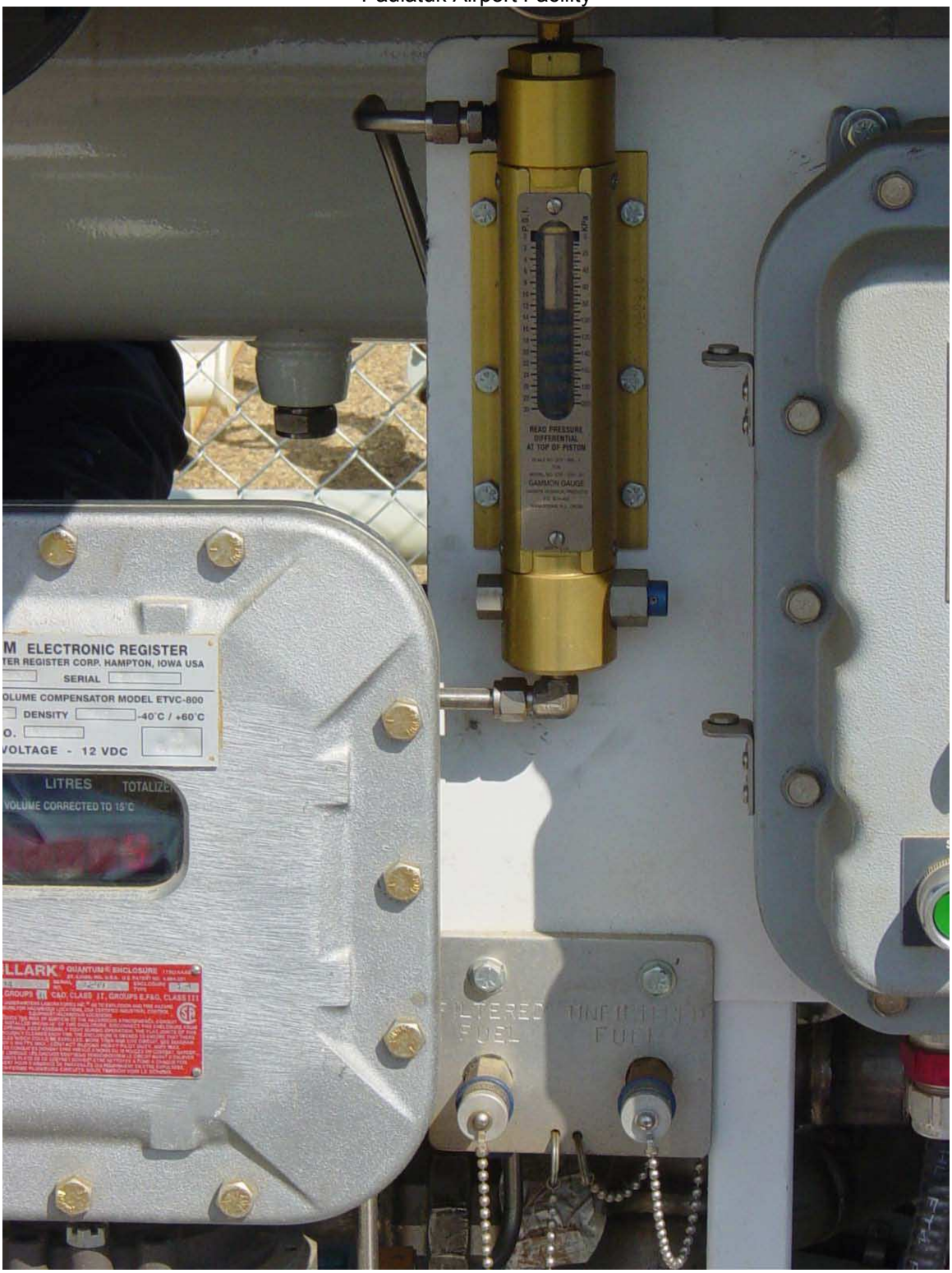


VALVE SEQUENCE

Paulatuk Airport Facility

VALVE SEQUENCE

Paulatuk Airport Facility



C.7 FILTER CHANGE

FILTER/ SEPARATOR CONTENTS:
- (1) Separator Element (green)
- (5) Fuses (usually white/ blue ends)
- (2) Coalescers (beige)

FILTERS SHOULD BE CHANGED WHEN:

A) Pressure differential reads **15 psi (103 Kpa)**.
B) After **2 years** of service.
C) When the **fuel flow suddenly slows**.

** **NOTE:** Whichever of A, B or C comes first **

Procedure

1. Stop the pump and close the valves at the INLET, and the OUTLET of the FILTER/ SEPARATOR.

2. Open the drain valve on the Filter/ Separator SUMP, and drain the fuel into a large bucket. (This may require emptying the bucket 4 or 5 times, depending on the size)

3. When the product flow begins to slow, start loosening the nuts on the Filter/ Separator COVER.

   Important: Loosen the nuts a little at a time beginning with the top ones only. Once the COVER seal is broken, the product will begin to flow rapidly from the SUMP drain. At this point, stop loosening the nuts until the Filter/ Separator has completely drained.

4. When the Filter/ Separator is completely empty, remove the cover, being careful not to damage the “O” Ring.

5. Before unscrewing the (2) Coalescers, ensure that the bucket is empty of fuel. Quickly place the Coalescers in the empty bucket so that they can drain.

   Note: As soon as the first Coalescer has been unscrewed, fuel will come rushing out for a couple of seconds. You should be prepared with an empty bucket to catch this fuel.

6. Remove the nut and the plate at the top of the Filter/ Separator. Gently remove the Separator Element (green). This Element may be washed in clean fuel if it appears dirty. These Elements DO NOT require regular replacement. (PPD personnel will determine when/ if these should be replaced).

7. Remove the second plate, called the "SPIDER", which holds the (5) Fuses in place. Once again, a bucket should be available as these Fuses will contain fuel as well.

8. Using a clean cloth (or clean piece of Sorbent), wipe down the inside of Filter/ Separator. Clean out any visible dirt, rust, water, etc…

9. Remember, when replacing the Fuses and Coalescers, **DO NOT TOUCH THESE ITEMS WITH YOUR BARE HANDS**, this can damage them. Tear the end off each plastic bag when you are preparing to install these elements. Once the Fuse or Coalescer is in place, remove the rest of the plastic bag.

10. When installing each of the (5) Fuses, push the Fuse into the hole while turning it slightly. Often times, you will fell it "snap" into place, indicating it is well installed. When replacing the SPIDER (cover with the 5 pins), ensure that **EACH** pin is in a Fuse, and that the Fuses are straight. Install the nut and washer. (CAUTION: Do not over-tighten)

11. Install the green Separator Element next. Ensure that the Element remains centered while re-installing the gasket, and the second cover plate.

12. Screw in the (2) new Coalescers. (Do not over-tighten)

13. Re-install the Filter/ Separator cover. Tighten the nuts in a "Criss-Cross" pattern. In addition, tighten each only a little at a time to ensure even pressure is exerted on all sides of the cover.

14. Start the pump and **SLOWLY** open the INLET valve to allow the Filter/ Separator to fill at a controlled rate (if valve is opened too quickly, the new Fuses/ Coalescers may be damaged).

15. Check around the Filter/ Separator COVER, while the unit is filling, to ensure that there are no leaks.

***** NOTE: REMOVED FILTERS CANNOT BE USED AGAIN. DISPOSE OF THESE IN THE APPROPRIATE MANNER. *****