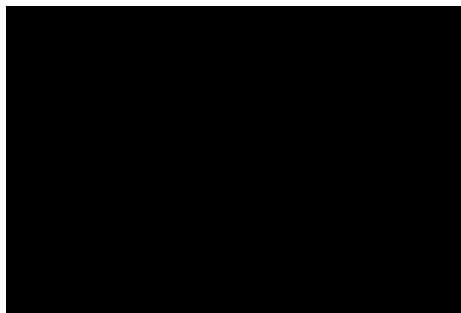


# FAMOS - PdP Fleet Conversion



Sciotech 2015 User's Group Meeting

Aug 11 -13, 2015



# PdP Fleet Conversion for Large US Power Producer

- Early adopter of advanced pattern recognition for condition monitoring
- Mix of technology providers due to parentage of assets absorbed into the organization

# Advanced Pattern Recognition \ Performance Monitoring Conversion Project Goals

- Implement a low cost and scalable performance monitoring solution across its legacy fossil plants as well as emerging renewable solar thermal, PV, and wind plants
- User Configurable and Customizable – to perform M&D in-house
- Robust solution to handle diverse current and future generating assets
- Consolidate two existing APR systems (FAMOS-PdP and a competitor product) into one standardized system

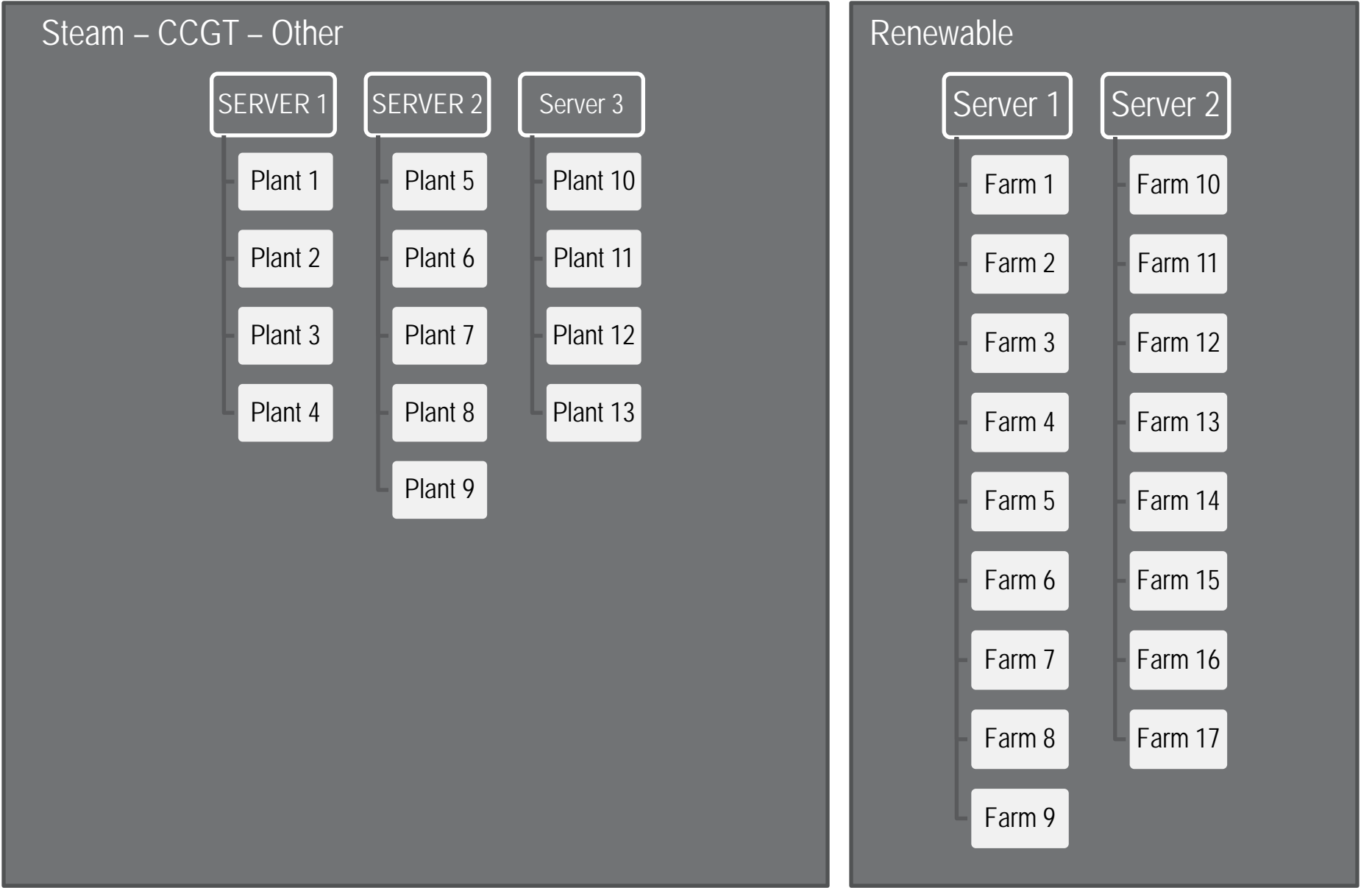
# Project Kick-Off – Key Items Addressed – and a Key to Success

- Technology
  - Servers
  - Software (New Servers and Upgrades)
- Schedule and Scope
  - Scope (Plants to be Included)
  - Conversion Process
  - Training
  - Roles and Responsibilities
- Project Controls
  - Communications
  - Weekly Status Meetings

# Final Scope

- Convert fleet running on competitor APR platform to FAMOS v19
  - Many (possible 1000+) models and associated reference file data to convert
  - Install on new 2012 R2 servers (room for additional databases to be built by Client)
- Upgrade Legacy FAMOS Steam Units from v16 to v19
  - Merge existing separate PdP and PMAX databases into common
  - Reduce number of databases from to minimize # servers required
- Migrate PdP databases to new 2012 R2 servers running v19
  - Large number of assets (possibly 1000+)
- Install new 2012 virtual servers and retire old 2003 servers

# Client Servers



# Model Conversion Process

A	B	C	D	E	F	G
Model	Tag Name	Residual Threshold	Residual Threshold -	Description	Units	Source Tag Name
1	Performance INLET_O2_CONC_1	0	0	SELECTED FURN O2	%	UNIT1.BFURNACE_O2.VL
2	AMBIENT_TEMP	0	0	AMBIENT AIR (DRY BULB)	DEGF	UNIT1.HA0100.VL
3	AIR_INLET_TEMP_1	0	0	AIR HEATER AIR INLET	DEGF	UNIT1.H02100.VL
4	AIR_OUTLET_TEMP_1	15	10	AIR HEATER AIR OUTLET	DEGF	UNIT1.H02100.VL
5	GAS_INLET_TEMP_1	0	0	AIR HEATER GAS INLET	DEGF	UNIT1.H02100.VL
6	GAS_OUTLET_TEMP_1	10	10	AIR HEATER GAS OUTLET	DEGF	UNIT1.H02100.VL
7	AIR_DELTA_PRESS_MEAS_1	0.25	1	AIR FLOW DIFF	INWC	UNIT1.HF3700.VL
8	TOTAL_FUEL_FLOW	15	15	SELECTED AIR FLOW A	KLB/HR	UNIT1.HF3700.VL
9	AIR_FLOW_1	15	15	SELECTED AIR FLOW A	KLB/HR	UNIT1.HF3700.VL
10	GROSS_LOAD	0	0	GENERATOR GROSS LOAD	MW	UNIT1.HG0100.VL
11	OUTLET_O2_CONC_1	0	0	SELECTED FURN O2	POINT	UNIT1.HG0100.VL
12	LEAKAGE_MEAS_1	0	0	AIR HEATER LEAKAGE CORR	POINT	UNIT1.HB0902.VL
13	ATMOSPHERIC_PRESS	0	0	ATMOSPHERIC PRESSURE	PSIA	UNIT1.HA0102.VL

Export to csv

- Sensors
- Alarm Limits
- Cutoffs



A	B	C	D	E	F	G	H	I
UNIT	UNIT1							
Type	Model Type							
PdP Model Name	AIRHTRA	PdP Sample Rate						
PdP Description	UNIT1.AIR HEATER	Validation Param						
CutOff Tag	UNIT1.HG0100.VL	Alarm Logic-X						
CutOff High		10000	Alarm Logic-Y					
CutOff Low		75						
Alerting	Point	CutoffType						
PI Tag ID	Signal Tag ID	Tag Description	Units	Signal Active	Residual HI	Residual LO		
1	UNIT1.HG0100.VL	GENERATOR GROSS LOAD	MW	Yes	0	0		
2	UNIT1.HF3700.VL	TOTAL FUEL GAS FLOW	KCFH	Yes	0	0		
3	UNIT1.BAIR_FLOW_A.VL	SELECTED AIR FLOW A	KLB/HR	Yes	15	-15		
4	UNIT1.H02100.VL	AIR HEATER AIR OUTLET	DEGF	Yes	0	0		
5	UNIT1.H02100.VL	AIR HEATER AIR INLET	DEGF	Yes	0	0		
6	UNIT1.H02111.VL	AIR HEATER GAS OUTLET	DEGF	Yes	0	0		
7	UNIT1.H02111.VL	AIR HEATER GAS INLET	DEGF	Yes	0	0		
8	UNIT1.BFURNACE_O2.VL	SELECTED FURN O2	%	Yes	0	0		
9	UNIT1.HG0100.VL	FLUE GAS O2	POINT	Yes	0	0		
10	UNIT1.HG0100.VL	4A AIR FLOW DIFF	INWC	Yes	0	0		
11	UNIT1.HB0902.VL	AIR HEATER LEAKAGE CORR	POINT	Yes	0	0		
12	UNIT1.HA0102.VL	ATMOSPHERIC PRESSURE	PSIA	Yes	0	0		
13	UNIT1.HA0100.VL	AMBIENT AIR (DRY BULB)	DEGF	Yes	0	0		

Create PdP Model in Excel

- Import Client csv
- Macros to reformat to match PdP requirements
- Manually reorder sensors to logical order, name model, update other PdP settings



A	B	C	D	E	F
PdP	UNIT	UNIT1			
Type	Model Type				
PdP Model Name	AIRHTRA	PdP Sample Rate			
PdP Description	UNIT1.AIR HEATER	Validation Param			
CutOff Tag	UNIT1.HG0100.VL	Alarm Logic-X			
CutOff High		10000	Alarm Logic-Y		
CutOff Low		75			
Alerting	Point	CutoffType			
PI Tag ID	Signal Tag ID	Tag Description	Units	Signal Active	Residual HI
1	UNIT1.HG0100.VL	GENERATOR GROSS LOAD	MW	Yes	0
2	UNIT1.HF3700.VL	TOTAL FUEL GAS FLOW	KCFH	Yes	0
3	UNIT1.BAIR_FLOW_A.VL	SELECTED AIR FLOW A	KLB/HR	Yes	15
4	UNIT1.H02100.VL	AIR HEATER AIR OUTLET	DEGF	Yes	0
5	UNIT1.H02100.VL	AIR HEATER AIR INLET	DEGF	Yes	0
6	UNIT1.H02111.VL	AIR HEATER GAS OUTLET	DEGF	Yes	0
7	UNIT1.H02111.VL	AIR HEATER GAS INLET	DEGF	Yes	0
8	UNIT1.BFURNACE_O2.VL	SELECTED FURN O2	%	Yes	0
9	UNIT1.HG0100.VL	FLUE GAS O2	POINT	Yes	0
10	UNIT1.HG0100.VL	4A AIR FLOW DIFF	INWC	Yes	0
11	UNIT1.HB0902.VL	AIR HEATER LEAKAGE CORR	POINT	Yes	0
12	UNIT1.HA0102.VL	ATMOSPHERIC PRESSURE	PSIA	Yes	0
13	UNIT1.HA0100.VL	AMBIENT AIR (DRY BULB)	DEGF	Yes	0

Export to CSV

Import to PdP Database

- Performed on PC
- In parallel with server acquisition

Client

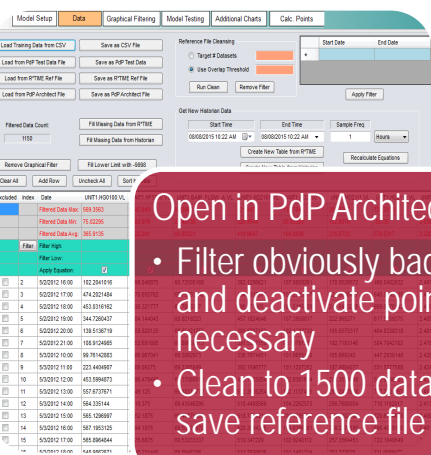
Curtiss-Wright

# Reference File Conversion Process

	A	B	C	D	E	F	G	H
		GROSS_LOAD	AMBIENT_TEMP	ATMOSPHERIC_PRESS	TOTAL_FUEL_FLOW_AIR_FLOW_1	UNIT1_BARR_FLOW_AIR_FLOW	UNIT1_BARR_FURNACE_CO2_VL	UNIT1_H2O_CO2_VL
2	5/2/2012 16:00	332.2043016	92.9409833	14.24170399	1399.046875	68.72501388	2.47378933	4.69532043
3	5/2/2012 17:00	474.3021484	92.14868927	14.2359957	4478.655762	68.75713948	2.485183408	1.2592264
4	5/2/2012 18:00	453.016342	91.76761153	14.2359957	4336.121777	68.7896347	2.48577532	1.4671555
5	5/2/2012 19:00	344.7269437	88.9793258	14.2331042	3484.144043	68.823123	2.485771656	2.32853388
6	5/2/2012 20:00	139.513079	85.42435929	14.2414979	1558.828125	68.82421753	2.48196578	4.30292263
7	5/2/2012 21:00	108.9124985	82.5246761	14.2567358	1352.891895	68.8865513	2.478159904	5.845245037
8	5/2/2012 22:00	99.76142883	82.8826965	14.36883027	1386.96704	69.3622973	2.428867758	5.68889256
9	5/2/2012 23:00	223.4404987	84.16794949	14.36883027	2508.89375	69.138549	2.424877882	3.86264416
10	5/2/2012 24:00	453.994873	86.4018677	14.29611778	4488.479482	69.3788813	2.421072086	1.32818741
11	5/2/2012 1:00	557.6737671	88.6362882	14.29455566	5448.125	69.40316772	2.42706813	1.011969625
12	5/2/2012 2:00	564.358144	92.477001	14.29611778	5518.175	69.40316772	2.42706813	1.011969625
13	5/2/2012 3:00	565.128697	92.9409833	14.24170399	5552.1875	69.40316772	2.42706813	1.011969625
14	5/2/2012 4:00	567.1593125	93.0822237	14.24170399	5552.1875	69.40316772	2.42706813	1.011969625
15	5/2/2012 5:00	565.128697	92.9409833	14.24170399	5552.1875	69.40316772	2.42706813	1.011969625
16	5/2/2012 6:00	565.128697	92.9409833	14.24170399	5552.1875	69.40316772	2.42706813	1.011969625
17	5/2/2012 7:00	565.128697	92.9409833	14.24170399	5552.1875	69.40316772	2.42706813	1.011969625
18	5/2/2012 8:00	565.128697	92.9409833	14.24170399	5552.1875	69.40316772	2.42706813	1.011969625
19	5/2/2012 9:00	565.128697	92.9409833	14.24170399	5552.1875	69.40316772	2.42706813	1.011969625
20	5/2/2012 10:00	565.128697	92.9409833	14.24170399	5552.1875	69.40316772	2.42706813	1.011969625
21	5/2/2012 11:00	565.128697	92.9409833	14.24170399	5552.1875	69.40316772	2.42706813	1.011969625
22	5/2/2012 12:00	565.128697	92.9409833	14.24170399	5552.1875	69.40316772	2.42706813	1.011969625
23	5/2/2012 13:00	565.128697	92.9409833	14.24170399	5552.1875	69.40316772	2.42706813	1.011969625
24	5/2/2012 14:00	565.128697	92.9409833	14.24170399	5552.1875	69.40316772	2.42706813	1.011969625
25	5/2/2012 15:00	565.128697	92.9409833	14.24170399	5552.1875	69.40316772	2.42706813	1.011969625
26	5/2/2012 16:00	565.128697	92.9409833	14.24170399	5552.1875	69.40316772	2.42706813	1.011969625
27	5/2/2012 17:00	565.128697	92.9409833	14.24170399	5552.1875	69.40316772	2.42706813	1.011969625

Export to csv

- Raw Data
- Original Point & Pd Tag Names



Open in PdP Architect

- Filter obviously bad data and deactivate points as necessary
- Clean to 1500 data sets and save reference file

	A	B	C	D	E	F	G	H
		UNIT	UNIT					
2	5/2/2012 16:00	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL
3	5/2/2012 17:00	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL
4	5/2/2012 18:00	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL
5	5/2/2012 19:00	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL
6	5/2/2012 20:00	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL
7	5/2/2012 21:00	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL
8	5/2/2012 22:00	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL
9	5/2/2012 23:00	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL
10	5/2/2012 24:00	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL
11	5/2/2012 1:00	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL
12	5/2/2012 2:00	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL
13	5/2/2012 3:00	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL
14	5/2/2012 4:00	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL
15	5/2/2012 5:00	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL
16	5/2/2012 6:00	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL
17	5/2/2012 7:00	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL
18	5/2/2012 8:00	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL
19	5/2/2012 9:00	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL
20	5/2/2012 10:00	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL
21	5/2/2012 11:00	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL
22	5/2/2012 12:00	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL
23	5/2/2012 13:00	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL
24	5/2/2012 14:00	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL
25	5/2/2012 15:00	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL
26	5/2/2012 16:00	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL
27	5/2/2012 17:00	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL

Modify Data CSV in Excel

- Macros to rename tag names to new PdP sensor names
- Eliminate row of Original Point Names
- Replace text and Blank Cells with -9999

	A	B	C	D	E	F	G	H
		UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL
2	5/2/2012 16:00	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL
3	5/2/2012 17:00	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL
4	5/2/2012 18:00	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL
5	5/2/2012 19:00	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL
6	5/2/2012 20:00	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL
7	5/2/2012 21:00	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL
8	5/2/2012 22:00	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL
9	5/2/2012 23:00	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL
10	5/2/2012 24:00	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL
11	5/2/2012 1:00	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL
12	5/2/2012 2:00	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL
13	5/2/2012 3:00	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL
14	5/2/2012 4:00	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL
15	5/2/2012 5:00	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL
16	5/2/2012 6:00	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL
17	5/2/2012 7:00	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL
18	5/2/2012 8:00	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL
19	5/2/2012 9:00	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL
20	5/2/2012 10:00	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL
21	5/2/2012 11:00	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL
22	5/2/2012 12:00	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL
23	5/2/2012 13:00	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL
24	5/2/2012 14:00	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL
25	5/2/2012 15:00	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL
26	5/2/2012 16:00	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL
27	5/2/2012 17:00	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL	UNIT1_H2O_CO2_VL

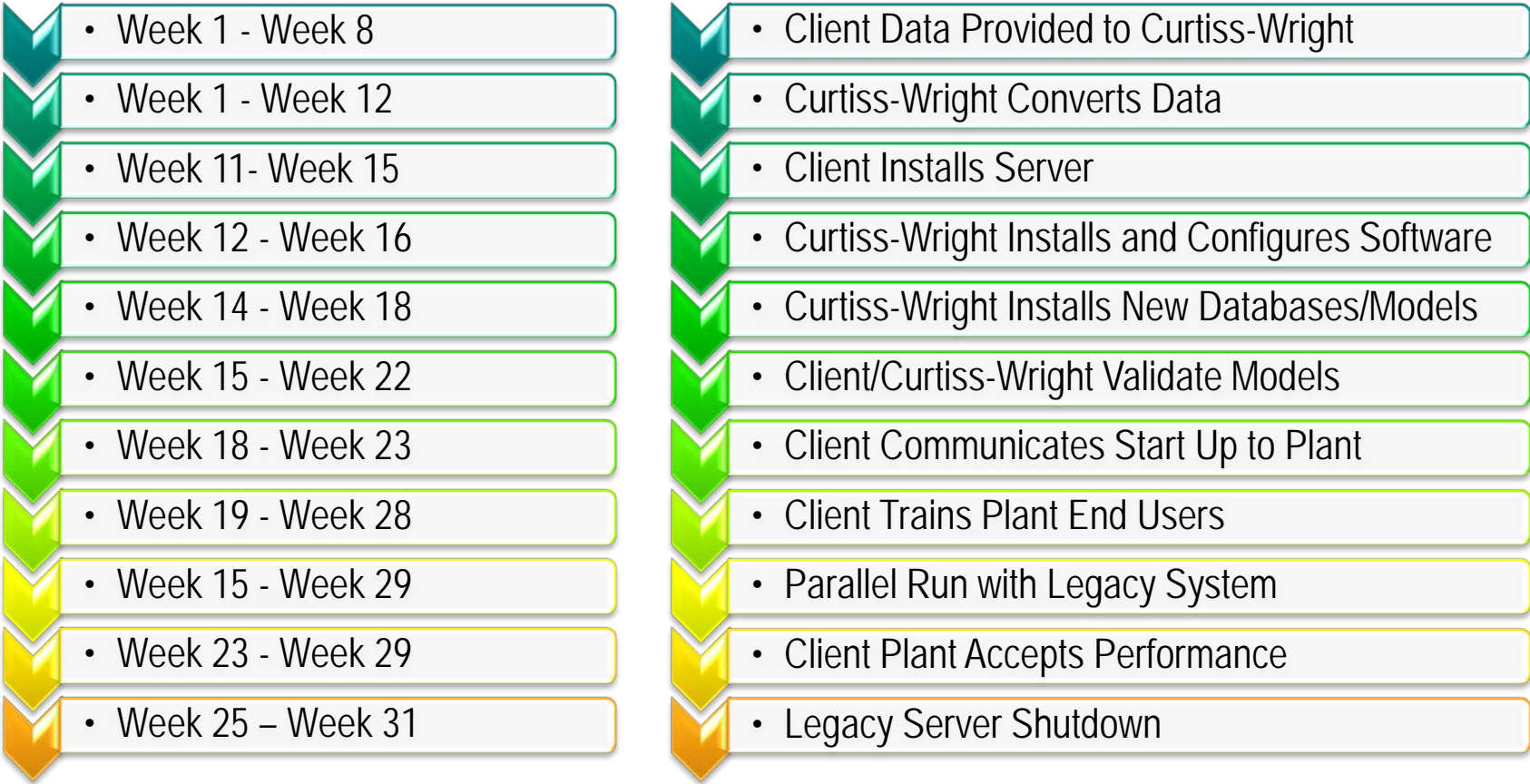
Export to CSV

Client

Curtiss-Wright



# Data Conversion Process – Overlapping Parallel Effort for Large Fleet



Conversion from legacy APR to server ready PdP Models approximately 11 Weeks at a pace of 5 units per week

# Demo



Convert Generic  
Model and Data  
CSV files into  
functional PdP  
Model and  
Reference File

# Keys to Success

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- **Productive Kick Off Meeting**
  - Well defined scope
  - Achievable milestones
  - Clear roles and responsibilities
- **Project Team Collaboration**
  - Weekly Project Progress calls highlighted any bottlenecks
  - Mutual support between Client and Curtiss-Wright Data Conversion and Server teams to address any issues in a timely fashion to keep to schedule

# Questions

