DG Saturation Point on Distribution Feeder

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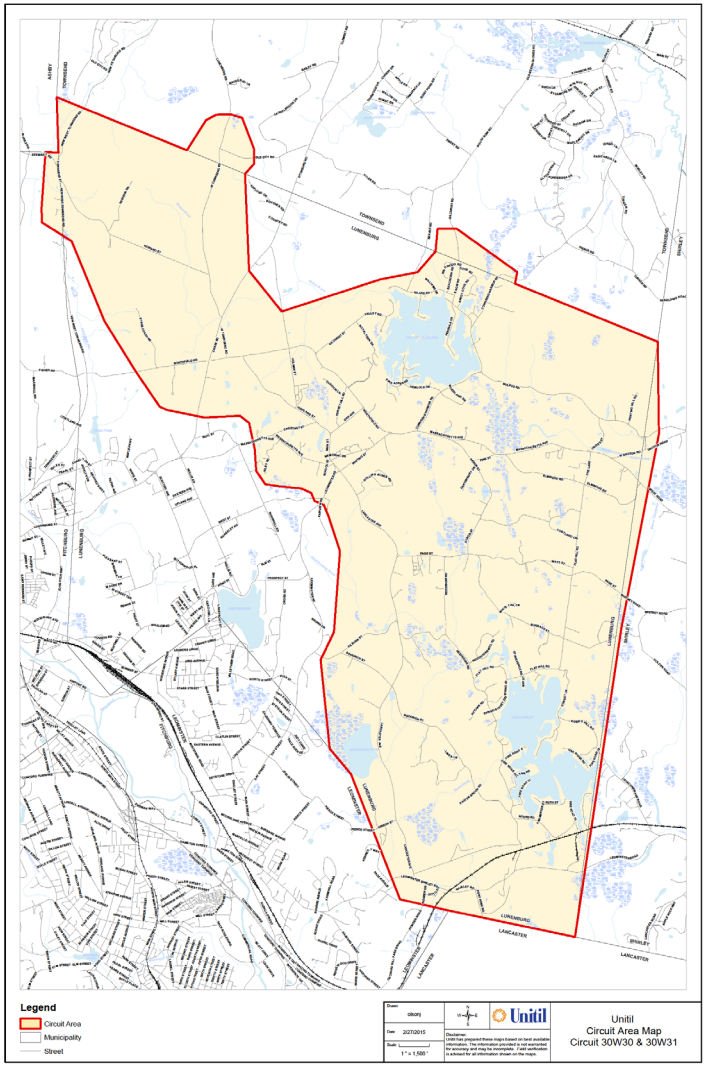
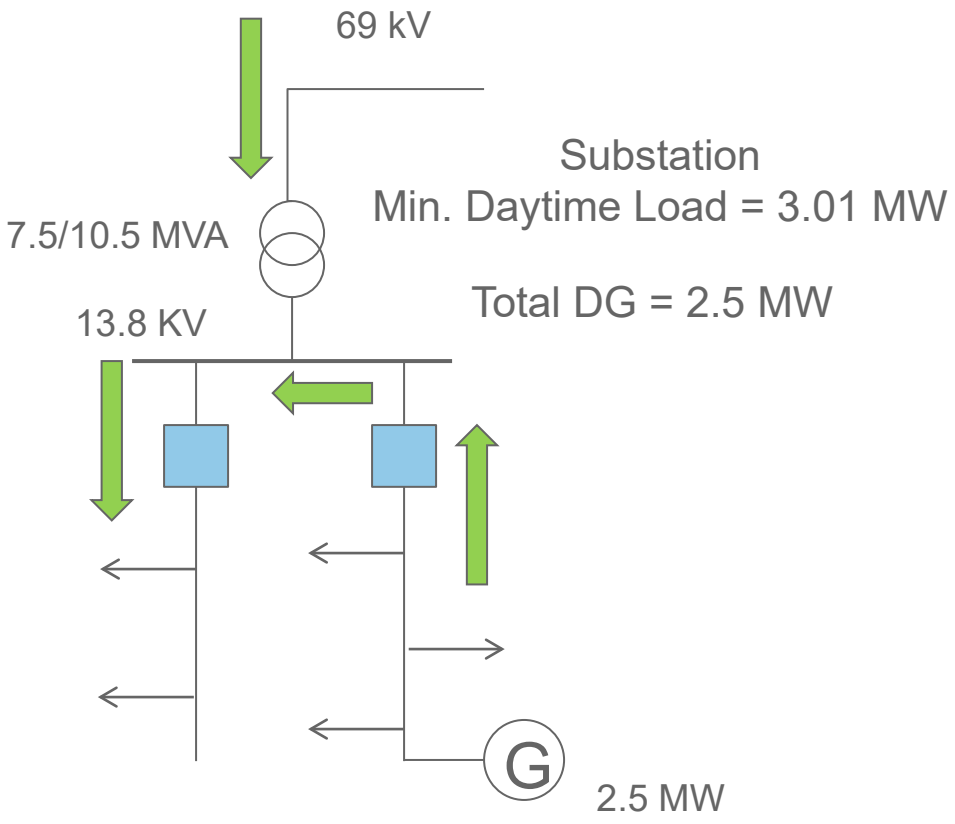
History

- Large DG (2.5 MW) facility approved for install in 2012 and interconnected in 2014.
- Since approval, additional 100 applications for 1 MW applied for interconnection
- Aggregate of Large DG and multiple residential facilities cause back flow through substation transformer
- Need of voltage regulator control and 69kV 3V0 protection

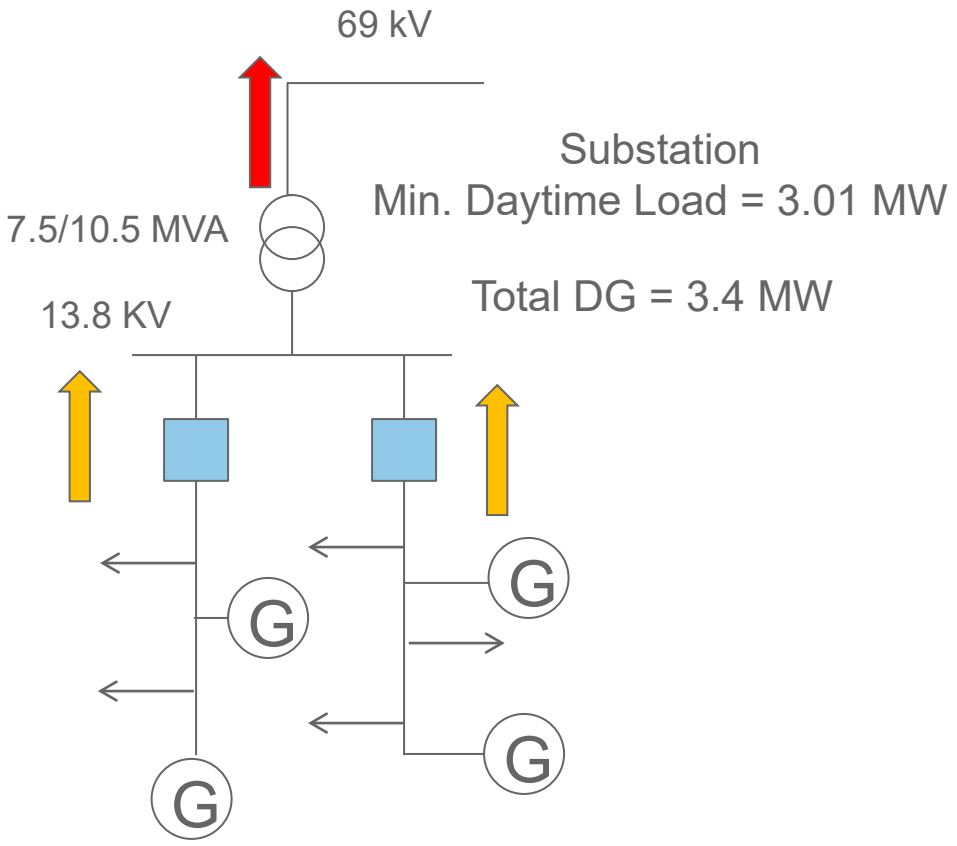
DG Saturated Area



System Diagram (2013 – 2014)



System Diagram (2015)



Review of Applications

- ***After approval of 2.5 MW:***
  - Received additional 100 applications for 0.9 MW
  - While analyzing screens of additional DG applications, monitored total substation loading
- ***When Total DG = Min Daytime Load:***
  - Sent Applicant (PV developer) Impact Study Agreement
  - Waited 15 days
  - Contacted applicant, after a number of days, applicant declined study.
- ***After refusal of Impact Study:***
  - Suggested to PV developers to stop soliciting area – Provided map
  - Notified applicants of situation, stating construction makes project unfeasible.

Present Situation

- ***Until has identified what upgrades are required (Impact Study no longer required)***
  - Construction costs appr. $250,000
  - Contacting large PV developers – recently received application for large DG
  - Performing detailed coincident load study
- ***Option 1***
  - Process each application, Send ISA to each customer in queue
  - Wait for response (up to 60 business days) for each customer
  - Process next application in Queue
- ***Option 2***
  - Notify all customers of situation at time of application
  - Put application process on hold until upgrades are funded and complete
- ***Option 3***
  - Conditional approval requiring control (storage) so that system will not export during times of light load.

DG Saturation

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Discussion / Questions