ssp innovations

GIS • Work Management • Customization • Systems Integration

Norwich Public Utilities

TRANSFORMER MANAGEMENT

FULL LIFECYCLE SUPPORT USING GIS AND A WEB APPLICATION

Esri Electric & Gas GIS Conference

October 7, 2015 | Providence, RI

Agenda

- Introductions
- Legacy Application
- Business Drivers
- Solution Overview
- Solution Enhancements
  - Requirements
  - Transformer Manager
  - Basic Workflow
  - Solution Enhancements
- Business Benefits

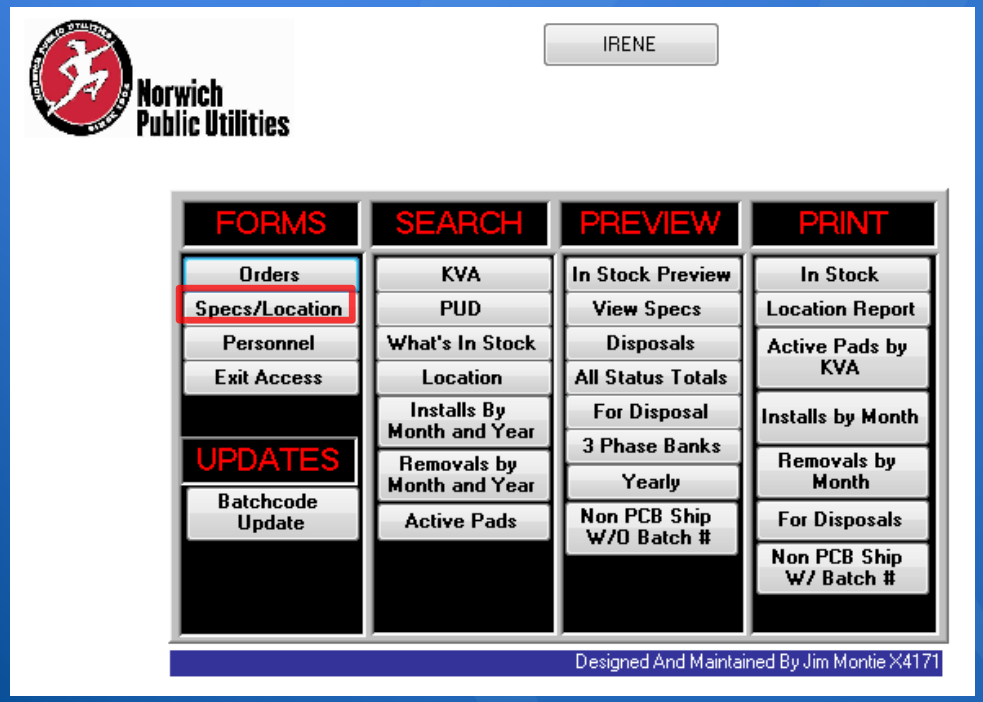
Introductions

- **Edward Juarbe, GISP | Norwich Public Utilities**
  GIS Analyst
  Project Lead for NPU

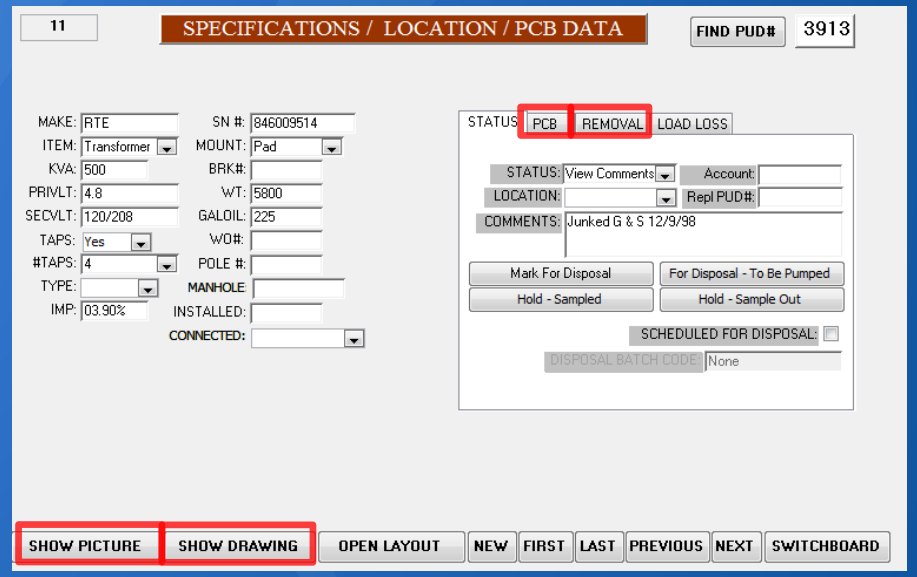
- **Corey Blakeborough |** ssp innovations GIS • Work Management • Customization • Systems Integration
  Senior Consultant
  WFM Technical Architect
  esri Partner Network Silver

Legacy Application

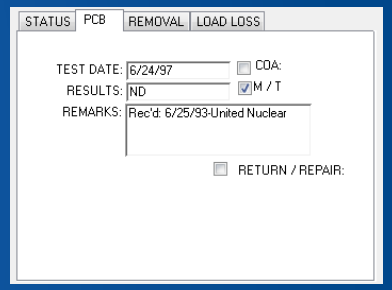
Microsoft Access System:



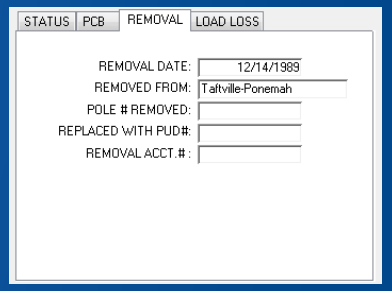
Application "Switchboard"



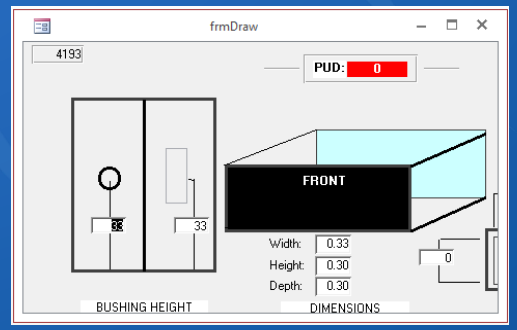
Specs/Location Form



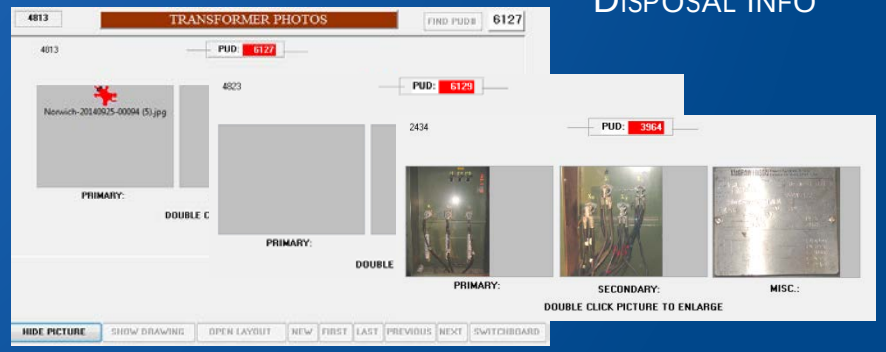
PCB Info



Disposal Info



Pad Drawing



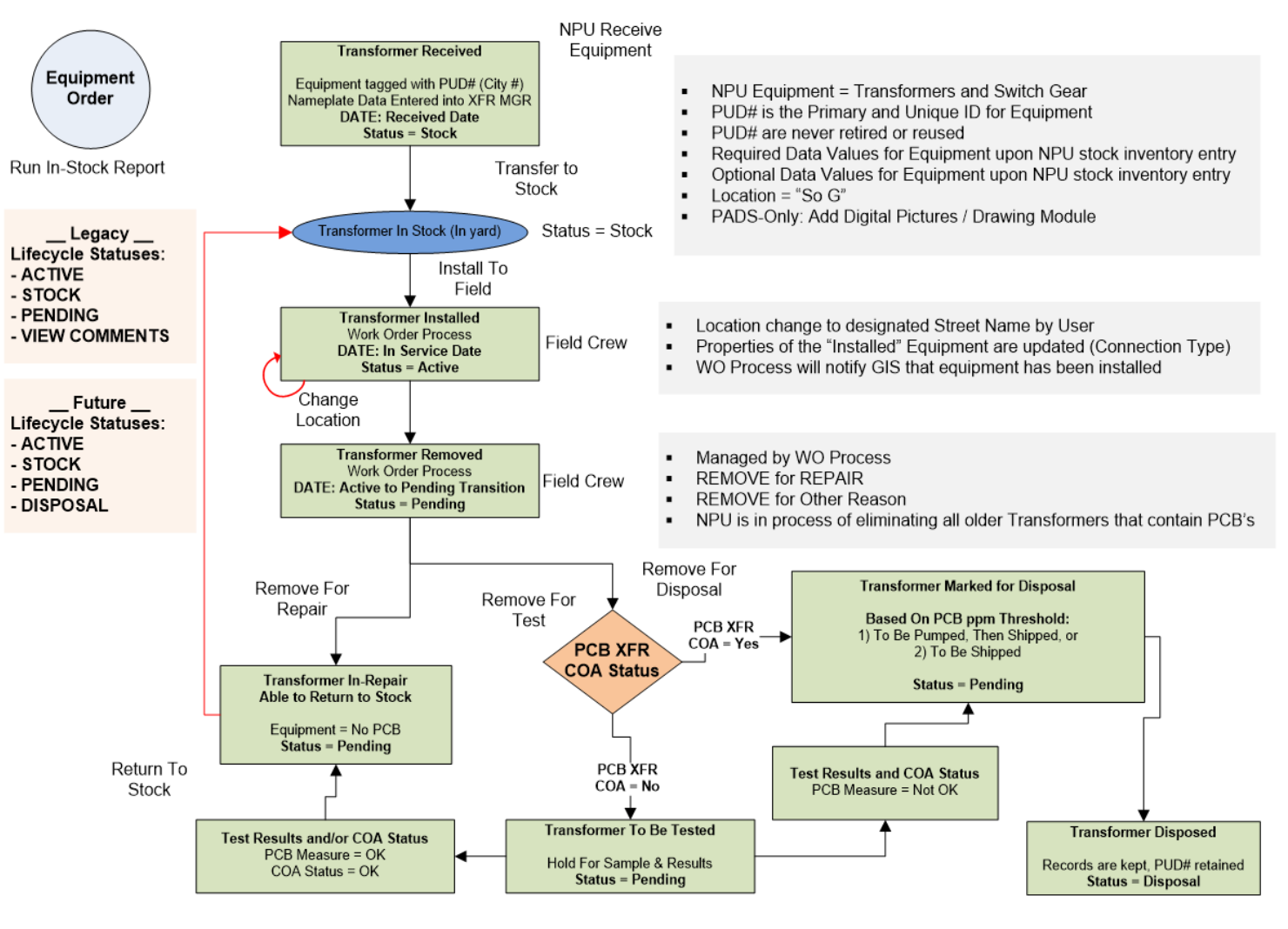
Pictures

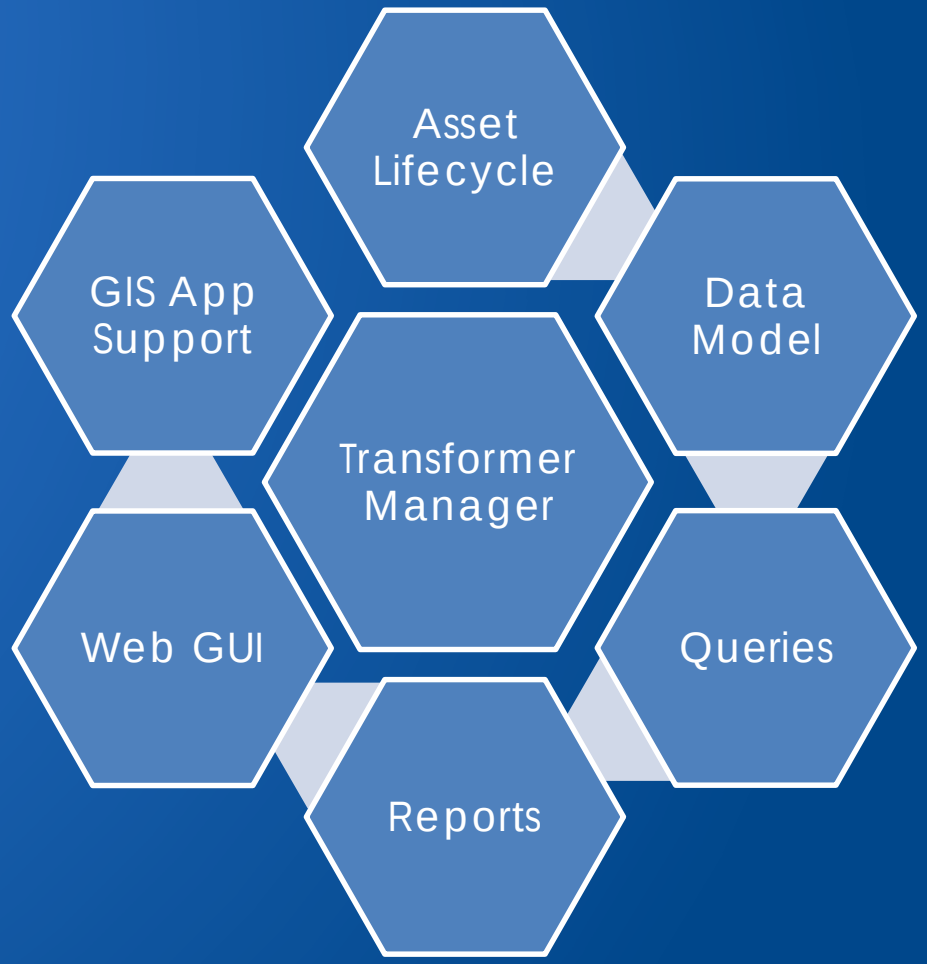
Business Drivers

- Inefficiencies with NPU's existing application:
  - Home-brewed, internal staff developed – original developers since retired
  - Difficult to update/modify to address current business needs
  - Single user updates
  - Very little data validation
  - No ties to new Esri GIS
    - Redundant data
    - Out-of-date in GIS
  - "Flat" data – no history, no ability to connect documentation
  - No possible opportunity for in-the-field-processing
- The data managed here is valuable
  - Critical for asset management
  - Essential for financial, environmental, and regulatory reasons

Solution Overview

Requirements





Solution Overview

Transformer Manager

Actions	PUDNum	SerialNumber	CurrentLocation	GISLocation	StatusName	BatchCode	AssetType
	2785	7162485	Disposed		Pending Disposal	None	Transformer
	6051	1255144767	Sherwood Ln.	6213	Active		Transformer
	6139	150686	Stott Ave.		Active		Sw Gear
	6154	9680435598082	Deep river res.		Active		Transformer
	5535	J10144-1	Disposed		Pending Disposal	None	Sw Gear
	5933	CM-110480604	Occum Rd	8092	Active		Transformer
	3542	L396931Y	Disposed	7561	Pending Disposal	None	Transformer
	2405	D3802401	Disposed		Pending Disposal	None	Transformer
	2715	7140279	Disposed	6430	Pending Disposal	None	Transformer
	2738	7150943	Disposed		Pending Disposal	None	Transformer

- Uses SSP Innovations WFM (Workforce Management) Framework
  - Comes with core WFM controls, customizability and security
- Configurable task engine for workflow
- Configurable GIS integration
  - Web service and autoupdaters for validation
  - SSP Nightly Batch Suite application to sync changes

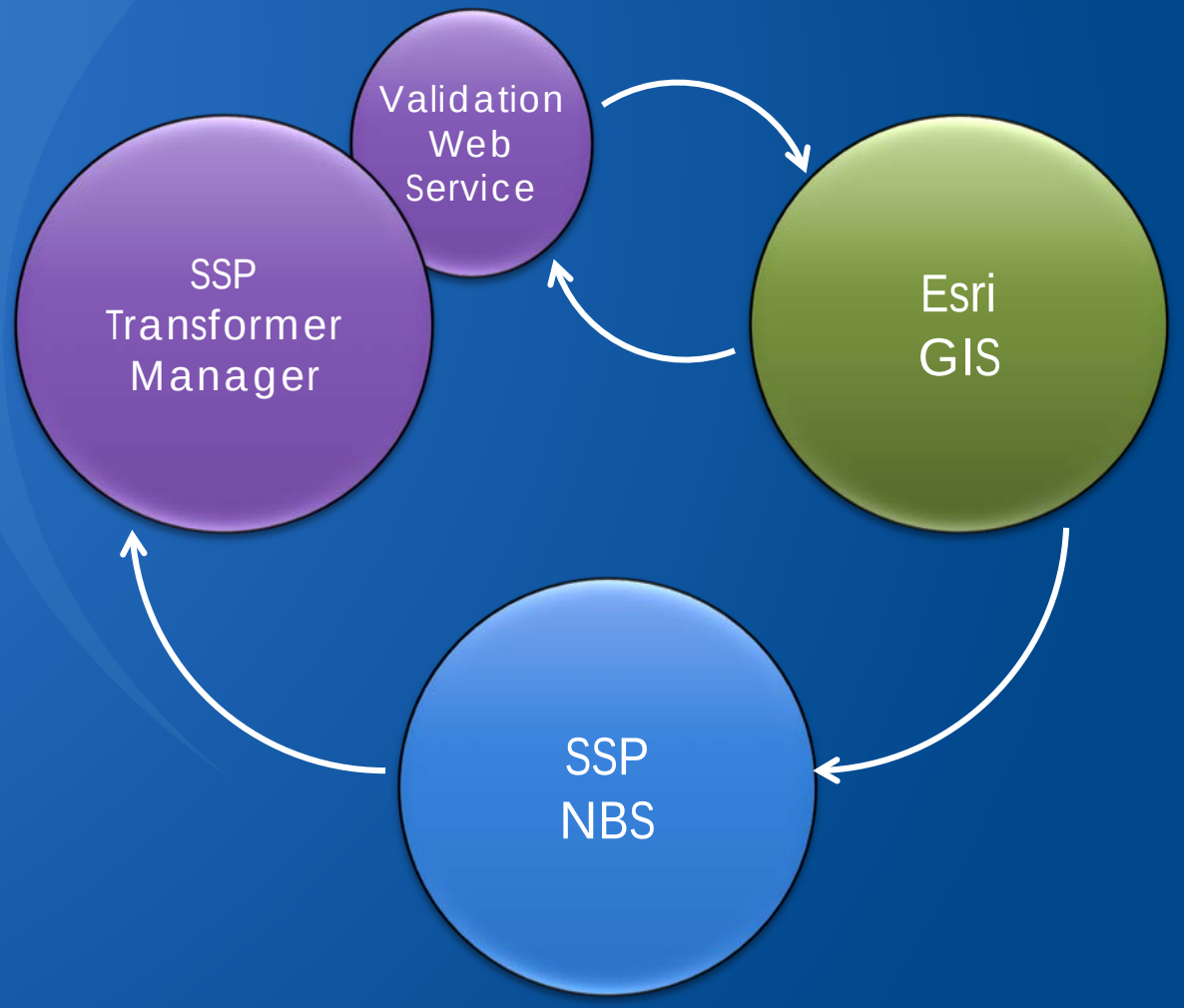
Solution Overview

Basic Workflow

- Enter Received Transformer into Stock
- Install Transformer

  (Step required in TM before GIS allowed in install)
- Transfer Transformer*
- Remove Transformer
  - For Test
    - Mark For Disposal
    - Mark For Repair

      (Test result validation constrains return options)
  - For Repair*
    - Return to Stock
  - For Disposal
- Dispose Transformer

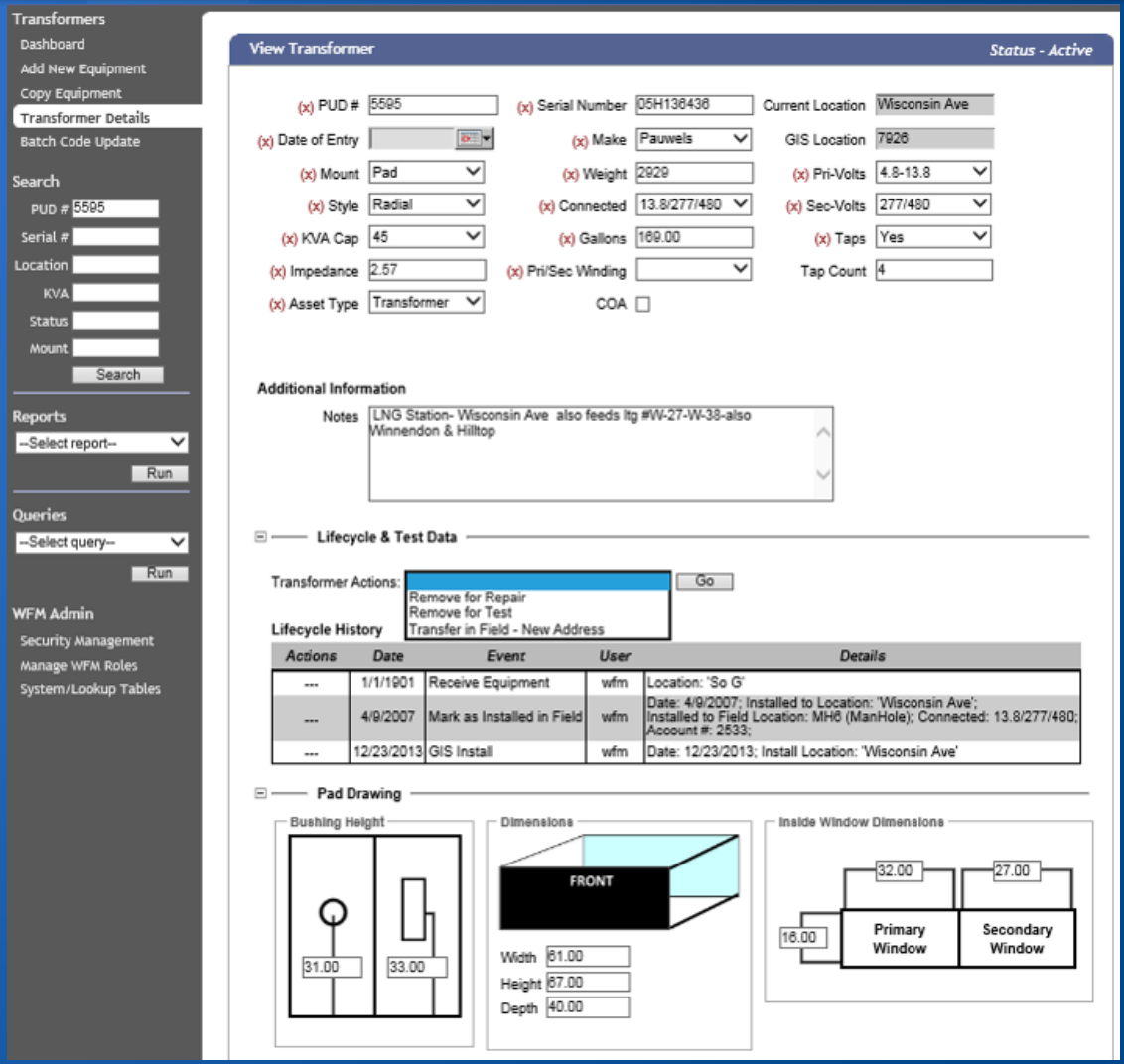


* Requires GIS install/removal before system will allow next step.

Solution Overview

Transformer Manager

- Benefits
  - Web-based
  - Multi-user
  - Cleaner user interface
  - Data validation controls
  - Built-in workflow controls integrated with Linemen and GIS task/lifecycles
  - Role-based security component tied to domain users



Solution Overview

Solution Enhancements

- GIS Integration Points Needed for Multiple Object Classes
  - Transformer Manager's GIS integration updated to support multiple classes with various designations (bank, unit, both)
- Adapting existing data model to linear workflow model
  - Existing dates and related items mapped into Transformer Manager event data
  - Transformer Manager support out-of-the-box asset history (including custom tasks)
- Address location vs. GIS Location
  - Crew enters address when marking as installed
  - Returns more specific asset location when placed in GIS
- Reporting and querying versatility
  - Expanded framework to support parameterized stored procedures for events and queries

Business Benefits

- Easier data access and analysis
  - Data constraints embedded in forms (look up tables)
  - Regulatory documentation available as links within application.
- Embedded role-based security framework.
- Ease of access to backend database for enhanced reporting.
- Reliability of data in both GIS and Transformer Manager systems
  - Tighter transformer lifecycles control between GIS And Transformer Manager systems.
- Extensible and adaptable for the future
  - Currently testing remote access through VPN connection by Line Department crews, live, and in the field!

Thank You!

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Questions?