City of Newport News Department of Codes Compliance
2400 Washington Ave, Newport News VA 23607
757-933-2311
codescompliance@nnva.gov

Residential Solar Energy / Photovoltaic Panel Systems & Equipment Requirements

General Information:
The City of Newport News Department of Codes Compliance ensures the building safety and code compliance relative to the installation of solar/photovoltaic systems and equipment installed on one- and two-family dwellings and associated accessory structures throughout the City. This document provides the minimum standard project information and details required to demonstrate and determine code compliance with the Virginia Uniform Statewide Building Code (VUSBC/VCC), adopting and incorporating the applicable edition of the NFPA 70 National Electrical Code (NEC), and to simplify and streamline the Department administration and approval processes.

Applicable Regulations:
- Virginia Uniform Statewide Building Code (VUSBC) / Virginia Residential Code (VRC) – 2018 VUSBC/VRC
- International Code Council International Fire Code – 2018 ICC IFC
- National Fire Protection Association (NFPA) 70 National Electrical Code (NEC) – NFPA

Design Criteria:
All design criteria to be identified on construction documents.
- Applicable VUSBC/VRC edition
- Applicable NFPA 70 NEC edition
- Environmental Loads –
  - Wind Loads – 118 MPH Ultimate Design Wind Speed
  - Snow/Snow Drift Loads – 15 PSF
  - Seismic Loads – Design Category A
- Structural Loads
  - Live Loads
  - Dead Loads
  - Uniform Loads
  - Concentrated Loads
- Newport News Residential Design Criteria

Construction Documents:
All minimum standard information and details are required on permit applications and construction documents to demonstrate and determine code compliance.
- General/Site Requirements:
  - Site Plan – Indicate and dimension locations of property lines and all structures on property/parcel.
- Building Requirements:
  - Regulation/Code Information
  - Design Criteria
    - Refer to above Section
    - VCC Sections 1607.13.5 & 1609 & 3111

- NFPA 70 NEC
- Manufacturer Specifications

- Roof Diagram – Indicate and dimension locations and configurations of solar panel arrays, including access pathways
  - Roof Access and Access Pathway – IFC Section 1204
- Fire Classification
  - Rooftop Mounted – VCC Sections 1505.1 &1505.9 per UL 1703 & UL 2703 – consistent with structural construction classification
  - Building Integrated – VCC Sections 1505.1 & 1505.9 per UL
  - Building Integrated Roof Covering – VCC Section 1507.18
  - Ground Mounted – VCC Chapter 16 & IFC – subject to fire separation distance requirements
- Structural Requirements:
  - Structural Load Bearing Path and Supports
  - Structural Calculations – Registered Design Professional (RDP) seal and signature on structural calculations to support additionally imposed structural loads
  - Structural Attachments
- Electrical Requirements:
  - Electrical Diagram – Includes electrical configurations, AC building electrical connections, electrical disconnections, system inverter, overcurrent protection, wiring systems, and signage.
  - Electrical Calculations – As required
- Additional Substantiating Documentation:
  - Manufacturer Manuals and Specifications
  - Manufacturer Installation Instructions
  - Additional Component Information

Systems and Equipment:
All solar/photovoltaic systems and equipment shall be listed and labeled in accordance with the applicable referenced standard and test criteria.

- Solar/photovoltaic panels and modules – UL 1703
- Solar inverters – UL 1741
- Solar systems and equipment connected to utility grid – solar inverters listed for utility interaction

Permit Applications:
All building and electrical permit applications and construction documents shall be submitted, approvals obtained, and permits issued prior to commencement of solar/photovoltaic system and equipment installation.

- All construction/installation documents to be submitted in one single submission.
- All construction/installation documents to be scaled, dimensioned, labeled, easily legible, and of 11” x 17” minimum size.
- Certain construction/installation and/or structural documents may require RDP seal and signature.
- Residential Permit Application Checklist – Residential Permit Application Checklist

- Building Permit Application – Building Permit Application
- Electrical Permit Application – Electrical Permit Application
- Submit permit applications to the Department:
  - Email – mailto:codesclerical@nnva.gov
  - Physical location – 2400 Washington Avenue, 3rd Floor, Newport News Virginia 23607

Plan Examination and Permit Fees:

- Plan examination fees established by the Department – Plan Examination Fee Schedule
- Permit fees established by the Department – Permit Fee Schedule
- Rejected/failed inspection fees – subject to $50 re-inspection fee in accordance with Permit Fee Schedule

Permit Application and Permit Expirations:

Permit applications remain valid/active for and expire after 180 days once due diligence of pursuit ceases. Permits remain valid/active for and expire after 180 days once construction is not commenced or is suspended or abandoned.

- Permit applications – 180 days from permit application submission date
- Issued permits – 180 days from permit issuance date
  - Issued permits remain valid and active for 180 days provided one minimum approved required inspection each 180 days
- Trade permits – 180 days or until expiration of primary building permit
  - Associated electrical trade permits to remain valid and active provided primary building permits remain valid and active

Plans Examination:

The Department of Codes Compliance commits to and strives for prompt permit administration and plans examination of solar/photovoltaic permit applications. Best efforts typically result in plans examination periods of 5 to 10 business days maximum, given submission of complete and accurate permit applications and construction documents, although may be dependent upon several mitigating factors including increased construction activities, project workloads, and personnel availabilities.

- Estimated response at 5 to 10 business days

Contractor Licensure:

All solar/photovoltaic systems and equipment shall be installed by properly licensed contractors in accordance with Virginia Department of Professional and Occupational (VA DPOR) regulations. The state and City strongly recommend that such licensed contractors serve as the permit application and permit holder.

- VA DPOR regulations authorize contractors possessing Alternative Energy Systems (AES) specialty contractor license classification to perform associated solar/photovoltaic installations.
- VA DPOR regulations require contractors to possess Electrical (ELE) tradesman contractor license classification to perform associated electrical installations and connections.
- Virginia Department of Professional and Occupational Regulation website – VA DPOR

Installation Inspection:
Permit applicants are solely responsible to promptly request all mandatory construction/installation inspections. The Department typically responds to inspection request within 1 to 2 business days maximum.

Minimum Required Solar/Photovoltaic Inspections:

- Electrical Trade Final Inspection
- Building Final Inspection – includes structural, attachment, and weather-resistance inspections
- Contact the Department to request and schedule construction/installation inspections:
  - Email – 311@nnva.gov
  - Telephone – 757.933.2311
  - Estimated response at 1 to 2 business days

Permit Administration/Issuance:
Upon plans examination and subsequent permit approval, the Department of Codes Compliance typically issues permits within 3 to 5 business days maximum upon approval.

- Contact the Department to verify permit status after adequate time to complete processes:
  - Email – codesclerical@nnva.gov
  - Telephone – 757.933.2311
  - Estimated response at 3 to 5 days

Contact Information:

Operational Hours – 8:00AM to 5:00PM
Address – 2400 Washington Boulevard, Newport News, Virginia 23607
Website – Newport News Codes Compliance
Email – codesclerical@nnva.gov or 311@nnva.gov
Telephone – 757.933.2311

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Applicable Code Requirements:

The 2015 VUSBC Section R324 references Chapter 23 (M2303.2.1 access) and 2015 IFC.

- 2015 IFC Section 605.11 – 2015 ICC IFC Section 605.11:
  - References NFPA 70.
  - Limits each array to 150 square feet.
  - Separates multiple arrays with 36 inch access pathway.
  - Location to be structurally capable of supporting imposed loads.
  - Maintains emergency egress and rescue opening (EERO) pathways.
  - 36 inch minimum access pathway and smoke ventilation area at ridge with arrays.
  - Single ridge roofs – (2) 36 inch minimum access pathways from ridge to eave at each roof slope/plane with arrays.
  - Hip roofs – (1) 36 inch minimum access pathway from ridge to eave at each roof slope/plane with arrays.
  - Hip and valley roofs – 18 inch minimum access pathway at hips and valleys with arrays on both sides of hips or valleys & no access pathway if directly adjacent to hips or valleys with array on one side of hips or valleys of equal length.

The 2018 VUSBC Section R324 2018 VUSBC/VRC Section R324, effective July 01 2021, includes similar language excerpted from the 2018 IFC.

- 2018 IFC Section 1204 – 2018 ICC IFC Section 1204:
  - References NFPA 70.
  - References Chapter 23
  - Requires same fire classification as roof assembly materials.
  - Location to be structurally capable of supporting imposed loads.
  - Location to have minimal obstructions, projections, and penetrations.
  - Not located to impede EEROs and maintain 36 inch minimum access pathways at EEROs.
  - < 33 % of total roof area – 18 inch minimum access pathway at both sides of ridge.
  - > 33 % of total roof area – 36 inch minimum access pathway at both sides of ridge.
  - (2) 36 inch minimum access pathways on separate roof slopes/planes from ridge to lowest eave.
  - (1) 36 inch minimum access pathway located on street side or driveway side of roof.
  - (1) 36 inch minimum access pathway from ridge to lowest eave on each roof slope/plane with arrays, located on same slope/plane, adjacent slopes/planes, or straddling adjacent slopes/planes.