

# Key Pitfalls and PV Case Studies

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## Electric Distribution Planning

# CH Web Updates

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If you are a Central Hudson customer, you may be eligible to install a generator and operate in parallel with Central Hudson's electric grid.

#### Contact Information

**For general inquires, billing and metering questions**

Phone: 845-452-2700 or 1-800-527-2714

Email: [Pvmetering@cenhud.com](mailto:Pvmetering@cenhud.com)

**For interconnection application inquires or technical questions**

Phone: 845-486-5215

Email: [DG@cenhud.com](mailto:DG@cenhud.com) or [DistributedGeneration@cenhud.com](mailto:DistributedGeneration@cenhud.com)

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Interconnection  
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FAQs



Forms



Interconnection  
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Technical  
Requirements



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Programs and  
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FAQs



Forms

# CH Web Updates

## Application Page

**Consulting Engineer or Contractor:**

Enter Contractor #  [Contractor/Agent Number Reference Table](#)

Company Name:

Web Address:

First Name:

Last Name:

Address:

City:

State:

Telephone:    X-

Fax:

Cell:

Best Contact Method:  
 Telephone  Cell  Email

**Agent:**

Enter Agent #  [Contractor/Agent Number Reference Table](#)

Company Name:

First Name:

Last Name:

Address:

City:

State:  Zip:

Telephone:    X-

Fax:

Cell:

Best Contact Method:  
 Telephone  Cell  Email

# Key Pitfalls

1. Review NYS Electrical Inspection Certificate prior to submitting

- Incorrect quantities and/or equipment ratings

2. Submit as-built three-line diagram if there are changes made to the systems design

3. Building systems prior to submitting an application to the utility

- Safety concerns
- Metering and equipment upgrades

# Key Pitfalls (Continued)

## 4. Verification Test Results

- Test should be performed after the electrical inspection has been conducted
- Verification Test Date = Date Actual Test Conducted
- Recording system reconnection time
- Test results for only 1 inverter when there are multiple inverters
- Test date > 5 business days, in some cases > 1 month
  - Per the NYSSIR “If the utility opts not to witness the test, the applicant will send the utility within five (5) days of the test a written notification, certifying that the system has been installed and tested in compliance with the SIR, the utility accepted design and the equipment manufacturer’s instructions.”

# Key Pitfalls (Continued)

## 5. Net Meter Installation

- Notify customer that a digital bi-directional net meter will be installed in place of their current utility meter
- Submit application after customer is committed to the PV installation
- Contact to remove from queue if project canceled
  - Customer's are refusing the installation of their net meter
  - Causes utility reps to make additional trips

# Key Pitfalls (Continued)

## 6. Signatures

- Digital Signatures
  - Accepted on a case by case basis
  - Not typed
- Letter of Authorization
  - MUST be signed by Customer
  - Provides Agent ability to submit application and sign interconnection contract on customer's behalf

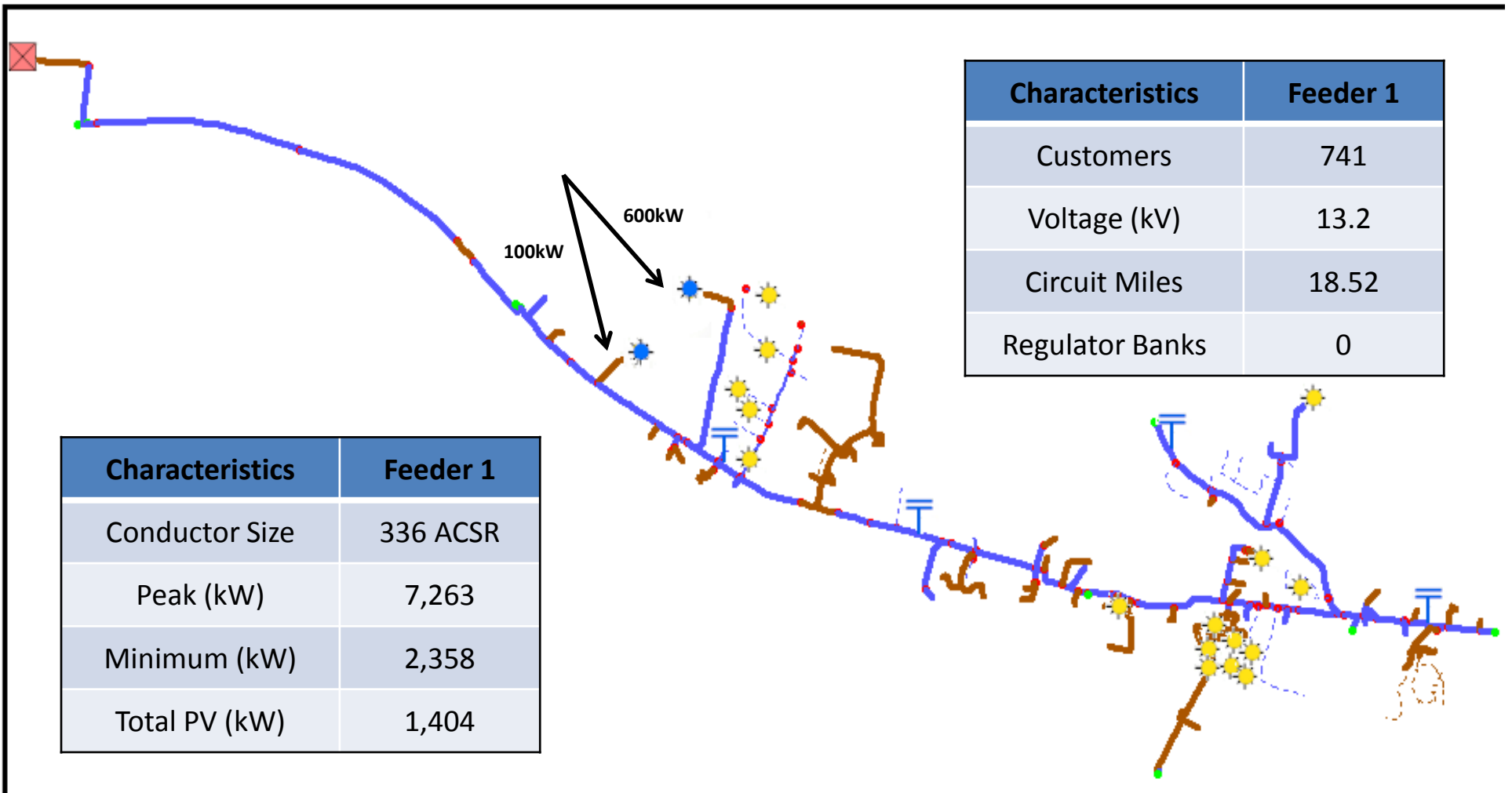
# Distribution Circuit Characteristics

- Location, Location, Location
- Circuit Minimum Load
- Conductor Size
- Voltage
- Existing DG
- Distribution Equipment
- Protective Devices





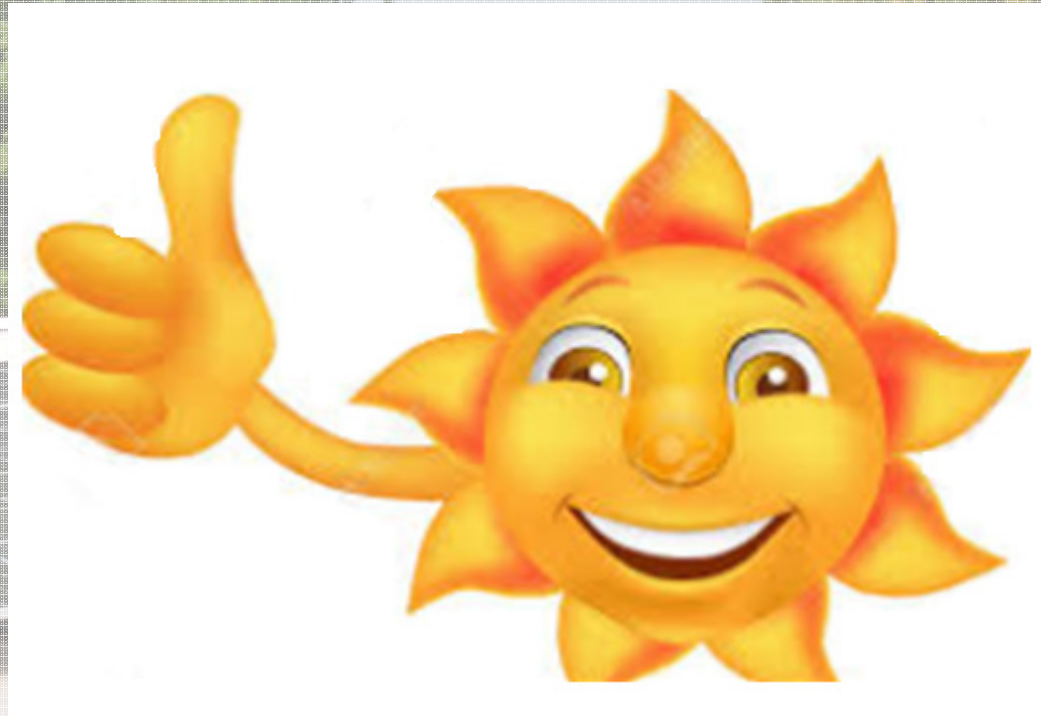
# Case Study # 1 – 600kW & 100kW PV



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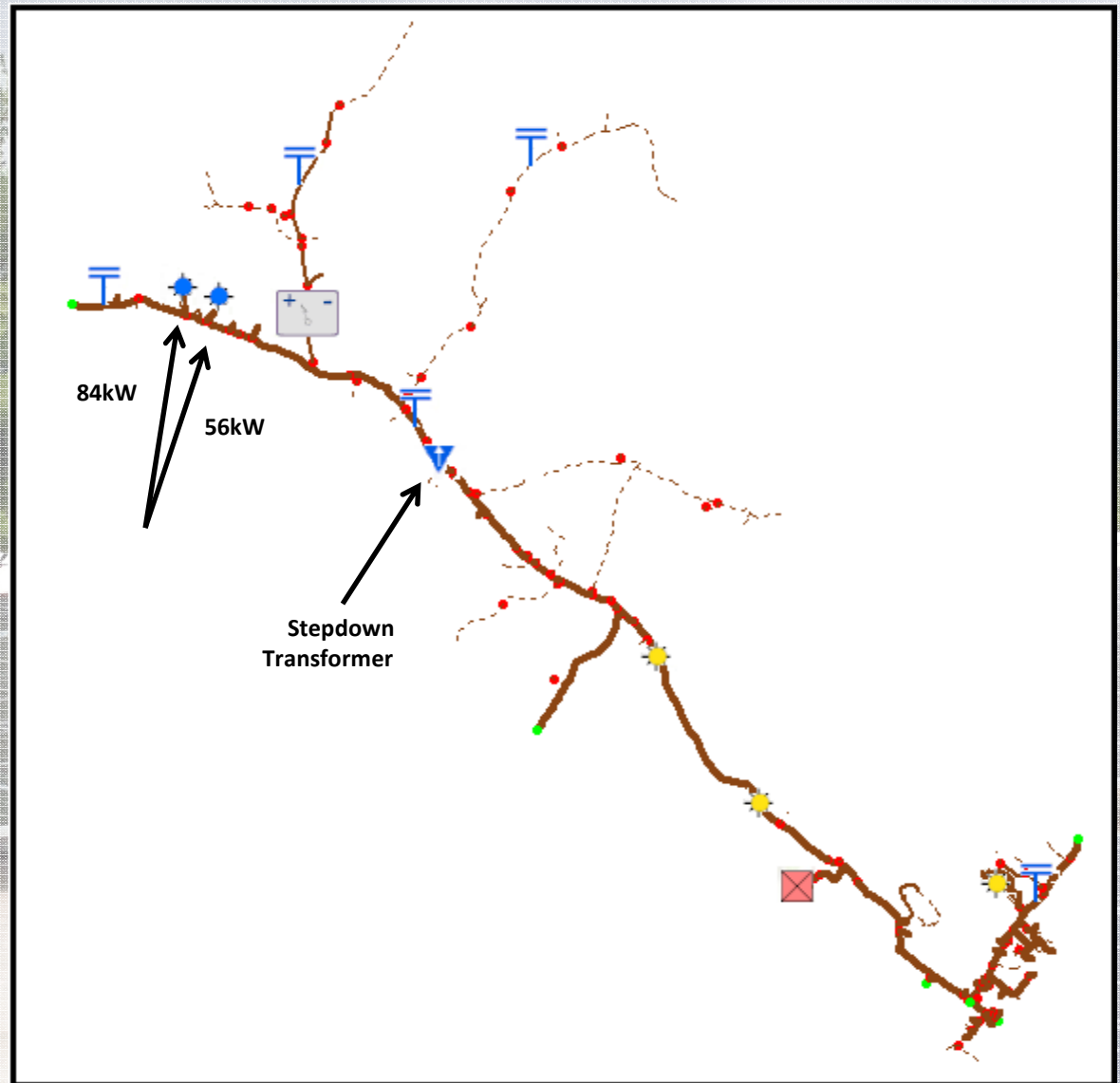
Upgrades Required?

**None!**



# Case Study # 2 – 84kW & 56kW PV

Characteristics	Feeder 2
Customers	1,044
Voltage (kV)	4.16
Circuit Miles	25.70
Regulator Banks	1
Conductor Size	#2 Cu
Peak (kW)	3,846
Minimum (kW)	1,300
Total PV (kW)	175.1

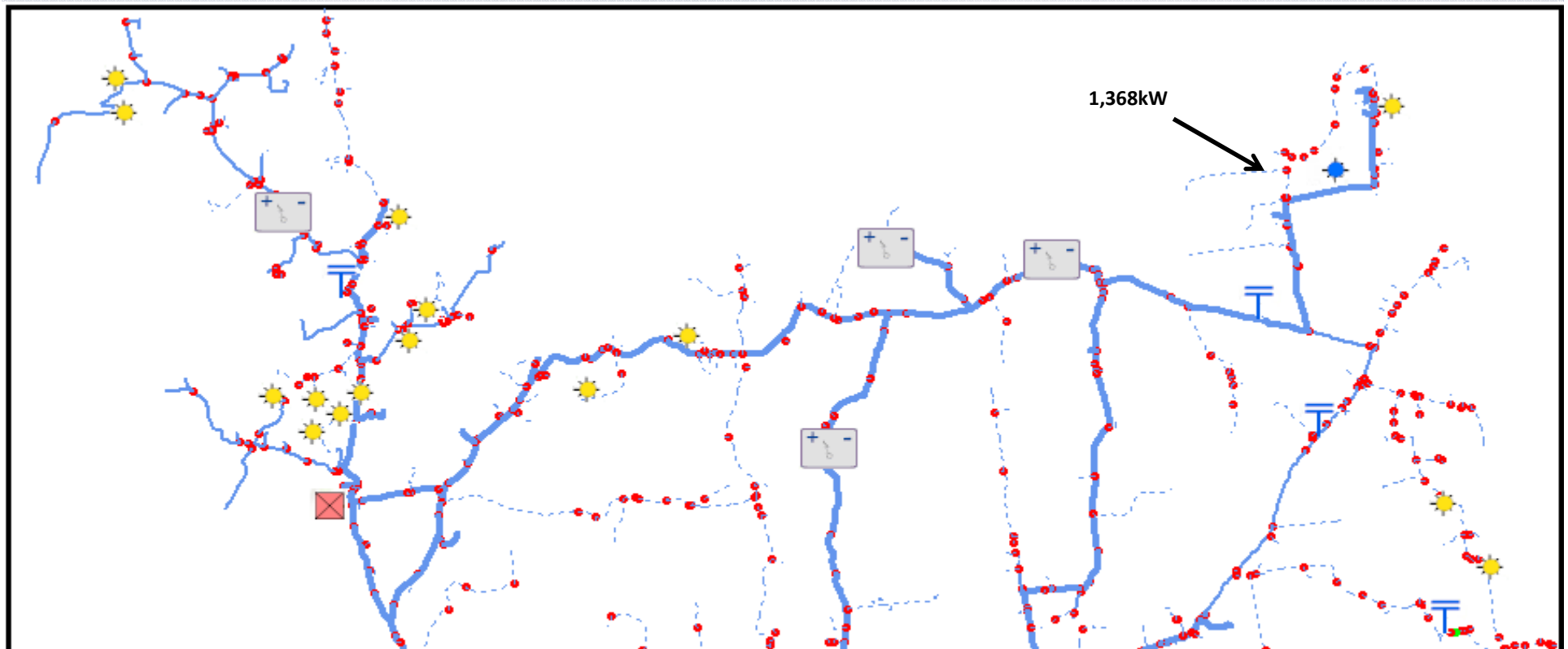


# Case Study # 2 – 84kW & 56kW PV

## Upgrades Required?

Number	Upgrade
1	Convert 2 miles distribution line - 4.16kV to 13.2kV
2	Extend primary to PV site
3	Install new service and dedicated transformer
<b>TOTAL</b>	<b>\$646,000</b>

# Case Study # 3 – 1,368kW PV



Characteristics	Feeder 3
Customers	1,711
Voltage (kV)	13.2
Circuit Miles	108.29
Regulator Banks	4

Characteristics	Feeder 3
Conductor Size	#2 ACSR
Peak (kW)	5,783
Minimum (kW)	2,004
Total PV (kW)	1,546

# Case Study # 3 – 1,368kW PV

## Upgrades Required?

Number	Upgrade
1	Upgrade 1.5 miles # 2 ACSR conductor to 336 ACSR
2	Upgrade 1-phase regulator for co-gen operation
3	Upgrade 3-65k fuses to Electronic Reclosers
4	Install Electronic Reclosers at PCC
<b>TOTAL</b>	<b>\$580,000</b>

**What about inverter power factor adjustment?**

# Case Study # 3 – 1,368kW PV

Number	Upgrade
1	Adjust inverter(s) PF to 0.95 lagging
2	Upgrade 1-phase regulator for co-gen operation
3	Upgrade 3-65k fuses to Electronic Reclosers
4	Install Electronic Reclosers at PCC
5	Upgrade fixed capacitor to switched
<b>TOTAL</b>	<b>\$160,000</b>

**Saved approximately \$420,000!**

# Thank You!

