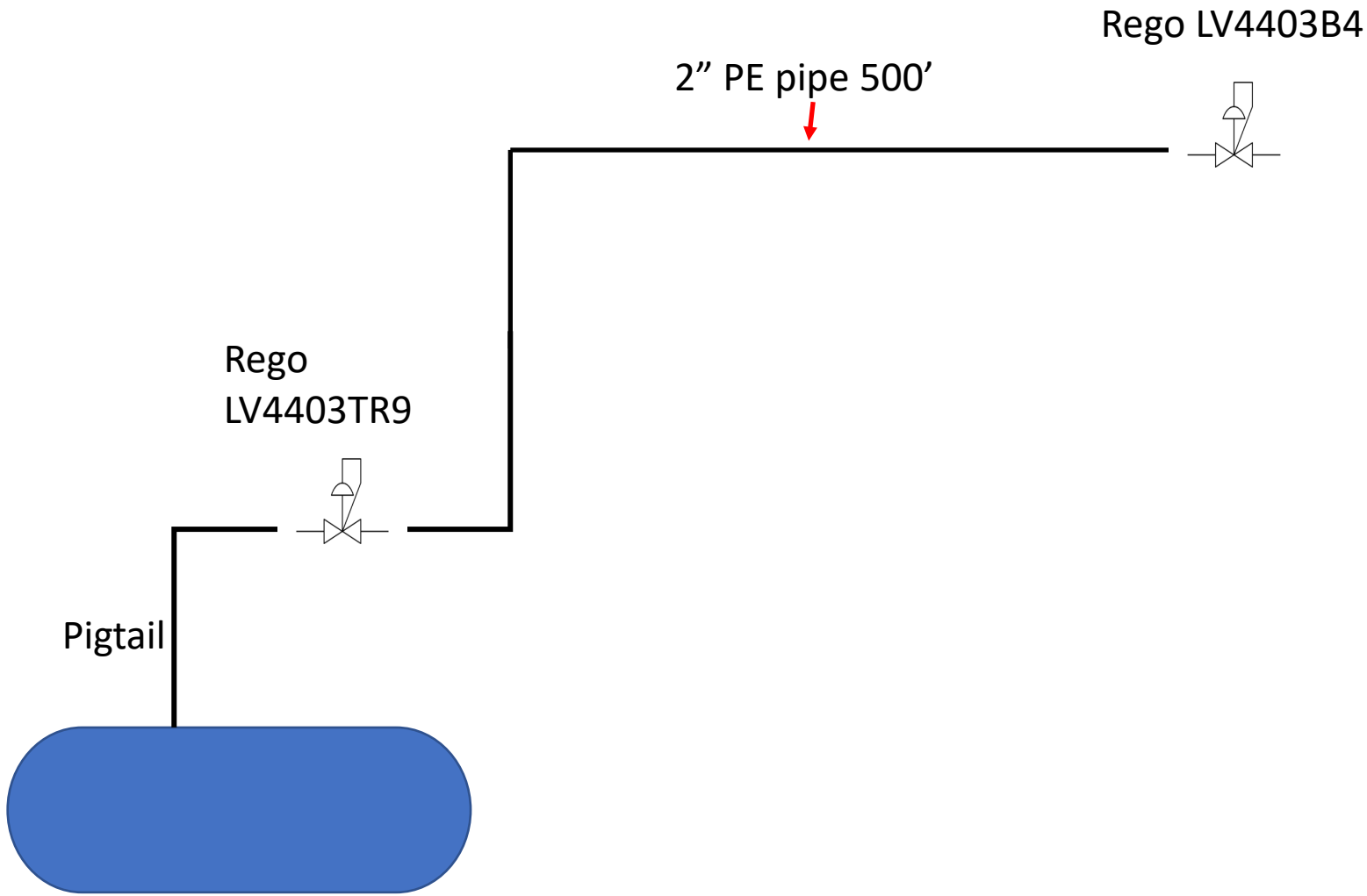
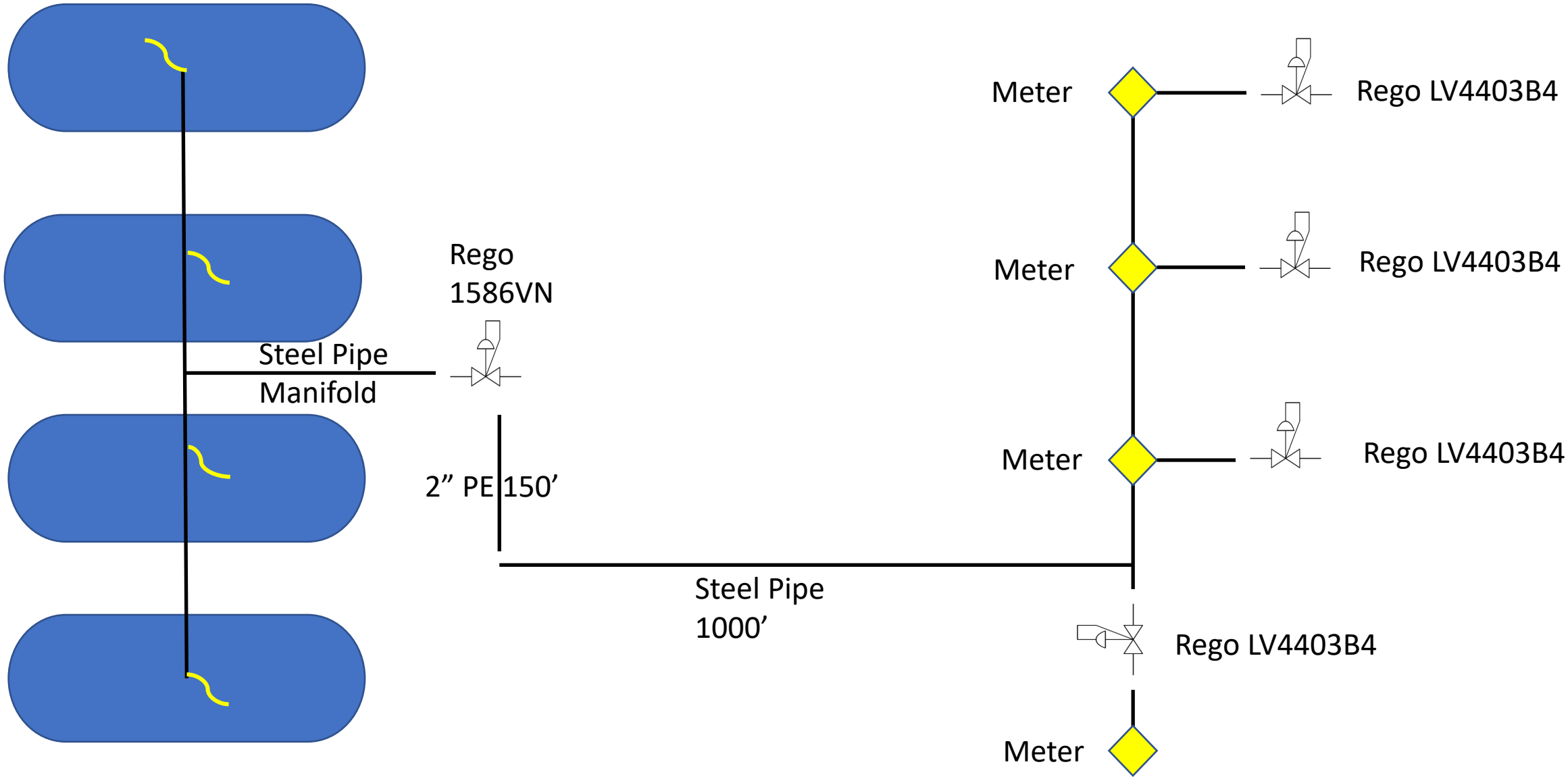
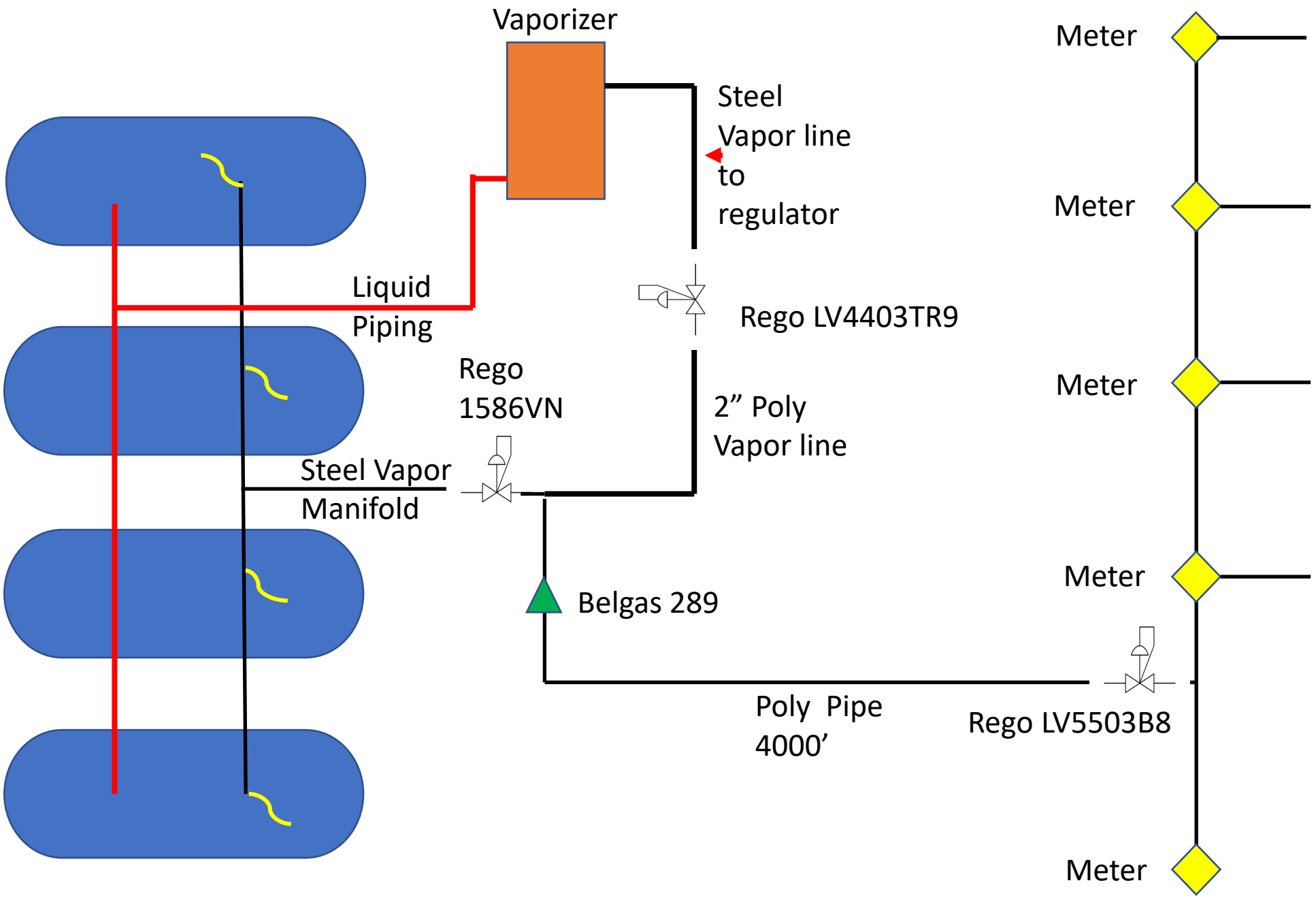

Rego LV4403B4
2” PE pipe 500’
Rego
LV4403TR9
Pigtail


Rego
1586VN
Steel Pipe
Manifold
2” PE 150’
Steel Pipe
1000’
Meter
Rego LV4403B4
Meter
Rego LV4403B4
Meter
Rego LV4403B4
Rego LV4403B4
Meter


Vaporizer
Steel
Vapor line
to
regulator
Meter
Meter
Meter
Meter
Meter
Liquid
Piping
Rego LV4403TR9
Rego
1586VN
2” Poly
Vapor line
Steel Vapor
Manifold
Belgas 289
Poly Pipe
4000’
Rego LV5503B8

Maximum Allowable Operating Pressure 192.619, 621, 623

On LP liquid line piping, the MAOP must be established at or above 350 psig.

Container piping upstream of the 1st stage regulators must be established at or above an MAOP of 250 psig.

For plastic pipelines the MAOP must not be established at a pressure higher than 30 psig as required by NFPA 6.8.1.1(3).

The lines downstream of the high pressure or 1st stage cut shall be established at an MAOP of 10 psig, or at a pressure that will maintain the required pressure and flow in the distribution lines, but may not operate at pressures that could cause re-liquefying in the lines or exceed the pressure limitations of any downstream piping or components.

Regulators and overpressure protection devices must be installed to ensure the system maintains a safe MAOP operating pressure.

Records showing MAOP calculations, material verification, and qualifying pressure testing for each system segment must be maintained. Example documentation for recording this information is located in Appendix C.

Pressure Test 192.503, 507, 511, 513

Except for single components stamped and rated for operation at a specified pressure by the manufacturer, the company must not operate a new segment or return to service a segment of pipeline that was replaced or relocated until it has been tested to substantiate MAOP. All potentially hazardous leaks must be located and eliminated during pressure testing. Testing must be conducted in accordance with Part 192 requirements. The test medium used may be air, liquid, inert gas, and must be compatible with the pipeline material.

[Except for service lines and plastic pipelines, piping with an MAOP above 100 psig must be pressure tested to 1.5 MAOP and maintained at or above the test pressure for 1 hour. The test must be conducted in a manner that will ensure discovery of all potentially hazardous leaks in the segment being tested.

Except for service lines and plastic pipelines, piping with an MAOP below 100 psig must be leak tested to 90 psig and held for 15 minutes to ensure that there are no leaks.

For service lines other than plastic, lines operating up to 40 psig MAOP must be pressure tested to 50 psig and held for 15 minutes to ensure that there are no leaks.

For service lines other than plastic, lines operating above 40 psig MAOP must be tested to 90 psig and held for 15 minutes to ensure that there are no leaks.

Plastic pipelines must be tested to 50 psig and held for 15 minutes to ensure that there are no leaks.

During plastic pipeline testing, the pipe temperature may not exceed 100°F]

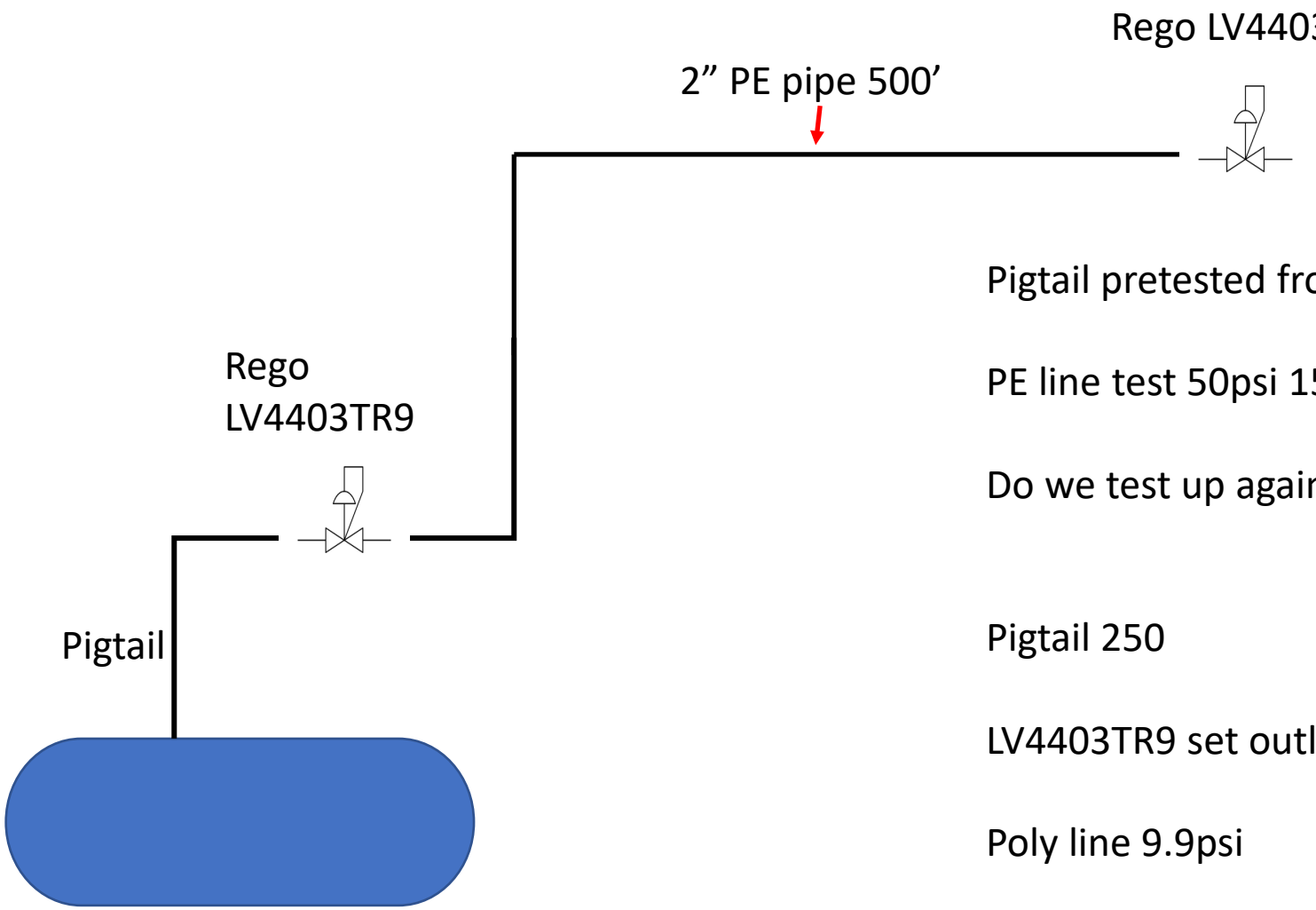
Rego Regulators used

1586VN 3-30 psi Outlet Delivery 7,500,000 BTU

4403B4 11”wc Outlet Delivery 935,000 BTU

4403TR9 10psi Outlet Delivery 2,500,000 BTU

5503B8 11”wc Outlet Delivery 1,600,000 BTU



Test Pressures

Pigtail pretested from manufacture just perform leak check.

PE line test 50psi 15minutes minimum

Do we test up against the Rego LV4403B4?

MAOP

Pigtail 250

LV4403TR9 set outlet below 10psi (remember EFV)

Poly line 9.9psi

2nd stage after 11”wc

Test Pressures

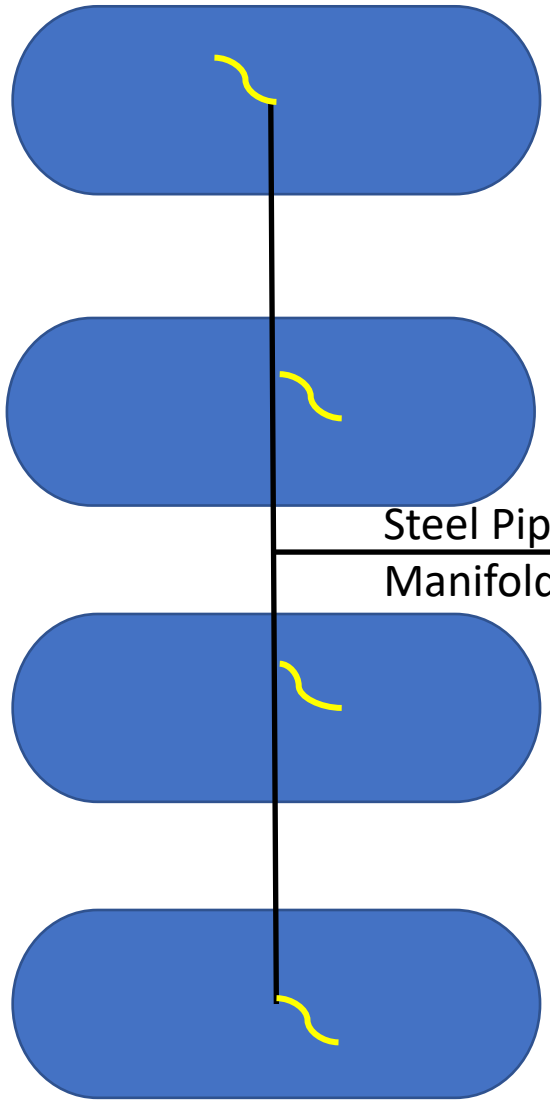
Steel manifold tested to 375psi 1 hour.

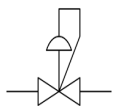
PE line 50 psi for 15 min.

1000’ Steel Main Line 90 psi for 15min up to meters.

Piping after Meters 50psi for 15min.

Don’t test up against meters or regulators remember they maximum inlet pressure.





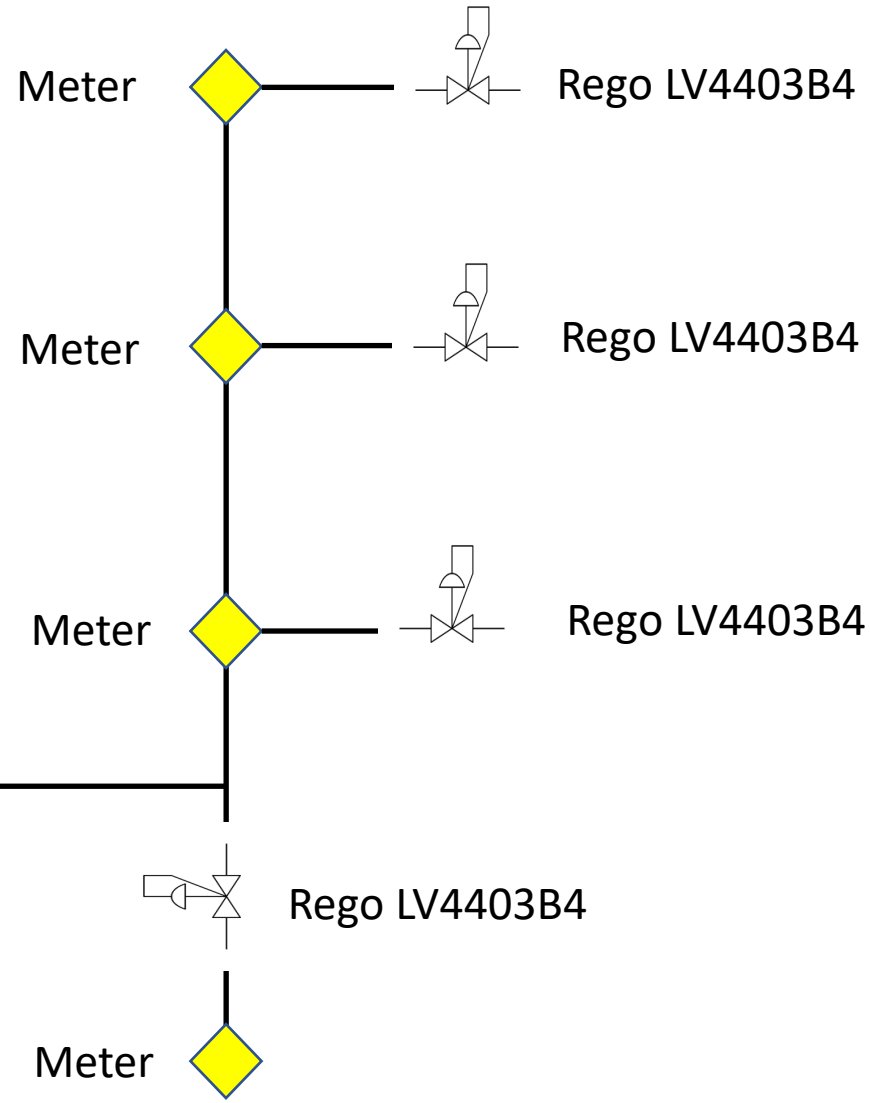
Steel Pipe Manifold

Rego 1586VN

2” PE 150’

Steel Main 1000’

MAOP



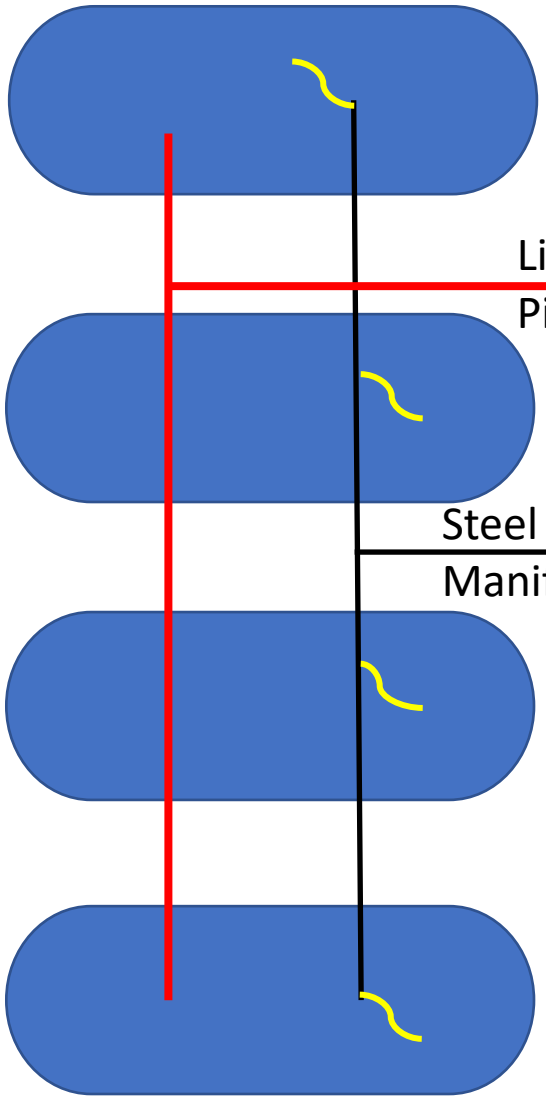
Tank Manifold 250psi

Poly Line 9.9psi

Steel Main 9.9psi, Oops what is the inlet of the Meters 5psi or 10psi?

2nd stage after 11”wc

Where is or relief at after 1586VN



Vaporizer

Steel Vapor line to regulator

Liquid Piping

Rego LV4403TR9

Rego 1586VN

2” Poly Vapor line

Steel Vapor Manifold

Belgas 289

Poly Pipe 4000’

MAOP

Liquid Piping Hydrostatic relief PSI
Tank Manifold 250psi
Steel Vaporizer line 250psi
Poly Line 9.9psi
Belgas Relief 9.9psi
2nd stage after 11”wc

Rego LV5503B8

Meter

Meter

Meter

Meter

Meter

Test Pressures

Steel manifold tested to 375psi 1 hour.

Liquid Line tested to 1.5 times for 1 hour what is the Hydrostats set to relieve at 400-500 test pressure could be 750psi?

Steel vapor line 375psi 1 hour.

PE line 50 psi for 15 min.

1000’ Steel Main Line 90 psi for 15min up to meters.

Piping after 2nd stage regulator up to Meters 50psi for 15min.