

State of Rhode Island

County of Washington

In Hopkinton on the twenty-seventh day of August 2018 A.D. a Workshop was held beginning at 6:30 P.M. in the Town Hall Meeting Room, 1 Town House Road, Hopkinton, RI 02833 for discussion with Christopher Kearns, Chief of Program Development at the RI Office of Energy Resources (DOA) relative to Solar Siting Policy Information Power Point and Model Solar Ordinance Development Timeline.

PRESENT: Frank Landolfi, Thomas Buck, Barbara Capalbo, David Husband; Town Solicitor Kevin McAllister; Town Manager William McGarry; Town Clerk Elizabeth Cook-Martin; Christopher Kearns; Nancy Hess; Paul Gonzales.

ABSENT: Sylvia Thompson

Council President Landolfi opened the workshop and indicated to the public that this was a presentation by Mr. Kearns and his group and they would not be talking about current, past or future solar projects in Town. Christopher Kearns indicated that his colleague, Nancy Hess of Statewide Planning would be performing the Power Point presentation and stated that they have been going across the State working on Solar Siting guidance, primarily with municipalities; some of which have comprehensive solar ordinances in place that dictate who can and cannot do what on a job site or a piece of property; some towns have ordinances drafted around a specific scale of projects; and then several towns have no ordinances in place. The Office of Energy Resources, Division of Statewide Planning, has heard from municipalities and various state groups and they are making outreach efforts and working with towns on providing information on a model-type of ordinances regarding siting and taxation which towns could use. After the various workshops they will then follow-up by issuing a group report. Their timeline for this process is to wrap up in late October. They started this process in Cranston and then went to Charlestown and Coventry; they will be in Westerly in about two weeks, followed by public sessions in Jamestown, Bristol and Providence. They are based out of Providence, but they didn't want everyone to have to go to Providence to weigh in. Mr. Kearns suggested that a final disclaimer was that the

documents that they are working on are being used only to provide guidance and siting ordinance information for towns to utilizing within their respective land use decision-making process. This is not a statewide mandate that towns have to abide by; this is a volunteer effort by our offices and then the towns can decide if they wish to use any of the relevant information. Nancy Hess added that they are not doing this alone; they have an advisory group of a lot of people giving their volunteer time. Their group consists of various State agencies, including the RI Office of Energy Resources, Statewide Planning, Department of Environmental Management and RI League of Cities and Towns, as well as environmental groups including the American Planning Association, RI Tree Council and the RI Farm Bureau. It is a group of stakeholders that they believe represent every side of the issue, including private power developers in this group. They are trying to present a balance on what is happening with land use in the State at this time. Ms. Hess was asked which municipalities, in terms of their respective Planners, were participating and she stated Coventry, Cranston, Narragansett, Exeter, Charlestown and Richmond. They have done a presentation in Charlestown and Cranston and they have had a discussion with Hopkinton's Town Planner, Jim Lamphere. Mr. Kearns indicated that the State and the region are shifting in terms of its power generation; historically we had a region that depended on coal, nuclear and oil but we are shifting away from those resources. Coal plants are being phased out, gas plants and pipelines are not popular in the northeast region and there have been resolutions sent opposing the proposed gas plant in the Burrillville area. They have to replace those energy sources to meet long term energy needs. One of the reasons we are seeing renewable energy promoted and installed in various parts of town is because we are shifting from a centralized energy system where you have power sources in specific locations to a distributed generation power system where those resources are scattered throughout the state. Councilor Capalbo asked about clean local power and there being areas considered storage; she questioned how are they storing this energy because her understanding is they do not have batteries that can store this energy. Mr. Kearns indicated that storage is something that is coming along in Rhode Island and New England; it is still being perfected and is not yet at a scale where it is

economically viable. There is currently no storage but this is something that is growing slowly. The first phase of energy storage is likely to be to the residential market. For a lot of the local solar companies this is not economically viable in terms of total cost but energy storage is something that they anticipate will be developed in the future. Councilor Husband indicated that apparently Quebec uses hydro-power and asked why this wasn't being brought down here, as well as solar. Mr. Kearns indicated that hydro-power is definitely a viable resource and it is similar to ground-mount solar projects in terms of tree clear-cutting to bring distribution lines down from Canada, through Maine, through New Hampshire, through Massachusetts into Rhode Island. They had actively looked at this opportunity in 2014/2015. Massachusetts was originally going to pursue large scale hydro-power but he believed they were denied the permit to access Vermont properties because this process would require a significant amount of tree clear-cutting, as well as the potential flooding of areas where there is tribal property, in order to allow this resource, so like solar and wind this has its own set of problems. Scott Bill Hirst asked Mr. Kearns how many cities and towns currently have a moratorium regarding solar projects. Mr. Kearns stated that he knows of two moratoriums that were temporarily put in place over the last six months and the Town should be very careful with moratoriums for there can be unintended consequences. Ms. Hess indicated that they were not attorneys or solicitors and they would encourage the Town Council to speak with their solicitor in this regard. Council President Landolfi asked Mr. Kearns if the State gave any guidance on the 38.5% solar by 2035 that they would like to see, was this based by municipality? Mr. Kearns indicated that depending on the state in the Northeast mid-Atlantic region that number ranges from the low 20's to the high 40's in terms of what they are required to have for renewable energy resources that is both for in-state and out-of-state projects so it just depends on the permitting process within the local municipalities. It is not defined as each municipality has to have a specific percentage to meet that objective. They track this to see how much is in-state and how much is out-of-state. Mr. Kearns went on to state that there are always trade-offs and dynamics they see, whether it is commercial large scale solar projects and the concerns about the footprint it takes

up; a wind turbine takes up a much smaller footprint but people don't want to see wind turbines; large scale hydro-power and the transitional lines that have to be cut in terms of the trees that are lost; and, even offshore wind where they have to take into account active commercial recreational fishery issues, so no energy project is generally perfect. Mr. Hirst asked if Mr. Kearns' department had done any studies on the financial impacts of large solar projects in terms of tax revenue. Mr. Kearns indicated there was a slide he would show which answered that question. Ms. Hess indicated that what they heard from the advisory working group identifying the impacts is that this is a land use issue; a siting issue; and, some of the impacts that they identify deals with water quality, site conditions such as deforestation, wetlands, stormwater erosion and climate control. Everyone wants their wells to work and we need electricity to run wells. They are also trying to promote farmland sustainability and they are pro-conservation and preserving open space. One of the things they have to do as a State agency is to balance a series of goals and objectives. They do not advocate putting solar power on anything that already has protection rights or easements on that property. They are trying to develop materials that municipalities can use when they receive an application for a solar system and obtain information as to what is on that site; what the resources are on the site; and, what the State may have compiled that towns can use to base their decision on. Councilor Capalbo indicated that she understood they were trying to protect the installation of solar projects on conservation property. She questioned for those conservation properties that are parks or large parcels, could they use one acre for solar to be used for their own electrical use, is there any thought to allowing an acre which will allow them to use solar renewable energy for their own electricity? Mr. Kearns indicated yes, this is something that they are looking at right now. They have completed a couple of installations on State properties in the Providence area. They are installing a solar project in a parking lot over at the Public Utilities Commission Office in Warwick; they are starting to look at some of the DEM properties in terms of their parking lots and also parcels of land that are adjacent to their DPW facilities. Unfortunately, State properties take time to navigate through the process. Mr. Kearns talked about the wind turbine that was installed

in Narragansett at the Fishermen's Campground which is 157 feet in height and there have been no issues with the Town of Narragansett since it became operational in the fall of 2007. People see the big turbines in Providence and think that those are really big power generators, but that small turbine is probably more productive in terms of power generation than the ones up in Providence. Councilor Husband felt that the Governor was pushing for a certain amount of wind power and solar power by 2035; she is pushing small communities like Hopkinton rather than using State owned land, such as Arcadia. He hasn't seen her offer one acre of State land for any type of renewable energy. Mr. Kearns responded saying they are actually doing a three to four megawatt ground-mount solar project at the Ladd Center in Exeter. They just had an RFP that went out and that project will tie into several electricity accounts of different state agencies. There are several projects in the works, including roofs at the Department of Health, Department of Transportation, as well as the carport canopy installation in Warwick. Ms. Hess indicated that there needs to be consideration of how the land was acquired or purchased which the State has to take into account. Many of the lands, such as the Arcadia Management Area or the Beaver River Management Area were acquired for other purposes and come with restrictions based on the federal funds that were used to purchase these properties. DEM is adding a lot of solar on their garages and other facilities in incremental pieces, as their budget allows them. Mr. Kearns added that the dynamics of properties, even the Ladd Center in Exeter, where there is a fire station on the property and a cemetery adjacent to it, determine how large a project can be. They would like to go bigger but this depends on the property. The Ladd Center is their first big ground-mount project. There are a lot of roof-mount projects, but this all takes time. Councilor Buck questioned if Exit 6 (which they used to call the Rhode Island desert) was owned by the State. Ms. Hess answered that this was part of the Big River Management Area which was acquired by the water supply businesses. Mr. Kearns indicated that off of Exit 6A, next to the truck stop area, URI, South Kingstown and Narragansett teamed up and put out an RFP to do a 40 megawatt ground-mount solar project at an old industrial commercial zone property. They are converting that entire commercial/industrial type lot and also trying to bring in

a tomato farmer, but the problem with these lots is that there are no electrical structures on the property so this can become cost prohibitive. The tomato farm opportunity would not be viable alone because of the cost of bringing electrical lines down, but when tied into the large solar project with lines potentially coming down Route 95 north, it makes that project economically viable. Joseph Moreau asked for clarification on something Ms. Hess had said about having no solar on protected areas and would that include wellhead protected areas, as well as sole source aquifer areas? Ms. Hess responded she would be able to address this later in the presentation. Ronald Prellwitz explained that in 1969 there was a rumor that there was going to be a reservoir at the Big River Management Area and asked what the status was of money that was received from the federal government or what could be done in order to put something there. Ms. Hess indicated that this site was on the purview of the Water Resources Board and that area was acquired through a public bond that the State put out and taken by eminent domain. The Water Resources Board website is wrb.ir.gov and there is a history of that project on their webpage. Mr. Kearns indicated that the Advisory Working Group is happy to answer anyone's questions. Councilor Capalbo asked whether they had determined what the allowable percentage of land was that needed to be taken from the 39 cities and towns for solar? She indicated that Hopkinton is rural and we wish to keep a lot of our farmlands and our rural quality; was there a concept such as one percent or two percent of our land which needs to be solar? Ms. Hess stated that this was all being done on a voluntary basis; this is not a mandate with the State. It is a local decision and up to Hopkinton to decide what is appropriate for them. It is not one size fits all in Rhode Island. Councilor Capalbo then questioned property tax exemption waiver options approved through Town Councils for business commercial net metered systems; the Council assumed there was no tax exemption because that was one of the benefits they receive from solar. Mr. Kearns replied that there are two types of projects, one where you are just installing on the system and putting the power right back into the grid and National Grid is paying for the power produced; a different example is when someone puts solar on their rooftop and it is just being used to reduce their electricity bill. They have a state-wide formula

for towns who receive revenue from the projects that are installed and who sell the power back to the grid. What they have recommended is that homeowners are tax-exempt from multiple taxation, as well as town halls or businesses trying to reduce their electricity bill. If they are assessed a local taxation, it would wipe out the electricity savings from that installation. Towns receive taxes from the large scale projects that sell power back to the grid. It was stated that there is a law on the books dating from the 1980's that gives Town Councils the ability to waive property taxes on solar installations if it is just being used to reduce the business's electricity bill. Ms. Hess indicated that there are approximately 4,000 solar installations in the State, with some of them being on roofs of high schools. Mr. Kearns injected that this would be just to reduce the schools electricity bill. He thereafter discussed slide 12 entitled Energy 2035 and went on to state that the RI State Energy Plan is for all of these topics that have come up; how they are distributing the energy, not just renewables but all other types of energy. This is where their goals are set and this was approved by the State Planning Council in 2015. Different permitting processes were briefly discussed which were the same for each city and town; statewide building code standards were also discussed. The Statewide Fire Code process is generally about five to seven years outdated right now. The fire marshals at local levels were unsure how to handle these projects in terms of a fire management plan in the event of something bad happening, so the State adopted a blanket-wide variance that allows local fire marshals to evaluate the projects individually to determine what is an appropriate fire mitigation plan in terms of access roads or what is done between the panels. Councilor Husband asked Mr. Kearns if there was anything flammable in the solar panels and if the panels catch fire. Mr. Kearns indicated that he has been with the State Energy Office since 2012 and he has never heard of any panels catching on fire. Residential installations date back to 1998 and are on over 5,000 homes and there are hundreds of commercial projects. Councilor Capalbo asked if the State was going to decrease our dependency on energy and if this energy was going to be sold out of state such as the University of Massachusetts. Mr. Kearns indicated that the energy goes to National Grid and they service the Rhode Island service territory so the power is distributed to National Grid accounts. All

of the energy produced is tracked by National Grid and stays within the State of Rhode Island. He went on to discuss a law which was passed by the General Assembly two years ago relating to farms within the State's Farm, Forest and Open Space Program. Farmers wanted to essentially pursue a commercial renewable system on their farms as a supplemental income beyond what they received for revenue, but there was a dynamic in terms of the taxation rules, in terms of what would happen if they did a larger solar footprint; the tax assessor could reassess the entire land value instead of a farm land value as a commercial residential tax value. They negotiated with various environmental and conservation groups as to farmers wanting to install renewable systems on their property and they came up with a formula that suggests farmers can use twenty percent of their total acreage for these projects and the local tax assessor could reassess that solar footprint from a farmland value to a commercial land value and keep the other aspects of the farm within the farmland value. Ms. Hess suggested that the towns should start with their comprehensive plan and by State law communities must address energy production and consumption in their comprehensive plans in some way. There are some points that the comprehensive plan should consider which ties back to the State Energy Plan 2035, such as balancing the ability to plan for future land use and also decreasing the dependence on traditional carbon based energy that is being produced. They recommend that the ordinances should consider that there are various types of solar systems. There should be a multi-use of previously stripped lands, as in the Rhode Island desert; gravel banks that are no longer functioning; abandoned junkyards; or, any site that might have difficulty being remediated; however, a solar project might be an option to reclaim the site and put it into an active use. They are working on a summary report that is going to come out with a lot more detailed guidance pulling from lessons they have learned from other public meetings and in speaking with communities. Ms. Hess introduced her colleague, Paul Gonzales, who has done an inventory of all cities and towns in Rhode Island; what they have for a zoning ordinance; what they have done in terms of their taxation ordinances; and, a few other things. The tool to implement the comprehensive plan and the tool to control land use is the zoning ordinances.

Communities are authorized, through Rhode Island General Law, to adopt a zoning ordinance to control the use of land and how it is developed. Its purpose is to implement a comprehensive plan to protect the public health, safety and welfare. Solar development should be included in the zoning ordinances in some way and when doing this they should consider again that one size does not fit all. They should craft ordinances carefully to balance avoiding barriers to solar development and ensuring protection from potential impacts. Mr. Hirst asked how many cities and towns currently had solar in their zoning ordinances. Mr. Gonzales thought about half but it is addressed in different ways; some of it is just residential up to big projects and some of it is just focused on large projects. Councilor Capalbo indicated that she believed people were having difficulty with the concept of what scale is, such as if someone says the project is going to be one acre or if it is going to be fifty acres when they are talking about megawatts or kilowatt. She was wondering how the State can address that so citizens understand what they are going to be looking at. Mr. Kearns used the Reynolds Farm as an example and indicated this was a 250 KW ground-mount solar project which was generally half an acre to a full acre. When it comes to a megawatt scale project the rule of thumb is for every one megawatt there is generally three to five acres of land required, but it depends on the topography of the land. An audience member asked if you do spot zoning and change a property from residential to commercial, after the project is no longer viable does it go right back to residential? Mr. Kearns indicated that the project off of Exit 6A in the Town of West Greenwich, which is the URI, South Kingstown, Narragansett project, was zoned commercial and they are rezoning it to residential at the end life of the project because there are ten to fifteen homes adjacent to that industrial-type lot; there is going to be a deed restriction attached to the agreement stating that once the solar system meets its shelf-life it will be zoned residential but with a caveat that it can never be built upon in the future with housing developments. An individual spoke indicating that he understood that but his question is if they live in a residential area and they change the zone to commercial for solar, after the solar goes out they may put in some kind of industry there if the property doesn't revert back to residential. Mr. Kearns indicated that this would come

down to what the Planning Board, Zoning Board or Council put in the agreement. Councilor Buck indicated that the projects in Hopkinton were going back to residential. Ms. Hess next spoke about the review of options for solar systems through zoning as a stand-alone permitted use; allowed as an accessory use to an existing use; it can be allowed by special use permit; or, you can create overlay zone districts and have siting conditions for people that apply for that overlay. Overlay is something where the existing zoning remains but you have studied your town and determined certain places where you think solar might be appropriate to have if some construction and siting standards are met, and people can apply to be in that district. There are certain districts where if the siting standards are met, under the Zoning Enabling law that requires Planning Board advisory opinion to the Zoning Board or commission who makes the decision, the project can be allowed by special use permit. This can be allowed in all or some districts but would be required with a tiered Development Plan Review which can be done either by your staff or the Planning Board. They recommend tiered because it is one size does not fit all. This can be allowed in all or some districts but require major land development review which is the same process that a residential subdivision goes through. This takes the longest amount of time. The Advisory Group recommends going through a tiered development plan review approach after they decide what districts they want to allow solar systems in; have staff review small to medium systems; have formal review by the Planning Board for large solar systems and include a public informational meeting. They do recommend that there be some type of notice to abutters for large projects and that be incorporated in the development plan review process. They ask that when you are looking at your zoning ordinances not to forget special areas and special districts in the community such as historic districts. They noted that Planning Boards are the expert boards in the community who conduct detailed site reviews. They review commercial land developments as well as large scale or small scale residential subdivisions; they look at site conditions, on-site issues and off-site issues, and they make decisions and they are used to judging applications consistent with findings for the protection of the public health, safety and welfare. Zoning Boards generally do not review on that scale; they usually perform very

distinct review of a particular individual lot and whether or not the request for relief from the ordinance will meet with the standards and general purpose of the ordinance. Mr. Kearns went through several slides which depicted different types of solar systems including ground mount, roof mount and parking lot canopies. Mr. Kearns indicated that they are going to be opening up a category for solar carport canopy projects in 2019. Councilor Capalbo asked if there would be state funding for these types of projects. Mr. Kearns said yes, through the National Grid program they are going to put out a certain amount of megawatt capacity for solar canopy carport projects in the spring/summer of 2019. DEM had done some aerials of different parking lot locations which may be viable, including Westerly and Richmond. Their goal is to have half a dozen to a dozen solar carport canopy projects awarded in 2019. They are getting the word out for this now because a lot of the existing ordinances that are on the books do not take into account solar canopies so they have a height restriction that applies universally for all solar projects that say eleven to twelve feet, where some of these carport canopies are nineteen to twenty-two feet above the ground. Ms. Hess explained some of the issues that have come up and used Richmond as an example where the contractor started construction in December when the ground was frozen and it rained and he didn't have his proper erosion sediment control in place. He was constructing outside of the DEM approved RIPDES permit and there was flooding off-site onto residential properties. This was corrected by the developer and DEM did come down and monitor that situation. Ms. Hess stated that the Town should make sure they know what the construction period was as stated on the RIPDES permit; make sure that disturbance to wetlands does not happen and there is a proper soil erosion and sediment control plan in place. An audience member asked who was supposed to monitor these projects and Ms. Hess stated the Zoning Official in Richmond but this would vary by community. Council President Landolfi indicated the Zoning Official would monitor our projects. Councilor Capalbo indicated that her concerns are what happened when there is run-off onto a state road, what does the state do? Ms. Hess indicated that the State DOT would have to be in touch with the property owner to deal with this issue. Ms. Hess spoke about decommissioning plans and indicated that as part of the application process

the Town could require a decommissioning plan, as well as financial security, as part of the ordinance and part of the application process. They also wish the towns to look at mitigating habitat disturbances, connecting to utilities and the electrical distribution system. Councilor Capalbo asked what would happen if the owner of a solar project does construction activity at the site without National Grid's approval, before National Grid has given approval to allow the project. Is there something that can assist the Town in stopping the owner from starting to clear-cut their property before they obtain approval of the project. Mr. Kearns explained that the way the process works is that a landowner or business submits an application to National Grid to first verify whether or not it is viable to National Grid's distribution system. If it is a small scale solar project it usually just goes through one level for the site where National Grid gives the approval depending on the local Planner or Zoning Board and the local permit; they receive their approval, install the system, and then grid crews will come out and do the electrical work. The large scale projects also have to go through that interconnection study initially and then they have to do an impact study. National Grid has to sign off on projects that are connected to their distribution system. So if a solar developer is building on a location that has not received National Grid's authorization, National Grid will not approve the system to be connected to the system. Councilor Capalbo clarified that we should be able to say that they cannot commence the project unless they have National Grid approval in hand. Mr. Kearns indicated that it would be a very risky strategy for a developer to build on the site without National Grid's authority and he was not aware of any developers that are doing that. An audience member questioned if anyone had brought up the idea of putting a pollinator habitat underneath the panels. Mr. Kearns said absolutely and this topic has been raised by the Nature Conservancy in terms of between the panels. An audience member indicated that there was an issue with that due to fire regulations and due to fire concerns and it states it has to be a low growing grass. There were some concerns with fire codes. Mr. Kearns indicated that he thought they could address that in terms of fire code issue; literally what triggered the statewide Fire Code Variance was a local fire marshal had denied a fire permit variance for a ground mount solar project on a

closed landfill because he thought the dirt was going to catch fire. Mr. Kearns stated that they could make recommendations in terms of vegetation, flowering or seeding native plants to the area. Fire Marshals have flexibility but in reality these plants grow in the spring and the summer and then die off in the winter. They are not aware of any fire hazards. Ms. Hess indicated that the next slides were regarding preliminary recommendations and they are coming out with a zoning ordinance template where they will provide a model or taxation template, and they will provide some comprehensive plan guidance. Mr. Kearns indicated that tax assessors have contacted him and indicated that they have a siting but do not know what to tax it at and there is no guidance at the local level, so they wish for towns to do things at the same time. If you adopt the siting standards when you get the applications in you will know what the taxation is going to be. They developed a model taxation ordinance in terms of taxing all of those projects that are selling power back to the grid, such as the Reynolds farm. They have a provision in the ordinance that if someone is doing a net metered system where they are just trying to reduce their electricity bill, it will be left at the discretion of the Town. Council President Landolfi indicated that Hopkinton had already adopted that taxation ordinance. Ms. Hess indicated that the next several slides listed the foundations of what should go into a zoning ordinance that addresses solar development. They are recommending Towns should develop ordinances without a one-size fits all approach, including acreage/percentage restrictions on different types of zoned lots; consider siting/application criteria for industrial, commercial, manufacturing lots that are different from residential or farm lots; consider flexible and different acreage lot coverages for landfills, gravel pits that are no longer functioning, commercial and industrial lots versus sensitive sites that are no longer residential lots; focus solar siting ordinances as land use regulation and not on the type of renewable energy system size or power generation; consider reuse of certain lots with difficult redevelopment potential within residential zones; tailor height restrictions for ground mounted solar to system type, zoning district and topography; and, consider buffers and transitions between varying zoning districts. Any roof mounted project is an accessory use and installed to reduce that resident's electricity bill and this does not have to go

through the same permitting process as a larger project, with a caveat being that if it is in a historic district it should be reviewed by the local historic board or commission. Ms. Hess added in that there were webpages noted where people with questions could look up answers and information. It is very important to address what is going to happen to the property once these systems are no longer working. Scott Bill Hirst questioned what a landowner had to do regarding decommissioning and if they had to post a bond. How can we assume that someone is going to have the financial responsibility to take care of decommissioning in the future? Mr. Kearns indicated that these projects are financed through a renewable energy company and as part of that process the bond deposit would be provided by the developer to the Town to be put into an escrow process that the town would utilize. This is paid for by the developer and not the landowner. Mr. Hirst asked if the bond needed to be posted before the project commenced and it was indicated yes. Ms. Hess suggested that it would be a final approval and a condition of the project. Councilor Capalbo stated that she believed decommissioning should be that everything underground would need to be removed because otherwise it would be cut off on ground level, and you couldn't thereafter build a house if you were running into eight foot poles. Ms. Hess indicated that this could be set as a standard in Hopkinton's local ordinance. Someone in the audience asked if they knew the real life span of a solar system and how would they know how much of a bond was needed for decommissioning. Mr. Kearns suggested that the average life of a solar system is between twenty and thirty years depending on the maintenance of the system and that applies to whether it is a roof mount residential solar system or a ground mount solar project. It was asked what the estimate per panel would be to take down these panels and Mr. Kearns indicated that he would have to follow-up on that, but each respective town determines what dollar amount they want to have up front. The panels for solar have become more efficient so as long as they are producing energy they wouldn't be taken down. Councilor Capalbo indicated that solar was becoming more efficient; however, National Grid was only receiving 5.6 mw so even if the panels are more efficient, National Grid will only allow a certain amount of power. Councilor Buck asked about the bonding that would be

required and was there something that Mr. Kearns and the advisory board is looking into as to per kilowatt or megawatt, a calculation or average to use, some type of guidance. Sharon Davis stated that the State Solar goal is 1,000 megawatts by 2020. Based on the Rhode Island population of 1,060,000, the State uses 13,000 megawatts of electricity per day and the solar goal represents 7.6% of the daily usage. Hopkinton's population is 8,116 and uses 99.8 megawatts of electricity per day. She stated that as of today Hopkinton has approved approximately 51.21 megawatts of solar projects which represents 51% of our daily usage. Has Hopkinton approved enough projects? Can we at least no longer approve residential projects that require zoning and residential zone changes? Mr. Kearns answered in terms of the 1,000 megawatts, that is comprehensive in terms of multiple renewable resources; for example, 400 megawatts of that will be coming from off-shore wind, a certain percentage coming from land-based wind, solar and small scale hydro power. Ms. Davis indicated that she believed Hopkinton had approved enough solar projects; Mr. Kearns stated that they were not requiring any changes; this was a local land use issue or Town Council decision. Ms. Davis also questioned their promotion of the proactive comprehensive utility distribution system planning. She asked how they envisioned that happening in the wake of the onslaught of solar projects, who was responsible for the system planning? Mr. Kearns indicated that the distribution plan is administered by National Grid, Pascoag Utility or Block Island Power and it is ultimately regulated and approved by the Public Utility Commission. They have the oversight in terms of the distribution lines, the gas pipe lines, all those types of things and then administered by the respective utilities. The Public Utility Commission regulates all of the utilities within the State of Rhode Island. Amy Williams stated this was an excellent question and what do our local utilities support? Mr. Kearns answered by saying that ultimately every project that is proposed to National Grid by a landowner or developer has to go through that comprehensive interconnection study in terms of what is viable. The study may indicate that in order to interconnect that system they may require upgrades in terms of a substation or a new telephone pole, but that is all site specific and evaluated on a case by case basis. Ms. Davis asked

who was overlooking the total number of projects and how do we report back to that Public Utility Commission in order for them to say that we have overdone it? Mr. Kearns indicated that was a local decision, the permitting process is local; power generation and how it all gets configured into the grid is evaluated on each project merit by the utility companies and this is regulated by the Public Utility Commission process. Ms. Davis' final question was about the decommissioning plan. She wanted to know what their definition of site restoration requirements would be as part of a decommissioning plan and how can they replace the destruction of 7,000 trees? Mr. Kearns indicated that this was a local level decision that had to be made; the state has no jurisdiction over Town Councils and what they do with their properties. Scott Bill Hirst stated that he believed the Town Council is a legislative body not required by law to require solar in any zone in the town. Mr. Kearns indicated that Town Councils make the decisions about land use, whether it is solar, residential or commercial. Marianne McNamara asked what happens if the Planning Board denies a project and the Town Council approves that project? Mr. Moreau said that one of the slides showed property in Richmond, what happened with that project initially was the landowner called the town who said they were not responsible, then they called DEM who told them to call the town and this circle went on and on. These types of problems are not that easy to fix. Mr. Kearns answered that they are working closely with DEM and hope to have a point of contact with respect to state agencies, including DEM. Sean Henry, Assistant Town Planner, questioned financial security and indicated that Hopkinton's current ordinance required that the applicant propose an amount that the Planning Board finds reasonable; the form and the amount is determined by the Planning Board. There has been a concern that the amounts posted may not be adequate for the actual cost that may be required to clean up. Mr. Henry indicated that he was hoping to see some guidance as to either a per acre or per megawatt price as well as the instrument that is resilient enough to withstand time (these properties are changing hands) so we need an easy way to determine where we go to collect these funds. Mr. Kearns indicated that they are going to look into this issue and decommissioning plans, and they will pool some of this information together and come up with a

suggestion. Mr. Prellwitz weighed in on decommissioning costs and thought that this could be a very simple process; i.e. if there are 1,000 posts in the ground how long does it take to take a post out? Convert that into the price of fuel and the price of labor twenty years ago, fast forward that to today, then fast forward that twenty years down the road and you can get a pretty good idea what it is going to cost to take that project down. Mr. Kearns stated that he wished to see what has been given for a bond on the projects that have been approved and Council President Landolfi stated that the Finance Department would get him those figures. Ms. Hess went on to explain slide 34 which spoke about preliminary recommendations for environmental and wildlife criteria at undisturbed sites for ground mounted systems which included the limited use of herbicides to control invasive plant species growing beneath or around any solar system; minimize the disturbance to top soil and require the maintenance and reuse of top soil; require pollinator-friendly seed mixes and native plants to the maximum extent possible. Ms. McNamara asked what is going to stop other seeds from dropping into the area and growing. Mr. Kearns indicated that there is going to be a vegetative management plan in place. Ms. McNamara asked how a fifty acre ground mount solar system is managed. Mr. Kearns indicated that in terms of large ground mount projects they are seeing a lot of grass grown around them but this will be up to the Planning Board, Town Council and local Fire Marshal. Ms. McNamara asked again who was responsible for review and maintenance. Mr. Kearns replied that it is ultimately the landowner and developer. Councilor Capalbo indicated that the Zoning Inspector will look at these sites and determine whether they are compliant. Ms. McNamara asked if the Zoning person was going to go to all of these places, once a week, to see what was growing? Ms. Hess indicated that this will depend on municipalities and the staff enforcement provisions they have in the ordinances. Ms. Hess stated that they came up with the next recommendation because they heard that fencing was excluding wildlife from traveling in places that they were used to traveling. Their recommendation is to put a fence up that allows wildlife, whether it is small like turtles or chipmunks, or waivers to fencing requirements for larger wildlife such as deer. The next slide depicted the East Providence Land Fill project and they would recommend for any old landfills

or abandoned properties which have no accessory use, would need a primary permit and go through development plan review before the local Planning Board. He stated that if the town wants those types of locations to be built they should make a distinctive difference in the zoning ordinances because he has seen where other towns have a special use permit across the board for every zone location and at the end of the day a lot of these developers look at the land value on which to build these projects. If they have to go through the same permitting process regardless of whether it is a landfill versus a residential zone, they are going to go where the cheapest land is, so we should make a distinguishable difference within the zoning ordinance regarding property so it is not a one size fits all. Regarding farm land properties, a lot of farmers do not want to sell their development rights for the full farm so they look to have solar on a portion of their farm to produce a revenue source in order for them to be able to keep their farmland. The Reynolds Farm is an example where they have solar as an accessory use. They sell the electricity back to the grid; the developer gets the revenue; a percentage goes to the farm owner and a percentage goes to the Town for taxation purposes. They recommend that up to twenty percent of a farm can be used for solar and the farmers land value wouldn't change dramatically. Mr. Kearns indicated that this might not be appropriate with large farms. He indicated that the Leyden Christmas Tree Farm is 92 acres and they were allowed to rezone 12 acres as commercial to be used for solar. Councilor Capalbo asked what a DC megawatt was and if this was something that goes directly onto the electric grid? Mr. Kearns answered that the power that is produced is DC and then it goes through the inverter box to make it AC and this may just be a typo on his part. Ms. Hess indicated that the notice procedures should be noted in the ordinance. They also can consider a requirement that a portion of a lot is not used by the solar project; this could be preserved voluntary through a conservation easement as part of the application process. Ms. McNamara asked what happens if not all of the abutters approved of the project? What happens? Mr. Kearns indicated that this was a decision by the Town Council. Mr. Moreau asked about the protective areas, such as sole source aquifer or well-head protection area. Ms. Hess indicated that if we had those resources in our area and deemed them important, they certainly could

be included in the ordinance. You have to go through a public hearing in order to adopt the ordinance. Those areas will not be in all cities and town. Mr. Moreau indicated that Ms. Hess had stated there would be no solar on protected areas and she clarified that this would be protected areas where there were conservation easements or restrictions. Mr. Kearns indicated that if anyone had any ideas, suggestions or comments which they wished to address to him or Ms. Hess they had provided their contact information. Eric Bibler thanked Mr. Kearns and Ms. Hess for a great job in setting forth a lot of information. He stated that the State obviously has some very ambitious goals for increased production of renewable energy. He felt the presentation was dominated by two principles, one of which is that solar energy is an extremely weak form of energy. There is very little energy density unlike nuclear and fossil fuel so you need a huge gathering mechanism. What that means is you need a huge footprint. It is incredibly land intensive whether you are using roof tops or farms, there will need to be hundreds of square miles of solar panels in order to get where the State wants to be. The other principle of this renewable energy is all based on the concept of moving from centralized production to distributed production. Mr. Bibler indicated that he felt that what they really were proposing was distributed industrialization and they need land to execute this program. He went on to state that the problem was that the land in Hopkinton that was undeveloped was either conservation land which has easements; residential land; or, farm, forest and open spaces. Mr. Bibler stated that residential land is protected from commercial development, including solar. They feel that they are temporarily protected but not permanently protected from this form of development. Mr. Bibler stated that he thinks they are decentralizing their industrialization by putting it out here and attacking their plans. He feels the recommendations as being threatening to the character of the Town and when they say decentralized distribution or production of electricity, he sees that they are subjecting their town to quilt work instead of having residential and commercial separate. Farmers are allowed by right to do this. He feels that presentations such as this one are trying to seduce these towns because there are some very lucrative incentives for Town Councils to be responsive to. Mr. Kearns responded regarding the farmlands, when farmers approach the town and

are grappling with the idea of solar, there is no easy answer. Solar does take up a large footprint. Another option could be wind turbines but a lot of towns are not even considering wind. It was noted that people do not want to look at the towers and that the issue was not looks, it was noise and flicker. Ms. Hess indicated that they didn't want to get into what Hopkinton is doing; they were just there to provide the information for all stakeholders to make rational decisions on whether or not this use is appropriate for their community. There is also an environmental justice issue here. Everybody in this room uses power and most of our power is not produced in the communities we live in and we are in the distributive network system. That is also a factor that has to be considered. We are trying to not only make ourselves less dependent on the fossil fuels that come from other parts of the country, but also to spread some of the hurt across the State. Councilor Husband indicated that the State tells them that every community in the State has to have ten percent low income housing; what do you think the potential is of someday that State will come down and tell us that we have to have so many acres of solar panels. Mr. Kearns suggested that this was not something that he has heard. A lot of these renewable energy programs have been in place since 2008 or 2009, so after ten years there really isn't an excuse for all 39 towns to have rules in place for what can and can't be allowed in their respective jurisdiction. Some towns do not have a solar ordinance they just use special use permits. The challenge with a special use permit is that there is no public engagement, no public awareness of the process. Someone asked, with regards to their recommendations, typically you work front to back using lessons learned in terms of historical projects, saying this would be our recommended guidance because this is what happened in the past with renewable energy projects. Under their recommendations, can they estimate how many of those recommendations are based on historical evidence as to what has worked and what hasn't with regard to large industrial sized projects and can they specifically touch on firefighting or preventing regenerative growth. When they worked forward, how many lessons learned or previous large scale industrial renewable energy projects did they use to evaluate the recommendations or to develop the guidance? What was their basis? Mr. Kearns stated in terms of what they looked at, it was both residential

and roof mounted commercial projects, and also any of the large scale projects that are operational that they were aware of. It was noted that no projects had been decommissioned yet. In these studies, have there been experts involved in complete projects from start to finish or are these observations based on snapshots in time from relatively new projects? Mr. Kearns indicated that they are focusing on Rhode Island projects that have been approved in the last five to seven years. Most of the State's renewable policy laws have been in place for about ten to fifteen years. They do not have a lot of case studies to reference in terms of decommissioned solar systems in New England because most of the solar systems that have been installed date back to the early to late 1990's so they haven't encountered a lot of large decommissioned projects that have entered their shelf life. An individual commented on their recommendation for decommissioning bonds and leaving it up to municipalities, that they had nothing to estimate that on. Regarding firefighting in these areas, Hopkinton only has small time volunteer fire departments that do not have resources to deal with large scale electrical fires. What basis did they use for developing the recommendation for working with the State for commercial electrical code? For example, there is a large scale utility in California that has been affected by the wildfires there that has been virtually decimated. The speaker asked Mr. Kearns if their recommendations were based on any large scale lessons learned. Mr. Kearns indicated that he is not aware of any fires in either roof or ground mounted projects in Rhode Island. They are basing their recommendations on all of the existing systems that are in Rhode Island that they are aware of. Sherri Desjardins of the Building and Zoning Department indicated that she had worked with the two fire districts and they decided upon certain things that they would accept based on the fire code as to the vegetation management plan and those are the things that the fire marshals were comfortable with and that was incorporated into the fire code. Sharon Davis summarized by stating that this presentation was just to give suggestions and how Hopkinton zones its property is still based on the comprehensive plan; they are not trying to change that. Mr. Kearns indicated that they are not mandating anything. Councilor Capalbo confirmed that a lot of their suggestions the Town has already accomplished. They have already approved

fifteen projects and there are dozens in the works. Unlike Cranston or East Greenwich, Hopkinton doesn't have rooftops or parking lots, it already has a lot of ground mount systems. We have already based our fencing six inches off the ground and the Planning Board is working hard at this. She indicated that the Council would be happy to take more of their suggestions and work with the Planning Department and Zoning Department. She feels it is very wise for the fire departments to have some flexibility because if we are going to have these projects she would like to see plants and a place for the wildlife to live. This has been frustrating because they have been learning on the run.

The Workshop was closed at 8:35 PM.

Elizabeth J. Cook-Martin

Town Clerk

Marita D. Breault

Deputy Town Clerk