

SPECIAL/WORKSHOP MEETING, TOWN OF REDFIELD, July 2, 2018

The special/workshop meeting of the Redfield Town Board was held on July 2, 2018 at the Redfield Municipal Building starting at 7:00pm. Roll call was taken and the following board members were present:

Tanya Yerdon	- Supervisor
Carla Bauer	- Councilwoman
Elaine Yerdon	- Councilwoman
Erwin Webb	- Councilman
Matthew Tompkins	- Councilman

In addition, Susan Hough -Town Clerk, Paul Pratt -Highway Superintendent, Rob Brenner - Nixon Peabody, LLP, Terry Harlander, Michael Yerdon- Code Enforcement Officer, Matt Smith – Woodwise/Camp Owner, John Yerdon - Dog Control Officer, Jim Muscato - Young/Sommer, Walt Meisner - Avangrid, Mitch Yerdon, Dan Murdie - Avangrid, Angie Kimball - Tug Hill Commission, Jessica Klami - Young/Sommer and Francis Yerdon

Pledge of the Allegiance was said.

Supervisor Tanya Yerdon - turn the meeting over to Walt Meisner/Dan Murdie - Avangrid, Jim Muscato - Young/Sommer for a presentation on the Mad River Project. Walt - would like to walk through the project general speaking. Walt Meisner had pictures of the Woodwise Property, tentative locations for turbines, this is a very preliminary layout, as they proceed through the permitting they will deal with wetlands, other environmental, and other concerns as they go through the Article 10 process and all of them will help refine the layout of the turbines. As the project proceeds as we've proposed to the Town and The State a very preliminary form on PSS, as we go through the Article 10 process their intent is to submit an application sometime next year. Through this process now they start to look at all the wind data as they have indicated the other day, they go through their field studies that will educate them as to where these locations can be specifically put, and then go forward from there. That's kind of where they are at, that's the time table. There's been some questions/discussion about the construction - that's what everyone wants to hear about. Walt would like to talk a little bit about it - Walt Meisner had pictures - in general build the access roads, the foundations, components delivered, towers erected, blades installed, restoration of the site, that whole cycle depends on the project, but it's typically about a year. That depends on how big the site is. One of the other things is foundations - Walt Meisner has pictures of the foundations - dimensions for projects - they are generally talking about three (3) or four (4) different things, the first is the hub height - usually to the center of the rotor - dictates the size of the tower and how high off the ground the rotors actually swing, then the rotor diameter - essentially a circle, the third dimension that is often referred to is the six hundred (600)/five hundred (500) is to the tip, so it's the very tip of the blade as it would up swing, the tower is actually half of the rotor diameter lower than that. The foundation are usually subsurface, ground level, he can talk a little bit more about foundation as that came up last week, foundation what they envision for a project like this, it's a spread footer foundation, how it works is a mass of concrete that is located directly on the bottom of the tower, the main purpose of it is to prevent over turn movement, he showed a drawing pointed out pressure points, how do we know how big, how deep are they going to go - he can't speak to that specifically, but can give generalities. He had a picture of a foundation, he can't leave because it's confidential, it's one of their projects that has just been built, this is the general foundation and type of drawing that would be used, it's sealed by an Engineer, and meets all International, National and Local building requirements. Essentially what this says is for this turbine, this depth to the bottom of the

excavation, to the bottom of the foundation is nine to ten (9 - 10) feet, the overall dimension of width from this end to this end is fifty-seven (57) feet. So he asked his group internally they haven't gotten to the point in this project where they have designed something to this point, but of course they estimate, so their estimates are, we would be about ten to eleven (10-11) feet we would maybe gather one or two (1-2) feet at the most so their depth is relatively about the same, the width in all directions would increase by about fifteen (15) feet so their thinking about seventy (70) in width verses fifty seven (57) feet as for this one. That allows them to not impact a lot more of an area, it's not that much larger considering everything, but it also allows them to increase the amount of concrete that makes the foundation properly function, so they would end up he thinks the estimates he saw were somewhere around seven hundred to eight hundred (700-800) cubic yards of concrete. CW C. Bauer asked what the size of the turbines that these are planned for. Walt Meisner - this one would be a G114 - on an eighty (80) meter tower, probably a little bit less than five hundred (500) feet. There estimate that this is a sub five-hundred-foot tower, if we go to the larger tower we are looking at those kinds of dimensional increases. All the specs that come with a project, they are very detailed, and talking about the rebar - how it's tied, where it's placed, QAQC - it gets very detailed. John Yerdon asked - on the base do you drill down in the bedrock and put like two (2) inch rebar in. Walt Meisner - that would be more of a different foundation design, they are used in certain areas depending on the geo tech information, that specific design you are talking about changes this design this footprint actually shrinks a bit, you don't use the gravity of the cement of the foundation you use the rock, our proposal for this project with the information we know at hand is that we would recommend a spread footer foundation and prefer a spread footer foundation, a rock anchor he wouldn't discount the fact that the bedrock up there might require us to do that, but generally he's only done a couple of those in his experience. CM M. Tompkins - a couple of times during your presentation you referred to a six hundred (600) foot hub height- were you just miss speaking there. Walt Meisner - yes tip height. He thinks one of the things we wanted to make the note in the case - was that when we look at the larger turbine - the six hundred (600) foot turbine - we've should these before (pictures) when you are looking at this - this is the worst case scenario amazing environmental conditions so you can see the furthest you can and they look at the tip it's barely visible and that's when the tip is up at the top, they can look at this from many different views, theses can become pretty negligible in visual sense, if he wasn't pointing them out to you - and you were across the room, it would be hard to see some of them, he wanted to point that out because we had talked about the difference between five hundred and six hundred (500-600) feet, he thinks because of the unique situation of this sight and how far back it is from any vantage point, it does allow them to say pretty confidentially the visual impact and the ability to see these towers even at a higher tip height is pretty negligible. He thinks the next thing to speak to would be the concept of wild life surveys and the environment permitting aspect that they would be proposing to undergo. There were some concerns last week regarding the wild life near the turbines as it relates to sound, etc. - he spoke with a couple of Biologists, they indicated without a shadow of a doubt that there is no ground born vibrations, so there's very little, there is no concern it's a non-issue of anything with the fish or anything like that with the sound and they were very confident in that. Some of the other things he would like to speak to you that would be undertaking over the next couple of years or year and a half while they are going through the permitting process. They would be going through raptor migration studies - two (2) of them both Fall and Spring, being going through migrating bird surveys which are Fall and Spring as well, looking at breeding bird surveys, bat activity monitoring, and overall wildlife habitat study, so all of these things kind of piece together a rather large picture that speak to wildlife and kind of identify if there are concerns how we would litigate how we would make them negligible. He would like to share briefly this idea that maybe there is some negative impact to deer and other mammals, from his experience - take it

for what it is - the fringe areas that are created by these projects and the ability and reality of them being very infrequently trafficked, etc. actually creates a habitat that is sometimes not available in a forested area so you actually see an up take in certain animals and you also see certain animals actually thrive in kind of those fringe areas. What they have seen in a couple of their wind sites just in New England, a lot of bear activity, everyone is very concerned about the bear activity, what they have found is after the construction is over, and certainly that is an impact, that this activity starts to increase again. He would like to simply share that aspect and the fact that those things can be addressed during permitting those concerns but also they have seen that over time that they really are not that big of a concern. He thinks that kind of speaks to the wildlife issues he's heard and addressed. CW C. Bauer would like to look at the foundation chart. CW E. Yerdon - have you done any raptor studies yet with your met towers there. Walt Meisner - the met towers that are there are just for wind resource right now. They haven't gotten into that yet, at this schedule they would be looking to launch those this fall. CW E. Yerdon so would you need to put up more test towers or how do you do it. Walt Meisner - no - he thinks a lot of them are monitored they actually have biologists screening and visually looking for certain migrations during periods of times, there are also some bat technologies that can count bats as well, there are a number of different mythologies for all of those different studies, he can't speak to all of them specifically as to how they were done, but he does know the raptor studies are specifically boots on the ground. Supervisor Tanya Yerdon - so when you do the studies on the raptors and the bats and whatever else, do you work with the DEC on that? Walt Meisner - yes they help define the protocol and we work with them throughout the process before they would study and even into and through the studies, to insure we're proposing and doing a study they find suitable and sufficient for their sign off. Supervisor Tanya Yerdon - being that we are going to be working with the Article 10 process, and she knows there are a few others that are a step or two (2) ahead of us, when it comes to the Siting Board, she know the DEC is one of the members, they have someone sitting on that Board, you haven't been that far yet have you, or has there been one where you have set and heard some of the discussions with the Siting Board on certain projects. Jim Muscato - what do you specifically mean? Supervisor Tanya Yerdon - she is curious on how much the DEC plays into this. Jim Muscato - the DEC serve two (2) roles, one - they have agency staff that will participate in the PSS and comment on the PSS, which they have done already, and they will comment on the Application and potentially if there's issue they'll mandarin into stipulations with the applicant and ultimately if there is a hearing on issues they will participate fully in that process. The DEC staff serves amenable but then they also have a designee who serves as a Siting Board member, who's a separate staff, so they review the application and they ultimately will make a decision on the project. Jessica Klami - they will also have a hearing examiner in the DEC who oversees, so there are two (2) one from the Department of Public Service and one from the Department of Environmental Conservation, so the DEC is very heavily involved. CW E. Yerdon - have you had any meeting where our Ad Hoc's people have sat or not yet. Jim Muscato - with respect to the Ad Hocs they nominate them but until the application is filed they don't actually meet they don't have jurisdiction. Everything is reviewed by the Secretary, and decisions are made in the pre-application phase by staff of the Secretary, once the application is submitted, the Siting Board may contact the Ad Hoc members to assist them with reviewing the application, they may as the hearings progress the Ad Hoc members are free to attend the hearings and ultimately when they're writing out the decision the full Siting Board will be involved with that, the Ad Hoc members get some type of stipend to go to Albany for meetings, they will be either by video conference or in the room that they have decided what makes the decision, but that involvement with the Ad Hocs doesn't happen until the application phase. CW E. Yerdon - will they have any input. Jim Muscato - absolutely, so they serve as a full member of that board, they have a vote, they will have input and comments, and however the Siting Board winds up decides they are part of that decision. CW C. Bauer - about

the rebar and the river bed going deep if the concrete just won't hold it, you just don't know how many are going to need that rebar and how deep you're going to have to go. Walt Meisner - as far as a pile foundation, he thinks at this point in time we are proposing a spread footer foundation, we would only be considering a rock anchor probably not until much farther, if there was a reason for it, it's more of a specialty foundation, the reality is - he thinks what you're speaking of is a failed foundation system or something like that - it doesn't happen very often if much at all, then the concern of ground water or subsurface water - he would have to brush up on this specific project - aquifers for generally for subsurface water are very deep, hundreds of feet deep, rock anchor foundations for turbine like this is sub hundred maybe usually sixty - seventy (60-70) feet deep, so we are talking kind of different strata and so you're talking about water contamination even if that was a possibility, we are talking about significant difference in elevation, in addition we are talking rebar and concrete, so what is the potential for any type of impact, it's pretty negligible with those two components. Supervisor Tanya Yerdon - it is when you are talking about the aquifer though, the bedrock, obviously understands that you're not going to go down as far as the aquifer is but the bedrock, in places you probably will hit the bedrock, and that's her concern is water contamination from disrupting that bedrock and the run off. Walt Meisner - his question would be exactly what the concern is, in any kind of construction that you do if you encounter bedrock you scrape bedrock you get to a clear working surface to build the foundation, so the concern about fracture bedrock or that kind of thing, fracture generally don't go to an aquifer, if they would everything would contaminate an aquifer. Supervisor Tanya Yerdon - she's had people question - it's like fracking - you're going in and upset the bedrock and the water shed, so clarify that does it or does it not compare to fracking does fracking go deeper. Walt Meisner - yes fracking you're hitting oil reserves that are thousands of feet in the bedrock. Supervisor Tanya Yerdon - that comes up a lot to her - the word fracking. Walt Meisner - his understanding - he's not a scientist - his understanding is fracking - we are looking at reserves that are thousand two thousand feet and so you are actually pressurizing that hole and expanding and allowing the gas to come up, and so by doing that you are actually creating multiple micro fissures throughout the bedrock, this is really a physical activity on the top of the surface, if you would just kind of consider this, he apologizes for not knowing right off the top of his head, an aquifer is probably down here six hundred (600) feet maybe a thousand (1000) feet and so we are talking about disturbing the first ten or fifteen (10 or 15) feet, the reality is this happens all the time. Supervisor Tanya Yerdon - so much of our water is top level water, it's the watershed, from the snow, etc. She does realize there is a difference between the aquifer and the watershed. Walt Meisner - in generality that you're going to end up with a topography that is done, it's completed, during construction there's going to be the DEC, the DEC in New York, he's worked in New York for a very long time, the DEC is going to be very prescriptive in construction storm water controls, so anything that's within a construction envelope has to be treated and can't go off at a point of discharge, it has to be treated, it has to be over land flow, there's a number of controls, so that you're not even creating sediment discharge, it's pure water. Supervisor Tanya Yerdon - that is what she was concerned about the run off. Walt Meisner - so that's through construction, it's a prescriptive process and very dictated through the DEC, when you get to an operational there is still a prescriptive methodologies for storm water, so what will happen you might have different best management practices when you get into operations but the same holds true is that anything that is coming off the site has to meet the water standards of New York State. CM E. Webb - we get several hundred inches of snow up here, we usually get our January thaw in about April, and you open up that area up there it's going to give it a chance to melt and it's going to go down, he can hear Cottrell Creek a mile behind his place. Supervisor Tanya Yerdon - is the DEC on site when you're doing roads or getting ready to do things. Walt Meisner - he doesn't know what the specific standards are currently.

Jim Muscato - there will be an outside monitor that the Town hires or that the Town has input in hiring an independent monitor for the project during construction - DPS - the Department of Public Service also has staff that will ensure compliance with the certificate conditions during the construction, DEC in his experience does onsite inspections throughout construction and the fourth one is AGs & Markets does inspections throughout the construction, so between all of those different various monitors there are folks in the field during construction making sure the standards are met. Supervisor Tanya Yerdon - what about the Army Corp of Engineers - do they ever brought in on certain projects. Jim Muscato - if there's Federal Wetlands on site Army Corp would be involved if it meets a certain threshold, for this site it may or may not be the case, if it is that is a whole separate process, we would have to go to the Army Corp and apply for a separate permit for any impacts to Army Corp wetlands. CM M. Tompkins - so at present you are not proposing to blast for your foundations. Walt Meisner - we haven't done any geotechnical investigations, what would happen when they get to the point where we are proposing foundations, a design point where we know turbine foundations are, we would propose geotechnical investigation, we would drill to some certain depth, whatever the engineer needs to know, then they can map and calculate the strength of the bedrock, that will determine the final design of the foundation. Jim Muscato - in terms of the timing of that, that information has to be included as part of the application, there's an exhibit that requires an assessment of the geology and subsurface, that preliminary geo-tech work has to be included in the application, in order to determine things like to what extent blasting would be necessary or to what extent is the engineering that we're going to provide as part of the application is going to be adequate for the site, then there will be before construction there would be a final geo-tech investigation done on all the turbine locations that would be certified, then there will be reports that have to be submitted and DPS staff would review as part of the compliance filing to make sure the geo-tech matches the construction work that's going to be done. Walt Meisner - the preliminary will be enough information for them to determine, better assess and understand that our design is appropriate. With regards to your question about blasting - he wouldn't say that blasting's not necessarily required, but what happens is because we're only talking about a spread footer in concept design right now, that's ten or twelve (10 or 12) feet, if we encounter bedrock say at six (6) feet that blasting will be contained to the next six (6) feet, it usually holds very little over charge than that. Supervisor Tanya Yerdon - what do you do with the millings, if you have to blast what do you do with it. Walt Meisner - they are generally recycled and used at some point for road construction, they would bring a small portable grinder. Jim Muscato - the depth he's talking about is not that much. Walt Meisner - also depending on the contents of the material sometimes they prefer not to blast and instead an oversized excavator can sometimes rip right through it. Highway Superintendent Paul Pratt - is there anything that tells you, a guideline or anything how many bore tests you do per site. Walt Meisner - there is he can't speak to that right now, it generally at the end of the project it would be one (1) per turbine, sometimes it's much less than that, depending on the configuration and consistency of the bedrock, if they find that the bedrock is very or the subsurface profile is very consistent a crossed a site they can create maps and say we are very confident as an engineer that you're not going to encounter anything here or there and they will connect dots, generally one (1) per turbine. Highway Superintendent Paul Pratt - just working in the area there is such a variance of materials you run into in this area, from the South end of Town to the North end, sand and gravel on the South end, clay right to almost the surface half way through the town and there's rock as big as this room in other places. Walt Meisner - it that was the case and that's what they were encountering they would probably do a bore at each location. CEO Michael Yerdon - would your Storm Water Pollution Prevention Management plan be submitted with the Article 10 procedure. Jim Muscato - yes, a preliminary Storm Water Pollution Prevention Management Plan would be submitted.

A separate Engineer would be used. Jim Muscato - well it's different than the normal SWPPP, it's different than the ordinary process because of course the approval is part of the Article 10 process, so DEC would comment on the SWPPP and if there's any changes that need to be made to the SWPPP than the Applicant would have to make those changes and that would be approved by the Siting Board. Walt Meisner - sound - he thinks what they have proposed is 45dBA - one of the things that Jim mentioned last time it we looked at some of the other ones we would actually restrict the development within the Woodwise parcel by almost fifty (50%) percent, what they've encountered and been looking at is that 45 is kind of the standard at exterior homeowners residence and points of concern, that's kind of common through some of the literature over the last couple of days and that's kind of the standard they have seen pretty much everywhere. He doesn't know if there is anything that you would like him to specifically answer with regards to that topic.

Supervisor Tanya Yerdon - has asked at previous meetings, most of the data is on five hundred (500) foot tower, that's what concerns her is it's not on a six hundred (600) foot tower. Walt Meisner - for sound - what they have found from the technical aspect is that the sound profile from the generators are relatively the same, what happens is the sound source is relatively the same it's just a little bit higher, and so what happens is it does propagate respectfully, but what happens is you are also further away, so it has time to dissipate, what he would say in this instance is that their design guideline they would propose as 45, it would really be irrelevant of what tower they would use or what generating noise would be there, they would be managing so that anything they designed would met that 45 objective, so it could be louder or softer that would determine how they lay out and design the project.

CW E. Yerdon - what is the minimum distance between the towers, or does it depend on the site. Walt Meisner - it depends on so many variables he would hate to tell you something and then be quoted incorrectly, Dan what do we usually use. Dan Murdie - within a row a general number would be 3RD from row to row would be 8RD. Walt Meisner - so what happens is let's just say for intent purposes we have a row, that would indicate you have a prevailing wind, the wind is coming one direction, so what Dan is saying you could space these a little closer cause you have a prevailing wind but between this one and the next row you would need a longer spacing so you don't have waking affects to the next turbine, that's very depending on wind and the site so if they end up with a site where the wind is always around, it's kind of divided up in all different buckets and it's equal laterally goes in all directions, then the spacing would be a lot wider, and if it's prevailing this way they would have them closer this way (was using a picture to illustrate).

CM E. Webb - is that going to be far enough so when the ice shards is not going to hit the other one. Walt Meisner - ice throw is kind of debated quite frequently in this kind of setting, we don't have any kind of ice throw issue really out a very small circle of the turbine, generally the ice shed is mostly straight down. Jim Muscato - the turbines as he is showing aren't going to be close enough where they are going to be within each other's fall down zone. Walt Meisner - yes, we are talking this is three (3) times that distance. Supervisor Tanya Yerdon - three (3) times the. Walt Meisner - the rotor - so if the rotor is one hundred fifty (150) meters, three (3) of those fall down would be behind that. CM E. Webb - does one tower rob the wind from another - he knows in sailboats. Walt Meisner - yes that is what he was speaking to, the spacing really matters (was using a picture to illustrate).

Supervisor Tanya Yerdon - so that's what the MET towers are also accumulating - it's not just the wind speed. Walt Meisner - it's all of them, directional, wind speed, temperature, times, it's all of these factors, so that they can model with much more certainty, that's why the MET campaign goes for so long, is because as they go further and further they get more information and become more confident in their forecasting, because their business does go by the way of the wind, if it's windy out they are doing well. Supervisor Tanya Yerdon - so your MET tower is one hundred (100) foot, you're talking a five hundred to six hundred (500-600) foot tower, and you said you shoot with lasers.

Walt Meisner - its call Lidar. Dan Murdie - the MET towers are two hundred (200) feet, or one hundred ninety eight (198) feet, they have one (1) MET tower that is one hundred (100) meter that they put up last fall early winter - that one is getting right up to what hub light would be of our turbines, they also have three (3) lidars, that shoots beams as high as one hundred fifty (150) meters, so they can tell wind speed, wind direction at one hundred fifty (150) meters in the air. Walt Meisner - so what the lidars do - look at the MET mast that can be any height and then each MET mast doesn't have just one (1) measurement tool it has them at varying levels, so the idea is you're grabbing information at multiple levels and locations, and you can start to create a very complex model of how the wind is going, then the lidar also captures measurement speeds at the tip height, the idea for that is you can then calculate what's happening to the blade, so there would be a consistent wind speed across a blade, you wouldn't want something very hard on one end and not as fast on the other end, that can cause technical issues, it gets very complex, in general what they like to see is several years' worth of data before they start making design decisions, because all of the technology can be dictated to some extent by the meteorology. Supervisor Tanya Yerdon - so several years - they've only been up. Walt Meisner - they've been up a year already, so this coming up November would be a year number two (2). Terry Harlander - do you have the transmission lines routed yet. Walt Meisner - no - that's the next topic - so you have so pointed out - we are planning to go to a 345 line, the 345 line is about twenty (20) miles to the south by their calculations, and essentially their hope is to connect per a map he showed, no they do not have the transmission line fully routed, it's a very detailed process, it contains lots of landowner negotiations, and many different parcels, what he can tell you is they have no intent to come near the reservoir or no intent to come through the hamlet, we're hoping to staying entirely out of those two (2) areas. Supervisor Tanya Yerdon - hoping. Walt Meisner - we are staying out of those two (2) locations. Their intent is to find the most direct route outside of those two (2) locations, he will not discount the fact that they're also looking to go, we are also entertaining options to the West, to collocate with other lines, everything is on the table, we are looking at what's going to make the project successful, he will be very transparent a twenty (20) mile transmission line a large undertaking, we have already started it, he doesn't know how long ago, they are just getting to the point where we are starting to say ok this is not going to work, this is going to work or let's try this, it still requires a full Article 7 permit which is like Article 10 but totally different, it's a significant undertaking in and of itself, what he can tell you is we're not going to go through the hamlet and we're not going through the reservoir or near the reservoir, we are looking for alternatives, if there are concerns maybe not even in this venue, please let him know because they do want to be conscious of that, and if there's something that we can do, say make a design parameter around that we will do. Jim Muscato - that is part of the Article 7 process, this is getting way ahead, the Article 7 process is requires that they access alternatives, so part of the process they are engaged in now is looking at the various alternatives, so that ultimately as part of their application these are the alternatives we have looked at, these are the reasons this works better than this, they balance the various alternatives. Supervisor Tanya Yerdon - so pretty much everything is still on the table, as far as the power lines, still looking at all different avenues to a point, at one time when you first came here a year and a half ago someone mentioned burying them, and we asked later on and of course then it was definitely no we aren't going to bury them, so what she's asking is that even an alternative. CW C. Bauer so where do you put them. Walt Meisner - on a pole overhead, yes the current plan is overhead, Jessica is getting a couple examples, yes we leave options open because we don't know what the detailed design is going to look like, he handed out an examples, and copies for whoever wants them. Essentially what this goes through is really just details the process they are going through and rules of thumb. They are looking at different options, Supervisor you what you indicate is this question about structures, we try to leave the design open to the engineers, that will be somewhat dictated by the property that they sign, how wide and where they have to turn or

topography, crossing roadways, it's really hard for them up front to say we are going with this design, generally what they would find for a line this size is a wooden H frame, Steel H frame or a steel monopole, he thinks a lot of people think the of the size of line they are talking about and they think to Marcy, the large lattice structure, they are not proposing that and would probably stay away from that, for all intensive purposes that's not their development game, what they are typically looking at is like the 115 line that you see up north, that kind of the size they are looking at. CM E. Webb - what's the distances between the poles. Walt Meisner - that will be varied by the design and topography, structure spacing that their engineers said initially they start with eight hundred to a thousand (800 - 1000) feet, and that would be brought in if they need to get over certain passes, the right of way width, what they are looking at to procure would be about one hundred fifty (150) feet, they don't use all of that, that's kind of just for access, what's cleared is much less than that, it more or less so they have enough room to design a line with as few turns and structures as possible. He apologizes that we're at the point where we are with the project, things aren't fully in sync cause the transmission line is taking a lot longer than we anticipated, kind of getting to the point when we can propose something, but as soon as they have information they will be more than happy to share that, this is processing a little bit faster, but don't forget Article 7 will have to catchup because they can't put them up here until we can interconnect, so at some point one (1) of them will dictate the schedule. Mitch Yerdon - so you are going to have power demands, does that come in the same way the powers going out or do you have another line. Walt Meisner - we don't have very much power demand actually. Mitch Yerdon - you have oil pumps and transformers and all that. Walt Meisner - so the substation will probably be further down, they might have a collector substation where they step-up and then go down further, there will probably be back feed power, he can't tell where that will be coming from, he's not brushed up on that. Mitch Yerdon - he wasn't sure if you were going to have another line. Walt Meisner - no - if anything the power that's generally used for a project site is local distribution, it's very small power that's typically used, he can't speak to that he's not an electrical engineer, but he can find that out, but they would not be proposing an additional separate line, there's one (1) line that would take the power down, and that would be it. You're talking about back feed power for the project, correct me if I'm wrong Dan, but he would say that is magnitudes less than what we are out putting, so what he's seen is generally they will supply a yard from the local distribution line. Mitch Yerdon - because right now the line that goes up Little John drive is about as big as his thumb. Walt Meisner- they would look at that through the design process, if they needed something different there they would talk to the local utility about upgrading the service like anyone would if they were building a house up there and need a three (3) phase service, but generally the usage is an operation building and some back feed power for a couple transformers, and things like that, so the station service is generally pretty minimal, when they start them before everything's connected you can run most of that off generators, so it's that kind of level of power. CW C. Bauer - then who's going to benefit from this power, where is this power going to go. Walt Meisner - the power goes to the grid right where they would be interconnecting at the 345, electrons go where electrons go. Supervisor Tanya Yerdon- you want to know who's going to benefit from it, it's down state, it heads to Marcy, you're going to connect at Marcy and that's where most of that power heads is down state. Walt Meisner - but from a commercial strategy what they would be looking for is a NYSERTA, looking at State driven economics, within the State they would look at independent power purchasers to market, as well as to hit the market, so at some point the introduction of more power hopefully drives the prices down for everyone. Supervisor Tanya Yerdon - she sees that going up Little John Drive the broadband lines, do you guys collect data off each turbine, is that how the new ones are that you can collect data right through, the broadband lines are up Little John is that how you get some of your information off of each of the turbines. Walt Meisner - can't speak to the broadband going up Little John. Dan Murdie - they run their own fiber optics through the project.

Supervisor Tanya Yerdon - but you have to connect into. Walt Meisner - what happens is they will at some point they will have a fiber optic line, and so whoever provides that service, offers that service we will be connecting. He doesn't know what you are speaking too. Through the design process they would find out where that local line is for service, if there's not a service they would have to figure out how they are going to bring service in. Supervisor Tanya Yerdon - amazing enough Redfield got two (200) million dollars to put it in, and it's already up Little John, so she thinks that's been taken care of for you. Walt Meisner - can't speak to that, our projects are generally operated locally but they're also monitored by National Control Service, that center is actually in Portland, Oregon, that control center operates all of our wind plants across the country, they have the ability to turn on and off turbines, they have the ability to identify turbines that are not functioning, they are basically their headquarters and brain, the local folks have the ability to do things mechanically here, but when they need all stations stopped or something like that they call the control center and they take care of that, so that's why the fiber is a big deal for them.

Supervisor Tanya Yerdon - going back even farther, you're going to have batch plants in there obviously for the concrete, so the water, so do you bring water in, or do you drill for a well. Walt Meisner - they would figure out what they have to do, they have done both, some projects they will truck water others they have set a well. Dan Murdie - at Maple Ridge they drilled a well. Jim Muscato - in terms of the quantity, New York State has well usage permit, they've had them for a couple years, the DEC issues these permits, the water usage for batch plants doesn't come anywhere near those permit levels. Walt Meisner - the water usage is pretty minimal, he would say they have done in another state a small project they did it with just surface withdrawal, because it was within the permit limits, the quality of the water is obviously one of the issues because you have to have PH balanced water, etc., the batch plants are trucked in, they are not that large, they are basically trucked in on a truck, the ones he's worked with, they set them up they are relatively small in footprint, and then they are taken away, they are pretty movable, the water is stored right there, the rock and stone and other supplies are brought in. Supervisor Tanya Yerdon - tell me if I'm wrong, this is a pretty good size project. Walt Meisner - this is definitely. Jim Muscato - but even then, though you can look at the batch plant for example, you can look at the size of the project and if it's multiple batch plants, that's something that's all going to be in the Article 10 application, that's going to be looked at. Walt Meisner - the logistics of that, there is a lot of considerations for just a batch plant specifically, the time of concrete, time of duration, location distance, there's a possibility probably a likely hood that they would be looking at a couple of batch plants, and redundancy, as far as the size of the project, just in context - their biggest project is located in the US is in South Texas, thinks it's a six hundred (600) megawatts, there's three (3) projects that have been combined, it's essentially six hundred (600) megawatts, one of their smaller ones is just over here in Western Mass - that's twenty eight (28) megawatts, they vary in size, this is kind of right in the middle.

John Yerdon - when you pour the concrete, the concrete will be poured continuously. Walt Meisner - yes - no cold joints are allowed. Supervisor Tanya Yerdon asked the board if they had any more questions. Jim Muscato - there was the overlay and the road agreement. Walt Meisner - gave Highway Superintendent Paul Pratt a copy of the example road agreement, it's the Martinsburg one which is up to date. CW E. Yerdon - has one more question about the Article 7, is there an application involved with that or is there a board that looks this over. Jim Muscato - the Article 7 application is reviewed by the Public Service Commission, the application for the Article 7 is somewhat similar to the Article 10 in that it looks at the environmental impacts, it looks at electrical impacts, it's a completely separately process, Article 7 will have an application, it will have public statement hearings, it will go to decision by the Commission and the Siting Board on the Article 10 side will do its thing in a completely separate track so it's two (2) entire separate processes. CW E. Yerdon - but would we have a chance to do comments once that's filed same as the Article 10. Jim Muscato - the difference there's an intervener fund in the Article 7, towns can

07/02/2018 pg. 9 of 14

apply for a party status just like in the Article 10, there isn't the same pre-application phase in

Article 7, so you don't generally you don't see public involvement plans, PIP's, you don't see a scoping plan in Article 7, usually the first step in the Article 7 process is the filing of the Article 7 application, that's one big difference between 7 and 10, but otherwise at the point when the application's filed, we're going to be talking to you guys months in advance of the Article 7 being filed, already presenting additional information about the line at that point and really giving same way we did as the Article 10, what we're saying sometime next year, at the second half of the year, we will be doing with the Article 7 whenever we anticipate that, it's just too hard for them to estimate that at this point. CW E. Yerdon - but at one point they kind of will run together, at the same time. Walt Meisner - in a perfect world they would have them end at the same time, so that they would be able to start construction, he can't speak to what the time frame will actually line up, even though there might not be public participation, they would most certainly come here once they have a better idea of what their plan is and have things a little bit more finalized and he would be more than happy to present that to the board, in a setting like this. Jim Muscato - there is public participation it's just not as early as Article 10, Article 10 requires that you start your pit process really almost a year before you file your Article 10 application if not longer, Article 7 just doesn't have that same pre-application in the statute it doesn't have that same pre-application phase. Walt Meisner - if there are no more specific questions and feel free to jump in if something comes to mind, Jim also prepared some language, one thing that was brought up last time was that if we make some of the modifications to the wind law as they are proposing that there might be concerns regarding future projects, so the way they have thought about countering that concern would be a wind district overlay or some sort of mapping that would exempt certain areas and allow other areas to be a little bit more, not fall under this wind study, this is kind of a couple different drafts. Jessica Klami - this is just a redline of the language that is already in the proposed law, you did have a wind overlay definition, you did have a section that deferred the creation of a wind overlay, that just changes that instead of deferring the wind overlay you would create it when you pass the law so you would just attach a map with the passage of the law, it's just a tweak in the language. Jim Muscato - he thinks the language was just a leftover from the original draft, because your law doesn't have, it didn't have any other components to an overlay to it, so they just took the definition that was already in there, they just added to it so it's more specific, to address the concern Matt raised. CW E. Yerdon this would have to be a local law or a change in the zoning or wind law. Supervisor Tanya Yerdon it would be a change in the wind law. Walt Meisner - so other than that, that's all they had to present tonight and hoped it's answered some questions and we've been able to give you some information that's timely for your decision, we truly appreciated the opportunity to have this dialogue, he thinks is really helpful and constructive, like Jim and everybody else on the team has always said, that if you have any questions please feel free at any time to reach out, we are more than happy to answer them, we're more than happy to come back and have another session like this, if there's additional questions come up or whatever we are more than happy to do that. We truly think that this is a good public thing, it's a great project, it has a lot of benefits locally too, and so they haven't spoken to that but at some point we can start that conversation too, there are some materials back in the corner, there is a lot of benefit locally, we don't want to be that company that just comes and wants, we also want to give back to the community and be a long term neighbor that's how are business is built, so he would just leave us with that is, we do want to develop constructively with the town and all the local municipalities and they want to be constructive and we also want to give back, that's something that is definitely in our best interests and he thinks it also helps the local communities as well, thank you very much for the time. Jim Muscato - as you could tell from Walter's presentation the information they provided tonight was really targeted to concerns and questions that have come up in previous meetings, and so he thinks that is why Walter

are so that they can address them through presentations, and through outreaching information to you, he really thinks that's the best way for you to get the answers that you're looking for that's not good, or bad or otherwise, it's just that's the information, so they appreciate the feedback they've gotten to date, and again that's why they targeted the information we presented tonight the way we have, thank you guys. Francis Yerdon - what's the total acreage you have leased from Woodwise for the project. Walt Meisner - just under twenty thousand (20,000) acres. Francis Yerdon - of that twenty thousand (20,000) acres when you get all your sites and roadways and stuff up, what percentage will be cleared. Jim Muscato - its .0 something percent, we addressed this question months ago, so we can provide that at a future meeting, he doesn't recall the number. Walt Meisner - it's less than one (1) percent much less. Francis Yerdon - are you going to keep the roads open year around for maintenance and stuff on the site. Walt Meisner- we've not indicated either way, but he doesn't believe they will, its snow country up here. Francis Yerdon - that's a big issue up here. Walt Meisner - his understanding is access to the site would be like Maple Ridge. Dan Murdie - they have track vehicles to access Maple Ridge to access the sites that aren't plowed, he thinks there are four or six (4 or 6) for maintenance. Francis Yerdon - have you seen the study that Camp Drum put out - the interference that this will impose on the Doppler and stuff like that, have you taken that into consideration at all. Walt Meisner - sir we are in active discussions with Fort Drum, through the DOD process and things are actually proceeding very well, we're in a position where we don't want to negatively affect the Fort, we don't want to create any issue, there's ways around that and so they would design the project appropriately. Francis Yerdon - that was pretty interesting paper they put out. Walt Meisner - Fort Drum did. Francis Yerdon - the study - the Joint Commission did. Dan Murdie - if anyone is interested Maple Ridge also has a 230 line with the H pattern poles - he would be happy to take anyone over and show them, it would certainly be similar to what they are proposing here - it's a 230 line instead of the 345 line, it's a ten (10) mile line they have from the project over to the Town of Watson. CM E. Webb - are they steel or wood poles. Dan Murdie - they're wood poles, a few of the turning poles are steel, but for the most part it's the H Frame wood pole. John Yerdon - are they ninety (90) footers. Dan Murdie - yes he thinks so. Supervisor asked the board if they had any more questions, so now it's up to the board to discuss this, do you want to discuss the Wind Overlay. CW E. Yerdon would like to discuss the 35 dBA, page 14 of the Law. As she has stated in three (3) meetings, she thinks that 45dBA is reasonable, this is at the property lines right Matt, she realizes it would be a constant noise, it wouldn't be like a chainsaw running. CM M. Tompkins - yes it's at the property lines. CW E. Yerdon understands that some have hours. Supervisor Tanya Yerdon - obviously the first set of Town's she went through the other night there's no projects there, some of the other ones have amended their laws to 45 dBA to 50dBA, they had the hours differential in there. Tanya asked Matt - on the bottom of pg. 14 it says The operating WEF sound shall not exceed 35 dBA (Leq) or 50 dBC (Leq) for more than five (5) consecutive minutes, so if we did change it to 45 would the 50 change? CM M. Tompkins - he thinks they are related. Walt Meisner - he actually brought this up to one of the sound guys - dBC is not a great standard, it's very hard to measure, almost unapproachable, his recommendation is always look at the dBA. CM M. Tompkins - this acoustic paper from last summer, they talk about how the A rating is the one to use because to date - nobody's been able to prove that it's not. Walt Meisner - it's kind of the standard, the dBC is hard to equate. Supervisor Tanya Yerdon - most of the laws that we compared to have just the dBAs that we looked at. The board members looked through some of the studies and laws on sound. Supervisor Tanya Yerdon - one thing that worries her is these are all based on five hundred (500) foot towers, I guess it doesn't matter because it will be from the hub. CM M. Tompkins noise is noise, 35 or 45 off this turbine is the same as it is off this turbine as far as we care? Minnesota

and upper limits. Which kind of speaks to restriction at night time or part of the day, which might make more sense for us, he doesn't mind a quieter noise level at nighttime and a higher day time. Obviously the wildlife is a concern, the people that come up for the enjoyment of their property and can't sleep because of the noise. Supervisor Tanya Yerdon - asked Matt is that something you want us to look into separating it. CM M. Tompkins - doesn't think it would be a bad idea, we've got some people that like the quieter noise level and some like the higher noise level, met somewhere in the middle protect our local residents and out of towners while they are trying to sleep and maybe more noise during the day. Supervisor Tanya Yerdon asked the board their thoughts. CM E. Webb - doesn't know he's never heard a windmill. Supervisor Tanya Yerdon - here's an example of what they've come across - 7am to 7pm shall not exceed 45dBA, 7pm to 7am shall not exceed 35dBA, Cape Vincent is 7am to 7pm shall not exceed 45dBA, 7pm to 10pm shall not exceed 40dBA, 11pm to 7am is 35dBA, Hammond split there days up and times, she just wanted to give examples of how some were split. So we put this in our law, who determines this. Jim Muscato - in the application we would model it to show times with the standards, obviously it's a standard we can't comply with, then post construction the DPS staff is going to enforce it, they would have a protocol that will require them to do post construction monitoring, they submit that to them they can do independent testing, they said they will do that for the Cassadaga project and then the Town can also do independent testing, it will be modeled beforehand to show compliance and it will be tested after, it will be enforced by the Town's Independent Expert. Supervisor Tanya Yerdon - there's another one that is 45 during the day and 35 at night. Jim Muscato - he thinks this point is worth making, the eight (8) hours/eight (8) hours and twelve (12) hours/ twelve (12) hours' time frames just from the developers side, what ends up happening is, they would have to model it to comply with the lowest standard, it's not like a different source, for a wind turbine you are operating at the same level all the time, you can't turn it on and off, there is no setting for that, so in affect whatever you set for the nighttime limit is really a twenty four (24) hour limit. CM M. Tompkins - can't you pitch the blades of the ones closest to the property lines at night. Jim Muscato - pitching the blades doesn't do anything for the generation. Walt Meisner - what you're asking is could we curtail and not operate certain turbines, the reality is if we're doing that twelve (12) hours a day it's not going to be productive we wouldn't be able to make that work, we would effectively model to the lower standard if we could, the other thing those 50 standards that you generally see are at residents, your current law proposes at the property line, so you are even further out, so you are already creating some conservatism just with that difference. Supervisor Tanya Yerdon - asked the board what they wanted to do. CM M. Tompkins - can you give us an idea how far away from the property line you have to be with the turbines you intend to propose before you are down to 45dBA or 35dBA can you give us that, he knows it depends on a lot of things, but there's got to be a number, obviously it's got to be bigger than fifteen hundred (1,500) feet or we wouldn't be here. Jim Muscato - he thinks it was for 35, the fifty (50) percent they talked about last time, he thinks it was based on five thousand (5,000) meters, so that's why if you looked at a mile around the boundary line that's how that number eliminated all those turbines you see to get to 35, as far as 45 he doesn't know if there's a number, to be honest he doesn't know for a fact if there's going to be turbines lost at 45 at the property line, that's why they talked about 45dBA at residence. CW E. Yerdon - do you think at the 45 that would allow the number of turbines you are planning. Walt Meisner - he thinks it would be close because what's modeled up there is for 45 at the residence, making it 45 at the property line, they are going to have to re-look at that layout to see if it's going to work, the model of 45 at the residence is kind of their standard, we want to work with you guys.

07/02/2018 pg. 12 of 14

CM M. Tompkins - 45dBA is rated to a typical suburban background noise, he doesn't think most people that have camps up there want to hear typical suburban area outside of their houses, he

doesn't know. CW E. Yerdon - but there aren't any camps on this property are there. CM M. Tompkins -there's going to be other wind projects. CW E. Yerdon - that's why she thought we would create an overlay district, that's just her. Town Clerk - Susan Hough - when Christmas comes in and does a development, my father has lived in his house for sixty (60) years and now has twenty (20) neighbors, they say well then you should have bought the property, there's nothing he can do about, it's on the same idea. Supervisor Tanya Yerdon - they looked at the map, where residence and camps are. Superintendent Paul Pratt - how big of a distance would it take to go from 50 to 45, just your opinion nothing he's going to hold you too. Walt Meisner - maybe fourteen - fifteen hundred (1400-1500) feet, sound attenuation is so tricky. Paul said he understands that - the terrain and foliage, and everything else to go with it. Walt Meisner - the other thing to keep in mind is when the wind is blowing and we are producing at that full sound power, that's when we are fully producing, the wind is also blowing at our level, many times that noise is just as loud as or louder than the turbines, this is a very serious conversation you are having, and at the end of the day, when the towers are really producing at full capacity, your sound at your elevation is higher. Superintendent Paul Pratt - is there a speed of the wind that's going to make it to full power, is there a certain number. Walt Meisner - yes - when the turbine gets to a certain wind speed it maxes out, he doesn't know the number off the top of his head. There was much discussion on the wind speed generating the maximum noise. Terry Harlander - worked at the paper mill a good share of his life, they worked between ninety and one hundred (90-100) decibels with hearing protection, and it was always their understanding that if they were working at ninety (90) decibels and it went to ninety one (91) it wasn't one (1) more decibel higher it was actually ten (10) times what the ninety (90) was, so if we're talking forty five (45) and we go to forty six (46) it's not one(1) decibel more it's actually ten (10) times. Walt Meisner- it's not ten (10), it varies. CM M. Tompkins - ten (10) decibels is basically twice as loud, from forty (40) to fifty (50) it's twice as loud. There was much discussion on the measurement of the sound. They looked at the map, Paul pointed out where the camps, residence would be affected, he will be a third to half (1/3 to 1/2) mile from tower, you're not going to be fifty (50) over the property line, with a forty-mile hour wind to do that- he doesn't think it will make a difference, you will be listening to the wind. Jim Muscato -you can monitor by a residence a lot easier and better than you can at the property lines, that's why most laws use residence, it's a point. CW E. Yerdon - doesn't this says both right now with the WEF boundaries and at property lines of approximate residence. Jim Muscato - that's actually a really good question, he hadn't noticed that before, that would have two (2) conflicting. Rob Brenner - We talked at great length when you were considering the Zoning Law, district boundaries, how to draw it based on resources that are in the Town, he doesn't think it should be assumed, Jim and Walter might not like this, that the overlay district necessarily needs to follow the boundaries of the Woodwise parcel, so to the extent that there is a cluster of cabins or a home, you could draw maybe the overlay district boundary five hundred or a thousand (500 or 1000) feet in from the Woodwise property boundary to soften that buffer area to pull the towers further into the Woodwise property, so that could be an additional measure to try to lessen the sound for particular homes or resources in the area that you might be concerned about or a cluster of camps, so you could kind of make the map around those. Jim Muscato - the easier way to deal with that is to have a standard, drawing of boundaries can be just a headache. Superintendent Paul Pratt if you are measuring that at the residence what point would you measure from. Jim Muscato - the standard is twenty-five (25) feet from the external boundary. Supervisor Tanya Yerdon - doesn't think it's just as easy as putting 35 or 45dBA in there, she thinks they need to do more research, maybe she's wrong. CM M. Tompkins - no he thinks that probably simplifies it, a lot of laws go by the ambient noise.

07/02/2018 pg. 13 of 14

John Yerdon - at the last meeting you said the new towers were quieter, why do you need a higher

standard? Jim Muscato - if you look at most of the laws they are at 50dBA. There was discussion regarding the sound levels at the property lines, residence. Supervisor Tanya Yerdon - why don't we just do the research on this, we don't have to do this, we have questions, there are things for us to look into. The board agrees to do more research because they still have too many questions. Supervisor Tanya Yerdon - also have to research the five hundred/six hundred-foot towers, she knows they are changing daily. We need to get some answers, we are at an impasse, this needs to be re-written in some places, we have time, this board cares, we care about the project, our residents. Thank you very much for the presentation.

Motion was made by Erwin Webb seconded by Elaine Yerdon to adjourn the meeting at 9:10pm.

ADOPTED Ayes 5 T. Yerdon, E. Yerdon, E. Webb, C. Bauer, M. Tompkins

Nays 0

The next Town of Redfield Town Board meeting will be held Tuesday, July 10, 2018 at 7:30pm.

July 2, 2018

Susan Hough, Town Clerk

07/02/2018 pg. 14 of 14