Docket No. 22-08-03 Compliance Filling

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Avangrid – The United Illuminating Company

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Docket No.22-08-03, ANNUAL NON-RESIDENTIAL RENEWABLE ENERGY SOLUTIONS PROGRAM REVIEW –YEAR Compliance Order 19

Order 19 in the Final Decision

No later than July 1, 2023, the EDCs shall file in Docket No. 23-08-03 a proposal, including cost estimates, any required system upgrades, and a timeline for implementing SAVE's proposal to update capacity maps in daily or real time, as well as a plan for utilizing real-time hosting capacity map data for other clean energy programs and distribution system planning activities.
The Authority also directs the EDCs to present their proposal and findings on the updating of capacity maps in daily Docket No. 22-08-03 Page 42 or real time to a meeting of the IX Working Group. The EDCs shall file as compliance with the Authority the date of such presentation.

Hosting Capacity Maps Milestones, Timeline and Associated Projects Overview

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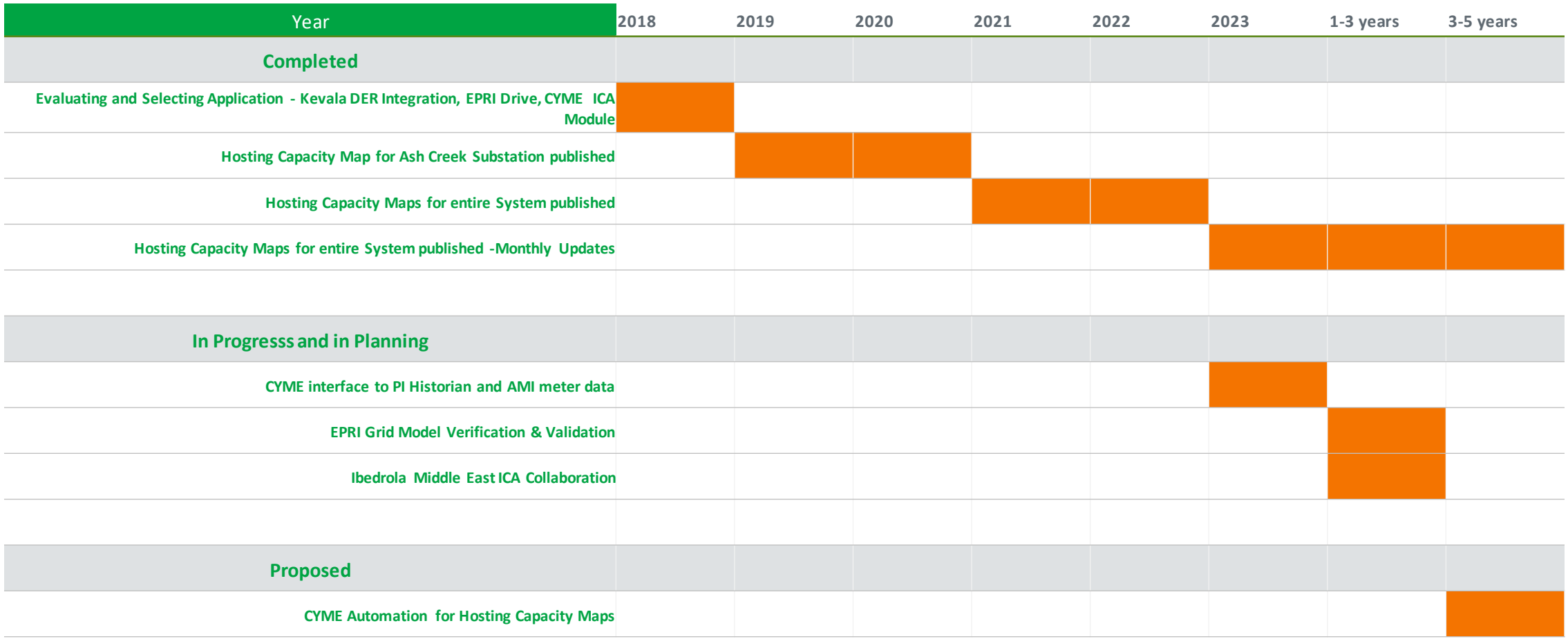
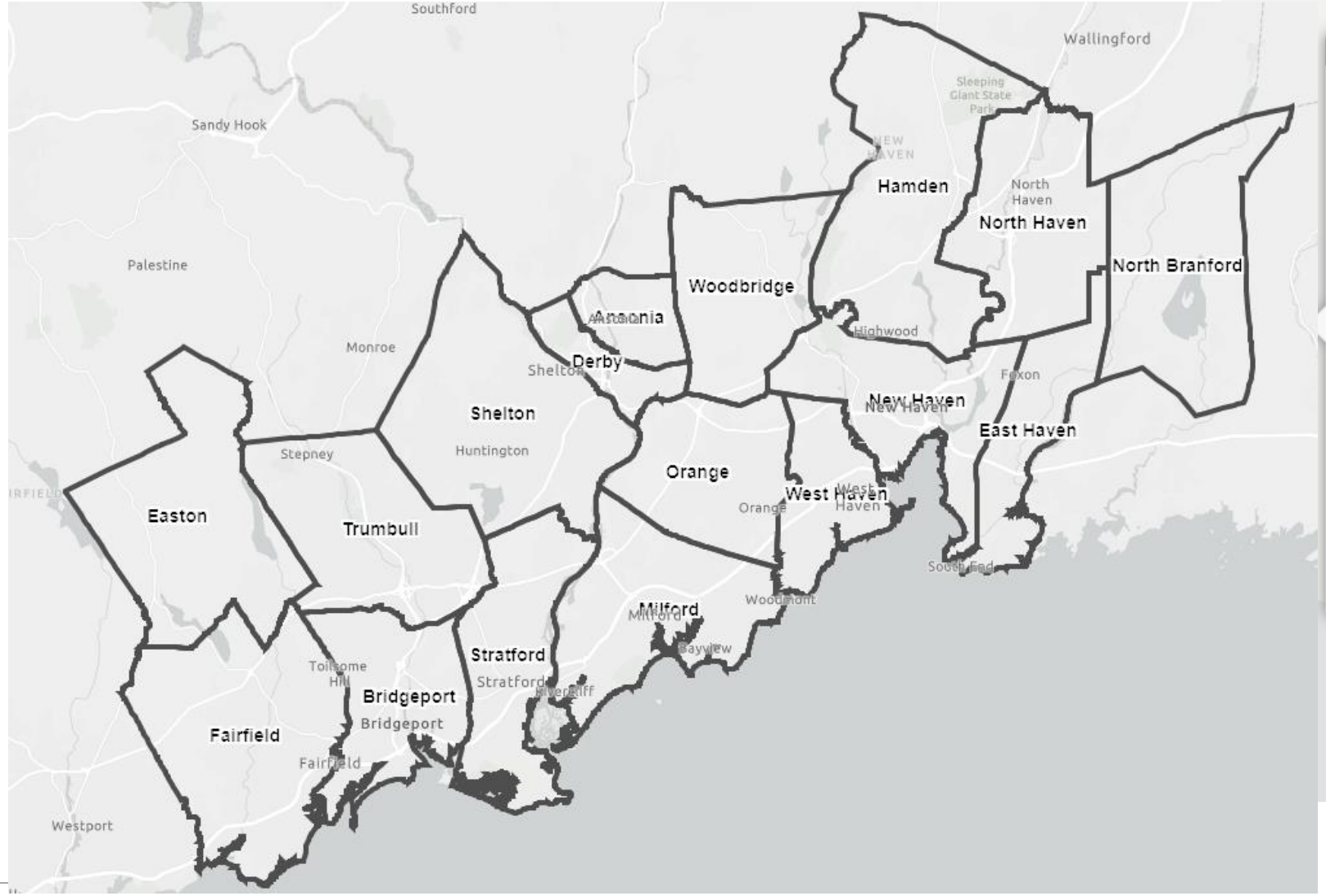
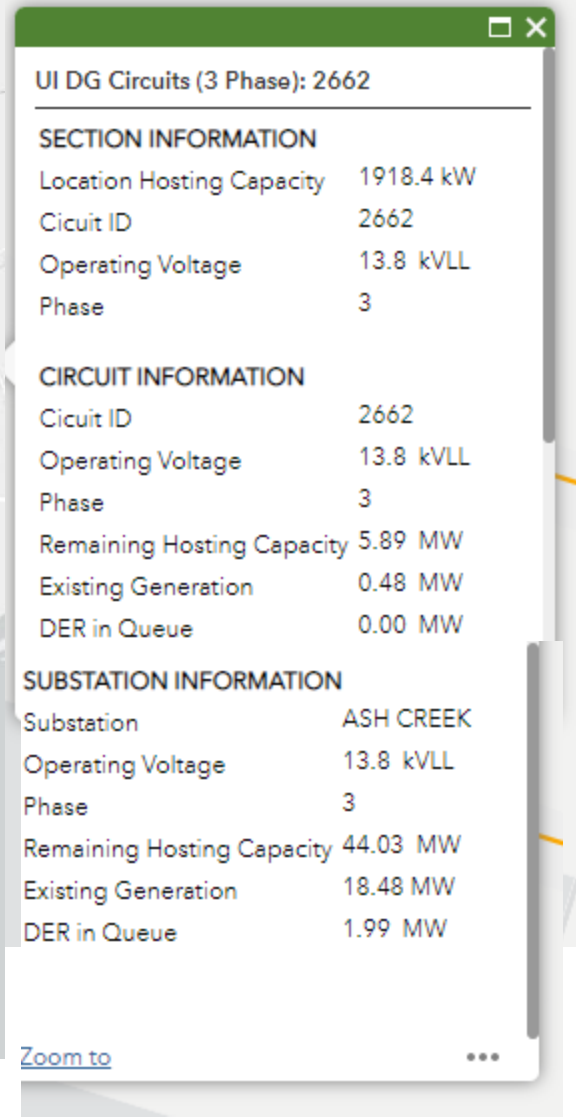
Hosting Capacity Maps Milestones and Timeline



Current Hosting Capacity Map





Current Process Overview

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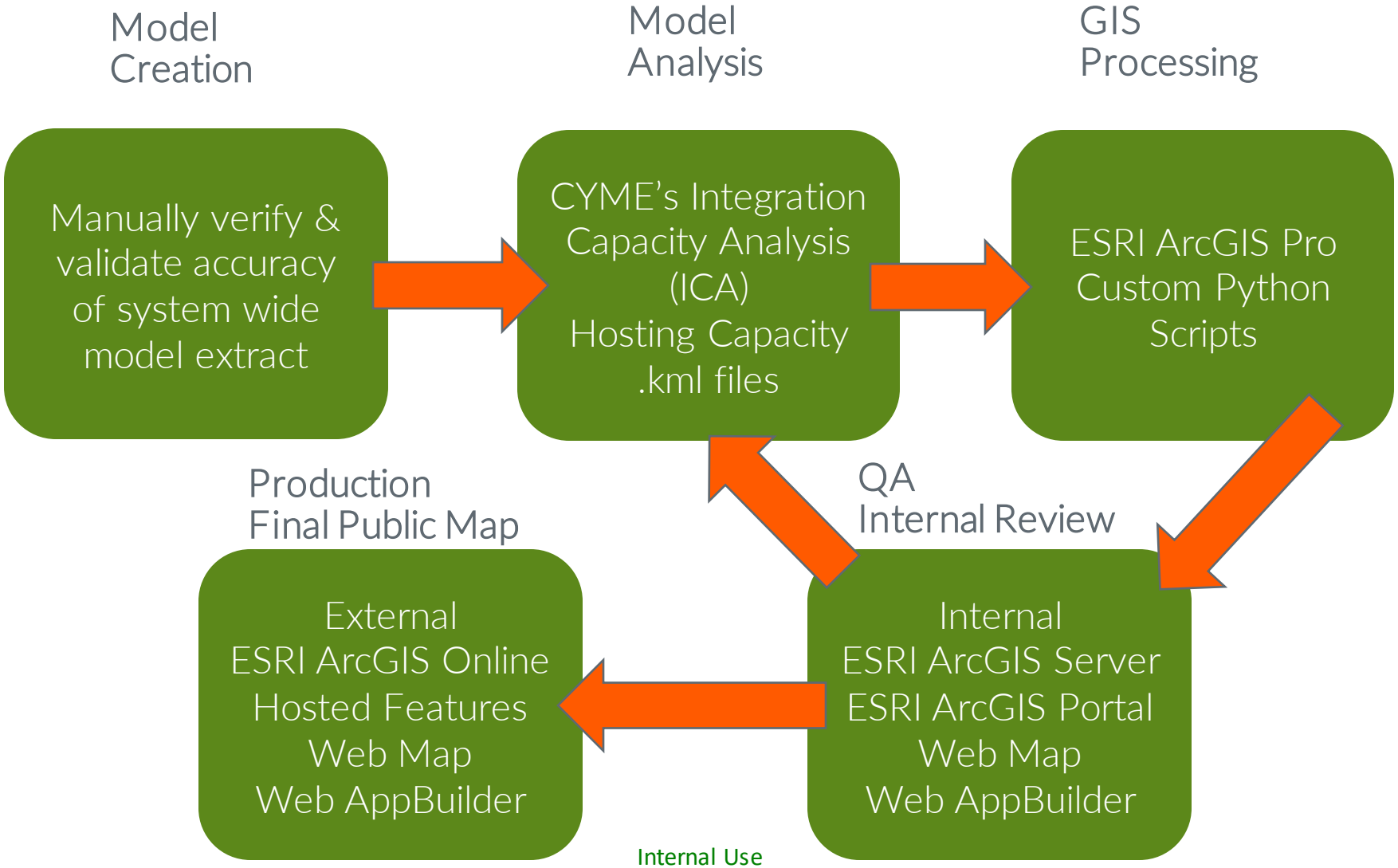
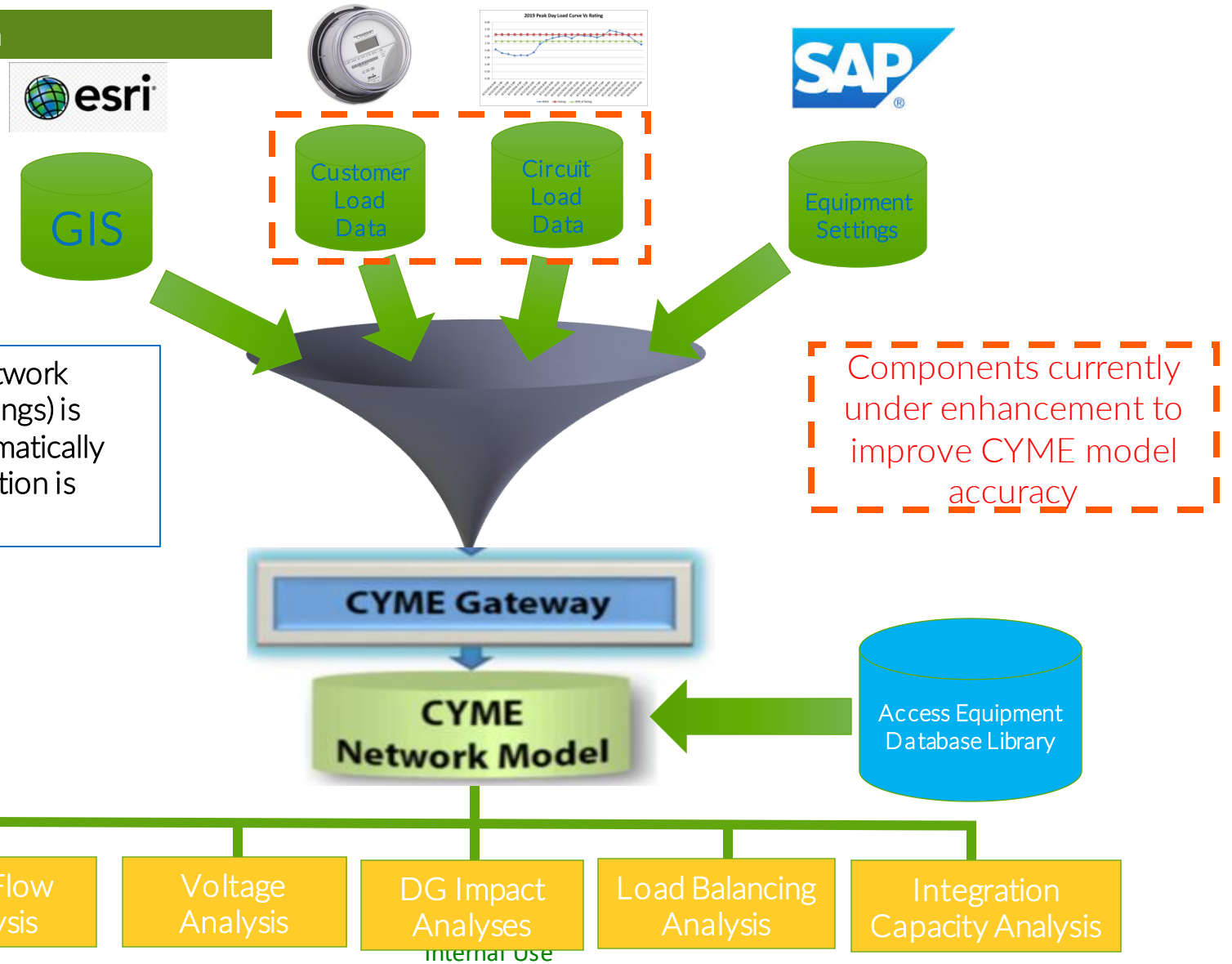
Stages



First Stage Process Overview

System Model Creation



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- Limitations
  - Manual verification & validation of data
  - DGs in queue or interconnected on secondary not included in the model
  - Minimum Daytime Load approximated as a % of peak load
  - Circuits from the same substation modeled independent of each other
  - Time consuming and resources intensive
- Expectations from Automation
  - Improved Hosting Capacity Features
  - Improved Customer Experience – Maps will look different
  - Automations of interconnecting steps
  - Interface with PowerClerk
  - Free up valuable resources
  - Improved speed and accuracy
  - Streamline CYME ICA Analysis – less manual intervention

CYME Automation Daily Update - Cost Estimate

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Project Start (Subject to PURA approval, Current Projects Status and vendor engagement)		
Project In Service (Subject to Start Date)	1 to 2 years	
Description	Scope	
Software update one time charge	Automated CYME ICA calculation using CYME server	
	Automated generation of results in an Oracle database to be used by UI to review or publish results	
	CYME ICA Web Control Dasboard	
Hardware/Software update one time charge	Multiple sets of CYME server license	
	Multiple CYME Agents for Server licenses	
	Multiple CYME Distribution Analysis for Server license	
	Multiple CYME Integration Capacity Analysis for Server licenses	
Implementation Internal Technical and IT Costs	Dedicated team of engineers to support the implementation for six weeks period or 1440 hours: Planning, GIS, IT and ,SAP engineers.	
Application Annual Maintenance Fee		Recurring
Additional Applications Installation	Interface between PowerClerk and GIS	
	Interface between Oracle Database resulting from CYME ICA run and website for map publishing	
Internal support Costs	Dedicated team to resolve technical issues, Check accuracy of results, Validate data and resolve customers complains/notifications. Six FTE.	Recurring
TOTAL ESTIMATE	$1,500,000	$980,000

- Real time updates of the maps is possible, however…
  - Heavy computational requirements
  - New CYME agents running calculation in parallel are needed
  - Requires additional licenses
  - Eaton ADPS (Advanced Distribution Planning System) solution is scalable
  - Strain in resources – requires dedicated team for daily support
  - The daily number of DER Applications do not justify a daily update of the maps
  - Industry experience – Pacific Gas and Electric Company (monthly and only for 15% of the system)
- UI is proposing an incremental approach, taking advantage of "scalable" design and implementing an "exception" program
  - Exception program – based on system changes
  - DER tables updates bi-monthly

UI Proposed CYME Automation Update - Cost Estimate

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		Automated generation of results in an Oracle database to be used by UI to review or publish results	
		CYME ICA Web Control Dasboard	
	Hardware/Software update one time charge	1 Set of CYME server license	
		5 CYME Agents for Server licenses	
		5 CYME Distribution Analysis for Server license	
		5 CYME Integration Capacity Analysis for Server licenses	
	Implementation Internal Technical and IT Costs	Dedicated team of engineers to support the implementation for six weeks period or 1440 hours: Planning, GIS, IT and ,SAP engineers.	
	Application Annual Maintenance Fee		Recurring
	Additional Applications Installation	Interface between PowerClerk and GIS	
		Interface between Oracle Database resulting from CYME ICA run and website for map publishing	
	Internal support Costs	Dedicated team to resolve technical issues, Check accuracy of results, Validate data and resolve customers complains/notifications. Six individuals for six weeks period or 1440 hours. Assumes 4 runs per year.	Recurring
	TOTAL ESTIMATE	$660,000	$150,000

- Automation of Interconnection Screens
- Simplify Interconnection process
- Automatically identify projects that require additional interconnection studies
- More efficient Impact Study process - gather and automate data required to perform an Impact Study

- New Load Addition Studies Automation – any new load addition modeled as EV

Questions?