Generation Interconnection

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Purpose and Scope

- **Purpose**
  - SAFETY
  - To identify the impact a generator may have on the CL&P distribution system.
  - To provide any cost associated with upgrades to the Electrical Distribution System
- **Scope:**
  - Generating Facility inverter based10 kW or less (on site aggregate generation)
  - Fast Track Process
  - Study Process

Guideline for Certified Inverter Generating Facility, 10 kW and Less

- Qualification for Inverter Based 10 kW or less
  - Generator must be <= 10 kW
  - Inverter Based
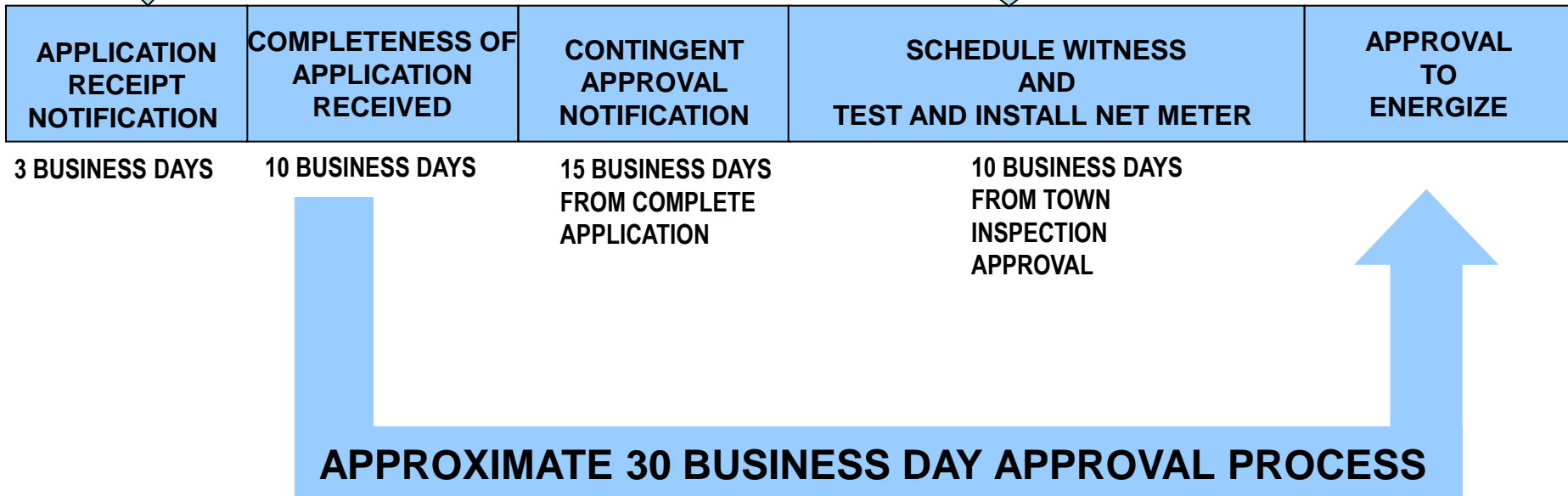 - UL 1741 and Certified by a NRTL (2005 revision)

Process Timeline **10 kW**

Submit Application
- The Application One line diagram
- Layout Diagram Proof of Insurance
- Inverter Data sheet Application Fee $100

Additional Paper Work
- Test Plan for battery operated inverters
- Inspector Approval
- Request for a witness Test

APPLICATION RECEIPT NOTIFICATION	COMPLETENESS OF APPLICATION RECEIVED	CONTINGENT APPROVAL NOTIFICATION	SCHEDULE WITNESS AND TEST AND INSTALL NET METER	APPROVAL TO ENERGIZE
3 BUSINESS DAYS	10 BUSINESS DAYS	15 BUSINESS DAYS FROM COMPLETE APPLICATION	10 BUSINESS DAYS FROM TOWN INSPECTION APPROVAL	

APPROXIMATE 30 BUSINESS DAY APPROVAL PROCESS

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Generator Interconnection Process
Key Attributes

Process	Rating	Time (Business Days)	Application Fees	Witness Test Fee	Liability Insurance
Inverter Based	0-10 kw	15	$100	0 1st Test	$300,000

Qualification for Fast Track Process

- Generator must be <= 2 MW

- UL 1741 and Certified by a NRTL (2005 revision)

- Meet all the screen requirements

- Generators which do not meet the Fast track requirements will be reviewed using the "Study Process" regardless of size.
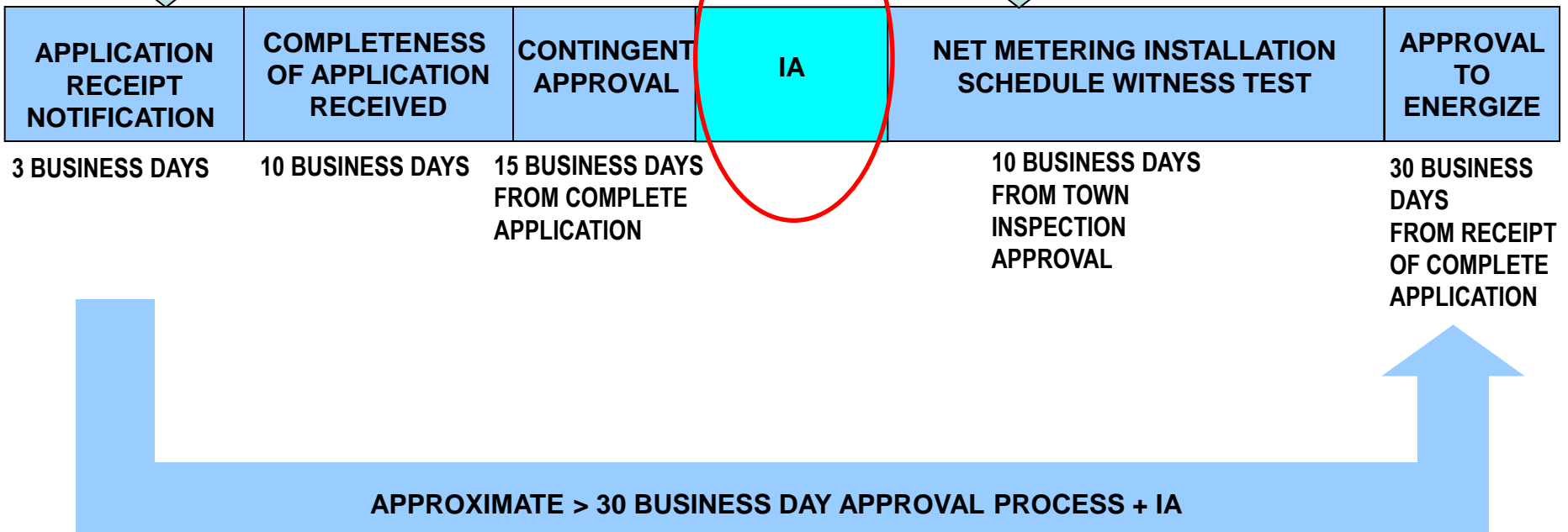
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6

Process Timeline

Submit Application
- The Application One line diagram
- Layout Diagram Proof of Insurance
- Inverter Data sheet
- Application Fee $500

Additional Paper Work
- Test Plan for battery operated inverters
- Inspector Approval
- Request for a witness Test

APPLICATION RECEIPT NOTIFICATION	COMPLETENESS OF APPLICATION RECEIVED	CONTINGENT APPROVAL	IA	NET METERING INSTALLATION SCHEDULE WITNESS TEST	APPROVAL TO ENERGIZE
3 BUSINESS DAYS	10 BUSINESS DAYS	15 BUSINESS DAYS FROM COMPLETE APPLICATION		10 BUSINESS DAYS FROM TOWN INSPECTION APPROVAL	30 BUSINESS DAYS FROM RECEIPT OF COMPLETE APPLICATION

APPROXIMATE > 30 BUSINESS DAY APPROVAL PROCESS + IA

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7

Generator Interconnection Process
Key Attributes

Process	Rating	Time (Business Days)	Application Fees	Witness Test Fee	Liability Insurance
Fast Track	0-2 MW	15	$500	Cost Based	$300,000

Note:

1- For > 1 MW add CL&P as additional insured.

Interconnections Common Pitfalls

- Poor or incomplete documentation
- Application not signed by CL&P customer
- Ownership of property not identified
- Not identifying owner in third party ownership of generator (Interconnection Agreement)
- Insurance for wrong party
- Jurisdiction FERC /State

Technical Issues and Pitfalls

- Fails to conduct adequate field inspection
  - **ID Point of Generator Connection**
  - Hot sequence without permission
- Disconnect switch not accessible
- Inverters that do not meet latest revision UL1741 certification (2005)
- Begin or Complete installation prior to receiving Conditional Approval

Net Metering (Now)

- AVAILABLE to any Class I renewable energy resource or hydropower facility whose generating capacity is less than or equal to 2,000 kilowatts.
- Banking or rollover excess kWhs
- Annual Reimbursement Price
    - <u>Photovoltaic:</u> Average hourly Connecticut ISO-NE real time RT-LMP, for the hours 10 a.m. to 4 p.m. during the annual period.
    - <u>All other:</u> Average hourly RT-LMP, for all hours during the annual period.
- Customers electing service under this rider must remain on the rider for at least 12 consecutive months.

- No virtual metering

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PA 11-80 Section 121

- Electric distribution company shall provide <u>virtual net metering</u> to its <u>municipal customers</u> and shall make any necessary interconnections for a virtual net metering facility.

- "Beneficial account" means an <u>in-state retail end user</u> of an electric distribution company designated by a customer host in such electric distribution company's service area to receive virtual net metering credits from a virtual net metering facility

- "Virtual net metering facility" means a <u>Class I renewable energy source</u> that: (A) is served by an electric distribution company, owned by a customer host and serves the electricity needs of the customer host and its beneficial accounts; (B) is <u>within the same electric distribution company service territory</u> as the customer host and its beneficial accounts; and (C) has a nameplate capacity rating of <u>two megawatts or less</u>.

- "Virtual net metering credit" means a credit equal to the retail cost per kilowatt hour the customer host may have otherwise been charged for each kilowatt hour produced.

Successful Interconnection
The Three Pillars

Safety

Successful Interconnection

Reliability

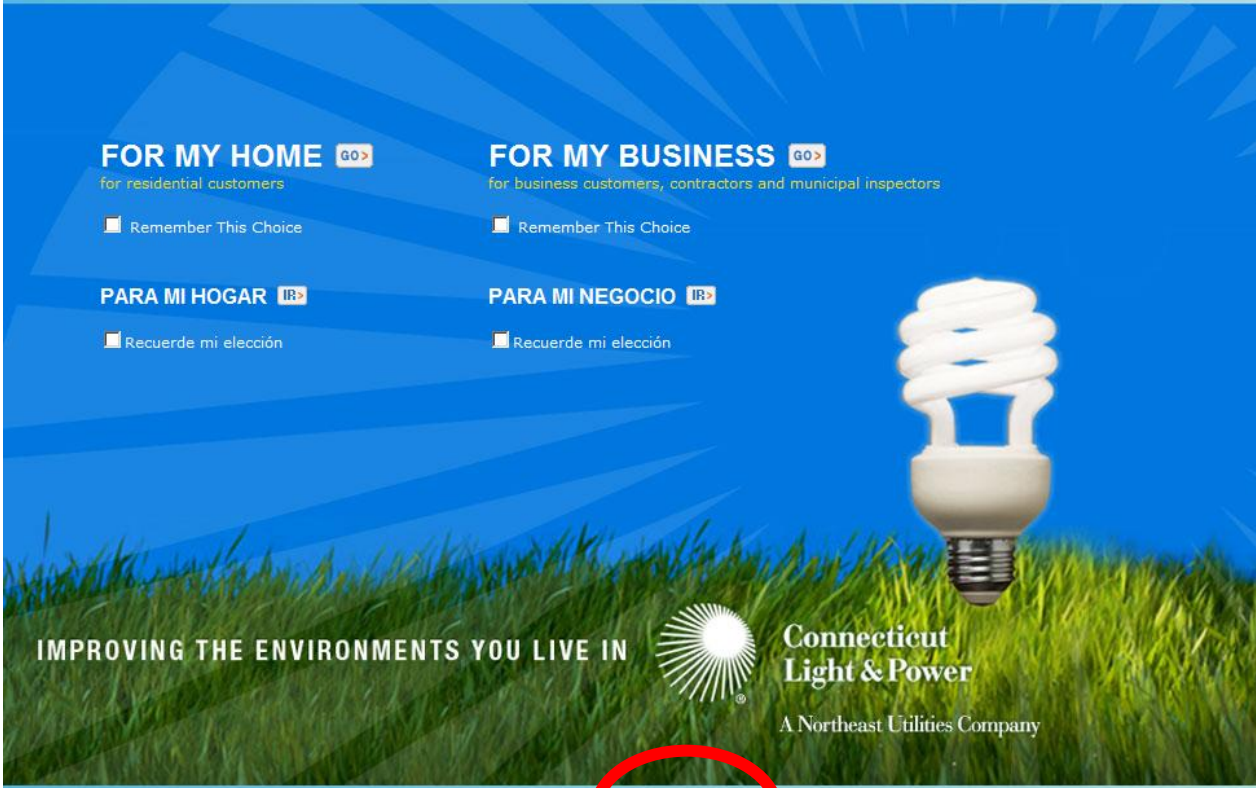## Rate payers
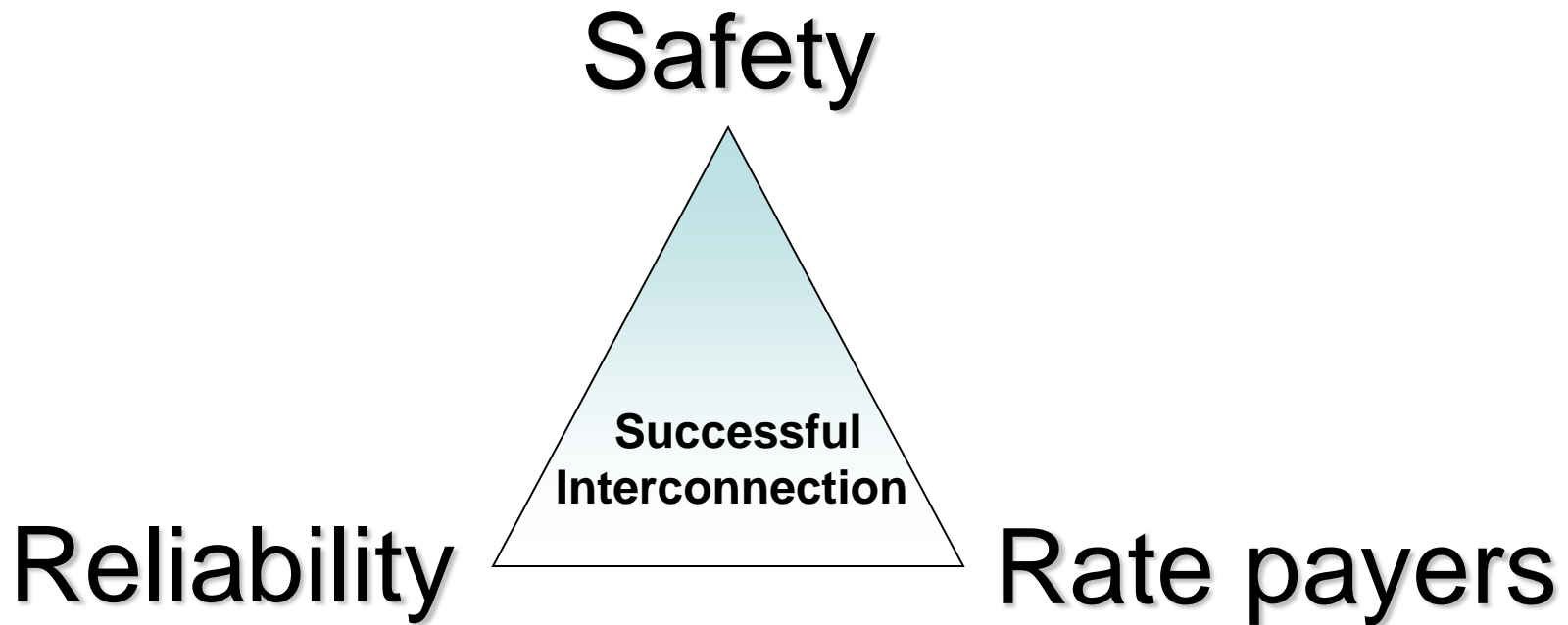
Contact Information

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Interconnection Guidelines: http://www.cl-p.com/

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