



PLS-GRID & It's Many Uses

Standardization, automation, and data accuracy in adopting PLS-GRID as EKPC's single point of truth for overhead lines.



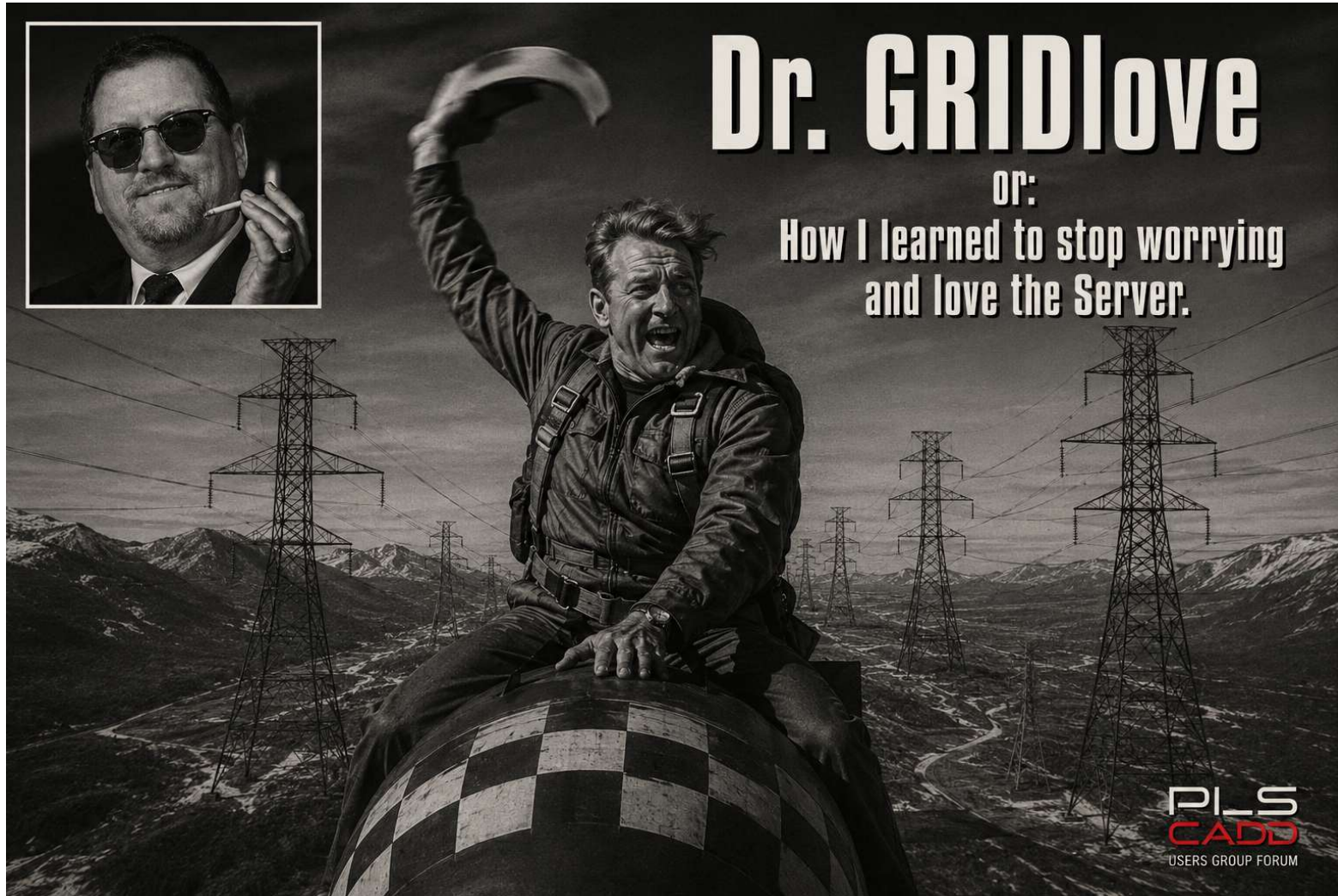
A Touchstone Energy Cooperative 

Alternate Title



Dr. GRIDlove

or:
How I learned to stop worrying
and love the Server.



PLS
CADD
USERS GROUP FORUM



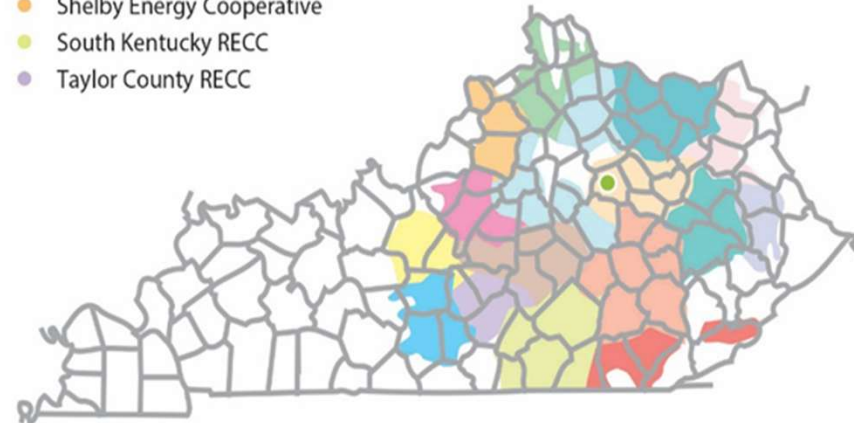
A Touchstone Energy Cooperative 

About Us

- G&T Cooperative
- ~3600MW Generation
 - Coal
 - Natural Gas
 - Solar, landfill gas & hydro
- 69kV – 345kV
 - 3,000 miles of line
 - ~450 Substations
- 16 Owner-Member Distribution Cooperatives
- 1.2M Kentuckians Served

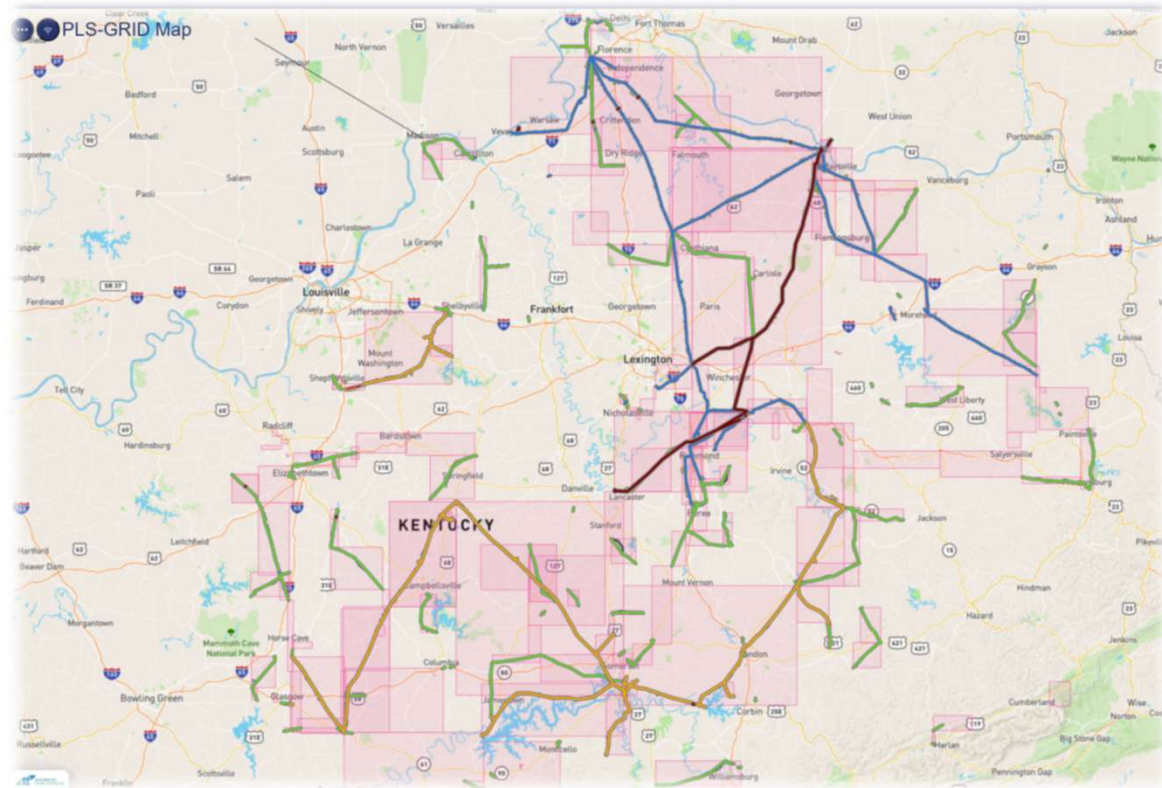
Sixteen distribution cooperatives, which are called the member systems, own EKPC. The 16 co-ops include:

- Big Sandy RECC
- Blue Grass Energy Cooperative
- Clark Energy Cooperative
- Cumberland Valley Electric
- Farmers RECC
- Fleming-Mason Energy Cooperative
- Grayson RECC
- Inter-County Energy
- Jackson Energy Cooperative
- Licking Valley RECC
- Nolin RECC
- Owen Electric Cooperative
- Salt River Electric Cooperative
- Shelby Energy Cooperative
- South Kentucky RECC
- Taylor County RECC
- EKPC headquarters

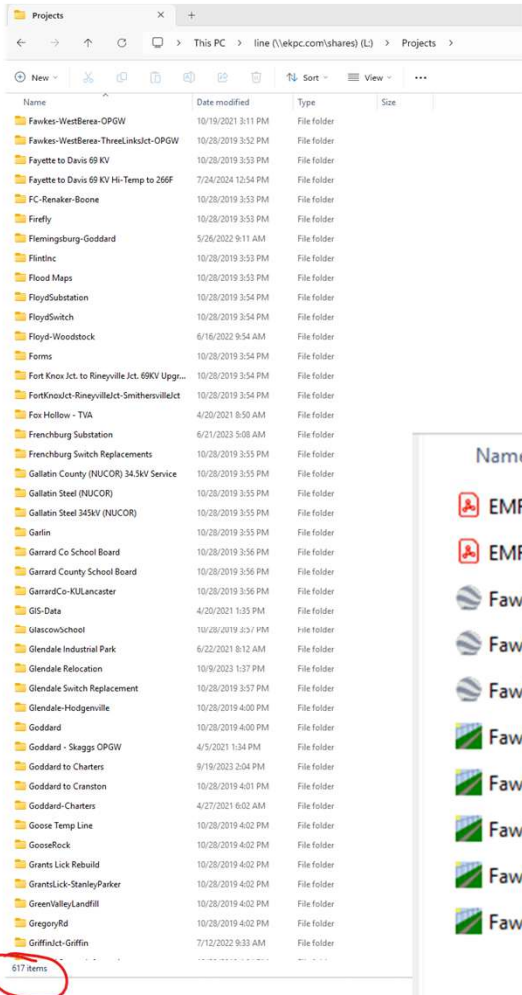


INTRODUCTION – Benefits and Uses for EKPC

- File Management
- PLS-GRID Template
- Asset Management
- Web Client
- Line Constants Reports and P&C Settings
- Plan & Profile, Procore, and Linking Drawings
- Conclusion
- Q & A

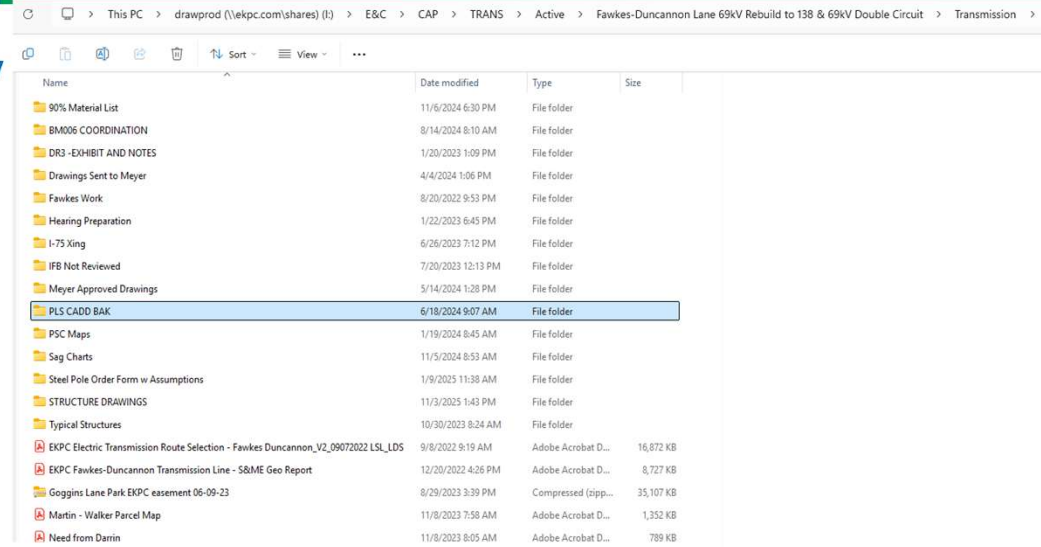


File Management – The Old Way



Which model is the latest?

Depends on who's designing it...



Name	Date modified	Type	Size
EMF Calcs	9/19/2022 3:36 PM	Adobe Acrobat D...	388 KB
EMF Calcs_Existing	9/19/2022 3:48 PM	Adobe Acrobat D...	347 KB
Fawkes - Duncannon existing	9/19/2022 12:29 PM	KMZ	2,277 KB
Fawkes-Duncannon_OH	9/19/2022 2:22 PM	KMZ	785 KB
Fawkes-Duncannon60percent	9/6/2022 4:57 PM	KMZ	2,991 KB
Fawkes-Duncannon_20percent	8/23/2022 3:26 PM	PLS Backup File	1,734,712 KB
Fawkes-Duncannon_06182024	6/18/2024 9:06 AM	PLS Backup File	232,965 KB
Fawkes-Duncannon60percent	9/6/2022 4:55 PM	PLS Backup File	1,739,947 KB
Fawkes-Duncannon90percent	7/16/2023 11:57 AM	PLS Backup File	1,889,495 KB
Fawkes-Duncannon90percent_JWD	5/2/2023 10:32 AM	PLS Backup File	1,844,328 KB



A Touchstone Energy Cooperative

File Management with GRID

Project Manager Discovery

Find Projects

Search For:

Project Type: By User:

(Start) Creation: (End) Creation:

Workspace Projects Template Projects Group:

Favorites

Project Preview

Preview Not Available

Key for Workspace Projects

Latest Outdated Workspace Conflict

Results

Project Name	Project Creation Date	Workspace Revision	Latest Revi...	Revision User	Revision Date	Revision Comment	Check Out By	Check Out Machine	Project CPID
FALL_ROCK_MANCHESTER_69KV_90%6-2024.don	1:00:48 PM 6/20/2024	0	0	Justin.Chandler@ultieg.com	1:00:48 PM 6/20/2024	Fall Rock to Manchester 90% IFR			82a402d3f0f
ZH - Big Hill Tap - 69KV.don	12:51:11 PM 11/21/2023	22	22	conner.langendorf@cai-engr.com	5:28:13 AM 3/19/2026	Windswept Alternatives			94c6977393c
PC - ARGENTUM - GREENUP HYDRO - 138KV.don	9:36:45 AM 5/10/2024	2	2	blucker@burnsmcd.com	9:21:25 AM 5/28/2024	Added interpolated points			a46.47279
AF1-083.don	9:32:33 AM 7/7/2025	1	1		8:40:39 AM 7/18/2025		bmckinley@burnsmcd.com	B720288	a46.6246d5d
BC - Tyner - Fall Rock - 161KV.don	9:58:02 AM 6/18/2024	7	7	mitchell.mosher@ekpc.coop	3:24:10 PM 3/18/2026	Revised BC065 blowout fix			a46.7673a1a
ZR - Shepherdsville - Autumn Leaf - 69KV.don	3:10:18 PM 5/30/2024	20	20		9:31:22 AM 4/20/2026		bmckinley@burnsmcd.com	B720288	a46.8546b14
AW - DALE - AVON - 138KV.don	8:54:03 AM 6/20/2024	6	7		1:11:47 PM 1/23/2026		bmckinley@burnsmcd.com	B720288	a46.93101d
LR - BULLITT CO - SHELBY CO - 161KV.don	10:07:15 AM 6/14/2024	6	11	jake.dawn@ekpc.coop	1:18:12 PM 6/4/2026	updated Structure models with pro...			a46.940153d
AX - Russell County-Sewellton Junction - 69KV.don	1:55:39 PM 2/27/2026	0	0	bmckinley@burnsmcd.com	1:55:39 PM 2/27/2026	AF1-038 - 90% Submittal			a46.1558656b
PK - JACKSONVILLE TAP - 138KV.don	11:18:26 AM 6/14/2024	1	1	etelle@burnsmcd.com	4:34:30 PM 10/9/2024	Added Vegetation FC 7515.			a46.15730343
Cooper - Alcalde - 161KV.don	3:45:33 PM 10/10/2025	2	2		8:39:49 AM 2/26/2026		bmckinley@burnsmcd.com	B720288	a46.22665701
HF - SPURLOCK - FLEMINGSBURG - 138KV.don	11:06:49 AM 7/11/2024	8	8		11:55:39 AM 1/29/2026		bmckinley@burnsmcd.com	B720288	a46.3654582
DT - SMITH - NORTH CLARK - 345KV.don	4:24:06 PM 6/20/2024	0	9	jake.dawn@ekpc.coop	3:32:40 PM 10/20/2025	BES mitigations modeled to get to ...			a46.3e7c7f5b
AF1-038.don	10:49:36 AM 7/7/2025	0	0	bmckinley@burnsmcd.com	10:49:36 AM 7/7/2025	Addition of AF1-038 for Plan & Prof...			a46.40326312
H - Sewellton - Windsor - 69KV.don	2:42:27 PM 2/27/2026	0	0	bmckinley@burnsmcd.com	2:42:27 PM 2/27/2026	AF1-038 - 90% Submittal			a46.48282922
WN - RICHWOOD TAP - 138KV.don	9:49:40 AM 6/14/2024	1	1	etelle@burnsmcd.com	4:24:19 PM 10/9/2024	Added Vegetation FC 7515.			a46.4a16617e
KK - Avon - Fayette - 1 - 138KV.don	12:26:56 PM 6/14/2024	1	1	dallent@burnsmcd.com	12:08:18 PM 10/10/2024	Rev 1: 24.10.10 - DBT - Updated...			a46.4c6b3f04
AAD - Mason County - KU Lebanon - 138KV.don	4:34:34 PM 5/28/2026	0	2		4:09:35 PM 5/20/2026		bmckinley@burnsmcd.com	B720288	a46.50540654
MJ - INLAND CONTAINER TAP - 138KV.don	8:54:52 AM 6/7/2024	3	3		3:13:14 PM 8/15/2025		jake.dawn@ekpc.coop	CPU4725	a46.55620638
PV - MAYSVILLE INDUSTRIAL TAP - 138KV.don	12:41:20 PM 6/14/2024	1	1	etelle@burnsmcd.com	4:11:10 PM 10/9/2024	Added Vegetation FC 7515.			a46.63091420
SA - CRANSTON TAP - 138KV.don	10:00:14 AM 6/14/2024	4	4	etelle@burnsmcd.com	3:06:12 PM 10/28/2024	Updated BTC, attachment points...			a46.651f910b
YA - Hebron - MineolaPike - 69KV.don	12:22:39 PM 12/4/2024	0	13	bmckinley@burnsmcd.com	3:59:07 PM 5/21/2026	As Built			a46.65342430
AF1-050.don	9:30:29 AM 7/7/2025	0	0		9:30:53 AM 7/7/2025		bmckinley@burnsmcd.com	B720288	a46.71026116
XW - LANCASTER TAP - 69KV.don	10:03:36 AM 3/17/2026	1	1	ronnie.terill@ekpc.coop	10:17:49 AM 3/17/2026	FALL 2025 LIDAR			1264.101b3e
LT - Summer Shade - TVA Tie - 161KV.don	12:03:10 PM 4/5/2024	2	2	blucker@burnsmcd.com	8:44:27 AM 5/24/2024	Added vegetation clearance surve...			1264.73663a
NE - Gallatin - Steel 2 - 138KV.don	9:13:53 AM 5/17/2024	3	3	dallent@burnsmcd.com	8:56:26 AM 10/14/2024	Rev 2 - 24.10.14 - DBT - GrowIn ...			1264.1333060
TP - Bavarian Land Fill Tap - 138KV.don	10:03:57 AM 5/31/2024	1	1	blucker@burnsmcd.com	2:03:21 PM 5/21/2024	Updated per EKPC comments			1264.2033142
MB - Smith - Powell Co - 138KV.don	12:41:29 PM 5/31/2024	5	5	mitchell.mosher@ekpc.coop	1:40:12 PM 3/16/2026	Proposed Clark Energy crossing at...			1264.22b710e
ND - Gallatin - Steel 1 - 138KV.don	1:10:58 PM 5/17/2024	5	5	dallent@burnsmcd.com	8:49:58 AM 10/14/2024	Rev 1 - 24.10.14 - DBT - GrowIn ...			1264.2313062
ZB - Taylorsville Tap - 161KV.don	9:28:56 AM 11/17/2023	3	3	daniel.shannon@ekpc.coop	11:02:46 AM 11/10/2025	Added as-built line edit.			1264.24e297a
HY - Cooper - Denny - 161KV.don	1:11:51 PM 5/24/2024	2	2	etelle@burnsmcd.com	10:14:51 AM 10/24/2024	Updated Vegetation.			1264.2743442
Cap Bank Test.don	7:48:15 AM 8/20/2025	0	0	ronnie.terill@ekpc.coop	7:48:15 AM 8/20/2025	CHECK IN			1264.34c3641
RH - T BROWN LOGSDON TAP - 69KV.don	5:53:22 AM 9/15/2025	1	1	ronnie.terill@ekpc.coop	6:02:43 AM 4/14/2025	UPDATED CRITERIA FILE			1264.4016104
XD - CONTOWN TAP - 69KV.don	12:08:05 PM 9/15/2025	0	0	ronnie.terill@ekpc.coop	12:08:05 PM 9/15/2025	ADD TO GRID			1264.45c0b4a
SZ - BIG CREEK TAP - 69KV.don	7:49:55 AM 2/13/2025	0	0	ronnie.terill@ekpc.coop	7:49:55 AM 2/13/2025	Check in			1264.46b1158
R - ETDOWN - STEPHENSURBG - 69KV.don	6:58:57 AM 4/21/2025	0	0	ronnie.terill@ekpc.coop	6:58:57 AM 4/21/2025	LIDAR SURVEY			1264.5605e17
DevLane.don	8:40:48 AM 8/24/2023	4	4	ronnie.terill@ekpc.coop	1:50:13 PM 9/24/2025	Close out and as-built			1264.66a3542

File Management with GRID

Project Manager Reviewer [CPID 12d4:37021039]

Project Name: EK - COOPER - WOLF CREEK - 16.1KV.don

Select a revision: 12 * Only show milestones

* = Have revision

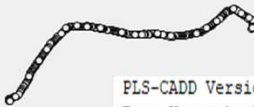
Revision Details

User: jake.dawn@ekpc.coop
Number of Files: 1137

Date: 8:56:27 AM 4/6/2026
Project Size: 2185 MB

Comment:
added floating deadend at EK022 at request from TJ.

Project Preview



PLS-CADD Version 21.01x64 2:09:14 PM Friday, June 5, 2026
East Kentucky Power Co-op

Revision History:

Projects using the s

Project Name

Revision	User	Date	Machine	Milestone Label	Comment
0	etelle@burnsmcd.com	12:43:34 PM 7/19/2024			BES Lidar Analysis
1	btucker@burnsmcd.com	11:40:13 AM 8/15/2024			Updated per EKPC comments
2	btucker@burnsmcd.com	2:20:00 PM 8/20/2024			Defined all circuits
3	jake.dawn@ekpc.coop	7:55:43 AM 8/21/2024			updated XY structure attachments. Model Approved for clearance reporting.
4	etelle@burnsmcd.com	4:24:14 PM 11/12/2024			Updated BTC, attachment points, wire sag, and vegetation.
5	bmckinley@burnsmcd.com	12:07:02 PM 2/28/2025			BRM, 2/28/2025
6	bmckinley@burnsmcd.com	12:15:25 PM 2/28/2025			BES Mitigations, 2/28/2025
7	mittchell.mosher@ekpc.coop	6:01:48 PM 3/10/2025			Revised Mitigations Design
8	mittchell.mosher@ekpc.coop	5:45:50 PM 3/18/2025			finalized BES mitigations and updated structure comments
9	mittchell.mosher@ekpc.coop	6:39:42 PM 8/8/2025			Updated BES Mitigations Plan
10	mittchell.mosher@ekpc.coop	10:43:04 AM 3/9/2026			Added steel fab details EK001, EK021, EK029, EK200
11	mittchell.mosher@ekpc.coop	10:51:04 AM 3/19/2026			EK012 steel detail update
12	jake.dawn@ekpc.coop	8:56:27 AM 4/6/2026			added floating deadend at EK022 at request from TJ.

PLS-GRID Template

PLS-CADD Standard Files

- Single Point of Truth for all PLS-CADD Standards

- .pol files
- .wir files
- .prt files
- .fea files
- .cri files
- .pps files
- Schema files

Available Structure List Add/Delete

The structures listed below are part of the project and will be included in project backups. Structures are automatically added to the project when they are


```
D:\PLS-GRID\EKPC Standard PLS-Cadd File\Structures\Cap Bank Structure.POL TH-7AS-69 (0 in current line)
D:\PLS-GRID\EKPC Standard PLS-Cadd File\Structures\EKPC-69KV-Substation-CompressionHardware.pol EKPC SUBSTATION (0 in current line)
D:\PLS-GRID\EKPC Standard PLS-Cadd File\Structures\EKPC-69KV-Substation-MechanicalHardware.pol 69KV SUBSTATION (0 in current line)
D:\PLS-GRID\EKPC Standard PLS-Cadd File\Structures\M1M2\EKPC_Method1.stk EKPC Stick Structure (0 in current line)
D:\PLS-GRID\EKPC Standard PLS-Cadd File\Structures\TBP-161S.POL TBP-161S (0 in current line)
D:\PLS-GRID\EKPC Standard PLS-Cadd File\Structures\TBP-69AAS.POL TBP-69AAS (0 in current line)
D:\PLS-GRID\EKPC Standard PLS-Cadd File\Structures\TBP-69AS.POL TBP-69AS (0 in current line)
D:\PLS-GRID\EKPC Standard PLS-Cadd File\Structures\TBP-69S.POL TBP-69S (0 in current line)
D:\PLS-GRID\EKPC Standard PLS-Cadd File\Structures\TBP-69S-1SW.POL TBP-69S-1SW (0 in current line)
D:\PLS-GRID\EKPC Standard PLS-Cadd File\Structures\TDBP-161S.POL TDBP-161S (0 in current line)
D:\PLS-GRID\EKPC Standard PLS-Cadd File\Structures\TDBP-69S.POL TDBP-69S (0 in current line)
D:\PLS-GRID\EKPC Standard PLS-Cadd File\Structures\TH-10V4XM1-138.pol TH-10V4XM1-138 (0 in current line)
```

Available Cable List Add/Delete

The cable files listed below are part of the project and will be included in project backups. Cable files are automatically added to the project

```
D:\PLS-GRID\EKPC Standard PLS-Cadd File\Cables\3_8-7_strand_hs_steel.wir
D:\PLS-GRID\EKPC Standard PLS-Cadd File\Cables\7_16-7_strand_hs_steel.wir
D:\PLS-GRID\EKPC Standard PLS-Cadd File\Cables\795.0 kcmil 26-7 ACSS Drake-ACSS - Southwire Certified.wir
D:\PLS-GRID\EKPC Standard PLS-Cadd File\Cables\7no_7_alumoweld.wir
D:\PLS-GRID\EKPC Standard PLS-Cadd File\Cables\7no_8_alumoweld.wir
D:\PLS-GRID\EKPC Standard PLS-Cadd File\Cables\7no_9_alumoweld.wir
D:\PLS-GRID\EKPC Standard PLS-Cadd File\Cables\954.0 kcmil Type 13 ACSS Cardinal-ACSS-TW-HS285 - Southwire Certified.wir
D:\PLS-GRID\EKPC Standard PLS-Cadd File\Cables\AF_L_575-72Fiber.wir
D:\PLS-GRID\EKPC Standard PLS-Cadd File\Cables\cardinal_acsr.wir
D:\PLS-GRID\EKPC Standard PLS-Cadd File\Cables\cardinal_acss.wir
D:\PLS-GRID\EKPC Standard PLS-Cadd File\Cables\dove_acsr.wir
D:\PLS-GRID\EKPC Standard PLS-Cadd File\Cables\dove-tw_acsr_tw.wir
D:\PLS-GRID\EKPC Standard PLS-Cadd File\Cables\drake_acsr.wir
D:\PLS-GRID\EKPC Standard PLS-Cadd File\Cables\grosbeak_acsr.wir
D:\PLS-GRID\EKPC Standard PLS-Cadd File\Cables\merlin_acsr.wir
D:\PLS-GRID\EKPC Standard PLS-Cadd File\Cables\partridge_acsr.wir
D:\PLS-GRID\EKPC Standard PLS-Cadd File\Cables\penguin_acsr.wir
D:\PLS-GRID\EKPC Standard PLS-Cadd File\Cables\pheasant_acss.wir
D:\PLS-GRID\EKPC Standard PLS-Cadd File\Cables\pigeon_acsr.wir
D:\PLS-GRID\EKPC Standard PLS-Cadd File\Cables\quail_acsr.wir
D:\PLS-GRID\EKPC Standard PLS-Cadd File\Cables\rail_acsr.wir
D:\PLS-GRID\EKPC Standard PLS-Cadd File\Cables\sfpoc_343_7no9-DirectReplacement.wir
D:\PLS-GRID\EKPC Standard PLS-Cadd File\Cables\sfpoc_360_3-8-Direct-Replacement.wir
D:\PLS-GRID\EKPC Standard PLS-Cadd File\Cables\sfpoc_435_7-16-Direct-Replacement.wir
D:\PLS-GRID\EKPC Standard PLS-Cadd File\Cables\sfpoc_470-48fiber.wir
D:\PLS-GRID\EKPC Standard PLS-Cadd File\Cables\sfpoc_575-72fiber.wir
```

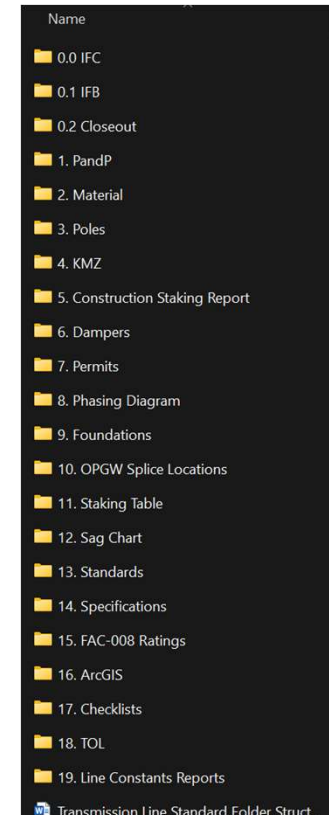
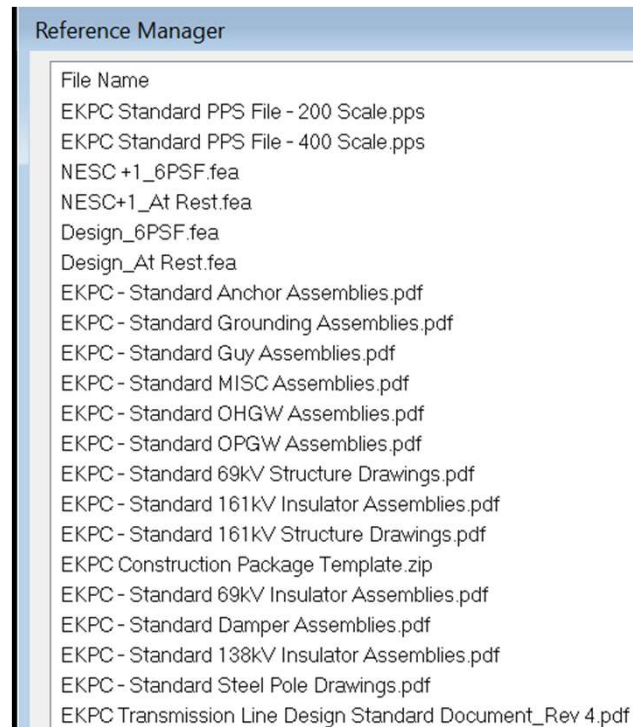


A Touchstone Energy Cooperative 

PLS-GRID Template

Reference Manager

- Standard Framing Drawings
- Standard Assembly Drawings
- Design Standard Documents
- Construction Package Template
 - Folder structure
 - Template Reports (i.e. material, staking, stringing...)
 - Template .dwg files



PLS-GRID Template

Accessibility

- Easily accessible by internal employees and contractors
- Types of Access
 - Read Only
 - Read/Write
- Revision Tracking
 - Don't be afraid to make *too many* revisions
- Templates are pulled down and stored locally

Select privilege(s) that jake.dawn@ekpc.coop has:

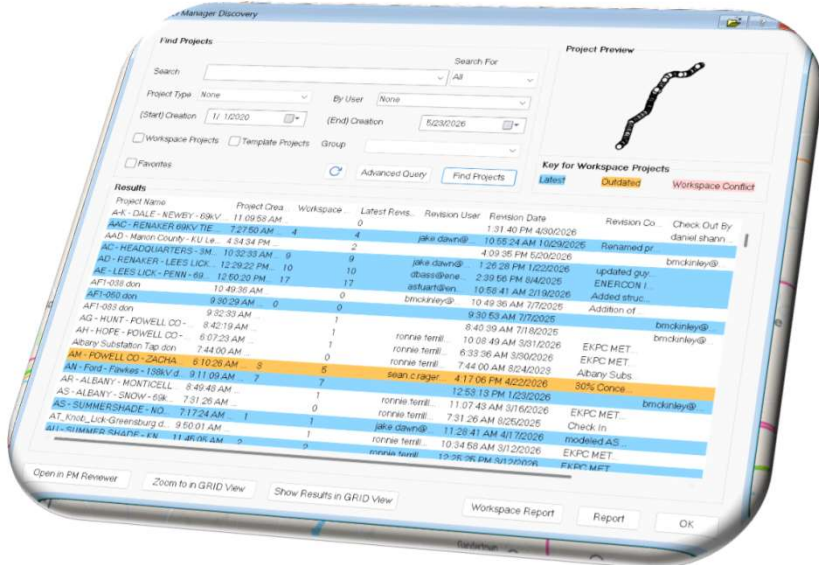
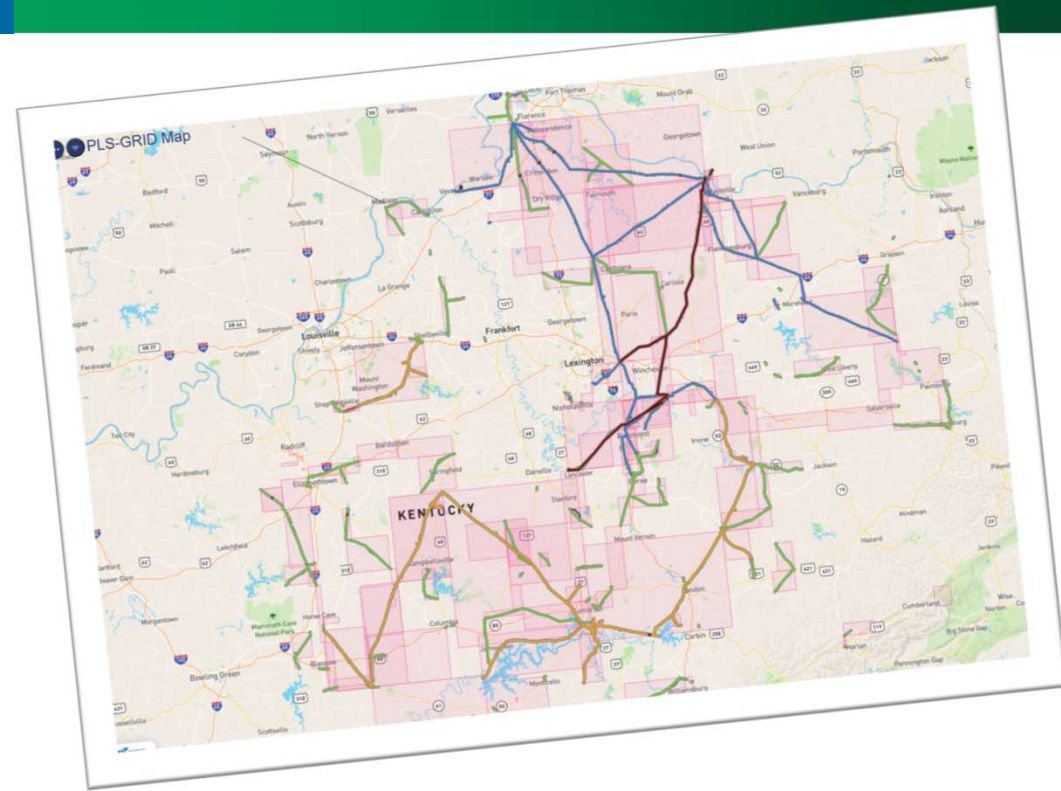
Search Privilege ...

Privilege	Has Privilege
Select All	<input type="checkbox"/>
Admin	<input checked="" type="checkbox"/>
Project Manager	<input type="checkbox"/>
Project Addition	<input checked="" type="checkbox"/>
Edit Milestones	<input checked="" type="checkbox"/>
Edit Standards	<input checked="" type="checkbox"/>
+ Transmission Project Status Reports	<input checked="" type="checkbox"/>

Asset Management

PLS-CADD Model Repository

- Well organized and easily accessible models
- Geographically displayed
- Work is done on desktop, without lag
 - Remote work



A Touchstone Energy Cooperative

Asset Management

Digital Twin

- ArcGIS and Maximo for Power Delivery Asset Database
- PLS GRID models as Single Point of Truth
- Model updates for one-off maintenance work or full line section rebuilds
- Data updates exported from PLS to ArcGIS and Maximo

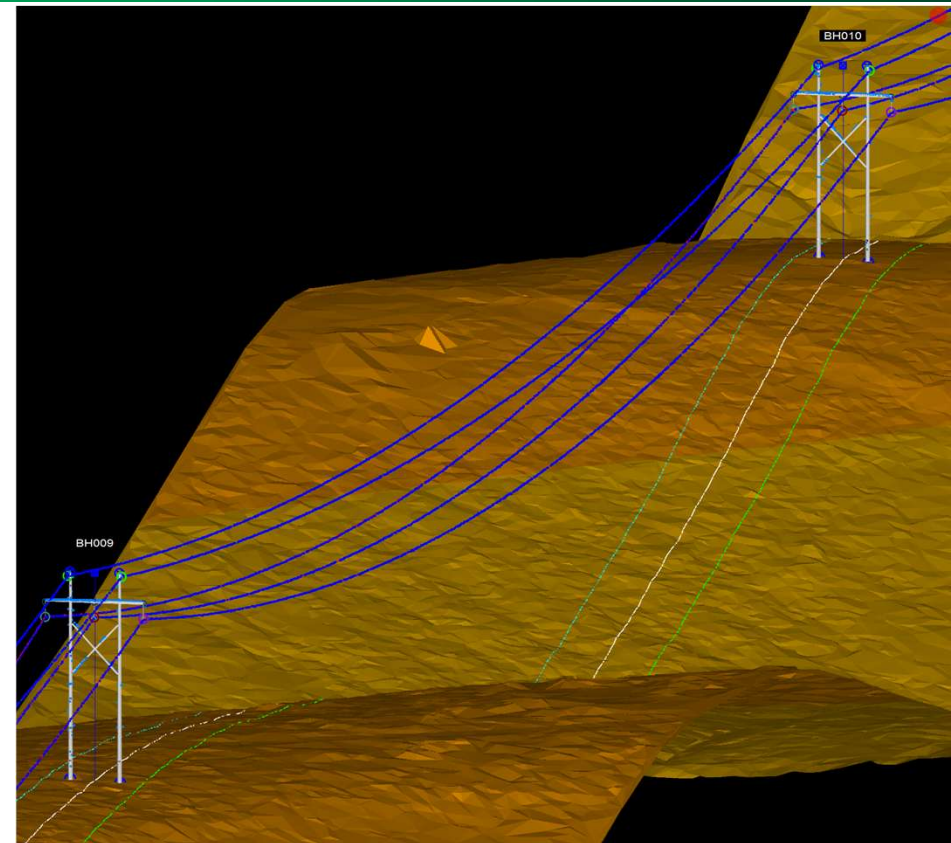
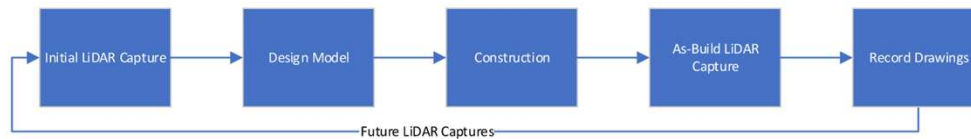
Consequences of Inaccurate Data

- Field crews have incomplete or incorrect picture
- Distance to Fault data not accurate – more time patrolling to find issues
- Satellite based vegetation and encroachment monitoring less useful or unusable
- Maintenance crews not equipped for job
 - Wrong framing, pole height, etc.

Asset Management

LiDAR Repository

- Different sets of LiDAR stored with that model as different revisions
- Can always revert back to get older LiDAR



GIS Corrections from LiDAR

Renaker Substation - Before



Renaker Substation - After



STR Reference Photos – Before and After Rebuild



The screenshot shows a software interface with a menu and a list of project files. The menu items are:

- Open CADD Project O
- Get Latest Revision L
- Open Project Reviewer
- Open Structure File T
- Project Reference Files >
- Structure Reference Files >
- Misc Files >
- Go to Location in Google Maps M
- View Material
- Change Snap Settings S

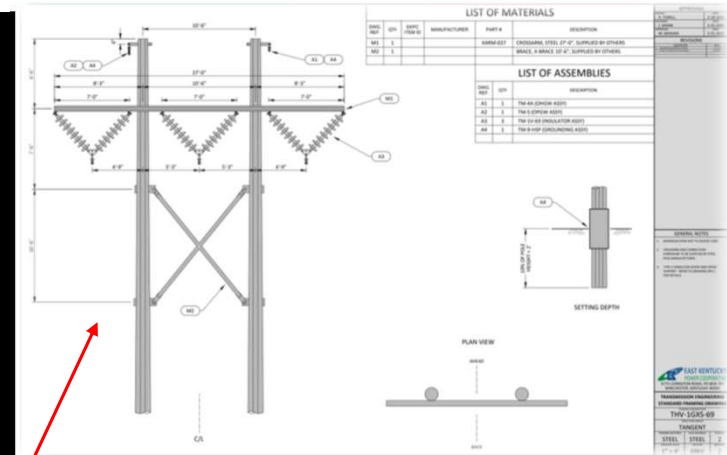
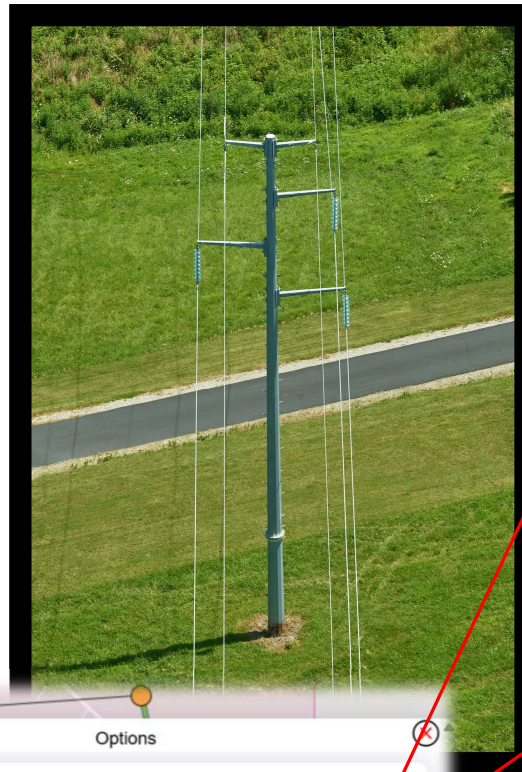
The list of project files includes:

- CY - MUNK JCT - MUNK - 69KV.xyz :
- BH - NEW LIBERTY - WILLIAMSTOWN - 69KV.xyz :
- BH - NEW LIBERTY - WILLIAMSTOWN - 69KV.xyz :
- BH034.STRUCTURE PHOTO - 01_BH35.jpg
- BH034.STRUCTURE GUYING LINE 7 - 221_MUNK_JUNCTION.jpg
- BH034.Structure Comment 50 - 034_BH35.jpg

Web Client

Maintenance Personnel

- Structure photos
 - Periodic LiDAR
 - Post-construction LiDAR
- Plan & Profile Drawings
- Framing drawings
- Pole Vendor drawings
- Geographically displayed



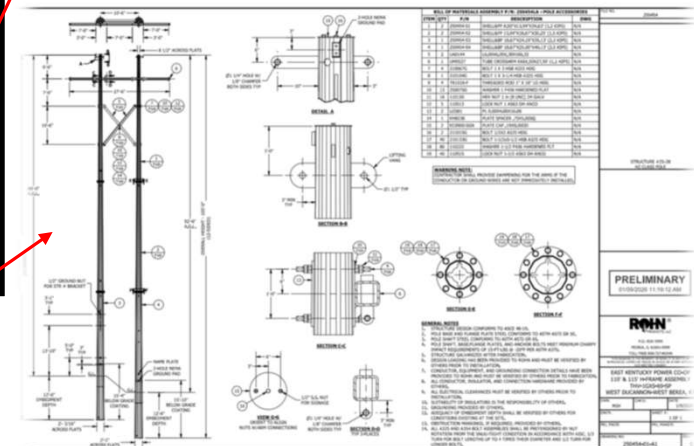
Options

Structure Reference Files

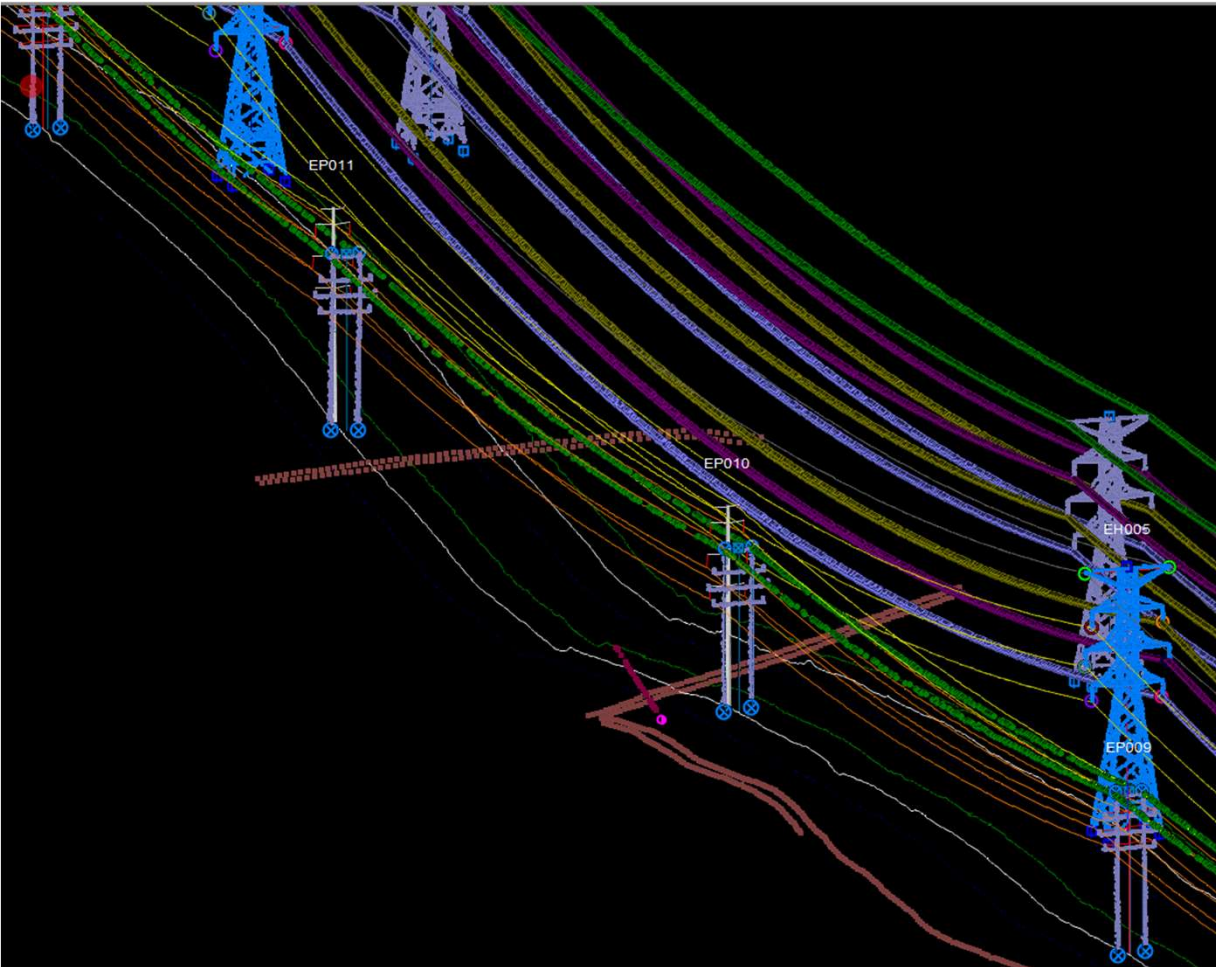
- THV-1GXS-69.pdf
- 250454-01-A1.pdf

Project User-Generated Reference Files

- ZS - EKPC PLS-Cadd Design Review Check List.xlsx
- EKPC Standard PPS File - 400 Scale.pps
- ZS - MADISON COUNTY SWITCHING - HICKORY PLAINS.vid
- EKPC Standard PPS File - 200 Scale.pps



Line Constants Reports & P&C Settings

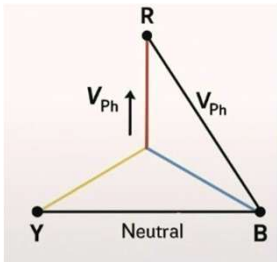


- Planning & Protection use line parameters for system models and settings
- Enables single point of truth. Previously multiple sources used - differing Planning and Protection models
- Historically required replicating the line design in another program.

Line Constant Reports & P&C Settings

Previous Software

- Point – Point distance to ground reference
- Labor intensive updating process
- Lacks reporting/organization



PLS-CADD

- Known height and spacing along each span.
- Customizable calculating ability.
- Ease of use once line is designed
- Removes additional build out, taken directly from line design.
- On-Demand updatability
- Accurate spatial modelling of wires, structures, and corridors with LiDAR as-builts in GRIDserver

All spans using default earth resistivity specified above.

Line Constants by Circuit and by Span Results:

Circuit Label	Span Back Structure	Span Ahead Structure	Earth Resistivity (Ohm*m)	Minimum Cable Length (ft)	Zero Sequence-Average			Positive Sequence-Average			Zero Sequence-Total			Positive Sequence-Total		
					Resistance (Ohm/mile)	Reactance (Ohm/mile)	Susceptance (uMho/mile)	Resistance (Ohm/mile)	Reactance (Ohm/mile)	Susceptance (uMho/mile)	Resistance (Ohm)	Reactance (Ohm)	Susceptance (uMho)	Resistance (Ohm)	Reactance (Ohm)	Susceptance (uMho)
TV-SPURLOCK-STUART	TAKEOFF	TV-1B	100.0	559.2	1.01071	1.96501	3.93244	0.57307	0.57913	7.39654	0.10704	0.20810	0.41646	0.06069	0.06133	0.78333
TV-SPURLOCK-STUART	TV-1B	TV-2B	100.0	611.8	1.03483	1.93422	4.28967	0.57336	0.57866	7.43509	0.11991	0.22413	0.49708	0.06644	0.06705	0.86157
TV-SPURLOCK-STUART	TV-2B	TV-3A	100.0	763.0	1.02638	1.92854	4.36928	0.57304	0.58691	7.32540	0.14832	0.27870	0.63142	0.08281	0.08482	1.05861
TV-SPURLOCK-STUART	TV-3A	TV-4	100.0	979.5	1.01987	1.96205	3.99402	0.57263	0.57521	7.44656	0.18920	0.36398	0.74094	0.10623	0.10671	1.38143
TV-SPURLOCK-STUART	TV-4	TV-5	100.0	738.6	1.02381	1.95707	3.91788	0.57299	0.57541	7.39691	0.14321	0.27376	0.54804	0.08015	0.08049	1.03470
TV-SPURLOCK-STUART	TV-5	TV-6	100.0	629.7	1.02802	1.96899	3.87969	0.57300	0.56686	7.50950	0.12259	0.23481	0.46267	0.06833	0.06760	0.89554
TV-SPURLOCK-STUART	TV-6	TV-7	100.0	1068.8	1.01339	1.99038	3.69354	0.57286	0.56585	7.50329	0.20513	0.40290	0.74766	0.11596	0.11454	1.51885
TV-SPURLOCK-STUART	TV-7	TV-8	100.0	414.5	1.01482	1.97201	3.67213	0.57346	0.57418	7.44165	0.07967	0.15482	0.28829	0.04502	0.04508	0.58423
TV-SPURLOCK-STUART	TV-8	TV-9	100.0	875.5	1.01055	1.97964	3.82743	0.57348	0.57225	7.47145	0.16756	0.32823	0.63461	0.09509	0.09488	1.23881
TV-SPURLOCK-STUART	TV-9	TV-10	100.0	593.7	1.02655	1.95585	4.08320	0.57304	0.57382	7.42984	0.11543	0.21992	0.45913	0.06443	0.06452	0.83544

Historic Plan and Profiles

- Stored in various electronic repositories or hanging files
- Rev control often lacking
- Scans of 60yr old velums can be hard to read

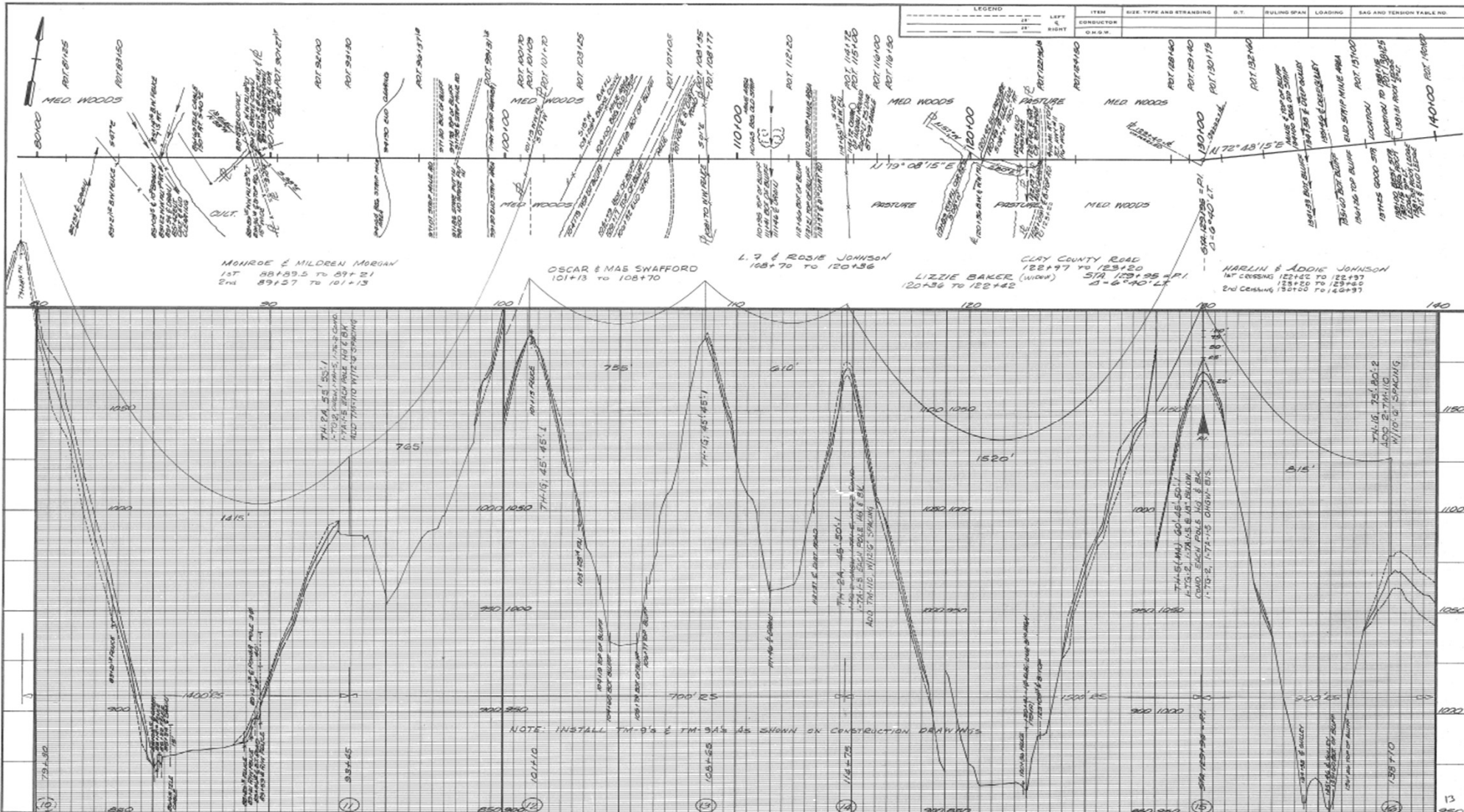


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DATE: 12/15/20	BY: J.S. SWINNEY	SCALE: AS SHOWN
NO. 1	PROJECT: ONEIDA TAP	SCALE: AS SHOWN

PROFILE	DATE: 12/15/20	BY: J.S. SWINNEY
NO. 1	PROJECT: ONEIDA TAP	SCALE: AS SHOWN
DATE: 12/15/20	BY: J.S. SWINNEY	SCALE: AS SHOWN
NO. 1	PROJECT: ONEIDA TAP	SCALE: AS SHOWN

DESIGN	DATE: 12/15/20	BY: J.S. SWINNEY
NO. 1	PROJECT: ONEIDA TAP	SCALE: AS SHOWN
DATE: 12/15/20	BY: J.S. SWINNEY	SCALE: AS SHOWN
NO. 1	PROJECT: ONEIDA TAP	SCALE: AS SHOWN

CONTRACTOR	DATE: 12/15/20	BY: J.S. SWINNEY
NO. 1	PROJECT: ONEIDA TAP	SCALE: AS SHOWN
DATE: 12/15/20	BY: J.S. SWINNEY	SCALE: AS SHOWN
NO. 1	PROJECT: ONEIDA TAP	SCALE: AS SHOWN



ITEM	SIZE TYPE AND STRANDING	S.T.	SULING SPAN	LOADING	SAG AND TENSION TABLE NO.
CONDUCTOR					
G.W.G.					

DESIGNED BY: J.S. SWINNEY	DATE: 12/15/20	BY: J.S. SWINNEY
CHECKED BY: J.S. SWINNEY	DATE: 12/15/20	BY: J.S. SWINNEY
APPROVED BY: J.S. SWINNEY	DATE: 12/15/20	BY: J.S. SWINNEY
REVISIONS	DATE	BY

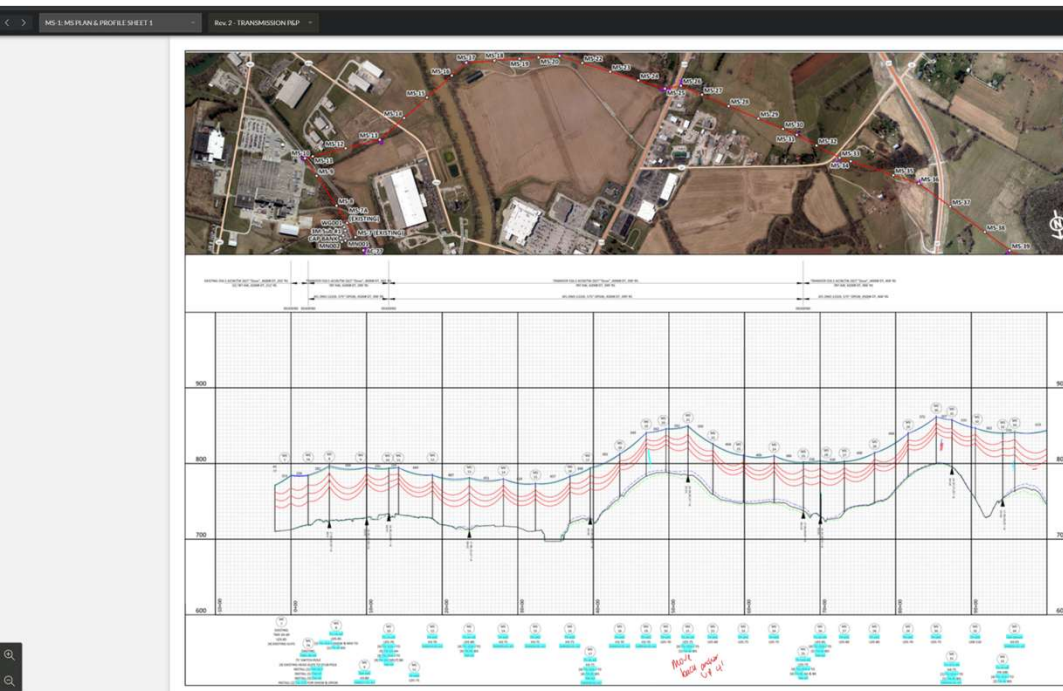
EAST KENTUCKY POWER COOPERATIVE
WINCHESTER, KENTUCKY

ONEIDA TAP
STA. 79+30 TO STA. 138+10
SHEET 4 of 4
KJ

Plan & Profiles, Procure, and Linking Drawings

Procure

- Use structure comments to link to other drawings (framing, assemblies, vendor, phasing, etc.)



MS 13

TS-4S-69
LD5-80

[4] TG-35A-1 TO
[4] TA-9L BIS
TM-SD

Published MS

MS 14

MS 15

MS 16

TP-69S: TRANSMISSION ENGINEERING
STANDARD FRAMING DRAWING

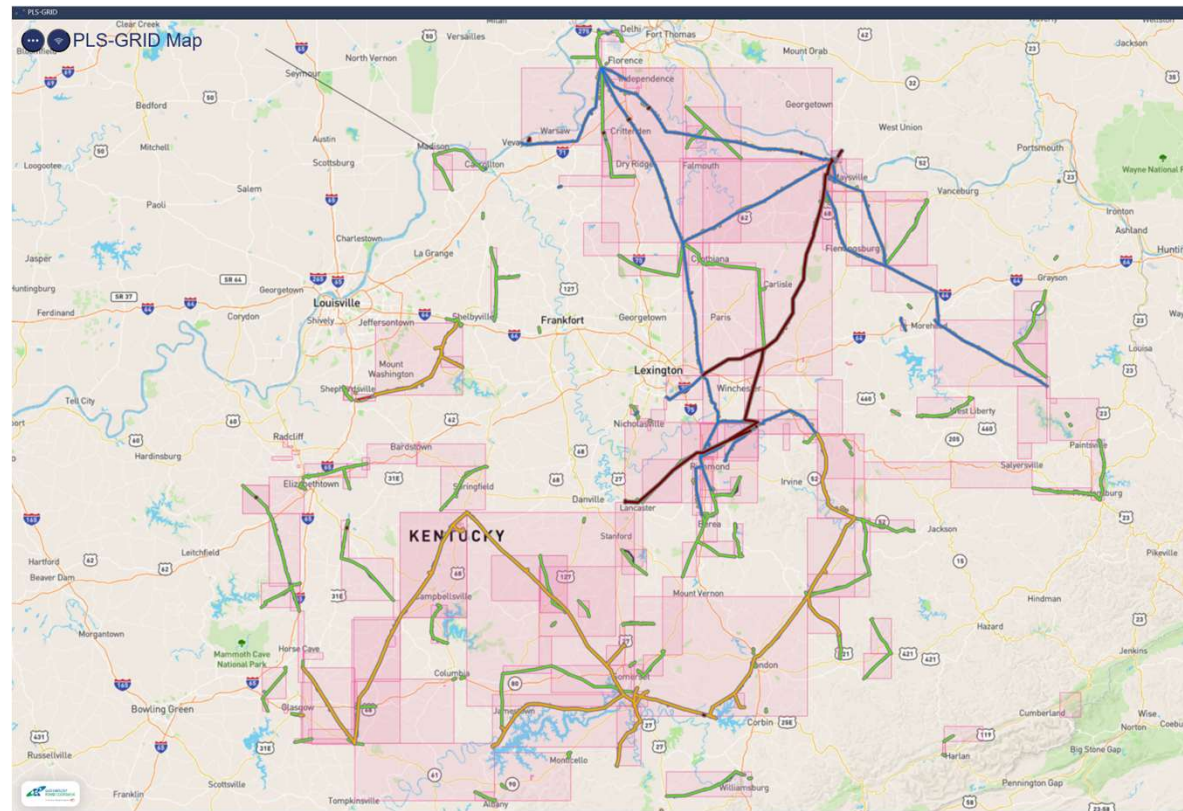
LIST OF MATERIALS

LIST OF ASSEMBLIES

[4]

CONCLUSION

- PLS-GRID Template
- Asset Management/Digital Twin
- Web Client
- Line Constants Reports and P&C Settings
- Plan & Profiles, Procore, & Linking Drawings





Questions?