

- 1) Duquesne Light Company (DLC) Overview
- 2) Project Objectives

3) Prior/Current State

- 4) Project Implementation/Lessons Learned
- 5) Key Design Elements
- 6) Project Change Management Post Implementation

Agenda

DLC Internal

DLC By The Numbers



DUQUESNE LIGHT CO.

Terminology

Electric Model – Components of the distribution system used to transport electricity from a substation to the meter

Field Inventory – Convert existing maps from AutoCad to GIS then validate and capture additional information in the field

- OMS = Outage Management System
- **DMS =** <u>Distribution Management System</u>
- **SCADA** = <u>Supervisory Control and Data Acquisition</u>
- **ADMS** = <u>Advanced Distribution Management System</u>

ADMS = OMS + DMS + SCADA





ADMS Program Overview

Advanced Distribution Management System (ADMS)



Distribution SCADA Implemented April 2020



Graphic Design Tool Completed- May 2022



Outage Management System Project Kick-Off December 2020

Ongoing



Electrical Model Tool Implemented June 2019



Distribution Management System

Project Start 2024



Field Inventory Via LiDAR Ongoing



Project Objectives – Graphic Design Tool

- Integrate directly with ESRI GIS UN, Maximo, Falcon DMS business systems to support DLC OMS system
- Meet our DLC business/strategic goals
 - DDS and GIS Utility Network (UN) will be the primary tool to keep the GIS network up to date to provide our customer's more reliable service
 - DDS will provide a consistent design approach to promote safety
 - Development of an approval process of designs fed from DDS through DMS will provide improved traceability





- Support successful implementation of DDS, starting with the why or benefits to the team
- Determine impact level for all stakeholders and develop training and support plan accordingly
- Process analysis, pre and post implementation. Worked with stakeholders for their input and feedback
- Assist in long term reinforcement and support plan

	High level impact	Moderate impact	No impact	
IMPACTED ROLES	ANTICIP	ATED CHANGE		HIGH LEVEL IMPACT DETAILS
Engineering Design Techs	PEOPLE	PROCESS	TECH	New tool; Updated workflows and processes
GIS Techs	PEOPLE	PROCESS	TECH	Proposed design drawings will automatically send to GIS
Records	PEOPLE	PROCESS	TECH	Prints will be sent via integration
Right of Way	PEOPLE	PROCESS	ТЕСН	Custom reports out of DDS: update to permit request
OH & UG Crews	PEOPLE	PROCESS	TECH	Prints will look different



Slide 7

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Prior State



State prior to implementation

- 1) Maximo Implemented for Operations in 2018
- 2) Designs completed in AutoCad
- Process to move work from in design to approved largely manual and disconnected
- 4) Ability to maintain GIS UN largely manual. NOTE: In process of fully implementing GIS UN
- 5) Limited Reporting capabilities



Current State





DDS Overview



x/xx/xxxx

DLC Internal



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Project Overview – Implementation Path

	Jan-21			Feb-21			Mar-21					Apr-2			L		
	Jan 4 - 29			Fe	Feb 1 - 26			Mar 1 - Apr 2				2	Apr 5 - 30			0	
Week	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	1
Prepare for Kickoff																	
Kickoff																	
Design Phase																	
Maximo Workshops																	
Maximo Integration Design																	
CU/Standards Workshops																	
CU/Standards Design																	
Unit Library Spotting Groups and Filtering																	
ESRI Workshops																	
ESRI Integration Design																	
Symbology/Line Styles/Views Workshops																	
Symbology/Line Styles/Views Design								L									
Engineering Analysis Workshops																	
Engineering Analysis Design																	
Design Auto & Validations Workshops																	
Design Auto & Validation Design																	
Custom Report Workshops																	
Custom Reports Design																	
Falcon DMS Workshops																	
Falcon DMS Integration Design																	
Template Workshops																	
Drawing and Package Templates Design													1				
Custom Training Documents Workshops																	

Design Phase:

1) Work sessions involving project team SMEs and GSI leads

2) GSI lead sessions and develops requirements documents

3) Requirements Documents are the foundation for the initial build that would be used in Sprint 1

Considerations

1) Critical to identify the most knowledgeable employee for this effort

2) First opportunity to see the system. Involve power users if possible.



Project Overview – Implementation Path

	Mar-21	Apr-21	May-21	Jun-21	Jul-21	Aug-21	Sep-21	Oct-21	Nov-21	Dec-21	Jan-22	Feb-22	Mar-22	Apr-22	May-22		Ju	in-22	
	far 1 - Apr	Apr 5 - 30	May 3 - 28	June 1 - July 2	Jul 5 - 30	Aug 2 - 27	Aug 30 - Oct 1	Oct 4 - 29	Nov 1 - 26	Nov 29 - Dec 31	Jan 3 - 28	Jan31-Feb25	Feb 28 - Apr 1	Apr 4 - 29	May 2 - 30		Jun	ne 1-30	
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Build and Configure Phase																			
Build/Configure System for Testing				_															
Custom Training Documents - Exercises 1-4																			
Incremental Deliveries 1-10																			
Remediation*																			
Power User Training																			
Testing(SVT/UAT)																			
End-User Training																			
Production Rollout and Support																			
Hypercare and Porjecr Closeout																			

Sprints – Ten 3 weeks sprints from April – December

- •Week 1 Review of Content by DLC and communicate requested changes/enhancements
- •Weeks 2-3 GSI system updates
- •NOTE: Evaluate you company policies for software/application vetting prior to install.

Testing/Training

- •Testing Started in January
- •Training
 - Power User training
 - •End User Training in April
- •Go-Live May 2022



Technical Overview

- a. Integration with SharePoint Lists
- b.Data Supplied from DDS
- c. Create sequential pole and site numbers
- d.Replaced a manual process



Sharepoint Integrations- Pole and Site Numbering

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	Site contents	371708	432099	RACCOON CREEK RD	POTTER TWP	D23621-5	B4-9	Brown, Kelsey M.
	Site Numbers	371701	432099	RACCOON CREEK RD	POTTER TWP	D23621-5	B4-9	Brown, Kelsey M.
	LED Lighting	371709	432099	RACCOON CREEK RD	POTTER TWP	D23621-5	B4-9	Brown, Kelsey M.
	Simple service	371710	432099	RACCOON CREEK RD	POTTER TWP	D23621-5	B4-9	Brown, Kelsey M.
	Solar	371711	432099	RACCOON CREEK RD	POTTER TWP	D23621-5	B4-9	Brown, Kelsey M.
	Trouble Jobs	371712	432099	RACCOON CREEK RD	POTTER TWP	D23621-5	B4-9	Brown, Kelsey M.
	UG Investigation	371707	432099	RACCOON CREEK RD	POTTER TWP	D23621-5	B4-9	Brown, Kelsey M.
	Calendar	371714	432099	RACCOON CREEK RD	POTTER TWP	D23621-5	B4-9	Brown, Kelsey M.
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Sharepoint Integrations- Pole and Site Numbering

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	Site Numbers	371701	432099	RACCOON CREEK RD	POTTER TWP	* Old Pole Map		
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	Simple service	371710	432099	RACCOON CREEK RD	POTTER TWP		Search Last Name, First	<u> </u>
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Maximo Integration



* - D-Tech can choose to take exclusive ownership of the project at this time ** - This action can happen at any time in DDS



Key DDS DLC Design Elements

GSI implemented some unique design elements to manage DLC's business

- a. T-Blocks
- b. Terminations/Line Ends



DL# 249073

45'-3 8' SXA (23D)	50'-2 8' SXA (23D) (OH-7-27C)
	(3) 277/480V CSP XFMRS (23D) 75kVA (OH-10-82)
CN BKT	CN BKT 3Ø 4W SEC BUS ASSEMBLY ON BLDG
8" D.H. ANC - 1"x7' 18M ANC GUY (1-ROD)(23KV)	8" D.H. ANC - 1"x7' 18M ANC GUY (1-ROD) (23KV)
	• * * * * *





Falcon Approval

Objective: Streamline the design approval and file storing processes utilizing DDS.

- 1) Falcon API Retrieves file and metadata (engineer, project name, etc.)
- 2) Falcon DMS kicks off approval process





Project Change Management Post Implementation

- Conducted survey to identify opportunities to provide ongoing training and/or develop tools to assist users
- Help ensure users are employing DDS and executing new processes correctly
- Assist in creating routine user training and education plan
 - Training topics based on specific requests from the user community
 - Continuing education cover any application updates since last session
- Involvement of stakeholders from beginning and ongoing has proven beneficial to DDS implementation



Lessons Learned/Challenges

- 1. GSI remote until Power User training due to COVID Would have been valuable to have on site week 1 of each sprint
- 2. Organization Assessment
 - Prior to requirements work sessions complete an organizational assessment of strengths/weaknesses of each topic. Communicate with GSI on areas of concern.
 - Resource Availability
 - Interrelated projects
 - GIS Field Inventory occurring at the same time as DDS implementation
 - Maximo Upgrade
- 3. Integrations
- 4. Laptops
 - DDS minimum specs exceeded standard DLC laptop
 - Design Techs required to take laptops into the field so needed ruggedized
 - Supply Chain issues caused extensive delays in receipt of laptops 8 months from order to receipt of all laptops





Questions?

