



NOVEC

COMMERCIAL AND INDUSTRIAL

ELECTRIC SERVICE

GUIDELINES FOR

DEVELOPERS & BUILDERS

NOVEC COMMERCIAL AND INDUSTRIAL ELECTRIC SERVICE GUIDELINES FOR DEVELOPERS & BUILDERS

Introduction

This document covers the process for furnishing electric service to commercial and industrial facilities to be located in the NOVEC service territory. Commercial and industrial facilities can range in size from a simple garage, to a major industrial park. NOVEC will work with the developer/builder to identify those requirements which are needed for a particular application. Except for certain considerations in the Phase I analysis, this document does not purport to cover extraordinary elements of commercial service requests, such as relocating existing NOVEC facilities on a commercial property or extending NOVEC facilities to reach the property. Such requests are beyond the scope of this document and will be treated on a case by case basis.

Phase I / Advance Notification / Long Range Planning

- **Developer/builder shall provide NOVEC with a completed "Advance Notification / Long Range Planning Form" (see Appendix 'A') and furnish the following listed additional information for each project in order for NOVEC to perform a Phase I analysis of the project. NOVEC understands that the information required to complete the form and the information required in the list below is very comprehensive. NOVEC will accept less information but the developer/builder must realize that failure to provide such information creates a greater risk that NOVEC will not be able to identify the necessary facility upgrades in the early planning stages. This, in turn, could have a significant impact on project schedules later in the design process. If requested, NOVEC will meet with a developer/builder during his "due diligence" phase and before much of this information is known. Confidentiality agreements can be signed if necessary.**

Within two weeks of receipt of the completed Advance Notification / Long Range Planning Form and the additional information, NOVEC will provide written or electronic notice to the designated developer/builder project coordinator either confirming that all required information has been received or stating that the information submitted reflects deficiencies or problems. If the submittal contains deficiencies or problems, NOVEC will identify such deficiencies or problems.

No later than four weeks after NOVEC has confirmed receipt of all required information NOVEC will notify the developer/builder of any supplemental information requirements not previously anticipated by NOVEC but necessary to complete the Phase I analysis. Included with the request for this supplemental information will be an explanation to why the supplemental

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information is needed. If the developer/builder furnishes the requested supplemental information within a two week period, NOVEC will complete the Phase I analysis within the originally established time period. If the developer/builder requires more than two weeks time to furnish the supplemental information NOVEC may extend the originally established time period to complete the Phase I analysis by a period of time equal to the additional time beyond two weeks that the developer/builder requires to furnish the supplemental information.

- **Additional Information List**
 - Project plans for the entire scope of the project. One copy in AutoCAD format (NAD_ 1983 State Plane_Virginia_North_4501,X,Y coordinates) and one paper copy
 - Time sequence of build-out of the project
 - Use of land
 - Commercial (office, retail, warehouse, education, government, health care, manufacturing, technology)
 - Industrial (heavy manufacturing, chemical, transportation, pharmaceutical)
 - Type and quantity of units and structures (including square footage).
 - Type and quantity of electrical load for each structure (heat, water heat, air conditioning, heat pump, large motors, machines, computer systems, equipment, lighting, refrigeration, power conditioners).
 - On-site electric generation (backup, emergency, cogeneration, induction, synchronous).
 - Electric load delivery requirements (single phase, three phase, voltage, main switch)
 - Number of requested delivery points for electric service
 - Anticipated in-service date for each proposed facility
 - Identification of all existing overhead and underground private and public utilities within the land use area
 - Identification of all existing structures, facilities and easement rights within the land use area.
 - Anticipated requests to relocate any NOVEC facilities
- Developer/builder shall coordinate all meetings with multiple utilities and/or multiple third party entities when such meetings are required to address project-related issues.
- Once a developer/builder provides NOVEC with the "**Advance Notification/Long Range Planning Form**" and provides the above additional information, NOVEC will undertake an analysis to determine the

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scope and timing of infrastructure modifications that must be undertaken to accommodate the anticipated electric load required for the developer/builder's project. The timeframes for modifying, expanding, or installing new facilities on the NOVEC electric system vary considerably. Factors affecting these timeframes are planning, licensing, permitting, material and equipment acquisition, and construction necessary to complete such work. The following timeframes for electric system infrastructure modifications or new construction should be considered as estimated timeframes to complete such work:

- Electric transmission system upgrades, modifications, new facilities and/or relocations required to accommodate new projects must be identified and incorporated into NOVEC planning, acquisition, licensing, permitting and construction schedules at least 7 to 10 years prior to the time that such electric transmission improvements must be completed and in -service.
 - Electric substation upgrades, modifications, new facilities, and/or relocations required to accommodate new projects must be identified and incorporated into NOVEC planning, acquisition, permitting and construction schedules 3 to 5 years prior to the time that such electric substation improvements must be completed and in service.
 - Electric distribution system new facilities, upgrades, modifications and/or relocations required to accommodate new projects must be identified and incorporated into NOVEC planning, acquisition, permitting and construction schedules at least 1 to 2 years prior to the time that such electric distribution improvements must be completed and in service.
Note: Estimated timeframes may be extended if new regulatory, licensing or permitting requirements are added or modified.
- NOVEC will develop a written response for the project submitted for Phase I analysis by a developer/builder. The response will identify the scope and timing of electric infrastructure work at each level of the NOVEC electric delivery system: transmission, substation and distribution. The response will also identify any developer/builder requests (facilities relocations, etc.) that NOVEC cannot accommodate. The response will identify the projected scope and the projected timing for electric system work that NOVEC anticipates to undertake. This scope may include,
 - New feeder and circuit routes

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- Coordination requirements with other utilities that may be required to participate in the work with NOVEC
 - New easement requirements based upon projected circuit and feeder routes
 - Existing facilities upgrades, expansions and relocations
 - New facilities installations
 - "Planning grade" cost estimates to relocate existing electric facilities
 - "Planning grade" cost estimates to provide standard electric service and/or customer requested excess electric service requirements
- NOVEC will complete its analysis and provide a written response to the developer/builder within a 10 to 14 week timeframe after all of the information described above has been provided. The response timeframe will be extended if the original information provided to NOVEC changes during the course of the analysis. The findings and determinations made as a result of the analysis will remain valid for five years unless one or more of the following actions occur:
 - Information provided by the developer/builder and used by NOVEC in its analysis is no longer valid (changes in land use, load usage, quantity of construction, timing and sequencing of project, etc.)
 - Third party project(s) are planned for construction and impact the same portions of the NOVEC electric infrastructure as the developer/builder's project become known to NOVEC
 - Existing customers served from the same portion of the NOVEC electric infrastructure as that anticipated to serve the developer/builder's project present NOVEC with additional load requirements.
 - Governmental or regulatory changes to existing codes, permitting and licensing requirements that may require additional analysis or extend the timeframe for completing the needed electric infrastructure changes to the NOVEC system.
 - Governmental or regulatory changes to existing permitting and licensing requirements that may prevent or prohibit NOVEC from completing electric infrastructure changes.
 - NOVEC will notify the developer/builder within 60 days of NOVEC becoming aware of the occurrence of the above actions.

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The identification of any required system improvements does not constitute a commitment on the part of NOVEC to begin any work. NOVEC design and construction work for all projects will be undertaken in accordance with these guidelines and NOVEC's Terms and Conditions for Providing Electric Service.

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Phase II – Easements and Conduit Plans

Developer/builder requirements:

- It is beneficial for the developer/builder to have NOVEC perform and complete a Phase I analysis for each project. Bypassing the Phase I process could result in significant delays in obtaining service if existing system capacity or existing electric system infrastructure which require long time frames to upgrade, modify or relocate must be addressed.
 - NOVEC may be required to perform a Phase I analysis on data submitted at Phase II if no Phase I data was submitted to NOVEC for a Phase I analysis and portions of the existing system must be modified
 - NOVEC may be required to perform additional Phase I analysis if the data submitted at Phase II varies significantly from the data submitted to NOVEC at Phase I
- Review the Long Range Plan developed by NOVEC in the Phase I analysis.
- Meet with NOVEC to discuss or clarify the Phase I analysis. This step is optional and is only required if a meeting is requested by the developer/builder.
- Provide a list of developer/builder contacts, including each person's roles and responsibilities, phone number and e-mail address, primary work location, and scheduled work hours.
 - Note: It is essential that NOVEC be provided with a contact list at the beginning of the Phase II process in order to know to whom to communicate issues, requests or questions.
- Provide the plans submitted to the local jurisdictional authority in AutoCAD format on a CD, in NOVEC- specified format using NAD_1983 State Plane_Virginia_North_4501, X, Y coordinates (See Appendix B). Such plans shall be the final submission with all cross reference layers bound including all existing utilities. There are no exceptions to this required format.
- Provide one complete set of final submission plans on paper as provided to the local jurisdictional authority.
- Provide one paper set of the overall plans for the project if the plans submitted to the local jurisdictional authority only encompass a portion of the entire

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project.

- Provide any rock or geological information pertaining to the areas where utility easements may be planned or areas where utility excavations and trenching may be performed.
- Provide completed NOVEC electrical load letters (See Appendix C) for all service delivery points (one for each commercial service).
 - Preliminary load letters will be accepted but any significant changes to these documents will impact the time needed to complete the project. Load letters are used to size electric equipment. Certain electric equipment such as transformers, switches or specialty devices are ordered and assigned to each project. The manufacturers of such equipment may have delivery times in excess of 12 to 15 months.
 - If significant infrastructure upgrades are required to NOVEC facilities due to loads that are significantly greater than reported by the builder/developer further delays in providing service will be encountered.
- Provide property owner information from the front page of the deed, a copy of the recorded plat for the land, and LLC documentation (Articles of Organization). This information is needed for easement preparation.
- Provide the project design and construction sequencing/phasing by commercial building, by street names, and/or by project sections. The developer/builder shall clearly identify in writing the planned sequencing schedule for the entire project. This submittal must include total commercial structure count, all electric load requirements, and projected in-service need date for each commercial structure. NOVEC recognizes that many commercial site developments are speculative in nature, but any significant changes or additions to the proposed loads or development sequence will increase the costs and timeframe required to extend new electric service.
- Provide meter base or meter room locations.
- Provide a written developer/builder paving sequence plan identified and specified by street.
- Provide all street lighting requirements and the street lighting plan as approved by the local jurisdictional authority or private entity. The plan and requirements must include each street light location. If street lighting

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requirements and plans have been submitted to NOVEC, developer/builder will be responsible for all installation costs subject to NOVEC's terms and conditions.

- Provide all overhead and/or underground line relocation requests. NOVEC reserves the right to deny such requests. NOVEC may grant such requests, but only if NOVEC's ability to supply current and future load is not diminished or more costly. Requests for facilities relocation will be evaluated separately.
- Within 2 weeks following receipt by NOVEC of all or any part of the above information from the developer/builder, NOVEC will provide written or electronic notification to the designated developer/builder project coordinator either confirming that the required information has been received or stating that the information submitted contains deficiencies or problems. In the case of notice that the submittal contains deficiencies or problems, NOVEC will identify such deficiencies or problems. All such deficiencies or problems must be resolved and all specified information must be received before NOVEC will proceed with the design for the project.
- Within two weeks following the receipt by NOVEC of all specified information, NOVEC will provide a complete information package containing NOVEC standard documents that are required to be completed in order to obtain electric service:
 - Grade certification form – **Appendix D**
 - Underground Agreement form – **Appendix E**
 - Service application form – **Appendix F**
 - NOVEC contact list for the project showing personnel, phone numbers and e-mail addresses. – **Appendix G**
 - NOVEC web site address to access **Electrician Guide, Terms and Conditions for Providing Electric Service, and Specifications and Installation Requirements for Underground Service.**

NOVEC will provide the developer/builder with easement documents for signature within 6 to 10 weeks depending on the complexity of the commercial development. The developer/builder must notify NOVEC within two weeks following receipt of the easement documents if the proposed electric facilities routes need to be modified.

A conduit routing plan showing all required primary and secondary conduits, transformer pads, pull boxes and other appurtenances will be provided two weeks after receipt of the properly executed easement documents. The builder/developer is

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responsible for the purchase and installation of the primary and secondary conduits, transformer pads, pull boxes and other appurtenances shown on the conduit plan. See Phase IV for complete information on installing underground facilities for NOVEC.

- NOVEC will consider suggested conduit routes provided by a developer/builder. NOVEC reserves the right to select the conduit routes.
- If a commercial customer requires NOVEC to extend its facilities in excess of 1000 feet, if a commercial customer requests excess facilities, or if the installed transformation for any single building, structure or facility exceeds 500 KVA an Electric Service Agreement must be executed between NOVEC and the commercial customer. The NOVEC contact list will include information for the Business Development Account Representative if an Electric Service Agreement is required.
- Developer/builder is encouraged to furnish NOVEC with any available information regarding geological and rock formations where utility excavations and trenching work is to be performed. The installation of electric equipment where geological and rock formations would contribute to difficult excavation and adverse trenching conditions could potentially be avoided or minimized when such information is considered in the design.

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Phase III – Project Main Line Design

Developer/Builder requirements:

- Verify that the information submitted to NOVEC for all items in Phase II is correct. Changes at any time during the Phase II or Phase III process may impact the completion date for the conduit and main line design and the ultimate delivery date for electric service.
- Provide an executed NOVEC Underground Agreement for Commercial Customer (See Appendix E).
- Provide grade certifications for all areas within the properties that NOVEC must traverse with electric facilities (See Appendix D). Grade certifications are required prior to NOVEC inspecting and approving the developer installed conduit system as specified in Phase IV.
- Provide street lighting authorization letters from the local jurisdictional authority or responsible entity (entity that will be paying the monthly street lighting bill) when applicable.
- Provide a written schedule of all in-service need dates by commercial location.
 - It is expected that the in-service need dates will follow the sequencing / phasing plan submitted. NOVEC may not be able to accommodate changes to in-service need dates unless the developer/builder communicates such changes to NOVEC with sufficient lead time.
 - The developer/builder is responsible for providing clear access (vegetation and debris cleared, area to grade, area free of construction vehicles, equipment and materials) from the source of NOVEC's electric supply along the cable route to the new structure, building or facility that is to receive new service.
- Provide all building, structure and facility receiving electric service addresses if not already provided in Phase II.
- Provide an updated list of developer/builder contacts, including each person's roles and responsibilities, phone number and e-mail address, primary work location, and scheduled work hours if different from Phase II.
- If required, complete a Purchase of Power Agreement with NOVEC.

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Within two weeks following receipt by NOVEC of all or any part of the above information from the developer/builder, NOVEC will provide written or electronic notification to the designated developer/builder project coordinator either confirming that the required information has been received or stating that the information submitted contains deficiencies or problems. Any changes to the NOVEC contact list (See Appendix G) will be provided at this time. In the case of notice that the submittal contains deficiencies or problems, NOVEC will identify such deficiencies or problems. All such deficiencies or problems must be resolved and all specified information must be received before NOVEC will proceed with the design for the project.

Within four weeks following NOVEC notification to the developer/builder of the receipt of all specified information for Phase III:

- NOVEC will send an invoice to the developer/builder for their contribution toward the project if any monies are due.
 - Note: Construction will not be scheduled to begin until the invoice has been paid.
- NOVEC will provide the developer/builder with written or electronic confirmation that the design is complete and ready to go to construction. The work request will be forwarded to the Construction Department upon receipt of payment or as soon as the design is complete if no payment is due.

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Phase IV - Construction Planning for Installation of Electrical Facilities

Developer/Builder Requirements

Road Crossing and Commercial Conduit Installations

- All conduits must be gray PVC minimum SCH 40 UL rated.
- Proper separation must be maintained from all other utilities.
- NOVEC- approved warning tape must be installed.
- Conduit must be assembled and cemented properly.
- All conduits must be plugged with appropriate plugs and required pull string or pull tape must be installed (all runs in excess of 250' require pull tape in lieu of pull string).
- Proper size and number of conduits for road crossings must be installed per NOVEC specifications at proper locations and proper depth as specified by Distribution Engineering.
- Proper size and number of conduit and long sweeps for commercial conduit systems must be installed per NOVEC specifications at proper locations and depths, as specified by Distribution Engineering.
- Red road crossing and electronic conduit markers must be installed if road crossing conduits are not a part of the complete system..
- Road crossing conduit must be extended 5 feet past the VDOT right of way.
- Road crossing conduit must be extended 5 feet past all existing and proposed sidewalks.
- Easements must be marked to ensure that conduit is being installed within the NOVEC easement on the site.
- All transformer pads, enclosure pads, pull boxes, box pads, pedestals and hand holes must be level and installed in accordance with NOVEC Installation Drawings.
- Appropriate conduit must be located in appropriate section of any pads and must be cut level to pad.

NOTE: Additional requirements not specified on the list may be required. These additional requirements shall be communicated to the developer/builder within a reasonable period of time. The developer/builder should refer to NOVEC Specifications and Installation Drawings for additional information for each application.

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Within two working days of receipt by the Construction Department of a conduit plan from Distribution Engineering, the work will be assigned to the appropriate job site inspector. The job site inspector will conduct a field visit to verify readiness of the job site for the specific work.

The NOVEC job site inspector will usually perform an inspection of the work site once every 60 working days if the lot is cleared and a foundation has been installed or once every 30 working days if the lot is cleared the foundation has been installed and the structure walls are being constructed.

All conduits must be inspected and approved by the NOVEC job site inspector prior to backfilling the trench. All other required conduit system components must also be inspected and approved by NOVEC.

NOVEC Scheduler must be contacted two working days prior to needing conduit inspection. For job sites in eastern Prince William County, please call 703-392-1715. For job sites north of Route 50 in Loudoun County, please call 703-669-6070. For all other areas, please call 703-754-6784.

The job site inspector will contact the site superintendent regarding issues found in the field. If developer/builder contact is not on site, then developer/builder will be contacted by the scheduler. If a site fails an inspection, the job site inspector will revisit the site no earlier than one week after the inspection unless the developer/builder places a phone call or otherwise contacts the job site inspector or scheduler and reports that the problems causing such failures have been resolved. When the job site meets readiness and all developer/builder requirements have been met, work is then scheduled for construction by NOVEC.

NOVEC Excavations

At some locations NOVEC will be responsible for excavations on a commercial job site (such as line relocations).

In such cases, NOVEC will normally schedule a preconstruction meeting with the developer/builder at the job site to reduce the possible delays once the NOVEC contractor commences construction. Prior to such meeting:

- The developer/builder must set the property pins;
- The distribution designer must stake the proposed route;
- The Miss Utility marks must be evident on the ground.
- NOVEC scheduler will schedule a preconstruction meeting on site with the builder/developer, to include all appropriate NOVEC representatives

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(distribution designer, construction supervisor, Quality Assurance Representative, Job Site Inspector and NOVEC construction contractor).

At the time of the meeting, all representatives will walk the site and the following issues will be discussed:

- Existing curb and gutter damage
- Existing water crotch damage
- Existing handicap ramp damage
- Obstructions in the cable route impeding construction activities
- Rock dust and hoe ram agreements
- Need for private utilities to be marked
- Estimated start date

If the private utilities are not marked, NOVEC will not be held responsible for damages caused by NOVEC crews.

Installation of NOVEC Facilities

Before NOVEC can begin the installation of primary and secondary cables and any other NOVEC facilities necessary to provide service to the commercial development the following conditions must be met:

- The conduit system must be installed and approved by the Job Site Inspector.
- Cable path must be free and clear of obstructions at all equipment locations and where excavations are required.
- Easement area must meet grade requirements.
- Property corners must be staked prior to NOVEC construction commencing.

If the job site meets readiness, work will be scheduled to the appropriate NOVEC/contractor crew. NOVEC will make every attempt to complete the work by the scheduled date provided construction is not impeded by:

- Inclement weather.
- Obstructions in cable path.
- Adverse trenching conditions where excavations are required.
- Or other delays outside of NOVEC direct control.

Secondary/Services

For small commercial facilities involving only secondary cables:

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- Developer/builder must notify NOVEC scheduler when the meterbase has been installed and service entrance cable terminations have been completed.
- Wiring must have passed inspection by authority having jurisdiction.
- NOVEC meterbase must be installed with proper clearance from gas facilities (per NOVEC specifications) and service entrance cable must be terminated by developer/builder. (NOVEC will NOT terminate service entrance cable.)
- Cable path must be free and clear of obstructions where excavations are required and equipment locations.
- Site must meet grade requirements. (Within +/- 6" of final grade)
- Where required, footers must be cut/chipped for meterbase riser assembly.

If job site meets site readiness, work is then scheduled to the appropriate NOVEC/contractor crew.

Request for New Service or Upgrade
(Advance Notification)

Developer/Owner _____ Phone# _____ Email Address _____

Mailing Address _____ Service Address _____

Type of Facility _____ Largest Motor Size/NEMA Code _____

Delivery Point Voltage _____ Single of Three Phase _____ Requested Service Date _____

Current Year Load Estimate in Kilowatts (Attach Electrician Load Letter) _____

Anticipated Future Additional Loads by Year: Year One _____ Two _____ Three _____

Will you need temporary service? Yes _____ No _____

(Include future site considerations, water, and sewer existing/proposed)

Customer Owned Equipment (Primary Metering)? Yes _____ No _____

If answer is yes,

Transformer Voltage: Primary _____ Secondary _____ Nameplate kVA _____

Transformer Taps: _____

Connection Type (For example: delta-wye) _____ Transformer Impedance _____

Isolation Device Type _____ Device Rating _____

Fuse/Relay Manufacturer _____ Fuse/Relay Type _____ Rating _____

(Include one-line diagram, transformer test report, and protection schematics)

Prepared by: _____ Signature: _____ Date: _____

Send to Director, System Engineering, 5399 Wellington Branch Dr., Gainesville, VA 20155, email:
kwhyte@novec.com



**NOVEC Guidelines for Developers and Builders
Receipt of Electric Service**

Requirements for AutoCAD Submissions

The following items are required on the land base drawings received by NOVEC prior to beginning a design. Each item is to be a separate layer. All submissions are to be in AutoCAD format (NAD_ 1983 State Plane_Virginia_North_4501,X,Y coordinates) on a CD.

- Existing easements – including VDOT, County, and State
- North Arrow
- Streets with curb and gutter
- Water lines and easements – including crocks and service taps
- Sewer lines and easements – including service stubs
- Site lines
- Street lights
- Retaining walls
- Driveways
- Sidewalks
- Houses or buildings with lot numbers
- Drain fields – septic system components
- Property lines
- Street names
- Building restriction lines



Work Request #: _____

**Gainesville Technical Center
5399 Wellington Branch Drive
Gainesville VA 20155
Phone (703) 754-6750**

UNDERGROUND DISTRIBUTION FACILITIES AGREEMENT

Developer/Builder/Homeowner (Customer), _____
(Name)

(Address)

(Phone)

hereby requests Northern Virginia Electric Cooperative (NOVEC) to install underground electrical facilities serving the following property (the "Project"):

Subdivision _____ Section _____

Lots _____ County _____

SECTION I--APPLICATION FOR INSTALLATION OF UNDERGROUND DISTRIBUTION FACILITIES

- A. The Customer shall deliver to NOVEC any of the following that NOVEC determines are applicable at least 8 weeks prior to the commencement of any construction on the Project for the installation of electrical facilities. Any deficiencies or problems with the submissions may delay the start of NOVEC’s installation of electrical facilities.
 - 1. This executed Underground Distribution Facilities Agreement.
 - 2. Street light information, including locations, fixture style, and mounting heights as approved by the authority having jurisdiction.
 - 3. One (1) set of final development, site plans, and final record plat on paper and one CD in NOVEC specified AutoCAD format, as approved by the applicable governmental department, municipal, or county.
 - 4. One (1) set of house site plans. Final meter base locations will be designated by NOVEC. Developer/Builder/Homeowner shall notify NOVEC of the location of any structures (decks, patios, porches, air conditioners, retaining walls, etc.) which are proposed or which may be installed over or near NOVEC facilities so that they may be considered when designing the facilities.
 - 5. A duly executed and acknowledged right-of-way easement for all facilities, and the right of ingress and egress for maintenance and construction purposes over the entire property.
 - 6. A fully completed NOVEC load letter for each type of residential structure.
- B. The completion date for the installation of all commercial electrical facilities is contingent upon the availability of the required electrical apparatus.
- C. NOVEC will assist Customer in planning energy conservation programs, electric and dual-fuel heating installations.

- D. An Application is required for each metered electric service at least 4 weeks in advance of service installation date, including street addresses for all the properties involved. If the connected load through any meter exceeds 500 KVA NOVEC may require an electric service agreement with the Commercial Customer before the service will be energized
- E. Grade certifications must be provided for all areas NOVEC will cross while installing its facilities at least 2 weeks prior to NOVEC commencing construction.

SECTION II—AGREEMENT

Upon the full execution of this Agreement by all parties, the Customer and NOVEC agree to perform and be bound by the following provisions:

A. Customer's Obligations

Customer, its agents, contractors, and subcontractors, at its sole cost and expense, agree to perform the following, (hereinafter referred to as "Customer Obligations"), which shall be a prerequisite of NOVEC's performance of its obligations hereunder:

1. Install only NOVEC-provided meter bases and terminate entrance cables. Location of all meters will be designated by NOVEC. No part of the service entrance shall be concealed before entering the meter base. All meter locations shall be in an accessible and serviceable location (not under porches, decks, enclosed nor any location where such conditions are likely). The center of the meter shall be located five and one half feet above final grade, plus or minus six inches, on the outside of the building, and must be in accordance with NOVEC's specifications.
2. When the footing, siding, brick or stone work conflicts with the normal installation of the meter riser, the concrete shall be chipped, notched or some other Cooperative approved method shall be provided to extend meter riser conduit away from the footing. Any obstructions that prevents the meter riser from being installed in to the meterbase will need to be corrected prior to receiving service.
3. Backfill and compact excavations around the footings, foundation, and walls in an area defined by a semi-circle with a radius of 10 feet centered on the meter base location.
4. Where instrument transformer metering equipment will be required, NOVEC will provide requirements to the Commercial Customer regarding the metering equipment location, specifications, etc. as well as the specific responsibilities of both parties.
5. Grade the entire right-of-way to within six (6) inches of final grade and remove all trees, undergrowth, stumps, construction materials, trash, or other obstructions.
6. Limit the slope of the NOVEC right-of-way to a maximum of 5 to 1 (5 horizontal feet to 1 vertical foot). Areas within the right-of-way with more than 5 to 1 slope are to be cut or filled by the Customer. Cut or fill areas are to remain after NOVEC's facilities are installed
7. Conduit Systems
 - i. **Commercial Conduit System**, the Customer shall provide a staked easement and install the necessary trenches, primary and secondary conduits, sweeps, pull boxes, transformer pads, and 2500# detectable pull tape per the Cooperative's specifications. Under no circumstance shall plumber's pipe and/or fittings be substituted for gray, Schedule 40 PVC, UL rated electrical conduit and/or fittings. Prior to backfilling, any trench containing conduit systems to be utilized by NOVEC the Commercial Customer shall contact the NOVEC Scheduler 2 working days in advance to schedule a NOVEC inspection of the trench and conduit.

(Conduit Systems continued)

- ii. **Residential Conduit System**, the Customer shall install the necessary trenches, conduits, sweeps, pull boxes, transformer pads, 2500# detectable pull tape to NOVEC specifications or pay NOVEC for the additional costs of furnishing and installing the conduit system. For street crossings, the Customer shall install NOVEC furnished conduits and electronic markers according to NOVEC's design specifications. Under no circumstance shall plumber's pipe and/or fittings be substituted for gray, Schedule 40 PVC, UL rated electrical conduit and/or fittings. Prior to backfilling any trench containing conduit systems to be utilized by NOVEC, the Customer shall arrange for a NOVEC inspection of the trench and conduit.
8. The Customer shall be responsible for all costs (including boring, cutting or repair costs) associated with the installation of conduit under base or paving material, driveways, walk ways, retaining walls, patios or any other structures which may have been installed or constructed prior to the installation of the electrical facilities within the proposed right-of-way. Likewise, any relocation of electrical facilities required by changes in the Project on the part of the Customer shall be at the sole expense of the Customer.
9. Customer is required to have a certified land surveyor locate and mark all necessary property lines, corners, building corners and utility easements on the Project before facilities are staked.
10. The Customer shall locate and mark at the time services are staked, all private facilities such as water, septic, customer-owned electric system such as invisible pet fences, security systems, sprinkler systems and well feeds. The Customer shall locate and mark all buried facilities not taken over by appropriate governmental departments.
11. The Customer shall pay to NOVEC prior to commencement of any site construction, all sums owed by Customer to NOVEC on any other projects. In addition Customer shall pay to NOVEC all underground lot, temporary service, or street light charges as calculated by NOVEC pursuant to NOVEC's Terms and Conditions in effect at the time an engineering cost estimate of the work on the project is prepared. Any unforeseeable charges such as adverse trenching conditions, hand digging, lost labor from customer delay, damage claims, relocation of facilities, etc., will be paid by the Customer as soon as work has been completed and billing has been rendered.
12. In addition to the Miss Utility reporting requirements, the Customer shall notify the NOVEC Scheduler 703-754-6784 a minimum of 24 hours before digging around electrical facilities located through Miss Utility. NOVEC agrees to then notify the Customer if a NOVEC representative will be present to inspect the excavation operation.
13. All excavation that exposes a NOVEC electric installation must be backfilled in accordance with NOVEC's underground facility backfill specifications. If Customer fails to backfill in accordance with NOVEC specifications, the Customer is responsible for re-excavation and correction of backfill deficiencies in the presence of a NOVEC representative.
14. NOVEC underground electric lines shall not be uncovered and left exposed. If the excavated area needs to remain open, the Customer shall immediately contact the NOVEC Scheduler or the NOVEC Operations Center. NOVEC will perform the work necessary to ensure a secure and safe temporary work site. Customer agrees to reimburse NOVEC for expenses associated with providing field inspection, supervision and construction services needed to ensure the restoration of the excavated area is performed to ensure a safe and reliable system.
15. If NOVEC believes that its facilities have been exposed, subjected to potential damage and/or undermined by any excavation and resulting excavation has been backfilled without notification to the NOVEC Scheduler or the NOVEC Operations Center and without site inspection by NOVEC, NOVEC may excavate and evaluate the same area. Subsequently if the backfill by the Customer was not accomplished in accordance with NOVEC backfill specifications, NOVEC shall make the required corrections. The Customer agrees to reimburse NOVEC for expenses associated with providing field inspection, supervision and construction services needed to ensure the restoration of the excavated area is performed to ensure a safe and reliable system.

16. There shall be no tamping of backfill in any trenches containing NOVEC facilities unless NOVEC's cables are protected by conduit. Customer shall allow sufficient time for trench to settle before laying sod or seeding. Installation of driveways, walkways, patios, or any other structure that crosses trenches must be done in accordance with the provisions of the NOVEC easement after the trench as had sufficient time to settle. Customer installed conduit systems may be mechanically compacted to the density of the surrounding undisturbed soil to prevent settling. No mechanical compaction shall be done within 12 inches of conduit.

B. Bedding, Cover and Trench Backfill Requirements

Direct Bury Trench

Where a smooth flat trench is not available, six (6) inches of Bedding is required in the bottom of the trench for direct bury cable installations. Bedding is defined as dirt or stone dust. Soil containing occasional rounded rocks 1/2" diameter or less is acceptable.

Direct bury Cover shall consist of six (6) inches of dirt or stone dust. Soil containing occasional rounded rocks 1/2" diameter or less is acceptable. The Cover material should fill the voids around the cable.

Trench Backfill material may include spoils from the trench as long as it is free of debris or material that may damage the cable or conduit or cause settling. Trench Backfill above the cable padding shall not contain ashes, cinders, shale, frozen material, loose debris, vegetation or rocks larger than six (6) inches in any dimension. If NOVEC determines that the spoils excavated from the trench are not suitable for Trench Backfill then additional covering material will be required.

Conduit Trench

The bottom of the trench shall have a uniform pitch and shall be solid and relatively smooth, or undisturbed earth, or well tamped, and free of any debris that may be detrimental to the conduit. Excavation shall be of size and extent to permit proper installation of conduit and structures, as required.

A minimum of twelve (12) inches of Cover, measured to the top of the conduit is required to cover the conduits. Cover is comprised of suitable fill. Suitable filled is defined as any type of soil that does not contain ashes, cinders, shale, frozen material, loose debris, vegetation or rocks larger than two (2) inches in diameter. The material should fill the voids around the conduit. NOVEC red warning tape shall be installed the entire length of the trench directly above the twelve (12) inches of Cover.

Spoils from the trench may be used as Trench Backfill as long as it is free of debris or other materials that may damage the conduit system or cause settling. Trench Backfill shall not contain ashes, cinders, shale, frozen material, loose debris, vegetation or rocks larger than six (6) inches in any dimension.

C. NOVEC's Obligations, Adverse Trench and Hand Digging

1. NOVEC agrees to commence with the installation of its electrical facilities within twenty (20) working days, (except for delays caused by weather or any other cause beyond the reasonable control of NOVEC), after the Customer's obligations, as defined in Section II Paragraph A, are completed, notification is received from Customer that the site is ready for construction and the site has been verified ready for Construction by NOVEC.
2. NOVEC agrees to provide the Customer with the conduit layout specifications described in Section II Paragraph A.6 of this agreement within 6 weeks following the receipt of all the required documents from the Commercial Customer (see Section I Paragraph A).
3. In the event NOVEC encounters Adverse Trench conditions that impede the normal machine trenching operation such as, but not limited to, rock, shale, extreme ground frost, buried debris, trees, stumps and shrubbery, the customer shall be responsible for any additional construction cost incurred by NOVEC for trenching at a slower pace than normal, , or any cost associated with delays while waiting on the customer or re-mobilizing crews and equipment. When, in NOVEC's determination, adverse conditions are encountered, NOVEC will proceed based on the Customer option selected. Any excess spoils, rock or other debris excavated from trench will be left on site in the area from which it was excavated.

4. The Virginia Underground Utility Damaged Prevention Act requires “Hand Digging” within 2 feet of any Miss Utility marks or known utilities. This is required to ensure the safety of workers, the general public and the utility owner’s facilities and applies to both public and private facilities. The accurate presences of utilities cannot always be determined prior to excavation. The Customer shall be billed for all Hand Digging charges.
5. NOVEC will locate all NOVEC underground facilities in accordance with Virginia Code Section 56-265.14, et seq. (the Underground Utility Damage Prevention Act). Call “Miss Utility” at 811 or 800-552-7001 to request facilities to be located.

SECTION III—REPAIR OF DAMAGES

- A. Each party to this Agreement shall be responsible for the reasonable cost of repairing any damage to property of the other party caused by its negligence or willful or wanton misconduct or by the negligence or willful or wanton misconduct of its agents, contractors, subcontractors or employees. Damages to NOVEC facilities include damages to other utilities that are in reasonable proximity to NOVEC lines. Prior to making any repairs, with the exception of repairs to energized NOVEC facilities, the damaged party shall give the other party prior notice of at least 2 working days in order to inspect the damage and independently assess the responsibility for such damage.
- B. Customer shall indemnify and hold harmless NOVEC from any claim, action, expense, including reasonable attorney’s fees, liability, suit, judgment, or decree arising from Customer’s negligence or failure to perform the duties and obligations under this Agreement. Any claims for compensation by Customer alleged to be owing due to the negligence of NOVEC shall be submitted within 30 days of discovery, or within 30 days of completion of the work, whichever occurs first, or said claim shall be deemed to be forever discharged and waived.
- C. In the event of damage to, dislocation, or disturbance of any underground electrical cable, the Customer shall immediately notify NOVEC’s Customer Service Department (703-335-0500). The Customer shall not backfill around the cable until NOVEC has inspected and repaired the damage or has given the Customer approval to backfill in the presence of a NOVEC representative. Alternatively, NOVEC may choose to assign NOVEC crews to perform the required backfill operation at the Customer’s expense.
- D. NOVEC may report all third-party damages to its facilities to the Virginia State Corporation Commission.

SELECT A BACKFILL OPTION BELOW (One must be signed)

It is agreed that the Customer will furnish suitable backfill material in sufficient quantity should said material not be available from the trench excavation. If the customer has to have suitable backfill material imported to the site NOVEC will proceed based on the Customer option selected below.

OPTION 1:

I, _____, hereby agree to have sufficient quantities of rock dust to be used for cable bedding, cable cover and trench backfill on site and in close proximity to the trench prior to the start of NOVEC's construction.

Signature

OPTION 2:

I, _____, hereby authorize NOVEC to provide rock dust to be used for cable bedding, cable cover and trench backfill; and accept full responsibility for all resulting additional costs.

Signature

SELECT AN ADVERSE TRENCHING OPTION BELOW (One must be signed)

OPTION 1 (NOVEC Continues Working):

I, _____, hereby authorize NOVEC to continue working and accept full responsibility for all resulting additional costs.

Signature

OPTION 2 (Dismiss NOVEC and Provide Trench):

I, _____, hereby request NOVEC to stop working and will provide a suitable trench through the adverse trenching conditions to NOVEC specifications and will pay all delay and mobilization costs.

Signature

CUSTOMER INSTALLED CONDUIT OPTION

I, _____, hereby agree to furnish and install necessary trenches and backfill, primary and secondary conduits, sweeps, pull boxes, transformer pads, pull boxes, and 2500# detectable pull tape per the Cooperative's specifications. Under no circumstance shall plumber's pipe and/or fittings be substituted for gray, Schedule 40 PVC, UL rated electrical conduit and/or fittings. I understand for street crossings, I shall install NOVEC-furnished conduits and electronic markers according to NOVEC's design specifications. Under no circumstance shall plumber's pipe and/or fittings be substituted for gray, Schedule 40 PVC, UL rated electrical conduit and/or fittings. Prior to backfilling any trench containing conduit systems to be utilized by NOVEC, I shall arrange for a NOVEC inspection of the trench and conduit.

Signature

HAND DIGGING CHARGES (must be signed)

I, _____, hereby accept full responsibility for all resulting Hand Digging charges as required by the Virginia Underground Utility Damage Prevention Act to ensure the safety of workers, the general public and utility owner's facilities.

Signature

Any post construction billing should be sent to the following address:

Name: _____

Street Address: _____

City, State, Zip Code: _____

E-mail: _____

WITNESS the following signatures and seals pursuant to due authority:

Customer:

(Print Company Name)

By:

(Signature)

(Print Name)

Position*:

(Print Position)

WITNESS

(Signature)

(Print Name)

Date

***If other than president, vice president, partner, or owner, a power of attorney must accompany contract.**

NORTHERN VIRGINIA ELECTRIC COOPERATIVE

By:

(Signature)

(Print Name)

Manager, Distribution Design

(Print Position)

WITNESS

(Signature)

(Print Name)

Date



Membership Application

Business or Personal Name On Account: _____

Spouse (if applicable): _____

Driver's License Number: _____ **Tax ID (if applicable):** _____

Contact Phone #: _____
(Home) (Cell) (Business)

E-Mail: _____

Property Address: _____
(Street)

(City) (State) (Zip Code)

Subdivision: _____ **Section:** _____ **Lot #:** _____

Service Type: _____
(Example: House, Lights, Barn, Retail, Apartments, Warehouse, Garage, Well)

Mailing Address: _____
(Street)

(City) (State) (Zip Code)

Accounts Payable Company Contact Person: _____

I authorize NOVEC to establish an account to bill myself or the above named company for the monthly electric usage when the meter is installed at the property listed above.

Name (Please Print): _____ **Title:** _____

Signature: _____ **Date:** _____

Deposit Notice: Please note that you will be charged a deposit once your account is established which will appear on your first bill. Upon installation of your service, please contact the Customer Service Center at (703) 335-0500 if you would like a credit check performed to re-evaluate the deposit amount. The re-evaluation could lower the actual deposit charged to your account.



Nonresidential Customer Load Data

Customer Information

Service Address: _____

Customer/Project Name: _____ Phone #: _____

Contact/Electrician Name: _____ Phone #: _____

Contact Email: _____

Facility Information

Each service address requires a separate Nonresidential Customer Load Data Form except in the case of condominiums.

Number of Buildings: _____ #Metered Units / Bldg.: _____

Total Sq. Ft Per Unit: _____ Conditioned Sq. Ft.: _____

Type of Heat: _____ Business Office Hours: _____

Hours of Operation per Day: _____ Days per week of Operation: _____

Type of Service(s) Requested

Service Type (Check all that apply)

- New Permanent Service OH UG Upgraded / Relocated Service OH UG
- New Temp Service OH UG

Provide a Brief Description of this Project Request (i.e. gas station, strip mall, barn, garage, etc.)

Electric Service Size

The company (NOVEC) reserves the right to designate and/or approve the location of the metering and CT Equipment.
The company must approve all metering arrangements.

Voltage (Check Only One)

- 1 Phase / 3 Wire 120/240 3 Phase / 4 Wire 120/208 3 Phase / 4 Wire 277/480 Primary / High Voltage: _____

Service Size (Check Only One)

- 100 amp 200 amp 400 amp 600 amp Other: _____ amp

Service Characteristics

Size of Service Wire: Wire Type: AL CU Number of Wires per Phase: _____

Service Termination

- Meter Base Junction Box Metering Cabinet Switchgear

Electrical Load

Lighting (Complete all that apply)

Interior _____ kW Exterior _____ kW

Heating & Cooling (Complete all that apply)

Electric Heat (baseboard)..... Qty: _____ Total: _____ kW
Heat Pump..... Qty: _____ Total: _____ Ton(s) / kW
Heat Pump Backup System..... Qty: _____ Total: _____ kW
Water Heating..... Qty: _____ Total: _____ kW
Tankless Water Heater..... Qty: _____ Total: _____ kW
Air Conditioning..... Qty: _____ Total: _____ Ton(s) / kW
Manufacturing Process Cooling / Chillers..... Qty: _____ Total: _____ Ton(s) / kW
Manufacturing Process Electric Heating..... Qty: _____ Total: _____ kW

Motors - Complete all that apply (For each motor 10HP and greater, pg3 must be completed)

Qty: _____ Size Each: _____ HP 1 PH 3 PH _____ Starts per Day or Continuous
Qty: _____ Size Each: _____ HP 1 PH 3 PH _____ Starts per Day or Continuous
Qty: _____ Size Each: _____ HP 1 PH 3 PH _____ Starts per Day or Continuous
Qty: _____ Size Each: _____ HP 1 PH 3 PH _____ Starts per Day or Continuous

Equipment - Complete all that apply

Computers / Office _____ kW Refrigeration _____ kW Electric Cooking _____ kW
Receptacles _____ kW Dryer _____ kW EV Charging _____ kW

On-Site Generation

Unit Size: _____ kW Operating Voltage: _____ Volts Unit Fuel Type: _____

Provide a Brief Description of any Renewable Energy Generation including inverter manufacturer and model, if applicable

Customer Signature and Additional Information

Load data provided must be as complete and accurate as possible. Inaccurate or incomplete data may cause delays in processing.
Customer site plans should accompany completed Nonresidential Customer Load Data Form.
The customer must notify NOVEC prior to the actual connection of any future load (as stated in NOVEC's Terms & Conditions).
This form will not be processed without the signature of customer or customer's authorized agent.

Print Name: _____ **Signature:** _____ **Date:** _____

MOTOR VARIANCE REQUEST FORM
(Complete for each motor 10 Horsepower and greater)

Ratings	Description	Value
Motor Type	Synchronous <input type="checkbox"/> Induction <input type="checkbox"/>	
HP/kW	Motor output (shaft) in HP or kW	_____
kV	Rated Voltage of the motor	_____
FLA	Full load current in Amps	_____
PF%	Power factor @ rated HP and kV	_____
NEMA Motor Design	Motor Design Letter Code	_____
NEMA LR CODE	NEMA Locked Rotor Design Letter	_____
PF% (@100%)	Full load power factor	_____
Expected Use	_____	
Motor Sequencing	Do multiple motors start simultaneously? Yes <input type="checkbox"/> No <input type="checkbox"/>	
# of Starts	Expected number of motor starts per day _____	

Starting Methods

Full Voltage	Does the motor start with across-the-line voltage (yes/no)	_____
Autotransformer	If Applicable, what is the % of transformer tap?	_____
Line Resistors	If Applicable, what is the R and X in Ohms?	_____
Solid State	Does the motor start with solid state soft start? Yes <input type="checkbox"/> No <input type="checkbox"/>	
Variable Frequency Drive	Yes <input type="checkbox"/> No <input type="checkbox"/>	
For all starting methods, what is your starting kVA? _____		

Motor Schedule

Motor Operation	Are all motors used simultaneously	Yes <input type="checkbox"/> No <input type="checkbox"/>
Total H.P. ____	What is the total H.P. that will run simultaneously?	_____

Please provide a motor starting schedule if there are multiple motors.



**NOVEC Guidelines for Developers and Builders
Receipt of Electric Service
NOVEC Contact List**

Project Description:			
NOVEC Main Line Work Request Number:			
Other Associated Work Request Numbers:			
Phase 1 - Advance Notification/Long Range Planning			
	Name	E-Mail	Phone
Planning Engineer:			
Manager:			
Phase II - Easements and Road Crossings Phase III - Project main Line Design			
	Name	E-Mail	Phone
Utility Designer:			
Supervisor:			
Manager:			
Phase III - Individual Services			
Single Family Lot size < 1.5 acres			
	Name	E-Mail	Phone
Design Technician:			
Supervisor:			
Manager:			
Lots > 2.5 acres, townhouses, condos, etc.			
	Name	E-Mail	Phone
Utility Designer:			
Supervisor:			
Manager:			
Commercial Applications			
	Name	E-Mail	Phone
Utility Designer:			
Supervisor:			
Manager:			
Phase IV - Construction			
	Name	E-Mail	Phone
Scheduler:			
Job Site Inspector:			
Supervisor:			
Manager:			