



Oil and Gas

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Topics

- ◆ Legislation / SCA
- ◆ Standata & Variances
- ◆ New Codes
 - CSA-B149's 2010
 - NPC 2010
- ◆ Concerns



Act & Regulations

- ◆ Safety Codes Act (Chapter S-1)
- ◆ Gas Code Regulation (AR111/2010) adopts CSA gas codes & contains Alta amendments
- ◆ Plumbing Code Regulation (AR119/2007)
 - adopts NPC & contains Alta amendments;
- ◆ Permit Regulation (AR204/2007)
- ◆ Administration Items Regulation (AR16/2004)

Act & Regulations

- ◆ The Safety Codes Act & Regulations can be purchased from the Queen's Printer on-line at

<http://www.qp.gov.ab.ca/index.cfm>

Authority having jurisdiction



<u>360</u> Number of Municipalities in Alberta			
Accredited Municipalities by discipline			
Building	Electrical	Fire	Gas/Plbg
273	252	263	252

The unaccredited Municipalities fall under the jurisdiction of Municipal Affairs and permit services are provided by contracted authorized "Accredited Agencies".

Not Acceptable – Report Unsafe Installations – AHJ



New GAS Codes –2010

- ◆ **CAN/CSA-B149.1-2010**
- ◆ **CAN/CSA-B149.2-2010**
- ◆ **CAN/CSA-B149.3-2010 (by reference)**
- ◆ **CAN/CSA-B149.5-2010**

CSA publications available January 4, 2010

Adopted September 1, 2010

Applicable Legislation

- ◆ Does not contain any exemptions from the requirements for any *structure* based on its occupancy, industrial application or specific industry where “gas” is to be used for fuel purposes.

◆ All Pressures

The B149.1 - 2010

Definitions - "gas"

natural gas, manufactured gas, or mixtures of propane gas and air, methane, propane, propylene, butanes (normal butane or isobutane), and butylenes.
(Hydrogen, digester gas and carbon monoxide)

Applicable Legislation

- ◆ On a plant site as defined by **Alberta Boilers Safety Association** (ABSA) process pressure piping in excess of **15 psi** falls under their jurisdiction.

ABSA's Web Site: www.albertaboilers.com

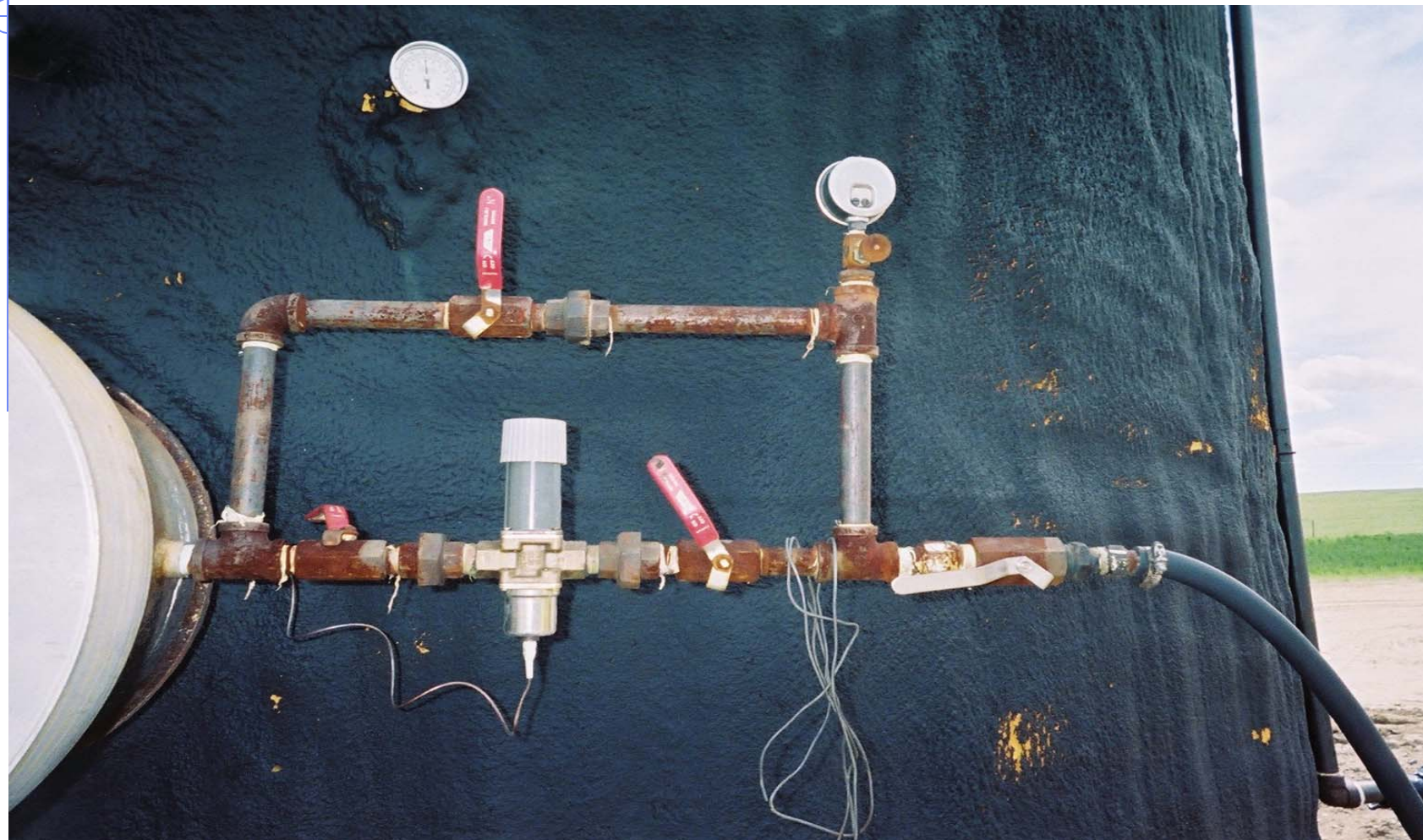
New Gas Code – CSA-B149.1 2010

- **1. Scope**

- **1.2 This Code does not apply to**

- ◆ (b) gas where used as a feedstock in petroleum refineries or chemical plants;

Tank Heater



Gas Code Regulation

◆ Gas Systems Equipment

3(1) No person may manufacture, install, sell or offer for sale any equipment related to gas systems for use in Alberta unless it has been:

Gas Code Regulation

◆ Gas Systems Equipment

3(1)(a) tested and certified by a
certification body accredited
by the Standards Council of
Canada, or

Gas Code Regulation

◆ Gas Systems Equipment

3(1) (b) inspected and accepted by a certification body accredited by the Standards Council of Canada, and the equipment bears evidence of having been accepted in the manner authorized by the certification body.

(See Standata #G-02-01a-IB)

CAN/CSA-B149.3

Requirements for Approval

- ★ **Uncertified equipment and components require approval**
- ★ **Uncertified equipment and components are to meet the requirements of the B149.3 Code for the Field Approval of Fuel-Related Components on Appliances and Equipment**

Third Option – Variance

VAR-GAS-05-05 [Rev3]

This variance applies to gas-fired equipment used for process applications in petroleum refineries, petrochemical plants and upstream oil and gas sites only.

Third Option – Variance

- ◆ requires designs, signed, sealed/stamped and dated by a Professional Engineer, for gas-fired equipment that is used for process applications only.
- ◆ Covers new installations and upgrading, altering, or relocation of existing systems.

Third Option – Variance

- ◆ The designs shall meet the intent of existing gas “Codes” and all components shall comply with the applicable standards or accepted test reports.
- Fuel gas piping CSA B149.1, CSA B51, ASME B31 or B31.3 and underground fuel gas piping CSA Z662
- Valve trains CSA B149.3, NFPA 86 or equivalent
- Components listed by a Canadian Certification body
- ANSI, ASME, FM or API and rated for the application

CAN/CSA-B149.3

Requirements for Approval

- ★ Changes to an installation are to be brought up to current codes.
- ★ Any gas-fired equipment that is being shut down for major repairs, upgrading or being rebuilt, or is being relocated requires an upgrade
- ★ Routine service and maintenance does not require an upgrade

CAN/CSA-B149.3

- ★ Gas Installation work is to be performed by a licensed gasfitter **or** under the supervision of a licensed gas fitter.
- ★ New installations and replacements are to be installed to current codes.
- ★ engineering or third party approvals are required at;
 - ◆ battery treater sites
 - ◆ steam generator sites refineries; and
 - ◆ all other sites where gas is utilized (burned as a fuel), including propane, natural and wellhead (casing) gas
 - ◆ Petroleum refineries or Chemical plants

CAN/CSA-B149.3

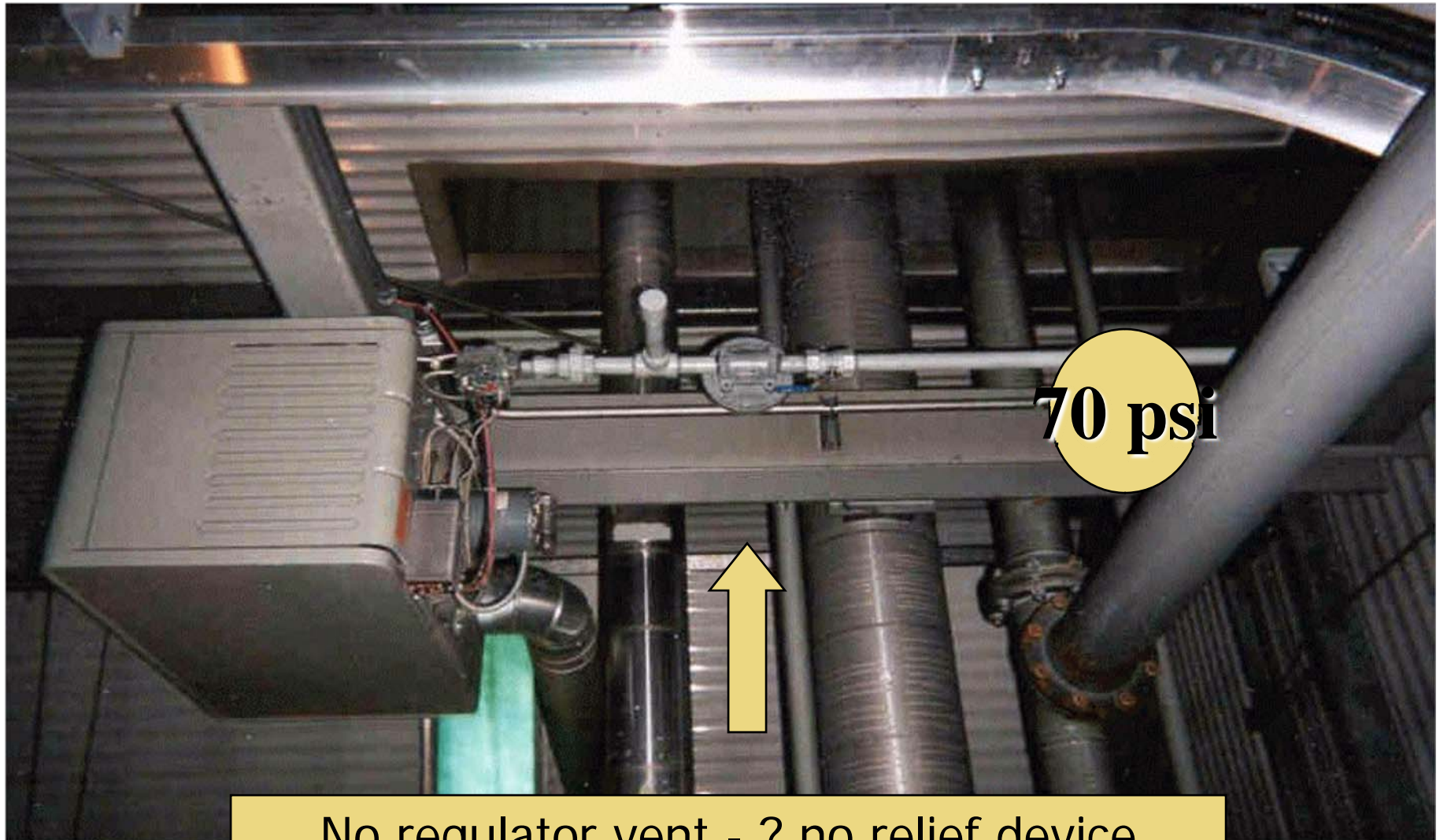
regulatory implications

- ★ Existing equipment and installations **prior to January 1, 2015** require an upgrade to current codes through a self initiated audit.
- ★ An exception !
Installations considered hazardous in their current form.
These would have to be brought up to current code.

Standards Council of Canada

- ◆ New inspection body program for certification of testing Agencies that may complete:
- ◆ third party inspections,
- ◆ field approvals and
- ◆ Labeling of B149,3 applications.
- ◆ <http://www.scc.ca/en/edocs/criteria-and-procedures/ib-accreditation>

Adjacent Building – Explosion/Fire



No regulator vent - ? no relief device

Wellhead Gas – (1) Pressure ?

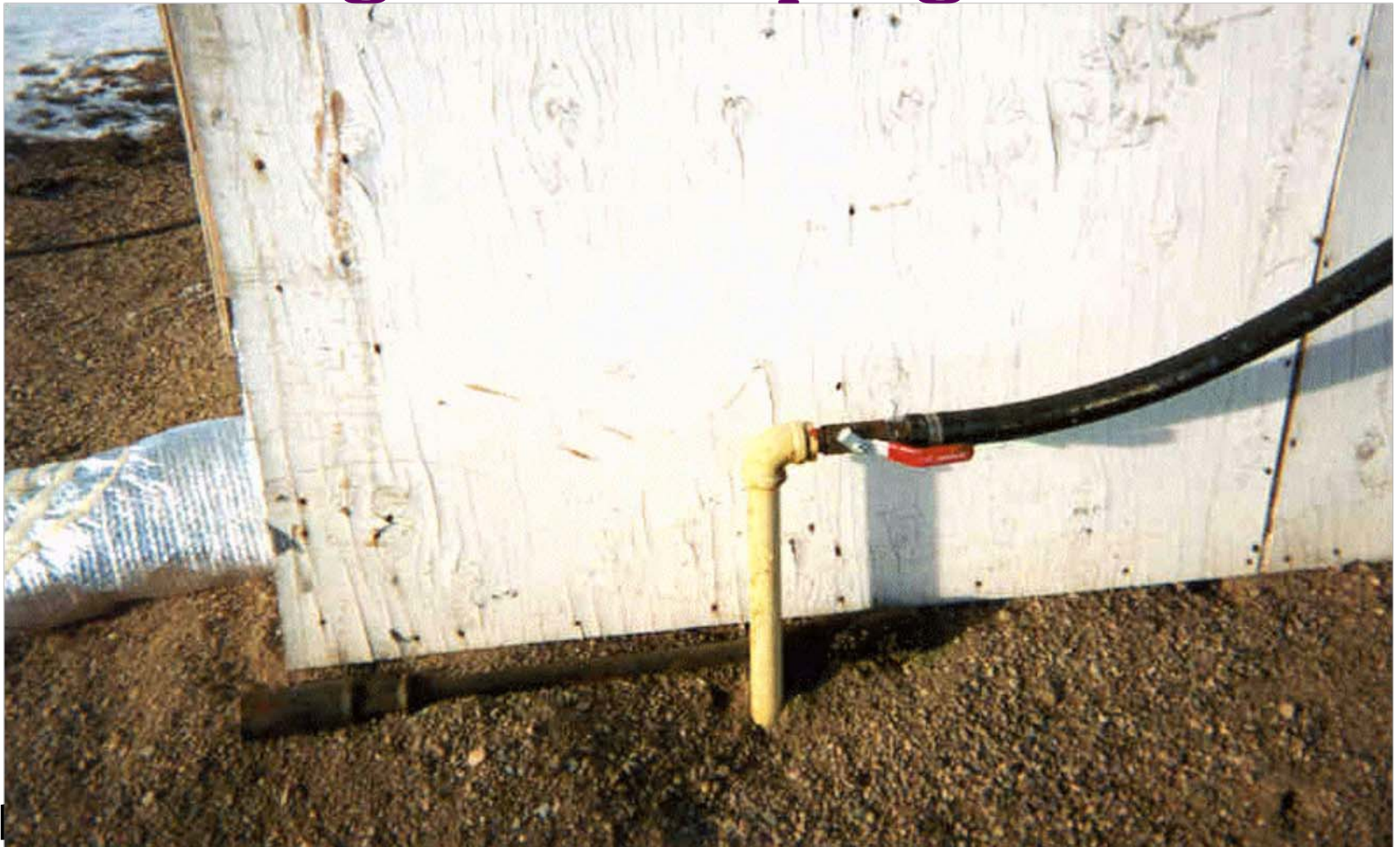


Wellhead Gas – (2) Materials ?



Swing Joint !!!

Underground Piping??

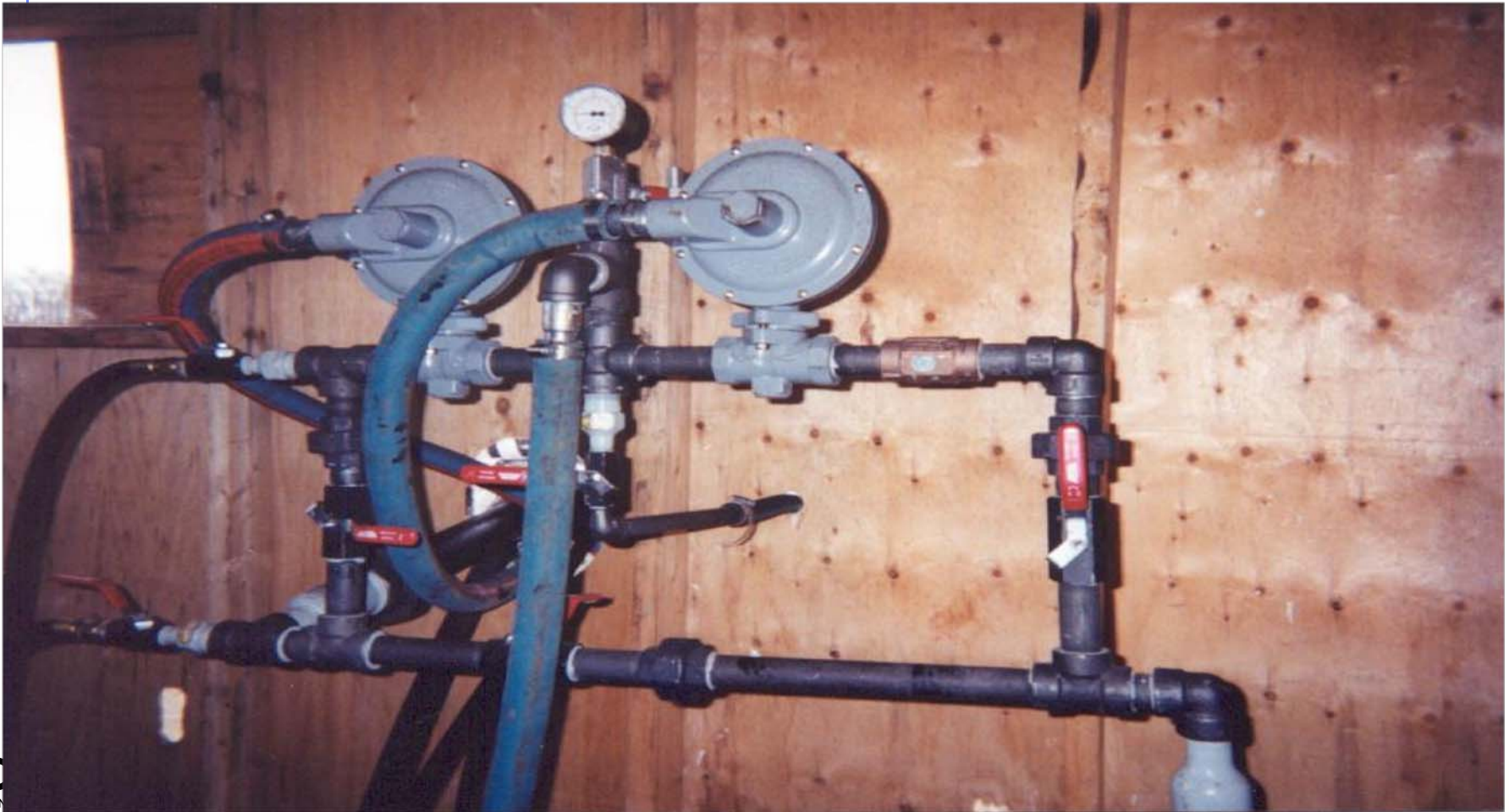


Installation Problems - ?

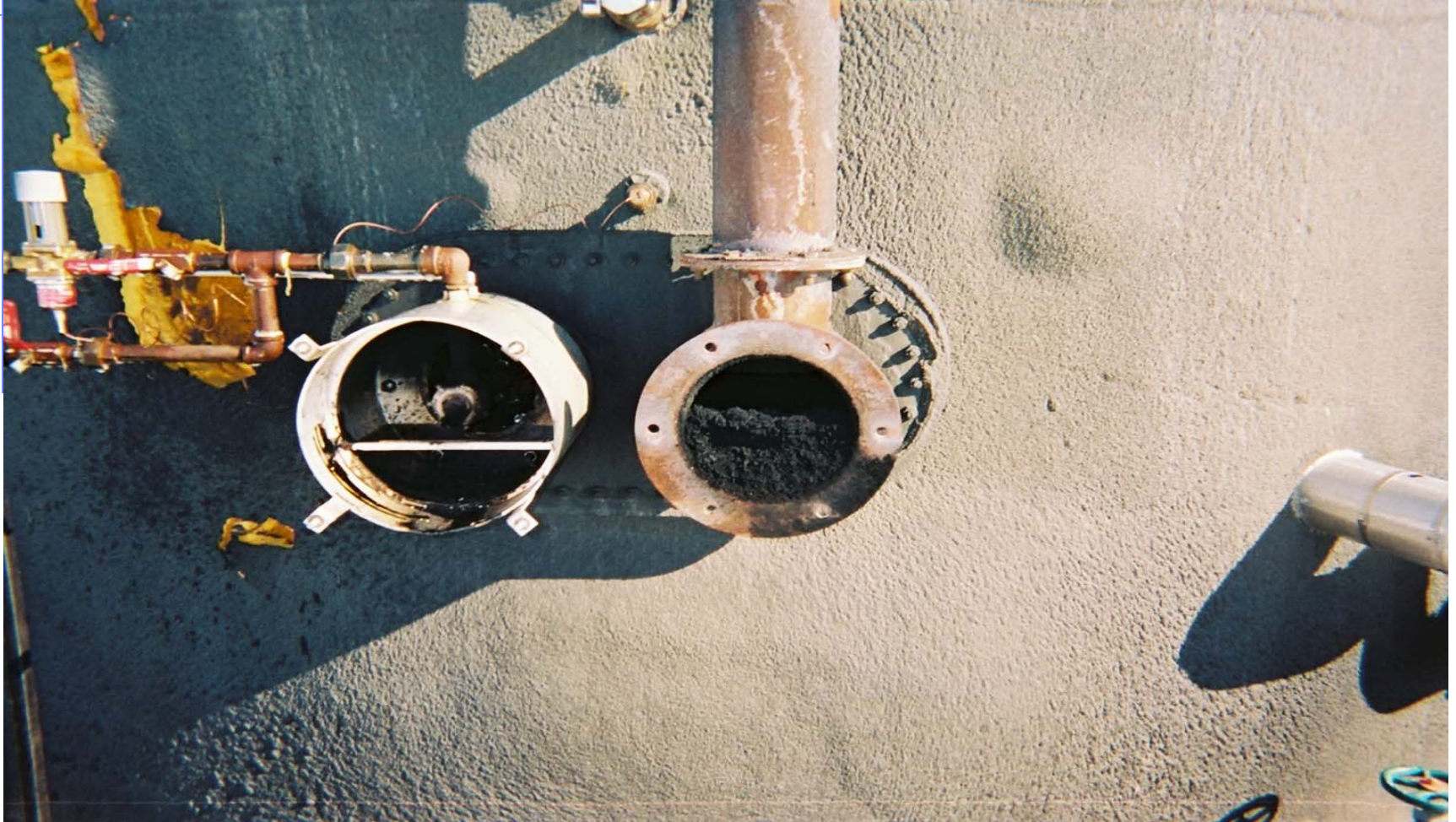
Materials



Installation Problems - Hoses



Tank Heater



LPG System



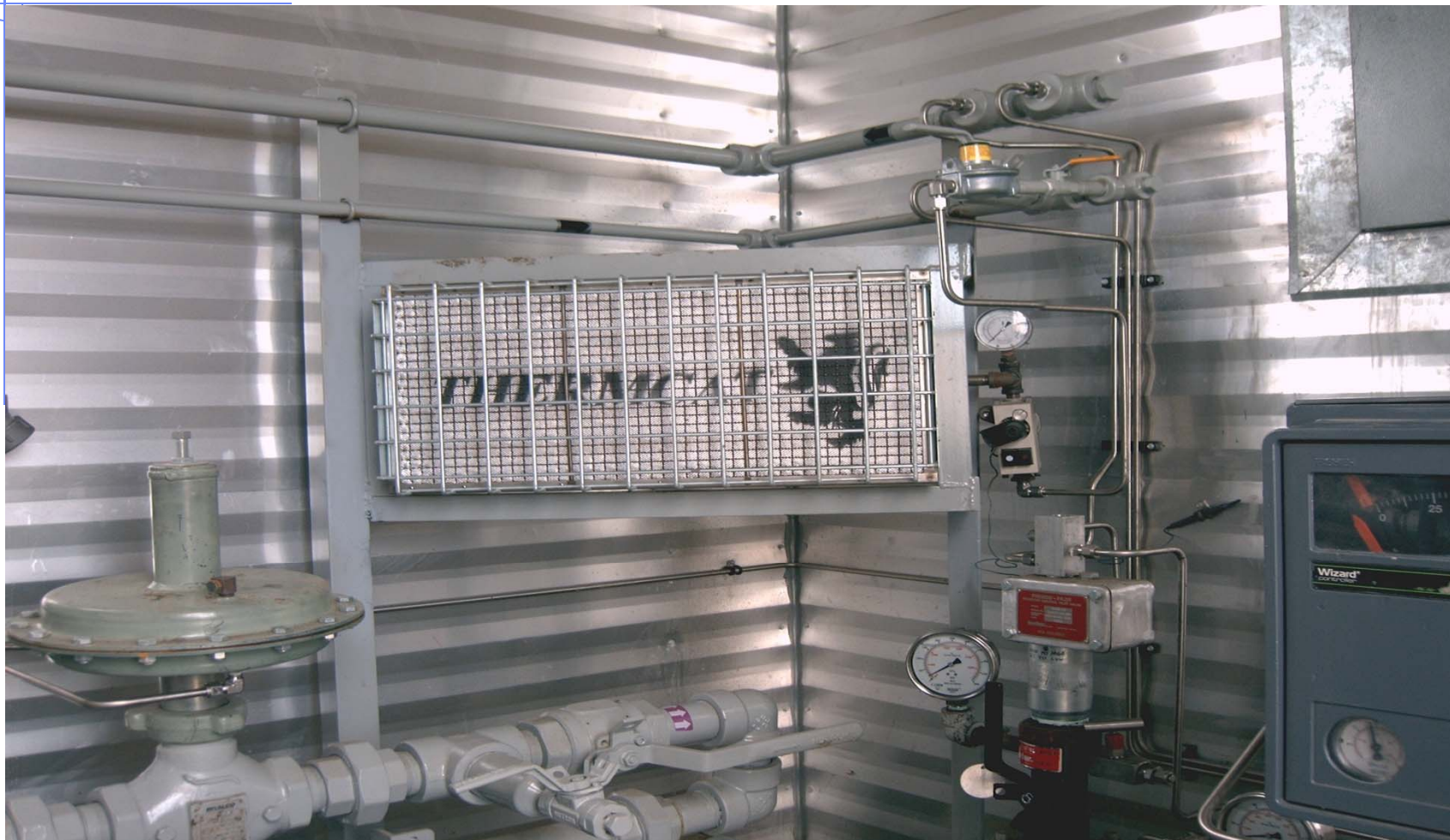
Exhausted tank !



LPG – Hoses ?



Operator Injury



Prevention

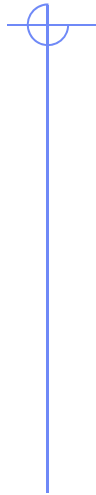


DON WHITING PHOTO

PEX Pipe – LP gas line ?











Questions / Conclusion

THANK YOU

The End