

PINELANDS COMMISSION

Pinelands Comprehensive Management Plan

Local communications facilities; Solar energy facilities; Accessory uses on deed restricted parcels

Proposed Amendments: N.J.A.C. 7:50-2.11, 4.1, 5.19, 5.22, 5.23, 5.24, 5.25, 5.26 and 5.47

Proposed New Rule: N.J.A.C. 7:50-5.36

Authorized By:

_____/____/____
New Jersey Pinelands Commission,
Nancy Wittenberg, Executive Director

Authority: N.J.S.A. 13:18A-6j

Calendar Reference: See Summary below for explanation of exception to calendar requirement

Proposal Number:

A **public hearing** concerning this proposal will be held on:

Thursday, May 19, 2011 at 7:00 P.M.
Richard J. Sullivan Center
15C Springfield Road
New Lisbon, New Jersey

Submit written comments by regular mail, facsimile or e-mail by June 17, 2011 to:

Susan R. Grogan, P.P., AICP
Chief Planner
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The name and mailing address of the commenter must be submitted with all public comments.

The agency proposal follows:

Summary

The New Jersey Pinelands Commission proposes to amend subchapters 2, Interpretations and Definitions, 4, Development Review, and 5, Minimum Standards for Land Use Distribution and Intensities, of the Pinelands Comprehensive Management Plan (CMP). The Pinelands CMP has been guiding land use and development activities in the Pinelands since it took effect on January 14, 1981. Since that time, the CMP has been amended a number of times, most recently in November of 2010 through a set of amendments relating to disking practices in forestry operations (see 43 N.J.R. 301(a)).

The amendments and new rule now being proposed by the Commission relate to the installation of solar energy facilities in the Pinelands as well as the installation of local communications facility antennas on existing communication towers or similar structures.

Solar energy facilities as accessory uses are currently universally permitted throughout the Pinelands Area. Based on the definition of “accessory structure or use” contained in N.J.A.C. 7:50-2.11, such accessory uses must be subordinate in area, extent and purpose to the principal structure or use on the parcel, they must contribute to the comfort, convenience or necessity of the occupants, business or industry of the principle use and they must be located on the same parcel as the principal use, except as otherwise permitted in the CMP.

Currently, solar energy facilities are permitted as a principal use only in Regional Growth Areas, Pinelands Towns and, if they meet certain compatibility tests, in Pinelands Villages and Rural Development Areas.

The development of clean renewable energy facilities, where environmentally appropriate, is highly desirable and as such, the Commission felt that it was important to amend the CMP to facilitate appropriate siting of such facilities in the Pinelands Area. The proposed amendments and new rule aim to spell out where and under what circumstances solar energy facilities may be permitted as a principal use and to provide a mechanism to speed the development of accessory facilities where they would be located on existing structures or installed over existing impervious surfaces. Exempting such installations should both hasten the local approval process and eliminate the cost of applying to the Commission for approval. Moreover, the revisions are intended to provide for increased opportunities for the development of solar energy facilities as a principal use to the maximum extent feasible, balancing the need to preserve Pinelands ecological and agricultural resources.

To achieve these goals, the Commission encouraged public participation by providing several opportunities for an open exchange of ideas between the Commission staff, the general public and other stakeholders. Participating in these events were state and local regulators, elected officials, utility representatives, land owners, clean energy equipment providers, renewable energy consultants, engineering and environmental consultants, members of the environmental community, developers and members of the general public. Through these

sessions, the Commission identified its preliminary goals related to solar energy, and general principals under consideration for possible inclusion in future rule making. The Commission's staff sought and received advice and recommendations on all of these matters and in possible approaches for implementation. The public outreach effort included direct mailings and postings on the Commission's web site. In addition to a dedicated public outreach session, the Commission's CMP Policy & Implementation Committee reviewed and discussed solar planning principles at a series of meeting open to the general public.

The special stakeholder's meeting was held on May 17, 2010 at the Medford Township Public Safety Building. Approximately 50 individuals were in attendance, representing a wide range of interests.

On July 27, 2010, staff from the Pinelands Commission provided a presentation on preliminary Pinelands solar energy planning principles at a public meeting of the Pinelands Municipal Council (PMC). The Municipal Council's meeting was held at the Estell Manor City Municipal Building. The PMC, created by the Pinelands Protection Act (N.J.S.A. 13:18A-1 et. seq) and is made up of the mayors of the 53 municipalities in the Pinelands Area or their designees. The Council is empowered to review and comment upon changes proposed by the Pinelands Commission in the New Jersey Pinelands Comprehensive Management Plan and advises the Commission on matters of interest regarding the Pinelands.

The Commission is now proposing a series of amendments to the Comprehensive Management Plan to define solar energy facilities, exempt certain

accessory solar facilities from the need to file an application with the Commission and provide appropriate opportunities for the development of solar energy facilities as the principal use in all Pinelands management areas, subject to specific limitations. These proposed amendments and new rule are more fully described below.

First, a definition for the term “solar energy facility” is being added at N.J.A.C. 7:50-2.11 to reflect the Commission’s intention for the proposed amendments to apply to all components essential to a solar energy system including solar panels, arrays, footings, supports, mounting and stabilization devices, inverters, electrical distribution wires and other on-site or off-site infrastructure necessary for the facility to operate. The proposed definition broadly defines solar energy facilities as those which convert solar energy into usable electricity or to heat water or to produce hot air.

Next, N.J.A.C. 7:50-4.1(a) is being amended to include new subsections (a)20 and 21. Proposed N.J.A.C. 7:50-4.1(a)20 provides that the installation of an accessory solar energy facility that is installed on an existing structure or impervious surface does not constitute development and is therefore exempt from the need to file a development application with the Commission. N.J.A.C. 7:50-4.1(a)21 has been added to exempt from Pinelands application requirements the installation of local communications antenna on existing communications or other structures, provided such installations are consistent with a comprehensive plan for local communications facilities that has been approved by the Commission pursuant to N.J.A.C. 7:50-5.4(c)6.

New language is being added to N.J.A.C. 7:50-5.19(d)3iii to specify that solar energy facilities are permitted in that area of a residential clustered development typically used to accommodate infrastructure necessary to support the residential development such as wastewater facilities, streets, stormwater management facilities and recreation facilities. All of this infrastructure must be located in the residential cluster development area; it may not be located within the protected open space associated with the cluster. These residential clustering standards apply in Pinelands Forest and Rural Development Areas.

New language is also being added to N.J.A.C. 7:50-5.22(b)12, N.J.A.C. 7:50-5.23(b)18, N.J.A.C. 7:50-5.24(b)15, N.J.A.C. 7:50-5.25(b)9, and N.J.A.C. 7:50-5.26(b)16 to indicate that Pinelands municipalities may permit solar energy facilities in the Preservation Area District, Forest Area, Agricultural Production Area, Special Agricultural Production Area and Rural Development Area, provided the standards contained in N.J.A.C. 7:50-5.36 are met. The proposed amendments do not mandate that solar energy facilities be permitted; municipalities will have the option of permitting such facilities. Should a municipality choose to do so, it may amend its land use ordinance to create a new zoning district within which solar facilities are permitted, add solar facilities to the list of permitted or conditional uses in one or more existing zoning districts or establish an overlay district. It is also conceivable that a municipality may elect to approve the development of a solar energy facility through issuance of a use variance. Each Pinelands municipality will need to decide for itself what the most appropriate mechanism is for addressing solar energy facilities within its

jurisdiction. Whatever the mechanism, all proposed solar energy facilities must be consistent with the standards being proposed at N.J.A.C. 7:50-5.36. The Commission will have the ability to ensure that these standards are met through its review of any municipal ordinance amendments and use variances.

Proposed standards for solar energy facilities are set forth at N.J.A.C. 7:50-5.36. These standards specify that Pinelands municipalities may include provisions in their master plans and land use ordinances which permit solar energy facilities as a principal use in any Pinelands management area, subject to the standards in (a)1 through 5. The standards in N.J.A.C. 7:50-5.36 will apply to solar facilities as a principal use throughout the Pinelands Area, including the Regional Growth Area and Pinelands Towns and Villages. As is the case with all development in the Pinelands Area, solar energy facilities will also be subject to the minimum environmental standards set forth in subchapter 6 of the CMP.

Proposed N.J.A.C. 7:50-5.36(a)1 requires that public service infrastructure necessary to support the solar energy facility be available or capable of being provided without any off-site development in the Preservation Area District, Special Agricultural Area or Forest Area.

Proposed N.J.A.C. 7:50-5.36(a)2i through v requires that solar energy facilities and associated off-site infrastructure be located and screened so as to minimize the visual impacts as viewed from wild and scenic rivers and special corridors, listed in N.J.A.C 7:50-6.105(a), the Pine Plains and other areas necessary to maintain the ecological integrity of the Pine Plains, and Forked River Mountains, publicly dedicated roads and highways, low intensity recreational

facilities and campgrounds. These location and screening requirements are in addition to the 200 foot scenic setback requirements currently specified in N.J.A.C 7:50-6.103 and 6.104(a) which are applicable to all public, paved roads in the Pinelands Preservation Area District, Forest Area and Rural Development Area, except for those roads which provide for internal circulation within residential development areas.

Proposed N.J.A.C. 7:50-5.36(a)3 limits clearing for the development of new or the expansion of existing on-site or off-site infrastructure to that which is necessary to accommodate the solar energy facility in accordance with the Commission's existing clearing and disturbance standards at N.J.A.C. 7:50-6.23. This new standard further limits clearing for new rights-of-way to a maximum width of 20 feet, unless additional width is required to address specific safety and reliability concerns.

Proposed N.J.A.C. 7:50-5.36(a)4i through iii requires that solar energy facilities be decommissioned within 12 months of the cessation of utilization. Decommissioning shall include the removal from the parcel of all energy facilities, structures, and equipment, including subsurface wire and footings, and restoration of the parcel, in accordance with the Commission's existing revegetation and landscaping standards at N.J.A.C. 7:50-6.24. Restoration is not required in those circumstances where the parcel is to be put into active agricultural use or the parcel is approved for development in accordance with the certified local ordinance within the 12 month period commencing with the cessation of the solar energy facility. Restoration may also include any other such

measures that are necessary to address ecological and visual impacts associated with the solar energy facility, including the removal of off-site infrastructure and the restoration of affected lands.

Proposed N.J.A.C. 7:50-5.36(a)5 requires that the solar energy facility comply with the management area-specific limitations set forth at proposed N.J.A.C. 7:50-5.36(b) through (d), discussed below.

Proposed N.J.A.C. 7:50-5.36(b)1i through iii stipulates special limitations that apply to solar energy facilities as a principal use in the Preservation Area District, Special Agricultural Production Area and the Forest Area. These provisions limit the installation of solar energy facilities in these management areas to three circumstances. Under the first, installation could be authorized on the parcel of an existing landfill which has been, or will be, closed in accordance with the Commission's landfill closure standards. The second circumstance is one in which the installation could be authorized on a parcel which has been environmentally remediated or will be remediated of toxic or hazardous wastes or similar substances, provided the remediation has been or will be approved by the Commission. The third circumstance applies to the previously disturbed portions of a parcel upon which resource extraction (e.g., sand and gravel mining) has occurred for which there is no obligation for site restoration pursuant to N.J.A.C. 7:50-6, Part VI. It is important to note that solar energy facilities may not be developed on a parcel which contains a landfill unless the landfill is first environmentally closed in compliance with the Commission's landfill closure standards at N.J.A.C. 7:50-6.75. A solar energy facility may be a component of a

comprehensive application to the Commission for landfill closure, but installation of the solar energy facility may not proceed until the landfill closure has been satisfactorily completed. To be clear, the purchase and redemption of Pinelands Development Credits (PDC), as provided for at N.J.A.C 7:50-5.36(b)3 and discussed below, is not an alternative to the requirement to environmentally close a landfill as specified at N.J.A.C 7:50-6.75.

Proposed N.J.A.C. 7:50-5.36(b)2 specifies that solar energy facilities are permitted in these management areas only on those portions of a qualifying parcel that have been previously disturbed and not restored or on that portion of a qualifying parcel that is required to be disturbed for the purpose of landfill closure or site remediation. In the latter case, the applicant must demonstrate and quantify the need to disturb other lands for landfill closure or site remediation as part of a comprehensive application approved by the Commission. Proposed N.J.A.C. 7:50-5.36(b)2 applies to the entirety of a proposed solar energy facility in the Preservation Area District, Special Agricultural Production Area or Forest Area, including any necessary on-site infrastructure. For example, existing access roads may qualify as previously disturbed lands and this is where linear electrical service connections to off-site distribution lines will need to be targeted.

Proposed N.J.A.C. 7:50-5.36(b)3 requires the acquisition and redemption of PDCs when a solar energy facility is proposed in the Preservation Area District, Special Agricultural Production Area or Forest Area, unless the application for the solar energy facility is submitted to the Commission as part of a comprehensive landfill closure/ site remediation application. New N.J.A.C.

7:50-5.36(b)3 obligates the applicant to purchase one quarter (0.25) PDCs for every four acres of land to be occupied by the solar energy facility. The PDC purchase and redemption obligation applies to the development of all solar energy facilities in the Preservation Area District, Special Agricultural Production Area, and Forest Area. Facilities in these three management areas are limited to the three circumstances discussed above, those being at the site of closed landfills, sites being remediated or in need of remediation, and portions of qualifying resource extraction sites. The PDC purchase and redemption obligation can only be waived in limited instances in the case of landfill and contamination clean-up sites where the application to develop a solar energy facility is part of a comprehensive application to environmentally close a landfill or remediate a contaminated site. The PDC purchase and redemption obligation cannot be waived for the development of solar energy facilities at resource extraction sites unless a municipality proposes to the Commission that the revenue from a solar energy facility to be located at a resource extraction site be dedicated to restoration of the resource extraction site.

The PDC program works by allocating development rights to properties in “sending areas” - the Preservation Area District, Special Agricultural Production Area and Agricultural Production Area. These rights can be sold to increase the density of residential development in Regional Growth Areas. Once the rights are sold, an agricultural or conservation easement is recorded on the sending property to permanently protect it against future residential and non-agricultural development. Since the inception of the program, almost 60,000 acres of

important conservation and agricultural lands have been preserved in this manner and more than 3,000 rights have been used for residential development in Regional Growth Areas. The redemption of each 0.25 PDC results in the permanent protection of approximately 8 or 9 acres of land.

Proposed N.J.A.C. 7:50-5.36(c) identifies special limitations which apply to siting, as a principal use, a solar energy facility in the Agricultural Production Area. Proposed N.J.A.C. 7:50-5.36(c)1 limits the size of a solar energy facility in the Agricultural Production Area to 20 percent of the total area of any parcel, up to a maximum of 10 acres. This 10-acre limit applies to the entirety of a proposed solar energy facility, including any on-site infrastructure. The Commission believes the proposed limitations are wholly appropriate in the Agricultural Production Area, given that the primary purpose of this Pinelands management area is to protect and enhance agriculture as an essential element of the Pinelands.

It should be noted that in a limited number of cases, a property owner proposing to develop a solar energy facility in the Agricultural Production Area to the maximum size and extent permitted under the proposed amendments may jeopardize his or her farmland tax assessment status for all or a portion of the farm. The Commission is not involved in such tax assessment matters but will endeavor to put applicants on notice that they should proceed with their solar energy facility proposals with full knowledge of the potential impacts on farmland assessment.

N.J.A.C. 7:50-5.36(c)2 requires that such solar energy facilities be sited on a parcel in a manner that avoids, to the maximum extent feasible, placement on

soils that are classified as prime farmland by the United States Department of Agriculture, Natural Resources Conservation Service and upon lands that have the highest ecological value in the Pinelands Area. These are lands which evidence large contiguous areas of forest, undisturbed drainage units, undisturbed wetlands or serve as prime habitat for characteristic and rare Pinelands plant and animal populations. Commission staff will encourage municipalities to plan for the siting of solar energy facilities in the Agricultural Production Area through the creation of designated solar energy facility zones which satisfy the prime farmland soils and high ecological value criteria detailed in N.J.A.C. 7:50-5.36; however, in instances where municipalities choose not to adopt zoning map amendments, Commission staff will confirm conformance with such standards during the review of development applications.

Proposed N.J.A.C. 7:50-5.36(c)3 requires that any land in the Agricultural Production Area that is the site of a solar energy facility not be allocated PDCs for that portion of the parcel until the solar energy facility has been decommissioned in accordance with the requirements of proposed new N.J.A.C. 7:50-5.36(a)4.

Proposed N.J.A.C. 7:50-5.36(d) identifies special limitations which apply to siting, as a principal use, a solar energy facility in the Rural Development Area. Proposed N.J.A.C. 7:50-5.36(d)1 specifies that solar energy facilities in the Rural Development Area may occupy lands that have been previously disturbed and which have not been subsequently restored. Clearing of any additional lands in the Rural Development Area to accommodate a proposed solar energy facility may be permitted but would be limited so as to not exceed 30 percent of the entire

parcel, including both existing and proposed new clearing. This 30 percent limit applies to the entirety of a proposed solar energy facility, including any on-site infrastructure.

The 30 percent maximum clearing limit which applies to the siting of a solar energy facility in the Rural Development Area is generally consistent with the maximum amount of clearing which is typically associated with other permitted residential and commercial uses in the Rural Development Area. A preliminary analysis by Commission staff has determined that clearing for most permitted uses in the Rural Development Area (e.g. residential cluster development; community commercial uses) peaks out at approximately 30%. This general limit is typically the result of the Commission's land use distribution and intensity standards specified at N.J.A.C 7:50-5.26, the Commission's septic dilution requirements specified at N.J.A.C. 7:50-6.84, and municipal land use and zoning standards.

Proposed N.J.A.C. 7:50-5.36(d)2 states that solar energy facilities in the Rural Development Area shall not be located, to the maximum extent feasible, on lands that have the highest ecological value in the Pinelands Area. These are lands which evidence large contiguous areas of forest, undisturbed drainage units, undisturbed wetlands or serve as prime habitat for characteristic and rare Pinelands plant and animal populations. Commission staff will encourage municipalities to plan for the siting of solar energy facilities in the Rural Development Area through the creation of designated solar energy facility zones which satisfy the prime farmland soils and high ecological value criteria detailed

in N.J.A.C. 7:50-5.36 but in instances where towns choose not to adopt zoning map amendments, Commission staff will confirm conformance with such standards during the review of development applications.

Lastly, N.J.A.C 7:50-5.47(b)1i, N.J.A.C 7:50-5.47(b)2i and N.J.A.C 7:50-5.47(b)3i are being amended. These sections of the CMP set forth the land uses that are authorized on properties in the Preservation Area District, Special Agricultural Production Area and Agricultural Production Area after PDCs have been severed. The uses are specific to the management areas in which the properties are located. Although it has been the Commission's position that accessory uses (those that are subordinate to and serve the principal use) are inherently permitted, the changes proposed to N.J.A.C. 7:50-5.47(b)1i, N.J.A.C. 7:50-5.47(b)2i and N.J.A.C. 7:50- 5.47(b)3i will make that clear. Accessory uses will now be listed as an authorized use. Such accessory uses may include solar energy facilities.

As the Commission has provided a 60-day comment period on this notice of proposal, this notice is excepted from the rulemaking calendar requirement, pursuant to N.J.A.C. 1:30-3.3(a)5.

Social Impact

The proposed amendments and new rule are anticipated to result in significant positive social impacts to the Pinelands Area and beyond. The proposed amendments and new rule increase opportunities for small scale accessory and mid to larger scale, non-accessory solar energy facilities in appropriate Pinelands management areas. Societal benefits include a reduced

need to site, construct and operate expensive fossil fuel fired power plants including large base load plants, load following plants and smaller peaking power plants. Eliminating or minimizing the need for new fossil fuel-dependant power plants benefits society through the reduction or elimination of carbon dioxide, a significant greenhouse gas, sulfur dioxide, responsible for acid rain formation, nitrogen oxides, a cause of smog and ground level ozone, mercury emissions from burning coal, and particulate emissions, a respiratory irritant associated with fossil fuel based electricity production. Positive social impacts will also occur as a result of reduced reliance on foreign suppliers of fossil fuel leading toward national energy independence.

Additional positive social impacts will be gained as a result of energy cost stabilization. Electricity generated by solar power systems is immune to the price and supply volatility that affects electricity generated through the burning of fossil fuels.

The proposed amendments and new rule, by providing expanded opportunities for small, middle and larger scale solar energy production, decentralize the energy production network. Decentralization occurs when energy production occurs closer to the ultimate user. Society benefits financially as a result by decreasing demand on the state and nations electric transmission grid. A decentralized power grid is more reliable and less subject to large scale disruptions in contrast to a highly centralized power grid. Society benefits from the cost savings that are achieved by reducing the need to upgrade an electric transmission grid needed to support expanded centralized power production.

The proposed amendments and new rule expand the opportunity for Pinelands Area land owners, farmers and other businesses to earn income through the sale of both electricity and solar renewable energy credits (SRECs) from solar as either an accessory or principal use of a parcel. The influx of increased income to the Pinelands Area resulting from these business opportunities provides an additional positive social impact to the region.

The proposed amendments related to the installation of local communications facility antennas on communications or other structures are procedural in nature and expected to have little social impact. To the extent that these amendments expedite the provision of cellular service to the residents of and travelers through the Pinelands, a social benefit will be realized.

No social impacts are expected to result from the amendments which allow for accessory uses to be located on parcels in the Preservation Area District, Agricultural Production Area and Special Agricultural Production Area which have been deed restricted as a result of PDC severance.

Economic Impact

The economic impact of the proposed amendments and new rule will clearly be positive for many landowners seeking to develop new solar facilities as a principal uses as well as those home and business owners that choose to install solar facilities as an accessory use. Solar energy facilities as a principal use are not currently permitted anywhere in the Preservation Area District, Forest Area, Agricultural Production Area or Special Agricultural Production Area. The proposed amendments and new rule provide an opportunity for such facilities to

be developed in these areas, subject to appropriate limitations. The CMP does not currently list solar energy facilities as a permitted principal use in the Rural Development Area. The proposed amendments and new rule make clear that such facilities are expressly permitted in this Pinelands management area and spell out the applicable limitations.

The proposed amendments and new rule authorize development of solar energy facilities under limited circumstances in the conservation-oriented portions of the Pinelands (Preservation Area District, Special Agricultural Production Area and Forest Area). This provision advances the State's clean energy plan, benefits those land owners whose property is currently constrained from further productive uses, benefits municipalities seeking additional tax ratables, and could help provide the badly needed funding to improve landfill sites and other sites in need of environmental remediation.

For those sites in the Preservation Area District, Special Agricultural Production Area and Forest Area not needing remediation but who seek to develop solar energy facilities (i.e., previously capped landfills and previously mined resource extraction areas not under a restoration obligation), the purchase of Pinelands Development Credits (PDCs) is proposed as an alternative obligation to site remediation. To ensure that this obligation is not an untenable burden, two principles must be realized. First, the obligation to purchase PDCs is attached to the land, and is not necessarily an obligation of the solar provider/investor. While the PDC obligation reduces the landowner's return, this reduction stems from the fact that a new development opportunity is being provided, which would not be

authorized, absent the proposed amendments and new rule. Secondly, the PDC obligation is generally small relative to overall returns on the investment and is not likely to affect the economic viability of the solar energy facility. The obligation is substantially less than the costs that are currently being reported to lease land for siting of solar facilities. As an example, annual lease payments of \$400,000 for at least 15 years have been reported for the proposed siting of a fairly large solar facility on a 30 acre environmentally remediated site in a Pinelands Forest Area. The proposed amendments and new rule would impose a one time PDC obligation to site such a solar facility on this parcel. The current cost of those PDCs is substantially less than one-half of one years lease payment based on current PDC market prices.

The proposed amendments and new rule are consistent with and help advance New Jersey's Energy Master Plan. New Jersey has moved aggressively to become the nation's leader in total solar photovoltaic (PV) installations on a per capita basis and is second nationally, for the total amount of electricity produced by solar PV systems. This rapid rise as a national leader is the result of a carefully designed program of state and federal subsidies coupled with an aggressive renewable portfolio standard that steadily ramps up the mandate for energy suppliers to generate fully 22.5% of their power from clean renewable sources by the year 2021. These Commission's proposed amendments and new rule provide ecologically appropriate opportunities for the development of solar energy facilities in the Pinelands Area.

These financing mechanisms provide a virtual guarantee of economic return on investment, in some cases resulting in a complete recapture of investment capital in as little as four or five years.

New Jersey's current approach to ensuring financial viability of solar PV systems incorporates a Federal Tax Credit of 30% of infrastructure, a market based Solar Renewable Energy Credit (SREC) programs and a New Jersey state rebate based upon the total kW rating of the PV system. These incentives are in addition to the revenue generated from electricity produced by the PV system. New Jersey's program simplifies connection to the power distribution grid and its net metering program provides an additional opportunity for the sale of electric power generated by solar energy systems. In addition, opportunities for power purchase agreements allow in some instances for the direct sale of electricity from a PV system owner to a proximate electricity user, further facilitating return on investment by investors in PV solar electricity producers.

Thus, the costs are minimal and the benefits are large.

The proposed amendments which exempt the installation of local communications facility antennas on existing towers or other suitable structures should also provide an economic benefit to cellular providers. Applications to the Commission, as well as the associated application fees, will no longer be necessary for this type of development, thereby saving both time and money.

Likewise, a positive economic impact (although likely minimal) should be realized through the proposed amendments which explicitly allow accessory uses to be developed on certain deed restricted parcels. For example, the owner of a

deed restricted farm in the Agricultural Production Area will be able to develop an accessory solar energy facility and/or small roadside farm stand on the property to support the primary use (the farm).

Environmental Impact

The proposed amendments and new rule related to solar energy facilities are expected to provide significant environmental benefits locally, regionally and nationally. Combustion of fossil fuels by regional power plants to produce electricity releases nitrogen into the atmosphere. The Pinelands Area is located downwind of some of the national's largest fossil fueled electric power plants. Atmospheric releases from these plants impact local and regional air quality and contribute atmospherically deposited mercury and nitrogen to local surface water. For example, atmospheric deposition accounts for approximately 39% of nitrogen loading to the Barnegat Bay – Little Egg Harbor Estuary. Solar PV systems produce electricity without emissions of any kind, unlike conventional fossil fuel electricity production. Burning of fossil fuel for electricity production results in carbon dioxide emissions (a significant greenhouse gas), nitrogen oxides (responsible for smog and resultant street level ozone), sulfur dioxide (a producer of acid rain), mercury (a neurotoxin) and particulates (a lung irritant). The elimination of these emissions results in cleaner, healthier air. Reducing the negative externalities associated with the burning of fossil fuel is expected to have a positive impact on public health, crop production, forest health, fish populations and water quality.

Because coal represents the largest source of fuel consumed to supply electricity to the Reliability First Corporation (RFC) East power grid, an increase in electricity from solar energy facilities will result in the reduction in methane gas releases (a significant greenhouse associated with coal mining), reductions in ecological damage which results for coal mining and a reduction in the metal oxide and alkali contaminated coal ash produced by coal fired power plants. Coal mining results in the destruction of ecosystems through mountain top and strip mining operations, surface water degradation due to acid mine drainage, and the release of methane, (a potent greenhouse gas) during coal extraction operations. Surface subsidence and persistent underground coal mine fires cause further environmental damage from mining coal for electricity production.

Coal mine works experience increased chronic occupationally related disease and have an increased risk of chronic heart, lung and kidney disease. Minimizing the use of coal for electricity production through solar energy facility generation will reduce also reduce air pollution associated with transporting coal from mine sites to the power plants.

Grid-connected residents of the Pinelands Area obtain electric power from the Reliability First Corporation (RFC) East regional power grid. Ninety-eight percent of the electric power on the RFC East portion of the eastern power grid is derived non-renewable resources. These sources include coal (45%), nuclear (39%), natural gas (10%), oil (4%). Approximately 1% of the power is produced by hydroelectric sources and approximately 1% is derived from other renewable (wind, solar) sources.

Even production from small scale solar energy facilities yield significant environmental benefits. Given the RFC's high reliance on coal fired power plants to meet Pinelands Area resident's electric power needs, 10,000 lbs of carbon dioxide emissions are eliminated every year for every home that obtains its electricity from a solar energy system.

Use of solar energy systems will result in a reduction of thermal pollution attributable to nuclear power plants. Moreover, a greater reliance on solar energy power sources reduces the need to construct new nuclear power plants and minimizes the volume of highly radioactive spent nuclear fuel. The siting of permanent repositories for spent fuel from nuclear generating stations remains a major issue for the nuclear power industry.

It is estimated that a 5 MW solar electric generating facility would occupy approximately 30 acres at current PV panel efficiencies. Such a facility is expected to achieve the following emissions reductions (in lbs/year) compared to conventional fossil fuel based power generation:

- Carbon Dioxide CO₂ 12,359,859
- Nitrogen Oxides NO_x 5,468
- Sulfur Dioxide SO₂ 6,067
- Particulates 153

These pollutant emissions reductions are quite substantial and would provide significant public health and environmental benefits.

Some have expressed public health and environmental concerns over the cadmium (Cd) content in solar PV panels. Although solar PV panels contain

small amounts of Cd, the use of solar PV panel results in a reduction of Cd in the environment through reduced Cd emissions from coal fired electric generating stations.

Researchers at the Brookhaven National laboratories and the National Renewable Energy Laboratory report that the cadmium content in a 1m^2 solar PV panel is less than that in a C sized NiCd flashlight battery. Solar PV panels contain cadmium in the form of Cadmium telluride (CdTe) which is more stable and less soluble than elemental cadmium and is therefore likely to be much less toxic than elemental cadmium. The CdTe in a solar PV panel is encapsulated between layers of glass and unless the module is ground into a fine dust, dust particles containing CdTe cannot be generated. Vapor pressure of CdTe at ambient temperature is zero and therefore it is impossible for any vapors or dust to be generated. These factors greatly reduce the potential for human exposure. The CdTe is so well encapsulated and relatively immobile that end-of life or broken PV modules pass Federal TCLP-RCRA leaching criteria for nonhazardous waste and can therefore be disposed of in landfills.

Importantly, research has demonstrated that recycling of solar PV panels is both technologically and economically feasible. Many solar panel manufacturers have already instituted voluntary take-back and recycling programs. There is an economic incentive to the use of recycled solar panels in the manufacture of new panels. Using recycled panel in the manufacture of new panels uses only one third of the energy compared to panels manufactured using virgin materials. It's likely that existing consumer electronics recycling facilities,

such that which currently operates at Fort Dix, will play a role in the recycling of solar panels. The development of new hazardous material recycling facilities is prohibited under existing CMP provisions.

The development of appropriately sited solar energy facilities in the Pinelands Area will lead to enhanced stability of Pinelands communities. Communities increase their financial stability and independence through the self-generation of energy; whether from small scale accessory facilities, moderate sized facilities servicing clustered residential development and businesses, or larger scale facilities servicing entire communities.

Lastly, virtually all development related land uses generate non-point source pollution. That does not apply to the development of solar energy facilities which produce no air or wastewater emissions. By siting a solar energy facility on a parcel that is eligible to accommodate an otherwise more intensive type of land use, such as residential, business or agricultural uses, the occupancy of the site by the solar facility results in the land not being available to accommodate alternative, permitted non-point source generating types of development.

Mid-sized and larger solar energy facilities consume relatively large land areas, a fact that could be viewed as a negative environmental impact. While it is true that mid-sized and larger solar facilities are relatively land intensive, it is also true that their use contributes no point or non-point pollution to the environment, unlike most other conforming uses that might otherwise occupy these lands. It is also true that solar energy facilities can be viewed as temporary in nature, with an anticipated lifespan on the order of twenty years. Upon cessation of energy

production, these facilities must be decommissioned and the site restored, under specific provisions of the proposed rule.

It should be emphasized that, as is the case with all development in the Pinelands Area, solar energy facilities will be subject to the minimum environmental standards set forth in subchapter 6 of the CMP.

By exempting the installation of antennas on existing communications or other structures from the Commission's application process, the proposed amendments provide an incentive for the cellular industry to utilize existing structures to meet their service needs as opposed to constructing new towers. Thus, the amendments should better protect the scenic resources of the Pinelands.

The proposed amendments related to accessory uses on PDC deed restricted parcels are not expected to have any particular environmental impacts.

Federal Standards Statement

Section 502 of the National Parks and Recreation Act of 1978 (16 U.S.C. §471i) called upon the State of New Jersey to develop a comprehensive management plan for the Pinelands National Reserve. The original plan adopted in 1980 was subject to the approval of the United States Secretary of the Interior, as are all amendments to the plan.

The Federal Pinelands legislation sets forth rigorous goals which the plan must meet, including the protection, preservation and enhancement of the land and water resources of the Pinelands. The proposed amendments and new rule are designed to meet those goals by clearly outlining where solar energy facilities

may be permitted as a principal use and specifying the limitations necessary to ensure continued protection of the Pinelands environment.

The proposed amendments and new rule are consistent with the federal government's efforts to achieve national energy independence through development of a diverse renewable energy portfolio. Significant federal funding has been made available through the American Recovery and Reinvestment Act of 2009 to assist U.S. businesses in the development of cost-effective solar energy technologies. These federal efforts are based on the belief that a growing solar industry stimulates the nation's economy by creating jobs in solar manufacturing and installation.

Increased utilization of clean renewable energy sources is consistent with federal Clean Air Act goals. Zero-emission solar technologies, such as solar electricity and solar water heating, can greatly improve outdoor air quality. Increased reliance on clean renewable energy sources reduces pollution control costs for utility rate payers, tax payers and business and industry.

Solar energy technologies provide energy for heating, cooling, lighting homes and businesses and heating water without any air pollution emissions. The use of solar energy systems on buildings or from larger scale solar energy facilities replaces electricity generation from coal, natural gas, and oil power plants, leading to a reduction in air pollutants such as nitrogen oxides, sulfur dioxide, and mercury, and greenhouse gas emissions such as carbon dioxide.

The proposed amendments related to local communications facilities antennas relate to a topic for which the Federal government also has regulations.

However, Federal regulations do not deal specifically with the siting of local communications facilities in terms of zoning or other land use designations. The Federal regulations do seek to foster a climate in which cellular service can succeed. The proposed amendments to N.J.A.C. 7:50-4.1(a)21 are designed to achieve that goal as well, in a manner which minimizes impacts on the scenic resources of the Pinelands.

There are no other Federal requirements which apply to the subject matter of these amendments and new rule.

Jobs Impact

The prospect for job creation has been a major catalyst in the recent enactment of State and Federal legislation aimed at stimulating the renewable energy industries. These State and Federal programs have resulted in unprecedented levels of financial support for the U.S. solar energy industry. The continued expansion of the solar energy industry in New Jersey continues to result in new job opportunities. New Jersey's community colleges and private adult education providers continue to expand their course offerings to satisfy the industry's demand for skilled solar energy workforce. The expansion of the solar energy industry is resulting in jobs related directly to solar equipment manufacturing, installation and research and development. Additionally, job creation is occurring in industries that are indirectly connected to solar energy production in support industries such as glass, steel, and polysilicate production. Stable energy costs associated with non-fossil-fueled energy production enables business expansion, with resultant job creation. Lastly, the expansion of the solar

industry creates induced jobs, those that result of economic activity due to solar equipment production or installation including the purchase of goods and services by solar industry workers.

Specifically, jobs related to the manufacture of solar equipment include factory workers, sheet metal and glass workers, mechanical, electrical, optical and process engineers, quality assurance technicians, manufacturing managers and materials scientists. Installation related jobs include installation trainers, estimators, sales representatives, system designers, mechanical, electrical and civil engineers, architects, roofing contractors, truck drivers, welders, pipefitters, ironworkers, earthwork and heavy equipment contractors, and solar system electricians. Administrative jobs include purchasing agents, accountants, information technology professionals, business administrators and support staff.

A November 2009 study conducted at the University of California, Berkley, concludes that renewable energy technologies generate more jobs per unit of energy than fossil fuel-based and technologies. The report notes that among the renewable energy technologies, solar photovoltaic energy production creates the most jobs per unit of electricity output. Solar PV was estimated to create 0.87 job-years per Gigawatt Hour (GWh) whereas natural gas and coal were each estimated to create 0.1 job-years per GWh. Solar PV therefore is estimated to generate almost eight times as many job-years as natural gas or coal. Job creation attributable to solar PV ranges between 25 to 50+ jobs/ MW when both direct and indirect job creation is considered.

The proposed amendments related to local communications facilities antennas and accessory uses on PDC restricted parcels are not expected to cause the generation or loss of jobs.

Agriculture Industry Impact

The proposed amendments and new rule are expected to have a positive impact the agriculture industry in the Pinelands and are consistent with the objective of the State Plan relating to agricultural and farmland retention and natural resource conservation. The proposed amendments and new rule would authorize the development of solar energy facilities in Pinelands Agricultural Production Areas, subject to special limitations and in Pinelands Special Agricultural Areas, subject to more rigorous limitations.

Solar energy facilities would be authorized in the Agricultural Production Area provided that installation avoids, to the maximum extent practicable, soils that are classified as prime farmland by the United States Department of Agriculture, Natural Resource Conservation Service as well as lands of the highest ecological value.

These uses could be authorized through the municipal creation of new zones. Absent such zoning changes, development applications for solar energy facilities could be approved on a site specific basis, provided compliance with special limitations related to prime agricultural soils and lands characterized by high ecological value is demonstrated. Under these provisions, a bias in the siting of the solar energy facility would need to be demonstrated so as to avoid prime

farmland soils, in keeping with the Commissions goal of maintaining agriculture as an essential element in the Pinelands Area. In addition, biasing the siting away from areas possessing the highest ecological value provides opportunities for the generation of solar energy while preserving existing forest, undisturbed drainage units, undisturbed wetlands or prime Pinelands habitat.

Highest ecological value lands are those lands which are characterized by large, contiguous areas of forest, undisturbed drainage units, undisturbed wetlands or prime habitat for characteristic and rare Pinelands plant and animal populations. Solar energy facilities would also be limited to a maximum of 20 percent of any parcel, but in no case could the solar energy facility occupy more than 10 acres of any parcel in the Agricultural Production Area.

By limiting the size of the solar energy facility to twenty percent (20%) of any parcel up to a total of ten (10) acres maximum, the proposal preserves the majority of the parcel for agricultural production as a principal use while at the same time, providing the opportunity for the economic benefits of solar energy production, as a second principal use. It is noteworthy that a ten acre solar energy facility is capable of generating approximately 2MW of electricity, enough to meet the electric power needs of approximately 200 homes at current system efficiencies. In addition to the proceeds from the sale of electricity production (estimated to be on the order of \$256,750 in year one and increasing by approximately 2% per year), a facility of this size would generate additional economic returns through the sale of SRECs. Revenues from the sale of SRECs are estimated to be on the order of \$960,000 per year for a period of 15 years.

(Estimates are based on 2.0 MW x 1200kWh = 2400 kWh. System would qualify for 2400 SRECs @ \$400 each = \$960,000 annually).

Impacts to agriculture in the Special Agricultural Production Areas of the Pinelands are expected to be minimal as solar energy facilities would be limited only to parcels that are occupied by an existing landfill, parcels that are being remediated or are in need of environmental remediation or on those portions of parcels that were previously mined and are not under an obligation to be restored. Very few parcels are believed to meet these qualifications in Special Agricultural Production Areas, however where they do exist, there is the potential to derive both environmental and economic benefits from these sites.

It is also noteworthy that the proposed amendments would expressly authorize the development of accessory uses, including solar energy facilities, on farm parcels that have been deed restricted through the severance of PDCs.

The proposed amendments related to local communications facility antennas will have no impact on the agriculture industry in the Pinelands.

Regulatory Flexibility Analysis

The proposed amendments and new rule set forth standards for the siting and development of solar energy facilities as a principal use in the Pinelands. The submission of applications for the development of such facilities to the Commission will continue to be required. The proposed amendments and new rule impose no other reporting, recordkeeping or compliance requirements on small businesses, except that the owner of a solar energy facility that has ceased to operate for a period of 12 months would be required to remove the facility and

restore the site unless the Commission determines that restoration of the parcel is unnecessary because the parcel will be put into active agricultural use or will be developed in accordance with a certified local ordinance with that 12 month period. A detailed discussion is provided in the Economic Impact section of this notice of proposal.

The proposed amendments related to solar energy facilities do not require small businesses to obtain professional services for purposes of compliance. The need to apply to the Commission for the development of a solar energy facility (as a principal use) remains unchanged by the amendments, as does the need for any such development to be in compliance with all CMP environmental standards. The proposed amendments specify where solar energy facilities are to be permitted and provide, for the first time, an opportunity to develop such facilities as a principal use in the more conservation-oriented portions of the Pinelands Area. In some cases, limitations are placed on the amount of land which may be developed for solar facility use, but these are simple calculations which should not require any business to engage professional services.

The proposed amendments and new rule also address certain circumstances under which the installation of local communications facility antennas and the installation of solar energy facilities would not be considered development under the CMP. Such a distinction exempts such activities from the need to file an application for development with the Commission. The proposed amendments provide that the installation of an accessory solar energy facility on any existing structure or impervious surface shall not be defined as development.

Similarly, the proposed amendments clarify that the installation of a local communications facility antenna on an existing communications tower or other suitable structure shall not be considered to constitute development, provided such installation is consistent with a comprehensive plan for local communications facilities approved by the Commission. Applicants seeking to develop these accessory uses may still need to seek municipal approvals but will no longer be required to pay an application fee to the Commission and obtain a Certificate of Filing. The result will be a reduction in the time and cost associated with the permitting process for all affected applicants, some of whom may be small businesses as defined under the Regulatory Flexibility Act, N.J.S.A. 52:14B-16 et seq.

The proposed amendments related to accessory uses on parcels deed restricted through the severance of PDCs impose no new reporting or compliance requirements on businesses of any size. The amendments merely make accessory uses on such parcels explicitly permitted.

Smart Growth Impact

Executive Order No. 4 (2002) requires State agencies which adopt, amend or repeal any rule adopted pursuant to the Administrative Procedure Act (N.J.S.A. 52:14B-4(a)) to describe the impact of the proposed rule on the achievement of smart growth and implementation of the New Jersey State Development and Redevelopment Plan (State Plan). It is important to note that N.J.S.A. 52:18A-206.a. provides that the State Plan shall rely on the Pinelands CMP with respect to the Pinelands. Nevertheless, the Commission has evaluated the proposed

amendments to determine the nature and extent of their impact on smart growth and the implementation of the State Plan.

The proposed amendments and new rule conform to the principals of smart growth by facilitating the development of solar energy facilities as a principal use in appropriate locations. Such facilities will be generally permitted in the development-oriented portions of the Pinelands and appropriately limited in Pinelands conservation and agricultural areas. Within such conservation areas, solar facilities will be limited to certain already disturbed sites or required to be sited in such a way as to avoid lands of the highest ecological value. In agricultural areas, the proposed amendments and new rule limit the scale of solar facilities in such a way as to retain farming as the principal land use, avoid soils classified as prime farmland, and avoid lands of the highest ecological value.

The proposed amendments and new rule further conform to the principals of smart growth by encouraging the placement of solar energy facilities on existing structures and existing impervious surfaces by exempting such development from the need to apply to the Pinelands Commission for approval of such development projects. Similarly, the installation of local communications facilities antennas on existing towers and other suitable structures will be exempt from the Commission's application requirements under the proposed amendments, thereby encouraging the use of existing structures as opposed to the development of entirely new communications towers.

No other smart growth impacts are anticipated from the proposed amendments.

Housing Affordability Impacts

The proposed amendments and new rule expand opportunities for the development of solar energy facilities as a principal use in the Pinelands. In addition, the development of solar facilities which are accessory to residential uses, be they single-family detached homes, multi-family homes or residential cluster developments, will be exempt from the Commission's application requirements, provided such facilities are located on existing structures or impervious surfaces. These provisions apply to all types of housing units proposed to be developed in the Pinelands, regardless of their size, cost or ownership.

The installation of solar facilities provides an opportunity for homeowners to lock-in electricity rates as a function of the cost of equipment installation, effectively insulating themselves from future anticipated electric rate increases, typically estimated to be on the order of 2% annually. Further, in addition to achieving significant savings on monthly electric bills, solar facilities provide homeowners with the ability to financially benefit from the sale of SREC's, providing the homeowner with a fifteen year source of income that can be used to offset overall housing costs.

The proposed amendments related to the installation of local communications facilities antennas on existing structures and accessory uses on PDC deed restricted lands are expected to have no impact on the average costs associated with housing.

It should also be noted that the Pinelands Protection Act (N.J.S.A. 13:18A-12b) currently precludes the Commission from considering the number of low or moderate income housing units provided by municipal master plans and ordinances as a criterion for their approval. Likewise, the Pinelands Protection Act (N.J.S.A. 13:18A-15) precludes the Commission from considering the affordability of housing in its review and action on applications for development in the Pinelands Area.

Smart Growth Development Impacts

The proposed amendments and new rule are expected to result in development decisions that are predictable, fair and cost effective, essential principles of smart growth. This is accomplished in the proposed amendments and new rule by clearly defining the circumstances under which solar facilities are permitted as principal uses in the Pinelands Area, by exempting accessory solar facilities from Pinelands application requirements when they are located on any existing structure or impervious surface and by further exempting the installation of local communications facilities antennas on existing towers or other suitable structures from Pinelands application requirements. The proposed amendments and new rule create an incentive to site solar facilities on existing structures or impervious surfaces, thereby encouraging a compact building footprint and creating more open space on a development parcel. The amendments and new rule also encourage open space preservation in residential cluster development by authorizing the placement of solar facilities in cluster development areas. Likewise, the proposed amendments provide an incentive for the siting of antennas on existing towers and other suitable structures

as opposed to the development of entirely new local communications facility towers throughout the Pinelands Area.

Farmland preservation is a fundamental principle of smart growth and the proposed amendments and new rule preserve agricultural uses in the Pinelands Agricultural Production Area by setting limits on the amount of acreage on a farm parcel that can be dedicated to solar energy production. These limits aim to strike an appropriate balance between preserving agriculture in the Pinelands and permitting farmers to participate in solar energy production. The proposed amendments and new rule specify that the area occupied by solar facilities can be no more than 20 percent of any parcel, up to a maximum of 10 acres in the Agricultural Production Area. The maximum acreage that can be used for solar energy production is not inconsequential. A ten acre solar facility can generate enough electricity to supply the electric needs of approximately 200 homes at current system efficiencies.

The protection and preservation of critical environmental areas are fundamental principles of smart growth. The proposed amendments and new rule strictly limit the development of non-accessory solar energy facilities in critical Pinelands environmental areas including the Pinelands Preservation Area District, the Forest Area and the Special Agricultural Production Area. In these environmentally sensitive areas, development of a solar energy facility as a principle use is generally limited to previously disturbed parcels. These include existing landfills, disturbed sites in need of remediation due to soil or groundwater contamination, previously disturbed resource extraction (mining) operation sites with no obligation for site restoration, or on limited areas of a parcel containing an existing landfill where limited additional

disturbance is required to environmentally close the landfill provided such additional disturbance is demonstrated and approved as part of a comprehensive landfill closure plan. There are very few parcels in the Pinelands Preservation Area District, Forest Area and the Special Agricultural Production Area that meet these restrictions; however, the Commission recognizes the overall value of producing energy from clean, renewable sources and considers it an appropriate use under these very limited circumstances. The proposed amendments and new rule also aim to protect areas having the highest ecological value in the Agricultural Production Area and Rural Development Areas by specifying that solar facilities should be sited to avoid large, contiguous areas of forest, undisturbed drainage units, undisturbed wetlands or prime habitat for characteristic and rare Pinelands Plants.

The proposed amendments which allow for accessory uses to be developed on PDC deed restricted lands will have no impact on housing production in Planning Areas 1 or 2, or within the designated centers, under the State Development and Redevelopment Plan.

The proposed amendments and new rule will not affect new construction in Planning Areas 1 and 2 as designated by the State Development and Redevelopment Plan. These State Planning Areas do not exist in the Pinelands Area. In terms of designated centers, all Pinelands Villages in the Pinelands Area are accorded such status by virtue of the 1999 Memorandum of Agreement between the Pinelands Commission and the State Planning Commission. Solar energy facilities will continue to be permitted in Pinelands Villages under the proposed amendments and new rule,

subject to the standards being added at N.J.A.C. 7:50-5.36 which apply in all Pinelands management areas.

Full text of the proposal follows (additions indicated with underlines thus; deletions indicated in brackets [thus]):

7:50-2.11 Definitions

....

“Solar energy facility” means a solar energy system and all associated components, including but not limited to panels, arrays, footings, supports, mounting and stabilization devices, inverters, electrical distribution wires and other on-site or off-site infrastructure necessary for the facility, which converts solar energy into usable electrical energy, heats water or produces hot air or other similar function.

...

7:50-4.1 Applicability

(a) For the purposes of this subchapter only, the following shall not be considered development except for development of any historic resource designated by the Pinelands Commission pursuant to N.J.A.C. 7:50-6.154:

1.-17. (No change.)

18. Normal and customary landscape plantings, unless a landscaping plan is required pursuant to N.J.A.C. 7:50-6.24; [or]

19. Agricultural resource extraction, provided that:

i.-ii. (No change.)

- iii. No more than 20,000 cubic yards of soil per calendar year are removed from any parcel and a Farm Conservation Plan, designed in accordance with the United States Department of Agriculture, Natural Resources Conservation Service of New Jersey Field Office Technical Guide, section 4, dated May 2001, incorporated herein by reference, as amended and supplemented, is approved by the Soil Conservation District and submitted to the Pinelands Commission by the owner of the parcel, demonstrating that the proposed resource extraction is for one of the following agricultural purposes:
- (1)-(2) (No change.)
- (3) The offsite removal of overlying soils to access underlying sand for cranberry management practices, provided the quantity of overlying soil removed offsite does not exceed the quantity of underlying sand to be used for the management practices listed in N.J.A.C. 7:50-6.55(a)4 and the quantity of overlying soil removed offsite does not exceed that reasonably necessary to provide access to underlying sand to be utilized within a three year period;[.]

20. **The installation of an accessory solar energy facility on any existing structure or impervious surface; or**
21. **The installation of a local communications facilities antenna on an existing communications or other suitable structure, provided such antenna is not inconsistent with any comprehensive plan for local communications facilities approved by the Commission pursuant to N.J.A.C. 7:50-5.4(c)6.**

7:50-5.19 Cluster development

(a)-(c) (No change.)

(d) The following standards shall apply to the clustering of residential development within the Forest Areas and Rural Development Areas:

1.-2. (No change.)

3. Development within the residential cluster shall be designed as follows:

i.-ii. (No change.)

iii. The residential cluster development area shall include such land and facilities as are necessary to support the development, including wastewater facilities, streets, stormwater management facilities, **solar energy facilities** and recreation amenities; and

iv. (No change.)

4.-6. (No change.)

7:50-5.22 Minimum standards governing the distribution and intensity of development and land use in the Preservation Area District

(a) (No change.)

(b) In addition to the uses permitted under (a) above, a municipality may, at its option, permit the following uses in the Preservation Area District:

1.-11. (No change.)

12. Solar energy facilities, provided the standards of N.J.A.C. 7:50-5.36 are met.

(c)-(d) (No change.)

7:50-5.23 Minimum standards governing the distribution and intensity of development and land use in Forest Areas

(a) (No change.)

(b) In addition to the uses permitted under (a) above, a municipality may, at its option, permit the following uses in a Forest Area:

1.-17. (No change.)

18. Solar energy facilities, provided the standards of N.J.A.C. 7:50-5.36 are met.

(c)-(d) (No change.)

7:50-5.24 Minimum standards governing the distribution and intensity of land use and development in Agricultural Production Areas

- (a) (No change.)
- (b) In addition to the uses permitted under (a) above, a municipality may, at its option, permit the following uses in an Agricultural Production Area:
1.-14. (No change.)

15. Solar energy facilities, provided the standards of N.J.A.C.

7:50-5.36 are met.

- (c)-(d) (No change.)

7:50-5.25 Minimum standards governing the distribution and intensity of development and land use in Special Agricultural Production Areas

- (a) (No change.)
- (b) In addition to the uses permitted under (a) above, a municipality may, at its option, permit the following uses in a Special Agricultural Production Area:
1.-8. (No change.)

9. Solar energy facilities, provided the standards of N.J.A.C.

7:50-5.36 are met.

- (c)-(d) (No change.)

7:50-5.26 Minimum standards governing the distribution and intensity of development and land use in Rural Development Areas

- (a) (No change.)
- (b) In addition to the residential uses permitted under (a) above, a municipality may permit any use which is compatible with the essential

character of the Pinelands environment and is similar in character, intensity and impact to the following uses:

1.-15. (No change.)

16. Solar energy facilities, provided the standards of N.J.A.C. 7:50-5.36 are met.

(c)-(d) (No change.)

7:50-5.36 Solar energy facilities

(a) A municipality may include in its master plan and land use ordinance provisions which permit solar energy facilities as a principal use in any Pinelands management area, provided that:

- 1. Public service infrastructure necessary to support the solar energy facility is available, or can be provided without any off-site development in the Preservation Area District, Special Agricultural Production Area, or a Forest Area except in association with a solar energy facility permitted pursuant to (b) below;**
- 2. The solar energy facility, including any proposed off-site infrastructure, shall be located and screened in such as way as to minimize visual impacts as viewed from:**
 - i. The wild and scenic rivers and special scenic corridors listed in N.J.A.C. 7:50-6.105(a);**

remediation that has been submitted to the Commission for approval in accordance with this Plan, the acquisition and redemption of 0.25 Pinelands Development Credits shall be required for every four acres of land occupied by the solar energy facility.

(c) Special limitations on solar energy facilities as a principal use in the Agricultural Production Area

- 1. Solar energy facilities may occupy up to 20 percent of any parcel but in no case shall exceed 10 acres;**
- 2. Solar energy facilities shall be located on a parcel in such a manner as to avoid, to the maximum extent feasible:**
 - i. Soils classified as prime farmland by the United States Department of Agriculture, Natural Resources Conservation Service; and**
 - ii. Lands which have the highest ecological values in the Pinelands Area, as evidenced by large, contiguous areas of forest, undisturbed drainage units, undisturbed wetlands or prime habitat for characteristic and rare Pinelands plant and animal populations; and**
- 3. No Pinelands Development Credits shall be allocated pursuant to N.J.A.C. 7:50-5.43 to that portion of the parcel developed for solar energy facility use until such time as the solar energy**

facility has been decommissioned in accordance with (a)4 above.

(d) Special limitations on solar energy facilities as a principal use in the Rural Development Area

- 1. Solar energy facilities may occupy any previously disturbed portions of a parcel that have not subsequently been restored. The clearing of additional lands to accommodate a proposed solar energy facility may also be permitted, provided the percentage of cleared land on any parcel does not exceed 30 percent, taking into consideration both existing and proposed clearing; and**
- 2. Solar energy facilities shall be located on a parcel in such a manner as to avoid, to the maximum extent feasible, lands which have the highest ecological values in the Pinelands Area, as evidenced by large, contiguous areas of forest, undisturbed drainage units, undisturbed wetlands or prime habitat for characteristic and rare Pinelands plant and animal populations.**

7:50-5.47 Recordation of deed restriction

- (a) (No change.)

(b) Such deed restriction shall specify the number of Pinelands Development Credits sold and that the property may only be used in perpetuity for the following uses:

1. In the Preservation Area District:
 - i. Berry agriculture; horticulture of native Pinelands plants; forestry; beekeeping; fish and wildlife management; wetlands management; [and] low intensity recreational uses in which the use of motorized vehicles is not permitted except for necessary transportation, access to water bodies is limited to no more than 15 feet of frontage per 1,000 feet of frontage on the water body, clearing of vegetation does not exceed five percent of the parcel, and no more than one percent of the parcel will be covered with impervious surfaces; **and accessory uses.**
 - ii. (No change.)
2. In Special Agricultural Production Areas:
 - i. Berry agriculture; horticulture of native Pinelands plants; forestry; beekeeping; fish and wildlife management; [and] wetlands management; **and accessory uses.**
 - ii. (No change.).
3. In Agricultural Production Areas:
 - i. Agriculture; forestry; low intensity recreational uses in which the use of motorized vehicles is not permitted except

for necessary transportation, access to water bodies is limited to no more than 15 feet of frontage per 1,000 feet of frontage on the water body, clearing of vegetation does not exceed five percent of the parcel, and no more than one percent of the parcel will be covered with impervious surfaces; agricultural commercial establishments, excluding supermarkets and restaurants and convenience stores, where the principal goods or products available for sale were produced in the Pinelands and the sales area does not exceed 5,000 square feet; [and] agricultural products processing facilities; **and accessory uses.**

ii. (No change.)

4. (No change).