TRANSFORMER MANAGEMENT
FULL LIFECYCLE SUPPORT USING GIS AND A WEB APPLICATION
Agenda

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- 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 |**
  - Senior Consultant
  - WFM Technical Architect
Legacy Application

Microsoft Access System:

- Application "Switchboard"
- PCB Info
- Disposal Info
- Pictures
- Pad Drawing
- Spec/Location Form
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    - Out-of-date in GIS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

- Equipment Order
  - Run In-Stock Report

- Legacy Lifecycle Statuses:
  - ACTIVE
  - STOCK
  - PENDING
  - VIEW COMMENTS

- Future Lifecycle Statuses:
  - ACTIVE
  - STOCK
  - PENDING
  - DISPOSAL

Transformer to Stock
- Transformer to Stock In Yard
- Transformer Installed
  - Work Order Process: Date = In Service Date
  - Status = Active
- Transformer Installed
  - Work Order Process: Date = In Service Date
  - Status = Active
- Transformer Removed
  - Work Order Process: Date = Active To Pending Transition
  - Status = Pending

NPU Receive Equipment
- NPU Equipment = Transformers and Switch Gear
- PUD# is the Primary and Unique ID for Equipment
- PUD# is never retired or reused
- Required Data Values for Equipment upon NPU stock inventory entry
- Optional Data Values for Equipment upon NPU stock inventory entry
- Location = "So C"
- PADS-Only: Add Digital Pictures / Drawing Module

Field Crew
- Location change to designated Street Name by User
- Properties of the "Installed" Equipment are updated (Connection Type)
- WO Process will notify GIS that equipment has been installed

Transformer To Be Tested
- Hold For Sample & Results
  - Status = Pending
- Transformer Disposed
  - Records are kept, PUD# retained
  - Status = Disposal

PCB XFR
- COA Status
  - PCB XFR COA = Yes
  - PCB XFR COA = No

Test Results and/or COA Status
- PCB Measure = OK
- COA Status = OK
- Test Results and/or COA Status
- PCB Measure = Not OK

Remove For Repair
- Remove For Test
- Remove For Disposal

Web GUI
- Support

GIS App
- Asset Lifecycle
- Data Model
- Reports
- Queries
- Transformer Manager
Solution Overview

Transformer Manager

- 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.
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?