Proposed 32.7 Megawatt AC Ground-Mounted Solar Facilities
TPE Shermantown Solar I, II, and III and Tower Hill Solar

Applicant:
TPE Rhode Island Solar Holdings1, LLC and
TPE Rhode Island Solar Holdings2, LLC
c/o TurningPoint Energy, LLC
999 18th Street, Suite 3000
Denver, CO 80202

Properties Owned By:
Shermantown Property (Parcels 008-005, 008-006, and 028-006):
Sharon Fleming
333 East 68th Street, Apt 4A
New York, NY 10065

Cruickshank Property (Parcels 011-002, 012-001, 012-002, and 17-3-13):
Irene B. Cruickshank Trust and Alexander M. Cruickshank Trust
2453 Kingstown Road
Kingstown, RI 02881

Tower Hill Property (Parcel 024-001):
Christopher J. and Nancy Fleming
PO Box 36173
Tucson, AZ 85740-6173

Prepared On: February 26, 2018
February 26, 2018

Gardner H Palmer Jr, Chairperson
Planning Commission
Town Hall Annex
55 Brown Street
North Kingstown, RI 02852

Re: Proposed 32.7 Megawatt AC Ground-Mounted Solar Facilities

Dear Mr. Palmer:

TurningPoint Energy (TPE) is a clean energy advisory, development, and investment company headquartered in Denver, Colorado, with team members and additional offices in Washington, D.C., Maryland, California, Arizona, Florida, and soon, Rhode Island. Our team of seasoned energy industry veterans have collectively originated, developed, financed, built, owned, and operated in excess of 1,000 megawatts (MW) of solar projects now operating in the U.S. today, valued at more than $2.1 billion. For further information on TPE, please visit our website at www.turningpoint-energy.com.

TPE is proposing development of four solar arrays (the Projects) across eight parcels within the Town of North Kingstown. TPE Shermantown Solar I will be constructed on the Shermantown Property (three parcels comprising 133 acres), TPE Shermantown II Solar, and TPE Shermantown III on the Cruickshank Property (four parcels comprising 356 acres), and TPE Tower Hill Solar on the Tower Hill Property (a single 78-acre parcel). Collectively, the arrays will constitute one of the largest such facilities yet developed within the State of Rhode Island, with a planned total capacity of approximately 32.7 MW AC. The Projects are intended to become amongst the first projects in Rhode Island’s Community Net Metering pilot program and will power the equivalent of over 6,000 Rhode Island homes. This pilot program is among the first in the country and allows the residents of Rhode Island to purchase electricity at a discount to current National Grid rates without having to put solar on their rooftops. This narrative, and the accompanying conceptual site plans, is intended to:

- Preemptively answer many of the questions we anticipate may arise from the Planning Commission in the later, more formal permitting process; and

- Grant an opportunity for the Technical Review Committee/Planning Commission to offer commentary on various aspects of the Projects as currently proposed in the conceptual plans.
Projects’ benefits to the town and neighboring residents:

- Increased tax base over current uses of the subject properties by over 489%;
- Short-term and long-term local job creation;
- Significant economic benefit to the community without taxing community infrastructure;
- An opportunity for North Kingstown homeowners/residents to sign on as subscribers to the Projects, in the process receiving a discount to current bill credit values, as a means of demonstrating TPE’s desire to be a good neighbor;
- Supporting North Kingstown and State of Rhode Island leadership goals and initiatives focused on sea level rise, reductions of global warming impacts and all around reduction of pollutants into the local atmosphere as compared to non-renewable/“brown” power plants of a similar installed capacity:
  - 81,900,000 pounds of atmospheric carbon eliminated annually;
  - The equivalent of 4,221,000 gallons of gasoline eliminated annually;
  - The equivalent of 4,964 passenger vehicles removed from our streets annually;
  - The equivalent of 589,240 light bulbs eliminated per year.
  - Over the life of the Projects, the equivalent of 34,412 trees planted
- Planting of pollinator friendly grasses and clover
- Philanthropic investment by TPE into critical local community and environmental initiatives.

Each of these items is described in greater detail immediately below.

- **Tax Base:**
  - The Projects’ properties are currently assessed an annual real property tax of \(~$33,490.00\) ($ assessed valuation x $18.59/$1,000 rate).
Under the State of Rhode Island and Providence Plantations, Department of Administration, Office of Energy Resources’ Rules and Regulations for Commercial Renewable Energy Systems Tangible Tax Value (Effective Date Jan 1, 2017), all municipalities within the state may assess a tangible personal property tax value to commercial solar facilities like the one proposed here at a rate of $5.00/kW AC ($5,000.00/MW AC) annually for an anticipated 30-year useful life of the system. Based on the currently specified system size, the Town of North Kingstown could assess the facility’s personal property at an annual rate of $163,600.00 or $4,908,000.00 (assuming a 30-year useful life). This excludes real property taxes.

This brings us to an effective 489 percent increase ($130,110.00) in annual tax base over the current use.

**Job Creation:** In addition to the substantial economic benefit the town would see from the proposed Projects from a tax perspective, TPE prides itself on working with solar facility contractors that stress the importance of using a local labor pool. A TPE project in Bosque County, Texas that completed construction in December 2017 is an ideal example of this point. While contractors on many large-scale projects along these lines bring their crews from around the country, the contractor on this facility held a number of local job fairs and was able to secure in excess of eighty-five (85%) local labor content. Depending upon the locally available pool of skilled and unskilled tradesmen, we would work to maximize local labor content for the Projects being proposed for the Town of North Kingstown. The proposed Projects would create approximately 150 - 200 jobs on site during the peak construction time frame, with an additional 50 - 100 offsite jobs created in the development, planning, and eventual operation. The overall construction time frame is anticipated to be approximately 9 to 12 months, for the first two phases to be constructed concurrently followed by the next two phases. Afterwards, a regional operations and maintenance firm will service the facility over its working life cycle, which would likely be a Rhode Island-based firm.

**Economic Benefits Come Without Taxing of Community Infrastructure.** Unlike nearly all other forms of development (residential, commercial or industrial), the community would benefit from the significant economic benefits mentioned above without stressing community infrastructure – no new children in schools (and no need to build new schools), and no use of water and sewer
systems, extremely limited use of roads, little to no need for police or fire departments. (See related notes under “Public Services,” below).

- **Homegrown Discounted Electricity:** Within the past six months, TPE was awarded over 70 percent of the State of Rhode Island’s total allocation for its community net metering program, dedicated to currently under-development projects in various locations throughout the state, inclusive of the subject Projects. This could provide an excellent opportunity for local residents to take advantage of discounted electricity over the life of the facility, with such energy generated within the town itself.

- **Environmental Value Proposition:** Rhode Island Governor Gina M. Raimondo has set a strategic goal to increase the amount of clean energy in the state by 10 times by the end of 2020 – achieving a total of 1,000 MW of clean energy installed. This strategic goal also includes increasing clean energy jobs from 15,305 at the end of 2016 to 20,000 by 2020. The Projects very directly support these important goals.

- **Pollinator Seed Mixes Utilized:** With bee populations facing multiple threats and substantial population declines, it is important to TPE that the cover crops used underneath the Projects’ solar panels be bee friendly. TPE plans to use clover and grass species that promote the establishment and long-term health of bee populations in the area. These cover crops will give bee populations a new, long term pollinator habitat.

- **Philanthropic Investment:** TPE is a triple bottom line company, with the belief that our business should create financial, environmental and community value in every project we create. Our intent is to be long term community members, in the case of these Projects, as the long-term land owner. Upon successful permitting and utility interconnection, TPE looks to local leaders for suggestions as to local charities and non-profits in need of a financial “shot in the arm” for philanthropic investment. With these particular Projects, we are investigating a number of investments in tree conservation, habitat preservation and related environmental initiatives to further off-set any local impact the Projects would immediately create.

**Projects Narrative:**

TPE, in coordination with its engineering consultant (TRC) and its wetlands/biological consultant (Goddard Consulting, LLC), has prepared and compiled information from many sources to describe various components of the proposed construction of a
ground-mounted solar energy facility at the subject site. The anticipated impacts of this development on the community and environment. These impacts are based on the attached Conceptual Plans. The layout and overall MW capacity presented in the plans may change within the usable space as the design advances and the Projects are refined.

- **Location:** The proposed Projects encompass three properties covering eight distinct tax parcels within the town: the Shermantown Property (133 acres on three parcels), the Cruickshank Property (356 acres on four parcels), and the Tower Hill Property (a single parcel of approximately 78 acres). TPE has legal site control of all of the aforementioned tax parcels, as proposed real estate purchases. All of the parcels sit wholly within the town’s Very Low Density Rural (VLDR) zoning district. The proposed footprint of the Projects within the fence line(s) is approximately 199 acres. We believe this to be an ideal location for development and operation of such facilities.

- **Current and Surrounding Uses:** The eastern portion of the Shermantown Property is vacant woodland and there is a sand and gravel pit on the western side. Both the Cruickshank and Tower Hill Properties are vacant woodlands. The land uses on abutting properties surrounding the Projects include vacant woodlands, residential dwellings, sand and gravel quarrying, a horse farm, and a paintball recreation facility.

- **Natural Resources and Environmental Considerations:**
  
  - **Topography:** Based on review of the United States Geological Survey (USGS) 7.5-minute Quadrangle topographic map and publicly available Light Detection and Ranging (LIDAR) data, topography across the Projects’ site appears to be relatively consistent from northwest to south, with elevations ranging from approximately 180 feet to 95 feet. Slopes are generally less than 10 percent throughout the Projects’ site; however, there are many small to mid-size areas where the ground has been mounded with slopes approaching 30%. There are two small areas identified as being in Zone A on the FEMA firm mapping Panel 113 of 368 for Washington County, Rhode Island. Based on the topographic evaluation and typical tracker tolerances, of 5% north-south and 15% east-west, the majority of the Projects’ site appears suitable for photovoltaic solar electric development. Development within any flood zones and steep slope areas will avoided to the greatest extent possible.
Soils: Surficial soils at the site are mapped as glacial till and glacial outwash deposits. Glacial outwash soils generally consist of sand and gravel with varying amounts of silt. Glacial till soils are typically dense poorly graded mixtures of sand, gravel, silt, and clay, sometimes with cobbles and boulder size particles. TRC is completing a geotechnical engineering investigation for TPE. Four test borings (SH-1 through SH-4) were drilled on December 19, 2017. Sampling was performed to a depth of 27 feet or refusal of the auger, whichever was shallower. Auger refusal was encountered at each of the test borings at depths ranging between 14 feet and 27 feet below ground surface. A layer of black topsoil consisting of fine sand and silt was encountered in the borings to a depth of approximately 1 foot. A brown and gray sand with variable amounts of silt and gravel was encountered within the test borings below the topsoil layers to depths varying from approximately 14 feet to 23 feet below ground surface. The relative density of the sand layer is loose to dense bawed on Standard Penetration Test (SPT) N-values. Groundwater was encountered during drilling in test borings SH-3 and SH-4 at an approximate depth of 10 feet below ground surface. The geotechnical engineering results will be used to optimize foundation design and construction methods.

Wetlands: Goddard Consulting has completed detailed wetland delineation on the Projects’ properties. The surveyed wetlands and 50-foot setback are depicted on the Conceptual Site Plans.

The wetland resources across the three properties are mostly consistent in their composition and can be classified as forested swamp with scrub-shrub component. These areas are typically dominant in red maple, yellow birch, multiple species of ash, sweet pepperbush, highbush blueberry, cinnamon fern, and skunk cabbage.

In addition to forested swamp, many of the wetland area on the properties are characterized by the presence of stream channels. Many of these channels are small, less than 10 feet wide on average, and unnamed. Five notable sections of the streams are displayed as perennial on USGS maps of the property, and therefore meet the definition of a river under the Rules and Regulations Governing the Administration and Enforcement of the Freshwater Wetlands Act.
The Projects will be carefully designed to avoid and minimize impacts to wetland jurisdictional resources to the greatest extent possible. Impacts to the biological wetlands associated with these Projects will be attributed mainly to wetland crossings that will be required to gain access to portions of the site. Other development aspects of the Projects will not encroach on wetland jurisdictional areas. Substantial effort will be made during the design and construction phases of the Projects to minimize and reduce the impacts associated with crossings. Stream crossings will be selected with the goal of reducing clearing and overall impact to biological wetlands, with preference given to areas with existing crossing, which can be improved to meet project objectives. Additionally, all phases of work will be conducted in close coordination with the Rhode Island Department of Environmental Management (RIDEM), other state agencies, and the Town of North Kingstown. These same considerations will also be paid to other aspects of the Projects affecting wetland jurisdictional areas, including stormwater management.

As a part of this process, the Projects will also look to minimize habitat impact related to tree loss, avoidance of fish and wildlife habitat and crossing corridors. A Carbon Debt Analysis will be performed that will show the net atmospheric carbon reduction benefit the Projects will provide.

- **Water Quality:** The Projects will be designed to comply with the current Rhode Island Stormwater Design and Installations Standards Manual. One or more stormwater management facilities will be used to control any post-construction runoff. No disturbance will be proposed within the delineated wetland areas (except for proposed crossings) and limited disturbance related to access drives and utility crossings will be proposed within the 50-foot wetland buffers. Project construction will be completed in accordance with RIDEM wetland permits.

The Projects will incorporate structural stormwater best management practices to manage quality and quantity of surface water runoff from the site. Peak runoff from the site will be maintained or reduced in post-development conditions. The Projects are not anticipated to adversely affect the site or adjacent properties, will promote groundwater recharge, and will maintain water quality as required by the Town of North Kingstown and RIDEM.
- **Air and Noise:** Ground-mounted solar array inverters and transformers make a humming noise during daytime only, when the array generates electricity. At 50 to 150 feet from the boundary of the arrays, any sound from the inverters is inaudible. The inverters will be entirely enclosed and set back a sufficient distance from any property line. Standing just 3 feet away, the maximum noise is just 62 dB(A). A car driving by will produce 35-45 dB(A) in comparison. There will be no noise during nighttime hours. There is no emission from any of the components into the air. The panel materials are enclosed, and do not mix with water or vaporize into the air.

- **Natural Heritage Area:** Based on the review of available documentation, the Projects’ site is not within areas identified as sensitive/critical habitat, a wildlife area, and/or a refuge.

- **Historic Resources/Conservation Lands:** The Projects’ site does not contain any state or local conservation lands or sites listed on the National Register of Historic Places (NRHP). The Spink Farm Homestead, which is listed on the NRHP, is located to the west of the Shermantown Property, across Shermantown Road. TPE will be sensitive to the presence of this historic place during the design of the Projects. Due to the low profile of the solar arrays, no visual impact is anticipated at the historic resource.

- **Site Access:** Access to the proposed solar arrays will be via new 15-foot wide gravel access driveways from Shermantown Road and Tower Hill Road. A continuous gravel access driveway for maintenance vehicles will be installed throughout the site. A KNOX-BOX will be installed at the gate. The Projects will be enclosed with a 6-foot-high chain link fence with gated access.

- **Aesthetics:**
  - **Lighting:** Typically, solar facilities do not have lighting unless required by local safety code.
  - **Landscaping/Visual:** The area surrounding the Projects, at the edges of the project boundaries as they adjoin abutting parcels, will remain as existing vegetation to the extent possible. The natural vegetation will screen views of the solar arrays from off-site locations. Where necessary, coniferous evergreen landscape buffers will be utilized.
• **Public Services:**

  o **Water and Sewage Supplies:** The Projects will not generate any liquid or solid waste or require the need for any private or municipal water or sewage facilities.

  o **Schools:** There will be no impact on the school system from the Projects.

  o **Police:** The Projects’ site will be fenced with security gates. There will be a KNOX-BOX located at the gate for emergency access. The site will be fenced with motion lighting and surveillance cameras monitoring the site.

  o **Fire:** In the event of an emergency, all local emergency response personnel will have full access to the Projects via utility locks and keys. Access to within the site will be obtained via the proposed gravel access drives. There will be clearly marked emergency shut-off switches as well as a main disconnect switch to cut the utility connection to the entire array, meeting all safety requirements of electrical code and the interconnecting utility.

  o **Solid Waste Disposal:** After construction, there will be no solid waste generated from this site.

• **Site Preparation:** The area underneath the footprint of each solar array will be graded. Each solar array footprint area will be stabilized with a low-height, pollinator-friendly, solar farm seed mixture. Appropriate erosion control measures will be in place prior to construction and will be inspected as per the pending Stormwater Pollution Prevention Plan (SWPPP). Tree clearing will take place within the array footprint. Some of the wood chips will be used as erosion control measures. Much of the wood will be harvested and exported offsite where appropriate. Any remaining wood and stumps will be buried or stacked onsite. Tree trimming may occur in the vegetative buffer area at the property boundaries to reduce or eliminate shading of solar panels; all such trimming will be in compliance with any required landscape buffer plans.

• **Traffic/Highway:** The proposed site traffic generation will only be heightened during the anticipated 9 to 12-month construction period. On-site workers will arrive daily at 7:00 am, having approximately 75 - 100 workers on site for the duration of the Projects and peak work forces of 150 - 200 workers, with the majority leaving at 5:00 pm. Construction vehicles will vary based upon day-to-
day activities, but overall, will consist of materials delivered on flatbed tractor-trailers, enclosed tractor-trailers, and commuter vehicles from the daily workforce. Again, not all of these trucks will be onsite at once. The site will generate minimal traffic during construction. Once construction is complete, there will be no impact of traffic on local streets. Once the Projects are operational, there would be only one to two vehicles anticipated to visit the site per week.

- **Environmental Site Assessments:** Phase I ASTM Environmental Site Assessments (ESAs) were completed by TRC for the Projects’ parcels. For the Phase I ESAs, TRC used visual observations of the properties, review of historical information and environmental databases, and interviews with current site representatives to determine the presence of any recognized environmental conditions (RECs) or controlled recognized environmental conditions (CRECs) on the properties. RECs are the presence or likely presence of hazardous substances or petroleum products on a property due to release to the environment; under conditions indicative of a release to the environment; or under conditions that pose a material threat of a future release to the environment. CRECs include contaminated sites that have been closed, where no further remediation is required, but residual contamination exists and the property is subject to some form of control or use restriction.

In TRC’s professional judgment, **no RECs or CRECs were discovered at the properties** during the evaluation conducted for the Phase I ESAs.

- **Planning:** TPE plans to work closely with municipal officials, abutters of the Projects, and community members to ensure an inclusive and agreeable process for the successful development, construction, and operation of the solar arrays.

Under Section 21-323 of the Code of Ordinances, Town of North Kingstown, entitled “Solar Energy Systems,” adopted at the Regular Town Council meeting of January 8, 2018, free-standing solar energy systems are allowed a principal use within single- or multi-family residential zones require a special use permit, pursuant to section 21-13. Under the Solar Energy Systems amendment to the Code of Ordinances, any freestanding solar energy system shall provide adequate emergency vehicle access, shall not exceed 16 feet in height, and shall meet the setbacks requirements of the VLDR zoning district. The Projects will comply with these provisions.

In addition to the VLDR zoning districts, portions of the site are within special overlay districts. The Shermantown site is in the Steep Slope Overlay District and Scenic Overlay District and a portion of the Shermantown site, to the north, is within a Special Flood
Hazard Overlay. Portions of the Cruickshank site are within the Special Flood Hazard Overlay. The Tower Hill site is within the Groundwater Recharge and Wellhead Protection Overlay District and Severe Limitations Overlay District and portions of the Tower Hill Site is within Scenic Overlay District. TPE understands that the additional provisions, summarized below, may apply to the Projects.

Special Requirements for the Overlay Districts are discussed below:

- **Severe Limitations Overlay District (Section 21-184 of the Zoning Ordinance):** Any use allowed in the underlying zoning district is allowed in the Severe Limitations Overlay District (Section 21-184).

- **Steep Slope Overlay District (Section 21-185):** Under Section 21-185, any use permitted in the underlying zoning district is allowed in the Steep Slope Overlay district provided that the proposed structure is of sound engineering design with footings designed to extend to stable rock or soil; access roads and other land clearing shall be designed to avoid erosion; and leaching fields are laid out with due consideration for the slope and contours of the land. A Site Plan must be submitted for approval by the town engineer and planning director for all uses in the Steep Slope Overlay District.

- **Groundwater Recharge and Wellhead Protection Overlay District (Section 21-186):** All uses in zone 1 or zone 2 groundwater protection areas (as defined in 21-186(c) of the Zoning Ordinance) require review of a Development Plan.

- **Special Flood Hazard Overlay District (Section 21-188):** Uses permitted in the underlying zoning district are permitted unless the proposed development will result in increase in flood levels during a 100-year flood event. All uses in the Special Flood Hazard Overlay District require approval of a Site Plan.

- **Scenic Overlay District (Section 21-189):** Uses in the Scenic Overlay District require Planning Commission approval of a Development Plan.

- **Narrow River Special Area Management Plan:** A small portion of the Tower Hill site is located within the RI Coastal Resources Management Council’s (CRMC) Narrow River Special Area Management Plan (NRSAMP), which is an ecosystem-based management strategy for the Narrow River Watershed. The CRMC has designated land-use classifications within the NRSAMP to inform development within the watershed. TPE will work closely with RIDEM and the RI CRMC to design the Projects in accordance with the applicable requirements and obtain
appropriate approvals for work within this area.

We hope you have found this letter helpful and informative. Conceptual site plans are included within this submittal package to help the Planning Board better understand the proposed Projects and garner initial feedback from the Planning Commission members. Final Plans will be provided to the Town with all information required under Section 21-13 of North Kingstown’s zoning code necessary to reach a formal decision and will adhere to the Rhode Island Building Code (SBS-1) and Electrical Code (SBC-5), promulgated under RIGL Chapter 23-27.3 Section 109.1.

Respectfully Submitted,

[Signature]

Adam Beal
Vice President of Development

Attachment:
    Conceptual Site Plans