

PTMAA Compliance Policy

The PTMAA's mandate is evolving and the Association wants all stakeholders aware of our role in protection of the environment and public health from leaking storage systems. The PTMAA has delegated province-wide authority for registering storage tanks and certifying tank contractors. We also have direct Fire Code enforcement authority in approximately 1/3rd of Alberta's municipalities. The PTMAA has limited enforcement authority within accredited municipalities. For a listing of municipalities which are non-accredited for storage tank regulations see the PTMAA website at www.ptmaa.ab.ca.

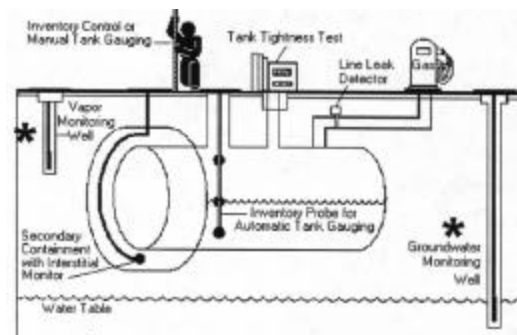
The PTMAA role to date has been largely administrative; registering tanks, providing advice to owners and operators and issuing upgrading directives. The association intends to expand its field work initiatives in educating tank operators, especially in the area of leak detection. We will also give serious attention to facility owners who act in contravention of the Fire Code. The Compliance Policy of the PTMAA includes the following procedures:

- PTMAA inspections which show storage systems to not be in compliance with the Fire Code will be issued a Notice which identifies the contravention and offers a reasonable amount of time for the owner to take corrective action.
- Where full compliance has not been attained by the deadline provided, the PTMAA will issue a Compliance Order.
- Orders have the effect of voiding any Registration Certificate issued by the PTMAA and mandates that the owner immediately cease operation of the storage system.
- Suppliers of petroleum to tanks and/or removers of used oil from tanks may be notified of the existence of the Order and advised of the Fire Code service restriction to tanks that are not registered.

- Owners that comply with the Order within 30 days will be issued a Registration Certificate.
- Failing to comply with the Order will result in the PTMAA providing notice to the Minister of Municipal Affairs and a Court Order sought to get compliance or prosecution recommended.

Leak Detection Did You Know ?

- Leak detection must be done on under-ground tanks and piping every day the system is in operation.
- Inventory control involves more than just measuring fuel levels. All deliveries must be balanced against litres pumped to evaluate variance.



- Fire Code notification requirements include unexplained losses or gains of 0.5% or more of throughput, five consecutive days of product losses and 18 days of losses in a month.
- Double walled tanks and pipe, automatic tank gauging or monitoring wells are to be used at least monthly to detect leaks.

The Problem with Vertical Check Valves

Most owners of suction systems chose to install a check valve under their pump to serve as line leak detection. This can be a very reliable system which works in the same fashion as a straw that has been immersed in a drink. If the liquid is drawn up the straw and the top end of the straw plugged, the drink will remain in the straw after being removed from the glass. The vertical check

valve works in the same fashion. If there is a leak in the line the fuel will run along the piping down-slope to the tank. This method of leak detection can only work if there is no check valve in place at the tank to stop product from entering the tank. PTMAA inspections have revealed that many facility operators have left the check valve in place at the tank, rendering the valve under the pump useless. A small leak in the pipeline may go undetected with the tank check valve in place. A leak of any size with a single vertical check valve under the pump will make a pipeline leak obvious to the operator as the line will lose its prime and pumping will be impossible. The drawback of a single vertical check valve is that foreign materials in the fuel can cause the valve to remain partially open. This method of line leak detection can only be effective if the stored fuel is free of grit and other foreign materials. If you operate a suction system without a single vertical check valve you must have another way of detecting leaks in the pipeline. In addition to daily inventory control, operators of single walled piping must rely on monitoring wells.

Monitoring Wells ... Observation Wells ... Piezometers

Terminology aside, the common purpose of these devices is to detect leaks outside of the tank and piping. Typically 'the well' is constructed of slotted PVC pipe, either 2" or 4" in diameter. The wells extend a couple of feet below the bottom of the tank and located so that free product or groundwater with hydrocarbon on the surface will flow to the well slots. The operator can take samples of any liquid in the bottom of the well to monitor for fugitive product. PTMAA inspections revealed that, where most sites had these devices, a small percentage of operators were properly using them as a method of leak detection. The Fire Code requires that leak detection (in addition to inventory control) be performed at least once a month. Wells containing water can be easily checked by using a clear bailer on a string to draw samples. If there is free product in the well it will be floating on the water surface. A dipstick which is dedicated to monitoring can be used by putting hydrocarbon finding paste on the stick in the same fashion you would use water finding paste on a tank dipstick. Dry wells require that the space be analyzed for hydrocarbon vapours. Safety and some environmental companies sell analyzing equipment or will provide a service to monitor the wells on a monthly basis. Be sure and keep a log documenting your findings from this form of leak detection.

Leak Detection is "Catch Me if You Can"

There has been a great deal of technical improvement in the management of underground storage systems during the past ten years. If your system is older than this you won't be benefiting from the technical advantage of electronic monitoring of double walled tanks and lines. If you have a single walled system which has been retrofitted to meet minimum standards of the Fire Code there is no room for complacency. There is a very good chance that your tank system is going to fail and product will leak to the environment. Owners and operators of systems that are less than 'state of the art' should be particularly fussy about leak detection procedures. Many operators are somewhat reluctant leak seekers and failure to do detection can result in a large release of product. Inventory control, groundwater monitoring, Statistical Inventory Reconciliation (SIR) procedure, single vertical check valves and mechanical line leak detectors all have limitations in providing the information you need. This heightens the need for operator knowledge and consistent practice in evaluating detection data. The PTMAA intends to focus on the education of owners and operators to promote the correct use of leak detection methods. The Association also intends to use all of its regulatory authority available to ensure that owners not only have the correct equipment in place but that leak detection practices are being followed in accordance with the Alberta Fire Code.

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Disclaimer:

This newsletter is intended only as a "plain English" guidance to assist storage tank owners, operators, and contractors in understanding and implementing Alberta Fire Code requirements. It is not intended to supplement or replace any regulatory requirements. In the event of any inadvertent conflict between this guidance and Alberta Fire Code regulation, the Fire Code shall control.