

Advanced Distribution Management Systems (ADMS)

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Lecture 27

- ADMS can have a broad range of topics
- Some exist now in distribution systems, some are emerging
- Key is bringing to together range of functions that now have their own communications and data bases
 - » And possibly separated staff
- Software tools emerging in market to fit this niche
- The next slides discuss functions that can be fit into to ADMS



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Outage Management System (OMS)

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- Call management
- Incident management
- Customer management
- Providing information in web apps
 - » To public
 - » Internal users
- Can also include
 - » Crew management: status of crews, assignment management
 - » Switching management: plans, work requests
- All of these require communicating information
 - » Some that is normally outside the OT environment



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Distribution Management System (DMS)

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- To an extent, advances are moving grid energy management system environment to distribution systems
 - » State estimation
 - » Load flow
 - » Contingency analysis
- More challenging in a distribution system
 - » Since unbalanced need three phase solution
 - » Topology analysis
 - » Network model – validation
 - » Change management
 - » User interface
 - Displaying planned or unplanned outages for operators



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Some Other DMS Functions

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- Fault calculations
- Capacitor/voltage regulator placement (planning)
- Efficiency/loss estimates
 - » Volt/VAR optimization
- Load forecasting
- Reliability/resilience
- Network reconfiguration (manual and autonomous)
 - » FLISR
- Clients for field crews—system for visiting, mutual aid crews.



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Operations

- Data historian
 - » Reports
 - » Data for simulations—snap shots, forecasts
- Geographic information system (GIS)
 - » Translating model data
 - » Device location/names/tags/parameters
 - » Parameters for different analysis tools
- Operator training
 - » Real scenarios in closed environment



Communications

- Cybersecurity
- Alarm configurations
- Telemetry
- Configuration mappings
- Drill down HMI views of equipment

