

nationalgrid

Transmission Structure Wireless Occupancy Process



NATIONAL GRID
ELECTRIC TRANSMISSION STRUCTURE
WIRELESS OCCUPANCY PROCESS

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1. Scope:

This document gives an overview of the process and submittals required for the review, acceptance, and installation of Wireless Facilities on National Grid transmission structures. National Grid companies include Massachusetts Electric Company, The Narragansett Electric Company, New England Power Company and Niagara Mohawk Power Corporation d/b/a National Grid (NGrid).

The Licensing and installation of Wireless Facilities shall conform to:

- **Master License Agreement (MLA)** - the Master License Agreement in New England (NE) / Wireless Facilities Right-of-Occupancy Agreement in New York (NY)
- **Site License Agreement (SLA)** - the Site License Agreement in NE / Supplemental Agreement in NY
- National Grid Engineering Document Specification: Transmission Wireless Telecommunications Installations, Doc. # SP.06.01.302 and the current editions of all documents referenced in this Specification.

Note: Strict compliance by the Wireless Service Provider with the Wireless Telecommunication Installations Specification is critical to efficient and timely project review and acceptance.

2. Policy Regarding Direct Attachments and Substantially Modified Transmission Structures

National Grid allows third party direct attachments on existing transmission structures. A direct attachment is an installation where modifications to the existing structure are not required or are considered minor by National Grid.

Wireless Provider proposals to substantially modify existing transmission structures in order to accommodate telecommunications attachments are typically rejected. Substantially modified transmission structures are partial or complete new transmission structures that replace existing structures in order to specifically accommodate third party attachments, and which are substantially modified from the existing structure, often by increasing the height by 10 feet or more. This would include installing a supplemental steel pole extended upward through an existing lattice transmission tower, and extending above the tower top. This policy seeks to minimize any potential future interference to National Grid when performing future maintenance or expansion of transmission assets.

Wireless Facilities on transmission structures that preliminarily appear to comply with the National Grid policy will require a Wireless Service Provider paid structural analysis to determine that substantial modification is not required.

Installation and maintenance of Wireless Facilities on transmission structures are typically worked with lines still energized by qualified electrical workers experienced with high voltage work.

3. **Summary of Responsibilities**

Wireless Service Providers (WSP):

- Identify potential site/Structure and make application to NGrid for site visit.
- Make application and obtain required approvals for above or below ground testing.
- Design and submit Location Plan depicting conceptual design for site improvements and WSP Wireless Facilities to NGrid for review and acceptance.
- Identify, make application and obtain required municipal and regulatory approvals and permits providing authorization and approvals to construct and operate WSP Wireless Facilities and associated site improvements.
- Make application and secure electric and telephone service.
- Submit structural analysis for NGrid review and acceptance.
- Submit Ground Potential Rise (GPR) analysis and grounding system design for NGrid review and acceptance.
- Design and submit Construction Drawings depicting design for site improvements and WSP Wireless Facilities to NGrid for review and acceptance.
- Identify any sensitive and/or regulated environmental, historical or cultural resources that may be impacted by the project and, should impacts be identified, document such impacts.
- Submit copies of all regulatory, environmental and governmental permits and approvals obtained.
- Authorize and agree to pay charges associated with NGrid review and acceptance requirements of all submittals.
- Procure cost proposals and authorize NGrid or qualified approved contractor(s) for support and construction activities.
- Install WSP ground level and approve and pay for aerial equipment installation.
- Submit written certification, in a form acceptable to NGrid, stating WSP Wireless Facilities installation conforms to applicable NESC and NGrid Standards.
- Obtain title report and title insurance/guarantees, as needed.
- Comply with all applicable regulations, codes and standards.
- Provide as-built plans upon completion of project.

National Grid - Massachusetts Electric Company, The Narragansett Electric Company, New England Power Company, Niagara Mohawk Power Corporation, d/b/a National Grid (NGrid):

Telecommunications Attachments Group (TAG):

- Overall coordination of the site licensing process including site review, development and acceptance.
- Coordination of NGrid review and acceptance of WSP submittals.
- Management of all applicable Agreements between NGrid and WSP.
- Coordination and management of invoicing for billable work and license fees to WSP.

4. **Definitions**

Building Permit (BP) shall mean municipal approval to commence construction on Wireless Facilities.

Construction Drawings (CD) shall mean engineered drawings developed for use in the construction of Wireless Facilities, related buildings, ancillary equipment and other related improvements.

Construction Field Issue (CFI) is the document generated by NGrid Transmission Line Engineering which details NGrid requirements to perform the installation of Wireless Facilities.

Field Construction Supervisor (FCS) is a NGrid employee that shall coordinate the daily activities of contractors performing maintenance and construction of Wireless Facilities.

Ground Protection Rise (GPR) shall mean the voltage that a transmission structure(s) grounding grid may attain relative to distant grounding point assumed to be at the potential of remote earth.

Location Plan (LP) shall mean a document which includes a site plan and elevation and may be used in a contractual agreement with NGrid.

Master License Agreement (MLA) is the contractual Agreement that contains the basic terms and conditions upon which each property or portion thereof is licensed by WSP from NGrid.

Notice To Proceed (NTP) shall mean documented transmittal by TAG authorizing ground level and/or aerial work on Wireless Facilities.

Site License Agreement (SLA) is any supplement to the MLA defining specific conditions to Wireless Facilities on identified property.

Structure shall mean NGrid's electrical transmission towers or poles.

Telecommunications Attachments Group (TAG) provides overall coordination of the site licensing process within NGrid.

Transmission Line Engineering (TLE) provides technical and engineering review and acceptance to design and structural submittals by WSP.

Wireless Facilities shall mean the necessary facilities, including temporary facilities and all related equipment, including antenna, cable and telephone lines, accessories and the equipment shelters or cabinets, electrical lines, batteries, solar arrays, backup power generators and fuel tanks associated with the wireless communications systems of the Wireless Service Provider that are installed on property in compliance with the MLA and SLA.

Wireless Service Provider (WSP) shall mean a Licensee to whom NGrid licenses the right to operate the Wireless Facilities located on a particular property.

5. **Master License Agreement / Right-of-Occupancy Agreement:**

Structure occupancy and use by WSP shall be authorized and conform to the terms of the Master License Agreement. Each specific site/property licensed shall be defined in a separate Site License Agreement which the Telecommunications Attachments Group (TAG) will coordinate with the WSP.

6. **Site Evaluation, Application and Review Processes:**

Preliminary Site Investigation, Site Visit and Site Evaluation

WSP initiates a site visit by submitting **Exhibit B - Request for Right of Entry** form and **Exhibit B-1 – Collocation Application** to TAG.

TAG provides a preliminary assessment to WSP, typically within ten (10) business days of receipt of Request for Right of Entry form.

If NGrid consents to WSPs Request for Right of Entry, TAG will schedule an initial site visit, which is limited to visual inspection only.

Upon favorable preliminary site evaluation by WSP, WSP submits request for readily available maps and related information to TAG.

Submittals related to Preliminary Site Visit

- **Exhibit B - Request for Right of Entry**
- **Exhibit B-1 – Collocation Application**

Site Application and Above Ground Testing

WSP is responsible for all costs related to site application submittal and above ground testing.

WSP submits **Exhibit C - Site Application** in order to conduct above ground surveys, tests and inspections subject to the NGrid **Conditions for Proposed Activities Within Transmission Line Rights-of-Way**. The Site Application shall include:

- i. Site Application Fee (NE only – TAG will invoice WSP)
- ii. Review Fee
 1. TAG NE will invoice WSP the then current Review Fee.
 2. TAG NY will create a billable Work Order to capture reimbursable costs and invoice WSP.
- iii. Site specific certificate of insurance as required by the Master License Agreement. Certificate of insurance shall list appropriate NGrid Company and "National Grid USA and its Subsidiaries" as additional insured.
- iv. Test description which shall provide information on vehicles and equipment involved, setup, proposed schedule, duration and type of test.
- v. Plan or drawing which shall provide information sufficient to indicate anticipated relationships of testing vehicle/equipment to NGrid properties, including transmission lines.
- vi. Risk assessment and mitigation plan related to testing.

If a crane is required for testing, a NGrid approved crane service must be utilized.

Current NGrid approved crane services are listed in Appendix A.

Revisions or acceptance of the Site Application related to a telecommunication drive test submittal is documented by signature of the involved NGrid reviewer(s) by using the **Telecommunications Drive Test Review Form**. TAG will notify WSP of review results and forward a signed Site Application to WSP if the drive test submittal is accepted.

NGrid Field Construction Supervisor (FCS) shall be required to monitor testing if WSP contractor's vehicles and equipment are within 50 feet of energized lines or other hazardous situations are identified.

Submittals related to Site Application and Above Ground Testing

- **Exhibit C - Site Application (with applicable attachments)**

Location Plan Review and Acceptance

WSP is responsible for all costs related to Location Plan development.

Upon favorable testing results, WSP submits **RF Data / Structural Loading Form** to TAG which provides antenna, mechanical equipment and RF data for the Wireless Facilities.

WSP will submit for NGrid review and acceptance a **Location Plan (LP)**, detailing the proposed Wireless Facilities and site improvements (see Section 7.0 of the Wireless Telecommunication Installations Specification). The LP must incorporate all applicable items listed on the **Location Plan Checklist** identified as Appendix 3 in the Wireless Telecommunication Installations Specification.

The Location Plan Checklist shall be completed by the WSP and must be submitted with each LP. The LP package shall be submitted to TAG drawn on 8 1/2" x 11" paper with all improvements shown and as a *.PDF file.

TAG shall coordinate the review and obtain preliminary acceptance of the LP within NGrid. Revisions or acceptance of the LP is documented by signature of the involved NGrid reviewers by using the **Telecommunications Location Plan Review Form** which TAG will forward to WSP.

Temporary Emergency Generators

If a temporary emergency generator is proposed for the site, the following WSP requirements shall apply as follows:

1. An Amendment to the Supplemental Agreement, which may add additional cost if the ground space exceeds the original lease area.
 2. The location of the pad for the generator shall be depicted on a Location Plan
 3. Photographs and cut sheets specifications for the specific generator
 4. Appropriate environmental assessment form, i.e. SEQR required in New York
 5. Public Service Commission review and approval in New York
 6. Building Permit
- Temporary emergency generators may be liquid fueled and shall be subject to the following restrictions/requirements:

- i. WSP shall notify TAG in advance of placement of a temporary emergency generator.
- ii. Temporary liquid fueled emergency generators cannot be used for longer than five (5) days or the duration of the electric outage, whichever is less. At the termination of the outage, the generator(s) and its/their fuel must be removed from the location.
- iii. Volume of liquid fuel in use or storage at the location shall be less than 55 gallons.
- iv. The entity responsible for the generator shall also accept responsibility for any release of fuels from the generator(s) and related equipment including regulatory reporting and cleanup. In the event of a release (spill), WSP shall make the required Regulatory reporting including notice to NGrid within two (2) hours of knowledge of the event.
- v. Tanks shall be inspected daily by WSP for leaks while the tanks are on site.

Permanent Emergency Generators

If a permanent emergency generator is proposed for the site, the following requirements shall apply and be depicted on the Location Plan:

- Permanently installed emergency generators shall be fueled using gaseous fuels such as natural gas or propane. Permanent diesel generators are disallowed within a transmission right-of-way.
- Compliance with the following criteria will meet NGrid Safety Department requirements and therefore will not necessitate NGrid Safety Department acceptance of each site individually:
 - i. The fuel storage area and generator shall be protected with appropriate fencing to prevent unauthorized access.
 - ii. The fuel storage must be configured so NGrid owned structures (any building, wood pole or steel tower) are not subjected to heat or damage in the event of a catastrophic event.
 - iii. Fuel storage must be installed and maintained in accordance with applicable National Fire Protection Codes.
 - iv. All electrical connections must comply with appropriate National Electrical Code and National Electrical Safety Code requirements.

NGrid shall review and use its best efforts to accept or recommend modifications to the Location Plan within fifteen (15) business days of receipt from WSP.

If NGrid requests amendments to the Location Plan, WSP will resubmit and NGrid shall review and accept amended Location Plans within ten (10) business days after WSP submittal.

Submittals related to Location Plan Review and Acceptance

- **RF Data / Structural Loading Form**
- **Location Plan**
- **Location Plan Checklist**

Site Design, Review and Acceptance

WSP is responsible for all costs related to site design, review and acceptance.

Once Location Plans are accepted by NGrid, WSP will develop and submit for NGrid review and acceptance a proposed site which shall conform to the requirements in the most recent issue of NGrid Wireless Telecommunications Installations Specification (See Section 5.0). Site design submittals shall include:

- i. Ground Potential Rise (GPR) Analysis
- ii. Grounding System Design
- iii. Structural Analysis
- iv. Existing Conditions Plan
- v. Construction Drawings
- vi. Environmental Submittals
- vii. RF Safety Submittals

Transmittal T-1 Structure Location Information shall be submitted to TAG by WSP to request structure loads and fault current information for the development of the GPR analysis, grounding system design and structural analysis.

WSP shall submit multiple **Transmittal T-1 Structure Location Information** forms if the target Structure is in close proximity to other transmission or distribution structures.

Fault Current Information

TAG will return Transmittal T-1 and **Transmittal T-2A Fault Current Information** to WSP. Transmittal T-2A provides information to perform the GPR analysis and grounding system design and shall include:

- i. Fault current information

NOTE: Changes on a transmission line can change the fault current and impedance data provided on Transmittal T-2A if there is a lengthy interval between providing the data and commencing construction, thereby invalidating the GPR and grounding design. NGrid may need to evaluate if the changes are significant enough to affect the GPR and grounding design and require WSP to update the GPR analysis and grounding design at WSP cost.

Fault Current/Structural Information

TAG will return Transmittal T-1 and **Transmittal T-2B Structural Information** with associated attachments to WSP. Information provided on Transmittal T-2B shall include, when available:

- ii. Structure loading information
- iii. Wire information
- iv. Structure drawings

Ground Potential Rise (GPR) Analysis and Grounding System Design

WSP is responsible for all costs related to GPR Analysis and Grounding System Design development.

Grounding shall meet the requirements of applicable statutes, regulations and design codes, including, but not limited to National Electrical Code, National Electrical Safety Code, ANSI/IEEE Standard 80-2000 "*IEEE Guide for Safety in AC Substation Grounding*", and OSHA Appendix C of 29 CFR 1910.269.

Current NGrid approved consultant to perform GPR/grounding design is listed in Appendix B.

Soil resistivity measurements shall be performed using the Four Pont Wenner Method or an equal approved by NGrid.

WSP does not require NGrid approval of firm performing the field resistivity measurement work.

WSP will submit the Grounding Analysis report and grounding system design to TAG in both electronic (*.PDF) and hard copy form. The report shall include **GPR Analysis Submittal – R1 Ground Potential Rise (GPR) Study** form, stamped and signed by a registered and professional engineer licensed in the state in which the installation is being built. The following items shall be included in a report for a Ground Potential Rise study:

1. Purpose of analysis
2. Analysis procedure and programs employed
3. Tables of user input and corresponding analysis output

4. Assumptions with justifications
5. All items included in **GPR Analysis Submittal - R1**
6. Schematics showing proposed grounding grid relative to the location of the transmission structure and telecom equipment. Schematics shall include, at a minimum:
 - a. A plan and profile of the entire grounding grid.
 - b. Location of proposed ground rod locations and corresponding depths.
 - c. Location and corresponding dimensions of proposed fencing.
 - d. Location and corresponding dimensions of proposed counterpoise.
 - e. Location and corresponding size of proposed stone material and relative depths.
 - f. Location and dimensioning of proposed underground conduit/burial material.
7. Schematics illustrating locations of soil resistivity measurements.
8. References

Submittals related to GPR Analysis and Grounding System Design

- **Transmittal T-1 Structure Location Information**
- **Ground Potential Rise Analysis Report**
- **GPR Analysis Submittal – R1 Ground Potential Rise (GPR) Study**

Structural Analysis

WSP is responsible for all costs related to Structural Analysis development.

All submittals and requirements for an acceptable Structural Analysis shall be in accordance with the most recent issue of NGrid Wireless Telecommunications Installations Specification (see Section 8.0).

Information in the **Structural Analysis Report** shall conform to the requirements in the most recent issue of NGrid Wireless Telecommunications Installations Specification.

The Structural Analysis of the Transmission Structures shall be performed using Power Line Systems® software. A request to use other software may be submitted to NGrid.

Each transmission structure shall be analyzed using all applicable codes, requirements and engineering practices to determine its structural capacity to support the proposed Wireless Facilities.

Current NGrid approved engineering consultants to perform Structural Analyses are listed in Appendix C.

WSP will submit two (2) printed sets of a complete Structural Analysis Report to TAG including a **Consultant Submittal S-1 Structural Analysis Report for Telecommunications Installation**, stamped and signed by a licensed professional engineer registered in the state where the WSP Wireless Facilities is proposed.

Submittals related to Structural Analysis

- **Transmittal T-1 Structure Location Information**
- **Structural Analysis Report**
- **Consultant Submittal S-1 Structural Analysis Report for Telecommunications Installations**

Construction Drawings

WSP is responsible for all costs related to Construction Drawings development.

Construction Drawings (CD) shall conform to the requirements in the most recent issue of NGrid Wireless Telecommunications Installations Specification (see Section 10.0).

Existing Conditions Plan developed by a professional surveyor licensed in the state where the work is located, is included in the CD and shall conform to the requirements in the most recent issue of NGrid Wireless Telecommunications Installations Specification (see Section 9.0).

WSP will submit a complete set of CDs with AutoCAD in a *.dwg format to TAG. All applicable drawings shall be stamped and signed by a registered professional engineer or land surveyor licensed in the state in which the project is located.

CD drawings related to grounding shall be stamped and signed by a registered professional electrical engineer licensed in the state in which the project is located.

Vegetation

Although visual screening of ground based WSP Wireless Facilities with plantings is strongly discouraged, NGrid Forestry Department has approved specific vegetation, which shall be depicted on the Construction Drawings. Current NGrid approved transmission line trees are listed in Appendix D

Review and Acceptance

NGrid shall review and use its best efforts to accept or recommend modifications to the Construction Drawings within fifteen (15) business days of receipt from WSP.

If NGrid requests amendments of the Construction Drawings, WSP will resubmit and NGrid shall review and accept amended Construction Drawings within ten (10) business days after WSP submittal.

Submittals related to Construction Drawings

- **Construction Drawings**

Environmental Testing

WSP is responsible for all costs related to environmental testing.

Site Visual Review

TAG will initiate a NGrid performed visual review of a proposed site on NGrid owned property or on an easement (excluding substations) for evidence of existing contamination once the Location Plan for the site has been accepted.

TAG will advise the WSP of NGrid findings.

If no contamination is observed, TAG will insert language in the SLA or SA that states a site visit was conducted on “*date of review*” and no evidence of contamination was found.

If contamination is observed, TAG will notify WSP that a Phase I Environmental Site Assessment Report or additional analyses, at WSP expense, is required.

Phase I Environmental Site Assessment Study Determination

Immediately adjacent to electrical substations: WSP shall perform a Phase I environmental site assessment study. Phase I findings may result in additional site investigation. All site investigations required beyond a Phase I study will be performed under the direction and control of NGrid at WSP expense.

Environmental Submittals

WSP is responsible for all costs related to environmental submittals.

WSP shall be responsible for identifying any sensitive and/or regulated environmental resources that may be impacted by the project and, should impacts be identified, documenting such impacts. Resources to be investigated include, but are not limited to:

- Buildings, sites, or districts listed on the State or National Registers of Historic Places
- Sites listed on the Register of National Landmarks
- Designated wilderness areas and preserves, threatened, rare or endangered species & critical habitats, historic places, Indian religious sites, flood plain and wetlands determination & surface waterways
- Species of plant or animal life identified as threatened, rare or endangered by state or federal agencies
- Scenic views important to the community
- State or federally regulated or protected streams
- State or federally regulated lakes, ponds or wetlands
- Agricultural Districts certified pursuant to Agriculture and Markets Law, Article 25-AA, Section 303 and 304
- Critical Environmental Areas designated pursuant to Article 8 of the ECL
- 100 year flood plains

WSP shall submit to TAG any environmental studies or proof of compliance including, but not limited to:

- i. Compliance with the New York State Environmental Quality Review Act (e.g., copy of SEQRA application and determination)
- ii. Compliance with FCC filings related to the National Environmental Protection Act (NEPA)
- iii. Compliance with FCC filings related to the National Historic Preservation Act (NHPA)
- iv. Phase I Environmental Site Assessment prepared in accordance with ASTM E-1527 dependant on results of site visual review. WSP shall submit a Phase I Assessment if the performance of one is required by WSP Corporate Policy.
- v. Phase II Environmental Assessment (if required, to be managed by NGrid)
- vi. Phase III Environmental Assessment (if required, to be managed by NGrid)
- vii. National Environmental Policy Act (NEPA) compliance (required)
- viii. Endangered Species Act compliance
- ix. environmental permits
- x. any other environmental studies as required

TAG will notify WSP of acceptance of the environmental submittals.

Radio Frequency (RF) Safety Submittals

WSP is responsible for all costs related to RF Safety Submittals.

WSP will submit to TAG the Frequency (MHz), Gain (dBi) and Effective Isotropic Radiated Power (EIRP) (mW) at which the WSP Wireless Facilities will transmit. This information is submitted on the **RF Data / Structural Loading Form**. The information will be used to review worker exposure (minimum approach distance).

Utility Services / Access Easements / Consents

WSP is responsible for all costs related to acquiring utility services, access easements or consents.

If electric power is to be supplied by a NGrid electric distribution company, WSP is responsible to submit an electric service request as required.

Phone numbers to initiate an electric service Work Request in a NGrid service area:

- New England (800) 375-7405
- New York (800) 642-4272

The following URL's list the municipalities in which NGrid provides electric service:

NY: www.nationalgridus.com/niagaramohawk/about_us/serviceterr_map.asp

MA: www.nationalgridus.com/non_html/shared_about_svcmap_meco.pdf

RI: www.nationalgridus.com/non_html/shared_about_svcmap_neco.pdf

NH: www.nationalgridus.com/non_html/shared_about_svcmap_gseco.pdf

The provision of electric service is governed by:

NY: Electric Service Bulletin 750
www.nationalgridus.com/niagaramohawk/non_html/constr_esb750.pdf

NE: Information and Requirements for Electric Service 2000 Handbook ("The Green Book"):
www.nationalgridus.com/non_html/shared_construction_greenbk.pdf

Utility service conduits shall conform to the requirements in the most recent issue of NGrid Wireless Telecommunications Installations Specification (see Section 5.2).

WSP shall make application with the appropriate utilities for electric and telephone service at the site using the utilities service design depicted on the accepted Construction Drawings.

WSP shall secure any license or easement required from NGrid or property owner allowing utility service on NGrid and/or property owner property. The electric service work request submitted to NGrid will prompt the service coordinator to initiate the easement for electric service with the appropriate NGrid Real Estate representative. This occurs after the electric and telephone service has been finalized.

WSP shall secure any license or easement required from property owner allowing access on property owner property. Such documentation shall be provided to TAG.

WSP shall secure and forward to TAG any Consent required from an existing easement holder if WSPs utilities or access will cross an existing easement.

WSP will supply documentation to TAG of property owner Consent to utilize the property for Wireless Facilities for NGrid structures on an easement.

NGrid Property Legal Services Department will process and grant the easement for telephone service on NGrid fee owned property.

Federal Aviation Association (FAA), Federal Communications Commission (FCC) and Governmental Requirements

WSP is responsible for all costs related to fulfilling compliance with all FAA, FCC and governmental requirements.

WSP is responsible to register the Wireless Facilities with the FCC.

WSP is responsible for determining if installation of the antennas will require the structure to be registered with the FAA.

Copies of applications shall be provided on request. Copies of all permits / registrations received shall be submitted to NGrid. In the event FAA, FCC or municipal permits/approvals establish unique site requirements, e.g., structure painting or lighting, etc., the WSP shall bring to NGrid's specific attention such unique site requirements. Such work/requirements are subject to NGrid review and approval.

WSP is responsible to attach an Antenna Structure Registration (ASR) in compliance with FCC regulations at the Wireless Facilities if required. WSP is responsible to perform and document to TAG an annual inspection of the ASR.

Section 70 filings (required - NY only)

Miscellaneous

WSP is responsible for all costs related to all miscellaneous submittals.

WSP shall obtain all required permits and government approvals necessary for the installation and operation of the WSP Wireless Facilities. WSP shall submit evidence to TAG that it has obtained the required reviews, approvals and permits authorizing the proposed WSP Wireless Facilities, including Zoning Board of Appeals decisions.

In absolutely no circumstance whatsoever shall WSP represent NGrid at any governmental hearings or consent to any governmental or other attachments on NGrid structures or use of NGrid property or easement in conjunction with gaining approval for their Wireless Facilities.

TAG NY will issue an invoice for actual accumulated NGrid support and review services costs.

7. Site Licensing

TAG shall coordinate the review and obtain acceptance of the NGrid Real Estate Management, Environmental Management, Transmission Line Engineering, Substation Engineering Services and Transmission Planning for installation of the proposed WSP Wireless Facilities. NGrid internal reviews and acceptance is documented on the **Wireless Attachment Checklist**.

Execution of a Site License Agreement (SLA) by NGrid will occur after the following issues have been fully addressed / accepted:

- Receipt of all environmental submittals
- Acceptable structural analysis report
- Acceptable construction drawings
- GPR study & acceptable grounding system design
- All other licensing requirements have been fulfilled

TAG will draft and submit a minimum of two (2) original, partially executed **Exhibit A - Site License Agreement (SLA)** in NE or a minimum of two (2) original, partially executed **Exhibit A - Form of Supplemental Agreements (SA)** in NY, including Addendum/Attachments as required for each site to WSP for signature.

WSP will return partially executed SLA's to TAG who will have the SLA's signed and return required number of fully executed original(s) back to WSP.

Submittals related to site licensing

- **Exhibit A - Site License Agreement (SLA)** in NE
- **Exhibit A - Form of Supplemental Agreements (SA)** in NY

8. Construction Field Issue

WSP is responsible for all costs related to Construction Field Issue development.

WSP will submit **Transmittal F-1 Construction Field Issue** authorizing NGrid to initiate a Construction Field Issue (CFI) and agreeing that WSP will pay charges associated with NGrid preparation of the CFI. Each CFI is project dependant and costs can vary based on complexity of work proposed.

The CFI is a package provided the construction crew, whether such work is performed by NGrid, a NGrid contractor or a contractor employed by the WSP, which details NGrid requirements to perform the installation of Wireless Facilities.

A CFI is required for construction work which NGrid determines will significantly modify a NGrid Transmission Structure. The cost of producing the CFI will be included in a Work Order payable by the WSP.

A CFI is not required if the Wireless Facilities to be constructed are a direct attachment to a transmission Structure.

Notes: Material cost and construction, installation directions of Wireless Facilities that will significantly modify a NGrid Transmission Structure are generated through the CFI. The final NGrid accepted CD's are required to commence writing the CFI.

Please be aware that wood poles over 90 feet and some materials may not be readily available and can have extended ordering times.

Submittals related to Construction Field Issue

- **Transmittal F-1 Construction Field Issue**

9. Transmission Line Outages

Installation and maintenance of Wireless Facilities on transmission structures are typically worked with lines still energized by qualified electrical workers experienced with high voltage work.

Although live line transmission line work for Wireless Facilities is strongly preferred, line outages may be granted on low congestion impact circuits in NY. If a transmission line outage can be scheduled in NY, WSP will incur congestion charges equal to \$3,000.00 per day, unless otherwise notified.

Transmission line outages for Wireless Facilities will not be granted in NE, however extraordinary circumstances or worker safety may be considered. Explicit senior transmission management consent is required to grant a transmission outage in NE.

WSP will notify TAG NY that an outage is requested on a specific low congestion impact circuit and provide the following information:

- i. desired date for construction of the installation
- ii. estimated work duration
- iii. estimated outage duration (if not live line construction)
- iv. whether live line construction is a consideration
- v. maintenance/removal requirements (done live or outage required)

TAG NY will forward information to TLE and will work with TLE to manage the outage request, coordination of the outage and scheduling of NGrid FCS.

If an outage can be scheduled, TAG will notify WSP and invoice for total congestion charges accumulated at completion of construction.

10. Construction Contractors

WSP shall select a NGrid approved transmission construction contractor or NGrid's TLS construction department to perform the aerial construction. WSP shall procure construction bids directly from approved transmission contractors. WSP shall provide documentation to TAG if sole source construction contractor is utilized explaining the reasoning and acceptance of the sole source bid.

If the proposed aerial construction work will be over \$20,000, NGrid Procurement shall coordinate the bids submittal...

Once a construction contractor's bid is accepted by the WSP, the selected construction contractor shall work directly for NGrid.

WSP shall forward the successful and rejected bids to TAG in order that NGrid Procurement can establish a Purchase Order.

The contractor will invoice TAG, who will in turn invoice the WSP or its General Contractor. NGrid will not mark up actual costs. Typical costs can include, but are not limited to:

- construction contractors invoiced cost
- replacement pole(s), crossarm(s), bracing or other material required to install the Wireless Facilities (minor material may be assigned to the WSP to purchase directly)
- NGrid Field Construction Supervisors time

All work on transmission Structures shall be in accordance with construction practices described in the most recent issue of NGrid Wireless Telecommunications Installations Specification (see Section 6.0).

Current NGrid approved live line transmission contractors are listed in Appendix E.

If the NGrid TLS construction department is requested to perform the construction work on a time and materials basis, a construction estimate shall be developed by NGrid and TAG will forward a Project Cost Proposal Letter to WSP who will signify acceptance by signing the letter and returning to TAG.

11. **Construction Scheduling**

TAG will notify WSP when regulatory approval is received for a project in NY.

When WSP receives zoning approval for a project in NE, WSP will inform TAG of such notification indicating the project is approved and funded to be constructed.

WSP submits preliminary project schedule for each transmission structure to TAG using the **Telecommunications Project Outage Duration Form**. Information to be provided shall include:

- i. project name
- ii. line(s) designation/no.
- iii. voltage
- iv. structure number
- v. municipality
- vi. area
- vii. outage project start
- viii. outage project finish

- ix. outage duration days
- x. estimated labor hours
- xi. project duration days
- xii. comments

Because NGrid construction crews and approved construction contractors work is scheduled on an extended window, it is critical that WSP submit the Telecommunications Project Outage Duration Form as soon as a realistic schedule is determined.

TAG will provide feedback on planned utility initiated outages for the transmission line(s) involved to WSP.

WSP will inform TAG if preliminary project construction schedule can be revised in order to perform the construction work during a utility scheduled outage.

Submittals related to Construction Scheduling

- **Telecommunications Project Outage Duration Form**

12. Construction Coordination

WSP shall request TAG to schedule an on site field meeting to discuss construction start date, construction activities, safety issues and schedules.

If construction work is to be performed by a construction contractor, the construction contractor will develop and submit the **Work Plan, Safety and Health Plan, Project Risk Assessment Form and the Project Risk Mitigation Plan** and forward to TAG. The FCS shall accept the submittals or request additional information.

Once the project scope and cost has been accepted by the WSP, TAG will issue a **Notice to Proceed** (NTP) authorizing installation of the WSP Wireless Facilities. The following are prerequisites to the issuance of a NTP:

- Fully executed Site License Agreement
- NGrid acceptance of the Structural Analysis Report
- NGrid acceptance of the GPR analysis and grounding system design
- NGrid acceptance of the site Construction Drawings
- NGrid review for potential transmission system reliability impact
- NGrid acceptance of appropriate property rights
- NGrid acceptance of a WSP project risk assessment detailed on a project risk assessment form
- NGrid acceptance of WSP risk mitigation plan

- WSP acceptance of NGrid or contractor construction cost proposal
- NGrid scheduling of the line outage (if applicable)
- NGrid workforce scheduling (if applicable)
- NGrid acceptance of RF workforce clearances
- NY PSC project approval

A NTP for ground level civil work is generally issued separately from a NTP for aerial work.

After TAG issues a NTP, site improvements and WSP Wireless Facilities installation may commence subject to the Conditions for Proposed Activities Within Transmission Line Rights-of-Way, which will be provided with the NTP. If NGrid construction crews are performing the construction work, installation is typically scheduled ten (10) to fifteen (15) business days after notification from the WSP that the site is ready e.g., site access roads and civil work complete and all material is correct, available and on-site.

At least ten (10) days prior to construction commencement, NGrid (NY only) shall provide for New York Department of Public Services Staff review, revised drawings and specifications depicting the limits of construction disturbance, showing all underground utilities and transmission line counterpoise (if any) in addition to showing locations of temporary and permanent erosion controls, any culverts and revegetation measures and specifications. The limits of construction disturbance shall also be field located prior to construction.

Aerial work schedules are typically dependent on the availability of line outages or non-reclosure requests (e.g., typically energized and de-energized work activities require coordination with NGrid and the appropriate Independent System Operator (ISO)).

NGrid anticipates the Wireless Facilities will be installed and tested within ninety (90) days from receipt of all permits/authorizations. The Wireless Services Provider shall advise NGrid if installation will be deferred beyond (90) days. Note: Contract language may trigger occupancy fees irrespective of actual installation.

Submittals related to Construction Coordination

- **Work Plan**
- **Safety and Health Plan**
- **Project Risk Assessment Form**
- **Project Risk Mitigation Plans**

13. New York State Public Service Commission (PSC) Order Compliance:

During site work and antenna installation, NGrid shall observe WSP construction activities to ensure faithful execution of Commission's Orders and that the activities by others are consistent with Commission rules and regulations for Right-of-Way vegetation management plans. PSC approval establishes site specific requirements which typically require:

- WSP and NGrid shall ensure that the radio signal cable and the Power Mount (if applicable) are of the same color as the NGrid structure to which they are mounted.
- WSP and NGrid shall ensure that temporary erosion controls are in place before any soil is moved for site preparation and continue to be effective pending final restoration of the disturbed site.
- WSP and NGrid shall ensure that dirt and mud are not tracked onto the local roads by vehicles leaving the site.
- WSP and NGrid shall ensure that all rubbish and debris shall be disposed in a permitted landfill.
- WSP and NGrid shall ensure final restoration be monitored for effectiveness.
- NGrid shall ensure that the light fixture at the equipment shelter door is fitted with a shield or the use of a full cutoff luminaire-type fixture to be installed to prevent the direct upward beams of light from the fixture.
- NGrid shall follow all direction from Staff regarding the need for additional landscape screen plantings upon the installation of the fenced equipment shelter.
- WSP and NGrid shall ensure that a spill response kit (for potential fuel spills) is installed at sites with fuel storage capabilities.

The Wireless Service Provider shall insure the installation of the Wireless Facilities shall comply with the NY PSC Order approving installation.

14. Project Closeout:

Upon installation of WSP Wireless Facilities and completion of site improvements, TAG will arrange a final site inspection (punch list) with WSP, Electric Transmission & Distribution, Transmission Line Engineering, Transmission Line Services or the construction contractor(s) to identify remaining items of work and accept final construction. TAG shall coordinate corrective actions, if any, with WSP.

Within thirty (30) days of completing construction and punch list, WSP will provide as-built construction drawings which shall conform to the requirements in the most recent issue of NGrid Wireless Telecommunications Installations Specification (See Section 11.0).

15. **Project Certification:**

WSP is responsible for all costs related to Project Certification.

Within ten (10) calendar days of completing installation of the Wireless Facilities and punch list, the WSP shall inspect the construction of the Wireless Facilities to assure conformance with the construction drawings, NGrid Standards and the National Electric Safety Code (NESC). The inspection shall result in submittal of a Project Certification (reference Section 12.0 of the Wireless Telecommunications Installations Specification). The Project Certification shall be stamped by a Professional Engineer (PE) licensed and registered in the state in which the construction has taken place. An acceptable **Wireless Site Certification Template** is provided in the NGrid list of WSP submittals at the end of this process document.

WSP Design Engineer will inspect the construction of the Wireless Facilities as required to provide acceptable project certification. NGrid recommends at a minimum, three (3) inspections:

1. completion of foundation/civil work
2. during aerial work
3. completion of all work

Submittals related to Project Certification

- **Wireless Site Certification**

16. **Invoicing**

TAG will invoice WSP for:

- NGrid provided construction and engineering services including CFI and FCS costs.
- Total amount of congestion charges incurred (if applicable).

17. Other

Questions and inquiries regarding wireless occupancy on a NGrid transmission structure shall be directed to NGrid TAG representative Michael Ludovico at (315) 428-6688 or Charles Kosinski at (508) 421-7664.

NATIONAL GRID LIST OF WIRELESS SERVICE PROVIDER SUBMITTALS

Exhibit B – Request for Right of Entry

Exhibit B-1 – Collocation Application

Exhibit C – Site Application

RF Data / Structural Loading Form

Location Plan

Location Plan Checklist (reference Specification for Wireless Telecommunications Installations)

Transmittal T-1 Structure Location Information

Grounding Analysis Report

GPR Analysis Submittal – R1 Ground Potential Rise (GPR) Study

Structural Analysis Report

Consultant Submittal – S1

Construction Drawings

Transmittal F-1 Construction Field Issue

Environmental Submittals (as listed and / or as required)

Exhibit A - Site License Agreement (New England)

Exhibit A - Form of Supplemental Agreement (New York / New England)

Telecommunications Project Outage Duration Form

Health & Safety Plan

Project Risk Assessment / Mitigation Plans

Wireless Site Certification

EXHIBIT B - REQUEST FOR RIGHT OF ENTRY

Date _____ Date Received _____

Name of Applicant _____

Address _____

Telephone: _____
Office Mobile

Fax: _____ E-mail: _____

Designated Agent (if applicable) _____

Address _____

Telephone: _____
Office Mobile

Fax: _____ E-mail: _____

Description of Proposed Facility: _____

Location of Interest:

City/Town: _____ State: _____

Nearest Street: _____

Description of Site (Transmission Structure No., existing communications antenna, vacant land, substation, etc.):

TO COMPLETE YOUR REQUEST, PLEASE ATTACH A COPY OF A USGS LOCUS MAP AND WRITTEN AUTHORIZATION FROM THE UNDERLYING LANDOWNER IF LICENSOR'S RIGHTS ARE BY EASEMENT, LEASE OR LICENSE.

EXHIBIT B (CONTINUED) - REPLY

Request Granted _____ Date _____

Conditions Applicable to Entry (including time limitation on Right of Entry): _____

Request Denied _____ Date _____

Reasons _____



EXHIBIT B-1 COLLOCATION APPLICATION

Please fill out the appropriate information and submit with antenna cut sheet and site sketch

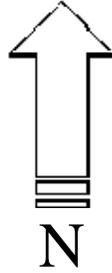
National Grid Site Information			
NGrid Site Name / Number			
NGrid Site Address			
Latitude / Longitude			
Structure Height			
Applicant Information			
	New Installation	Modification	(List Existing in Additional Information Section)
Date Submitted			
Applicant Name / Legal Entity			
Applicant Site Name / Number			
<u>Contact</u>	<u>Primary</u>	<u>Secondary</u>	
Applicant Contact Name /Title			
Applicant Phone / Fax			
Applicant Email			
Applicant Address			
Antenna Information			
Mounting Height Requested (ACL)			
Quantity / Manufacturer / Model #			
Antenna Dimensions / Weight			
Number of Sectors		Sector Azimuths	
Antenna Gain		Power Output	
Radiated Power (ERIP)			
Number of Cable Runs		Cable Size	
Transmit Frequency		Receive Frequency	
FCC Call Sign			
<u>Tower Mounted Amplifiers</u>			
Manufacturer / Model #			
TMA Quantity/ Dimensions/Weight			
TMA Mounting Location			
TMA Additional Cables / Sizes			
<u>Microwave / Special Mounts / etc</u>			
Quantity / Dimensions / Weight			
Lease Area / Ground Equipment Information			
Lease Area Size Requested			
Shelter / Equipment Pad Size			
Equipment Manufacturer / Model #			
Dimensions / Weight			
Power Requirement (Volts / Amps)			
Generator Pad Size			
Generator Type / Model / Size			
Fuel Type / Additional Space Reqs			

EXHIBIT B-1 (CONTINUED)

Additional Information	
Existing Antennas Qty/Size	
Existing Lines Qty/Size	
Existing Equipment Area	
Additional Comments:	

For National Grid Use Only					
TAG					
Approved		Disapproved		Conditional Approval	
Fees \$	Application				
Comments					
Signature				Date	
ENGINEERING & CONSTRUCTION					
Approved		Disapproved		Conditional Approval	
Comments					
Signature				Date	

EXHIBIT B-1 (CONTINUED)



Site Sketch

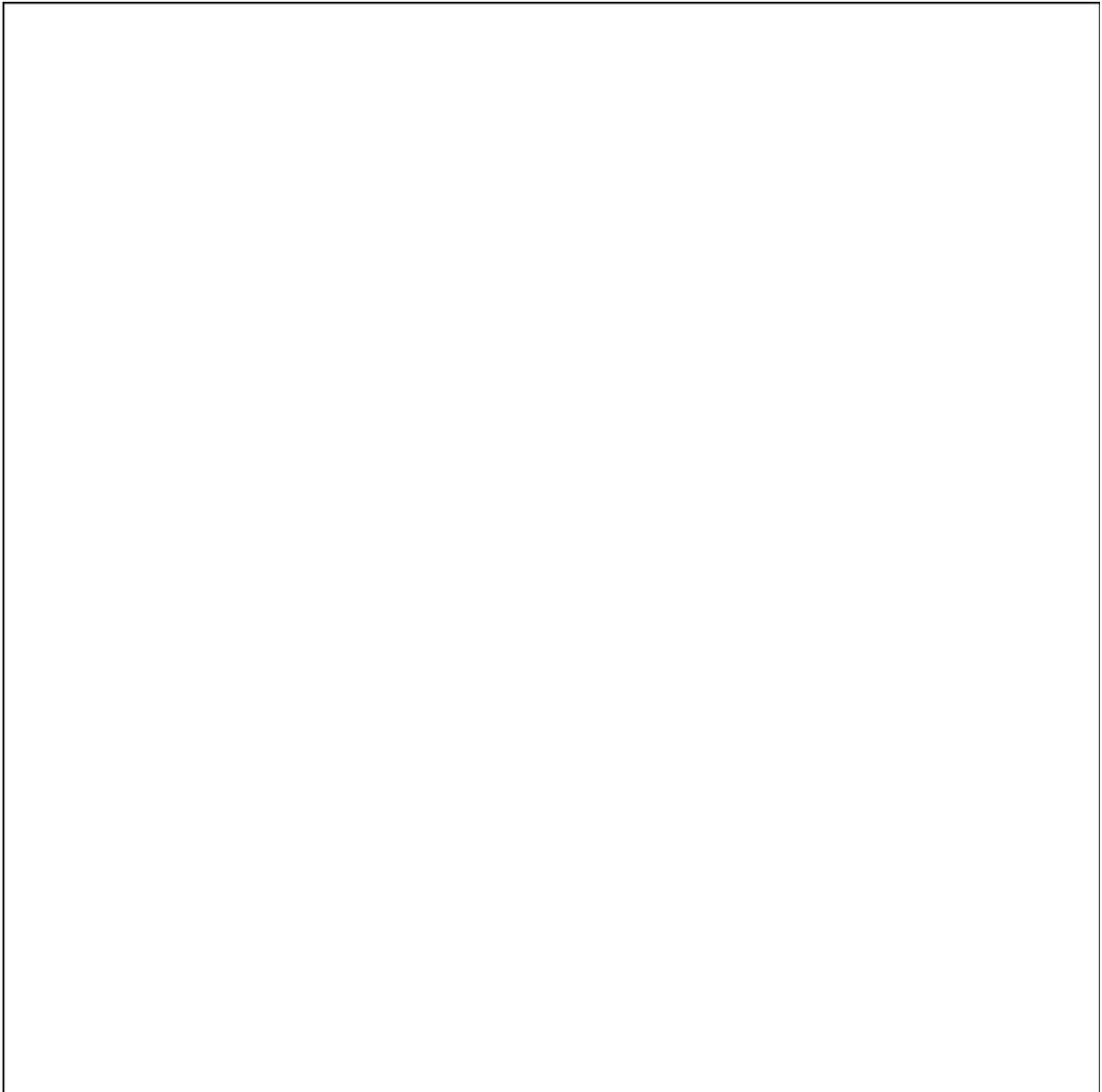


EXHIBIT C - SITE APPLICATION (New England)

In accordance with Section 2 of the Master License Agreement by and between _____ (Licensor) and _____ (Licensee) dated _____, 20_, Licensee hereby submits to Licensor this Site Application and the agreed-upon Site Application Fee for the following Property:

Site Name and Number:

Site Address:

___ Site Application Fee in the amount of \$ _____ (attached)

___ Certificates of Insurance as required by Section 15 of the Master License Agreement (attached)

___ Test Description (attached)
Please provide information on vehicles and equipment involved, setup, proposed schedule, duration, type of test.

___ Plan or drawing (attached)
Please provide information sufficient to indicate anticipated relationships of testing vehicle/equipment to Licensor properties (including transmission lines).

Licensee acknowledges that this Site Application is limited to entry upon, inspection of, testing upon, in or around the Property described above.

On behalf of Licensee:

Name

Title

Date

Acknowledged by Licensor:

Name

Title

Date

RF Data / Structural Loading Form

To Be Completed By National Grid:	
NGrid Tracking Number:	Site Address:
Structure Number:	
Line Name / Number:	Carrier / Contact:
(E) Structure Height (A.G.L.):	(E) Structure Type:

To Be Completed By Applicant (RF):	RF Engineer:
Desired ACL: (A.G.L.)	

# of Sectors:	# of Antenna per Sector:(See Note 1)		
	Sector 1	Sector 2	Sector 3
Sector Orientation/Azimuths			
"Tower Mounted" Amps per Antenna:			"Tower Mounted" Amps per Antenna:
Requested Horizontal Separation Between: (ft.)			Minimum Horizontal Separation Between: (ft.)
Antenna Mount Type: (See Note 2)			

Mechanical Equipment Specifications:

Antenna Dimensions (LxWxD):	in.	X	in.	X	in.	Feedline Size:	in. Dia.
Net Weight:	lbs.	(inclusive of mounting/downtilt brackets)				Feedline Weight:	lb/ft

Amplifier(s) Dimensions (LxWxD):	in.	X	in.	X	in.
Net Weight:	lbs.				

Amplifier mounting location and/or orientation:

*Note 1: Carrier to prepare loading inventory for full complement/maximum leased equipment.
Note 2: Reference National Grid list of "approved" attachment hardware.*

For Safe Worker Clearances

EIRP =	mW
frequency =	mHz
antenna gain =	dBi

**TRANSMITTAL T-1
Structure Location Information**

Tracking No.:
Site Name:

FROM		TO	
Applicant		Telecom Coordinator	
Phone No.		Phone No.	
Fax No.		Fax No.	
e-mail		e-mail	
Date		Date	

**SECTION 1
Structure Information**

<input type="checkbox"/> Primary Site Candidate
<input type="checkbox"/> Supplemental Information Required for GPR Study

Transmission Line Name(s):	Circuit A				
	Circuit B				
Transmission Voltage(s):	Circuit A	<input type="checkbox"/> 69 kV	<input type="checkbox"/> 115 kV	<input type="checkbox"/> 230 kV	<input type="checkbox"/> 345 kV
	Circuit B	<input type="checkbox"/> 69 kV	<input type="checkbox"/> 115 kV	<input type="checkbox"/> 230 kV	<input type="checkbox"/> 345 kV
Structure Number					
Distribution Line Name(s):	Circuit A				
	Circuit B				
Distribution Voltage(s):	Circuit A	<input type="checkbox"/> 13.2 kV	<input type="checkbox"/> 13.8 kV	<input type="checkbox"/> 23 kV	<input type="checkbox"/> 34.5 kV
	Circuit B	<input type="checkbox"/> 13.2 kV	<input type="checkbox"/> 13.8 kV	<input type="checkbox"/> 23 kV	<input type="checkbox"/> 34.5 kV
Structure Number					
GPS Coordinate NAD 83 DD.dddd or D/M/S	Latitude (N)		Longitude (W)		
Location (check one)	New York	<input type="checkbox"/>	New England	<input type="checkbox"/>	

**Location Information
SECTION 2
USGS Locus Maps / Site Photo / Closest Public Way**

GPR Analysis Submittal - R1
Ground Potential Rise (GPR) Study

FROM		TO	
Consultant		Transmission Engineer	
Contact Engineer			
Phone Number		Phone Number	
Fax Number		Fax Number	
e-mail		e-mail	
Date		Date	

SECTION 1. Site Information

Transmission Line(s) Name / #		Structure Number	
Proposed Telecom Equipment Area (ft x ft)		Proposed Telecom Lease Area (ft x ft)	
Proposed Telecom Fencing Material			
Antenna Installation Type	Monopole <input type="checkbox"/>	Attachment <input type="checkbox"/>	Extension Attachment (above tower peak) <input type="checkbox"/>

SECTION 2. Analysis Submittals

Analysis Report <input type="checkbox"/>	Calculations <input type="checkbox"/>	Schematic of Grounding Grid Design <input type="checkbox"/>
--	---------------------------------------	---

SECTION 3. Grounding Design

Counterpoise Ring Area	Material	Buried Depth of Ring	# Rods	Depth of Rod	Encircles

Calculated Earth Fault Current		amps
Calculated Ground Potential Rise		volts (rms)
	Allowable	Calculated
Grounding System Resistance		ohms
300-Volt GPR distance		feet

SECTION 4. Safety Calculations: Step and Touch Potential

A. Assumptions

Clearing Time		seconds
Native Soil Resistivity		ohm-meters
Shoe/Footwear Resistance		ohms
Body Resistance		ohms
Fibrillation Current Calculation (basis)		kg
List Others:		

**GPR ANALYSIS SUBMITTAL R-1
GROUND POTENTIAL RISE (GPR) STUDY**

B. Design Calculations

DESIGN CONDITION	Touch Voltage	Step Voltage
A. Maximum Allowable		
B. Grid and Native Soil		
C. Grid and Surface Modifications		

Surface Modification for Design Condition C.			
	Location A	Location B	Location C
Location Description			
Material			
Depth of Material (in.)			

PARAMETER	VALUES	
	Assumed	Calculated
X/R Ratio		

The consulting engineer for this study hereby states that the engineering analysis and all related documents contained within this submittal strictly comply with the National Grid Transmission Engineering and Design Specification WRLS602 and all applicable statutes, regulations, and design codes, including, but not limited to, National Electrical Code, National Electrical Safety Code, ANSI / IEEE Standard 80-2000 "IEEE Guide for Safety in AC Substation Grounding", and OSHA Appendix C of 29 CFR 1910.269.

Prepared By

Date

Approved By

Date



Engineering license stamp area.

**Consultant Submittal - S1
Structural Analysis Report for Telecommunications Installation**

Work Order #: _____
(NG use only)

FROM		TO	
Consultant		Transmission Engineer	
Contact Engineer			
Phone Number		Phone Number	
Fax Number		Fax Number	
e-mail		e-mail	
Date		Date	

SECTION 1. Site Information

Line Name / #			
Structure Number	Structure Type	Suspension <input type="checkbox"/>	Strain <input type="checkbox"/> Dead End <input type="checkbox"/> R.A. <input type="checkbox"/>
Installation Type	Monopole <input type="checkbox"/>	Attachment <input type="checkbox"/>	Extension (fabricated frame) <input type="checkbox"/>

SECTION 2. Submittals

(check all applicable)

Engineering Analysis	Construction Drawings		
Analysis Report (2 copies) <input type="checkbox"/>	Paper Copy (2 sets ANSI B size) <input type="checkbox"/>		
Electronic File of Structural Analysis <input type="checkbox"/>	Electronic files on CD-R		
Calculations <input type="checkbox"/>	*.CIT <input type="checkbox"/>	*.DWG <input type="checkbox"/>	*.DGN <input type="checkbox"/>
Grounding Report/Analysis <input type="checkbox"/>			

SECTION 3. Transmission Structure Analysis

Report the maximum member usage for each load case in the table below.

Load Case	Structure Wind Load (p.s.f.)	Structure Section (e.g. body, leg, x-arm)	Allowable Capacity (kips)	Maximum Force (kips)	% of Capacity
I. NESC Heavy					
II. Extreme Wind					
III. Heavy Ice					
IV. NESC Heavy w/ Antenna Installation					
V. Extreme Wind w/ Antenna Installation					
VI. Heavy Ice w/ Antenna Installation					

NOTE: Use '+' to indicate tension, '-' to indicate compression

SECTION 4. Antenna Support Structure Analysis

The responsible engineer shall initial each box to verify that the component sufficiently meets the analysis requirements for each respective load case.

Load Case	Connections to Transmission Structure	Support Frame / Monopole	Antenna Connections
ANSI/TIA/EIA-222-F-1996 Loading			
I. NESC Heavy Antenna			
II. NESC Extreme Wind Antenna			
III. Heavy Ice Antenna			

CONSULTANT SUBMITTAL S-1

STRUCTURAL ANALYSIS REPORT FOR TELECOMMUNICATIONS INSTALLATION

The consulting engineer for this project hereby states that the engineering analysis and all related documents contained within this submittal comply with the National Grid Transmission Engineering and Design Specification WRLS602 and all applicable codes, standards, and regulations corresponding to the development of these documents.

Prepared By

Date

Approved By

Date



Engineering license stamp area.

**TRANSMITTAL F-1
Construction Field Issue**

Tracking No.:
Site Name:

FROM		TO	
Applicant		Telecom Coordinator	
Phone No.		Phone No.	
Fax No.		Fax No.	
e-mail		e-mail	
Date		Date	

Structure Information

Transmission Line Name / Number	
Structure Number	

Location (check one)	New York	<input type="checkbox"/>	New England	<input type="checkbox"/>
----------------------	----------	--------------------------	-------------	--------------------------

Applicant requests National Grid Transmission Line Engineering to initiate a Construction Field Issue (CFI) for the telecommunications installation on the transmission structure identified above.

Applicant understands and agrees the full cost of the CFI is payable to National Grid in accordance with the Master and Site License Agreements. Applicant understands the cost of the CFI cannot be determined in advance and such cost shall be added to the Work Order created for the wireless construction.

Signature: _____

Date: _____

Title: _____

Attachment: National Grid accepted final Construction Drawings dated ___ / ___ / ____

**EXHIBIT A - SITE LICENSE AGREEMENT (SLA)
New England**

This Site License Agreement (“Site License”) made this _____ day of _____, _____ by and between _____ (“Licensor”) and _____ (“Licensee”).

This Site License is referred to in the Master License Agreement between Licensor and Licensee, dated _____ (“Master License”). All of the terms and conditions of the Master License are incorporated herein by reference and made a part hereof. In the event of any contradiction, modification or inconsistency between the terms of the Master License and this Site License, the terms of this Site License shall prevail. Unless otherwise stated in this Site License, capitalized terms used in this Site License shall have the same meaning as defined in the Master License.

LICENSOR, ITS AFFILIATES AND SUPPLIERS IN PROVIDING ANY SERVICE HEREUNDER MAKE NO WARRANTIES EXPRESS OR IMPLIED, AND SPECIFICALLY DISCLAIM ANY WARRANTY OF FITNESS FOR A PARTICULAR PURPOSE.

Site Name and Number _____

Site Address _____

Electric Circuit (line) No. _____

Electric Circuit Name _____

Tower/Structure No. _____

Site Latitude _____

Site Longitude _____

Access Requirements _____

Site Conditions/Limitations _____

EXHIBIT A - SITE LICENSE AGREEMENT (SLA)
New England

The Legal Description of the Premises and Property are attached as Exhibit 1 to this Site License.

The description of Licensee Equipment is shown on the License Exhibit and Construction Drawings which are attached as Exhibit 2 to this Site License.

All required permits, approvals, easements, or licenses, which in the sole opinion of the Licensor are sufficient and appropriate for fulfilling the terms of the Master License, are attached as Exhibit 3 to this Site License.

The Term of this Site License is described in Section 5 of the Master License.

The Commencement Date of this Site License is described in Section 5 of the Master License.

Licensee shall pay Licensor an annual License Fee as described in, and as increased pursuant to, Section 6 of the Master License.

Licensor contact for emergencies: _____

Licensee contact for emergencies: _____

Estimated Removal and Restoration Cost (as defined in Section 4 of the Master License): _____

Special provisions: _____

To the extent that Licensor owns the Property, Licensee is entitled access to the Premises throughout the Term, so long as Licensee is not in default of any term of the Master License and this Site License beyond the expiration of the applicable cure period.

A visual review of the site was conducted on _____ and no evidence of contamination was found.

Licensor requires the Licensee to submit written certification, in a form acceptable to Licensor, certifying that Licensee's wireless facility installation conforms to the accepted plans and Licensor standards. The certification shall be prepared by a licensed Professional Engineer licensed in the state where the work is located and submitted within ten (10) days of completing construction and punch list. In the event that the Professional Engineer determines the installation does not comply with plans or standards, the Professional Engineer shall submit a report stating the findings along with a plausible solution(s).

**EXHIBIT A - FORM OF SUPPLEMENTAL AGREEMENT (SA)
New York**

SA NO. _____
STRUCTURE NO. _____

EXHIBIT A

Form of Supplemental Agreement

To the Master Right-of-Occupancy Agreement between NGrid, and Licensee, dated as of _____, the terms and conditions of which are incorporated by reference herein, agree as follows:

1. Site No./Name: _____

2. Name of _____ Affiliate: _____

3. Site Latitude and Longitude: _____

4. Payment Commencement date: _____
5. Annual Fee: _____
6. Term: _____ yrs. _____ Expiring on: _____ (m/d/y)
7. Property Owned by NGrid: [] or Lessor-Leased easement: []
If Leased, term of underlying Lease Site NGrid Fee Owner: _____

- Other existing easement holders yes [] no [] If so, list all other property rights holders
8. Access Requirements: _____
9. NGrid Contact for Emergency Access:

10. Licensee contact for Emergency:

11. Licensee address for Notice Purposes:

**EXHIBIT A - FORM OF SUPPLEMENTAL AGREEMENT (SA)
New York**

12. Special provisions/site limitation/changes in ownership): _____

13. A visual review of the site was conducted on _____ and no evidence of contamination was found.
14. Licensor requires the Licensee to submit written certification, in a form acceptable to Licensor, certifying that Licensee's wireless facility installation conforms to the accepted plans and Licensor standards. The certification shall be prepared by a licensed Professional Engineer licensed in the state where the work is located and submitted within ten (10) days of completing construction and punch list. In the event that the Professional Engineer determines the installation does not comply with plans or standards, the Professional Engineer shall submit a report stating the findings along with a plausible solution(s).

NIAGARA MOHAWK POWER CORPORATION

By: _____

Title: _____

Date: _____

LICENSEE

By: _____

Title: _____

Date: _____

Addendum/Attachments:

- Schedule 1: Description of Antennas/Dishes Location(s)
- Schedule 2: Description of Equipment Shelter/ Room/Cabinet Location(s)
- Schedule 3: Plans and Specifications
- Schedule 4: Current Communications Users of Site (including frequencies)

Telecommunications Project Outage Duration Form

Date Submitted:	
Submitted By:	
Company:	
Project Name:	
Line(s) Designation/No.	
Voltage:	
Structure Number:	
Municipality:	
Area *	

Outage Project Start	Outage Project Finish	Outage Duration Days	Estimated Labor Hours	Project Duration Days	Comments

*** Area**

New England	New York
North	East
South	Central
	West

Wireless Site Certification Template

To: Wireless Service Provider

Re: _____ Site – Site No. _____
Construction Certification

Dear Ms. _____:

Based on our review of the work completed for the above-referenced project, including As-Built Drawings provided by (Wireless Service Provider), and a final field observation of the site performed on _____, I find the project has been completed in conformance with the plans and in compliance with applicable National Grid Standards and National Electric Safety Code requirements.

If you have any questions or require any additional information, please do not hesitate to contact me.

Very truly yours,

_____ **ENGINEERS, INC.**

_____ P.E.
Service Group Manager

APPENDIX A

Current NGrid approved crane services:

- American Lighting & Signalization, Inc.
5 Spanish River Rd.
Grafton, MA 01519
- Associated Maintenance Corp.
P.O. Box 223
Eastwood Station
Syracuse, NY 13206
- Collins Crane & Rigging Service, Inc.
408 Spring St.
East Bridgewater, MA 02333
- NES Rentals Holdings, Inc.
12 New Bond St.
Worcester, MA 01606
- Northeast Crane and Rigging Service
11 Groveland St.
Seabrook, NH 03874
- United Rentals, Inc.
Five Greenwich Office Park
Greenwich, CT 06830

APPENDIX B

Current NGrid approved GPR/grounding design consultant:

- Lyncole Industries, Inc.
3547 Voyager St.
Torrance, CA 90503

APPENDIX C

Current NGrid approved engineering consultants to perform Structural Analyses:

- Black & Veatch
709 East Ordnance Road, Suite 503
Baltimore, MD 21226
- Commonwealth Associates
PO Box 1124
Jackson, MI 49204-1124
- TRC
225 Greenfield Parkway, Suite 203
Liverpool, NY 13088
- RCP Engineering
11 Kenny Drive
Mohton, PA 19540
- Vanderweil Engineers
274 Sumner Street
Boston, MA 02210-1123

APPENDIX D

TRANSMISSION LINE TREES

<u>Scientific Name</u> <u>Height</u>	<u>Common Name</u>	<u>Type</u>
1. <i>Cornus racemosa</i> 15 feet	Gray Dogwood	Shrub
2. <i>Corylus americana</i> 12 feet	American Hazel	Shrub
3. <i>Corylus cornuta</i> 6 feet	Beaked Hazel	Shrub
4. <i>Ilex serrata x verticullata</i> 'Sparkleberry' 12 feet	Sparkleberry Holly	Tree
5. <i>Ilex decidua</i> 15 feet	Deciduous Holly	Tree
6. <i>Juniperus chinensis</i> 'Keteleeri' 15 feet	Keteleeri Chinese Juniper	Tree
7. <i>Juniperus virginiana</i> 'Manhattan Blue' 12 feet	Manhattan Blue Juniper	Tree
8. <i>Malus var. Adirondack</i> 18 feet	Adirondack Crabapple	Tree
9. <i>Malus var. Indian Summer</i> 18 feet	Indian Summer Crabapple	Tree
10. <i>Malus var. Liset</i> 15 feet	Liset Crabapple	Tree
11. <i>Malus var. Red Jewel</i> 15 feet	Red Jewel Crabapple	Tree
12. <i>Picea glauca</i> 'conica' 6 feet	Dwarf Alberta Spruce	Tree
13. <i>Picea pungens</i> 'bakeri' 15 feet	Bakeri Blue Spruce	Tree

APPENDIX D (CONTINUED)

TRANSMISSION LINE TREES

<u>Scientific Name</u> <u>Height</u>	<u>Common Name</u>	<u>Type</u>
14. <i>Syringa</i> sp. 10 feet	Lilac species	Shrub
15. <i>Taxus x. media</i> 'Hicksii' 12 feet	Hicksi Yew	Tree
16. <i>Taxus x. media</i> 'viridis' 12 feet	Viridis Yew	Tree
17. <i>Thuja occidentalis</i> 'techny' 15 feet	Mission Arborvitae	Tree
18. <i>Viburnum dentatum</i> 15 feet	Arrowwood viburnum	Shrub
19. <i>Viburnum prunifolium</i> 15 feet	Blackhaw viburnum	Shrub

APPENDIX E

Current NGrid approved live line contractors:

- Harlan Construction Company (**Note 1**)
P.O. Box 1605
Hopewell, VA 23860
- Hawkeye (**Note 1**)
100 Marcus Boulevard
Hauppauge, NY 11788
- KT Power, Inc.
P.O. Box 504
Waddington, NY 13694
- M J Electric, Inc. (**Note 2**)
P.O. Box 310
1047 Shoemaker Ave
Shoemaker, PA 19555
- O'Connell Electric (**Note 2**)
830 Phillips Rd.
Victor, NY 14564
- 3 Phase Line Construction, Inc
25 Main Street
P.O. Box 18
Farmington, NH 03835
- THIRO USA (**Note 1**)
127 Costello Road
Newington, CT 06111

Note 1: National Grid Alliance Contractor

Note 2: Requires prior Transmission Line Services review of work practice