

CHAMPAIGN COUNTY ZONING BOARD OF APPEALS NOTICE OF REGULAR MEETING

Date: **February 26, 2009**
Time: **6:30 p.m.**
Place: **Lyle Shields Meeting Room
Brookens Administrative Center
1776 E. Washington Street
Urbana, IL 61802**

**Note: NO ENTRANCE TO BUILDING
FROM WASHINGTON STREET PARKING
LOT AFTER 4:30 PM.
Use Northeast parking lot via Lierman Ave.,
and enter building through Northeast
door.**

*If you require special accommodations please notify the Department of Planning & Zoning at
(217) 384-3708*

EVERYONE MUST SIGN THE ATTENDANCE SHEET – ANYONE GIVING TESTIMONY MUST SIGN THE WITNESS FORM

AGENDA

1. Call to Order
2. Roll Call and Declaration of Quorum
3. Correspondence
4. Approval of Minutes (February 12, 2009)
5. Continued Public Hearings

Case 634-AT-08 Petitioner: **Zoning Administrator**
Request: **Amend the Champaign County Zoning Ordinance as follows:**

- A. Authorize the County Board to approve Special Use Permits (SUP) and to change the requirements for development of wind turbine developments (wind farms) to a County Board Special Use Permit (CBSUP) and a rezoning to the new Wind Farm Overlay Zoning District (WFO);**
- B. Change the requirements for private wind turbines; and**
- C. Add a requirement for a CBSUP for subdivisions in a Rural Residential Overlay District.**

6. New Public Hearings
7. Staff Report
8. Other Business
9. Audience Participation with respect to matters other than cases pending before the Board
10. Adjournment

*** Administrative Hearing. Cross Examination allowed.**

MINUTES OF REGULAR MEETING

CHAMPAIGN COUNTY ZONING BOARD OF APPEALS

1776 E. Washington Street
Urbana, IL 61801

DATE: February 12, 2009

PLACE: Lyle Shields Meeting Room
1776 East Washington Street
Urbana, IL 61802

TIME: 6:30 p.m.

MEMBERS PRESENT: Catherine Capel, Thomas Courson, Roger Miller, Melvin Schroeder, Eric Thorsland, Paul Palmgren

MEMBERS ABSENT : Doug Bluhm

STAFF PRESENT : Lori Busboom, John Hall, Jamie Hitt, Leroy Holliday, J.R. Knight, Christina Papavasiliou (Assistant State's Attorney)

OTHERS PRESENT : Bill Fabian, Sam Smucker, Dwight Farber, Alan Kurtz, Tim Polz, Michael Jarboe, Daniel Cain, Hal Barnhart, Steve Burdin, Tom Walsh, Delmer Castor, Scott Hays, Barbara Wysocki, Alan Nudo, Jan Anderson, Stephanie Holderfield, Jerry Watson, Russ Taylor, Neil Malone, Vic Smith, Carl Smith, Sherry Schildt, Herb Schildt, Brian Sullivan, Mike Miller, Eric McKeever, Barbara Gerdes, Robert Gerdes, Jim Meadows, Victor White, Bruce Stickers, Gerald Henry, Mike Babb, Dean Rose, Eric McKeever, Rob Parker

1. Call to Order

The meeting was called to order at 6:35 p.m.

Mr. Hall informed the Zoning Board that Mr. Doug Bluhm, Chair, is absent tonight therefore the Board needs to appoint an interim Chair for tonight's meeting.

Mr. Miller moved, seconded by Mr. Courson to appoint Eric Thorsland as interim Chair for the February 12, 2009, Zoning Board of Appeals meeting. The motion carried by voice vote.

2. Roll Call and Declaration of Quorum

The roll was called and a quorum declared present.

3. Correspondence

None

4. Approval of Minutes

None

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5. Continued Public Hearing

None

6. New Public Hearings

Case 634-AT-08 Petitioner: Zoning Administrator Request: Amend the *Champaign County Zoning Ordinance* as follows: A. Authorize the County Board to approve Special Use Permits (SUP) and to change the requirements for development of wind turbine developments (wind farms) to a County Board Special Use Permit (CBSUP) and a rezoning to the new Wind Farm Overlay Zoning District (WFO); B. Change the requirements for private wind turbines; and C. Add a requirement for a CBSUP for subdivisions in a Rural Residential Overlay.

Mr. Thorsland informed the audience that there are a lot of signatures on the witness register and the Board would like to give everyone the opportunity to present their testimony although redundant testimony will be limited. He requested that if, as a witness, you agree with previous testimony then simply state such and present any new testimony that you may have. He requested that County Board members refrain from presenting testimony at tonight’s public hearing.

Mr. Hall distributed two Supplemental Memorandums dated February 12, 2009, to the Board for review. He said that Supplemental Memorandum #1 includes an Attachment A. Source of Brief Justification of all Proposed Standard Conditions which is a comprehensive listing of all of the conditions proposed for the Special Use Permit. He said that the purpose of Attachment A is to make it very clear where the special conditions for the proposed Special Use Permit came from. He said that attached to Supplemental Memorandum #1 are Attachment B and C regarding impacts of wind farms on property values. He said that there are no conditions related to property value impacts and the two attachments indicate that there are no identified impacts on property values. He said that he has spoken with other Zoning Administrators from other Illinois counties and not one indicated that they have identified any effects on property values. He said that before tonight’s public hearing he was asked about all of the evidence on the internet regarding property value impacts. Mr. Hall stated that he has provided the attached evidence but other people can certainly submit additional evidence for the Board’s consideration.

Mr. Hall stated that Attachment D of Supplemental Memorandum #1 is Section 7: Protecting Existing Drainage of the Champaign County Stormwater Management Policy and is relevant to the condition regarding agricultural drainage. He said that Attachments E and F are two articles related to the apparent problems with aerial application of herbicides in the vicinity of wind farms. He said that this seems to be a matter of some agreement therefore for the rest of this hearing, unless evidence is presented otherwise, it is his position that wind farms are not compatible with agriculture to that respect at least.

Mr. Hall stated that there are two attachments to Supplemental Memorandum #1 related to the proposed requirement for a wildlife study. He said that one of the separate attachments is the report by the Illinois Department of Natural Resources (IDNR) dated June 2007 which is not very useful. He said that the IDNR

2/12/09

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1 is the relevant state agency and this is their report on wildlife impacts and basically its position is that there
2 are no impacts. He said that the other report which was provided is the report that he found most useful in
3 his survey of everything that he could find on the internet. He said that Attachment G is from the
4 Washington Department of Fish and Wildlife which indicates that there should be studies to assess whether
5 there are likely to be impacts on birds and bats. He said that this study is consistent with the *Model*
6 *Ordinance* and the draft that he proposed for the Board's consideration but again that is a proposal and it is
7 up to the Board to modify it as the Board sees fit.

8
9 Mr. Hall stated that a separate attachment has been included titled *Pipeline Construction Standards and*
10 *Policies for Agriculture Impact Mitigation* recommended by the Illinois Department of Agriculture. He said
11 that these policies are relevant to the condition for protecting agricultural drainage. He said that obviously
12 there are no pipelines associated with wind farms but to the extent that the developer would propose to do
13 underground wiring it has been suggested that this is a good standard to follow. He said that it is not clear to
14 him at this point if the *Ordinance* should just reference these things or if the relevant portions should be
15 excerpted. He said that it is not actually an Illinois Department of Agriculture requirement so it is a little
16 hard to reference something that is not a requirement.

17
18 Mr. Hall stated that as a separate attachment to Supplemental Memorandum #1 are two road upgrade and
19 maintenance agreements for the wind farms in McLean County. He said that one of the agreements is
20 between the County Engineer and the wind farm developer and the other is between the Township Highway
21 Commissioners and the wind farm developer. He said that the reason why he has provided these two
22 documents to the Board for review is because what is in the proposed amendment is what he excerpted from
23 the two documents as to what seemed reasonable. He said that he requested that Jeff Blue, Champaign
24 County Engineer, review the proposed amendment and Mr. Blue has gotten his comments back to him. Mr.
25 Hall said that when there are existing documents that he is referring to he is more comfortable in distributing
26 copies to the Board so that the Board can identify for itself if there are other portions of the document that
27 need added to the proposal.

28
29 Mr. Hall stated that Supplemental Memorandum #2 dated February 12, 2008, has no separate attachments
30 and has additional background information on our existing wind turbine requirements. He said that from a
31 staff level he was not involved with the text amendment in 2000 which added wind turbines to our *Zoning*
32 *Ordinance* and he did not recall how it came to be that we went through that exercise without ending up with
33 any requirements that would be relevant to wind farms and Supplemental Memorandum #2 makes it very
34 clear how that happened. He said that most relevant is that the Finding of Fact for Case 236-AT-00 states
35 that Champaign County expected that large scale wind turbine facilities will need to be located in rural areas
36 and approval should be a combined rezoning and a Special Use Permit. He said that unfortunately through
37 the process of reviewing the amendment that completely fell out.

38
39 Mr. Hall noted that in the Preliminary Memorandum dated February 6, 2009, he made a typographic error on
40 Page 2, Paragraph 3. He said that in the memorandum he stated that eight of the nine ELUC members at the
41 November 6, 2008, meeting voiced support for the alternative for both a map amendment and a County
42 Board Special Use Permit for wind farms. He said that he was trying to squeeze too many thoughts into one
43 sentence. He said that what actually happened at that meeting was that there were eight of the nine ELUC

1 members at that meeting and of those eight, four voiced support for the map amendment approach. He said
2 that the one member who was absent from that meeting had previously voiced some support for the map
3 amendment approach therefore in his mind a majority of the nine ELUC members had voiced support for the
4 map amendment approach. He said that in 2000 this was the approach that Champaign County was going to
5 adopt before they had to make changes following municipal comment and it was the same feeling again in
6 2008 by ELUC. He said that it doesn't matter what ELUC's direction was but what does matter is what the
7 current ZBA recommendation to the County Board is. He said that this issue has happened in a recent text
8 amendment where the ZBA recommended something that was different than the direction that had been
9 given by ELUC and if the evidence takes you there the Board could do the same thing with the wind farm
10 amendment. He said that the ZBA should recommend to the County Board what it thinks is adequate for the
11 regulation of wind farms.

12
13 Mr. Hall stated that attached to Supplemental Memorandum #2 dated February 12, 2009, is the Finding of
14 Fact for Case 236-AT-00, and the Board can see for itself that Item #11 clearly states that the County Board
15 anticipated that these things would be located in rural areas with a Special Use Permit and rezoning. He said
16 that the Finding of Fact included a Proposed Text Addition, which was subsequently changed, and the
17 Approved with Amendments September 13, 2000, minutes is where the basis for that change was discussed.

18
19 Mr. Hall stated that included in Supplemental Memorandum #2 is a listing of 20 relevant items regarding
20 whether it is really justified to use the map amendment approach for wind farm development in Champaign
21 County. He said that he has mentioned in previous memorandums that there is no other county in Illinois
22 that takes that approach but that does not necessarily have to be an issue because it is our *Zoning Ordinance*
23 and it is whatever the County Board wants to make it. He said that in talking with the wind farm
24 development representatives they are not keen on it because they do not understand why Champaign County
25 has to be different than everyone else, which is irrelevant. He said that if you are a wind farm developer a
26 map amendment adds extra risks and they really do not want extra risks if it isn't absolutely necessary. He
27 said that it is extra risk because a map amendment provides protest rights for adjacent land owners and
28 provides protest rights for townships that have plan commissions. He said that if enough adjacent land
29 owners are unhappy they could trigger the super-majority requirement for the map amendment. He said that
30 frankly he believes that the County Board should be concerned if that many neighbors are unhappy about a
31 proposed wind farm but it is the County Board's decision as to how they want to handle that issue. He said
32 that perhaps what causes the wind farm developers the most concern is that they don't even have to have a
33 protest it can be just a change of mind on the part of the County Board. He said that the County Board does
34 not have to, in a detailed way, justify the inability to approve a map amendment although they are
35 encouraged to and no doubt they could come up with good reasons but a wind farm developer would not like
36 to see that much freedom on this decision especially when other counties do not think this is necessary.

37
38 Mr. Hall stated that one part of the amendment is to amend the purpose section, Chapter 2, of the *Zoning*
39 *Ordinance* to indicate that facilitating the development of renewable energy is a purpose of the *Zoning*
40 *Ordinance*. He said that this is as far as he can go to make sure that any denial of a wind farm would have to
41 be for good reason otherwise you are not promoting the purpose of your own *Zoning Ordinance*.

42
43 Mr. Hall stated that there are three parts to this case. He said that Part A is the most important and most

1 critical. He said that the ZBA has not been presented with all the changes necessary to facilitate Part A. He
2 said that Part B is changing the requirements for private wind turbines. He said that he hopes that we can get
3 Part B done during this hearing but frankly he is not going to get to that until he can provide everything for
4 the major wind farms. He said that Part C is proposing to make subdivisions in the Rural Residential
5 Overlay Zoning District a County Board Special Use Permit. He said that staff has been meaning to do this
6 for a long time therefore he has added it. He said that if it receives much opposition it can be dropped from
7 this amendment but there is a point a view that it is such a small part of this amendment that it could be
8 easily overlooked and we do not want people to overlook a major change such as this. He said that Part C is
9 not nearly as important as the other two parts but the most important and critical part is Part A. He said that
10 the ZBA has two important tasks with Part A: 1. identifying the standard conditions necessary for a wind
11 farm development in Champaign County; and 2. identifying, within the mind of the ZBA, whether a map
12 amendment is also required. He said that to date the only real evidence that the ZBA has been given is
13 within the distributed Supplemental Memorandum #2 dated February 12, 2009.
14

15 Mr. Thorsland asked the Board if there were any questions for Mr. Hall and there were none.
16

17 Mr. Tim Polz, Senior Project Developer for Midwest Wind Energy, LLC stated Midwest Wind Energy is a
18 utility scale wind power development company based out of Chicago. He said that currently Midwest Wind
19 Energy has two development projects operating in Illinois with a third under construction. He said that he
20 has reviewed the proposed ordinance and feels that it is a well constructed ordinance and is a very good start.
21 He said that the proposed ordinance is comparable if not slightly more stringent than what they have seen in
22 other counties that they have developments within in Illinois and other Midwestern states. He said that he
23 has specific comments in writing regarding the language as it is currently drafted. He said that he can submit
24 a copy of his written comments to each individual Board member for review or he can read his comments in
25 to the record.
26

27 Mr. Thorsland requested that Mr. Polz submit his written comments as evidence, supply a copy to each
28 Board member for review and read a summarized version.
29

30 Mr. Polz stated that Section 6.1.4(C) specifies that the setback measurements will be taken from the “base of
31 the tower” but it doesn’t state which portion of the base. He said that Midwest Wind Energy, LLC would
32 suggest that the County specify that the measurement should be taken from the “center of the base of the
33 tower.” He said that Section 6.1.4(C)7 is in regard to the Pipeline Impact Radius requirements. He said that
34 Midwest Wind Energy, LLC does have several projects in Illinois that are located amongst pipelines and
35 they have worked with those pipeline companies to come up with the best approach when siting cables and
36 wind turbines near their pipelines. He said that Midwest Wind Energy, LLC would suggest an exception to
37 the setbacks specified by the Pipeline Impact Radius required by Paragraph 4.3.4H where the applicant and
38 owner of the pipeline facilities have agreed in writing to a lesser distance than what is in the Pipeline Impact
39 Radius standards. He said that Section 6.1.4(F) is in regard to the County’s road agreements. He said that
40 Champaign County is on the right track in that it spells out in their *Ordinance* the various requirements for
41 the road agreements but a fallback would be that the agreement has to be in place prior to the approval of the
42 Special Use Permit. He said that in other counties that they have worked in that agreement has been
43 basically a stipulation to the Special Use Permit and it needs to be basically presented, negotiated, signed and

1 approved and presented to the Zoning Administrator before any building permits would be issued. He said
2 that the reason why he suggests this approach is because in the road agreement Champaign County will want
3 to specify which roads are going to be used, bridges that will be crossed, etc. and this information will be
4 completed in great detail. He said that by requiring this information up front when a Special Use Permit
5 application is submitted, just due to the nature of these projects, and approved it may be six months or more
6 before the project is ready for construction. He said that depending on where the wind turbines are coming
7 from the roads that are anticipated to be used or bridges that may need to be crossed could differ. He said that you
8 obtain a better quality agreement if you allow that as a stipulation to the Special Use Permit that this be
9 provided at the time the applicant applies for a building permit. He said that the County is still protected
10 with this approach because construction cannot begin without a building permit and so by presenting the
11 agreement to the Zoning Administrator at the time of applying for a building permit the county is still
12 protected.

13
14 Mr. Polz stated that Section 6.1.4(M) is in regard to "Shadow Flicker." He said that this is a very loose term
15 and can mean anything from when the sun is low on the horizon during the winter months creating a very
16 long, faint indiscernible shadow as opposed to during the summer months when the sun is higher on the
17 horizon and a much darker, shorter compact shadow is developed behind the turbine. He said that the
18 *Ordinance* should differentiate between the two and set a limit for the number of minutes or hours within a
19 year that the various types of shadow can be cast on certain areas.

20
21 Mr. Polz stated that Section 6.1.4(P) is in regard to resubmittal for the Special Use Permit if any component
22 of the wind power project is replaced with a non-like kind replacement. He said that he understands what
23 the *Ordinance* is trying to achieve and the County may not want a full scale replacement of the wind turbines
24 of a different kind than originally permitted. He said that there may be instances where a newer, better, more
25 efficient component is introduced such as a transformer, electrical cabling, etc. which would enhance the
26 project. He said that it would be best if the *Ordinance* were to allow replacement with those types of
27 components provided that they comply with any safety or design criteria outlined in the *Ordinance* without
28 having to go back through the submittal process.

29
30 Mr. Polz stated that Section 6.1.4(R) relates to the decommissioning plan. He said that he has the same
31 comments as he had with the road agreements. He said that in other counties that they have worked with this
32 component of the *Ordinance* has been a stipulation to the Special Use Permit required prior to building
33 permit submittal. He said that he would echo his comments in regard to the roads agreement. He said that a
34 better more comprehensive agreement is received if that agreement can be negotiated further in to the
35 development of the project.

36
37 Mr. Polz stated that his final comment is in regard to Section 6.1.4(T(1)(c). He said that this requirement is
38 for the submittal, at the time of application, of a turbine layout plan specifying the location of all the wind
39 turbines, cabling, access roads and any other components of the wind tower project. He said that it is not
40 clear if the applicant would be able to undertake minor relocations of wind turbines and other components
41 after the Special Use Permit had been granted. He said that the changes which would occur would be within
42 the Special Use Permit area therefore on the properties that were designated under the Special Use Permit.
43 He said that the changes would also comply with any relevant setbacks, sound standards, shadow flicker or

2/12/09

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1 any other standards under the *Ordinance*. He stressed that between the time that the Special Use Permit is
2 granted and construction commences there will be many, many instances where components of the project
3 need to change due to soil conditions, constructability issues, or due to a host of a number of reasons. He
4 said that if the County gives the developer and the applicant that flexibility it would make for a more
5 streamlined process and the County would receive the same assurances that they would receive otherwise by
6 making sure that any of the relocations comply with the components of the *Ordinance*. He said that he
7 would like to understand how the map amendment component of this approach works and what the whole
8 process entails in completing the map amendment process separate from the application for a Special Use
9 Permit.

10
11 Mr. Polz asked Mr. Hall to explain the difference between a Special Use Permit and a Zoning Use Permit.

12
13 Mr. Hall stated that the Zoning Use Permit is the equivalent of a building permit.

14
15 Mr. Polz stated that his only comment regarding this issue was that there is a sunset clause on the Special
16 Use Permit of 10 years or until the Zoning Permit is granted.

17
18 Mr. Thorsland asked the Board if there were any questions for Mr. Polz and there were none.

19
20 Mr. Thorsland asked if staff had any questions for Mr. Polz.

21
22 Mr. Hall asked Mr. Polz to repeat his specific question regarding the map amendment.

23
24 Mr. Polz stated that it is his understanding of the map amendment requirement is that any property that is
25 either surrounded by wind turbines or special use properties or any property within 1000 feet from the base
26 of the turbine must be included in the map amendment or the overlay district under this Ordinance.

27
28 Mr. Hall stated that it exempts any parcel that is not a participating parcel and is bigger than five acres.

29
30 Mr. Polz stated that if a parcel is smaller than five acres then his comments would be accurate.

31
32 Mr. Hall stated yes and not within 1000 feet when it is more than one-quarter mile from the road.

33
34 Mr. Polz asked Mr. Hall if when it is determined where the Wind Turbine Overlay District is located how
35 does the developer determine what is necessary in the form of approvals from the County Board. He said
36 that it appears that at least 50% of the landowners must be within the overlay district for the Board to
37 consider that map amendment and at that time the County Board can make any determination that they see
38 fit. He said that the thought is that provided that you have greater than 50% of the landowners signing on to
39 the overlay district the Board may or may not follow the majority of the folks within that overlay district. He
40 asked Mr. Hall when the super-majority requirement kicks in.

41
42 Mr. Hall stated that his recommendation would be to take action on the Special Use Permit and once the
43 Board determines that the applicant meets the criteria for a Special Use Permit then they could recommend

1 approval of a Special Use Permit then they should have no qualms about recommending approval of a map
2 amendment. He said that presumably the ZBA would recommend both cases to the County Board for
3 approval and his advice to the County Board would be the same thing. He said that the County Board should
4 determine if they are happy with the Special Use Permit and we have already said, assuming that it is
5 adopted, that furthering renewable energy is a purpose of the *Ordinance*. He said that normally if the County
6 Board disagrees with a recommendation from the ZBA they kick it back to the ZBA for another attempt. He
7 said that if the County Board agrees with the recommendation from the ZBA then they should then approve
8 the map amendment but as far as he knows it cannot be made a requirement of the County Board. He said
9 that if the State’s Attorney believes that we can then he would recommend it because they should only be
10 establishing the map amendment Overlay District where they know the Special Use Permit requirement can
11 in fact be met.

12
13 Mr. Polz asked Mr. Hall if he submits an application for a Special Use Permit with the County and they
14 provide evidence and exhibits that they meet all of the criteria for the Special Use Permit then the County
15 Board approves it with a majority vote. He said that once that approval is obtained they submit evidence of
16 approval by the folks within the overlay district and if that number is greater than 50% then that standard
17 majority would apply. He said that if the evidence of approval by the folks within the overlay district is
18 below 50% then how does the County Board have to vote in order for the map amendment to be approved
19 and does it impact the Special Use Permit.

20
21 Mr. Hall stated that currently the *Ordinance* requires the evidentiary signatures of the owners of 50% or
22 more of the property to even make the application. He said that what he does not have an explanation for is
23 when there is support of 100% of the people within the overlay district and you get a recommendation from
24 the ZBA but there is still a frontage protest of 20% or more of the surrounding landowners. He said that the
25 receipt of a frontage protest of 20% or more of the surrounding landowners would trigger the super-majority
26 requirement of the County Board and unfortunately the protestors do not have to give specific detail as to
27 why they are opposed they only need to indicate that they are opposed. He said that the 20% protest will
28 come from the people who are bordering the overlay district therefore those people who own 20% of the
29 lineal frontage. He explained to Mr. Polz that the wind farms are going to be very large therefore there is a
30 lot of frontage. He said that a good site plan will be required and as protests are received staff will have to
31 determine how much frontage each protest represents which is a problem that staff has with any map
32 amendment but luckily it doesn’t happen that often and because of the size of the wind farm it is a special
33 challenge.

34
35 Mr. Polz stated that there are many challenges but he believes that it is workable.

36
37 Mr. Dwight Farber, Representative for Horizon Wind Energy stated that they develop, construct, own and
38 operate wind farms across the United States. He said that currently they have ten wind farms across the
39 Unites States with over 2000 megawatts and they have a strong presence in the State of Illinois with a 400
40 megawatt wind farm east of Bloomington, Illinois which is an operating wind farm. He said that they are
41 currently constructing a wind farm in Logan and Tazwell Counties and have just received approval for
42 another wind farm in LaSalle County with anticipated construction this spring. He commended the Board
43 for taking the process that they are taking because an *Ordinance* is a very important and foundational part of

1 getting a wind farm in to the county and it is important enough that it merits a lot of consideration and study.
2 He said that he is pleased to see that Champaign County has reviewed wind farm ordinances from other
3 counties in Illinois which have put a lot of effort and research in developing a workable ordinance. He said
4 that it is important to be knowledgeable about the wind business and to understand it because it is complex
5 and it is different. He said that the fact that staff from Champaign County has visited existing wind farms
6 and is doing its due diligence is commendable and having an open discussion for stakeholders to come in
7 and state their opinions helps form a workable ordinance in Champaign County. He said an ordinance is a
8 set of rules that allows landowners in the county to be able to participate in a wind farm. He said that when
9 you look at agriculture it is very important for a landowner to have the availability of choice on their land
10 and to be able to participate in a wind farm or second crop on that farm. He said that the second thing that is
11 important about an ordinance that we all should be conscious of is that we minimize the effect on the rest of
12 the community so whatever ordinance Champaign County comes up with needs to not only protect those
13 landowners who want the income and the second crop but needs to protect others in the community so that
14 they can have a viable livelihood in that area. He said that if Champaign County wants to generate income it
15 needs to have an ordinance that encourages wind developers to come in to Champaign County to build wind
16 farms. He said that if these factors are considered and weighed out he believes that a good ordinance will be
17 constructed in Champaign County. He said that this ordinance needs not only to have good rules which
18 allows wind farm developers to be part of the community and allows them to know that they have a set of
19 standards to operate by so that they are being responsible to the community but also the ordinance needs to
20 allow them to get an adequate return on their investment. He said that as they design these wind farms the
21 developer needs to have the appropriate setbacks that allow them to efficiently connect the turbines in a way
22 that gives them an adequate return on their investment. He said that he has been very actively involved with
23 LaSalle County, Livingston County and Grundy County in developing their ordinances and it took a very
24 similar process in obtaining input from stakeholders as they developed their ordinance. He said that it is
25 very important if there is an ordinance that it is flexible and easy enough to understand so a wind farm can be
26 developed effectively and efficiently and get adequate economic return. He noted that he agrees with many
27 points that Mr. Polz presented.

28
29 Mr. Thorsland asked the Board if there were any questions for Mr. Farber and there were none.

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31 Mr. Thorsland asked if staff had any questions for Mr. Farber.

32
33 Mr. Hall thanked Mr. Farber for his comments and stated that members of the audience that have never
34 attended a ZBA hearing may be wondering why staff hasn't included all of the good things about wind
35 farms. He said that staff will and one of the final documents that the County Board will approve is called the
36 Finding of Fact and that document will discuss the positive things about wind farms.

37
38 Mr. Thorsland asked the Board if there were any questions for Mr. Hall and there were none.

39
40 Mr. Carl Smith, who resides at 214 CR 2700E, Allerton, Illinois stated that he as well as others have
41 ownership interest in the proposed wind farm development. He said that the project is stretched out through
42 four counties and it is his understanding that Vermillion, Douglas and Edgar, his area, already have
43 ordinances in place. He said that he hopes that Champaign County does a good and diligent job but it is

1 important to not make it overly cumbersome to where it might discourage any development. He said that
2 there is potential for tax dollars to come into an area which could really use them and he would hate to see
3 anything deter that.

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5 Mr. Thorsland asked the Board if there were any questions for Mr. Smith and there were none.

6
7 Mr. Thorsland asked if staff had any questions for Mr. Smith and there was none.

8
9 Mr. Herb Schildt, Chairman of the Newcomb Township Plan Commission, stated that at their February 9th,
10 2009, meeting the Newcomb Township Plan Commission began evaluating Case 634-AT-08 and at that time
11 only an initial and incomplete draft of the amendment dated February 6, 2009, was available. He said that
12 their review of Case 634-AT-08 is ongoing however based on that initial and incomplete draft, they had one
13 comment and four concerns.

14
15 Mr. Schildt read the Newcomb Township Plan Commission’s comment as follows: We are pleased by the
16 requirement that both special use permits and map amendment are required to site a wind farm. This is
17 important because we could not support an ordinance that did not include the requirement for a map
18 amendment. It is our opinion that a special use permit alone is insufficient.

19
20 Mr. Schildt read the Newcomb Township Plan Commission’s concerns as follows: 1. We believe that a
21 setback larger than 1,200 feet is needed from any storage tank that holds flammable gas, flammable liquid, or
22 other hazardous material. The Peoples Gas storage tanks in Newcomb Township are one example. We
23 believe that requiring a larger setback is a reasonable step that will provide an extra margin of safety in our
24 Township. We further believe the setback must be sufficiently large to prevent damage to a tank from debris
25 caused by a catastrophic turbine failure (possibility due to tornado), ice throw, or blade detachment; and 2.
26 We have significant safety concerns about locating a wind farm in the Manlove Gas Storage Field in
27 Newcomb Township. Among these concerns are damage to well heads caused by debris from a catastrophic
28 turbine failure, ice throw, or blade detachment, and the potential for increased lightning strikes in the storage
29 field. The effects of a high pressure gas line failure can be very significant and we want to avoid anything
30 that might increase the possibility of such a failure. Until such time that the county can provide information
31 from an accredited, independent authority that certifies to our satisfaction the safety of locating a wind farm
32 in the Manlove Gas Storage field, we believe that Gas Storage Field should be added to the list of areas in
33 which the County does not allow a wind farm to be located. This list is in Section 6.1.4.A.2; and 3. We
34 believe that a setback larger than 1,200 feet from any non-participating residence is required. We believe
35 that requiring a larger setback is a reasonable step that provides an extra margin of safety in our Township.
36 In addition to mitigating the effects of noise and shadow flicker, we believe the setback must be of sufficient
37 length to prevent damage to a dwelling and to prevent harm to its occupants from debris caused by a
38 catastrophic turbine failure, ice throw, or blade detachment. For the same reason, we believe that a larger
39 setback is required for schools (both public and private), hospitals, churches, places of business, and any
40 other place where people congregate (such as parking lots and cemeteries); and 4. We believe that turbine
41 height should not exceed 400 feet.

42
43 Mr. Schildt stated that he wanted to emphasize that Case 634-AT-08 is still under review by the Township

1 and they are awaiting the completed text amendment. They may have other concerns, issues or comments in
2 the future.

3
4 Mr. Thorsland asked the Board if there were any questions for Mr. Schildt.

5
6 Mr. Courson asked Mr. Schildt why the Newcomb Plan Commission indicated that the turbine height should
7 not exceed 400 feet.

8
9 Mr. Schildt stated that the *Model Ordinance* by which this amendment was based on was written before
10 turbine heights were going beyond 400 feet. He said that he is not convinced that other aspects of the
11 Ordinance can accommodate 500 foot turbines. He said that it simply increases the debris field length.

12
13 Mr. Thorsland asked if staff had any questions for Mr. Schildt.

14
15 Mr. Hall asked Mr. Schildt if the township had any reservations regarding Part C. Requiring County Board
16 Special Use Permits for the Rural Residential Overlay subdivisions.

17
18 Mr. Schildt stated that they spent all of their time reviewing the wind farm aspect of it however they will be
19 having another meeting in a month.

20
21 Mr. Thorsland requested that Mr. Schildt summarize his personal comments during his testimony.

22
23 Mr. Schildt stated that his comments are very important.

24
25 Mr. Thorsland informed Mr. Schildt that his personal written testimony will be entered as evidence.

26
27 Mr. Schildt stated that he distributed his comments as a courtesy to the minute's clerk but it is very important
28 that the Board indulge him and allow him to read his comments.

29
30 Mr. Thorsland stated that he will allow Mr. Schildt to proceed.

31
32 Mr. Herb Schildt, who resides at 398 CR 2500N, Mahomet stated that as the Board knows he is the
33 Chairman of the Newcomb Township Plan Commission however he is not speaking in that capacity at this
34 time he is speaking strictly for himself. He said that he and his wife are residents of Newcomb Township
35 and they live within the Manlove Gas Storage Field. He said that he is impressed by the amount of thought
36 and effort that John Hall has put into the proposed text amendment and he looks forward to seeing the
37 completed version. He thanked Mr. Hall.

38
39 Mr. Schildt stated that tonight he will be focusing on only one specific aspect of the wind farm amendment
40 which is the setback it specifies for a non-participating dwelling or principal building. He said that in this
41 version of the amendment dated February 6, 2009, this setback is 1,200 feet. He said that he believes that
42 this distance is insufficient and that, if used, would present a clear and present safety risk. He said that the
43 reason that he believes this is that the setback is too small to handle in all cases the potential debris field that

1 can be generated from a catastrophic turbine failure. He said that obviously if the debris goes beyond the
2 setback, property and people can be harmed. He said that he would like to be very clear on one point in that
3 he is not present to recommend how large a setback is required to contain a debris field, this determination is
4 the burden of the County. He said that he will however show that there are cases in which 1,200 feet is not
5 adequate. He said that to do this he will present two stories that describe situations in which a turbine failure
6 caused a debris field that was in excess of 1,200 feet and he will present information from a wind turbine
7 operator's manual.

8
9 Mr. Schildt stated that the first news story, included as an attachment to his personal statement, is from the
10 Journal Pioneer which is a newspaper located in Summerside, Prince Edward Island, Canada and is not an
11 internet blog. Mr. Schildt stated that in the story debris from a damaged wind turbine blade is deposited
12 approximately 1,600 feet away from the turbine. He said that this is obviously greater than the 1,200 feet
13 specified as the setback proposed by the County. He said that a spokesperson for the wind energy company
14 states that blades on two turbines sustained damage and the company blamed the damage on a bad storm and
15 wind. He said that the story indicates that only the blades sustained damage and that is important. He said
16 that this is one reason why he chose this story because it shows that even a relatively minor failure can
17 generate a large debris field. He said that as you will see the situation can get much worse.

18
19 Mr. Schildt stated that the next news story includes two videos of a wind turbine that suffered a catastrophic
20 failure in Denmark on February 22, 2008. He said that the two videos are taken from two different vantage
21 points and clearly show the event. He said that he wasn't sure if he could show the video footage at the
22 hearing so he created a series of still shots that show the destruction of the turbine at various points. He said
23 that as the story states, the braking system on the turbine failed during a storm and pieces of the shattered
24 turbine were sent more than 500 meters which is over 1,625 feet. He said that this well outside the proposed
25 setback of 1,200 feet. He said that at the top of each page is the URL at which the ZBA can view the videos
26 for themselves and strongly urged that they do so because it is really worth viewing. He said that the still
27 shots show that the turbine suffered complete destruction with debris flying everywhere at high speed as if
28 the turbine just exploded. He said that it is clear from the video that large chunks of debris are being thrown
29 and the column then collapses. He said that he supplied still shots of both vantage points. He said that the
30 first still shot shows the turbine essentially intact then within a few seconds later you can see that one of the
31 blades is falling apart and then it appears that the turbine explodes. He said that if you look closely you can
32 see a truck at the base of the tower and the last shot shows the tower collapsing. He said that the ZBA can
33 certainly view these shots at each vantage point on their own.

34
35 Mr. Schildt stated that in addition to illustrating the need for a larger setback in general this turbine failure
36 graphically illustrates one reason why he is so concerned about having a wind farm in the Manlove Gas
37 Storage Field, he and his wife live there. He said that even though he is sure that such failures are relatively
38 rare they can and obviously do happen and although any such failure is a serious and potentially life-
39 threatening event the risk of such an event occurring within the Manlove Gas Storage Field is magnified by
40 the possibility of collateral damage to a well head, pipeline or tank. He said that the consequences of a high
41 pressure pipeline failure can be very severe and some of the members of the Board may recall that one
42 occurred a few years ago and it was a very intense event. He said that for those members who are not aware
43 of what he is talking about he will explain. He said that there was a pipeline breach and it caught fire. He

1 said that he and his wife live about three miles from that event and it took three or four minutes for them to
2 realize that it was not the end of the world. He said that the noise was incredible and the sky was lit up with
3 flames.

4
5 Mr. Schildt stated that because of the potential risk posed by gas pipelines such as those in the Manlove Gas
6 Storage Field and elsewhere, the County added a pipeline setback to its zoning code that is based on the
7 impact radius described in Title 49 of the Code of Federal Regulations Part 192.903. He said that the
8 pipeline impact radius is the distance within which the potential failure of a pipeline could have significant
9 impact on people and property, which is right out of the code. He said that it seems only reasonable that the
10 County should, in similar fashion, establish a wind turbine setback that takes into consideration the potential
11 debris field, in other words impact radius, of a turbine failure. He said that the size of such a setback must
12 be specified by an accredited, independent authority as in the case of the pipeline impact radius because the
13 consequences of getting this setback wrong could result in significant harm.

14
15 Mr. Schildt stated that he needs to make another important point about wind turbines near gas lines. He said
16 that the amendment requires wind turbine to be outside the impact radius of a pipeline. He said that the
17 problem is that in many cases, the impact radius of the pipeline is smaller than the height of the turbine. He
18 that that he believes that this condition needs to work both ways, with the pipeline also being outside the
19 debris field of a turbine because this way a pipeline failure can't affect a wind turbine and a wind turbine
20 failure can't affect a pipeline. He said that it is important to not just focus on the risks in the Manlove Gas
21 Storage Field or on gas pipelines in general because clearly a catastrophic turbine failure could cause
22 significant damage to a house, school, church, etc., and of course harm people caught in the debris field.

23
24 Mr. Schildt stated that he would like to present another document that further illustrates why 1,200 feet is
25 too short to use as a setback distance. He said that at the website wind-watch.org is a copy of Appendix O of
26 the Vestas V90 commercial wind turbine manual. He said that this is the Mechanical Operating and
27 Maintenance Manual and the manual is dated June 29, 2007. He said that before continuing he wanted to
28 point out that Vestas is a Danish wind turbine manufacturer, and it is his understanding that they make the
29 turbines used in the McLean County wind farm. He said that he would like to draw the Board's attention to
30 Page 3, which is part of the safety regulations for operators and technicians. He requested that the Board
31 pay special attention to Stay and Traffic by the Turbine. He read the following portion of that section: "Do
32 not stay within a radius of 400m (1300ft) from the turbine unless it is necessary. If you have to inspect an
33 operating turbine from the ground, do not stay under the rotor plane but observe the rotor from the front.
34 Make sure that children do not stay by or play nearby the turbine."

35
36 Mr. Schildt stated that as the Board heard the manual explicitly says to stay 1,300 feet away from the turbine
37 unless otherwise necessary. He said that obviously this is greater than 1,200 feet which is the setback
38 proposed by the County. He stated that he would like to draw the Board's attention to Page 17, Section 16,
39 which is entitled, "Precautions in Case of Fire." He read a portion of that section as follows: "In case of a
40 fire during an uncontrolled operation, do under no circumstances approach the turbine. Evacuate and rope
41 off the turbine in a radius of minimum 400m (1,300 feet)." He said that again, 1,300 feet is greater than
42 1,200 feet. He said that it is also interesting to note that they seem to indicate that a fire during an
43 "uncontrolled operation" should be left to burn out. He said that although the inability to extinguish a

1 turbine fire concerns him in general it concerns him even more when he thinks about a turbine fire occurring
2 in the Manlove Gas Storage Field or near any residence, school, church and so on.
3

4 Mr. Schildt stated that while he imagines that the safety instructions for commercial wind turbines vary from
5 model to model and from manufacturer to manufacturer and that the specifics of a manual may change over
6 time you now have one example of safety instructions that clearly require a setback larger than 1,200 feet
7 which is the setback proposed by the County. He said that these are safety instructions from a wind turbine
8 manufacturer.
9

10 Mr. Schildt stated that in conclusion wind turbine setbacks serve many purposes, including noise mitigation
11 and reduction of shadow flicker. He said that these aspects are covered in the proposed ordinance and he
12 believes that the setback must also accommodate the debris field created by a turbine failure. He said that he
13 has presented two news reports that clearly show that the debris field can exceed 1,200 feet and have
14 presented safety instructions from a wind turbine operator's manual that says to stay back 1,300 feet to be
15 safe. He said that Champaign County has always prioritized public health and safety which is one reason
16 why the impact radius amendment was adopted. He said that it is evident to him that the setback must be
17 increased to prevent harm and that it must take into consideration the potential debris field that a turbine
18 failure can cause.
19

20 Mr. Thorsland asked the Board if there were any questions for Mr. Schildt and there were none.
21

22 Mr. Thorsland stated that he also lives in Newcomb Township and fairly close to Mr. Schildt. He said that
23 there are injection well and valve sites all around their property and some of those sites are very close to the
24 road and the likelihood of a truck or car hitting one of those sites is probably greater than a wind turbine
25 falling on them. He said that during the pipeline ordinance hearings there was concern from Mr. Schildt, as
26 a private landowner, that the pipeline impact radius setbacks too far therefore interfering with the
27 landowner's buildable area on their lots. He asked Mr. Schildt if perhaps the pipeline setbacks were not
28 determined to be far enough or does he think that the turbine setbacks should be stacked at the end of the
29 pipeline setbacks or should they be moved away from the highway.
30

31 Mr. Schildt stated that he can identify multiple concerns about wind turbines in the Manlove field. He said
32 that lightning hits wind turbines a lot therefore if there is a bad storm and lightning hits the wind turbine it
33 could also ignite the escaping gas. He said that wind turbines can affect the ability of air ambulances to land,
34 as needed, by a wind farm due to the wind turbulence created by the blades. He said that the Manlove Gas
35 Storage Field has a known risk associated with it although he has lived there for many years and he feels that
36 the risk is manageable. He said that wind turbines introduce an unknown element into that environment and
37 until such time as the implications of that element can be determined we have to urge caution and safety
38 because it is not the same thing. He said that a car could hit a wind turbine because it is his personal opinion
39 that they are going to be too close to the road. He said that the debris field of 1600 feet is a lot different that
40 a car running off of the road and it could hit more than one. He said that if the research is completed you
41 will find that the blades do detach and they will weigh tons. He asked how deep the pipelines are buried in
42 the Manlove field because a blade could become detached breach a line and cause a catastrophic event. He
43 said that he would like to have answers to his question and until these answers are received the wind turbines

1 should not be placed in this area.

2
3 Mr. Thorsland asked the Board if there were any questions for Mr. Schildt and there were none.

4
5 Mr. Thorsland asked if staff had any questions for Mr. Schildt and there were none.

6
7 Ms. Sherry Schildt, who resides at 398 CR 2500N, Mahomet stated that she is Herb Schildt's wife and he
8 was speaking on her behalf during his previous personal testimony. She distributed a handout titled, *Wind*
9 *Turbine Struck by Lightning* which shows what can happen to a wind turbine. She said that the first
10 photograph shows what happens when a wind turbine is struck by lightning, the second illustrates a blade
11 detachment, and the third illustrates a fire which took place on a wind turbine that was 265 feet in the air
12 which is pretty far up for any rural fire departments to extinguish. She said that she attended the Champaign
13 County Farm Bureau tour on Saturday and Mr. Farber indicated that Horizon generally places turbines 1500
14 feet away from an occupied dwelling therefore based on that the proposed 1200 feet should be revised.

15
16 Mr. Thorsland asked the Board if there were any questions for Ms. Schildt and there were none.

17
18 Mr. Thorsland asked if staff had any questions for Ms. Schildt and there were none.

19
20 Mr. Mike Miller stated that he had no comments to add at this time but reserved the right to speak at a later
21 time during the hearing.

22
23 Mr. Eric McKeever stated that he had no comments to add at this time but reserved the right to speak at a
24 later time during the hearing.

25
26 Ms. Barbara Gerdes, who resides at 52 CR 2700E, Broadlands stated that she is concerned about the setback.
27 She said that she does not believe that the proposed setback is enough to eliminate noise pollution and health
28 concerns. She said that when you live on a farm you do not just live at your house because you also have
29 machine sheds, barns, etc where you spend a lot of time therefore depending on where the towers are located
30 someone could be located much less than what is proposed to the tower itself. She said that she believes that
31 the setbacks should be at least 1/3 of a mile. She said that if the packet material is reviewed the section
32 regarding health and safety concerns the recommended decibels at the noise level needs to be down to the
33 low 30's, especially for children. She said that her farm is the headquarters for their farming operation so it
34 is not just she and her husband that she is concerned about but also their children and grandchildren. She
35 said that they do not feel that it is right that the setback is such a minimum.

36
37 Mr. Thorsland asked the Board if there were any questions for Ms. Gerdes and there were none.

38
39 Mr. Thorsland asked if staff had any questions for Ms. Gerdes and there were none.

40
41 Mr. Michael Jarboe, who resides at 2792 CR 2400E, Penfield stated that he lives south of Penfield in
42 Compromise Township and he has been approached by Invenergy. He said that he believes that a 1,000 foot
43 setback is adequate and he would like to see that for both the participating and non-participating landowners.

1 He said that the participating landowners are not protected enough because they can waive their right to the
2 1,000 foot setback and have the wind turbine within 500 feet of their residence. He said that the contract
3 includes text which states that the landowner will waive any restrictions placed on them by any government
4 body therefore a lot of people who have signed contracts are going to be open to that although the company
5 has verbally stated that they will not build closer than 1,000 feet. He asked if in regard to the Letter of
6 Credit, in case the wind turbines have to be decommissioned and the company goes bankrupt, will the
7 County take care of that for the landowners or will they be required to take care of that themselves.

8
9 Mr. Hall stated that the County will take care of it.

10
11 Mr. Jarboe stated that there should be an inflation clause included because it could cost a lot more later to
12 decommission one of the wind turbines in the future and he does not want to be stuck with large fees. He
13 said that the memorandum states that 90 days is the time allowance for decommissioning therefore he would
14 not want to be responsible for that decommissioning and removal. He said that if the company goes
15 bankrupt the landowner could be stuck with all the costs for removal. He questioned what happens with the
16 real estate taxes, if the company has gone bankrupt, until a wind turbine is decommissioned because it is his
17 understanding from attending a meeting in Vermillion County that the State of Illinois has set the amount of
18 taxes at \$9,000 per megawatt which would be \$13,500 per megawatt on each one of the turbines. He said
19 that personally he does not want to pay that amount of real estate taxes on each of these turbines and he does
20 not feel that it should be his responsibility. He said that he does not feel threatened by the proposed wind
21 farm and believes that it is good to be green and creating environmentally friendly energy is a good thing.

22
23 Mr. Thorsland asked the Board if there were any questions for Mr. Jarboe.

24
25 Mr. Roger Miller asked Mr. Jarboe if the Board could have a copy of his contract with Invenergy or is it a
26 confidential document between himself and the company.

27
28 Mr. Jarboe stated that once he signs the contract he cannot share the information within the contract with
29 anyone unless Invenergy issues a waiver. He said that he does not believe that he should share his contract
30 with the Board but the Board could contact Invenergy.

31
32 Mr. Roger Miller asked Mr. Hall if he has seen any of the contracts.

33
34 Mr. Hall stated no.

35
36 Mr. Thorsland asked the Board if there were any additional questions for Mr. Jarboe and there were none.

37
38 Mr. Thorsland asked staff if there were any questions for Mr. Jarboe and there were none.

39
40 Mr. Daniel Cain, who resides at 2567 CR 2600E, Penfield indicated that he had no comments to add at this
41 time.

42
43 Mr. Victor White, who resides at 2051 CR 2100N, St. Joseph stated he is the Superintendent of Prairieview-

2/12/09

DRAFT SUBJECT TO APPROVAL DRAFT

ZBA

1 Ogden School District #197 and is attending the meeting on behalf of their Board of Education. He said that
2 they are very much in favor of the wind farm proposed in the northeast portion of Champaign County. He
3 said that they are part of the Royal, Flatville and Ogden area and they rely mainly on farmland because over
4 50% of their Equalized Assessed Value (EAV) comes from our local farmers. He said that they see an
5 opportunity which could come into their area which will be positive once the rules and regulations are set.
6 He said that he has contacted many other superintendents that already have wind turbines in their districts
7 and they have indicated that the added revenue is a nice part of getting things that are needed within the
8 school district. He said that school districts try to keep their tax rates as low as they can and he can brag that
9 Prairieview-Ogden is the lowest in Champaign County. He said that the document which he distributed to
10 the Board for review are the rules for the wind turbine – tax calculation. He said that each one of the towers,
11 based on one megawatt, is assessed at \$360,000 per megawatt which would be divided by 33-1/3%
12 (\$120,000) multiplied by the aggregate tax rate (2.70) equaling \$3240 per megawatt. He said that one 1.5
13 megawatt wind turbine would generate approximately \$4860 for Prairieview-Ogden District in the first year.
14 He said that the school district sees the proposed wind farm as a positive thing but what they are scared
15 about is that other counties have passed an easy wind farm ordinance. He said that he hopes that the people
16 that are trying to make this a positive aspect in bringing money in to our county are not scared away because
17 it would be easy for them to walk right outside of the Flatville, Penfield and Royal area and move further to
18 the east into Vermillion County. He said that he agrees that safety is a big issue but he hopes that the County
19 only considers what is really needed so that it does not scare away the business.

20
21 Mr. Thorsland asked the Board if there were any questions for Mr. White and there were none.

22
23 Mr. Thorsland asked if staff had any questions for Mr. White and there were none.

24
25 Mr. Rob Parker, who resides at 467 CR 2500N, Mahomet stated that he, like many others, would like to
26 reduce our dependence on foreign oil. He said that he has read that many of the wind farms are foreign
27 owned as well therefore even though the energy is renewable he is not sure if the profits are necessarily
28 staying in our country. He said that he does not want to appear too negative about the wind farms because
29 there are a lot of positive things about them. He said that wind turbines are an industrial powered
30 generation unit and with them comes industrial traffic. He said that he would like to know if the township
31 road commissioners will have an opportunity to give input regarding their concerns or will it all be under the
32 direction of the County Engineer. He said that he lives in an area where many of the roads have dead ends
33 and obstructions due to the Sangamon River and a single road closure could have a significant impact on
34 their emergency services as well as being an inconvenience to daily travel. He said that he also lives near an
35 underground storage field and he sincerely hopes that it will be a proven fact that the wind turbines will not
36 compromise the safety of that storage field or its related piping. He said that it appears that the approach that
37 is being taken is to require a map amendment for the wind farm which he believes is a positive step and it
38 will allow the neighboring property owners to have a voice. He said that this map amendment approach may
39 not be the best approach for the wind farm company but will be nice for the small guy to be able to oppose it
40 if they have sufficient cause. He said that he believes that anywhere there is a residence the setbacks should
41 be increased. He said that he will not recommend any specific distances but 1200 feet is not very far from
42 these monstrous towers.

1 Mr. Thorsland asked the Board if there were any questions for Mr. Parker and there were none.

2
3 Mr. Thorsland asked if staff had any questions for Mr. Parker and there were none.

4
5 Mr. Hall stated that he would like to add that for a citizen to claim that a 1,200 foot setback is not adequate
6 without having a recommended alternative is not very helpful to the Board. He said that it would be very
7 helpful if Mr. Parker had a more acceptable distance for the setback.

8
9 Mr. Parker stated that he has been reading a lot about this on line and there is a lot of information out there.
10 He said that personally he wouldn't feel comfortable living within 1,200 feet from one of the towers.

11
12 Mr. Hall urged Mr. Parker to not self edit his comments and if he feels that an appropriate setback would be
13 one-half mile then certainly he should share that distance with the Board so that they have something to work
14 with during their review of this case.

15
16 Mr. Parker asked Mr. Hall if this hearing will be the only opportunity for public comments.

17
18 Mr. Hall stated no. He said that the Board has reserved the next three meetings for this case and those dates
19 are: February 26, 2009; March 12, 2009; and March 26, 2009. He said that hopefully the Board can wrap
20 this case up at the March 12, 2009, hearing.

21
22 Mr. Parker asked Mr. Hall if he perceived making any revisions to the ordinance before the March 26th,
23 meeting.

24
25 Mr. Hall stated that certainly there will be revisions and regarding the setback 1,200 feet is his best guess
26 therefore until the Board gives him different direction he will keep it at 1,200 feet. He said that there will be
27 public comment accepted at every meeting therefore perhaps Mr. Parker can give a recommendation for an
28 adequate setback at the next meeting.

29
30 Mr. Scott Hays, who resides at 569A CR 2400N, Dewey stated that as a landowner he is concerned that the
31 setback may be insufficient because the Ordinance will create a requirement that the turbine be within 1,200
32 feet from your home or barn. He said that the landowner can negotiate an agreement with the developer
33 indicating that they want the turbine to be 2,000 feet from their barn.

34
35 Ms. Capel stated that this is not correct.

36
37 Mr. Hays stated that the Ordinance requires a landowner to comply.

38
39 Mr. Hall stated that the Ordinance sets a minimum but landowners must work with the developer.

40
41 Mr. Hays stated that if a landowner indicates to the developer that they do not want the turbine to be within
42 2,000 feet then that is the landowner's problem.

1 Mr. Hall stated that this will depend on what the agreement states.

2
3 Mr. Hays stated that the thing to be remembered is that the landowner does not have to have a wind farm on
4 any portion of their property within any distance. He said that there could be a potential problem if the
5 participating landowner has a wind turbine at the required distance, 1,200 feet, and a non-participating
6 landowner's home is right next to the participating landowner's property line. He said that he wonders if the
7 proposed 1,200 feet or more setback produces problems for the developer in expanding the wind farm. He
8 said that a wind turbine at 500 feet is about one and one-half football fields in length and 1,200 feet is four
9 football fields which seems a long way. He said that he does not know anything about the debris field
10 although he has researched catastrophic failure and he found that Vestas has approximately 36,000 wind
11 turbines and the video that Mr. Schildt spoke about only includes one. He said that of the 36,000 only about
12 30 have failed and none have been catastrophic failure therefore whether catastrophic failure should be a
13 standard which the Zoning Board judges distance could be questioned significantly. He said that his
14 question to the developer would be what is their ideal separation distance. He said that presumably the only
15 advantage in having it shorter and further is density which would give more turbines on a given plot of land.
16 He said that he believes that the Board needs more facts about the occurrence of catastrophic failure if that is
17 going to be a standard and he too shares Mr. Schildt's concern about the Manlove Gas Field although he is
18 not sure that 1,200 feet is not sufficient because four football fields seems like a good distance to him.

19
20 Mr. Thorsland stated that once Mr. Hays is finished with his testimony he will have one or both of the
21 developers address his questions.

22
23 Mr. Hays stated that he would like to know what kind of burden is created on development to lengthen the
24 distance.

25
26 Mr. Thorsland asked the Board if there were any questions for Mr. Hays and there were none.

27
28 Mr. Thorsland asked if staff had any questions for Mr. Hays and there were none.

29
30 Mr. Thorsland requested that Mr. Dwight Farber, Representative for Horizon Wind Energy address the
31 questions regarding setbacks.

32
33 Mr. Farber stated that basically we are talking about setbacks from residences of 1,200 feet or more. He said
34 that in the counties that he has worked with the setback requirement varies from 750 feet to 1,200 feet. He
35 said that many times his company will use the standard of 1,500 feet but really when it gets down to the
36 practicality of it the *Ordinance* will be a guideline for the wind company. He said that they must meet the
37 noise regulations that are set by the State of Illinois therefore they do extensive modeling of their planned
38 turbine sites on a computer model and take into consideration the turbine model that will be used and the
39 characteristics of that model as well as the terrain and all the other factors that are involved. He said that
40 computer interactions will come back and tell them whether they need to setback a greater distance from a
41 particular residence to make sure that they are meeting the noise regulations that are required by the State.
42 He said that many times, depending on all these factors, it may be that 1,200 feet is adequate or it might be
43 more and it also depends on the number of turbines that are required in the whole array.

1
2 Mr. Thorsland stated that Newcomb Township does house an underground gas storage facility and there is a
3 lot of pipe that runs along the road and next to landowner's properties. He asked Mr. Farber if they have had
4 any wind turbine failures in Illinois.

5
6 Mr. Farber stated that Horizon Wind Energy has not had any failures occur in Illinois and the reason for the
7 setbacks is so that if the worst would happen or if a turbine would fall over the setback would be adequate so
8 that no one would be put in any danger. He said that most setbacks are 1.1 times the tip height and setbacks
9 from non-residential properties are driven by sound and noise but 1.1 times the tip height seems to be the
10 setback from all other types of issues.

11
12 Mr. Thorsland asked Mr. Farber if they would take into consideration the pipelines that are housed in
13 Newcomb Township.

14
15 Mr. Farber stated that they would take the pipelines into consideration and in the due diligence that a wind
16 company would take they would look at where pipeline and gas lines are located before they would even
17 consider that type of an area for a wind farm. He said that there are certain structural characteristics about the
18 soil that you would not want to get into when developing a wind farm.

19
20 Mr. Thorsland asked the Board if there were any questions for Mr. Farber and there were none.

21
22 Mr. Thorsland asked if staff had any questions for Mr. Farber and there were none.

23
24 Ms. Stephanie Holderfield, who resides at 1401 Caro Ct, Mahomet stated that she is speaking on behalf of
25 the Champaign County Association of Realtors (CCAR) as Chair and is also a resident of Mahomet. She
26 said that she did see the explosion that occurred on the very north end of Mahomet, as previously mentioned
27 in Mr. Schildt's testimony, and she lived about seven miles away on the south end of Route 47. She said that
28 the Champaign County Association of Realtors' concern is two fold and mainly concerns property values.
29 She said Attachment C, Page 5 of the Supplemental Memorandum dated February 12, 2009, gives an
30 example of 965 Bingham Road which gives the perception that there is potential for property values to
31 decline. She said that they are already seeing property values decline in Champaign County and their hope is
32 that the proposed wind farm would not affect all of the other properties that are surrounding that area. She
33 said that Mahomet would suffer greatly plus once it would start devaluing it would affect other properties in
34 the area therefore causing a burden to the entire town and possibly surrounding communities. She asked if
35 the wind turbine would prohibit other commercial properties coming in and developing in the area. She said
36 that in Mahomet the property taxes are very high, as well as everywhere else, and the wind farm could be a
37 blessing but it could also be a detriment to the area should one of the companies fold. She said that there is
38 no guarantee that the wind farm developer will continue to thrive.

39
40 Ms. Holderfield stated that on a personal note there is a huge wind farm near Palm Springs, California but it
41 is located in the desert far away from homes. She requested that when the guidelines are considered that the
42 Board keep in mind that this project will affect surrounding homeowners. She said that the Champaign
43 County Association of Realtors requests that the Board proceed with caution. She said that the CCAR is

2/12/09

DRAFT SUBJECT TO APPROVAL DRAFT

ZBA

1 concerned with property taxes. She said that this project will potentially alleviate burdens for our schools
2 however will there be a detriment and how will it alleviate the burden to the property owners in our
3 community. She requested any information that will show that this will decrease the burden to the property
4 owners in our communities. She said that she believes that this project is a good thing and we are all for
5 renewable energy, as long as it stays in America, helps our property values and lowers our tax burdens but as
6 a resident she does not want to see her property value devalue.

7
8 Mr. Thorsland asked the Board if there were any questions for Ms. Holderfield and there were none.

9
10 Mr. Thorsland stated that he lives out near the location of the previously mentioned explosion and he
11 believes that this issue will be addressed by the Zoning Board. He said that there is a lot of information on
12 the internet but what the Board has to review are actual studies and they did not indicate a decline in property
13 values and they also did not see any cessation of development and in fact some of the development was
14 proposed to go in after the wind farm was constructed. He said that, in his opinion, if we want to worry
15 about property values going down right now there is no wind farm out there now and the property values
16 have gone down. He said that perhaps they went down because there are too many houses out there. He said
17 that personally he would be all for establishing a setback for realtors and developers too.

18
19 Ms. Holderfield stated that one reason why the property values went down is because of the subprime.

20
21 Mr. Thorsland stated in regard to commercial property most of the wind turbines are located in fairly rural
22 areas and they are generally rural for a reason. He said that he does not believe that anyone is proposing to
23 put in wind farms close to existing businesses therefore if the wind farm business goes out of business then
24 the township would be on the hook for some of that work and it would not be generating tax revenue any
25 more. He asked Ms. Holderfield if the wind farm in California can be seen from any homes.

26
27 Ms. Holderfield stated that the wind farm in California is far enough from any homes that it is not visible.
28 She said that the wind farm is visible from the interstate and it is far enough away that it hasn't done any
29 damage to residential areas. She said that commercial growth promotes future housing growth therefore she
30 would like to review any information, statistics or proof that the Board may have indicating that a wind farm
31 has not affected growth and development in housing as well as commercial.

32
33 Mr. Thorsland stated that he has read that farm ground that has a wind farm lease attached is worth more and
34 farming is a commercial enterprise.

35
36 Ms. Holderfield stated that CCAR is not opposing a wind farm and they would hope that it would alleviate
37 the tax burden to the homeowners in the area but if there are studies which show that there has been property
38 values that have declined then that would be a concern for them as well.

39
40 Mr. Thorsland asked if staff had any questions for Ms. Holderfield.

41
42 Mr. Hall stated that in reference to the 965 Bingham Road example there is a sales chart on Page 7 of
43 Attachment C which breaks the sales price down to a square foot basis and it shows a range of five other

1 homes. He said that the person who gave this presentation explained that the owners were asking too much
2 for the home in the beginning and with what it sold for it was comparable to other homes in the area.

3
4 Ms. Holderfield asked Mr. Hall if this was a recent appraisal or one from a few years ago. She said that the
5 appraisals included in this presentation appear to be very low.

6
7 Mr. Hall stated that he does not believe that the appraisal was very old but it does not have a date.

8
9 Ms. Holderfield stated that if you are going to base the sale on square foot value that is not, regardless of
10 how this appraiser did it, how a realtor would list a home therefore there are a lot of complexities that are
11 involved. She said that she does understand how sellers believe that their property values are higher than
12 they actually are and the seller determines how they would like to have their home listed and the buyer
13 determines what it will sell at. She said that the CCAR would like to examine any data that is available that
14 would substantiate that whether or not a wind farm would damage property values in the area.

15
16 Mr. Hall asked Ms. Holderfield if at this point it is her position that 965 Bingham Road, example in
17 Attachment C, did experience a decline in property value due to the wind turbine.

18
19 Ms. Holderfield stated yes by the way it looks on paper although the house may look totally different when
20 you walk inside. She said that the way it is presented on the document it is hard to say because there may be
21 a lot of different economic reasons why this property value dropped but she believes that one of the
22 contributing factors was the close proximity of the seven wind turbines.

23
24 Mr. Courson stated that he sat through the presentation regarding Attachment C and the wind farm was there
25 when the house, a spec house, at 965 Bingham Road was constructed.

26
27 Mr. Russ Taylor, who resides at 1301 W. Hickory, Mahomet stated that he had no comments to add at this
28 time.

29
30 Mr. Miller stated that Part B of Case 634-AT-08, is in regard to changing the requirements for private wind
31 turbines. He requested that prior to closing the witness register for tonight's public hearing that people in the
32 audience have an opportunity to voice their concerns and comments regarding Part B.

33
34 Mr. Thorsland asked the audience if anyone would like to address Part B.

35
36 Mr. Mike Miller, Representative for Arends Brothers, a John Deere dealership, thanked the Board for the
37 courtesy of addressing Part B. He said that they did not want to interject too much into the initial discussion
38 about the industrial wind farm proposals because they represent small wind. He said that Arends Brothers
39 has just expanded their company with the intention to market small wind generators for private use therefore
40 they have an interest in the zoning regulations. He said that their objectives would be to participate in any
41 group discussions and make sure that they are in compliance with zoning regulations and they would wish to
42 have a voice in developing any of the regulations that would impact the way that they do their business. He
43 said that they are thrilled about the interest that Champaign County has about wind energy and they are

2/12/09

DRAFT SUBJECT TO APPROVAL DRAFT

ZBA

1 happy to be involved in this business because it is the right thing to do for environmental reasons.

2
3 Mr. Thorsland asked the Board if there were any questions for Mr. Mike Miller and there were none.

4
5 Mr. Thorsland asked if staff had any questions for Mr. Mike Miller and there were none.

6
7 Mr. Eric McKeever, Wind Specialist/Project Manager for Arends Brothers stated that he would like to see
8 the *Ordinance* revised to allow for a taller tower height. He said that one main reason for the requested
9 height increase is because you get an acute increase in output by having just one degree increase in wind
10 speed. He said that you achieve an increase in wind speed by raising the height of the tower and that is why
11 many of the industrial developers have the 400 foot towers. He said that their tallest tower available is 126
12 feet and the tip height would roughly be 10 feet past that therefore they would recommend a maximum
13 height of 150 feet. He said that there are other kilowatt units available from some manufacturers which
14 would entail 100 foot towers with a tip height of 20 to 30 feet therefore again requiring a maximum height of
15 at least 150 feet. He said that Arends Brothers would appreciate it if the Board would consider revising the
16 100 foot maximum height requirement to 150 feet because restricting it to 100 feet would be reducing the
17 efficiency of the machine.

18
19 Mr. Thorsland asked the Board if there were any questions for Mr. McKeever and there were none.

20
21 Mr. Thorsland asked if staff had any questions for Mr. McKeever.

22
23 Mr. Hall stated that when he met with Mr. McKeever earlier and they discussed a 115 foot maximum to
24 which he added ten feet. He said that a re-advertisement would be required in order to increase the
25 maximum height for a private wind turbine to 150 feet. He stated that perhaps the recommendation should be
26 a height based on providing a setback from the property line equal to 1.1 times the height.

27
28 Mr. McKeever stated that if some of the template ordinances that are available are reviewed, such as one
29 from California which is the leader in small wind turbines, their actual proposal is 1.1 times the height and
30 they do not worry about a maximum height. He said that he would stress that the *Ordinance* indicate either a
31 tip height or tower height because there can be a large difference.

32
33 Mr. Hall requested that Mr. McKeever supply a copy of the model ordinance from California.

34
35 Mr. McKeever stated that he would be happy to send a copy to Mr. Hall.

36
37 Mr. Thorsland asked the audience if anyone desired to sign the witness register at this time and there was no
38 one.

39
40 Mr. Thorsland asked the audience if anyone signed the witness register and was not called to testify and there
41 was no one.

42
43 **Ms. Capel moved, seconded by Mr. Courson to grant a ten minute recess. The motion carried by**

1 voice vote.

2
3 **The meeting recessed at 8:30 p.m.**

4 **The meeting resumed at 8:42 p.m.**

5
6 **Mr. Roger Miller moved, seconded by Mr. Courson to close the witness register for the February 12,**
7 **2009, public hearing. The motion carried by voice vote.**

8
9 Mr. Thorsland asked if the Board had any direction for Mr. Hall for this case.

10
11 Mr. Roger Miller stated that he received a business card from Mr. Jarboe for the Representative for
12 Invenergy. He said that he would like to obtain a sample contract that is being distributed to the landowners
13 for review.

14
15 Mr. Hall asked Mr. Roger Miller if he would like to review what types of restrictions are being placed on the
16 property owner. He asked if Invenergy does not supply a copy of the contract what information would he
17 like to know.

18
19 Mr. Roger Miller stated that his thought was that perhaps some of the steps that the Board is trying to
20 consider may already be included in their contract. He said that he has heard that there are future building
21 provisions included in the contracts therefore he believes that a sample copy of a contract would be good
22 information to have in this case.

23
24 Mr. Hall stated that his understanding is that any future building is whatever the *Zoning Ordinance* actually
25 allows. He said that this is an excellent question which is relevant to the case therefore the developers can
26 answer this question. He said that he will request that a sample contract be supplied for review and if they
27 are unable to supply such he will definitely ask the question about future building provisions.

28
29 Mr. Palmgren stated that the proposal mentions Federal Aviation Administration (FAA) guidelines. He
30 asked Mr. Hall if he could supply the Board with those guidelines for review.

31
32 Mr. Hall stated yes.

33
34 Mr. Hall stated that the *Model Ordinance* requires setbacks from principal structures and normally we would
35 not consider a farm shed to be a principal structure but an accessory structure. He said that a comment was
36 received this evening that the landowner was not keen on having to put up with the higher noise level at that
37 accessory structure than would be permissible at the dwelling. He said he believes that Board could in fact
38 include such a requirement but changes like that will only come if the Board requests such.

39
40 Ms. Capel stated that it could be written to have different setbacks for participating and non-participating
41 landowners although according to Mr. Jarboe if there is a possible difference the landowner waives all those
42 rights anyway.

2/12/09

DRAFT SUBJECT TO APPROVAL DRAFT

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1 Mr. Hall stated that he actually found that discussion confusing. He asked if the landowner is assured of
2 receiving the minimum that the County establishes.

3
4 Ms. Capel stated yes, it is her understanding that when the landowner is given the choice they only receive
5 the minimum.

6
7 Mr. Hall asked the Board if they would be interested in not distinguishing between accessory buildings and
8 principal buildings.

9
10 Ms. Capel stated that she would be interested.

11
12 Mr. Thorsland stated that in some of the *Model Ordinances*, if you were a participating landowner, you had
13 the ability to waive the setbacks therefore perhaps the accessory structures could be incorporated in to that
14 waiver.

15
16 Ms. Capel stated that she does understand the concern raised by Ms. Gerdes regarding the noise level at her
17 accessory structure, especially if she is a non-participating landowner.

18
19 Mr. Hall stated that he thought that the point raised about the proximity to flammable storage was a useful
20 idea because not all principal buildings are as flammable as all the others. He said that he does not subscribe
21 to planning for catastrophic failure but when it is 150,000 gallons of flammable liquid it could be just as
22 catastrophic. He asked the Board if they would like to see some specific separations for items like that.

23
24 Mr. Thorsland stated that it could be a rated scale based on capacity or just a cutoff point.

25
26 Mr. Courson asked if the Board could prohibit placement within certain areas.

27
28 Mr. Hall stated that the Board could if it is proven that there is a real risk. He said that he does not know
29 how deep the fiberglass blades can penetrate the earth but obviously they are a very strong structure. He said
30 that the Board has received previous testimony that the pipelines are only buried four feet below grade.

31
32 Mr. Courson stated that same concerns should also be placed on water mains.

33
34 Mr. Hall stated that generally the water mains are located within the right-of-way therefore the wind turbine
35 should be setback 1.1 times the overall height. He said that the issue would be in those instances when we
36 know that a water main is not located within the right-of-way. He said that he has talked to the Manlove Gas
37 Storage manager and as a company they are not opposed to having a wind farm on top of the gas storage
38 area. He said that the land is not owned by the gas company but they do not see the wind farm causing a
39 problem with their operation.

40
41 Mr. Thorsland stated that perhaps the setbacks could be stacked.

42
43 Mr. Roger Miller asked Ms. Capel, Mr. Hall and Mr. Thorsland if they attended the Champaign County

1 Farm Bureau Wind Farm Tour at the Twin Groves Facility in Leroy.

2
3 Ms. Capel, Mr. Hall and Mr. Thorsland stated yes.

4
5 Mr. Roger Miller requested that they explain the noise levels at the wind farm.

6
7 Mr. Thorsland stated that they arrived at a site that had the minimum setback from the road, which was about
8 900 feet, so that they could be at the closest, accessible site. He said that the wind was approximately 23
9 miles per hour therefore the wind turbine was operating very well. He said that when he got off of the bus
10 the natural wind noise was very loud and as he moved closer to the wind turbine he could start to hear a
11 rhythmic noise that was coming from the tower. He said that he noticed that Mr. Hall was backing away
12 from the tower and approximately half way between the road and tower he indicated that he could not hear
13 the tower noise anymore. Mr. Thorsland stated that when you were approximately 400 feet from the wind
14 tower you could not differentiate the tower noise from the natural wind noise except that there was some
15 rhythm to it.

16
17 Mr. Courson asked Mr. Thorsland if the noise would be a concern to livestock or horse boarding facilities
18 that were located in close proximity of a wind tower.

19
20 Mr. Thorsland stated that he does not believe that there should be a concern. He said that he rides
21 motorcycles, with and without a helmet, and there is a lot of wind noise. He said that he could not hear the
22 noise generated by the wind turbine until he got closer to it but it was certainly a loud windy day. He said
23 that he would have liked to have been at the wind farm on a day where the wind was perhaps only 10 miles
24 per hour.

25
26 Mr. Hall stated that he believes that Mr. Farber indicated that the wind turbine that they visited was at the
27 minimum distance from the road, which would have been the 1.1 times the overall height and it was
28 approximately 500 feet from the road.

29
30 Mr. Thorsland stated that the tour was beneficial but there was only one wind turbine close to the visitors
31 therefore the noise level might have been different if there were more. He said that currently the wind
32 turbines must meet the State of Illinois standards for noise.

33
34 Mr. Courson asked what is the minimum wind speed required for the wind turbines to begin operating.

35
36 Mr. Thorsland stated that the wind turbines begin to generate at 10 miles per hour and are at maximum
37 capacity at 22 miles per hour. He said that the wind turbines stop when the wind speed reaches 45 miles per
38 hour and unlike the infamous video on the internet the wind turbines are turned off and must be manually
39 restarted or unlocked. He said that the model in the video was a smaller, higher RPM model and people
40 were working on the brake system. He said that the wind continued to pick up and the technicians could not
41 fix the brake issue therefore causing the wind turbine to destruct and luckily someone just happened to be
42 there with a camera.

2/12/09

DRAFT SUBJECT TO APPROVAL DRAFT

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1 Mr. Palmgren asked Mr. Thorsland if the wind turbines start by themselves when the wind reaches 8 to 10
2 MPH.

3
4 Mr. Thorsland stated that they were not able to go in to the operations center but he was told that the Twin
5 Groves Facility has 50 full-time employees. He said that he is going to try to visit the operations center.

6
7 Mr. Thorsland asked the Board if there was any further direction for Mr. Hall and there was none.

8
9 **7. Staff Report**

10
11 None

12
13 **8. Other Business**

14
15 Ms. Capel asked Mr. Hall if the Board will ever have any minutes to approve or will they devote one entire
16 meeting to just approving minutes.

17
18 Mr. Hall stated that there are several sets of minutes in process. He said that the Board will have the minutes
19 of tonight's meeting at the February 26th meeting.

20
21 **9. Audience Participation with respect to matters other than cases pending before the Board.**

22
23 None

24
25 **10. Adjournment**

26
27 **Ms. Capel moved, seconded by Mr. Palmgren to adjourn the meeting. The motion carried by voice**
28 **vote.**

29
30 **The meeting adjourned at 9:02 p.m.**

31
32
33
34
35 Respectfully submitted

36
37
38
39
40 Secretary of Zoning Board of Appeals

CASE NO. 634-AT-08

SUPPLEMENTAL MEMORANDUM

Champaign February 20, 2009

County Petitioner: **Zoning Administrator**
Department of



Prepared by: **John Hall**
Zoning Administrator

Brookens
Administrative Center
1776 E. Washington Street
Urbana, Illinois 61802

J.R. Knight
Associate Planner

Request:

(217) 384-3708 (A)
FAX (217) 328-2426

Authorize the County Board to approve Special Use Permits (SUP) and to change the requirements for the development of wind turbine developments (wind farms) to a County Board Special Use Permit (CBSUP) and a rezoning to the new Wind Farm Overlay Zoning District (WFO).

(B) Change the requirements for private wind turbines.

(C) Add a requirement for a County Board Special Use Permit for subdivisions in a Rural Residential Overlay District.

STATUS

This case was continued from the February 12, 2009, meeting. The minutes of that meeting are included separately and are ready for approval. Specific requests made by the Board are briefly reviewed below.

The short work week and staff sick days since the meeting have resulted in no other information being ready for public review prior to the February 20 mailing deadline. The remainder of Part A will be available at the meeting with changes based on comments received on February 12.

WIND FARM CONTRACT STIPULATIONS RELATED TO BUILDINGS

At the February 12 meeting the Board requested to review a copy of a landowner wind farm contract. Not all of the three developers have been contacted but those that have been contacted prefer not to submit any contracts for public review.

MOST RELEVANT F.A.A. REQUIREMENTS

At the February 12 meeting the Board also requested to review the most relevant Federal Aviation Administration (FAA) requirements. See attached. The most relevant requirements appear to be the following:

- Sections 77.1 through 77.39 of Title 14 of the Code of Federal Regulations (CFR) Part 77 Objects Affecting Navigable Airspace. Section 77.13 requires notice be sent to the FAA for any construction over 200 feet tall. Section 77.23 establishes that construction over 500 feet tall is an obstruction to air navigation. Section 77.23 also establishes that a height greater than the "imaginary surfaces" related to any civil airport would also be an obstruction to air navigation. Sections 77.31 through 77.39 review the aeronautical hearing that the FAA will require for any construction more than 200 feet tall.

It is anticipated that the total height of wind farm towers (to the highest rotor tip) to be constructed in Champaign County will be approximately 492 feet.

- Chapter 13 of FAA Advisory Circular AC 70/7460-1K Obstruction Marking and Lighting establishes the marking and lighting requirements for wind turbine farms.

ZONING ORDINANCE REQUIREMENTS RELATED TO F.A.A REQUIREMENTS

The *Zoning Ordinance* already contains requirements to ensure that heights do not interfere with the “imaginary surfaces” of airports, residential airports, restricted land areas, and heliport restricted land areas. See attached.

ATTACHMENTS

- A Title 14 of the Code of Federal Regulations (CFR) Part 77 Objects Affecting Navigable Airspace, Sections 77.1 through 77.39
- B Chapter 13 from FAA Advisory Circular AC 70/7460-1K Obstruction Marking and Lighting
- C Section 5.3 of the Zoning Ordinance
- D Relevant excerpts of Section 6.1.3 of the Zoning Ordinance
- E Minutes of February 12, 2009, public hearing (included separately)

§ 73.81

EDITORIAL NOTE: The restricted areas formerly carried as §§ 608.21 to 608.72 of this title were transferred to part 73 as §§ 73.21 to 73.72 under subpart B but are not carried in the Code of Federal Regulations. For FEDERAL REGISTER citations affecting these restricted areas, see the List of CFR Sections Affected, which appears in the Finding Aids section of the printed volume and on GPO Access.

Subpart C—Prohibited Areas

§ 73.81 Applicability.

This subpart designates prohibited areas and prescribes limitations on the operation of aircraft therein.

§ 73.83 Restrictions.

No person may operate an aircraft within a prohibited area unless authorization has been granted by the using agency.

§ 73.85 Using agency.

For the purpose of this subpart, the using agency is the agency, organization or military command that established the requirements for the prohibited area.

EDITORIAL NOTE: Sections 73.87 through 73.99 are reserved for descriptions of designated prohibited areas. For FEDERAL REGISTER citations affecting these prohibited areas, see the List of CFR Sections Affected, which appears in the Finding Aids section of the printed volume and on GPO Access.

PART 75 [RESERVED]

PART 77—OBJECTS AFFECTING NAVIGABLE AIRSPACE

SPECIAL FEDERAL AVIATION REGULATION NO. 98

Subpart A—General

Sec.

- 77.1 Scope.
- 77.2 Definition of terms.
- 77.3 Standards.
- 77.5 Kinds of objects affected.

Subpart B—Notice of Construction or Alteration

- 77.11 Scope.
- 77.13 Construction or alteration requiring notice.
- 77.15 Construction or alteration not requiring notice.
- 77.17 Form and time of notice.

14 CFR Ch. I (1–1–08 Edition)

- 77.19 Acknowledgment of notice.

Subpart C—Obstruction Standards

- 77.21 Scope.
- 77.23 Standards for determining obstructions.
- 77.25 Civil airport imaginary surfaces.
- 77.27 [Reserved]
- 77.28 Military airport imaginary surfaces.
- 77.29 Airport imaginary surfaces for heliports.

Subpart D—Aeronautical Studies of Effect of Proposed Construction on Navigable Airspace

- 77.31 Scope.
- 77.33 Initiation of studies.
- 77.35 Aeronautical studies.
- 77.37 Discretionary review.
- 77.39 Effective period of determination of no hazard.

Subpart E—Rules of Practice for Hearings Under Subpart D

- 77.41 Scope.
- 77.43 Nature of hearing.
- 77.45 Presiding officer.
- 77.47 Legal officer.
- 77.49 Notice of hearing.
- 77.51 Parties to the hearing.
- 77.53 Prehearing conference.
- 77.55 Examination of witnesses.
- 77.57 Evidence.
- 77.59 Subpoenas of witnesses and exhibits.
- 77.61 Revision of construction or alteration proposal.
- 77.63 Record of hearing.
- 77.65 Recommendations by parties.
- 77.67 Final decision of the Administrator.
- 77.69 Limitations on appearance and representation.

Subpart F—Establishment of Antenna Farm Areas

- 77.71 Scope.
- 77.73 General provisions.
- 77.75 Establishment of antenna farm areas.

AUTHORITY: 49 U.S.C. 106(g), 40103, 40113–40114, 44502, 44701, 44718, 46101–46102, 46104.

SOURCE: Docket No. 1882, 30 FR 1839, Feb. 10, 1965, unless otherwise noted.

SPECIAL FEDERAL AVIATION REGULATION NO. 98—CONSTRUCTION OR ALTERATION IN THE VICINITY OF THE PRIVATE RESIDENCE OF THE PRESIDENT OF THE UNITED STATES

Section 1. *Construction or alteration near the private residence of the President.* This section applies to:

(a) Any object of natural growth, terrain, or permanent or temporary construction or alteration, including appurtenances and equipment or materials used therein.

(b) Any apparatus of a permanent or temporary character.

Section 2. *Notice of Construction/Alteration.* Proponents proposing construction or alteration of any object described in Section 1 that would exceed 50 feet AGL and is within 3 NM radius of lat. 31°34'45 N, long. 97°32'00 W shall notify the Administrator in the form and manner prescribed in 14 CFR 77.17.

Section 3. *Obstruction Standard.*

(a) Any object described in Section 1 that would exceed 50 feet AGL and is within 3 NM radius of lat. 31°34'45N, long. 97°32'00W is an obstruction and is presumed to adversely affect aviation safety and therefore is a hazard to air navigation.

(b) A Determination of No Hazard will be issued only when the FAA determines, based upon submitted information and in consultation with the USMC and the SSPPD, that the construction or alteration will not adversely affect safety and would not result in a hazard to air navigation.

Section 4. *Termination.* This rule will terminate at the end of President George W. Bush's term in office.

[Doc. No. FAA-2003-14972, 68 FR 19732, Apr. 22, 2003; 68 FR 23584, May 5, 2003]

Subpart A—General

§ 77.1 Scope.

This part:

(a) Establishes standards for determining obstructions in navigable airspace;

(b) Sets forth the requirements for notice to the Administrator of certain proposed construction or alteration;

(c) Provides for aeronautical studies of obstructions to air navigation, to determine their effect on the safe and efficient use of airspace;

(d) Provides for public hearings on the hazardous effect of proposed construction or alteration on air navigation; and

(e) Provides for establishing antenna farm areas.

§ 77.2 Definition of terms.

For the purpose of this part:

Airport available for public use means an airport that is open to the general public with or without a prior request to use the airport.

A seaplane base is considered to be an airport only if its sea lanes are outlined by visual markers.

Nonprecision instrument runway means a runway having an existing instrument approach procedure utilizing air navigation facilities with only horizontal guidance, or area type navigation equipment, for which a straight-in nonprecision instrument approach procedure has been approved, or planned, and for which no precision approach facilities are planned, or indicated on an FAA planning document or military service military airport planning document.

Precision instrument runway means a runway having an existing instrument approach procedure utilizing an Instrument Landing System (ILS), or a Precision Approach Radar (PAR). It also means a runway for which a precision approach system is planned and is so indicated by an FAA approved airport layout plan; a military service approved military airport layout plan; any other FAA planning document, or military service military airport planning document.

Utility runway means a runway that is constructed for and intended to be used by propeller driven aircraft of 12,500 pounds maximum gross weight and less.

Visual runway means a runway intended solely for the operation of aircraft using visual approach procedures, with no straight-in instrument approach procedure and no instrument designation indicated on an FAA approved airport layout plan, a military service approved military airport layout plan, or by any planning document submitted to the FAA by competent authority.

[Doc. No. 8276, 33 FR 5256, Apr. 2, 1968, as amended by Amdt. 77-9, 36 FR 5969, Apr. 1, 1971]

§ 77.3 Standards.

(a) The standards established in this part for determining obstructions to air navigation are used by the Administrator in:

(1) Administering the Federal-aid Airport Program and the Surplus Airport Program;

§ 77.5

(2) Transferring property of the United States under section 16 of the Federal Airport Act;

(3) Developing technical standards and guidance in the design and construction of airports; and

(4) Imposing requirements for public notice of the construction or alteration of any structure where notice will promote air safety.

(b) The standards used by the Administrator in the establishment of flight procedures and aircraft operational limitations are not set forth in this part but are contained in other publications of the Administrator.

[Doc. No. 1882, 30 FR 1839, Feb. 10, 1965, as amended by Amdt. 77-9, 36 FR 5970, Apr. 1, 1971]

§ 77.5 Kinds of objects affected.

This part applies to:

(a) Any object of natural growth, terrain, or permanent or temporary construction or alteration, including equipment or materials used therein, and apparatus of a permanent or temporary character; and

(b) Alteration of any permanent or temporary existing structure by a change in its height (including appurtenances), or lateral dimensions, including equipment or materials used therein.

Subpart B—Notice of Construction or Alteration

§ 77.11 Scope.

(a) This subpart requires each person proposing any kind of construction or alteration described in § 77.13(a) to give adequate notice to the Administrator. It specifies the locations and dimensions of the construction or alteration for which notice is required and prescribes the form and manner of the notice. It also requires supplemental notices 48 hours before the start and upon the completion of certain construction or alteration that was the subject of a notice under § 77.13(a).

(b) Notices received under this subpart provide a basis for:

(1) Evaluating the effect of the construction or alteration on operational procedures and proposed operational procedures;

14 CFR Ch. I (1-1-08 Edition)

(2) Determinations of the possible hazardous effect of the proposed construction or alteration on air navigation;

(3) Recommendations for identifying the construction or alteration in accordance with the current Federal Aviation Administration Advisory Circular AC 70/7460-1 entitled "Obstruction Marking and Lighting," which is available without charge from the Department of Transportation, Distribution Unit, TAD 484.3, Washington, DC 20590.

(4) Determining other appropriate measures to be applied for continued safety of air navigation; and

(5) Charting and other notification to airmen of the construction or alteration.

(Sec. 6, 80 Stat. 937, 49 U.S.C. 1655)

[Doc. No. 1882, 30 FR 1839, Feb. 10, 1965, as amended by Amdt. 77-8, 33 FR 18614, Dec. 17, 1968; Amdt. 77-10, 37 FR 4705, Mar. 4, 1972]

§ 77.13 Construction or alteration requiring notice.

(a) Except as provided in § 77.15, each sponsor who proposes any of the following construction or alteration shall notify the Administrator in the form and manner prescribed in § 77.17:

(1) Any construction or alteration of more than 200 feet in height above the ground level at its site.

(2) Any construction or alteration of greater height than an imaginary surface extending outward and upward at one of the following slopes:

(i) 100 to 1 for a horizontal distance of 20,000 feet from the nearest point of the nearest runway of each airport specified in paragraph (a)(5) of this section with at least one runway more than 3,200 feet in actual length, excluding heliports.

(ii) 50 to 1 for a horizontal distance of 10,000 feet from the nearest point of the nearest runway of each airport specified in paragraph (a)(5) of this section with its longest runway no more than 3,200 feet in actual length, excluding heliports.

(iii) 25 to 1 for a horizontal distance of 5,000 feet from the nearest point of the nearest landing and takeoff area of each heliport specified in paragraph (a)(5) of this section.

(3) Any highway, railroad, or other traverse way for mobile objects, of a height which, if adjusted upward 17 feet for an Interstate Highway that is part of the National System of Military and Interstate Highways where over-crossings are designed for a minimum of 17 feet vertical distance, 15 feet for any other public roadway, 10 feet or the height of the highest mobile object that would normally traverse the road, whichever is greater, for a private road, 23 feet for a railroad, and for a waterway or any other traverse way not previously mentioned, an amount equal to the height of the highest mobile object that would normally traverse it, would exceed a standard of paragraph (a) (1) or (2) of this section.

(4) When requested by the FAA, any construction or alteration that would be in an instrument approach area (defined in the FAA standards governing instrument approach procedures) and available information indicates it might exceed a standard of subpart C of this part.

(5) Any construction or alteration on any of the following airports (including heliports):

(i) An airport that is available for public use and is listed in the Airport Directory of the current Airman's Information Manual or in either the Alaska or Pacific Airman's Guide and Chart Supplement.

(ii) An airport under construction, that is the subject of a notice or proposal on file with the Federal Aviation Administration, and, except for military airports, it is clearly indicated that that airport will be available for public use.

(iii) An airport that is operated by an armed force of the United States.

(b) Each sponsor who proposes construction or alteration that is the subject of a notice under paragraph (a) of this section and is advised by an FAA regional office that a supplemental notice is required shall submit that notice on a prescribed form to be received by the FAA regional office at least 48 hours before the start of the construction or alteration.

(c) Each sponsor who undertakes construction or alteration that is the subject of a notice under paragraph (a) of this section shall, within 5 days after

that construction or alteration reaches its greatest height, submit a supplemental notice on a prescribed form to the FAA regional office having jurisdiction over the region involved, if—

(1) The construction or alteration is more than 200 feet above the surface level of its site; or

(2) An FAA regional office advises him that submission of the form is required.

[Doc. No. 8276, 33 FR 5256, Apr. 2, 1968, as amended by Amdt. 77-9, 36 FR 5970, Apr. 1, 1971; Amdt. 77-10, 37 FR 4705, Mar. 4, 1972]

§ 77.15 Construction or alteration not requiring notice.

No person is required to notify the Administrator for any of the following construction or alteration:

(a) Any object that would be shielded by existing structures of a permanent and substantial character or by natural terrain or topographic features of equal or greater height, and would be located in the congested area of a city, town, or settlement where it is evident beyond all reasonable doubt that the structure so shielded will not adversely affect safety in air navigation.

(b) Any antenna structure of 20 feet or less in height except one that would increase the height of another antenna structure.

(c) Any air navigation facility, airport visual approach or landing aid, aircraft arresting device, or meteorological device, of a type approved by the Administrator, or an appropriate military service on military airports, the location and height of which is fixed by its functional purpose.

(d) Any construction or alteration for which notice is required by any other FAA regulation.

[Doc. No. 1882, 30 FR 1839, Feb. 10, 1965, as amended by Amdt. 77-5, 33 FR 5257, Apr. 2, 1968; Amdt. 77-9, 36 FR 5970, Apr. 1, 1971]

§ 77.17 Form and time of notice.

(a) Each person who is required to notify the Administrator under § 77.13(a) shall send one executed form set (four copies) of FAA Form 7460-1, Notice of Proposed Construction or Alteration, to the Manager, Air Traffic Division, FAA Regional Office having jurisdiction over the area within which the construction or alteration will be

§ 77.19

14 CFR Ch. I (1-1-08 Edition)

located. Copies of FAA Form 7460-1 may be obtained from the headquarters of the Federal Aviation Administration and the regional offices.

(b) The notice required under § 77.13(a) (1) through (4) must be submitted at least 30 days before the earlier of the following dates:

(1) The date the proposed construction or alteration is to begin.

(2) The date an application for a construction permit is to be filed.

However, a notice relating to proposed construction or alteration that is subject to the licensing requirements of the Federal Communications Act may be sent to FAA at the same time the application for construction is filed with the Federal Communications Commission, or at any time before that filing.

(c) A proposed structure or an alteration to an existing structure that exceeds 2,000 feet in height above the ground will be presumed to be a hazard to air navigation and to result in an inefficient utilization of airspace and the applicant has the burden of overcoming that presumption. Each notice submitted under the pertinent provisions of this part 77 proposing a structure in excess of 2,000 feet above ground, or an alteration that will make an existing structure exceed that height, must contain a detailed showing, directed to meeting this burden. Only in exceptional cases, where the FAA concludes that a clear and compelling showing has been made that it would not result in an inefficient utilization of the airspace and would not result in a hazard to air navigation, will a determination of no hazard be issued.

(d) In the case of an emergency involving essential public services, public health, or public safety that requires immediate construction or alteration, the 30-day requirement in paragraph (b) of this section does not apply and the notice may be sent by telephone, telegraph, or other expeditious means, with an executed FAA Form 7460-1 submitted within 5 days thereafter. Outside normal business hours, emergency notices by telephone or telegraph may be submitted to the nearest FAA Flight Service Station.

(e) Each person who is required to notify the Administrator by paragraph

(b) or (c) of § 77.13, or both, shall send an executed copy of FAA Form 117-1, Notice of Progress of Construction or Alteration, to the Manager, Air Traffic Division, FAA Regional Office having jurisdiction over the area involved.

(Sec. 6, 80 Stat. 937, 49 U.S.C. 1655)

[Doc. No. 1882, 30 FR 1839, Feb. 10, 1965, as amended by Amdt. 77-2, 31 FR 9449, July 12, 1966; Amdt. 77-8, 33 FR 18614, Dec. 17, 1968; Amdt. 77-10, 37 FR 4705, Mar. 4, 1972; Amdt. 77-11, 54 FR 39292, Sept. 25, 1989]

§ 77.19 Acknowledgment of notice.

(a) The FAA acknowledges in writing the receipt of each notice submitted under § 77.13(a).

(b) If the construction or alteration proposed in a notice is one for which lighting or marking standards are prescribed in the FAA Advisory Circular AC 70/7460-1, entitled "Obstruction Marking and Lighting," the acknowledgment contains a statement to that effect and information on how the structure should be marked and lighted in accordance with the manual.

(c) The acknowledgment states that an aeronautical study of the proposed construction or alteration has resulted in a determination that the construction or alteration:

(1) Would not exceed any standard of subpart C and would not be a hazard to air navigation;

(2) Would exceed a standard of subpart C but would not be a hazard to air navigation; or

(3) Would exceed a standard of subpart C and further aeronautical study is necessary to determine whether it would be a hazard to air navigation, that the sponsor may request within 30 days that further study, and that, pending completion of any further study, it is presumed the construction or alteration would be a hazard to air navigation.

[Doc. No. 1882, 30 FR 1839, Feb. 10, 1965, as amended by Amdt. 77-4, 32 FR 12997, Sept. 13, 1967; Amdt. 77-5, 33 FR 5257, Apr. 2, 1968]

Subpart C—Obstruction Standards

§ 77.21 Scope.

(a) This subpart establishes standards for determining obstructions to air navigation. It applies to existing

and proposed manmade objects, objects of natural growth, and terrain. The standards apply to the use of navigable airspace by aircraft and to existing air navigation facilities, such as an air navigation aid, airport, Federal airway, instrument approach or departure procedure, or approved off-airway route. Additionally, they apply to a planned facility or use, or a change in an existing facility or use, if a proposal therefor is on file with the Federal Aviation Administration or an appropriate military service on the date the notice required by § 77.13(a) is filed.

(b) At those airports having defined runways with specially prepared hard surfaces, the primary surface for each such runway extends 200 feet beyond each end of the runway. At those airports having defined strips or pathways that are used regularly for the taking off and landing of aircraft and have been designated by appropriate authority as runways, but do not have specially prepared hard surfaces, each end of the primary surface for each such runway shall coincide with the corresponding end of the runway. At those airports, excluding seaplane bases, having a defined landing and takeoff area with no defined pathways for the landing and taking off of aircraft, a determination shall be made as to which portions of the landing and takeoff area are regularly used as landing and takeoff pathways. Those pathways so determined shall be considered runways and an appropriate primary surface as defined in § 77.25(c) will be considered as being longitudinally centered on each runway so determined, and each end of that primary surface shall coincide with the corresponding end of that runway.

(c) The standards in this subpart apply to the effect of construction or alteration proposals upon an airport if, at the time of filing of the notice required by § 77.13(a), that airport is—

(1) Available for public use and is listed in the Airport Directory of the current Airman's Information Manual or in either the Alaska or Pacific Airman's Guide and Chart Supplement; or

(2) A planned or proposed airport or an airport under construction, that is the subject of a notice or proposal on file with the Federal Aviation Admin-

istration, and, except for military airports, it is clearly indicated that that airport will be available for public use; or,

(3) An airport that is operated by an armed force of the United States.

[Doc. No. 1882, 30 FR 1839, Feb. 10, 1965, as amended by Amdt. 77-5, 33 FR 5257, Apr. 2, 1968; Amdt. 77-9, 36 FR 5970, Apr. 1, 1971]

§ 77.23 Standards for determining obstructions.

(a) An existing object, including a mobile object, is, and a future object would be, an obstruction to air navigation if it is of greater height than any of the following heights or surfaces:

(1) A height of 500 feet above ground level at the site of the object.

(2) A height that is 200 feet above ground level or above the established airport elevation, whichever is higher, within 3 nautical miles of the established reference point of an airport, excluding heliports, with its longest runway more than 3,200 feet in actual length, and that height increases in the proportion of 100 feet for each additional nautical mile of distance from the airport up to a maximum of 500 feet.

(3) A height within a terminal obstacle clearance area, including an initial approach segment, a departure area, and a circling approach area, which would result in the vertical distance between any point on the object and an established minimum instrument flight altitude within that area or segment to be less than the required obstacle clearance.

(4) A height within an en route obstacle clearance area, including turn and termination areas, of a Federal airway or approved off-airway route, that would increase the minimum obstacle clearance altitude.

(5) The surface of a takeoff and landing area of an airport or any imaginary surface established under § 77.25, § 77.28, or § 77.29. However, no part of the takeoff or landing area itself will be considered an obstruction.

(b) Except for traverse ways on or near an airport with an operative ground traffic control service, furnished by an air traffic control tower or by the airport management and coordinated with the air traffic control

service, the standards of paragraph (a) of this section apply to traverse ways used or to be used for the passage of mobile objects only after the heights of these traverse ways are increased by:

- (1) Seventeen feet for an Interstate Highway that is part of the National System of Military and Interstate Highways where overcrossings are designed for a minimum of 17 feet vertical distance.
- (2) Fifteen feet for any other public roadway.
- (3) Ten feet or the height of the highest mobile object that would normally traverse the road, whichever is greater, for a private road.
- (4) Twenty-three feet for a railroad, and,
- (5) For a waterway or any other traverse way not previously mentioned, an amount equal to the height of the highest mobile object that would normally traverse it.

[Doc. No. 10183, 36 FR 5970, Apr. 1, 1971]

§ 77.25 Civil airport imaginary surfaces.

The following civil airport imaginary surfaces are established with relation to the airport and to each runway. The size of each such imaginary surface is based on the category of each runway according to the type of approach available or planned for that runway. The slope and dimensions of the approach surface applied to each end of a runway are determined by the most precise approach existing or planned for that runway end.

(a) *Horizontal surface.* A horizontal plane 150 feet above the established airport elevation, the perimeter of which is constructed by swinging arcs of specified radii from the center of each end of the primary surface of each runway of each airport and connecting the adjacent arcs by lines tangent to those arcs. The radius of each arc is:

- (1) 5,000 feet for all runways designated as utility or visual;
- (2) 10,000 feet for all other runways. The radius of the arc specified for each end of a runway will have the same arithmetical value. That value will be the highest determined for either end of the runway. When a 5,000-foot arc is encompassed by tangents connecting two adjacent 10,000-foot arcs, the 5,000-

foot arc shall be disregarded on the construction of the perimeter of the horizontal surface.

(b) *Conical surface.* A surface extending outward and upward from the periphery of the horizontal surface at a slope of 20 to 1 for a horizontal distance of 4,000 feet.

(c) *Primary surface.* A surface longitudinally centered on a runway. When the runway has a specially prepared hard surface, the primary surface extends 200 feet beyond each end of that runway; but when the runway has no specially prepared hard surface, or planned hard surface, the primary surface ends at each end of that runway. The elevation of any point on the primary surface is the same as the elevation of the nearest point on the runway centerline. The width of a primary surface is:

- (1) 250 feet for utility runways having only visual approaches.
- (2) 500 feet for utility runways having nonprecision instrument approaches.
- (3) For other than utility runways the width is:
 - (i) 500 feet for visual runways having only visual approaches.
 - (ii) 500 feet for nonprecision instrument runways having visibility minimums greater than three-fourths statute mile.
 - (iii) 1,000 feet for a nonprecision instrument runway having a nonprecision instrument approach with visibility minimums as low as three-fourths of a statute mile, and for precision instrument runways.

The width of the primary surface of a runway will be that width prescribed in this section for the most precise approach existing or planned for either end of that runway.

(d) *Approach surface.* A surface longitudinally centered on the extended runway centerline and extending outward and upward from each end of the primary surface. An approach surface is applied to each end of each runway based upon the type of approach available or planned for that runway end.

(1) The inner edge of the approach surface is the same width as the primary surface and it expands uniformly to a width of:

- (i) 1,250 feet for that end of a utility runway with only visual approaches;

(ii) 1,500 feet for that end of a runway other than a utility runway with only visual approaches;

(iii) 2,000 feet for that end of a utility runway with a nonprecision instrument approach;

(iv) 3,500 feet for that end of a nonprecision instrument runway other than utility, having visibility minimums greater than three-fourths of a statute mile;

(v) 4,000 feet for that end of a nonprecision instrument runway other than utility, having a nonprecision instrument approach with visibility minimums as low as three-fourths statute mile; and

(vi) 16,000 feet for precision instrument runways.

(2) The approach surface extends for a horizontal distance of:

(i) 5,000 feet at a slope of 20 to 1 for all utility and visual runways;

(ii) 10,000 feet at a slope of 34 to 1 for all nonprecision instrument runways other than utility; and,

(iii) 10,000 feet at a slope of 50 to 1 with an additional 40,000 feet at a slope of 40 to 1 for all precision instrument runways.

(3) The outer width of an approach surface to an end of a runway will be that width prescribed in this subsection for the most precise approach existing or planned for that runway end.

(e) *Transitional surface.* These surfaces extend outward and upward at right angles to the runway centerline and the runway centerline extended at a slope of 7 to 1 from the sides of the primary surface and from the sides of the approach surfaces. Transitional surfaces for those portions of the precision approach surface which project through and beyond the limits of the conical surface, extend a distance of 5,000 feet measured horizontally from the edge of the approach surface and at right angles to the runway centerline.

[Doc. No. 10183, 36 FR 5970, Apr. 1, 1971; 36 FR 6741, Apr. 8, 1971]

§ 77.27 [Reserved]

§ 77.28 Military airport imaginary surfaces.

(a) *Related to airport reference points.* These surfaces apply to all military

airports. For the purposes of this section a military airport is any airport operated by an armed force of the United States.

(1) *Inner horizontal surface.* A plane is oval in shape at a height of 150 feet above the established airfield elevation. The plane is constructed by scribing an arc with a radius of 7,500 feet about the centerline at the end of each runway and interconnecting these arcs with tangents.

(2) *Conical surface.* A surface extending from the periphery of the inner horizontal surface outward and upward at a slope of 20 to 1 for a horizontal distance of 7,000 feet to a height of 500 feet above the established airfield elevation.

(3) *Outer horizontal surface.* A plane, located 500 feet above the established airfield elevation, extending outward from the outer periphery of the conical surface for a horizontal distance of 30,000 feet.

(b) *Related to runways.* These surfaces apply to all military airports.

(1) *Primary surface.* A surface located on the ground or water longitudinally centered on each runway with the same length as the runway. The width of the primary surface for runways is 2,000 feet. However, at established bases where substantial construction has taken place in accordance with a previous lateral clearance criteria, the 2,000-foot width may be reduced to the former criteria.

(2) *Clear zone surface.* A surface located on the ground or water at each end of the primary surface, with a length of 1,000 feet and the same width as the primary surface.

(3) *Approach clearance surface.* An inclined plane, symmetrical about the runway centerline extended, beginning 200 feet beyond each end of the primary surface at the centerline elevation of the runway end and extending for 50,000 feet. The slope of the approach clearance surface is 50 to 1 along the runway centerline extended until it reaches an elevation of 500 feet above the established airport elevation. It then continues horizontally at this elevation to a point 50,000 feet from the point of beginning. The width of this surface at

§ 77.29

the runway end is the same as the primary surface, it flares uniformly, and the width at 50,000 is 16,000 feet.

(4) *Transitional surfaces.* These surfaces connect the primary surfaces, the first 200 feet of the clear zone surfaces, and the approach clearance surfaces to the inner horizontal surface, conical surface, outer horizontal surface or other transitional surfaces. The slope of the transitional surface is 7 to 1 outward and upward at right angles to the runway centerline.

[Doc. No. 1882, 30 FR 1839, Feb. 10, 1965, as amended by Amdt. 77-1, 30 FR 6713, May 18, 1965; Amdt. 77-9, 36 FR 5971, Apr. 1, 1971]

§ 77.29 Airport imaginary surfaces for heliports.

(a) *Heliport primary surface.* The area of the primary surface coincides in size and shape with the designated take-off and landing area of a heliport. This surface is a horizontal plane at the elevation of the established heliport elevation.

(b) *Heliport approach surface.* The approach surface begins at each end of the heliport primary surface with the same width as the primary surface, and extends outward and upward for a horizontal distance of 4,000 feet where its width is 500 feet. The slope of the approach surface is 8 to 1 for civil heliports and 10 to 1 for military heliports.

(c) *Heliport transitional surfaces* These surfaces extend outward and upward from the lateral boundaries of the heliport primary surface and from the approach surfaces at a slope of 2 to 1 for a distance of 250 feet measured horizontally from the centerline of the primary and approach surfaces.

[Doc. No. 1882, 30 FR 1839, Feb. 10, 1965, as amended by Amdt. 77-9, 36 FR 5971, Apr. 1, 1971; 36 FR 6741, Apr. 8, 1971]

Subpart D—Aeronautical Studies of Effect of Proposed Construction on Navigable Airspace

§ 77.31 Scope.

(a) This subpart applies to the conduct of aeronautical studies of the effect of proposed construction or alteration on the use of air navigation facilities or navigable airspace by air-

14 CFR Ch. I (1-1-08 Edition)

craft. In the aeronautical studies, present and future IFR and VFR aeronautical operations and procedures are reviewed and any possible changes in those operations and procedures and in the construction proposal that would eliminate or alleviate the conflicting demands are ascertained.

(b) The conclusion of a study made under this subpart is normally a determination as to whether the specific proposal studied would be a hazard to air navigation.

[Doc. No. 1882, 30 FR 1839, Feb. 10, 1965, as amended by Amdt. 77-6, 33 FR 10843, July 31, 1968]

§ 77.33 Initiation of studies.

(a) An aeronautical study is conducted by the FAA:

(1) Upon the request of the sponsor or any construction or alteration for which a notice is submitted under subpart B of this part, unless that construction or alteration would be located within an antenna farm area established under subpart F of this part; or

(2) Whenever the FAA determines it appropriate.

[Doc. No. 1882, 30 FR 1839, Feb. 10, 1965, as amended by Amdt. 77-4, 32 FR 12997, Sept. 13, 1967]

§ 77.35 Aeronautical studies.

(a) The Regional Manager, Air Traffic Division of the region in which the proposed construction or alteration would be located, or his designee, conducts the aeronautical study of the effect of the proposal upon the operation of air navigation facilities and the safe and efficient utilization of the navigable airspace. This study may include the physical and electromagnetic radiation effect the proposal may have on the operation of an air navigation facility.

(b) To the extent considered necessary, the Regional Manager, Air Traffic Division or his designee:

(1) Solicits comments from all interested persons;

(2) Explores objections to the proposal and attempts to develop recommendations for adjustment of aviation requirements that would accommodate the proposed construction or alteration;

(3) Examines possible revisions of the proposal that would eliminate the exceeding of the standards in subpart C of this part; and

(4) Convenes a meeting with all interested persons for the purpose of gathering all facts relevant to the effect of the proposed construction or alteration on the safe and efficient utilization of the navigable airspace.

(c) The Regional Manager, Air Traffic Division or his designee issues a determination as to whether the proposed construction or alteration would be a hazard to air navigation and sends copies to all known interested persons. This determination is final unless a petition for review is granted under § 77.37.

(d) If the sponsor revises his proposal to eliminate exceeding of the standards of subpart C of this part, or withdraws it, the Regional Manager, Air Traffic Division, or his designee, terminates the study and notifies all known interested persons.

[Doc. No. 1882, 30 FR 1839, Feb. 10, 1965, as amended by Amdt. 77-6, 33 FR 10843, July 31, 1968; Amdt. 77-11, 54 FR 39292, Sept. 25, 1989]

§ 77.37 Discretionary review.

(a) The sponsor of any proposed construction or alteration or any person who stated a substantial aeronautical objection to it in an aeronautical study, or any person who has a substantial aeronautical objection to it but was not given an opportunity to state it, may petition the Administrator, within 30 days after issuance of the determination under § 77.19 or § 77.35 or revision or extension of the determination under § 77.39(c), for a review of the determination, revision, or extension. This paragraph does not apply to any acknowledgment issued under § 77.19(c)(1).

(b) The petition must be in triplicate and contain a full statement of the basis upon which it is made.

(c) The Administrator examines each petition and decides whether a review will be made and, if so, whether it will be:

(1) A review on the basis of written materials, including study of a report by the Regional Manager, Air Traffic Division of the aeronautical study, briefs, and related submissions by any

interested party, and other relevant facts, with the Administrator affirming, revising, or reversing the determination issued under § 77.19, § 77.35 or § 77.39(c); or

(2) A review on the basis of a public hearing, conducted in accordance with the procedures prescribed in subpart E of this part.

[Doc. No. 1882, 30 FR 1839, Feb. 10, 1965, as amended by Amdt. 77-3, 32 FR 6970, May 6, 1967; Amdt. 77-11, 54 FR 39292, Sept. 25, 1989]

§ 77.39 Effective period of determination of no hazard.

(a) Unless it is otherwise extended, revised, or terminated, each final determination of no hazard made under this subpart or subpart B or E of this part expires 18 months after its effective date, regardless of whether the proposed construction or alteration has been started, or on the date the proposed construction or alteration is abandoned, whichever is earlier.

(b) In any case, including a determination to which paragraph (d) of this section applies, where the proposed construction or alteration has not been started during the applicable period by actual structural work, such as the laying of a foundation, but not including excavation, any interested person may, at least 15 days before the date the final determination expires, petition the FAA official who issued the determination to:

(1) Revise the determination based on new facts that change the basis on which it was made; or

(2) Extend its effective period.

(c) The FAA official who issued the determination reviews each petition presented under paragraph (b) of this section, and revises, extends, or affirms the determination as indicated by his findings.

(d) In any case in which a final determination made under this subpart or subpart B or E of this part relates to proposed construction or alteration that may not be started unless the Federal Communications Commission issues an appropriate construction permit, the effective period of each final determination includes—

(1) The time required to apply to the Commission for a construction permit, but not more than 6 months after the

§ 77.41

effective date of the determination; and

(2) The time necessary for the Commission to process the application except in a case where the Administrator determines a shorter effective period is required by the circumstances.

(e) If the Commission issues a construction permit, the final determination is effective until the date prescribed for completion of the construction. If the Commission refuses to issue a construction permit, the final determination expires on the date of its refusal.

[Doc. No. 1882, 30 FR 1839, Feb. 10, 1965, as amended by Amdt. 77-5, 33 FR 5257, Apr. 2, 1968]

Subpart E—Rules of Practice for Hearings Under Subpart D

§ 77.41 Scope.

This subpart applies to hearings held by the FAA under titles I, III, and X of the Federal Aviation Act of 1958 (49 U.S.C. subchapters I, III, and X), on proposed construction or alteration that affects the use of navigable airspace.

§ 77.43 Nature of hearing.

Sections 4, 5, 7, and 8 of the Administrative Procedure Act (5 U.S.C. 1003, 1004, 1006, and 1007) do not apply to hearings held on proposed construction or alteration to determine its effect on the safety of aircraft and the efficient use of navigable airspace because those hearings are factfinding in nature. As a factfinding procedure, each hearing is nonadversary and there are no formal pleadings or adverse parties.

§ 77.45 Presiding officer.

(a) If, under § 79.37, the Administrator grants a public hearing on any proposed construction or alteration covered by this part, the Director, Air Traffic Operations Service designates an FAA employee to be the presiding officer at the hearing.

(b) The presiding officer may:

(1) Give notice of the date and location of the hearing and any prehearing conference that may be held;

(2) Administer oaths and affirmations;

(3) Examine witnesses;

(4) Issue subpoenas and take depositions or have them taken;

(5) Obtain, in the form of a public record, all pertinent and relevant facts relating to the subject matter of the hearing;

(6) Rule, with the assistance of the legal officer, upon the admissibility of evidence;

(7) Regulate the course and conduct of the hearing; and

(8) Designate parties to the hearing and revoke those designations.

[Doc. No. 1882, 30 FR 1839, Feb. 10, 1965, as amended by Amdt. 77-11, 54 FR 39292, Sept. 25, 1989]

§ 77.47 Legal officer.

The Chief Counsel designates a member of his staff to serve as legal officer at each hearing under this subpart. The legal officer may examine witnesses and assist and advise the presiding officer on questions of evidence or other legal questions arising during the hearing.

[Doc. No. 1882, 30 FR 1839, Feb. 10, 1965, as amended at 38 FR 26444, Sept. 17, 1973]

§ 77.49 Notice of hearing.

In designating a time and place for a hearing under this subpart the presiding officer considers the needs of the FAA and the convenience of the parties and witnesses. The time and place of each hearing is published in the "Notices" section of the FEDERAL REGISTER before the date of the hearing, unless the notice is impractical or unnecessary.

§ 77.51 Parties to the hearing.

The presiding officer designates the following as parties to the hearing—

(a) The proponent of the proposed construction or alteration.

(b) Those persons whose activities would be substantially affected by the proposed construction or alteration.

§ 77.53 Prehearing conference.

(a) The presiding officer may, in his discretion, hold a prehearing conference with the parties to the hearing and the legal officer before the hearing.

14 CFR Ch. I (1-1-08 Edition)



Obstruction Marking and Lighting

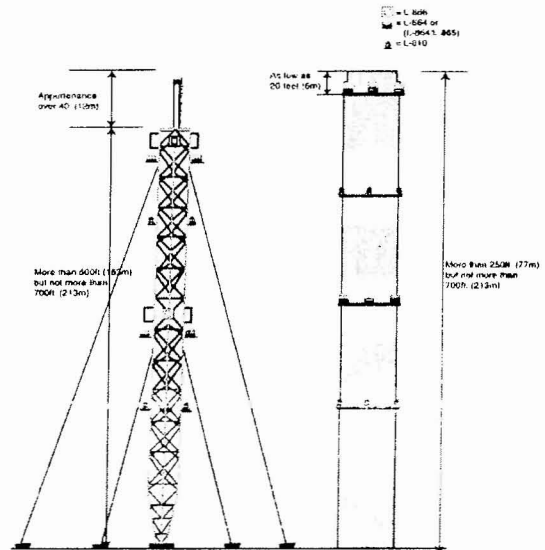
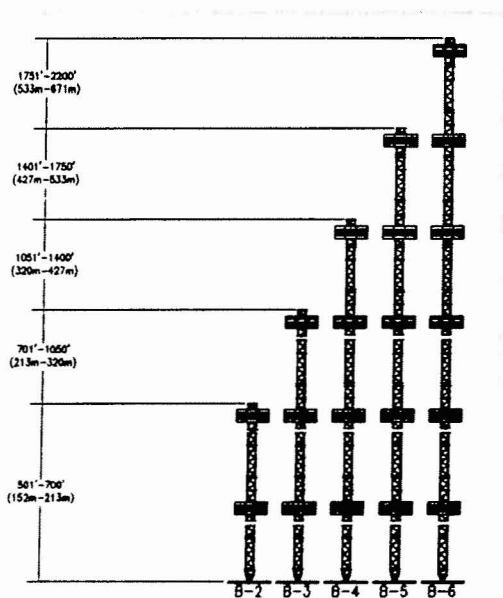
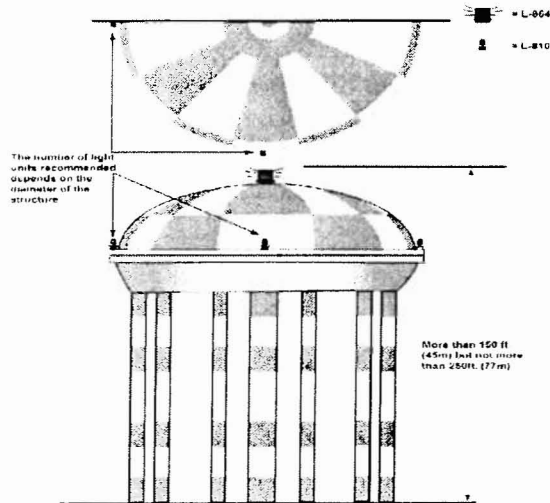


TABLE OF CONTENTS

CHAPTER 1. ADMINISTRATIVE AND GENERAL PROCEDURES

1. REPORTING REQUIREMENTS	1
2. PRECONSTRUCTION NOTICE	1
3. FAA ACKNOWLEDGEMENT	1
4. SUPPLEMENTAL NOTICE REQUIREMENT	1
5. MODIFICATIONS AND DEVIATIONS	1
6. ADDITIONAL NOTIFICATION	2
7. METRIC UNITS	2

CHAPTER 2. GENERAL

20. STRUCTURES TO BE MARKED AND LIGHTED	3
21. GUYED STRUCTURES	3
22. MARKING AND LIGHTING EQUIPMENT	3
23. LIGHT FAILURE NOTIFICATION	3
24. NOTIFICATION OF RESTORATION	4
25. FCC REQUIREMENT	4

CHAPTER 3. MARKING GUIDELINES

30. PURPOSE	5
31. PAINT COLORS	5
32. PAINT STANDARDS	5
33. PAINT PATTERNS	5
34. MARKERS	6
35. UNUSUAL COMPLEXITIES	7
36. OMISSION OR ALTERNATIVES TO MARKING	7

CHAPTER 4. LIGHTING GUIDELINE

40. PURPOSE	9
41. STANDARDS	9
42. LIGHTING SYSTEMS	9
43. CATENARY LIGHTING	10
44. INSPECTION, REPAIR AND MAINTENANCE	10
45. NONSTANDARD LIGHTS	10
46. PLACEMENT FACTORS	10
47. MONITORING OBSTRUCTION LIGHTS	11
48. ICE SHIELDS	11
49. DISTRACTION	11

CHAPTER 5. RED OBSTRUCTION LIGHT SYSTEM

50. PURPOSE	13
51. STANDARDS	13
52. CONTROL DEVICE	13
53. POLES, TOWERS, AND SIMILAR SKELETAL STRUCTURES	13
54. CHIMNEYS, FLARE STACKS, AND SIMILAR SOLID STRUCTURES	14
55. GROUP OF OBSTRUCTIONS	14
56. ALTERNATE METHOD OF DISPLAYING OBSTRUCTION LIGHTS	15
57. PROMINENT BUILDINGS, BRIDGES, AND SIMILAR EXTENSIVE OBSTRUCTIONS	15

CHAPTER 6. MEDIUM INTENSITY FLASHING WHITE OBSTRUCTION LIGHT SYSTEMS

60. PURPOSE	17
61. STANDARDS.....	17
62. RADIO AND TELEVISION TOWERS AND SIMILAR SKELETAL STRUCTURES.....	17
63. CONTROL DEVICE	17
64. CHIMNEYS, FLARE STACKS, AND SIMILAR SOLID STRUCTURES.....	18
65. GROUP OF OBSTRUCTIONS.....	18
66. SPECIAL CASES.....	18
67. PROMINENT BUILDINGS AND SIMILAR EXTENSIVE OBSTRUCTIONS	18

CHAPTER 7. HIGH INTENSITY FLASHING WHITE OBSTRUCTION LIGHT SYSTEMS

70. PURPOSE	19
71. STANDARDS.....	19
72. CONTROL DEVICE	19
73. UNITS PER LEVEL	19
74. INSTALLATION GUIDANCE.....	19
75. ANTENNA OR SIMILAR APPURTENANCE LIGHT	20
76. CHIMNEYS, FLARE STACKS, AND SIMILAR SOLID STRUCTURES.....	20
77. RADIO AND TELEVISION TOWERS AND SIMILAR SKELETAL STRUCTURES.....	20
78. HYPERBOLIC COOLING TOWERS.....	20
79. PROMINENT BUILDINGS AND SIMILAR EXTENSIVE OBSTRUCTIONS	21

CHAPTER 8. DUAL LIGHTING WITH RED/MEDIUM INTENSITY FLASHING WHITE SYSTEMS

80. PURPOSE	23
81. INSTALLATION	23
82. OPERATION.....	23
83. CONTROL DEVICE	23
84. ANTENNA OR SIMILAR APPURTENANCE LIGHT	23
85. OMISSION OF MARKING	23

CHAPTER 9. DUAL LIGHTING WITH RED/HIGH INTENSITY FLASHING WHITE SYSTEMS

90. PURPOSE	25
91. INSTALLATION	25
92. OPERATION.....	25
93. CONTROL DEVICE	25
94. ANTENNA OR SIMILAR APPURTENANCE LIGHT	25
95. OMISSION OF MARKING	25

CHAPTER 10. MARKING AND LIGHTING OF CATENARY AND CATENARY SUPPORT STRUCTURES

100. PURPOSE	27
101. CATENARY MARKING STANDARDS	27
102. CATENARY LIGHTING STANDARDS.....	27
103. CONTROL DEVICE	28
104. AREA SURROUNDING CATENARY SUPPORT STRUCTURES.....	28
105. THREE OR MORE CATENARY SUPPORT STRUCTURES.....	28

CHAPTER 11. MARKING AND LIGHTING MOORED BALLOONS AND KITES

110. PURPOSE	29
111. STANDARDS.....	29
112. MARKING.....	29
113. PURPOSE	29
114. OPERATIONAL CHARACTERISTICS.....	29

CHAPTER 12. MARKING AND LIGHTING EQUIPMENT AND INFORMATION

120. PURPOSE	31
121. PAINT STANDARD	31
122. AVAILABILITY OF SPECIFICATIONS	31
123. LIGHTS AND ASSOCIATED EQUIPMENT.....	31
124. AVAILABILITY	32

CHAPTER 13. MARKING AND LIGHTING WIND TURBINE FARMS

130. PURPOSE	33
131. GENERAL STANDARDS.....	33
132. WIND TURBINE CONFIGURATIONS.....	33
133. MARKING STANDARDS.....	33
134. LIGHTING STANDARDS.....	33

APPENDIX 1: SPECIFICATIONS FOR OBSTRUCTION LIGHTING EQUIPMENT CLASSIFICATION

APPENDIX	A1-2
----------------	------

APPENDIX 2. MISCELLANEOUS

1. RATIONALE FOR OBSTRUCTION LIGHT INTENSITIES.....	A2-1
2. DISTANCE VERSUS INTENSITIES.	A2-1
3. CONCLUSION.....	A2-1
4. DEFINITIONS.....	A2-1
5. LIGHTING SYSTEM CONFIGURATION.	A2-2

CHAPTER 13. MARKING AND LIGHTING WIND TURBINE FARMS

130. PURPOSE

This chapter provides guidelines for the marking and lighting of wind turbine farms. For the purposes of this advisory circular, wind turbine farms are defined as a wind turbine development that contains more than three (3) turbines of heights over 200 feet above ground level. The recommended marking and lighting of these structures is intended to provide day and night conspicuity and to assist pilots in identifying and avoiding these obstacles.

131. GENERAL STANDARDS

The development of wind turbine farms is a very dynamic process, which constantly changes based on the differing terrain they are built on. Each wind turbine farm is unique; therefore it is important to work closely with the sponsor to determine a lighting scheme that provides for the safety of air traffic. The following are guidelines that are recommended for wind turbine farms. Consider the proximity to airports and VFR routes, extreme terrain where heights may widely vary, and local flight activity when making the recommendation.

a. Not all wind turbine units within an installation or farm need to be lighted. Definition of the periphery of the installation is essential; however, lighting of interior wind turbines is of lesser importance unless they are taller than the peripheral units.

b. Obstruction lights within a group of wind turbines should have unlighted separations or gaps of no more than ½ statute mile if the integrity of the group appearance is to be maintained. This is especially critical if the arrangement of objects is essentially linear.

c. Any array of flashing or pulsed obstruction lighting should be synchronized or flash simultaneously.

d. Nighttime wind turbine obstruction lighting should consist of the preferred FAA L-864 aviation red-colored flashing lights.

e. White strobe fixtures (FAA L-865) may be used in lieu of the preferred L-864 red flashing lights, but must be used alone without any red lights, and must be positioned in the same manner as the red flashing lights.

f. The white paint most often found on wind turbine units is the most effective daytime early warning device. Other colors, such as light gray or blue, appear to be significantly less effective in

providing daytime warning. Daytime lighting of wind turbine farms is not required, as long as the turbine structures are painted in a bright white color or light off-white color most often found on wind turbines.

132. WIND TURBINE CONFIGURATIONS – Prior to recommending marking and lighting, determine the configuration and the terrain of the wind turbine farm. The following is a description of the most common configurations.

a. Linear – wind turbine farms in a line-like arrangement, often located along a ridge line, the face of a mountain or along borders of a mesa or field. The line may be ragged in shape or be periodically broke, and may vary in size from just a few turbines up to 20 miles long.

b. Cluster – turbine farms where the turbines are placed in circles like groups on top of a mesa, or within a large field. A cluster is typically characterized by having a pronounced perimeter, with various turbines placed inside the circle at various, erratic distances throughout the center of the circle.

c. Grid – turbine farms arranged in a geographical shape such as a square or a rectangle, where each turbine is set a consistent distance from each other in rows, giving the appearance that they are part of a square like pattern.

133. MARKING STANDARDS

The bright white or light off-white paint most often found on wind turbines has been shown to be most effective, and if used, no lights are required during the daytime. However, if darker paint is used, wind turbine marking should be supplemented with daytime lighting, as required.

134. LIGHTING STANDARDS

a. Flashing red (L864), or white (L-865) lights may be used to light wind turbines. Studies have shown that red lights are most effective, and should be the first consideration for lighting recommendations of wind turbines.

b. Obstruction lights should have unlighted separations or gaps of no more than ½ mile. Lights should flash simultaneously. Should the synchronization of the lighting system fail, a lighting outage report should be made in accordance with paragraph 23 of this advisory circular. Light fixtures should be placed as high as possible on the turbine nacelle, so as to be visible from 360 degrees.

c. Linear Turbine Configuration. Place a light on each turbine positioned at each end of the line or string of turbines. Lights should be no more than $\frac{1}{2}$ statute mile, or 2640 feet from the last lit turbine. In the event the last segment is significantly short, push the lit turbines back towards the starting point to present a well balanced string of lights. High concentrations of lights should be avoided.

d. Cluster Turbine Configuration. Select a starting point among the outer perimeter of the cluster. This turbine should be lit, and a light should be placed on the next turbine so that no more than a $\frac{1}{2}$ statute mile gap exists. Continue this pattern around the perimeter. If the distance across the cluster is greater than 1 mile, and/or the terrain varies by more than 100 feet, place one or more lit turbines at locations throughout the center of the cluster.

e. Grid Turbine Configuration. Select each of the defined corners of the layout to be lit, and then utilize the same concept of the cluster configuration as outlined in paragraph d.

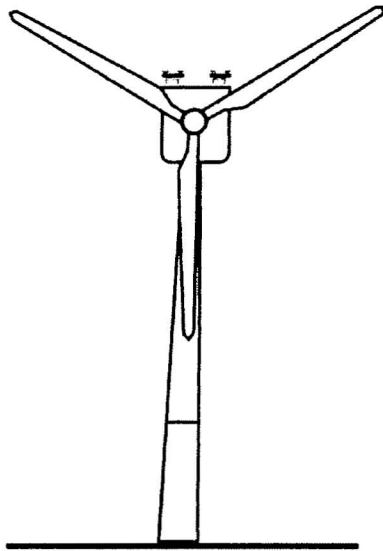
f. Special Considerations. On occasion, one or two turbines may be located apart from the main grouping of turbines. If one or two turbines protrude from the general limits of the turbine farm, these turbines should be lit.

APPENDIX 1: Specifications for Obstruction Lighting Equipment Classification
APPENDIX

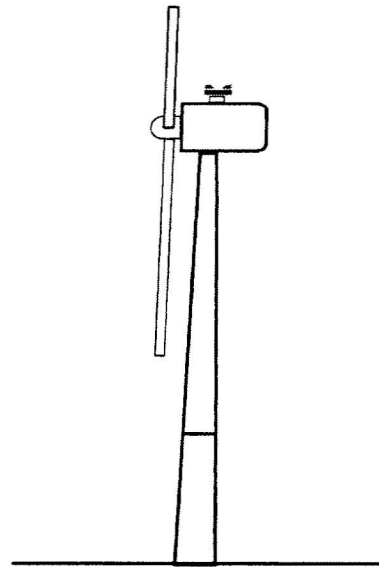
Type	Description
L-810	Steady-burning Red Obstruction Light
L-856	High Intensity Flashing White Obstruction Light (40 FPM)
L-857	High Intensity Flashing White Obstruction Light (60 FPM)
L-864	Flashing Red Obstruction Light (20-40 FPM)
L-865	Medium Intensity Flashing White Obstruction Light (40-FPM)
L-866	Medium Intensity Flashing White Obstruction Light (60-FPM)
L-864/L-865	Dual: Flashing Red Obstruction Light (20-40 FPM) and Medium Intensity Flashing White Obstruction Light (40 FPM)
L-885	Red Catenary 60 FPM
FPM = Flashes Per Minute	

TBL 4

TYPICAL LIGHTING OF A STAND ALONE WIND TURBINE



Front View



Side View

FIG 11

WIND TURBINE GENERATOR

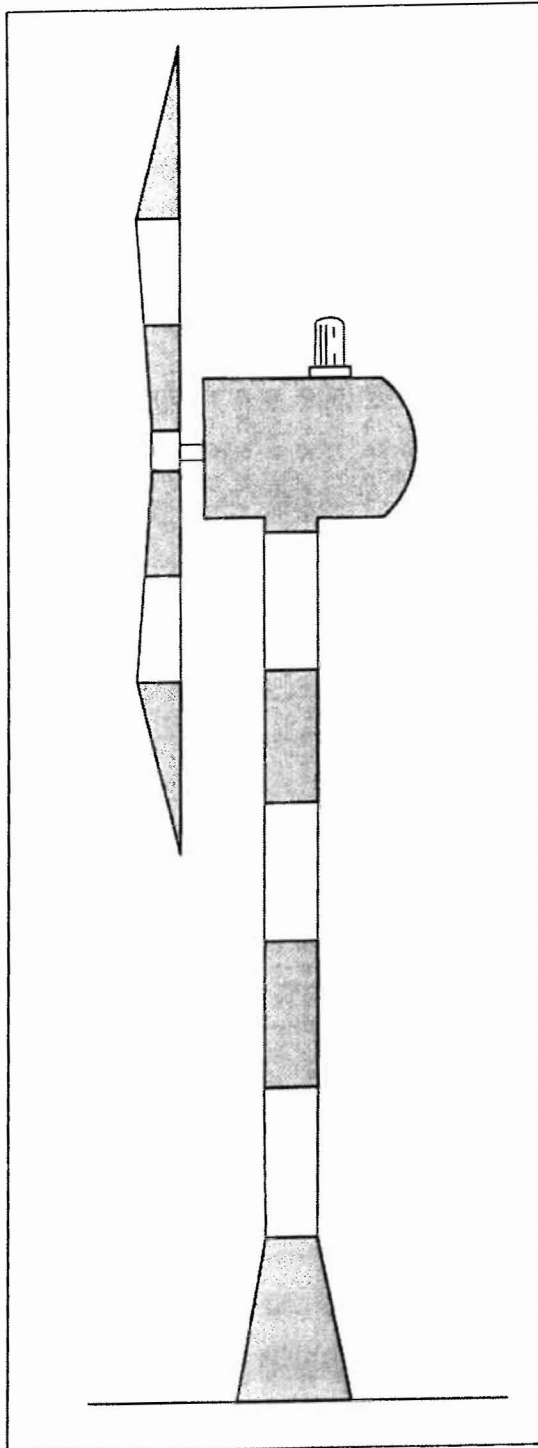


FIG 12

Champaign County, Illinois
Zoning Ordinance

Section 5.3 Schedule of Area, Height and Placement Regulations by District

Zoning DISTRICTS	Minimum LOT Size ²		Maximum HEIGHT ^{4,11}		Required YARDS (feet)					Maximum LOT COVERAGE	Special Provisions
	Area (square feet)	Average Width (feet)	Feet	Stories	Front Setback from STREET Centerline ³			SIDE ⁷	REAR ⁶		
					STREET Classification						
					MAJOR	COLLECTOR	MINOR				
AG-1 AGRICULTURE	1 Acre	200	50	NR ¹⁰	85	75	55	15	25	20%	(5), (13)
AG-2 AGRICULTURE	20,000	100	50	NR ¹⁰	85	75	55	10	20	25%	(5), (13)
CR Conservation-Recreation	1 Acre	200	35	2 1/2	85	75	55	15	25	20%	(5), (13)
R-1 Single FAMILY Residence	9,000	80	35	2 1/2	85	75	55	10	20	30%	(5), (8)
R-2 Single FAMILY Residence	6,500	65	35	2 1/2	85	75	55	10	20	30%	(5), (8)
R-3 Two FAMILY Residence	6,500 for 1st d.u. ¹ 2,500 per additional d.u.	65	35	2 1/2	85	75	55	5	20	30%	(5)
R-4 Multiple FAMILY Residence	6,500 for 1st d.u. ¹ 2,000 per additional d.u.	65	50	NR ¹⁰	85	75	55	5	15	40%	(5), (9)
R-5 MANUFACTURED HOME PARK	SEE SPECIAL STANDARDS SECTION 6.2										
B-1 Rural Trade Center	6,500	65	NR ¹⁰	NR ¹⁰	85	75	55	10	20	50%	
B-2 Neighborhood Business	6,500	65	35	2 1/2	85	75	55	10	20	35%	(2)
B-3 Highway Business	6,500	65	40	3	85	75	55	5	20	40%	(2)
B-4 General Business	6,500	65	35	2 1/2	85	75	55	10	20	40%	(2)
B-5 Central Business	NR ¹⁰	NR ¹⁰	35	2 1/2	0	0	0	0	0	100%	(2)
I-1 Light Industry	10,000	100	75	NR ¹⁰	85	75	55	10	20	50%	(2)
I-2 Heavy Industry	20,000	150	150	NR ¹⁰	85	75	55	20	30	65%	(2)

**SECTION 5.3 SCHEDULE OF AREA, HEIGHT & PLACEMENT REGULATIONS BY DISTRICT -
CONTINUED**

Footnotes

1. d.u. = DWELLING UNIT
2. A BUILDING on any LOT in this DISTRICT abutting or adjacent to any residential DISTRICT shall maintain the same side and REAR YARD as required in the adjacent residential DISTRICT if greater than that normally required in this DISTRICT.
3. In no case shall the FRONT YARD, measured from the nearest RIGHT-OF-WAY line, be less than 35' from a MAJOR STREET, 30' from a COLLECTOR STREET, or 25' from a MINOR STREET. Where 25% or more of the LOTS within a BLOCK abutting STREETS other than federal or state highways, where occupied by MAIN or PRINCIPAL STRUCTURES prior to the effective date of this ordinance, the average of the SETBACK LINES of such STRUCTURES shall be the minimum SETBACK LINE of the remaining vacant LOTS within such BLOCK except where the public health, safety, comfort, morals, or welfare are endangered.
4. The maximum HEIGHT of a residential ACCESSORY BUILDING shall be 15 feet on LOTS less than one acre in area and 24 feet on LOTS one acre or more in area.
5. For LOTS platted prior to October 10, 1973, See Section 8, Articles 8.1.1 through 8.1.4. For LOTS platted after October 10, 1973, See Section 4.3.4.
6. Required REAR YARD where LOTS are of irregular shape: In the case of an irregularly shaped LOT (not rectangular) the required minimum depth of a REAR YARD shall not be less than the required minimum SIDE YARD, as required by this Section 5.3; and in the aggregate, the square footage of the REAR YARD must equal that required for a rectangular LOT of minimum zoning DISTRICT dimensions.
7. SIDE YARD where lines are not parallel : Where a side wall of a BUILDING is not parallel with the side LOT LINE, or where a SIDE YARD is irregular, the average SIDE YARD width may be considered the required minimum width, provided that the SIDE YARD at any point shall not be narrower than five feet nor less than one-half the minimum width as required by this Section 5.3, whichever is greater.
8. Within the one and one-half mile extraterritorial jurisdiction of a zoned home rule municipality the minimum SIDEYARD shall equal the SIDEYARD of the comparable municipal zoning district in effect on January 1, 2004 as established by the translation table of the municipal ordinance. If the municipal ordinance does not contain a translation table the Zoning Administrator shall designate the most comparable district. In no case, however, shall the minimum SIDEYARD exceed 10 feet. Where a lot falls within the one and one-half mile extraterritorial jurisdiction of more than one home rule municipality the applicable SIDEYARD shall be that of the closest such municipality unless the lot falls within the extraterritorial jurisdiction of a home rule municipality to which the lot is subject to annexation pursuant to an annexation agreement or intergovernmental agreement establishing annexation area boundaries in which case such annexing municipality's SIDEYARD requirements shall apply.
9. The minimum SIDEYARD adjacent to BUILDINGS over two stories in height or over 3,000 square feet in gross ground floor area shall be 10 feet.
10. NR = No Requirement
11. In no case, however, shall a BUILDING or STRUCTURE be erected or vegetation be maintained that would create an obstruction in an approach slope or transition slope for an existing AIRPORT, RESIDENTIAL AIRPORT, HELIPORT, RESTRICTED LANDING AREA or HELIPORT-RESTRICTED LANDING AREA permitted under the terms of this ordinance unless a SPECIAL USE Permit is granted per Section 9.1.5.D.4

**SECTION 5.3 SCHEDULE OF AREA, HEIGHT & PLACEMENT REGULATIONS BY DISTRICT -
CONTINUED**

12. The provisions of this Section notwithstanding, all LOTS shall comply with the provisions of Section 4.3.4.
13. The following maximum LOT AREA requirements apply in the CR, AG-1 and AG-2 DISTRICTS:
 - A) LOTS that meet all of the following criteria may not exceed a maximum LOT AREA of three acres:
 - 1) The LOT is RRO-exempt;
 - 2) The LOT has a Land Evaluation score greater than or equal to 85 on the County's *Land Evaluation and Site Assessment System*; and
 - 3) The LOT is created from a tract that had a LOT AREA greater than or equal to 12 acres as of January 1, 1998.
 - B) LOTS that meet both of the following criteria may not exceed an average maximum LOT AREA of two acres:
 - 1) The LOT is located within a Rural Residential Overlay DISTRICT; and
 - 2) The LOT has a Land Evaluation score of greater than or equal to 85 on the COUNTY's *Land Evaluation and Site Assessment System*.
 - C) The following LOTS are exempt from the three-acre maximum LOT AREA requirement indicated in Paragraph A:
 - 1) A 'Remainder Area Lot'. A 'Remainder Area Lot' is that portion of a tract which existed as of January 1, 1998 and that is located outside of the boundaries of a RRO-exempt LOT less than 35 acres in LOT AREA. No CONSTRUCTION or USE that requires a Zoning Use Permit shall be permitted on a 'Remainder Area Lot'.
 - 2) Any LOT greater than or equal to 35 acres in LOT AREA.

5.4 Rural Residential OVERLAY Zoning DISTRICT

5.4.1 Acts Prohibited

No BUILDING shall be constructed upon a LOT in the AG-1, AG-2 or CR DISTRICT that was not created in conformance with this Section.

5.4.2 Exemptions

- A. The following may be permitted in the CR, AG-1 and AG-2 Districts without the creation of a Rural Residential Overlay District:
 1. The creation of any number of LOTS greater than 35 acres in area.
 2. The creation of the first three LOTS less than 35 acres in area created out of any parcel of land existing in the same dimensions and configurations as on January 1, 1998, provided, however that any such parcel that is greater than or equal to 25 acres in area and less than 50 acres may be divided into four LOTS.
 3. No lot that is 5 acres or less in area may be further divided.

Champaign County, Illinois
Zoning Ordinance

SECTION 6.1.3 SCHEDULE OF REQUIREMENTS AND STANDARD CONDITIONS - CONTINUED

SPECIAL USES or USE Categories	Minimum Fencing Required ⁶	Minimum LOT Size		Maximum HEIGHT		Required YARDS (feet)					Explanatory or Special Provisions
		AREA (Acres)	Width (Feet)	Feet	Stories	Front Setback from STREET Centerline ²			SIDE	REAR	
						STREET Classification					
		MAJOR	COLLECTOR	MINOR							
Penal or Correctional Institution	NR	(1)	(1)	(1)	(1)	350	350	350	300	300	*See below.
<ul style="list-style-type: none"> *Not permitted within 500' of any R DISTRICT or residential or PUBLIC ASSEMBLY USE. 											
Pet Cemetery	NR	1	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	*See below.
<ul style="list-style-type: none"> *Burial plots shall be located a minimum of 100 feet from any existing well used as a potable water supply. *Burial plots shall be located a minimum of 200 feet from a stream. *The petitioner shall make financial provisions for long term maintenance and/or future reclamation of pet cemetery property. The petitioner shall submit details of financial arrangements as part of SPECIAL USE Permit. 											
Private or Commercial transmission and receiving towers (including antennas) over 100 feet in HEIGHT	6' wire mesh	1	(1)	(1)	(1)	100	100	100	50	50	*See below.
<ul style="list-style-type: none"> *Towers shall conform to the standards of the Federal Aviation Administration, Federal Communication Commission, and the Illinois Department of Transportation, Division of Aeronautics. 											
Public or Commercial SANITARY LANDFILL	8' wire mesh	40	(1)	(1)	(1)	(3)	(3)	(3)	(3)	(3)	*See below.
<ul style="list-style-type: none"> *Not permitted closer than 500' from any R or B DISTRICT or any residential, INSTITUTIONAL or PUBLIC ASSEMBLY USE. Landfill operations or BUILDINGS shall not be closer than 500 feet from any R or B DISTRICT (at the time of approval). Also see footnote 3 below. 											
Public or Commercial Sewage Lagoon ⁴	8' solid	40	NR	NR	NR	250	250	250	200	200	*See below.
<ul style="list-style-type: none"> *Not permitted closer than 500 feet from any R or B DISTRICT or any residential, INSTITUTIONAL or PUBLIC ASSEMBLY USE. 											
Public CAMP or Picnic Area	NR	5	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	
Public HOSPITAL	NR	5	(1)	(1)	(1)	(1)	(1)	(1)	40	40	
Railroad Yards and Freight Terminals	6' wire mesh	5	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	*See below.
<ul style="list-style-type: none"> *Not permitted closer than 200' from any R DISTRICT or residential USE. 											
RESIDENTIAL AIRPORTS	NR	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	*See below.
<ul style="list-style-type: none"> *Same as requirements for airports, except that at a minimum, the SPECIAL USE shall also encompass the following areas: runway and a runway safety area centered on the runway centerline 120 feet wide and extending 240 feet beyond each end of the runway; which shall be under one ownership and/or unified control; and all service areas; taxi-ways; easements; intervening STREETS and LOTS containing residences having USE privileges at the runway. 											
RESIDENTIAL PLANNED UNIT DEVELOPMENT	<ul style="list-style-type: none"> See SPECIAL USE requirements - Section 6.3 										
Resort or Organized Camp	NR	5	(1)	(1)	(1)	100	100	100	50	50	

Champaign County, Illinois
Zoning Ordinance

SECTION 6.1.3 SCHEDULE OF REQUIREMENTS AND STANDARD CONDITIONS - CONTINUED

SPECIAL USES or USE Categories	Minimum Fencing Required ⁶	Minimum LOT Size		Maximum HEIGHT		Required YARDS (feet)					Explanatory or Special Provisions
		AREA (Acres)	Width (Feet)	Feet	Stories	Front Setback from STREET Centerline ²			SIDE	REAR	
						MAJOR	COLLECTOR	MINOR			
RESTRICTED LANDING AREAS	NR	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	*See below.
<ul style="list-style-type: none"> ▶ *Must meet the requirements of the Federal Aviation Administration and Illinois Department of Transportation Division of Aeronautics. ▶ The RESTRICTED LANDING AREA shall provide for a runway plus a runway safety area both located entirely on the LOT. The runway safety area is an area centered 120 feet wide and extending 240 feet beyond each end of the runway. ▶ No part of a BUILDING or STRUCTURE intended for regular human occupancy located within a R or B DISTRICT nor any PUBLIC ASSEMBLY or INSTITUTIONAL USE may be located: 1) within the Primary Surface, an area 250 feet wide centered on the runway centerline and extending 200 feet beyond each end of the runway; or 2) the Runway Clear Zones, trapezoidal areas centered on the extended runway centerline at each end of the primary surface 250 feet wide at the end of the primary surface and 450 feet wide at a point 1,000 feet from the primary surface. ▶ After a RESTRICTED LANDING AREA is established, the requirements in Section 4.3.7 and Table 5.3 note (12) shall apply. 											
Riding Stable	*See below.	1	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	**See below.
<ul style="list-style-type: none"> ▶ *5'0" high; posts equivalent to 4"x4" timber located 8'0" apart with rails equivalent to 2"x6" timber or wire stock panels 8' 0" apart with three rails. ▶ **Not permitted within 100' of any R DISTRICT or residential or INSTITUTIONAL USE. 											
Sewage Disposal Plant ^f	8' solid	4	(1)	(1)	(1)	150	150	150	100	100	*See below.
<ul style="list-style-type: none"> ▶ *Not permitted closer than 500' from any R or B DISTRICT or any residential, INSTITUTIONAL or PUBLIC ASSEMBLY USE. 											
Slaughterhouse	NR	3	(1)	(1)	(1)	100	100	100	50	50	*See below.
<ul style="list-style-type: none"> ▶ *Not permitted closer than 500' from any R or B DISTRICT, or any residential or PUBLIC ASSEMBLY USE. 											
SMALL SCALE METAL FABRICATING SHOPS	NR	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	*See below.
<ul style="list-style-type: none"> ▶ *Subject to limitations applicable to RURAL HOME OCCUPATIONS. 											
Spires, belfries, chimneys, ventilators, skylights, water tanks, silos, and other necessary mechanical appurtenances over 100 feet in HEIGHT	NR	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	*See below.
<ul style="list-style-type: none"> ▶ *Spires, belfries, chimneys, ventilators, skylights, water tanks, silos, and other necessary mechanical appurtenances shall conform to the standards of the Federal Aviation Administration and the Illinois Department of Transportation, Division of Aeronautics. 											
Stadium or Coliseum	NR	10	(1)	(1)	(1)	100	100	100	50	50	
Temporary Real Estate Sales or Rental Office, Model Home or Apartment	NR	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	Permits must be renewed annually.
TRAVEL TRAILER CAMP	NR	5	(1)	(1)	(1)	100	100	100	50	50	

