



Parkland
FUEL CORPORATION

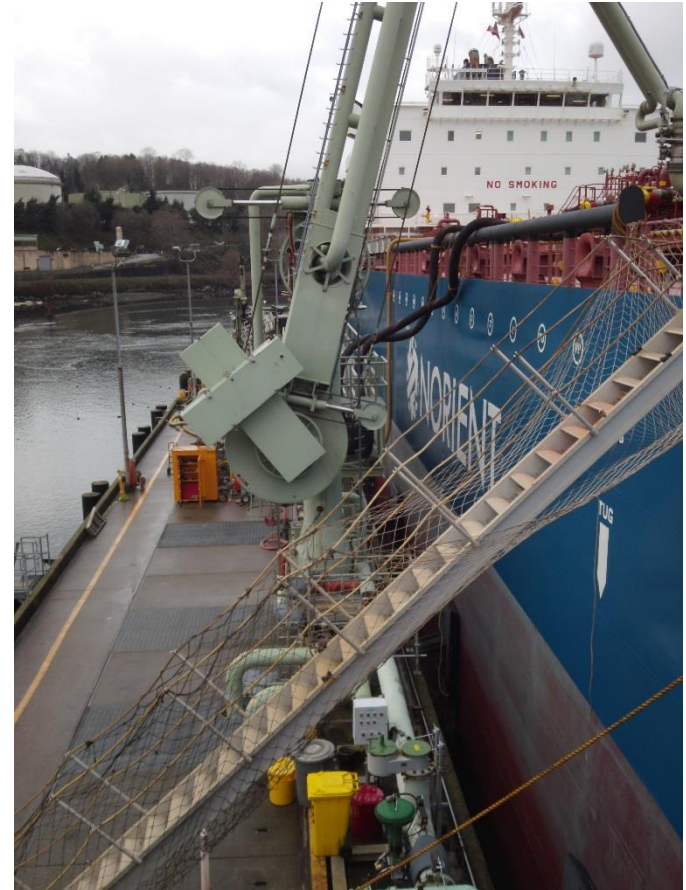
Marine Shipping 101

September 2018



Marine Shipping at Parkland Burnaby Refinery

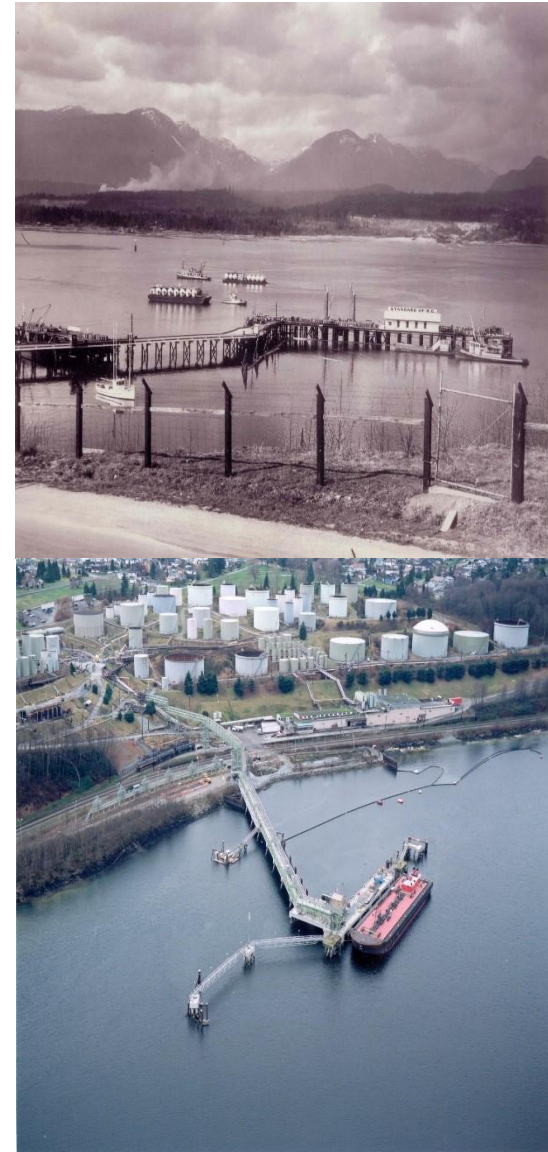
- Refinery wharf
- Marine vessels and products
- Vessel frequency and product destinations
- Marine safety





Parkland Burnaby Refinery Wharf

- Original wharf built in 1935 with the original refinery
- Referred to as “Stanovan Dock” as the name at that time was “Standard Oil of Vancouver”
- New state-of-the-art concrete wharf built in 1995 included a Marine Vapour Recovery Unit (MVRU), Marine Loading Arm
- Upgrades in 2010 included a second MVRU, fixed gangway and a sixth dolphin
- Product movements to the wharf occur via gravity flow or pump
- Product is certified for shipping before it is loaded
- Wharf has an inside berth and an outside berth





Products Shipped

- Products shipped include a full slate of finished products and raw materials
- Lighter products such as butane and propane are not transported via the wharf, only trucked or loaded onto rail cars
- The Marine Vapour Recovery Unit is used to capture the vapors displaced from the compartments on the barge or ship
- Both the inside and outside berths have booms



Marine Vessels

- Our wharf accommodates both barges and tankers
- All vessels are double hulled
- The inside berth can accommodate vessels up to approx. 25,000 barrels in size
- The outside berth is the most utilized and can accommodate all vessel sizes up to a small Panamax-sized vessel depending on its deadweight tonnage

Vessel Type	Size (Barrels)
Barge	25,000 to 200,000
Medium Range (MR) Tanker	200,000 to 300,000
Panamax Tanker	300,000 to 500,000



Marine Vessels con't



K-Sea's ATR DUBLIN SEA/DBL 185 on sea trials in Green Bay, Wisconsin, November 2009.
MarineTraffic.com/Thomas from PhotoTechnics, Manitowish, WI



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Marine Vessels con't



- Name: North Arm Genesis
- Type: Barge
- Volume: 10,000bbls or 1,580,000 litres
- Products: Gasoline, Diesel and Jet



Marine Vessels con't



- Name: Seaspan 827
- Type: Barge
- Volume: 25,000bbls or 4,000,000 litres
- Products: Gasoline, Diesel and Jet



Marine Vessels con't



- Name: ITB Trader
- Type: Barge
- Volume: 65,000bbls or 10,300,000 litres
- Products: Gasoline, Diesel and Jet



Marine Vessels con't



- Name: Webb Moffett
- Type: Barge
- Volume: 50,000bbls or 8,000,000 litres
- Products: Fuel Oil



Marine Vessels con't



- Name: DBL 185
- Type: Barge
- Volume: 175,000bbls or 27,800,000 litres
- Products: Gasoline, Diesel and Jet



Marine Vessels & Products con't



- Name: STI Battery
- Type: Tanker MR Class
- Volume: 330,000bbls or 52,300,000 litres
- Products: Gasoline, Diesel, Jet and Fuel Oil



Marine Vessels & Products con't



- Name: Argent Daisy
- Type: Tanker MR Class
- Volume: 225,000bbls or 35,600,000 litres
- Products: Gasoline, Diesel, Jet and Fuel Oil



Vessel Frequency & Product Destinations

- Vessel frequency varies; we generally see the equivalent of one vessel per day
- The final destinations of our products depend on our shipping agreements
- Products are often shipped to Vancouver Island, Northern BC, Port Moody, Coal Harbour, Alaska, Washington or California
- Vessels generally pass through English Bay, through the First and Second Narrows





Marine Safety

- Independent third-party vetting process for all new vessels (SIRE report)
- Stringent safety procedures during vessel loading/offloading
- Vessels that leave our facility are subject to Transport Canada safety regulations
- Western Canadian Marine Response Corporation (WCMRC): a Transport Canada certified Response Organization, with the mandate of ensuring there is a state of preparedness in place and to mitigate the impact of a marine oil spill
- Internally, we use Incident Command System (ICS), Incident Response Guide (IRG), and Oil Spill Contingency Plan
- Annual emergency response drills are conducted to ensure we are prepared in the unlikely event of an incident

