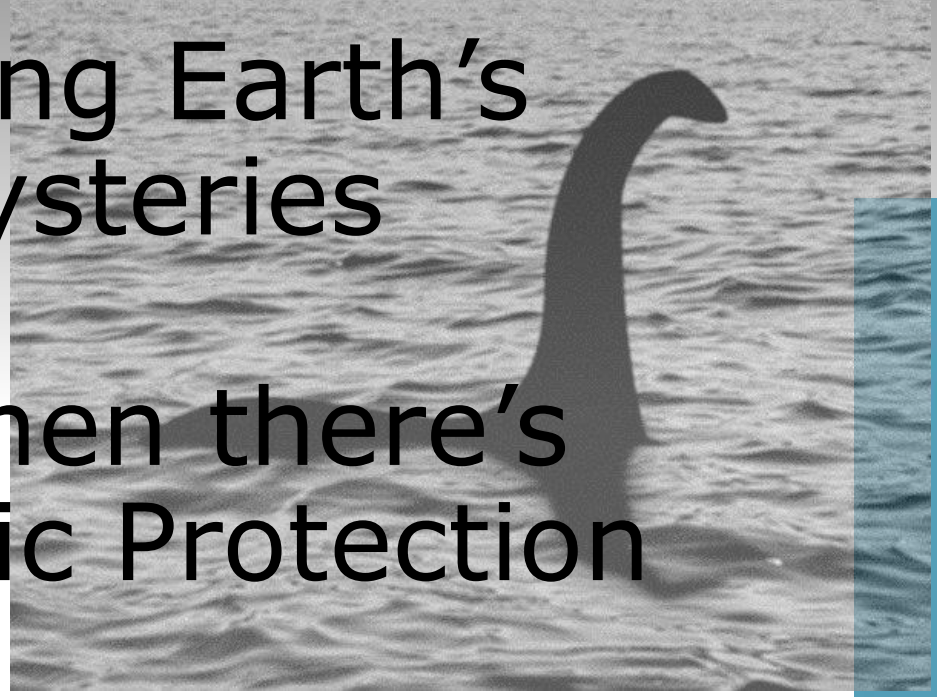
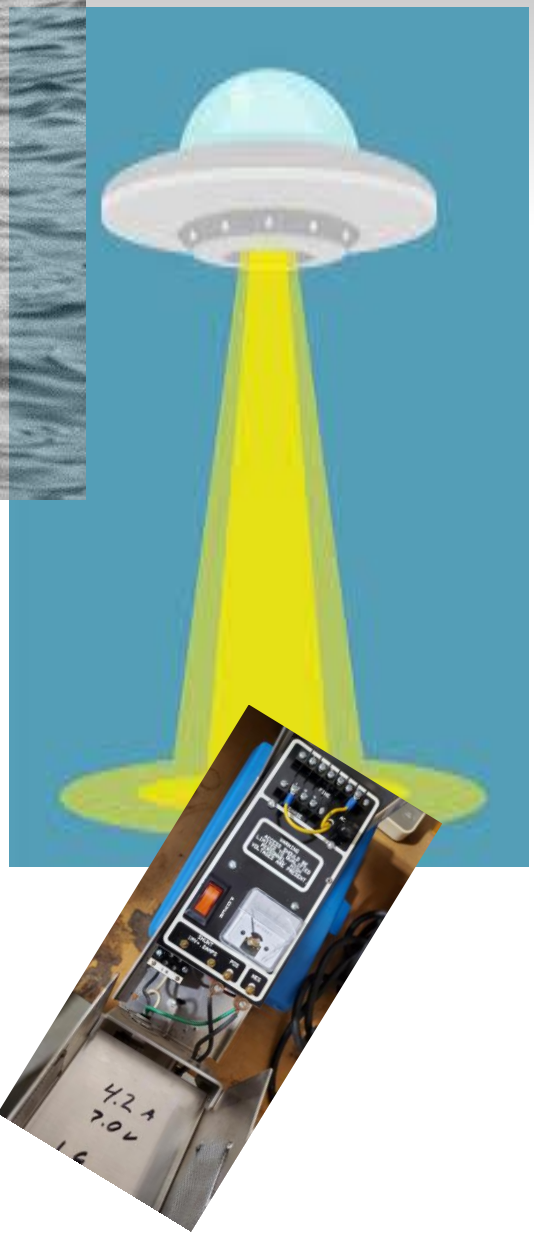
Solving Earth's Mysteries



and then there's Cathodic Protection



2025 National Tanks Conference

Steve Pollock

Technical Manager

STI SPFA®

STI-P3 voltage below criteria

The easy scenarios Scenario 1A

Corner Gas Station with three P3 tanks

Tank 1 – Local -836mv

Remote 1 -825mv

Remote 2: -831mv

Tank 2 – Local -767mv

Remote 1 -777mv

Remote 2 -782mv

Tank 3 – Local -886mv

Remote 1 -871mv

Remote 2 -877mv

STI-P3 voltage below criteria
No Isolation issues

Soil Resistivity

Current Requirement

Can you use R972 (30 milliamps)

May need CP Expert, but galvanic could be adequate

Supplemental Anodes? STI RP R972

STI SPFA

RECOMMENDED PRACTICE FOR THE ADDITION OF SUPPLEMENTAL ANODES TO STI-P3® USTs R972

RECORD KEEPING FORM WHEN ADDING ANODES TO STI-P3® TANKS FOLLOWING STEEL TANK INSTITUTE'S RECOMMENDED PRACTICE R972

Date Anodes Added: _____

INSTALLER INFORMATION

Name: _____

Company: _____

Address: _____

_____

Phone: _____

BEFORE ANODE INSTALLATION:
Indicate Location and Value of All Potential Readings

Tank (top view)

Tank is isolated from other metallic structures: ☐

Current Requirement Measurement (mA): _____

Soil Resistivity: _____

Number of Anodes Installed: _____

Weight of Each Anode: _____

AFTER ANODE INSTALLATION:
Indicate Location and Value of All Potential Readings

Tank (top view)

Indicate Placement, Depth and Orientation of Anodes on the Tank:

Tank (top view)

Signature:_____ Date:_____

STI SPFA

STI-P3 voltage below criteria
No Isolation issues

Soil Resistivity

Current Requirement

Can you use R972 (30 milliamps)

May need CP Expert, but galvanic could be adequate

Supplemental Anodes? STI RP R972

Impressed Current Below Criteria

The easy scenarios
Scenario 1B

Golf Course with old, 6K gallon, bare steel tank protected with Impressed Current. Solid records of tests and rectifier readings.

Tank 1 – Local 1 – ON -1098mv INSTANT OFF -795mv

Local 2 – ON -1150mv INSTANT OFF -702mv

Local 3 – ON -945mv INSTANT OFF -845mv

Local 1 depolarized to -677mv

Local 2 depolarized to -655mv

Local 3 depolarized to -745mv

Rectifier output – 0.98 amps

Impressed Current Below Criteria

Checked continuity (real continuity not California continuity) back to rectifier negative

Check individual anode output if you can

Consult CP Expert (defined by regulation not by vibes)

The easy scenarios Scenario 1B

Golf Course with old, 6K gallon, bare steel tank protected with Impressed Current. Solid records of tests and rectifier readings.

Galvanic

And

Impressed Current

The HARD Scenarios
Hard = Money
Hard = Enforcement Bandwidth

Galvanic

- **Not tested in 5 years – ownership changes, inaccurate initial registrations, just slipped by**
- **Subsequent test fails with numbers that are indicative of bare steel**
- **Leak Detection records are less than stellar**

Impressed Current

- **Not tested in 6 years – same old reasons**
- **Sketchy or anecdotal "records" of facility maintaining power**
- **Requested test fails; amperage seems low based on information; Inconclusive continuity back to rectifier negative**
- **Using Inventory Control for the past two years**

Galvanic and Impressed Current

What about designed safety factors?

What do insurance records indicate?

How are USEPA's confirmed releases going?

The Gray Scenarios Have to be thoughtful to resolve

Galvanic

- **Not tested in 3 years, 11 months – new management, tester is overloaded**
- **Good history of passing records going back a decade**
- **Immaculate leak detection records**
- **Stable tank top – no construction, no locality utility upgrades**

Impressed Current

- **Not tested in 3 years, 3 months – forgot to schedule**
- **Decent history of CP tests**
- **Great 60 day rectifier log, but you notice amperage output is about 75% of last passing test**
- **Using SIR for last 15 years for tank and piping and it seems fine**

The best advice I have

Review critically

Do not get hung up on magic numbers and dates

Don’t take “pass”

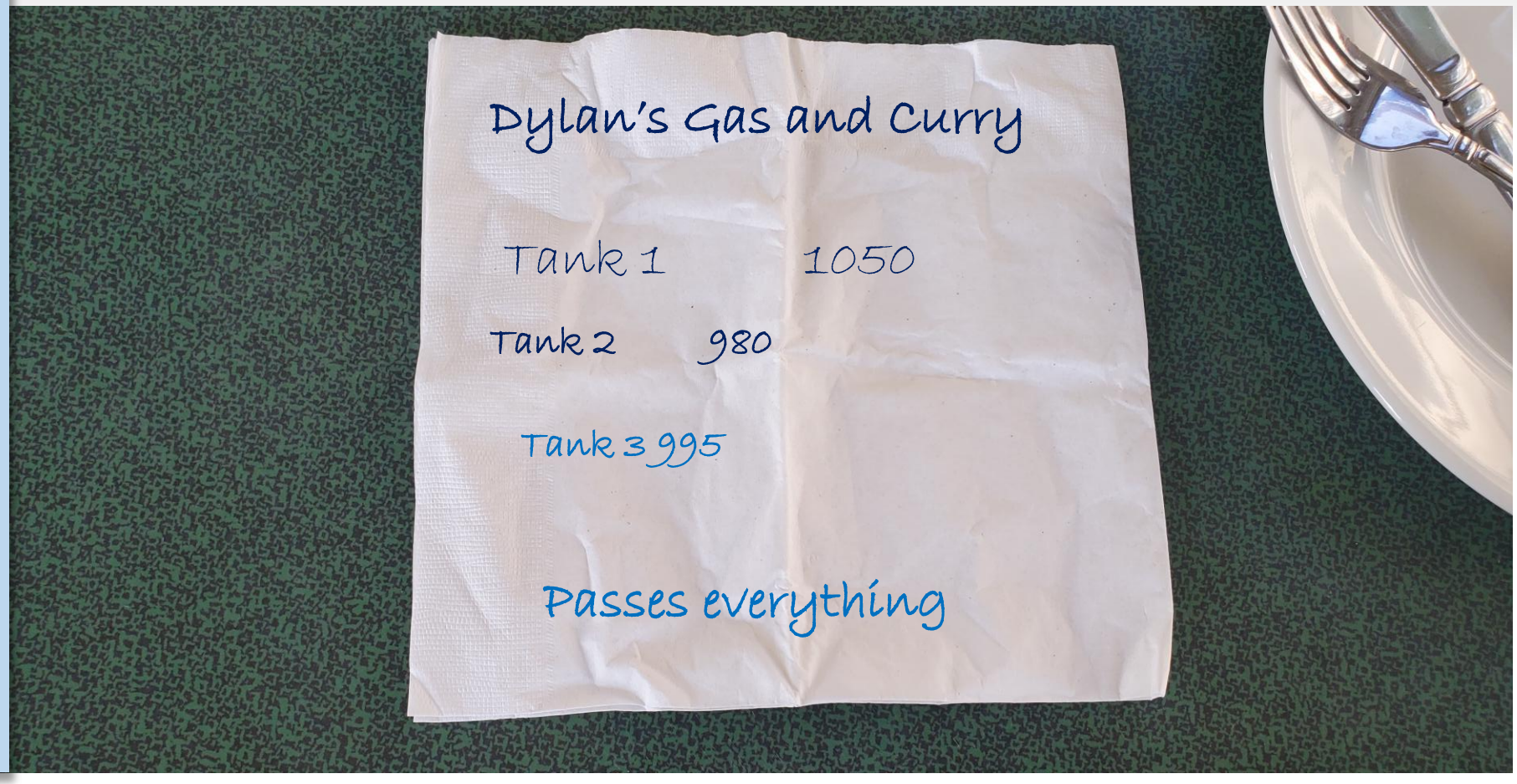
Isolation and Continuity are common errors

100mv shift is common error

ICCP “on means nothing to a tester”

Check certificates

Require good documentation



Any Questions?

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