Constructing & Connecting All-Electric Buildings

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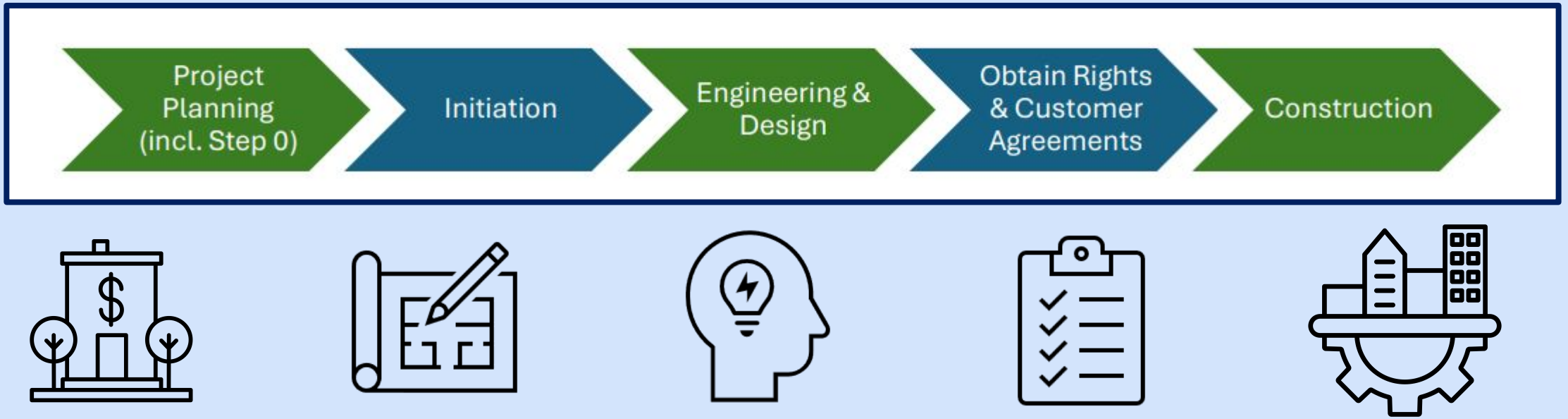
Complex Electric Connections

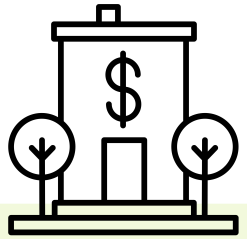
Answering your questions



The average complex electric connection, from initiation to energization, is 40 weeks, but the min/max duration greatly fluctuates from two weeks to more than five years based on the nature of the customer's installation

The LDCs and the EEA have joined up to create a common process overview that is posted here:
Connecting New Buildings to the Electric Grid | Mass.gov

Project Planning



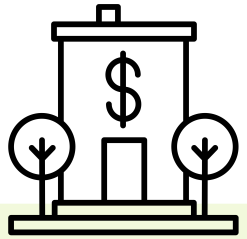
<u>Engage with National Grid Account Management teams early</u>

- Support long term demand, distributed generation, energy efficiency, and electrification planning
- Support Services Agreement can be established to assist with long range planning for new additions and expansions

<u>Large loads require area capacity studies</u>

- may add significant time to a project duration, as well as require complex, multi-year construction projects
- Transmission studies are ISO-NE dependent, potentially multi-year impact
- Study outputs determine costs which may be passed onto the customer depending on revenue justification, which can be significant

Project Planning



“Step Zero”

- Customers can inquire about potential new loads at a given location.
- National Grid will review the customer’s information and determine if a transmission and/or distribution study is required.
- Completion is typically within 21 days
- No cost estimate provided

Mass Save

- Offers project planning options for all customer types

Initiation

Account Creation & Work Initiation

- The customer creates account, provides connection details, and a new service or service upgrade construction order is created
- Loads exceeding 200kW are reviewed for potential distribution study if not previously done
- A National Grid Job Owner will make contact and request the needed information to proceed with design, or in cases where a distribution study is needed, engineering
- This information may include: electrical one-line diagrams, site plans, load information, environmental order of conditions, deed book & page, electric vehicle/DG applications
- Once required information is collected, design and/or engineering will begin

Engineering & Design

Distribution Area Capacity studies

- Some installations will require a study to meet the customer's installation request whilst maintaining reliability for exiting customers
- A scope, schedule, and cost for the electrical infrastructure to be added and/or upgraded is determined
- The location greatly impacts when a study is required
- There is a queue when multiple loads are requested in an area
- A study is typically 6 months and $50k in cost, which will be applied to the project cost if the customer moves forward.
- Studies can be completed early in the project planning and initiation phases loads are known. This can be advantageous for larger projects that likely require significant infrastructure

Engineering & Design

A National Grid Design Engineer is assigned as the technical point of contact, reviews detail in hand, and schedules a site visit is scheduled with the customer to

- Verify customer needs & equipment requirements
- Agree upon equipment locations
- Identify space/access constraints and any encroachment to overhead lines
- Guide the customer on construction responsibilities and sequencing
- In some cases, a request for more site or technical information may be needed to fine-tune design and permitting needs based on these field conditions

Once complete, Design collaborates with Engineering & Operations departments to

- Create an efficient design and construction work package
- Develop cost estimates and order long lead material items
- Initiate processes to obtain permits and/or rights

Obtain Rights & Customer Agreements

National Grid actions:

- Determine Contributions-in-aid-of-Construction (CIAC) based on construction estimate and expected revenue
- Send Customer service agreement and CIAC invoice (if applicable)
- Draft easement, obtain Property Owner signature, and record easement when returned
- Assure customer environmental permits cover National Grid
- Submit and obtain local and state permits
- Assign a National Grid trench inspector, with site meeting

Obtain Rights & Customer Agreements

Customer actions:

- Return all required documentation timely, particularly service agreement and notarized easement, if applicable.
  - Delays in returning documentation often causes delay to starting construction.
- Pay CIAC invoice (if applicable)
- In some cases, additional Environmental Rights and Easements may be required to National Grid construction

Construction

A Padmount Transformer Installation Example

Site Readiness is Important!
Construction vehicles, equipment and other obstacles may prevent National Grid from completing work

May require outages &/or appointments

Public Way Civil Infrastructure and/or Pole Set

Trenching/civil infrastructure, and tree trimming on private property

Customer's transformer delivery is initiated and coordinated

Pre-Muni Inspection Electric Construction Completed

Secondary electrical & metering work, obtains municipal inspection

Final Electric Construction, Energization, & Meter sets

Key:

- NG Action
- Customer Action

Links

National Grid

- Connections Portal https://gridforce.my.site.com/electric/s/
- By Phone: 1-800-375-7405 between 7:00 AM and 4:30 PM (including escalations)
- Commercial Connections Guide https://www.nationalgridus.com/MA-Business/Start-Service-for-New-Construction/New-Electric-Service
- New Residential Services Guide https://www.nationalgridus.com/MA-Home/Start-Service-for-New-Construction/New-Electric-Service
- Heat Maps https://systemdataportal.nationalgrid.com/MA/

Eversource

- Contractor Website: https://www.eversource.com/error/general?initialRequestUrl=https%3a%2f%2fwww.eversource.com%2fresidential%2fabout%2fdoing-business-with-us%2fbuilders-contractors
- By Phone: 1-888-NEEDPWR https://www.eversource.com/error/general?initialRequestUrl=https%3a%2f%2fwww.eversource.com%2fresidential%2fabout%2fdoing-business-with-us%2fbuilders-contractors
- Heat Maps: https://navigator.eversource.envelio.com/?lang=en-us#8.17/42.025/-71.67

Unitil

- Contractor Website: https://unitil.com/builders-contractors
- Phone: 888-301-7405
- Heat Maps:

  https://unitil.com/builders-contractors

Questions?

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Thank you.

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Together, we make good happen for Massachusetts.

Your local electric and natural gas utilities and energy efficiency service provider are taking strides in energy efficiency: Berkshire Gas, Cape Light Compact, Eversource, Liberty, National Grid and Unitil.

As one, we form Mass Save®, with the common goal of helping residents and businesses across Massachusetts save money and energy, leading our state to a clean and energy efficient future.

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