Translation from Bulgarian

Letterhead

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REPORT

ON
ENVIRONMENTAL IMPACT ASSESSMENT (EIA)

Of Investment Proposal:"Construction of Wind farm on the land of the Villages of Bulgarevo, Sveti Nikola, Hadji Dimitar, Rakovski and Porouchik Chounchevo, Municipality of Kavarna"

VOLUME 2

(Supplemented in conformity with letters No 1766 dated 20.04.2006, Ref. No 3151 dated 12.07.2006 and Ref. No 4236 dated 20.09.2006 of the Regional Inspectorate for Environment and Waters – Varna)

COMPANY MANAGER:, /*Sgd. Ill.*/
Round seal SP Ekoem – K – Emilia Kostakeva, Sofia
(Chief Assistant Eng. Em. Kostakeva)

October – November 2006
City of Sofia

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Territory of the Villages of Bulgarevo, Sveti Nikola, Hadji Dimiter, Rakovski and Porouchik Chounchevo, Municipality of Kavarna"

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A N N E X I

LIST OF EXPERTS,

DECLARATIONS, CERTIFICATES

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LIST OF THE MEMBERS OF THE COLLECTIVE TEAM WHO DEVELOPED THE EIA REPORT ON INVESTMENT PROPOSAL "CONSTRUCTION OF WIND FARM ON THE TERRITORY OF THE VILLAGES OF BULGAREVO, SVETI NIKOLA, HADJI DIMITER, RAKOVSKI AND POROUCHIK CHOUNCHEVO, MUNICIPALITY OF KAVARNA"

1. **Manager of the collective team**

   Chief Ass. Prof. Eng. Emilia Hristova Kostakeva – developed independently and in co-authorship the following parts of the report:
   1; 2; 3; 12; 4; 5; 6

2. **Experts**

- Assoc. Prof. Dr. Eng. Chemist Magdelinka Zlatkova Radenkova – Yaneva - developed independently and in co-authorship the following parts of the report:
  3.1; 4; 5; 6

- Eng. Zhivka Nikolova Vasileva - developed independently and in co-authorship the following parts of the report:
  1; 2; 3.3; 4; 5; 6

- Senior Research Associate Peter Todorov Ivanov - developed independently and in co-authorship the following parts of the report:
  3.2; 4; 5; 6

- Senior Research Associate Eng. Snezhna Todorova Dakova - developed independently and in co-authorship the following parts of the report:
  3.3; 4; 5; 6

- Eng. – Geologist Lyubomir Angelov - developed independently and in co-authorship the following parts of the report:
  3.3; 3.4; 3.5; 4; 5; 6

- Assoc. Prof. Eng. Margarita Pencheva Mondeshka – Nedyalkova - developed independently and in co-authorship the following parts of the report:
  3.6; 4; 5; 6

- Prof. Dr. Eng. Georgi Atanasov Puhalev - developed independently and in co-authorship the following parts of the report:

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- Senior Research Associate Dr. Michel Salvator Israel - developed independently and in co-authorship the following parts of the report:
  3.13; 4; 5; 6

- Professional. Dr. Ada Ivanova Baynova, Dr. M. Sc. - developed independently and in co-authorship the following parts of the report:
  3.14; 3.15; 4; 5; 6

3. **Consultants**

- Asen Emilov Salkin - developed independently and in co-authorship the following parts of the report:
  3.11; 5; 6

- Eng. Antonia Blagoeva Petrova - developed independently and in co-authorship the following parts of the report:
  1; 3.12; 6

City of Sofia, February – March 2006

DECLARATION

With regard to the development of Report on Environmental Impact Assessment (EIA) of Investment Proposal "Construction of Wind farm on the Territory of the villages of Bulgarevo, Sveti Nikola, Hadji Dimiter, Rakovski and Porouchik Chounchevo, Municipality of Kavarna" with Investor GEO POWER LTD, on the grounds of Art. 11, Para. 2 and 3 of the Ordinance on the Conditions and Procedure for Performance of EIA of Investment Proposals for Construction, Activities and Technologies, the undersigned

Chief Ass. Prof. Eng. EMILIA HRISTOVA KOSTAKEVA,

Holder of Certificate for Inclusion in the List of Natural Persons who are in possession of competence for performance of an environmental impact assessment (EIA) with No 25 dated 13 March 2001 issued of the Ministry of Environment and Waters,

DECLARE herein that

1. I am in possession of the needed professional qualification and competence for development of EIA reports.
2. I have filed an application for new entry into the Register of EIA Experts and for Team Manager.
3. I am not a related person within the meaning of the Commercial Code and I am not in labor, civil and official labor relationship with the Investor.
4. I am not in any labor, civil and official legal relationships with the competent authorities pursuant to Art. 10 of the Environmental Protection Act.
5. I am not a member of a commission / expert ecology board pursuant to Art. 5 or of the Supreme Expert Ecology Board pursuant to Art. 12, Para. 1, item 1 of the Environmental Protection Act.
6. I have not participated in the development of the investment intention and I am not interested in its implementation.
7. I am acquainted with the Environmental Protection Act, the legislative acts and the subdelegated legislation related to the preservation of environment.

I am acquainted with the fact that for false data indicated in this Declaration I shall bear criminal responsibility pursuant to Art. 313 of the Penal Code, which I affix my signature hereto for.

City of Sofia
March 2006

Declarant: /Sgd. Ill./
(Chief Ass. Prof. Eng. Emilia Hristova Kostakeva)

REPUBLIC OF BULGARIA
MINISTRY OF ENVIRONMENT AND WATERS

CERTIFICATE

No 25 dated 26.06.2006

For Entry into the Public Register of Experts Performing Ecological Assessment (EA) and Environmental Impact Assessment (EIA)

On the grounds of Art. 83, Para. 4 of the Environmental Protection Act and Ordinance No 1/2003
I certify herein that

EMILIA HRISTOVA KOSTAKEVA

Is entered into the Public Register of Experts on EA and EIA with the following declared elements of the assessment:

Waste matter, surface waters

And as Collective Team Manager

Term of validity of the Certificate: 5 (five) years from the date of issuance.

MINISTER: /Sgd. Ill./
/Djevdet Chakurov/
SEAL of the Ministry of Environment and Waters

DECLARATION

With regard to the development of Report on Environmental Impact Assessment (EIA) of Investment Proposal "Construction of Wind farm on the Territory of the villages of Bulgarevo, Sveti Nikola, Hadji Dimiter, Rakovski and Porouchik Chounchevo, Municipality of Kavarna" with Investor GEO POWER LTD, on the grounds of Art. 11, Para. 2 and 3 of the Ordinance on the Conditions and Procedure for Performance of EIA of Investment Proposals for Construction, Activities and Technologies, the undersigned

Assoc. Prof. Dr. Eng. Chemist MAGDALINKA ZLATKOVA RADENKOVA - YANEVA,

Holder of Certificate for Inclusion in the List of Natural Persons who are in possession of competence for performance of an environmental impact assessment (EIA) with No 15 dated 14 March 2001 issued of the Ministry of Environment and Waters,

DECLARE herein that

1. I am in possession of the needed professional qualification and competence for development of EIA reports.
2. I have filed an application for new entry into the Register of EIA Experts and for Team Manager.
3. I am not a related person within the meaning of the Commercial Code and I am not in labor, civil and official labor relationship with the Investor.
4. I am not in any labor, civil and official legal relationships with the competent authorities pursuant to Art. 10 of the Environmental Protection Act.
5. I am not a member of a commission / expert ecology board pursuant to Art. 5 or of the Supreme Expert Ecology Board pursuant to Art. 12, Para. 1, item 1 of the Environmental Protection Act.
6. I have not participated in the development of the investment intention and I am not interested in its implementation.
7. I am acquainted with the Environmental Protection Act, the legislative acts and the subdelegated legislation related to the preservation of environment.

I am acquainted with the fact that for false data indicated in this Declaration I shall bear criminal responsibility pursuant to Art. 313 of the Penal Code, which I affix my signature hereto for.

City of Sofia
March 2006

Declarant: /Sgd. Ill./
(Assoc. Prof. Eng. Chemist Magdalinka Zl. Radenkova-Yaneva)

REPUBLIC OF BULGARIA
MINISTRY OF ENVIRONMENT AND WATERS

CERTIFICATE

No 15 dated 15 April 2006

For Entry into the Public Register of Experts Performing Ecological Assessment (EA) and Environmental Impact Assessment (EIA)

On the grounds of Art. 83, Para. 4 of the Environmental Protection Act and Ordinance No 1/2003
I certify herein that

MAGDELINKA ZLATKOVA RADENKOVA

Is entered into the Public Register of Experts on EA and EIA with the following declared elements of the assessment:

Waters, harmful substances, waste matter

And as Collective Team Manager

Term of validity of the Certificate: 5 (five) years from the date of issuance.

MINISTER: /Sgd. Ill./
/Djevdet Chakurov/
SEAL of the Ministry of Environment and Waters

DECLARATION

With regard to the development of Report on Environmental Impact Assessment (EIA) of Investment Proposal "Construction of Wind farm on the Territory of the villages of Bulgarevo, Sveti Nikola, Hadji Dimiter, Rakovski and Porouchik Chounchevo, Municipality of Kavarna" with Investor GEO POWER LTD, on the grounds of Art. 11, Para. 2 and 3 of the Ordinance on the Conditions and Procedure for Performance of EIA of Investment Proposals for Construction, Activities and Technologies, the undersigned

Eng. ZHIVKA NIKOLOVA VASSILEVA,

Holder of Certificate for Inclusion in the List of Natural Persons who are in possession of competence for performance of an environmental impact assessment (EIA) with No 233 dated 17 July 2001 issued of the Ministry of Environment and Waters,

DECLARE herein that

1. I am in possession of the needed professional qualification and competence for development of EIA reports.
2. I am not a related person within the meaning of the Commercial Code and I am not in labor, civil and official labor relationship with the Investor.
3. I am not in any labor, civil and official legal relationships with the competent authorities pursuant to Art. 10 of the Environmental Protection Act.
4. I am not a member of a commission / expert ecology board pursuant to Art. 5 or of the Supreme Expert Ecology Board pursuant to Art. 12, Para. 1, item 1 of the Environmental Protection Act.
5. I have not participated in the development of the investment intention and I am not interested in its implementation.
6. I am acquainted with the Environmental Protection Act, the legislative acts and the subdelegated legislation related to the preservation of environment.

I am acquainted with the fact that for false data indicated in this Declaration I shall bear criminal responsibility pursuant to Art. 313 of the Penal Code, which I affix my signature hereto for.

City of Sofia
March 2006

Declarant: /Sgd. Ill./
(Eng. Zhivka Nikolova Vassileva)

REPUBLIC OF BULGARIA
MINISTRY OF ENVIRONMENT AND WATERS

CERTIFICATE

No 233 dated 17 July 2001

For Entry into the Register of Natural Persons Who Possess Professional Competence for Performance of Environmental Impact Assessment (EIA)

On the grounds of Art. 21, Para. 3 of the Environmental Protection Act and Order No RD-305/2001
I certify herein that

ZHIVKA NIKOLOVA VASSILEVA

PIN 4204086774 is in possession of professional competence to perform environmental impact assessment in the following spheres:

Ambient air, waters, production wastes

And as Collective Team Manager

Term of validity of the Certificate: 5 (five) years from the date of issuance.

MINISTER: /Sgd. Ill./
SEAL of the Ministry of Environment and Waters

DECLARATION

With regard to the development of Report on Environmental Impact Assessment (EIA) of Investment Proposal "Construction of Wind farm on the Territory of the villages of Bulgarevo, Sveti Nikola, Hadji Dimiter, Rakovski and Porouchik Chounchevo, Municipality of Kavarna" with Investor GEO POWER LTD, on the grounds of Art. 11, Para. 2 and 3 of the Ordinance on the Conditions and Procedure for Performance of EIA of Investment Proposals for Construction, Activities and Technologies, the undersigned

Senior Research Associate Eng. PETER TODOROV IVANOV,

Holder of Certificate for Inclusion in the List of Natural Persons who are in possession of competence for performance of an environmental impact assessment (EIA) with No 1441 dated 08 April 2002 issued of the Ministry of Environment and Waters,

DECLARE herein that

1. I am in possession of the needed professional qualification and competence for development of EIA reports.
2. I am not a related person within the meaning of the Commercial Code and I am not in labor, civil and official labor relationship with the Investor.
3. I am not in any labor, civil and official legal relationships with the competent authorities pursuant to Art. 10 of the Environmental Protection Act.
4. I am not a member of a commission/expert ecology board pursuant to Art. 5 or of the Supreme Expert Ecology Board pursuant to Art. 12, Para. 1, item 1 of the Environmental Protection Act.
5. I have not participated in the development of the investment intention and I am not interested in its implementation.
6. I am acquainted with the Environmental Protection Act, the legislative acts and the subdelegated legislation related to the preservation of environment.

I am acquainted with the fact that for false data indicated in this Declaration I shall bear criminal responsibility pursuant to Art. 313 of the Penal Code, which I affix my signature hereto for.

City of Sofia
March 2006

Declarant: /Sgd. Ill./
(Senior Research Associate Peter Todorov Ivanov)

REPUBLIC OF BULGARIA
MINISTRY OF ENVIRONMENT AND WATERS

CERTIFICATE

No 1441 dated 08 April 2002

For Entry into the Register of Natural Persons Who Possess Professional Competence for Performance of Environmental Impact Assessment (EIA)

On the grounds of Art. 21, Para. 3 of the Environmental Protection Act and Order No RD-305/2001
I certify herein that

PETER TODOROV IVANOV

PIN 4401207083 is in possession of professional competence to perform environmental impact assessment in the following spheres:

Ambient air

Term of validity of the Certificate: 5 (five) years from the date of issuance.

MINISTER: /Sgd. Ill./
SEAL of the Ministry of Environment and Waters

DECLARATION

With regard to the development of Report on Environmental Impact Assessment (EIA) of Investment Proposal "Construction of Wind farm on the Territory of the villages of Bulgarevo, Sveti Nikola, Hadji Dimiter, Rakovski and Porouchik Chounchevo, Municipality of Kavarna" with Investor GEO POWER LTD, on the grounds of Art. 11, Para. 2 and 3 of the Ordinance on the Conditions and Procedure for Performance of EIA of Investment Proposals for Construction, Activities and Technologies, the undersigned

Senior Research Associate Eng. SNEZHANA TODOROVA DAKOVA,

Holder of Certificate for Inclusion in the List of Natural Persons who are in possession of competence for performance of an environmental impact assessment (EIA) with No 1372 dated 29 October 2001 issued of the Ministry of Environment and Waters,

DECLARE herein that

1. I am in possession of the needed professional qualification and competence for development of EIA reports.
2. I am not a related person within the meaning of the Commercial Code and I am not in labor, civil and official labor relationship with the Investor.
3. I am not in any labor, civil and official legal relationships with the competent authorities pursuant to Art. 10 of the Environmental Protection Act.
4. I am not a member of a commission/expert ecology board pursuant to Art. 5 or of the Supreme Expert Ecology Board pursuant to Art. 12, Para. 1, item 1 of the Environmental Protection Act.
5. I have not participated in the development of the investment intention and I am not interested in its implementation.
6. I am acquainted with the Environmental Protection Act, the legislative acts and the subdelegated legislation related to the preservation of environment.

I am acquainted with the fact that for false data indicated in this Declaration I shall bear criminal responsibility pursuant to Art. 313 of the Penal Code, which I affix my signature hereto for.

City of Sofia
March 2006

Declarant: /Sgd. Ill./
(Senior Research Associate Eng. Snezhana Todorova Dakova)

REPUBLIC OF BULGARIA
MINISTRY OF ENVIRONMENT AND WATERS

CERTIFICATE

No 1372 dated 29 October 2001

For Entry into the Register of Natural Persons Who Possess Professional Competence for Performance of Environmental Impact Assessment (EIA)

On the grounds of Art. 21, Para. 3 of the Environmental Protection Act and Order No RD-305/2001
I certify herein that

SNEZHANA TODOROVA DAKOVA

PIN 4610256534 is in possession of professional competence to perform environmental impact assessment in the following spheres:

Surface and underground waters

Term of validity of the Certificate: 5 (five) years from the date of issuance.

MINISTER: /Sgd. Ill./
SEAL of the Ministry of Environment and Waters

DECLARATION

With regard to the development of Report on Environmental Impact Assessment (EIA) of Investment Proposal "Construction of Wind farm on the Territory of the villages of Bulgarevo, Sveti Nikola, Hadji Dimiter, Rakovski and Porouchik Chounchevo, Municipality of Kavarna" with Investor GEO POWER LTD, on the grounds of Art. 11, Para. 2 and 3 of the Ordinance on the Conditions and Procedure for Performance of EIA of Investment Proposals for Construction, Activities and Technologies, the undersigned

Eng. – Geologist LYUBOMIR ANGELOV,

Holder of Certificate for Inclusion in the List of Natural Persons who are in possession of competence for performance of an environmental impact assessment (EIA) with No 1415 dated 15 February 2002 issued of the Ministry of Environment and Waters,

DECLARE herein that

1. I am in possession of the needed professional qualification and competence for development of EIA reports.
2. I am not a related person within the meaning of the Commercial Code and I am not in labor, civil and official labor relationship with the Investor.
3. I am not in any labor, civil and official legal relationships with the competent authorities pursuant to Art. 10 of the Environmental Protection Act.
4. I am not a member of a commission/expert ecology board pursuant to Art. 5 or of the Supreme Expert Ecology Board pursuant to Art. 12, Para. 1, item 1 of the Environmental Protection Act.
5. I have not participated in the development of the investment intention and I am not interested in its implementation.
6. I am acquainted with the Environmental Protection Act, the legislative acts and the subdelegated legislation related to the preservation of environment.

I am acquainted with the fact that for false data indicated in this Declaration I shall bear criminal responsibility pursuant to Art. 313 of the Penal Code, which I affix my signature hereto for.

City of Sofia
March 2006

Declarant: /Sgd. Ill./
(Eng. – Geologist Lyubomir Angelov)

REPUBLIC OF BULGARIA
MINISTRY OF ENVIRONMENT AND WATERS

CERTIFICATE

No 1415 dated 15 February 2002

For Entry into the Register of Natural Persons Who Possess Professional Competence for Performance of Environmental Impact Assessment (EIA)

On the grounds of Art. 21, Para. 3 of the Environmental Protection Act and Order No RD-305/2001
I certify herein that

LYUBOMIR DIMITROV ANGELOV

PIN 7404296285 is in possession of professional competence to perform environmental impact assessment in the following spheres:

Underground waters, bowels of the earth, inclusive of

Geological environment and underground natural resources.

Term of validity of the Certificate: 5 (five) years from the date of issuance.

MINISTER: /Sgd. Ill./
SEAL of the Ministry of Environment and Waters

DECLARATION

With regard to the development of Report on Environmental Impact Assessment (EIA) of Investment Proposal "Construction of Wind farm on the Territory of the villages of Bulgarevo, Sveti Nikola, Hadji Dimiter, Rakovski and Porouchik Chounchevo, Municipality of Kavarna" with Investor GEO POWER LTD, on the grounds of Art. 11, Para. 2 and 3 of the Ordinance on the Conditions and Procedure for Performance of EIA of Investment Proposals for Construction, Activities and Technologies, the undersigned

Assoc. Prof. Eng. MARGARITA PENCHEVA MONDESHKA – NEDYALKOVA,

Holder of Certificate for Inclusion in the List of Natural Persons who are in possession of competence for performance of an environmental impact assessment (EIA) with No 1280 dated 18 April 2001 issued of the Ministry of Environment and Waters,

DECLARE herein that

1. I am in possession of the needed professional qualification and competence for development of EIA reports.
2. I am not a related person within the meaning of the Commercial Code and I am not in labor, civil and official labor relationship with the Investor.
3. I am not in any labor, civil and official legal relationships with the competent authorities pursuant to Art. 10 of the Environmental Protection Act.
4. I am not a member of a commission/expert ecology board pursuant to Art. 5 or of the Supreme Expert Ecology Board pursuant to Art. 12, Para. 1, item 1 of the Environmental Protection Act.
5. I have not participated in the development of the investment intention and I am not interested in its implementation.
6. I am acquainted with the Environmental Protection Act, the legislative acts and the subdelegated legislation related to the preservation of environment.

I am acquainted with the fact that for false data indicated in this Declaration I shall bear criminal responsibility pursuant to Art. 313 of the Penal Code, which I affix my signature hereto for.

City of Sofia
March 2006

Declarant: /Sgd. Ill./
(Assoc. Prof. Eng. Margarita Pencheva Mondeshka - Nedyalkova)

REPUBLIC OF BULGARIA
MINISTRY OF ENVIRONMENT AND WATERS

CERTIFICATE

No 1280 dated 26.04.2006

For Entry into the Public Register of Experts Performing Ecological Assessment (EA) and Environmental Impact Assessment (EIA)

On the grounds of Art. 83, Para. 4 of the Environmental Protection Act and Ordinance No 1/2003
I certify herein that

MARGARITA PENCHEVA MONDESHKA - NEDYALKOVA

Is entered into the Public Register of Experts on EA and EIA with the following declared elements of the assessment:

Soils

Term of validity of the Certificate: 5 (five) years from the date of issuance.

MINISTER: /Sgd. Ill./
SEAL of the Ministry of Environment and Waters

DECLARATION

With regard to the development of Report on Environmental Impact Assessment (EIA) of Investment Proposal "Construction of Wind farm on the Territory of the villages of Bulgarevo, Sveti Nikola, Hadji Dimiter, Rakovski and Porouchik Chounchevo, Municipality of Kavarna" with Investor GEO POWER LTD, on the grounds of Art. 11, Para. 2 and 3 of the Ordinance on the Conditions and Procedure for Performance of EIA of Investment Proposals for Construction, Activities and Technologies, the undersigned

Prof. Dr. Eng. GEORGI ATANASOV PUHALEV,

Holder of Certificate for Inclusion in the List of Natural Persons who are in possession of competence for performance of an environmental impact assessment (EIA) with No 1404 dated 21 January 2002 issued of the Ministry of Environment and Waters,

DECLARE herein that

1. I am in possession of the needed professional qualification and competence for development of EIA reports.
2. I am not a related person within the meaning of the Commercial Code and I am not in labor, civil and official labor relationship with the Investor.
3. I am not in any labor, civil and official legal relationships with the competent authorities pursuant to Art. 10 of the Environmental Protection Act.
4. I am not a member of a commission/expert ecology board pursuant to Art. 5 or of the Supreme Expert Ecology Board pursuant to Art. 12, Para. 1, item 1 of the Environmental Protection Act.
5. I have not participated in the development of the investment intention and I am not interested in its implementation.
6. I am acquainted with the Environmental Protection Act, the legislative acts and the subdelegated legislation related to the preservation of environment.

I am acquainted with the fact that for false data indicated in this Declaration I shall bear criminal responsibility pursuant to Art. 313 of the Penal Code, which I affix my signature hereto for.

City of Sofia
March 2006

Declarant: /Sgd. Ill./
(Prof. Dr. Eng. Georgi Atanasov Puhalev)

REPUBLIC OF BULGARIA
MINISTRY OF ENVIRONMENT AND WATERS

CERTIFICATE

No 1404 dated 21 January 2002

For Entry into the Register of Natural Persons Who Possess Professional Competence for Performance of Environmental Impact Assessment (EIA)

On the grounds of Art. 21, Para. 3 of the Environmental Protection Act and Order No RD-305/2001
I certify herein that

GEORGI ATANASOV PUHALEV

PIN 3503266929 is in possession of professional competence to perform environmental impact assessment in the following spheres:

Vegetation world

Landscape

Term of validity of the Certificate: 5 (five) years from the date of issuance.

MINISTER: /Sgd. Ill./
SEAL of the Ministry of Environment and Waters

DECLARATION

With regard to the development of Report on Environmental Impact Assessment (EIA) of Investment Proposal "Construction of Wind farm on the Territory of the villages of Bulgarevo, Sveti Nikola, Hadji Dimiter, Rakovski and Porouchik Chounchevo, Municipality of Kavarna" with Investor GEO POWER LTD, on the grounds of Art. 11, Para. 2 and 3 of the Ordinance on the Conditions and Procedure for Performance of EIA of Investment Proposals for Construction, Activities and Technologies, the undersigned

Senior Research Associate Dr. MICHEL SALVATOR ISRAEL,

Holder of Certificate for Inclusion in the List of Natural Persons who are in possession of competence for performance of an environmental impact assessment (EIA) with No 1134 dated 13 September 2004 issued of the Ministry of Environment and Waters,

DECLARE herein that

1. I am in possession of the needed professional qualification and competence for development of EIA reports.
2. I am not a related person within the meaning of the Commercial Code and I am not in labor, civil and official labor relationship with the Investor.
3. I am not in any labor, civil and official legal relationships with the competent authorities pursuant to Art. 10 of the Environmental Protection Act.
4. I am not a member of a commission/expert ecology board pursuant to Art. 5 or of the Supreme Expert Ecology Board pursuant to Art. 12, Para. 1, item 1 of the Environmental Protection Act.
5. I have not participated in the development of the investment intention and I am not interested in its implementation.
6. I am acquainted with the Environmental Protection Act, the legislative acts and the subdelegated legislation related to the preservation of environment.

I am acquainted with the fact that for false data indicated in this Declaration I shall bear criminal responsibility pursuant to Art. 313 of the Penal Code, which I affix my signature hereto for.

City of Sofia
March 2006

Declarant: /Sgd. Ill./
(Senior Research Associate Dr. Michel Salvator Israel)

REPUBLIC OF BULGARIA
MINISTRY OF ENVIRONMENT AND WATERS

CERTIFICATE

No 1134 dated 13 September 2004

For Entry into the Public Register of Experts Performing Ecological Assessment (EA) and Environmental Impact Assessment (EIA)

On the grounds of Art. 83, Para. 4 of the Environmental Protection Act and Ordinance No 1/2003
I certify herein that

MICHEL SALVATOR ISRAEL

Is entered into the Public Register of Experts on EA and EIA with the following declared elements of the assessment:

Noise, vibrations

Harmful emissions

Term of validity of the Certificate: 5 (five) years from the date of issuance.

MINISTER: /Sgd. Ill./
SEAL of the Ministry of Environment and Waters

DECLARATION

With regard to the development of Report on Environmental Impact Assessment (EIA) of Investment Proposal "Construction of Wind farm on the Territory of the villages of Bulgarevo, Sveti Nikola, Hadji Dimiter, Rakovski and Porouchik Chounchevo, Municipality of Kavarna" with Investor GEO POWER LTD, on the grounds of Art. 11, Para. 2 and 3 of the Ordinance on the Conditions and Procedure for Performance of EIA of Investment Proposals for Construction, Activities and Technologies, the undersigned

Prof. Dr. ADA IVANOVA BAYNOVA, Dr. M. Sc.,

Holder of Certificate for Inclusion in the List of Natural Persons who are in possession of competence for performance of an environmental impact assessment (EIA) with No 36 dated 23 April 2001 issued of the Ministry of Environment and Waters,

DECLARE herein that

1. I am in possession of the needed professional qualification and competence for development of EIA reports.
2. I am not a related person within the meaning of the Commercial Code and I am not in labor, civil and official labor relationship with the Investor.
3. I am not in any labor, civil and official legal relationships with the competent authorities pursuant to Art. 10 of the Environmental Protection Act.
4. I am not a member of a commission/expert ecology board pursuant to Art. 5 or of the Supreme Expert Ecology Board pursuant to Art. 12, Para. 1, item 1 of the Environmental Protection Act.
5. I have not participated in the development of the investment intention and I am not interested in its implementation.
6. I am acquainted with the Environmental Protection Act, the legislative acts and the subdelegated legislation related to the preservation of environment.

I am acquainted with the fact that for false data indicated in this Declaration I shall bear criminal responsibility pursuant to Art. 313 of the Penal Code, which I affix my signature hereto for.

City of Sofia
March 2006

Declarant: /Sgd. Ill./
(Prof. Dr. Ada Ivanova Baynova, D. M. Sc.)

REPUBLIC OF BULGARIA
MINISTRY OF ENVIRONMENT AND WATERS

CERTIFICATE

No 36 dated 13 March 2006

For Entry into the Public Register of Experts Performing Ecological Assessment (EA) and Environmental Impact Assessment (EIA)

On the grounds of Art. 83, Para. 4 of the Environmental Protection Act and Ordinance No 1/2003
I certify herein that

ADD IVANOVA BAYNOVA

Is entered into the Public Register of Experts on EA and EIA with the following declared elements of the assessment:

Harmful substances,

Health assessment

Term of validity of the Certificate: 5 (five) years from the date of issuance.

MINISTER: /Sgd. Ill./
SEAL of the Ministry of Environment and Waters

DECLARATION

With regard to the development of Report on Environmental Impact Assessment (EIA) of Investment Proposal "Construction of Wind farm on the Territory of the villages of Bulgarevo, Sveti Nikola, Hadji Dimiter, Rakovski and Porouchik Chounchevo, Municipality of Kavarna" with Investor GEO POWER LTD, on the grounds of Art. 11, Para. 2 and 3 of the Ordinance on the Conditions and Procedure for Performance of EIA of Investment Proposals for Construction, Activities and Technologies, the undersigned

ASEN EMILOV SALKIN

DECLARE herein that

1. I am in possession of the needed professional qualification and competence for development of EIA reports.
2. I am not a related person within the meaning of the Commercial Code and I am not in labor, civil and official labor relationship with the Investor.
3. I am not in any labor, civil and official legal relationships with the competent authorities pursuant to Art. 10 of the Environmental Protection Act.
4. I am not a member of a commission/expert ecology board pursuant to Art. 5 or of the Supreme Expert Ecology Board pursuant to Art. 12, Para. 1, item 1 of the Environmental Protection Act.
5. I have not participated in the development of the investment intention and I am not interested in its implementation.
6. I am acquainted with the Environmental Protection Act, the legislative acts and the subdelegated legislation related to the preservation of environment.

I am acquainted with the fact that for false data indicated in this Declaration I shall bear criminal responsibility pursuant to Art. 313 of the Penal Code, which I affix my signature hereto for.

City of Sofia
March 2006

Declarant: /Sgd. Ill./
(Asen Emilov Salkin)

DECLARATION

With regard to the development of Report on Environmental Impact Assessment (EIA) of Investment Proposal "Construction of Wind farm on the Territory of the villages of Bulgarevo, Sveti Nikola, Hadji Dimiter, Rakovski and Porouchik Chounchevo, Municipality of Kavarna" with Investor GEO POWER LTD, on the grounds of Art. 11, Para. 2 and 3 of the Ordinance on the Conditions and Procedure for Performance of EIA of Investment Proposals for Construction, Activities and Technologies, the undersigned

Eng. ANTONIA BLAGOEVA PETROVA

DECLARE herein that

1. I am in possession of the needed professional qualification and competence for development of EIA reports.
2. I am not a related person within the meaning of the Commercial Code and I am not in labor, civil and official labor relationship with the Investor.
3. I am not in any labor, civil and official legal relationships with the competent authorities pursuant to Art. 10 of the Environmental Protection Act.
4. I am not a member of a commission/expert ecology board pursuant to Art. 5 or of the Supreme Expert Ecology Board pursuant to Art. 12, Para. 1, item 1 of the Environmental Protection Act.
5. I have not participated in the development of the investment intention and I am not interested in its implementation.
6. I am acquainted with the Environmental Protection Act, the legislative acts and the subdelegated legislation related to the preservation of environment.

I am acquainted with the fact that for false data indicated in this Declaration I shall bear criminal responsibility pursuant to Art. 313 of the Penal Code, which I affix my signature hereto for.

City of Sofia
March 2006

Declarant: /Sgd. Ill./
(Eng. Antonia Blagoeva Petrova)

A N N E X II

LEGAL FRAMEWORK

1. Environmental Protection Act (promulgated State Gazette (SG), issue 91 of 2002. corrected issue 86 of 2003, supplemented issue 70 of 2004, supplemented issue 74 of 2005, amended and supplemented issue 77 of 2005)
2. Ordinance No 1 of 2003 on the procedure for creation and keeping a public register of experts performing ecological assessment and EIA and the sequence for applying of the persons for entry into the register (promulgated SG, issue 22 of 2003, amended and supplemented issue 100 of 2006)
3. Ordinance on the conditions and procedure for performance of environmental impact assessment adopted by Decree of the Council of Ministers No 59 of 2003 (promulgated SG, issue 25 of 2003, amended and supplemented issue 3 of 2006)
4. Ordinance on the conditions and procedure for performance of ecological assessment of plans and programs adopted by Decree of the Council of Ministers No 139 of 2004 (promulgated SG, issue 57 of 2004, amended and supplemented issue 3 of 2006)
5. Ordinance on the conditions and procedure for issuance of permits for construction and operation of new and operation of functioning enterprises and facilities in which a system for prevention of big failures with harmful substances or for restriction of the consequences from them is introduced adopted by Decree of the Council of Ministers No 84 of 2003 (promulgated SG, issue 38 of 2003)
6. Ordinance on the procedure for determination and imposition of sanctions during damaging or pollution of environment over the allowable norms adopted by Decree of the Council of Ministers No 169 of 2003 (promulgated SG, issue 69 of 2003)
7. Regulations for the organization and the activities for prevention and liquidation of consequences in disasters, emergencies and accidents, adopted by Decree of the Council of Ministers No 18 of 1998 (promulgated SG issue 13 of 1998, amended issue 3 of 2000, issue 22 of 2001, amended and supplemented issue 15 of 2003).
8. Structure Regulations of the Ministry of Environment and Waters adopted by Decree of the Council of Ministers No 214 of 1999 (promulgated State Gazette issue 104 of 1999, issue 104 of 1999, amended and supplemented issue 100 of 2000, issues 28, 32 and 91 of 2001, issue 64 of 2002, issues 3, 93 and 107 of 2003, issues 31 and 99 of 2004)
9. Structure Regulations of the Environmental Executive Agency, adopted by Decree of the Council of Ministers No 63 of 2000 (promulgated State Gazette issue 36 of 2000, amended and supplemented issues 64 and 99 of 2002)
10. Structure and Activity Regulations of the Regional Inspectorate of Environment and Waters (promulgated State Gazette issue 65 of 2004)
11. Structure and Activity Regulations of the enterprise for the management of the activities for the protection of environment adopted by Decree of the Council of Ministers No 319 of 2002 (promulgated State Gazette issue 3 of 2003)
12. Regulations for the functions, tasks and membership of the Supreme Expert Ecological Board with the Minister of Environment and Waters (adopted at a body session of the Ministry of Environment and Waters on 07.09.2004)
13. Regulations for the functions, tasks and the memberships of the Expert ecological boards with the regional inspectorates of environment and waters (adopted at a body session of the Ministry of Environment and Waters on 28.07.2004)
14. The Biological Diversity Act (promulgated State Gazette issue 77 of 2002. amended and supplemented issue 88 of 2005)

15. Ordinance No 4 of 2003 on the conditions and the procedure for issuance of permits for introduction of non-local or secondary introduction of local animal and vegetation species in nature (promulgated State Gazette issue 65 of 2003)
16. Ordinance No 5 of 2003 on the conditions and the procedure for development of action plans for vegetation and animal species (promulgated State Gazette issue 73 of 2003)
17. Ordinance No 8 of 2004 on the procedure and the conditions for issuance of permits for the exemptions from the prohibitions introduced by the Biological Diversity Act for animal and vegetation species from Annex No 3, for the animal kinds from Annex No 4, for all species of wild birds beyond those in conformity with Annex No 3 and Annex No 4 and for use of non-selective devices, means and methods for catching and killing from Annex No 5 (promulgated State Gazette issue 4 of 2004)
18. Regulations for the activities of salvation centers from the Ministry of Environment and Waters (promulgated State Gazette issue 14 of 2004)
19. The Medicinal Plants Act (promulgated State Gazette issue 29 of 2000, amended and supplemented issues 23 and 91 of 2002)
20. Ordinance on the rules and requirements for collection of herbs or genetic material from medicinal plants (promulgated State Gazette issue 14 of 2004)
21. Convention relative to the preservation of flora (promulgated State Gazette issue 75 of 2005)
22. Protected Territories Act (promulgated State Gazette issue 133 of 1998, amended and supplemented issue 98 of 1999, amended issues 28, 48 and 78 of 2000, amended and supplemented issue 23 and 77 of 2002, amended issue 91 of 2002)
23. Ordinance on development of plans for management of protected territories adopted by Decree of the Council of Ministers No 7 of 2000 (promulgated State Gazette issue 13 of 2000)
24. Ordinance No 4 on buffer zones around reserves (promulgated State Gazette issue 77 of 1980)
25. Rules on structure and activities of directorates of national parks (promulgated State Gazette issue 68 of 2000)
26. Regulations on the conditions and procedure for management, assignment of activities for maintenance and rehabilitation, assignment of tourist activities, the protection and control in forests, lands and water areas in protected territories – exclusive state-owned property (promulgated State Gazette issue 49 of 2005)
27. Territorial Structure Act (promulgated State Gazette issue 1 of 2001, amended and supplemented issues 41 and 111 of 2001, issue 43 of 2002, issues 20, 65 and 107 of 2003, issues 36 and 65 of 2004, issues 28, 76, 77, 88, 94, 95 and 103 of 2005)
28. Ordinance No 8 of 1987 on investigation of failures in construction (promulgated State Gazette issue 77 of 1987)
29. Ordinance No 14 of 1987 on resort resources, resort localities and resorts (promulgated State Gazette issue 79 of 1987, amended and supplemented issue 18 of 1992, issue 12 of 1995, issue 88 of 2000, issue 25 of 2002, issue 70 of 2004)
30. Ordinance No 3 of 1989 on preservation of the buildings and urbanization funds in populated areas (promulgated State Gazette issue 73 of 1989, corrected issue 86 of 1989)
31. Ordinance No 1 of 1994 on geo-protective activities (promulgated State Gazette issue 12 of 1994)

32. Ordinance No 3 of 1994 on control and acceptance of concrete and reinforced concrete structures (promulgated State Gazette issue 97 of 1994, amended issue 53 of 1999)
33. Ordinance No 2 of 1995 on rules and norms for territorial structural planning of Black Seaside (promulgated State Gazette issue 16 of 1995, amended and supplemented issue 24 of 2000)
34. Ordinance No 2 of 1998 on construction in farming lands (promulgated State Gazette issue 48 of 1998)
35. Ordinance No 7 of 1998 on the systems for physical protection of constructions (promulgated State Gazette issue 70 of 1998, corrected issue 82 of 1998, amended and supplemented issue 52 of 1999, issue 84 of 2000).
36. Ordinance No 8 of 1999 on rules and norms for location of technical lines and facilities in populated areas (promulgated State Gazette issue 72 of 1999)
37. Ordinance No 18 of 1999 on normatives in construction in forests and lands of the forestry fund (promulgated State Gazette issue 89 of 1999)
38. Ordinance No 19 of 1999 on construction in forests and lands of the forestry fund (promulgated State Gazette issue 89 of 1999)
39. Ordinance No 4 of 2000 on the scope and contents of the investment designs (promulgated State Gazette issue 51 of 2001)
40. Ordinance No 8 of 2001 on the volume and contents of the structural schemes and plans (promulgated State Gazette issue 57 of 2001. amended and supplemented issue 68 of 2004, amended and supplemented issue 51 of 2005)
41. Ordinance No 12 of 2001 on design of geoprotected constructions, buildings and facilities in landslide areas (promulgated State Gazette issue 68 of 2001)
42. Ordinance No 1 of 2003 on the nomenclature of the kinds of constructions (promulgated State Gazette issue 72 of 2003)
43. Ordinance No 2 of 2003 of the Ministry of Regional Development and Public Works on commissioning constructions in the Republic of Bulgaria and the minimal guarantee periods for executed construction and assembly works, facilities and building sites (promulgated State Gazette issue 72 of 2003, amended and supplemented issue 49 of 2005)
44. Ordinance No 4 of 2003 on design, building up and operation of electric power installations in buildings (promulgated State Gazette issue 78 of 2003, corrected issue 79 and 87 of 2003, amended issue 14 of 2004, amended and supplemented issue 17 of 2005)
45. Ordinance No 6 of 2003 on the building up of accessible environment in urbanized territories (promulgated State Gazette issue 109 of 2003)
46. Ordinance No 7 of 2003 on rules and norms for structure of the individual kinds of territories and structural zones (promulgated State Gazette issue 3 of 2004, amended and supplemented issue 10 of 2005, amended issue 11 of 2005, amended and supplemented issue 51 of 2005)
47. Ordinance No 2 of 2004 on planning and design of communication transport systems of urbanized territories (promulgated State Gazette issue 86 of 2004, corrected issue 93 of 2004)
48. Ordinance No 3 of 2004 on the key positions for design of the structures of the constructions and for the impacts over them (promulgated State Gazette issue 92 of 2004, corrected issue 98 of 2004, amended and supplemented issue 33 of 2005)
49. Ordinance No 8 of 2004 on lightning protection of buildings, external facilities and open spaces (promulgated State Gazette issue 6 of 2005)

50. Ordinance No 2 of 2005 on design, building and operation of water supply systems (promulgated State Gazette issue 34 of 2005)
51. Ordinance on the essential requirements and valuation of the compliance of the construction products adopted by Decree of the Council of Ministers No 286 (promulgated State Gazette issue 93 of 2000, amended and supplemented issue 75 of 2001, issue 115 of 2002, issue 109 of 2003)
52. Decree of the Council of Ministers No 140 of 2001 on determination of the Bulgarian geodetic system 2000 (promulgated State Gazette issue 54 of 2001)
53. Rules and normatives for plans of populated areas (promulgated State Gazette issue 21 and 22 of 1970, corrected issue 67 of 1970, amended issues 69 and 70 of 1977, issue 22 of 1982, issue 33 of 1984, issues 73 and 78 of 1989)
54. Regional Development Act (promulgated State Gazette issue 14 of 2004, amended and supplemented issue 32 of 2005)
55. Ordinance on determination of the indicators for differentiation of the kinds of regions for purposeful impact adopted by Decree of the Council of Ministers No 166 of 2004 (promulgated State Gazette issue 64 of 2004)
56. Regulations on organization and activities of regional councils for development (promulgated State Gazette issue 95 of 2004)
57. Structure and Activities Regulations of the Technical Assistance Directorates, coordination and management of regional programs and plans (promulgated State Gazette issue 29 of 2005)
58. Regional Development National Plan for the time period 2000 – 2006 adopted by Decree of the Council of Ministers No 208 of 1999 (promulgated State Gazette issue 106 of 1999, amended and supplemented issue 24 of 2001)
59. Ambient Air Cleanness Act (promulgated State Gazette issue 45 of 1996, corrected issue 49 of 1996, amended issue 85 of 1997, amended and supplemented issue 27 of 2000, amended issue 102 of 2001, issue 91 of 2002, issue 112 of 2003).
60. Ordinance No 14 of 1997 on the maximally permissible concentrations of hazardous substances in ambient air of populated areas (promulgated State Gazette issue 88 of 1997, amended issue 46 of 1999, amended and supplemented issue 08 of 2002, issue 14 of 2004)
61. Ordinance No 1 of 1998 on the conditions and procedure for ratification of temporary norms for emissions of hazardous substances emitted in ambient air from immobile functioning objects (promulgated State Gazette issue 51 of 1998)
62. Ordinance No 2 of 1998 on norms for admissible emissions (concentrations in waste gases) of harmful substances emitted in the ambient air from immobile sources (promulgated State Gazette issue 51 of 1998)
63. Ordinance No 3 of 1998 on the conditions and procedure for ratification of temporary norms for emissions of hazardous substances emitted in ambient air from immobile functioning objects related to the national fuel energy balance of the country (promulgated State Gazette issue 51 of 1998)
64. Ordinance No 6 of 1999 on the procedure and manner of measurement of the emissions of harmful substances emitted into the ambient air by sites with immobile sources (promulgated State Gazette issue 31 of 1999, amended and supplemented issue 52 of 2000, amended issue 93 of 2003)
65. Ordinance No 7 of 1999 on valuation and management of the quality of the ambient air (promulgated State Gazette issue 45 of 1999)
66. Ordinance No 8 of 1999 on norms for ozone in ambient air (promulgated State Gazette issue 46 of 1999)

67. Ordinance No 9 of 1999 on norms for sulphur dioxide, fine dust particles and lead in ambient air (promulgated State Gazette issue 46 of 1999, amended and supplemented issue 86 of 2005)
68. Ordinance No 15 of 1999 on norms for admissible emissions (concentrations in waste gases) of sulphur dioxide, nitrogen oxides and powder-like substances emitted into the ambient air by new big fuel installations (promulgated State Gazette issue 75 of 1999)
69. Ordinance No 16 of 1999 on restriction of the emissions of volatile organic compounds in storage, loading or unloading and transportation of petrol (promulgated State Gazette issue 75 of 1999)
70. Ordinance No 17 of 1999 on norms for contents in the fuels of lead, sulphur and other substances harmful for the environment (promulgated State Gazette issue 97 of 1999)
71. Ordinance No 5 of 2003 on prevention and reduction of pollution of environment with asbestos (promulgated State Gazette issue 39 of 2003)
72. Ordinance No 7 of 2003 on norms for permissible emissions of volatile organic compounds emitted in the ambient air as a result of the use of solvents in certain installations (promulgated State Gazette issue 96 of 2003)
73. Ordinance No 10 of 2003 on norms for permissible emissions (concentrations in waste gases) of sulphur dioxide, nitrogen oxides and general powder emitted into the ambient air by big fuel installations (promulgated State Gazette issue 93 of 2003)
74. Ordinance No 1 of 2004 on norms for petrol and carbon dioxide in ambient air (promulgated State Gazette issue 14 of 2004)
75. Ordinance No 4 of 2004 on norms for ozone and alarming threshold for the levels of ozone in the ambient air (promulgated State Gazette issue 64 of 2004)
76. Ordinance on exercise of control and management of substances which disturb the ozone layer adopted by Decree of the Council of Ministers No 254 (promulgated State Gazette issue 3 of 2000, amended and supplemented issue 96 of 2002)
77. Norms on permissible emissions (concentrations in waste gases) of harmful substances emitted in the atmosphere (promulgated State Gazette issue 81 of 1991, amended issue 51 of 1998)
78. Methodology of the Ministry of Environment and Waters for calculation of the height of the emitting devices, diffraction and the anticipated concentrations of contaminating substances in the grounded layer (Bulletin for Construction and Architecture, issue 6 of 1998, BCA issue 7 – 8 of 1998)
79. Methodology for calculation in conformity with balance methods of the emissions of harmful substances (contaminants) emitted into the ambient air ratified by Order No RD – 299 of 2000.
80. Methodological instructions for determination of toxic gases and steams in the air of the working environment (publication of MA NIPZ – association "Hygitest")
81. Instruction No 1 of 2003 on the requirements to the procedures for registration, treatment, storage, presentation and valuation of the results of the own continual measurements of the emissions of harmful substances emitted into the ambient air by sites with immobile sources (promulgated State Gazette issue 69 of 2003)
82. Instruction on preliminary valuation of the quality of the ambient air ratified by order No RD – 76 of 2002.
83. Instruction on the development of programs for reduction of the emissions and attainment of the established norms for harmful substances, in the areas for

management and valuation of the quality of the ambient air, in which there is excess of the established norms ratified by order No RD – 996 of 2001.

84. Instruction on the procedure for filling up the written statements of ascertainment and the protocols for the results of measurements of the emissions of harmful substances in the ambient air ratified by the Ministry of Environment and Waters of 2001.
85. Instruction on awareness of the population in events of excess of the established alarming thresholds ratified by the Ministry of Environment and Waters of 2003.
86. Waters Act (promulgated State Gazette issue 67 of 1999, amended and supplemented issue 81 of 2000, issues 34, 41 and 108 of 2001, issues 47, 74 and 91 of 2002, issues 42, 69, 84 and 107 of 2003, issues 6 and 70 of 2004, issues 18, 77 and 94 of 2005)
87. Ordinance No 1 of 2000 on research, use and preservation of underground waters (promulgated State Gazette issue 57 of 2000, corrected issue 64 of 2000)
88. Ordinance No 2 of 2000 on the preservation of the waters from contamination with nitrates from agricultural sources (promulgated State Gazette issue 87 of 2000)
89. Ordinance No 3 of 2000 on the conditions and the procedure for research, design, ratification and operation of the sanitary protective zones around the water sources and the facilities for potable everyday water supply and around the water sources of mineral waters used for curative, prophylactic, potable and hygienic needs (promulgated State Gazette issue 88 of 2000)
90. Ordinance No 4 of 2000 on the quality of waters for fishing and shell organisms (promulgated State Gazette issue 88 of 2000)
91. Ordinance No 5 of 2000 on the procedure and manner for creation of the networks and on the activities of the National Waters Monitoring System (promulgated State Gazette issue 95 of 2000)
92. Ordinance No 6 of 2000 on emission norms for permissible contents of harmful and hazardous substances in waste waters bell-mouthed in water basins (promulgated State Gazette issue 97 of 2000, amended and supplemented issue 24 of 2004)
93. Ordinance No 7 of 2000 on the conditions and procedure for bell-mouthing of industrial waste waters in the sewerage systems of populated areas (promulgated State Gazette issue 98 of 2000)
94. Ordinance No 8 of 2001 on the quality of coastal sea waters (promulgated State Gazette issue 10 of 2001)
95. Ordinance No 9 of 2001 on the quality of water for potable and everyday purposes (promulgated State Gazette issue 30 of 2001)
96. Ordinance No 10 of 2001 on issuance of permits for bell-mouthing of waste waters in water basins and determination of the individual emission limitations of point sources of contamination (promulgated State Gazette issue 86 of 2001)
97. Ordinance No 11 of 2002 on the quality of waters for bathing (promulgated State Gazette issue 25 of 2002)
98. Ordinance No 12 of 2002 on the qualitative requirements to surface waters designated for potable everyday water supply (promulgated State Gazette issue 63 of 2002)
99. Ordinance No 13 of 2004 on the conditions and procedure for performance of technical operation of dams and the facilities to them (promulgated State Gazette issue 88 of 2004, corrected issue 93 of 2004)
100. Ordinance No 4 of 2004 on the conditions and procedure for joining consumers and for use of the water supply and sewerage systems (promulgated State Gazette issue 88 of 2004, corrected issue 93 of 2004)

101. Ordinance No 2 on operational stocks of mineral waters and curative mud deposits (promulgated State Gazette issue 18 of 1982)

102. Ordinance No 17 of 1986 on indicators and norms for determination of the quality of running surface waters (promulgated State Gazette issue 96 of 1986)

103. Order No RD – 272 of 2001 on categorization of surface waters in water basins of them.

104. Instruction No 1 of 2004 on identification of waters in the water basins or parts of them for habitation by fishes in regions with coastal sea waters for raising shell organisms (promulgated State Gazette issue 96 of 2004).

105. BSS 2823 – 83 "Potable water"

106. BSS 17.1.1.02 "Preservation of Nature. Hydrosphere. Indicators for the quality of the waters."

107. BSS 17.1.3.01. "Preservation of Nature. Hydrosphere. General requirements to preservation of surface and underground waters from contamination with oil and oil products."

108. BSS 17.1.3.03. "Preservation of Nature. Hydrosphere. General requirements to preservation of underground waters from contamination."

109. BSS 17.1.3.07. "Preservation of Nature. Hydrosphere. Rules for selection and valuation of the qualities of water sources for central potable water supply."

110. Fishing and Aquacultures Act (promulgated State Gazette issue 41 of 2001, amended issue 88 of 2005, amended and supplemented issue 94 of 2005)

111. Structure Regulations of the Executive Agency of Fishing and Aquacultures"", adopted by Decree of the Council of Ministers No 85 of 2000 (promulgated State Gazette issue 43 of 2000)

112. Sea Areas, Internal Waters Ways and Ports of the Republic of Bulgaria Act (promulgated State Gazette issue 12 of 2000)

113. Agricultural Land Conservation Act (promulgated State Gazette issue 35 of 1996, amended and supplemented issue 14 and 26 of 2000, amended and supplemented issue 28 of 2001, supplemented issue 112 of 2003)

114. Implementing Regulation for the Agricultural Land Conservation Act adopted by Decree of the Council of Ministers No 84 of 1996, amended and supplemented issue 100 of 1997, issue 14, 48 and 63 of 2000, issues 41 and 66 of 2001, issue 31 of 2003, issue 41 of 2004).

115. Agricultural Land Tenure Act (promulgated State Gazette issue 17 of 1991, corrected issue 20 of 1991, amended issue 74 of 1991, issues 18,28,46 and 105 of 1992,, issue 48 of 1993, issue 64 of 1993 – resolution No 12 of the Constitutional Court f 1993, amended issue 83 of 1993, issue 80 of 1994, issues 45, 57 of 1995, issue 59 of 994 – resolutions No 7 and No 8 of the Constitutional Court of 1995, amended issue 79 of 1996, issue 103 of 1994 – resolution No 20 or the Constitutional Court of 1995, amended issue 104 of 1996, issues 62, 87, 98, 123 and 124 of 1997, issues 36 and 38 of 2004, issue 17 of 12006).

116. Implementing Regulations of the Agricultural Land Tenure Act adopted by Decree of the Council of Ministers No 74 of 1991 (promulgated State Gazette issue 34 of 1991, amended and supplemented issues 60 and 80 of 1991, issue 34 of 1992, issues 8, 72 and 87 of 1993, issues 2, 100 and 103 of 1994, issue 5, 48,, 95 of 1995, issues 28 and 43 of 1997, issue 57, 61, 112 and 122 of 1997, issue 18 of 1998, issues 18 and 113 of 1999, issues 41 and 44 of 2001, issue 31 of 2003, issues 69 and 86 of 2004)

117. Ordinance on categorization of agricultural lands in events of change of their designation adopted by Decree of the Council of Ministers No 261 of 1996 (promulgated State Gazette issue 90 of 1996, amended issue 96 of 20002, issue 31of 2003).

118. Ordinance on the size of the land needed during the construction of building sites (promulgated State Gazette issue 101 of 1982, amended issue 53 of 1987).

119. Ordinance No 3 of 1979 on norms for the permissible contents of harmful substances in the soil (promulgated State Gazette issue 36 of 1979, amended issue 5 of 1996, supplemented issue 54 of 1997, amended and supplemented issue 21 of 2000, amended and supplemented issue 39 of 2002)

120. Ordinance No 26 of 1996 on recultivation of disturbed terrains, improvement of poorly productive lands, removal and utilization of the humus layers (promulgated State Gazette issue 89 of 1996, amended and supplemented issue 30 of 2002)

121. Ordinance No 2 of 1998 on the construction of agricultural lands (promulgated State Gazette issue 48 of 1998)

122. BSS 17.4.1.02 "Preservation of Nature. Soil. Erosion, Factors for Erosion Processes"

123. BSS 17.4.1.04. "Preservation of Nature. Soil. General Requirements for Classification of Soils in conformity with the Impact of Chemical Contaminants over Them"

124. BSS 17.4.2.01. "Preservation of Nature. Soil. Water Erosion. Classification of kinds of anti-erosion meliorations".

125. BSS 17.-3-01 "Preservation of Nature. Land. General Requirements to the Recultivation of Lands"

126. Subsoil Resources Act (promulgated State Gazette issue 23 of 1999, amended issue 28 of 2000, issue 108 of 2001, issue 47 of 2002, issue 86 of 2003)

127. Ordinance on the National Geofund (promulgated State Gazette issue 6 of 2000)

128. Ordinance on the Geologo-Technical Documentation of Research and Mining Sites (promulgated State Gazette issue 108 pf 1999)

129. Ordinance on the preparation and keeping the national balance of stocks, the register of discoveries and the specialized register of the deposits of subsoil resources (promulgated State Gazette issue 111 of 1999)

130. Ordinance on the principles and methodology for determination of the concession remuneration for yield of subsoil resources in accordance with the procedure established building the Subsoil Resources Act (promulgated State Gazette issue 59 of 1999)

131. Ordinance No 18 of 2000 on the conditions and the procedure for coordination of annual projects for search and/or study, yield and primary treatment of subsoil resources, of projects for liquidation and conservation of geologic research and mining sites and of their amendments and supplements (promulgated State Gazette issue 6 of 2000)

132. Classification of the stocks and resources of the deposits of solid subsoil resources adopted by Decree of the Council of Ministers No 413 of 1998

133. Forests Act (promulgated State Gazette issue 125 of 1997, amended issue 79 and 133 of 1998, issue 26 of 1999,, issues 29 and 78 of 2000, issues 77, 79 and 99 of 2002, amended and supplemented issue 16 and 107 of 2003, amended and supplemented issue 72 of 2005)

134. Implementing Regulation of the Forests Act adopted by Decree of the Council of Ministers No 80 of 1998 (promulgated State Gazette issue 41 of 1998, amended and supplemented issue 74 of 2002, corrected issue 79 of 2002, amended issues 31 and 48 of 2003, amended and supplemented issue 101 of 2003)

135. Ordinance on determination of base prices, prices for the excluded areas and establishment of a right of use and servitudes over forests and lands of the forestry fund and lands of the forestry fund adopted by Decree of the Council of Ministers No 252 of 2003 (promulgated State Gazette issue 101 of 2003)

136. Ordinance No 1 of 1993 on preservation of landscaped areas and the decorative vegetation (promulgated State Gazette issue 26 of 1993)

137. Ordinance No 1 of 2004 on afforestation and stock-taking of forest cultures (promulgated State Gazette issue 67 of 2000)

138. Ordinance No 1 of 2004 on struggle with erosion and landslides in the forestry fund and the construction of strengthening facilities (promulgated State Gazette issue 7 of 2004)

139. Noise in Environment Protection Act (promulgated State Gazette issue 90 of 1999)

140. Plants Protection Act (promulgated State Gazette issue 91 of 1997, amended issue 90 of 1999)

141. Ordinance on special requirements for composition,, packing, labeling, methods for sampletaking and analysis of fertilizers adopted by Decree of the Council of Ministers No 5 of 2003 (promulgated State Gazette issue 10 of 2003, amended and supplemented issue 105 of 2005)

142. Ordinance No 36 of 2004 on the conditions and procedure for biological testing, registration, use and control of fertilizers, conditioners of the soil, biologically active substances and nutritious substrates (promulgated State Gazette issue 87 of 2004)

143. Structure Regulations of the National Vegetation Protection Service (promulgated State Gazette issue 46 of 2004, amended and supplemented issue 43 of 2005)

144. Stock-Breeding Act (promulgated State Gazette issue 65 of 2000, amended and supplemented issue 18 of 2004)

145. Hunting and Gamekeeping Act (promulgated State Gazette issue 78 of 2000, amended in issue 26 of 2001, amended and supplemented issue 77 and 79 of 2002, issue 88 of 2005)

146. Implementing Regulations on the Hunting and Gamekeeping Act adopted by Decree of the Council of Ministers No 151 of 2001 (promulgated State Gazette issue 58 of 2001, corrected issue 43 of 2002, amended and supplemented issue 41 and 101 of 2003)

147. Protection from Harmful Impact of Substances, Preparations and Products Act (promulgated State Gazette issue 10 of 2000, amended issue 91 of 2002, amended issue 86 of 2003, amended and supplemented issue 114 of 2003, issue 101 of 2005)

148. Ordinance on hazardous chemical substances adopted by Decree of the Council of Ministers No 130 of 2002 (promulgated State Gazette issue 69 of 2002, amended and supplemented issue 97 of 2005).

149. Ordinance on notification of new chemical substances adopted by Decree of the Council of Ministers No 327 of 2004 (promulgated State Gazette issue 110 of 2004)

150. Ordinance on the procedure and manner for classification, packing and labeling of existing and new chemical substances, preparations and products adopted by Decree of the Council of Ministers No 316 of 2002 (promulgated State Gazette issue 5 of 2003, amended and supplemented issue 66 of 2004, issue 50 of 2005, issue 57 of 2005)

151. Ordinance on the procedure and manner for import and export of hazardous chemical substances and preparations on the territory of the Republic of Bulgaria adopted by Decree of the Council of Ministers No 161 of 2004 (promulgated State Gazette issue 63 of 2004)

152. Ordinance on the procedure and number for valuation of the risk for human beings and environment from notified chemical substances adopted by Decree of the Council of Ministers No 324 of 2004 (promulgated State Gazette issue 110 of 2004)

153. Wastes Management Act (promulgated State Gazette issue 86 of 2003, amended issue 70 of 2004, amended and supplemented issue 77 and 88 of 2006)

154. Ordinance No 3 of 2004 on classification of wastes (promulgated State Gazette issue 44 of 2004)

155. Ordinance No 6 of 2004 on the conditions and requirements for the construction and operation of installations for incineration and installations for joint incineration of wastes (promulgated State Gazette issue 79 of 2004)

156. Ordinance No 2004 on the requirements which the sites for locations for treatment of wastes should correspond to (promulgated State Gazette issue 81 of 2004)

157. Ordinance No 8 of 2004 on the conditions and requirements for building up and operation of disposal areas and of other facilities and installations for utilization and neutralization of wastes (promulgated State Gazette issue 83 of 2004)

158. Ordinance No 9 of 2004 on the procedure and specimens according to which information is presented about the activities relating to wastes as well as the procedure for keeping the public register of the permits issued, the registration documents and of the closed down sites and activities (promulgated State Gazette issue 95 of 2004)

159. Ordinance on the procedure and manner for utilization of sediments from treatment of waste waters through their use in agriculture adopted by Decree of the Council of Ministers No 339 of 2004 (promulgated State Gazette issue 112 of 2004)

160. Ordinance on the requirements for treatment and transportation of worked out oils and waste oil products adopted by Decree of the Council of Ministers No 230 of 2005 (promulgated State Gazette issue 90 of 2005)

161. Ordinance on the requirements for production and putting on the market of batteries and accumulators and for treatment and transportation of wastes from batteries and accumulators adopted by Decree of the Council of Ministers No 134 of 2000 (promulgated State Gazette issue 61 of 2000).

162. Ordinance on the requirements for putting on the market of batteries and accumulators and for treatment and transportation of wastes from batteries and accumulators adopted by Decree of the Council of Ministers No 144 of 2005 (promulgated State Gazette issue 58 of 2005).

163. Ordinance on the procedure and manner for carrying in, taking out and transit of the wastes and for the events when bank guarantee or insurance is needed adopted by Decree of the Council of Ministers No 298 of 2004 (promulgated State Gazette issue 102 of 2004)

164. Ordinance on the requirements for putting on the market of fluorescent and other lamps containing mercury and for treatment and transportation of fallen into disuse fluorescent and other lamps containing mercury adopted by Decree of the Council of Ministers No 260 of 2000 (promulgated State Gazette issue 101 of 2000).

165. Ordinance on packing and wastes of packages adopted by Decree of the Council of Ministers No 41 of 2004 (promulgated State Gazette issue 19 of 2004)

166. Ordinance on the requirements for treatment and transportation of wastes from the production of titan dioxide adopted by Decree of the Council of Ministers No 87 of 2004 (promulgated State Gazette issue 39 of 2004)

167. Decree of the Council of Ministers No 53 dated 19 March 1999 on treatment and transportation of production and hazardous wastes (promulgated State Gazette issue 29 of 1999)

168. Ordinance on the conditions and the procedure for reduction of contamination with wastes from motorcar vehicles (promulgated State Gazette issue 98 of 2001)

169. Ordinance on the requirements for treatment of wastes from motorcar vehicles adopted by Decree of the Council of Ministers No 311 of 2004 (promulgated State Gazette issue 104 of 2004)

170. Decree of the Council of Ministers No 12 of 1999 on the regime for introduction of hazardous substances (promulgated State Gazette issue 10 of 1999)

171. Ordinance No 6 of 2002 on the measures for control of remainders from veterinary medical preparations and contaminants from environment in live animals and products of animal origin (promulgated State Gazette issue 32 of 2002)

172. Health and Safety at Work Act (promulgated State Gazette issue 124 of 1997, amended issue 86 of 1999, issues 64 and 92 of 2000, issues 25 and 111 of 2001, amended and supplemented issue 18 and 114 of 2003, issue 70 of 2004, issue 76 of 2005)

173. Health Act (promulgated State Gazette issue 70 of 2004)

174. Ordinance No 49 of 1976 on man-made lighting of buildings (promulgated State Gazette issue 7 of 1976, amended issue 64 of 1976)

175. Ordinance No 6 of 1977 on provision of normal acoustic situation in residential and public buildings and populated areas (promulgated State Gazette issue 16 of 1977)

176. Ordinance No 45 of 1980 on forms for permissible values of vibrations in the residential buildings (promulgated State Gazette issue 4 of 1980)

177. Ordinance No 3 of 1984 on maximal admissible concentrations of chemical substances emitted from polymer construction materials in residential and public buildings (promulgated State Gazette issue 17 of 1984)

178. Ordinance No 21 of 1984 on hygienic requirements for building up and maintenance of cemetery parks and burial and transfer of deceased (promulgated State Gazette issue 92 of 1984, amended and supplemented issue 63 of 1993, issue 59 of 2002,, amended by Resolution No 10655 of 2002 of the Supreme Administration Court – issue 113 of 2002)

179. Ordinance No 8 of 1986 on hygienic norms for laser radiations (promulgated State Gazette issue 92 of 1986)

180. Ordinance No 9 of 1991 on the maximal admissible levels of electromagnetic fields in populated territories and determination of hygienic – protective zones around emitting sites (promulgated State Gazette issue 35 of 1991, corrected issue 38 of 1991, promulgated along with the methodology of MA, NIHPZ in the Official Bulletin, issue 2 of 1991, amended and supplemented issue 8 of 2002)

181. Ordinance No 7 of 1992 on hygienic requirements for health protection of populated environment (promulgated State Gazette issue 46 of 1992, amended and supplemented issue 46 of 1994, issue 89 and 101 of 1996, issue 101 of 1997, issue 20 and 41 of 1999, issue 40 of 2002)

182. Ordinance No 4 of 1999 on protection from noise on the territory of populated areas (promulgated State Gazette issue 41 of 1999)

183. Ordinance No 5 of 1999 on the procedure, manner and periodicity of performance of risk assessment (promulgated State Gazette issue 47 of 1999)

184. Ordinance No 7 of 1999 on the minimal requirements for healthy and safe working conditions on workplaces and with use of working equipment (promulgated State Gazette issue 88 of 1999, amended and supplemented issue 48 of 2000, issue 52 of 2001, corrected issue 54 of 2001, amended and supplemented issue 43 of 2003, issues 37 and 88 of 2004)

185. Ordinance No 12 of 2005 on provision of healthy and safe working conditions during execution of loading and unloading works (promulgated State Gazette issue 11 of 2006)

186. Ordinance No 16 of 1999 on physiological norms and rules for manual work with weights (promulgated State Gazette issue 54 of 1999, amended issue 70 of 2005)

187. Ordinance No 3 of 2001 on the minimal requirements for safety and preservation of the health of the workers with use of personal protective means on the workplace (promulgated State Gazette issue 46 of 2001)

188. Ordinance No 1 of 2003 on protection of workers from risks related to exposition to asbestos during work (promulgated State Gazette issue 32 of 2003)

189. Ordinance No 6 of 2005 on the minimal requirements for provision of the health and safety of workers during risks connected with exposition to noise (promulgated State Gazette issue 70 of 2005)

190. Ordinance No 7 of 2005 on minimal requirements for provision of healthy and safe working conditions during works with video displays (promulgated State Gazette issue 70 of 2005)

191. Ordinance No 10 of 2003 on protection of workers from risks related to exposition to cancerogens and mutagens during work (promulgated State Gazette issue 94 of 2003, amended issue 8 of 2004)

192. Ordinance No 13 of 2003 on the protection of the workers from risks related to exposition to chemical agents during work (promulgated State Gazette issue 8 of 2004)

193. Ordinance No 2 of 2004 on minimal requirements for healthy and safe working conditions during execution of construction and assembly works (promulgated State Gazette issue 37 of 2004)

194. Ordinance No 8 of 2004 on provision of healthy and safe working conditions during work with air compressor installations and outfits (promulgated State Gazette issue 93 of 2004)

195. Ordinance No 9 of 2004 on provision of healthy and safe working conditions during operation and maintenance of water supply and sewerage systems (promulgated State Gazette issue 93 of 2004)

196. Ordinance No 10 of 2004 on provision of healthy and safe working conditions during works with electric and motor trucks (promulgated State Gazette issue 112 of 2004)

197. Ordinance No 11 of 2004 on minimal requirements for provision of healthy and safety of workers with potential risk of explosive atmosphere (promulgated State Gazette issue 6 of 2005)

198. Ordinance No 12 of 2004 for provision of healthy and safe working conditions during work with cars (promulgated State Gazette issue 6 of 2005)

199. Ordinance No 3 of 2005 on the conditions and the procedure for performance of disinfections, disinsections and deratizations (promulgated State Gazette issue 12 of 2005)

200. Ordinance No 9 of 2005 on the conditions and the procedure for creation and keeping a public register of sites with public designation controlled by the regional inspectorates for preservation and control of public health /promulgated State Gazette issue 28 of 2005)

201. Ordinance No 29 of 2005 on health norms and requirements during work in ionizing radiations (promulgated State Gazette issue 78 of 2005)

202. Ordinance on basic norms for radiation protection (ONRZ – 2000) adopted by Decree of the Council of Ministers No 5 of 2001 (promulgated State Gazette issue 4 of 2001)

203. Structure and Activity Regulations of the regional inspectorates for preservation and control of public health (promulgated State Gazette issue 16 of 2005)

204. Safety Regulations during work with non-electric power outfits of electric power and heat supply plants and along heat transfer networks and hydro-technical facilities (promulgated State Gazette issue 32 of 2004)

205. Safety Regulations during work in electric power outfits of electric power and heat supply plants and along electric power networks (promulgated State Gazette issue 34 of 2004, amended and supplemented issue 19 of 2005)

206. Safety and Health Regulations during work with electric power equipment with voltage of up to 1000 V (promulgated State Gazette issue 21 of 2005)
207. Sanitary norms on maximal admissible intensity of radio frequency and electromagnetic fields (promulgated State Gazette issue 23 of 1971)
208. Norms for design of noise protection (published BCA, issue 5 of 1987, Art. 7, Section III – form for designs)
209. Hygienic norms No 0 – 64 on maximal admissible noise levels in residential and public buildings and residential areas (promulgated State Gazette issue 87 of 1972, amended issue 16 of 1975)
210. Norms on maximal admissible levels of sound pressure in the various territories and zones of populated areas (promulgated State Gazette issue 87 of 1972, amended issue 16 of 1975)
211. Methodology for determination of the total sound power emitted into environment from an industrial enterprise and determination of the level of noise in the location of impact (Order of the Ministry of Environment and Waters RD – 536 of 1999).
212. Methodology for measurement and assessment of the noise in populated areas and methodology for creation of noise maps of populated areas (published BCA, issue 8 of 1979)
213. BSS 8998 "Noise protection in construction. Noise insulation of the enclosing and distributing structures. Norms."
214. BSS 12.1.0112-80 "Labor protection. Vibrations. General requirements for labor safety."
215. BSS 14776 "Labor safety. Workplaces in industrial promises. Sanitary-hygienic norms for temperature, relative humidity, velocity of air and heat radiation."
216. Protection, Rehabilitation and Social Integration of Disabled Persons Act (promulgated State Gazette issue 112 of 1995, supplemented issue 110 of 1996, amended issue 123 of 1997, issue 140 of 1998 – resolution No 31 of the Constitutional Court of 1998).
217. Implementing Regulation of the Protection, Rehabilitation and Social Integration of Disabled Persons Act adopted by Decree of the Council of Ministers No 269 of 1996 (promulgated State Gazette issue 97 of 1996, amended and supplemented issue 62 and 100 of 1997, issue 68 of 1998, issue 13, 20, 57, 60 and 114 of 1999, issue 112 of 2001 and issues 8 and 35 of 2002).
218. Roads Act (promulgated State Gazette issue 26 of 2000, amended and supplemented issue 88 of 2000, issue 111 of 2001, issues 47 and 118 of 2002, issues 9 and 112 of 2003; issues 6, 14 and 88 of 2004, issue 104 of 2005).
219. Implementing Regulations of the Roads Act adopted by Decree of the Council of Ministers No 245 of 2000 (promulgated State Gazette issue 98 of 2000, amended and supplemented issue 42 and 62 of 2001)
220. Ordinance No 1 of 2000 on design of roads (promulgated State Gazette issue 47 of 2000, amended and supplemented issue 102 of 2005)
221. Norms on design of roads – annex to Art. 4 of the Ordinance (promulgated State Gazette issue 47 of 2000)
222. Norms for design of agricultural roads (published BCA, issue 4 of 1987, corrected issue 7 of 1987)
223. Roads Traffic Act (promulgated State Gazette issue 20 of 1999, amended issue 1 of 2000, issue 43, 45 and 76 of 2002, issue 16 and 22 of 2003, issues 6, 70, 85 and 115 of 2004, amended and supplemented issue 79 of 2005)
224. Ordinance No 1 of 2001 on organization of road traffic (promulgated State Gazette issue 13 of 2001)

225. Ordinance No 2 of 2001 on signalization of roads with road marking (promulgated State Gazette issue 13 of 2001, amended and supplemented issue 18 of 2004)

226. Ordinance No 16 of 2001 on the temporary organization of traffic during the execution of construction and repairs along roads and streets (promulgated State Gazette issue 72 of 2001)

227. Ordinance No 17 of 2001 on regulation of traffic with light signals (promulgated State Gazette issue 72 of 2001, amended and supplemented issue 18 of 2004)

228. Ordinance No 18 of 2001 on signalization of roads with road signs (promulgated State Gazette issue 73 of 2001, amended and supplemented issue 18 and 109 of 2004)

229. Monuments of Culture and Museums Act (promulgated State Gazette issue 29 of 1969, amended issue 29 of 1973, issue 36 of 1979, issue 87 of 1980, issue 102 of 1981, issue 45 of 1984, issue 45 of 1989, issues 10 and 14 of 1990, issue 112 of 1995, issues 31 and 44 of 1996, issue 117 of 1997, issue 153 of 1998, issue 50 of 1999, amended and supplemented issue 55 of 2004, issues 28 and 94 of 2005, amended and supplemented issue 21 of 2006).

230. Ordinance No 5 of 1998 on announcement of immobile monuments of culture (promulgated State Gazette issue 60 of 1998, amended and supplemented issue 20 of 2001)

231. Ordinance No 17 on determination of the limits and the regime for use and preservation of immobile monuments of culture beyond populated areas (promulgated State Gazette issue 35 of 1979)

232. Ordinance No 1 of 2005 on the procedure for performance of valuation of declared movable monuments of culture, ownership of juristic and natural persons (promulgated State Gazette issue 13 of 2005)

233. Regulations on the Structure and Tasks of the National Institute for Monuments of Culture adopted by Decree of the Council of Ministers No 38 of 2000 (promulgated State Gazette issue 28 of 2000, amended issue 87 of 2001, issue 1 of 2003)

234. Cadastre and Property Register Act (promulgated State Gazette issue 34 of 2000, amended issues 45 and 99 of 2002, amended and supplemented issue 36 of 2004)

235. Ordinance No 5 of 1999 on the structure of the recording in digital kind of the cadastre plans and maps, the regulation plans and the plans of the soil categories (promulgated State Gazette issue 56 of 1999)

236. Ordinance No 3 of 2001 on keeping and storing the register of persons qualified to implement activities in conformity with the cadastre (promulgated State Gazette issue 19 of 2001 amended and supplemented issue 15 of 2006)

237. Ordinance No 14 of 2001 on contents, creation and keeping the cadastre map and the cadastre registers (promulgated State Gazette issue 71 of 2001, amended and supplemented issue 31 of 2003)

238. Ordinance No 15 of 2001 on the structure and contents of the identifier of the real estates in the cadastre (promulgated State Gazette issue 71 of 2001, amended and supplemented issue 16 of 2006)

239. Ordinance No 19 of 2001 on control and acceptance of the cadastre map and the cadastre registers (promulgated State Gazette issue 2 of 2002, amended and supplemented issue 16 of 2006).

240. Instruction on creation and maintenance of geodetic networks with local designation.

241. Instruction on determination of the coordinates of geodetic points through a global positioning system GPS

242. Instruction on routing construction networks

243. Instruction on investigation of the deformations of buildings and facilities through geodetic methods

244. Structure Regulations of the Cadastre Agency adopted by Decree of the Council of Ministers No 302 of 2004 (promulgated State Gazette issue 103 of 2004)

245. Energy Act (promulgated State Gazette issue 107 of 2003, amended issue 18 of 2004)

246. Energy Efficiency Act (promulgated State Gazette issue 18 of 2004)

247. Ordinance No 3 of 2004 of the structure of electric power installations and electric power lines (promulgated State Gazette issue 90 and 91 of 2004)

248. Ordinance No 4 of 2004 on Technical Operation of Electric Power Equipment (promulgated State Gazette issue 99 of 2004)

249. Ordinance No 6 of 2004 on joining manufacturers and consumers of electric power to the transfer and distribution electric power systems (promulgated State Gazette issue 74 of 2004)

250. Ordinance No 6 of 2004 on the technical rules and norms for design, building up and use of the sites for transfer, storage, distribution and supply of natural gas (promulgated State Gazette issue 107 of 2004)

251. Ordinance No 7 of 2004 on joining to the gas transfer and gas distribution networks (promulgated State Gazette issue 63 of 2004)

252. Ordinance No 8 of 2004 on the conditions and procedure at which the activities of the operators of the electric power system and of the electric power distribution networks are implemented as well as of the operating personnel on duty of the electric power sites and the electric power installations of the consumers (promulgated State Gazette issue 79 of 2004)

253. Ordinance No 9 of 2004 on the Technical Operation of Electric Power Plants and Networks (promulgated State Gazette issue 72 of 2004)

254. Ordinance No 10 of 2004 on the procedure for introduction of a restrictive regime, temporary discontinuance or limitation of the production of supply with electric power, heat power and natural gas (promulgated State Gazette issue 63 of 2004)

255. Ordinance No 12 of 2004 on the activities of the operators of the gas transfer and gas distribution networks (promulgated State Gazette issue 79 of 2004)

256. Ordinance No 16 of 2004 on servitudes of energy sites (promulgated State Gazette issue 88 of 2004)

257. Ordinance No 18 of 2004 on the energy characteristics of the sites (promulgated State Gazette issue 108 of 2004)

258. Ordinance No 10 of 2004 on certification of buildings for energy efficiency (promulgated State Gazette issue 108 of 2004)

259. Ordinance No 20 of 2004 on the circumstances and procedure for registry of persons performing certification of buildings and investigation for energy efficiency and obtaining information (promulgated State Gazette issue 5 of 2005)

260. Ordinance No 21 of 2004 on investigation of energy efficiency (promulgated State Gazette issue 112 of 2004)

261. Ordinance on technical operation of energy equipment adopted by Decree of the Council of Ministers No 101 of 05 June 2000 (promulgated State Gazette issue 50 of 2000, amended issue 115 of 2002)

262. Ordinance No 14 of 2005 on technical rules and norms for design, building up and use of the sites and facilities for production, transformation, transfer and distribution of electric power (promulgated State Gazette issue 53 of 2005).

263. Technical Requirements to Products Act (promulgated State Gazette issue 86 of 1999, amended issue 63 and 93 of 2002, issue 18 and 107 of 2003, amended and supplemented issue 45 of 2005, issue 77 of 2005)

264. Ordinance on marking for compliance with the essential technical requirements to products adopted by Decree of the Council of Ministers No 164 of 2000 (promulgated State Gazette issue 66 of 2000)

265. Ordinance on the conditions and procedure for authorization of persons for the exercise of technical supervision of facilities with enhanced hazard and of the sequence for keeping a register of the facilities adopted by Decree of the Council of Ministers No 187 off 2000 (promulgated State Gazette issue 79 of 2000)

266. Ordinance on essential requirements and assessment of the compliance of the construction products adopted by Decree of the Council of Ministers No 230 of 2000 (promulgated State Gazette issue 93 of 2000, amended and supplemented issue 75 of 2001, issue 115 of 2002, issue 109 of 2003, issue 105 of 2005)

267. Ordinance on essential requirements and assessment of the compliance of the machines, adopted by Decree of the Council of Ministers No 232 of 2001 (promulgated State Gazette issue 33 of 2003, supplemented issue 15 of 2005)

268. Ordinance on safe operation and technical supervision of elevators adopted by Decree of the Council of Ministers No 75 of 2003 (promulgated State Gazette issue 33 of 2003, supplemented issue 15 of 2005)

269. Ordinance on essential requirements and assessment of the compliance of machines and facilities which work in the open air with regard to the noise emitted by them into the air adopted by Decree of the Council of Ministers No 22 of 2004 (promulgated State Gazette issue 11 of 2004)

270. Ordinance on the essential requirements to cable lines for transportation of people and assessment of the compliance of their protective devices and subsystems adopted by Decree of the Council of Ministers No 168 of 2004 (promulgated State Gazette issue 64 of 2004)

271. Ordinance on the structure and safe operation of transfer and distribution gas pipelines and of the facilities , installations and devices for natural gas adopted by Decree of the Council of Ministers No 171 of 2004 (promulgated State Gazette issue 67 of 2004)

272. Ordinance No I – 117 of 2003 on the exercise of state anti-fire control, fire extinguishing and emergency rescue activities (promulgated State Gazette issue 53 of 2003)

273. Ordinance No 2 on anti-fire construction technical norms (promulgated State Gazette issue 58 of 1987, amended and supplemented issue 33 of 1994, published along with the Anti-Fire Construction Technical Norms by the Ministry of Interior and the Ministry of Territorial Development and Construction in a specialized edition of the Bulgarian Construction Chamber, 1994 and 1995), zones for safety – For protection and vegetation world (forests).

274. Ordinance No 3 on fire safety of sites in operation (promulgated State Gazette issue 54 and issue 60 of 1997)

275. Ordinance No I – 209 of 2004 on the rules and norms for fire and emergency safety of sites in operation (promulgated State Gazette issue 107 of 2004)

276. Instructions on the organization of the engineering works in rescue and other urgent activities after acts of God and big industrial emergencies and Manual for engineering provision of construction and other urgent actions acts of God and big industrial emergencies (published BCA, issue 2 of 1993)

277. BSS 17.8.02 “Preservation of nature, Landscapes. Terms and definitions”.

278. Ownership Act (promulgated in the Journal, issue 92 of 1951; amended and supplemented issue 12 of 1958, issue 90 of 1960; State Gazette issue 99 of 1963, issue 26 and 27 of 1973, issue 54 and 87 of 1974, issue 55 of 1978, issue 36 of 1979, issue 19 of 1985, issue 14 and 91 of 1988, issue 28 of 1990, issue 77 of 1991, issue 33 of 1996, issue 100 of 1997, issue 90 of 1999, issue 34 of 2000, issue 59 of 2000).

279. State Ownership Act (promulgated State Gazette issue 44 of 1996, amended and supplemented issue 104 of 1996, issue 55, 61 and 117 of 1997, issues 93 and 124 of 1998, issue 67 of 1999, issues 9, 12, 26 and 57 of 2000, issue 1 of 2001, issue 38 of 2001 – Resolution No 7 of 2001 of the Constitutional Court, amended and supplemented issue 45 of 2002, issue 63 of 2003, issues 24 and 93 of 2004, issue 32 of 2005, issue 17 of 2006).

280. Implementing Regulation for the State Ownership Act adopted by Decree of the Council of Ministers No 235 of 1996 (promulgated State Gazette issue 82 of 1996, amended and supplemented issue 8, 24, 45 and 62 of 1997, issues 2, 29, 58 and 90 of 1998,, issue 13 of 1999, issues 14 and 70 of 2000, issue 44 of 2001, issue 11 and 53 of 2003).

281. Municipal Property Act (promulgated State Gazette issue 44 of 1996, amended and supplemented issue 104 of 1996, issue 55 of 1997, issues 22 and 93 of 1998, issues 23, 56, 64, 67, 69 and 96 of 1999, issue 26 of 2000, issue 34 of 2001, issue 120 of 2002, issue 101 of 2004)

282. Implementing Regulations of the Municipal Property Act adopted by Decree of the Council of Ministers No 235 of 1996 (promulgated State Gazette issue 82 of 1996, amended and supplemented issue 24 and 62 of 1997, issue 70 of 2000, issue 84 of 2003)

283. Convention for preservation of the world cultural and natural heritage, effective since 1976.

284. Convention on international trade with threatened species of wild fauna and flora (Washington, CITES), in force since 16 April 1991 (Stage Gazette, issue 6 of 1992)

285. Convention on humid zones of international significance, in particular as habitats for hydrophilous birds (Ramsar) effective since 24 January 1976 (State gazette, issue 56 of 1992)

286. Convention on preservation of wild European flora and fauna and local habitats (Bern) effective since 01 May 1991 (State Gazette, issue 23 of 1995)

287. Basel Convention for control over cross-border movement of hazardous wastes and their neutralization (State Gazette issue 1 of 1997)

288. Convention on Biological Diversity effective since 16 July 1996 (State Gazette issue 16 of 2000)

289. Convention on protection of migrating species (Bonn) in force since 01 Novermer 1999 (State Gazette issue 16 of 2000)

290. Frame Convention of the United Nations on Modification of Climate, in force since 10 August 1995 (promulgated State Gazette issue 68 of 2005)

291. Protocol to Frame Convention of the United Nations on Modification of Climate, in force since 16 February 2005 (promulgated State Gazette issue 68 of 2005)

292. Agreement for preservation of migrating hydrophilous birds from Africa and Eurasia in force from 01 February 2000 (State Gazette issue 16 of 2000)

293. Agreement on preservation of bats in Europe, in force since 9 December 1999 (State Gazette, issue 16 of 2000)

294. European Convention on Landscape (promulgated State Gazette issue 22 of 2005)

295. Convention on cross-border pollution of air at remote distances, effective since 16 march 1983 (State Gazette, issue 45 of 2003)

296. Protocol of Cartagena on biological safety with the Convention on Biological Diversity effective since 11 September 2003 (SG issue 83 of 2003)

297. Protocol on sustainable organic contaminants to the Convention on cross-border pollution of air at remote distances of 1979, effective since 23 October 2003 (SG, issue 102 of 2003)

298. Stockholm Convention of sustainable organic contaminants, effective since 20 march 2005 (promulgated State Gazette issue 34 of 2005)

299. Convention for preservation and use of cross-border water currents and international lakes effective since 26 January 2004 (SG, issue 14 of 2004)

300. Protocol to the Convention of 1979 on cross-border pollution of air at remote distances about further reduction of sulphur emissions, effective since 03 October 2005 (SG, issue 93 of 2005)

301. Protocol to the Convention of 1979 on cross-border pollution of air at remote distances about further reduction of acidification, eutrofication and tropospheric ozone effective since 03 October 2005 (SG, issue 93 of 2005)

302. Convention on the procedure for preliminarily justified consent in international trade with certain hazardous chemical substances and pesticides, effective since 24 February 2004 (SG, issue 33 of 2004)

303. Convention on access to information, the participation of the public in the process of decision-making and the access to justice on issues relating to the environment effective since 16 March 2004 (SG issue 33 of 2004)

304. Peking amendments to Montreal protocol on substances which disturb the ozone layer effective since 15 April 2002 (SG, issue 65 of 2004)

305. European convention on preservation of archeological heritage, effective since 25 May 1995 (SG, issue 70 of 2004)

ANNEX III

CONSULTATIONS CONDUCTED DOCUMENTATION

GEO Power Ltd Renewable Energy
E-mail: yomi@mail.techno-link.com
Office – Sofia, 33-A, Krivolak Street, Sofia 1421, tel.: (+3592) 8655151, tel.: (+3592) 9632275, Fax (+359 2) 9633774

Ref. No 127 / 30.08.2005

To the Director of
RIEW – Town of Varna
4, Yan Palah Street
9000 Varna

REQUEST
FOR JUDGING THE NEED OF PERFORMANCE OF EIA
OF INVESTMENT PROPOSAL
FOR CONSTRUCTION OF A WIND FARM
IN THE TERRITORY OF THE VILLAGES OF BULGAREVO, SVETI NIKOLA, HADJI DIMITER, RAKOVSKI AND POROUCHIK CHOUNCHOLOV MUNICIPALITY OF KAVARNA

This request for judging the need of performance of EIA of an investment proposal for the construction of a wind farm in the territory of the villages of Bulgarevo, Sveti Nikola, Hadji Dimiter, Rakovski and Porouchik Chounchevo, Municipality of Kavarna EKATTE 07257 was prepared in compliance with the requirements pf Art. 93 of Section II of the Environmental Protection Act "Assessment of the Impact over Environment of Investment Proposals" (promulgated State Gazette issue 91 of 25 September 2002, corrected SG issue 98/2002, amended SG issue 86/2003, amended and supplemented issue 70/2004).

We present to you the information about judging the need of performance of EIA of an investment proposal in conformity with Annex No 2 of **Ordinance on the conditions and procedure for performance of an environmental impact assessment of investment proposals for construction, activities and technologies** (Adopted by Decree of the Council of Ministers No 59 dated 07.03.2003, promulgated State Gazette issue 25 dated 18.03.2003):

I. Information about contact with the Investor:

1. Company
GEO POWER LTD
Company file No 1149/2003, Sofia
1421 Sofia
33A, Krivolak Street
Tax registration No 2220141937
Bulstat 131039739

2. Management address

Bulgaria
1421 Sofia
33, Krivolak Street
3. Telephone: 0035928655151
Fax: 0035929633774
E-mail: office@yomibg.com
www.yomibg.com
4. Contact person: Dimiter Nikolaev Donchev
E-mail; ddonchev@yomibg.com

II. Characteristics of the investment proposal

1. Company GEO POWER LTD intends to build up in the territories of the villages of Bulgarevo, Sveti Nikola, Hadji Dimiter, Rakovski and Porouchik Chounchevo, Municipality of Kavarna a wind farm with the total installed power of 120 MW, including: 60 nos. of wind generator facilities, electric power transfer networks of 20 kV and 110 kV, an electric power substation 20/110. The manufactured electric power will be joined to the national electric power transfer network of the Republic of Bulgaria.
2. The main particularity of the investment proposal for the construction of the wind farm on the territory of the municipality of Kavarna is the obtaining of renewable energy. This is energy generated by renewable energy sources. It is characteristic of these sources that their use does not result in exhaustion of the natural resources of the land (coal, oil and other mineral fuels) and does not provoke the accumulation of hazardous waste matter (nuclear and heat electric power plants). In this sense the implementation of the investment proposal will be a contribution to the energy obtained from renewable sources and corresponds to the energy strategy of the Republic of Bulgaria. GEO POWER LTD conducts independent research for the potential of the wind on the territory of the Republic of Bulgaria and the region of Kavarna was chosen for the implementation of the investment proposal as optimal.
   For the last five years the yield of electric power through the use of wind power on a global scale increased nearly four times (from 7 600 MW to 31 128 MW). For the same time period solely in Europe the increase was about 33 % (in conformity with the European wind power association). It is expected that as at 2030 powers will be installed in Europe about 100 000 MW. According to the energy strategy of the Republic of Bulgaria it is expected by year 2012 that 8% of the primary energy should be yielded from renewable energy source, a part of this energy being obtained from the wind.
3. The territory under consideration was designated by the effective territorial structural plan as at this time for agricultural activities and other production compatible activities.
   Company Yomi Engineering LTD is the main shareholder in GEO POWER JSC. In May 2003 it participated in a tender and was awarded the ceded right of construction for the building up of twenty nos. of wind generator facilities over municipal agricultural land with an area of 2700000m2 in the territory of the village of Sveti Nikola, municipality of Kavarna. The contractual relationships between the municipality of Kavarna and Yomi Engineering LTD include the obligation of Yomi Engineering LTD to conduct all the legal procedures for planning, coordination and provision of the design documentation for the issuance of a construction permit and the building up of the wind farm.

With observation of the Bulgarian legislation Yomi Engineering LTD developed with teams of specialized specialists design works by which the following were particularized: specific limits of protected territories and buffer zones, monitoring observations of the flora and fauna were performed, sanitary hygienic distances of the generators from populated areas – 500 m were particularized and coordinated with the Ministry of Health. A report on the impact over environment with a positive conclusion was prepared by independent experts. 7 nos. of wind generator stations remain for implementation from the planned twenty ones, which constitute part of the presented investment proposal.

4. The alternatives under consideration for the production of energy from renewable energy sources are hydro power plant, biomass, cogeneration-gas, solar energy, which are unacceptable for the region as well as with the availability of the wind potential.
5. The location of the individual sites within the region is presented in the attached map material. The territory, which the investment proposal under consideration is developed for, is located in the territories of the villages of Bulgarevo, Sveti Nikola, Hadji Dimiter, Rakovski and Porouchik Chounchevo, Kavarna Municipality and is on a total area of about 60 km2. The area for temporary activities is envisaged to be in estates fully ownership of GEO POWER LTD.
6. The investment proposal will be implemented in stages, anticipating the construction of the park in stages as follows:
   - First stage – construction of a substation, electric power transfer network and 30 nos. of wind generators with installed power of 60 MW in 2006-2007;
   - Second stage – construction of 30 nos. of wind generators with installed power of 60 MW in 1007-2008.
7. The construction of new or modification of existing road infrastructure is not anticipated for the realization of the investment proposal. The estates for location of the facilities were sought in existing agricultural roads.
   It is anticipated that the construction materials will be conformed to the main use of the land for agricultural purposes, the facilities being built up and assembled in a non-active farming area. The phases of construction, closure down, reinstatement and subsequent use are one-off, the purpose being to construct over a minimal area. The operational maintenance of the facilities which are state-of-the-art high technological machines does not require any additional auxiliary and communicative areas. It is anticipated that after the completion of the construction and assembly the temporary roads and working grounds with them shall be covered by a soil layer and the land will be reinstated. This is possible as no examples for execution of permanent transport network with each of the facilities for yield of electric power are usually encountered in the practice for construction of hydro-electric power plants.
8. The method of construction is assembly, the foundation being executed in a monolithic manner.
9. Mainly the resource of the wind potential will be used during the operation of the park.
10. No generation of waste matter, hazardous gases and other incidental hazardous phenomena is anticipated.
11. The chosen electric power generator for the investment proposal is production of the German company Re Power Systems. The rotors of the generators produced by the company vary from 48.4 to 126 m. The height of the main body is from 59 to 100 m, and it is thick, metal, with a conic shape and consists of 3 to 5 segments depending on the height. Each segment is equipped by a platform and emergency lighting. The

diameter of the first ring of the main body is 4.5 m. There is a door and an internal ladder for emergency access in the base of each pile which allows for emergency access in adverse weather conditions to the casing of the motor. The chosen model is MM 82.

This model is appropriate for various conditions and may be assembled both on the land and in water spaces. An area with dimensions 30/30 m must be provided for the foundation of the generators.

With regard to the environment the selected model has the following advantages:

- Absence of gases of oils and lubricant liquids owing to the protected by additional tubs and flat structure

1. Closed system for greasing the mechanisms
2. Protection of the servicing personnel through screening of all electric power lines
3. Absence of noises of wind in the structure of the pile, due to the thick body (unlike the towers).

The generators have an appropriately selected system for protection and control. For protection from electromagnetic emissions the control signals are supplied by a fiber optical cable. Multilayer coating corresponding to ISO 12944 protects all the parts of the generator from corrosion. They are protected from lightning in compliance with the international standards IES 61021 – 1. All the functions of the generator are monitored by means of a microprocessor system for control and emergency discontinuance.

12. The main activity related to the investment proposal is the production of electric power and transfer to substation Kavarna for inclusion in the national electric power transfer network.

III. Location of the investment proposal

1. The location of the individual grounds within the region is presented in the attached hereto map material. The territory which the investment proposal under consideration is developed for is located in the territories of the villages of Bulgarevo, Sveti Nikola, Hadji Dimiter, Rakovski and Porouchik Chounchevo, Kavarna Municipality and is at the total area of about 60 km2. No elements of the national ecological network are located in the proximity of the territory. There is a proposal for Corine, Kaliakra place in conformity with NATURA 2000 within the area of the village of Sveti Nikola, in the village of Rusalka and Kaliakra Cape, which has not been legally regulated as at today's date.
2. After a preliminary balance made of the territory it was established that about 12 ha or 0.15% of the total area of the territory will be taken for the implementation of the investment proposal. The anticipated estates are included in the land partition plan as "agricultural lands", as at this time no procedure has been conducted for the modification of the designation of the land. The future users of the land will preserve its main designation and it will be aimed with the detailed structural plans to change the designation of a minimal area of cultivable land and its maximal reinstatement will be anticipated.
3. The zoning or land use is not violated by the made investment intention in conformity with the approved territorial – structural plan of the municipality of Kavarna.
4. The zones determined as protected, sanitary-protective or of the National ecological network in conformity with the Bulgarian legislation and the European directives, definitely do not fall within the area of the investment proposal.
5. The alternatives under consideration for the production of energy from renewable energy sources are the hydro-electric power plants, biomass, cogeneration – gas,

solar energy which are unacceptable for the region and with the availability of the wind potential. The research conducted on the part of GEO POWER LTD for the territory of Bulgaria and the one-year measurement of the wind indicators as well as the compatibility of the two activities; agricultural and yield of wind energy define the optimal effectiveness of the investment proposal.

IV. Characteristics of potential impact:

1. The expert observations of analogous sites indicated by the presented investment intention prove that the impact of the built up wind generators will not exert adverse impact over the following environmental components air, climate, geologic base, lands and soils, vegetation, landscape, cultural and historical heritage, waste matter, hazardous substances, health – hygienic aspects of the environment.
2. The territory under consideration by an investment proposal, is located in the territories of the villages of Bulgarevo, Sveti Nikola, Hadji Dimiter, Rakovski and Porouchik Chounchevo, Kavarna Municipality and is at the total area of about 60 km2. In the proximity of the territory there are no elements of the national ecological network. There is a proposal for Corine, Kaliakra place in conformity with NATURA 2000 within the area of the village of Sveti Nikola, in the village of Rusalka and Kaliakra Cape, which has not been legally regulated as at today's date. The problem is the contactness with Kaliakra reserve is considered in detail in a EIA Report for change of the general structural plan for a wind farm on municipal land and is a part of the investment proposal.
3. The wind generators will dominate in the surrounding landscape which in some events is defined as visual "contamination."
   Objectively judged, the creation of new image is reached by the thus created image of the environment, i.e. new image of landscape locality. It in its contents and vision differs from the remaining territory and its valuation depends on its spatial impact over people to the greatest degree.
   A similar kind of valuations is of intensely subjective nature, an approach made be made in two main directions in this event:
   The first is related to the scale of transformation of the image of the landscape, by mandatory reporting the public need and significance of a similar kind of sites. This definition may be referred to the people residing in the proximity of a hydro-electric power plant to the greatest degree, to whom the work of the turbines will have not solely an ecological but also a significant economic effect. In this event solely visual – negative external effects may be spoken about but commensurate with the positive ecological – economic benefits, they practically are fully neglectable.
   The second direction refers to the subjective emotional comfort of those passing through the site and the valuation of their perceptions for the visual esthetic qualities of the new technogenic elements in the landscape.
   It is indicated that under equal topographic conditions, comprehension and visual contents in a certain site, the individual ability for perception will be decisive for the valuation. In the event with the hydro-electric power plant, the main flow of observers in the landscape will be the cars passing beside the park in the directions of the village of Bulgarevo – village of Kamen Bryag and the town of Kavarna – the village of Hadji Dimiter. With velocity of movement of their motorcar vehicles at the average of about 80 km/h, for those traveling the distance is of

about 7 km, the comprehension of the surrounding landscape will be within the limits of about 5 minutes.

It may be accepted that for a certain part of visitors this new for Bulgaria kind of technogenic landscape will have a certain attraction value.

4. The scope of impact as geographic area over the population is conformed to a sanitary – hygienic zone of 500 m coordinate with the Hygiene and Epidemiology Inspectorate – Dobrich and with the Ministry of Health, and it is anticipated by the investment proposal that the individual generators will be at a distance of minimum 600 m from populated areas. The closest populated areas are the villages of Sveti Nikola, Bulgarevo and Hadji Dimiter.
5. In view of the small area occupied by the wind generators, it may be accepted that the damages caused to the agricultural cultures and the overland fauna will be minimal, the construction and assembly works being followed by recultivation of the terrain.

   It is supposed that the sole hazard refers to the possible negative impact of the wind turbines and their characteristics over migratory birds, as a corridor for the birds from the autumn passage of their migration along "Via Pontica". It is namely this migration which is subject-matter of monitoring assigned by GEO POWER LTD and conducted by experts from the Institute of Zoology with the Bulgarian Academy of Science.
6. The wind generator facilities will create a permanent and new for Bulgaria kind of technogenic landscape.
7. Main measures related to prevention, reduction or compensation of negative impacts over environment:

- The construction and assembly works will be followed by recultivation of the terrain;
- Use of new wind generator stations at minimal distances between the facilities of 500 m;
- The observation of a hygienic protective zone of 500 m around the wind power facilities;
- The use of facilities with built-in protection for their discontinuance in events that the velocity of the wind is over 25 m/s or the mechanical integrity of the facility is disturbed by external reasons or by mechanical connections of poor quality;
- The measurement of the physical factors – noise, vibrations, electromagnetic fields and ionizing emissions aimed at assessment of the impact of the facilities during the operation.

8. No negative cross-border nature of impact of the investment proposal will be expected.

   Globally it is expected that the investment proposal for the construction of a wind farm with installed power of 120 MW on the territory of the municipality of Kavarna will contribute to the reduction of the carbon emissions into the atmosphere.

Please find attached the following to the request for the judgment of the need of conduct of EIA of the investment proposal, to wit:

1. Documents for registration and good standing of Company GEO POWER LTD.

2. Map determining the territory of the investment proposal.

3. Schemes of the anticipated electric power transfer network.

4. Technical data about the anticipated facilities for production of electric power from wind.

5. Photographs of the territory.

6. Reports from monitoring investigations over the migration of the birds.

7. Pre-Contract for joining 120 MW to the national electric power transfer network.

We remain at your disposal and expect your judgment as Director of the competent authority of RIEW – Varna.

Respectfully yours, /Sgd. Ill./
Eng. Dimiter Hristov
(Manager)

MINISTRY OF ENVIRONMENT AND WATERS
Regional Inspectorate of Environment and Waters – Varna

Ref. No 722/17.02.2006 Ref. No 26-00-260/17.01.2006

To GEO POWER LTD
33, Krivolak Street
City of Sofia

Subject: Terms of Reference for determination of the scope and contents of the Environmental Impact Assessment (EIA) of Investment Proposal "Construction of Wind farm on the Territory of the villages of Bulgarevo, Sveti Nikola, Hadji Dimiter, Rakovski and Porouchik Chounchevo, Municipality of Kavarna"

Dear Mr. Hristov,

With regard to Art. 95, Para. 2 of the Environmental Protection Act (promulgated State Gazette issue 91/2002, amended and supplemented) and Chapter Three of the Ordinance on the conditions and procedure for conduct of EIA (promulgated State Gazette issue 25/2003), relating to the presented in RIEW – Varna Terms of Reference for scope and contents of EIA Report of Investment Proposal "Construction of Wind farm on the Territory of the villages of Bulgarevo, Sveti Nikola, Hadji Dimiter, Rakovski and Porouchik Chounchevo, Municipality of Kavarna", we express herein the following standpoint:

The Terms of Reference for determination of the scope and contents of the EIA Report contain the required volume of information pursuant to Art. 10, Para. 3 of the Ordinance.

The EIA Report must contain forecast and valuation for:

- "Ambient Air" – solely during construction (construction, transportation and assembly works);
- "Wastes" during construction and operation – kinds, quantities, treatment (for instance hand-over for subsequent treatment to companies in possession of the relevant documents pursuant to Art. 12 of the Wastes Management Act).
- "Flora and fauna" – during construction and operation;
- "Geological medium" – by rendering an account of the results of consultations held with Geozashtita (Geoprotection) LTD – Varna;
- "Soils" – to examine also the need of reinstatement of the qualities of the disturbed terrains.
- "Hazardous physical factors" – during operation – noise, vibrations and electromagnetic emissions.
- "Health-hygienic aspects" – during operation with assessment of psychological and visual discomfort of the size and the work of the facilities.

With regard to the performed judgment of similar investment proposals located within the selected region, the *cumulative (synergy) impacts* with regard to the migration way of the birds "Via Pontica", "contamination" of the landscape and the health-hygienic conditions must be examined.

A bigger part of the area anticipated for the construction of the wind energy park falls within potential NATURA 2000 protected zone in conformity with the map material

received in RIEW – Varna from the Ministry of Environment and Waters (ref. No 04-00-7387/06.12.2005).

In view of performing an adequate assessment of the migration within the area of the site, which the investment proposal will be implemented on and aimed at the establishment of the degree of hazard of collision of birds with wind generators, preliminary ornithological investigation of the migration is to be conducted.

The risk for threatened and migrating species of birds must be valuated on the basis of a monitoring program for investigation of the birds which has to be conducted on the site itself, within a time period with duration of minimum 12 months.

The methodology which will be used must be clearly identified and reflect the level of the risk for each individual species of birds in a wider context (for instance the altitude of the flight, the frequency of migration over the site and others must be indicated for the individual species of birds).

To examine and assess alternatives for location, number, altitude, sound power of the facilities and of the "zero alternative" with motivations for the choice made, with regard to the impact over environment /the migration process and the health of the people/.

Consultations must be held in relation to the requirements of Art. 95, Para. 3 with:

- Directorate "Nature Protection National Service" with the Ministry of Environment and Waters
- Ministry of Health
- Regional Directorate "Agriculture and Forests"
- NEC – for the possibility for joining the existing electric power transfer network
- The National Institute for the Monuments of Culture with the Ministry of Culture
- Geoprotection LTD – Varna
- Nature protective NGO.

On the basis of the described hereinabove, the corrected terms of reference for scope of EIA reporting the results of the consultations held with information about them and with motivations for accepted and not accepted notes and/or recommendations, is to be submitted with the EIA Report, with regard to the request for assessment of its quality.

The EIA Report shall contain detailed map material in scale – plan-layout with the wind farm and the closest situated populated areas with the numbers of the landed estates.

The structure of the EIA Report should be conformed to the requirements of Art. 96, Para. 1 of the Environmental Protection Act and Art. 12 of the Ordinance on the conditions and procedure for conduct of environmental impact assessments (Decree of the Council of Ministers No 59/2003, amended and supplemented).

The non-technical summary of the report is to be prepared in compliance with Art. 12, Para. 2 of the Ordinance and item 27, § 1 of the Final Provisions of the Environmental Protection Act as a separate united document accessible for use by the public.

Respectfully yours, /Sgd. Ill./

DIRECTOR
Theodora Karaivanova
SEAL

PROTOCOL

Of Consultation in the Nature Protection National Service Directorate with the Ministry of Environment and Waters – Sofia

Subject: Investment Proposal for construction of a wind farm on the Territory of the villages of Bulgarevo, Sveti Nikola, Hadji Dimiter, Rakovski and Porouchik Chounchevo, Municipality of Kavarna by Company GEO POWER LTD

Today, 15 March 2006, at the Nature Protection National Service Directorate with the Ministry of Environment and Waters – Sofia a working meeting was held between the representative of Company GEO POWER LTD – Arch. Dimiter Donchev and the Director of the Nature Protection National Service Directorate – Mr. Bozhinov.

The consultation was conducted with the following agenda:

1. The representative of GEO POWER LTD, Arch. Donchev, acquainted Mr. Bozhinov with the investment proposal for the construction of a wind energy park with installed power of 120 MW on the Territory of the villages of Bulgarevo, Sveti Nikola, Hadji Dimiter, Rakovski and Porouchik Chounchevo, Municipality of Kavarna. A detailed map material was presented as well as the correspondence between the investor GEO POWER and RIEW – Varna as a competent authority on EIA with regard to Art. 95, Para. 2 of the Environmental Protection Act (promulgated State Gazette issue 91/2002, amended and supplemented) and Chapter 3 of the Ordinance on the conditions and procedure for performance of EIA.

2. The Director, Mr. Bozhinov, after getting acquainted with the presented information, made the following recommendations:

- He supported the decision of RIEW – Varna to perform EIA of the investment proposal He stated the support of the Ministry of Environment and Waters for planning and building up of ecological projects for yield of energy from alternative sources in relation to the commitments of the Republic of Bulgaria undertaken to the international community and the energy strategy of the country.
- With regard to the existing debate between the investors building up wind energy parks and nature protective organizations dealing with the problems of the world of birds, it stated a standpoint that monitoring observation must be exercised not solely in the process of design of wind energy facilities but also after their construction aimed at the rationalization and elimination of eventual conflicts.

Participants in the consultant:

1. Director of the NPNS – Mr. Bozhinov /Sgd. Ill./
2. GEO POWER LTD – Arch. D. Donchev

GEO Power Ltd Renewable Energy
E-mail: office@yomibg.com
Office – Sofia, 33-A, Krivolak Street, Sofia 1421, tel.: (+3592) 8655151, tel.: (+3592) 9632275, Fax (+359 2) 9633774

Ref. No 164 / 12.01.2006

To Mr. Director of
RIPCPH – Town of Dobrich

Subject: Determination of a hygienic protection zone for WPP

Dear Mr. Director,

With regard to the construction of Wind farm on the Territory of the villages of Bulgarevo, Sveti Nikola, Hadji Dimiter, Rakovski and Porouchik Chounchevo, Municipality of Kavarna, I am issue asking you for a statement about the determination of a hygienic protective zone for WPP to the closest located populated areas.

Please find attached map material with the designated territory which the wind farm will be located on and correspondence with RIPCPH (the Regional Inspectorate for Preservation and Control of Public Health) – town of Dobrich and the Ministry of Health in relation to the part of the proposal referring to the territory of the village of Sveti Nikola – determination of a hygiene-sanitary zone.

Respectfully yours, /Sgd. Ill./
/Eng. Dimiter Dimitrov/
Manager
GEO POWER LTD

12 January 2006
City of Sofia

REPUBLIC OF BULGARIA

MINISTRY OF HEALTH

1000 Sofia, 5, Sv. Nedelya Square, Tel.: 9301, Fax: 9811833

Ref. No 47-22-PSK-0009 / 17.01.2005
Sofia

To
YOMI ENGINEERING LTD
33 A, KRIVOLAK STREET
CITY OF SOFIA

Copy: HYGIENE AND
EPIDEMIOLOGY INSPECTORATE
Town of Dobrich

The Ministry of Health, on the grounds of Art. 6 of Ordinance No 7 of the Ministry of health on hygiene requirements for health protection of the residential milieu (promulgated State Gazette issue 46 of 1992, amended and supplemented issue 46 of 194, issues 89 and 101 of 1997 and issue 20 of 1999) and on the grounds of the presented territorial sketches (No 00539, No 00540, No 00541 and No 00542/14.12.2000) of the Municipality of Kavarna; Decision of the Mayor of the Municipality of Kavarna (RD-01-264/24.11.2003) on the preparation of a detailed urban plan for estate No 70, estate no 73, estate No 153 and estate No 156 (identity No 80); general structural plan of the site and a report on the impact of the wind generators over the environment (EIA) prepared by independent experts COORDINATES the location of Site:

CONSTRUCTION of WIND FARM in estates No 70, no 73, No 80 and No 153, on the territory of the village of Sv. Nikola, Municipality of Kavarna, Region of Dobrich.

The site is at a distance to the south-east of about 650 m from the regulation border of the village of Sv. Nikola and to the north-west at about 500 mm from resort complex of Rousalka.

The construction of 10 nos. of wind generators each with power 2 MW is anticipated on the site. The produced energy will be included in the national electric power distribution network.

The hygiene protective zone for this site is 500 m.

The wind generators will be suitably colored and signalized aimed at the restriction of the psychological and visual discomfort of the people caused by the size of the facilities and of their impact over the ornithofauna.

To develop an emergency plan rendering an account of the impacts in events of Acts of God over the environment and the health of the people.

Prior to the commissioning of the wind generators, with maximal loading (simultaneous work of all wind generators) measurements must be made for the levels of noise, vibrations and electromagnetic emissions along the regulation border of the residential zone of the village of Sv. Nikola, and along the border of resort complex Rousalka for proving compliance with the permissible norms.

Hygienic standpoint No RD – 25/03.01.05 of the Hygiene Epidemiology Inspectorate – the town of Dobrich is attached to the correspondence.

DEPUTY MINISTER
AND CHIEF STATE
SANITARY INSPECTOR: /Sgd. Ill./
/Z. Kuzmanov. M. D./
SEAL

DD

REGIONAL INSPECTION FOR PROTECTION AND CONTROL OF THE SOCIAL HEALTH - Dobrich

Outgoing No RD 3923/03.04.2006

To: Dimitar Mihaylov Hristov

Sofia
Geo Power OOD

With regard to your application No 3277/21.03.2006, inspection on the spot by our representative and after a discussion by Expert counsel to the RIPCSH - Dobrich we would like to inform you, that the site "wind generator" (landing estate No 019216 on the land of the village of Bulgarevo with United classification of the administrative-territorial and territorial units number 07257, Kavarna municipality, plot No **Ф** 01803/08.10.2004, situated at 3200 m northeast of the urban plan of the village of Bulgarevo - level terrain, which supposes that the mast of the generator will be visible from the closest houses of the village of Bulgarevo), on the grounds of article 6, (1) from the Ordinance No 7 for the hygiene requirements for health protection of the town environment - State Gazette, issue 4611992, amended issue 2011999, hygiene-protective zone should be defined by the Ministry of Health, Direction Protection of Social Health, Department "Preliminary sanitary control and Health-technological expertise".

Director RIPCSH

D-r Sv. Angelova

REGIONAL INSPECTION FOR PROTECTION AND CONTROL OF THE SOCIAL HEALTH - Dobrich

Outgoing No **RD** 3924/03.04.2006

To: Dimitar Mihaylov Hristov

Sofia
Geo Power OOD

With regard to your application No 3278/21.03.2006, inspection on the spot by our representative and after a discussion by Expert counsel to the RIPCSH - Dobrich we would like to inform you, that the site "wind generator" (landing estate No 019218 on the land of the village of Bulgarevo with United classification of the administrative-territorial and territorial units number 07257, Kavarna municipality, plot No ***Ф*** 01936/17.12.2004, situated at 3600 m north of the urban plan of the village of Bulgarevo - level terrain, which supposes that the mast of the generator will be visible from the closest houses of the village of Bulgarevo), on the grounds of article 6, (1) from the Ordinance No 7 for the hygiene requirements for health protection of the town environment - State Gazette, issue 4611992, amended issue 20/1999, hygiene-protective zone should be defined by the Ministry of Health, Direction Protection of Social Health, Department "Preliminary sanitary control and Health-technological expertise".

Director RIPCSH

D-r Sv. Angelova

REGIONAL INSPECTION FOR PROTECTION AND CONTROL OF THE SOCIAL HEALTH - Dobrich

Outgoing No RD 3925/03.04.2006

To: Dimitar Mihaylov Hristov

Sofia
Geo Power OOD

With regard to your application No 3279/21.03.2006, inspection on the spot by our representative and after a discussion by Expert counsel to the RIPCSH - Dobrich we would like to inform you, that the site "wind generator" (landing estate No 019224 on the land of the village of Bulgarevo with United classification of the administrative-territorial and territorial units number 07257, Kavarna municipality, plot No Ф 02655/07.02.2005, situated at 3600 m north of the urban plan of the village of Bulgarevo - level terrain, which supposes that the mast of the generator will be visible from the closest houses of the village of Bulgarevo), on the grounds of article 6, (1) from the Ordinance No 7 for the hygiene requirements for health protection of the town environment - State Gazette, issue 4611992, amended issue 20/1999, hygiene-protective zone should be defined by the Ministry of Health, Direction Protection of Social Health, Department "Preliminary sanitary control and Health-technological expertise".

Director RIPCSH

D-r Sv. Angelova

REGIONAL INSPECTION FOR PROTECTION AND CONTROL OF THE SOCIAL HEALTH – Dobrich

Outgoing No RD 3926103.04.2006

To: Dimitar Mihaylov Hristov

Sofia
Geo Power OOD

With regard to your application No 3280/21.03.2006, inspection on the spot by our representative and after a discussion by Expert counsel to the RIPCSH - Dobrich we would like to inform you, that the site "wind generator" (landing estate No 020085 on the land of the village of Bulgarevo with United classification of the administrative-territorial and territorial units number 07257, Kavarna municipality, plot No *Ф* 01793/08.10.2004, situated at 3200 m northwest of the urban plan of the village of St. Nikola- level terrain, which supposes that the mast of the generator will be visible from the closest houses of the village of St. Nikola), on the grounds of article 6, (1) from the Ordinance No 7 for the hygiene requirements for health protection of the town environment - State Gazette, issue 4611992, amended issue 20/1999, hygiene-protective zone should be defined by the Ministry of Health, Direction Protection of Social Health, Department "Preliminary sanitary control and Health-technological expertise".

Director RIPCSH

D-r Sv. Angelova

REGIONAL INSPECTION FOR PROTECTION AND CONTROL OF THE SOCIAL HEALTH - Dobrich

Outgoing No RD 3927/03.04.2006

To: Dimitar Mihaylov Hristov

Sofia
Geo Power OOD

With regard to your application No 3281/21.03.2006, inspection on the spot by our representative and after a discussion by Expert counsel to the RIPCSH - Dobrich we would like to inform you, that the site "wind generator" (landing estate No 020086 on the land of the village of Bulgarevo with United classification of the administrative-territorial and territorial units number 07257, Kavarna municipality, plot No *Ф* 01794/08.10.2004, situated at 3800 m northwest of the urban plan of the village of Bulgarevo - level terrain, which supposes that the mast of the generator will be visible from the closest houses of the village of Bulgarevo), on the grounds of article 6, (1) from the Ordinance No 7 for the hygiene requirements for health protection of the town environment - State Gazette, issue 4611992, amended issue 2011999, hygiene-protective zone should be defined by the Ministry of Health, Direction Protection of Social Health, Department "Preliminary sanitary control and Health-technological expertise".

Director RIPCSH

D-r Sv. Angelova

REGIONAL INSPECTION FOR PROTECTION AND CONTROL OF THE SOCIAL HEALTH - Dobrich

Outgoing No RD 39287/03.04.2006

To: Dimitar Mihaylov Hristov

Sofia
Geo Power OOD

With regard to your application No 3282/21.03.2006, inspection on the spot by our representative and after a discussion by Expert counsel to the RIPCSH - Dobrich we would like to inform you, that the site "wind generator" (landing estate No 020097 on the land of the village of Bulgarevo with United classification of the administrative-territorial and territorial units number 07257, Kavarna municipality, plot No *Ф* 01825/08.11.2004, situated at 3400 m northeast of the urban plan of the village of Bulgarevo - level terrain, which supposes that the mast of the generator will be visible from the closest houses of the village of Bulgarevo), on the grounds of article 6, (1) from the Ordinance No 7 for the hygiene requirements for health protection of the town environment - State Gazette, issue 46/1992, amended issue 20/1999, hygiene-protective zone should be defined by the Ministry of Health, Direction Protection of Social Health, Department "Preliminary sanitary control and Health-technological expertise".

Director RIPCSH

D-r Sv. Angelova

REGIONAL INSPECTION FOR PROTECTION AND CONTROL OF THE SOCIAL HEALTH - Dobrich

Outgoing No RD 3929/03.04.2006

To: Dimitar Mihaylov Hristov

Sofia
Geo Power OOD

With regard to your application No 3283/21.03.2006, inspection on the spot by our representative and after a discussion by Expert counsel to the RIPCSH - Dobrich we would like to inform you, that the site "wind generator" (landing estate No 021013 on the land of the village of Bulgarevo with United classification of the administrative-territorial and territorial units number 07257, Kavarna municipality, plot No Ф01795/08.10.2004, situated at 2900 m northwest of the urban plan of the village of St. Nikola - level terrain, which supposes that the mast of the generator will be visible from the closest houses of the village of St. Nikola), on the grounds of article 6, (1) from the Ordinance No 7 for the hygiene requirements for health protection of the town environment - State Gazette, issue 46/1992, amended issue 20/1999, hygiene-protective zone should be defined by the Ministry of Health, Direction Protection of Social Health, Department "Preliminary sanitary control and Health-technological expertise".

Director RIPCSH

D-r Sv. Angelova

REGIONAL INSPECTION FOR PROTECTION AND CONTROL OF THE SOCIAL HEALTH - Dobrich

Outgoing No RD 3930/03.04.2006

To: Dimitar Mihaylov Hristov

Sofia
Geo Power OOD

With regard to your application No 3284/21.03.2006, inspection on the spot by our representative and affer a discussion by Expert counsel to the RIPCSH - Dobrich we would like to inform you, that the site "wind generator" (landing estate No 021064 on the land of the village of Bulgarevo with United classification of the administrative-territorial and territorial units number 07257, Kavarna municipality, plot No *Ф* 01799/08.10.2004, situated at 2000 m northwest of the urban plan of the village of St. Nikola - level terrain, which supposes that the mast of the generator will be visible from the closest houses of the village of St. Nikola), on the grounds of article 6, (1) from the Ordinance No 7 for the hygiene requirements for health protection of the town environment - State Gazette, issue 4611992, amended issue 2011999, hygiene-protective zone should be defined by the Ministry of Health, Direction Protection of Social Health, Department "Preliminary sanitary control and Health-technological expertise".

Director RIPCSH

D-r Sv. Angelova

REGIONAL INSPECTION FOR PROTECTION AND CONTROL OF THE SOCIAL HEALTH - Dobrich

Outgoing No RD 3931/03.04.2006

To: Dimitar Mihaylov Hristov

Sofia
Geo Power OOD

With regard to your application No 3285/21.03.2006, inspection on the spot by our representative and after a discussion by Expert counsel to the RIPCSH - Dobrich we would like to inform you, that the site "wind generator" (landing estate No 021067 on the land of the village of Bulgarevo with United classification of the administrative-territorial and territorial units number 07257, Kavarna municipality, plot No *Ф* 01838/17.11.2004, situated at 2700 m northwest of the urban plan of the village of St. Nikola - level terrain, which supposes that the mast of the generator will be visible from the closest houses of the village of St. Nikola), on the grounds of article 6, (1) from the Ordinance No 7 for the hygiene requirements for health protection of the town environment - State Gazette, issue 4611992, amended issue 2011999, hygiene-protective zone should be defined by the Ministry of Health, Direction Protection of Social Health, Department "Preliminary sanitary control and Health-technological expertise".

Director RIPCSH

D-r Sv. Angelova

REGIONAL INSPECTION FOR PROTECTION AND CONTROL OF THE SOCIAL HEALTH - Dobrich

Outgoing No RD 3932/03.04.2006

To: Dimitar Mihaylov Hristov

Sofia
Geo Power OOD

With regard to your application No 3286/21.03.2006, inspection on the spot by our representative and after a discussion by Expert counsel to the RIPCSH - Dobrich we would like to inform you, that the site "wind generator" (landing estate No 022062 on the land of the village of Bulgarevo with United classification of the administrative-territorial and territorial units number 07257, Kavarna municipality, plot No **Ф** 01980/01.02.2005, situated at 1600 m north of the urban plan of the village of Bulgarevo - level terrain, which supposes that the mast of the generator will be visible from the closest houses of the village of Bulgarevo), on the grounds of article 6, (1) from the Ordinance No 7 for the hygiene requirements for health protection of the town environment - State Gazette, issue 46/1992, amended issue 20/1999, hygiene-protective zone should be defined by the Ministry of Health, Direction Protection of Social Health, Department "Preliminary sanitary control and Health-technological expertise".

Director RIPCSH

D-r Sv. Angelova

REGIONAL INSPECTION FOR PROTECTION AND CONTROL OF THE SOCIAL HEALTH - Dobrich

Outgoing No RD 3933/03.04.2006

To: Dimitar Mihaylov Hristov

Sofia
Geo Power OOD

With regard to your application No 3287/21.03.2006, inspection on the spot by our representative and after a discussion by Expert counsel to the RIPCSH - Dobrich we would like to inform you, that the site "wind generator" (landing estate No 022069 on the land of the village of Bulgarevo with United classification of the administrative-territorial and territorial units number 07257, Kavarna municipality, plot No *Ф* 01932/17.12.2005, situated at 660 m north of the urban plan of the village of Bulgarevo - level terrain, which supposes that the mast of the generator will be visible from the closest houses of the village of Bulgarevo), on the grounds of article 6, (1) from the Ordinance No 7 for the hygiene requirements for health protection of the town environment - State Gazette, issue 46/1992, amended issue 20/1999, hygiene-protective zone should be defined by the Ministry of Health, Direction Protection of Social Health, Department "Preliminary sanitary control and Health-technological expertise".

Director RIPCSH

D-r Sv. Angelova

REGIONAL INSPECTION FOR PROTECTION AND CONTROL OF THE SOCIAL HEALTH - **Dobrich**

Outgoing No RD 3934/03.04.2006

To: Dimitar Mihaylov Hristov

Sofia
Geo Power OOD

With regard to your application No 3288/21.03.2006, inspection on the spot by our representative and after a discussion by Expert counsel to the RIPCSH - Dobrich we would like to inform you, that the site "wind generator" (landing estate No 022075 on the land of the village of Bulgarevo with United classification of the administrative-territorial and territorial units number 07257, Kavarna municipality, plot No **Ф** 03287/03.02.2006, situated at 1200 m north of the urban plan of the village of Bulgarevo - level terrain, which supposes that the mast of the generator will be visible from the closest houses of the village of Bulgarevo), on the grounds of article 6, (1) from the Ordinance No 7 for the hygiene requirements for health protection of the town environment - State Gazette, issue 4611992, amended issue 2011999, hygiene-protective zone should be defined by the Ministry of Health, Direction Protection of Social Health, Department "Preliminary sanitary control and Health-technological expertise".

Director RIPCSH

D-r Sv. Angelova

REGIONAL INSPECTION FOR PROTECITON AND CONTROL OF THE SOCIAL HEALTH - Dobrich

Outgoing No RD 3935/03.04.2006

To: Dimitar Mihaylov Hristov

Sofia
Geo Power OOD

With regard to your application No 3289/21.03.2006, inspection on the spot by our representative and after a discussion by Expert counsel to the RIPCSH - Dobrich we would like to inform you, that the site "wind generator" (landing estate No 023056 on the land of the village of Bulgarevo with United classification of the administrative-territorial and territorial units number 07257, Kavarna municipality, plot No Ф01786/08.10.2004, situated at 2000 m north of the urban plan of the village of Bulgarevo - level terrain, which supposes that the mast of the generator will be visible from the closest houses of the village of Bulgarevo), on the grounds of article 6, (1) from the Ordinance No 7 for the hygiene requirements for health protection of the town environment - State Gazette, issue 4611992, amended issue 2011999, hygiene-protective zone should be defined by the Ministry of Health, Direction Protection of Social Health, Department "Preliminary sanitary control and Health-technological expertise".

Director RIPCSH

D-r Sv. Angelova

REGIONAL INSPECTION FOR PROTECTION AND CONTROL OF THE SOCIAL HEALTH – Dobrich

Outgoing No PC1 3936/03.04.2006

To: Dimitar Mihaylov Hristov

Sofia
Geo Power OOD

With regard to your application No 3321/21.03.2006, inspection on the spot by our representative and after a discussion by Expert counsel to the RIPCSH - Dobrich we would like to inform you, that the site "wind generator" (landing estate No 023108 on the land of the village of Bulgarevo with United classification of the administrative-territorial and territorial units number 07257, Kavarna municipality, plot No Φ 01792/08.10.2004, situated at 2500 m north of the urban plan of the village of Bulgarevo - level terrain, which supposes that the mast of the generator will be visible from the closest houses of the village of Bulgarevo), on the grounds of article 6, (1) from the Ordinance No 7 for the hygiene requirements for health protection of the town environment - State Gazette, issue 4611992, amended issue 20/1999, hygiene-protective zone should be defined by the Ministry of Health, Direction Protection of Social Health, Department "Preliminary sanitary control and Health-technological expertise".

Director RIPCSH

D-r Sv. Angelova

REGIONAL INSPECTION FOR PROTECTION AND CONTROL OF THE SOCIAL HEALTH - Dobrich

Outgoing No RD 3937/03.04.2006

To: Dimitar Mihaylov Hristov

Sofia
Geo Power OOD

With regard to your application No 3291/21.03.2006, inspection on the spot by our representative and after a discussion by Expert counsel to the RIPCSH - Dobrich we would like to inform you, that the site "wind generator" (landing estate No 024085 on the land of the village of Bulgarevo with United classification of the administrative-territorial and territorial units number 07257, Kavarna municipality, plot No Φ 01787/08.10.2004, situated at 3100 m northeast of the urban plan of the village of Bulgarevo - level terrain, which supposes that the mast of the generator will be visible from the closest houses of the village of Bulgarevo), on the grounds of article 6, (1) from the Ordinance No 7 for the hygiene requirements for health protection of the town environment - State Gazette, issue 4611992, amended issue 2011999, hygiene-protective zone should be defined by the Ministry of Health, Direction Protection of Social Health, Department "Preliminary sanitary control and Health-technological expertise".

Director RIPCSH

D-r Sv. Angelova

REGIONAL INSPECTION FOR PROTECTION AND CONTROL OF THE SOCIAL HEALTH - Dobrich

Outgoing No RD 3938/03.04.2006

To: Dimitar Mihaylov Hristov

Sofia
Geo Power OOD

With regard to your application No 3291/21.03.2006, inspection on the spot by our representative and after a discussion by Expert counsel to the RIPCSH - Dobrich we would like to inform you, that the site "wind generator" (landing estate No 024103 on the land of the village of Bulgarevo with United classification of the administrative-territorial and territorial units number 07257, Kavarna municipality, plot No Φ 01789/08.10.2004, situated at 2500 m northeast of the urban plan of the village of Bulgarevo - level terrain, which supposes that the mast of the generator will be visible from the closest houses of the village of Bulgarevo), on the grounds of article 6, (1) from Ordinance No 7 for the hygiene requirements for health protection of the town environment - State Gazette, issue 4611992, amended issue 2011999, hygiene-protective zone should be defined by the Ministry of Health, Direction Protection of Social Health, Department "Preliminary sanitary control and Health-technological expertise".

Director RIPCSH

D-r Sv. Angelova

REGIONAL INSPECTION FOR PROTECTION AND CONTROL OF THE SOCIAL HEALTH - Dobrich

Outgoing No RD 3939103.04.2006

To: Dimitar Mihaylov Hristov

Sofia
Geo Power OOD

With regard to your application No 3292/21.03.2006, inspection on the spot by our representative and after a discussion by Expert counsel to the RIPCSH - Dobrich we would like to inform you, that the site "wind generator" (landing estate No 024145 on the land of the village of Bulgarevo with United classification of the administrative-territorial and territorial units number 07257, Kavarna municipality, plot No Ф 01790108.10.2004, situated at 3100 m northeast of the urban plan of the village of Bulgarevo - level terrain, which supposes that the mast of the generator will be visible from the closest houses of the village of Bulgarevo), on the grounds of article 6, (1) from Ordinance No 7 for the hygiene requirements for health protection of the town environment - State Gazette, issue 4611992, amended issue 20/1999, hygiene-protective zone should be defined by the Ministry of Health, Direction Protection of Social Health, Department "Preliminary sanitary control and Health-technological expertise".

Director RIPCSH

D-r Sv. Angelova

REGIONAL INSPECTION FOR PROTECITON AND CONTROL OF THE SOCIAL HEALTH – Dobrich

Outgoing No RD 3940/03.04.2006

To: Dimitar Mihaylov Hristov

Sofia
Geo Power OOD

With regard to your application No 3293/21.03.2006, inspection on the spot by our representative and after a discussion by Expert counsel to the RIPCSH - Dobrich we would like to inform you, that the site 'wind generator" (landing estate No 025051 on the land of the village of Bulgarevo with United classification of the administrative-territorial and territorial units number 07257, Kavarna municipality, plot No *Ф* 01788/08.10.2004, situated at 1800 m northwest of the urban plan of the village of St. Nikola - level terrain, which supposes that the mast of the generator will be visible from the closest houses of the village of St. Nikola), on the grounds of article 6, (1) from the Ordinance No 7 for the hygiene requirements for health protection of the town environment - State Gazette, issue 4611992, amended issue 2011999, hygiene-protective zone should be defined by the Ministry of Health, Direction Protection of Social Health, Department "Preliminary sanitary control and Health-technological expertise".

Director RIPCSH

D-r Sv. Angelova

REGIONAL INSPECTION FOR PROTECTION AND CONTROL OF THE SOCIAL HEALTH - Dobrich

Outgoing No RD 3941/03.04.2006

To: Dirnitar Mihaylov Hristov

Sofia
Geo Power OOD

With regard to your application No 3294/21.03.2006, inspection on the spot by our representative and after a discussion by Expert counsel to the RIPCSH - Dobrich we would like to inform you, that the site 'wind generator" (landing estate No 025082 on the land of the village of Bulgarevo with United classification of the administrative-territorial and territorial units number 07257, Kavarna municipality, plot No 0,01805/08.10.2004, situated at 1800 rn northwest of the urban plan of the village of St. Nikola - level terrain, which supposes that the mast of the generator will be visible from the closest houses of the village of St. Nikola), on the grounds of article 6, (1) from the Ordinance No 7 for the hygiene requirements for health protection of the town environment - State Gazette, issue 46/1992, amended issue 20/1999, hygiene-protective zone should be defined by the Ministty of Health, Direction Protection of Social Health, Department "Preliminary sanitary control and Health-technological expertise".

Director RIPCSH

D-r Sv. Angelova

REGIONAL INSPECTION FOR PROTECTION AND CONTROL OF THE SOCIAL HEALTH - Dobrich

Outgoing No RD 3942/03.04.2006

To: Dimitar Mihaylov Hristov

Sofia
Geo Power OOD

With regard to your application No 3295/21.03.2006, inspection on the spot by our representative and after a discussion by Expert counsel to the RIPCSH - Dobrich we would like to inform you, that the site "wind generator" (landing estate No 026054 on the land of the village of Bulgarevo with United classification of the administrative-territorial and territorial units number 07257, Kavarna municipality, plot No Φ 02790/21.09.2005, situated at 2300 m west of the urban plan of the village of St. Nikola - level terrain, which supposes that the mast of the generator will be visible from the closest houses of the village of St. Nikola), on the grounds of article 6, (1) from the Ordinance No 7 for the hygiene requirements for health protection of the town environment - State Gazette, issue 4611992, amended issue 20/1999, hygiene-protective zone should be defined by the Ministry of Health, Direction Protection of Social Health, Department "Preliminary sanitary control and Health-technological expertise".

Director RIPCSH

D-r Sv. Angelova

REGIONAL INSPECTION FOR PROTECTION AND CONTROL OF THE SOCIAL HEALTH - Dobrich

Outgoing No RD 3943/03.04.2006

To: Dimitar Mihaylov Hristov

Sofia
Geo Power OOD

With regard to your application No 3296/21.03.2006, inspection on the spot by our representative and after a discussion by Expert counsel to the RIPCSH - Dobrich we would like to inform you, that the site "wind generator" (landing estate No 034041 on the land of the village of Bulgarevo with United classification of the administrative-territorial and territorial units number 07257, Kavarna municipality, plot No Φ 01791/09.10.2004, situated at 850 m northeast of the urban plan of the village of Bulgarevo - level terrain, which supposes that the mast of the generator will be visible from the closest houses of the village of Bulgarevo), on the grounds of article 6, (1) from the Ordinance No 7 for the hygiene requirements for health protection of the town environment - State Gazette, issue 4611992, amended issue 2011999, hygiene-protective zone should be defined by the Ministry of Health, Direction Protection of Social Health, Department "Preliminary sanitary control and Health-technological expertise".

Director RIPCSH

D-r Sv. Angelova

REGIONAL INSPECTION FOR PROTECTION AND CONTROL OF THE SOCIAL HEALTH - Dobrich

Outgoing No **RD** 3944/03.04.2006

To: Dimitar Mihaylov Hristov

Sofia
Geo Power OOD

With regard to your application No 3297/21.03.2006, inspection on the spot by our representative and after a discussion by Expert counsel to the RIPCSH - Dobrich we would like to inform you, that the site "wind generator" (landing estate No 035099 on the land of the village of Bulgarevo with United classification of the administrative-territorial and territorial units number 07257, Kavarna municipality, plot No Φ 01971/26.01.2005, situated at 1500 m northeast of the urban plan of the village of Bulgarevo - level terrain, which supposes that the mast of the generator will be visible from the closest houses of the village of Bulgarevo), on the grounds of article 6, (1) from the Ordinance No 7 for the hygiene requirements for health protection of the town environment - State Gazette, issue 4611992, amended issue 2011999, hygiene-protective zone should be defined by the Ministry of Health, Direction Protection of Social Health, Department "Preliminary sanitary control and Health-technological expertise".

Director RIPCSH

D-r Sv. Angelova

REGIONAL INSPECTION FOR PROTECTION AND CONTROL OF THE SOCIAL HEALTH – Dobrich

Outgoing No RD 3945/03.04.2006

To: Dimitar Mihaylov Hristov

Sofia
Geo Power OOD

With regard to your application No 3298/21.03.2006, inspection on the spot by our representative and after a discussion by Expert counsel to the RIPCSH - Dobrich we would like to inform you, that the site "wind generator" (landing estate No 037028 on the land of the village of Bulgarevo with United classification of the administrative-territorial and territorial units number 07257, Kavarna municipality, plot No Φ 01826/08.11.2004, situated at 2700 m west of the urban plan of the village of St. Nikola - level terrain, which supposes that the mast of the generator will be visible from the closest houses of the village of St. Nikola), on the grounds of article 6, (1) from the Ordinance No 7 for the hygiene requirements for health protection of the town environment - State Gazette, issue 4611992, amended issue 2011999, hygiene-protective zone should be defined by the Ministry of Health, Direction Protection of Social Health, Department "Preliminary sanitary control and Health-technological expertise".

Director RIPCSH

D-r Sv. Angelova

REGIONAL INSPECTION FOR PROTECTION AND CONTROL OF THE SOCIAL HEALTH - Dobrich

Outgoing No RD 3946/03.04.2006

To: Dimitar Mihaylov Hristov

Sofia
Geo Power OOD

With regard to your application No 3259/21.03.2006, inspection on the spot by our representative and after a discussion y Expert counsel to the RIPCSH - Dobrich we would like to inform you, that the site 'wind generator" (landing estate No 000532 on the land of the village of Bulgarevo with United classification of the administrativeterritorial .and territorial units number 07257, Kavarna municipality, plot No Φ 03283/01.02.2006, situated at 3000 m northeast of the urban plan of the village of Bulgarevo - level terrain, which supposes that the mast of the generator will be visible from the closest houses of the village of Bulgarevo), on the grounds of article 6, (1) from the Ordinance No 7 for the hygiene requirements for health protection of the town environment - State Gazette, issue 4611992, amended issue 2011999, hygiene-protective zone should be defined by the Ministry of Health, Direction Protection of Social Health, Department "Preliminary sanitary control and Health-technological expertise".

Director RIPCSH

D-r Sv. Angelova

REGIONAL INSPECTION FOR PROTECTION AND CONTROL OF THE SOCIAL HEALTH - Dobrich

Outgoing No RD 3947/03.04.2006

To: Dimitar Mihaylov Hristov

Sofia
Geo Power OOD

With regard to your application No 3260/21.03.2006, inspection on the spot by our representative and after a discussion by Expert counsel to the RIPCSH - Dobrich we would like to inform you, that the site "wind generator" (landing estate No 011080 on the land of the village of Bulgarevo with United classification of the administrative-territorial and territorial units number 07257, Kavarna municipality, plot No Ф 01868/30.11.2004, situated at 3600 m southwest of the urban plan of the village of Hadji Dimitar - level terrain, which supposes that the mast of the generator will be visible from the closest houses of the village of Hadji Dimitar), on the grounds of article 6, (1) from the Ordinance No 7 for the hygiene requirements for health protection of the town environment - State Gazette, issue 4611992, amended issue 2011999, hygiene-protective zone should be defined by the Ministry of Health, Direction Protection of Social Health, Department "Preliminary sanitary control and Health-technological expertise".

Director RIPCSH

D-r Sv. Angelova

REGIONAL INSPECTION FOR PROTECTION AND CONTROL OF THE SOCIAL HEALTH - Dobrich

Outgoing No RD 3948/03.04.2006

To: Dimitar Mihaylov Hristov

Sofia
Geo Power OOD

With regard to your application No 3261/21.03.2006, inspection on the spot by our representative and after a discussion y Expert counsel to the RIPCSH - Dobrich we would like to inform you, that the site "wind generatorr' (landing estate No 012041 on the land of the village of Bulgarevo with United classification of the administrative territorial . and territorial units number 07257, Kavarna municipality, plot No 0 01804/08.10.2004, situated at 2900 m southwest of the urban plan of the village of Hadji Dimitar - level terrain, which supposes that the mast of the generator will be visible from the closest houses of the village of Hadji Dimitar), on the grounds of article 6, (1) from the Ordinance No 7 for the hygiene requirements for health protection of the town environment - State Gazette, issue 4611992, amended issue 20/1999, hygiene-protective zone should be defined by the Ministry of Health, Direction Protection of Social Health, Department "Preliminary sanitary control and Health-technological expertise".

Director RIPCSH

D-r Sv. Angelova

REGIONAL INSPECTION FOR PROTECTION AND CONTROL OF THE SOCIAL HEALTH - Dobrich

Outgoing No RD 3949/03.04.2006

To: Dimitar Mihaylov Hristov

Sofia
Geo Power OOD

With regard to your application No 3262/21.03.2006, inspection on the spot by our representative and after a discussion y Expert counsel to the RIPCSH - Dobrich we would like to inform you, that the site "wind generator" (landing estate No 014124 on the land of the village of Bulgarevo with United classification of the administrative territorial and territorial units number 07257, Kavarna municipality, plot No Φ 01800/08.10.2004, situated at 3200 m on the north of the urban plan of the village of Bulgarevo - level terrain, which supposes that the mast of the generator will be visible from the closest houses of the village of Bulgarevo), on the grounds of article 6, (1) from the Ordinance No 7 for the hygiene requirements for health protection of the town environment - State Gazette, issue 4611992, amended issue 20/1999, hygiene-protective zone should be defined by the Ministry of Health, Direction Protection of Social Health, Department "Preliminary sanitary control and Health-technological expertise".

Director RIPCSH

D-r Sv. Angelova

REGIONAL INSPECTION FOR PROTECTION AND CONTROL OF THE SOCIAL HEALTH – Dobrich

Outgoing No RD 3950/03.04.2006

To: Dimitar Mihaylov Hristov

Sofia
Geo Power OOD

With regard to your application No 3263/21.03.2006, inspection on the spot by our representative and after a discussion y Expert counsel to the RIPCSH - Dobrich we would like to inform you, that the site "wind generator" (landing estate No 014129 on the land of the village of Bulgarevo with United classification of the administrative territoria l . and territorial units number 07257, Kavarna municipality, plot No Ф 01882/13.12.2004, situated at 3200 m on the north of the urban plan of the village of Bulgarevo - level terrain, which supposes that the mast of the generator will be visible from the closest houses of the village of Bulgarevo), on the grounds of article 6, (1) from the Ordinance No 7 for the hygiene requirements for health protection of the town environment - State Gazette, issue 46/1992, amended issue 2011999, hygiene-protective zone should be defined by the Ministry of Health, Direction Protection of Social Health, Department "Preliminary sanitary control and Health-technological expertise".

Director RIPCSH

D-r Sv. Angelova

REGIONAL INSPECTION FOR PROTECTION AND CONTROL OF THE SOCIAL HEALTH – Dobrich

Outgoing No **RD** 3951/03.04.2006

To: Dimitar Mihaylov Hristov

Sofia
Geo Power OOD

With regard to your application No 3264/21.03.2006, inspection on the spot by our representative and after a discussion by Expert counsel to the RIPCSH - Dobrich we would like to inform you, that the site 'wind generator" (landing estate No 014139 on the land of the village of Bulgarevo with United classification of the administrative territorial . and territorial units number 07257, Kavarna municipality, plot No **Ф** 02148/09.05.2005, situated at 3800 m on the north of the urban plan of the village of Bulgarevo - level terrain, which supposes that the mast of the generator will be visible from the closest houses of the village of Bulgarevo), on the grounds of article 6, (1) from the Ordinance No 7 for the hygiene requirements for health protection of the town environment - State Gazette, issue 4611992, amended issue 2011999, hygiene-protective zone should be defined by the Ministry of Health, Direction Protection of Social Health, Department "Preliminary sanitary control and Health-technological expertise".

Director RIPCSH

D-r Sv. Angelova

REGIONAL INSPECTION FOR PROTECTION AND CONTROL OF THE SOCIAL HEALTH - Dobrich

Outgoing No RD 3952/03.04.2006

To: Dimitar Mihaylov Hristov

Sofia
Geo Power OOD

With regard to your application No 3265/21.03.2006, inspection on the spot by our representative and after a discussion by Expert counsel to the RIPCSH - Dobrich we would like to inform you, that the site "wind generator" (landing estate No 015099 on the land of the village of Bulgarevo with United classification of the administrative-territorial and territorial units number 07257, Kavarna municipality, plot No **Ф** 01808/08.10.2004, situated at 1800 m southwest of the urban plan of the village of Hadji Dimitar - level terrain, which supposes that the mast of the generator will be visible from the closest houses of the village of Hadji Dimitar), on the grounds of article 6, (1) from the Ordinance No 7 for the hygiene requirements for health protection of the town environment - State Gazette, issue 4611992, amended issue 20/1999, hygiene-protective zone should be defined by the Ministry of Health, Direction Protection of Social Health, Department "Preliminary sanitary control and Health-technological expertise".

Director RIPCSH

D-r Sv. Angelova

REGIONAL INSPECTION FOR PROTECTION AND CONTROL OF THE SOCIAL HEALTH - Dobrich

Outgoing No RD 3953103.04.2006

To: Dimitar Mihaylov Hristov

Sofia
Geo Power OOD

With regard to your application No 3266/21.03.2006, inspection on the spot by our representative and after a discussion by Expert counsel to the RIPCSH - Dobrich we would like to inform you, that the site "wind generator" (landing estate No 015101 on the land of the village of Bulgarevo with United classification of the administrative territorial and territorial units number 07257, Kavarna municipality, plot No **Ф** 01807/08.10.2004, situated at 2400 m southwest of the urban plan of the village of Hadji Dimitar - level terrain, which supposes that the mast of the generator will be visible from the closest houses of the village of Hadji Dimitar), on the grounds of article 6, (1) from the Ordinance No 7 for the hygiene requirements for health protection of the town environment - State Gazette, issue 4611992, amended issue 2011999, hygiene-protective zone should be defined by the Ministry of Health, Direction Protection of Social Health, Department "Preliminary sanitary control and Health-technological expertise".

Director RIPCSH

D-r Sv. Angelova

REGIONAL INSPECTION FOR PROTECTION AND CONTROL OF THE SOCIAL HEALTH - Dobrich

Outgoing No RD 3954/03.04.2006

To: Dimitar Mihaylov Hristov

Sofia
Geo Power OOD

With regard to your application No 3267/21.03.2006, inspection on the spot by our representative and after a discussion by Expert counsel to the RIPCSH - Dobrich we would like to inform you, that the site 'wind generator" (landing estate No 015166 on the land of the village of Bulgarevo with United classification of the administrative territorial and territorial units number 07257, Kavarna municipality, plot No Ф 0797/08.10.2004, situated at 2900 m southwest of the urban plan of the village of Hadji Dimitar - level terrain, which supposes that the mast of the generator will be visible from the closest houses of the village of Hadji Dimitar), on the grounds of article 6, (1) from the Ordinance No 7 for the hygiene requirements for health protection of the town environment - State Gazette, issue 4611992, amended issue 2011999, hygiene-protective zone should be defined by the Ministry of Health, Direction Protection of Social Health, Department "Preliminary sanitary control and Health-technological expertise".

Director RIPCSH

D-r Sv. Angelova

REGIONAL INSPECTION FOR PROTECTION AND CONTROL OF THE SOCIAL HEALTH - Dobrich

Outgoing No RD 3955/03.04.2006

To: Dimitar Mihaylov Hristov

Sofia
Geo Power OOD

With regard to your application No 3268/21.03.2006, inspection on the spot by our representative and after a discussion by Expert counsel to the RIPCSH - Dobrich we would like to inform you, that the site "wind generator" (landing estate No 015168 on the land of the village of Bulgarevo with United classification of the administrative-territorial and territorial units number 07257, Kavarna municipality, plot No Φ 01796/08.10.2004, situated at 2700 m southwest of the urban plan of the village of Hadji Dimitar - level terrain, which supposes that the mast of the generator will be visible from the closest houses of the village of Hadji Dimitar), on the groundsof article 6, (1) from the Ordinance No 7 for the hygiene requirements for health protection of the town environment - State Gazette, issue 46/1992, amended issue 20/1999, hygiene-protective zone should be defined by the Ministry of Health, Direction Protection of Social Health, Department "Preliminary sanitary control and Health-technological expertise".

Director RIPCSH

D-r Sv. Angelova

REGIONAL INSPECTION FOR PROTECTION AND CONTROL OF THE SOCIAL HEALTH - Dobrich

Outgoing No RD 3956/03.04.2006

To: Dimitar Mihaylov Hristov

Sofia
Geo Power OOD

With regard to your application No 3269/21.03.2006, inspection on the spot by our representative and after a discussion by Expert counsel to the RIPCSH - Dobrich we would like to inform you, that the site "wind generator" (landing estate No 015183 on the land of the village of Bulgarevo with United classification of the administrative-territorial and territorial units number 07257, Kavarna municipality, plot No Φ 03178/03.01.2006, situated at 3300 m southwest of the urban plan of the village of Hadji Dimitar - level terrain, which supposes that the mast of the generator will be visible from the closest houses of the village of Hadji Dimitar), on the grounds of article 6, (1) from the Ordinance No 7 for the hygiene requirements for health protection of the town environment - State Gazette, issue 4611992, amended issue 2011999, hygiene-protective zone should be defined by the Ministry of Health, Direction Protection of Social Health, Department "Preliminary sanitary control and Health-technological expertise".

Director RIPCSH

D-r Sv. Angelova

REGIONAL INSPECTION FOR PROTECTION AND CONTROL OF THE SOCIAL HEALTH - Dobrich

Outgoing No RD 3957/03.04.2006

To: Dimitar Mihaylov Hristov

Sofia
Geo Power OOD

With regard to your application No 3270/21.03.2006, inspection on the spot by our representative and after a discussion by Expert counsel to the RIPCSH - Dobrich we would like to inform you, that the site "wind generator" (landing estate No 017022 on the land of the village of Bulgarevo with United classification of the administrative-territorial and territorial units number 07257, Kavarna municipality, plot No Φ 01781/05.10.2004, situated at 2200 m north of the urban plan of the village of Bulgarevo - level terrain, which supposes that the mast of the generator will be visible from the closest houses of the village of Bulgarevo), on the grounds of article 6, (1) from the Ordinance No 7 for the hygiene requirements for health protection of the town environment - State Gazette, issue 4611992, amended issue 2011999, hygiene-protective zone should be defined by the Ministry of Health, Direction Protection of Social Health, Department "Preliminary sanitary control and Health-technological expertise".

Director RIPCSH

D-r Sv. Angelova

REGIONAL INSPECTION FOR PROTECTION AND CONTROL OF THE SOCIAL HEALTH - Dobrich

Outgoing No RD 3958/03.04.2006

To: Dimitar Mihaylov Hristov

Sofia
Geo Power OOD

With regard to your application No 3271/21.03.2006, inspection on the spot by our representative and after a discussion by Expert counsel to the RIPCSH - Dobrich we would like to inform you, that the site 'wind generator" (landing estate No 018067 on the land of the village of Bulgarevo with United classification of the administrative-territorial and territorial units number 07257, Kavarna municipality, plot No Φ 01806/08.10.2004, situated at 2500 m north of the urban plan of the village of Bulgarevo - level terrain, which supposes that the mast of the generator will be visible from the closest houses of the village of Bulgarevo), on the grounds of article 6, (1) from the Ordinance No 7 for the hygiene requirements for health protection of the town environment - State Gazette, issue 4611992, amended issue 2011999, hygiene-protective zone should be defined by the Ministry of Health, Direction Protection of Social Health, Department "Preliminary sanitary control and Health-technological expertise".

Director RIPCSH

D-r Sv. Angelova

REGIONAL INSPECTION FOR PROTECTION AND CONTROL OF THE SOCIAL HEALTH - Dobrich

Outgoing No RD 3959/03.04.2006

To: Dimitar Mihaylov Hristov

Sofia
Geo Power OOD

With regard to your application No 3272/21.03.2006, inspection on the spot by our representative and after a discussion by Expert counsel to the RIPCSH - Dobrich we would like to inform you, that the site 'wind generator" (landing estate No 018099 on the land of the village of Bulgarevo with United classification of the administrative-territorial and territorial units number 07257, Kavarna municipality, plot No ***0*** 01679/08.08.2004, situated at 2300 m north of the urban plan of the village of Bulgarevo - level terrain, which supposes that the mast of the generator will be visible from the closest houses of the village of Bulgarevo), on the grounds of article 6, (1) from the Ordinance No 7 for the hygiene requirements for health protection of the town environment - State Gazette, issue 4611992, amended issue 2011999, hygiene-protective zone should be defined by the Ministry of Health, Direction Protection of Social Health, Department "Preliminary sanitary control and Health-technological expertise".

Director RIPCSH

D-r Sv. Angelova

REGIONAL INSPECTION FOR PROTECTION AND CONTROL OF THE SOCIAL HEALTH – Dobrich

Outgoing No RD 3960/03.04.2006

To: Dimitar Mihaylov Hristov

Sofia
Geo Power OOD

With regard to your application No 3273/21.03.2006, inspection on the spot by our representative and after a discussion by Expert counsel to the RIPCSH - Dobrich we would like to inform you, that the site 'wind generator" (landing estate No 018138 on the land of the village of Bulgarevo with United classification of the administrative-territorial and territorial units number 07257, Kavarna municipality, plot No Ф 03288/03.02.2006, situated at 1600 m north of the urban plan of the village of Bulgarevo - level terrain, which supposes that the mast of the generator will be visible from the closest houses of the village of Bulgarevo), on the grounds of article 6, (1) from the Ordinance No 7 for the hygiene requirements for health protection of the town environment - State Gazette, issue 46/1992, amended issue 20/1999, hygiene-protective zone should be defined by the Ministry of Health, Direction Protection of Social Health, Department "Preliminary sanitary control and Health-technological expertise".

Director RIPCSH

D-r Sv. Angelova

REGIONAL INSPECTION FOR PROTECTION AND CONTROL OF THE SOCIAL HEALTH - Dobrich

Outgoing No RD 3961/03.04.2006

To: Dimitar Mihaylov Hristov

Sofia
Geo Power OOD

With regard to your application No 3274/21.03.2006, inspection on the spot by our representative and after a discussion by Expert counsel to the RIPCSH - Dobrich we would like to inform you, that the site "wind generator" (landing estate No 019100 on the land of the village of Bulgarevo with United classification of the administrative-territorial and territorial units number 07257, Kavarna municipality, plot No Ф 02543/03.02.2006, situated at 2900 m north of the urban plan of the village of Bulgarevo - level terrain, which supposes that the mast of the generator will be visible from the closest houses of the village of Bulgarevo), on the grounds of article 6, (1) from the Ordinance No 7 for the hygiene requirements for health protection of the town environment - State Gazette, issue 46/1992, amended issue 20/1999, hygiene-protective zone should be defined by the Ministry of Health, Direction Protection of Social Health, Department "Preliminary sanitary control and Health-technological expertise".

Director RIPCSH

D-r Sv. Angelova

REGIONAL INSPECTION FOR PROTECTION AND CONTROL OF THE SOCIAL HEALTH - Dobrich

Outgoing No RD 3962/03.04.2006

To: Dimitar Mihaylov Hristov

Sofia
Geo Power OOD

With regard to your application No 3275/21.03.2006, inspection on the spot by our representative and after a discussion by Expert counsel to the RIPCSH - Dobrich we would like to inform you, that the site "wind generator" (landing estate No 019180 on the land of the village of Bulgarevo with United classification of the administrative-territorial and territorial units number 07257, Kavarna municipality, plot No Φ 01801/08.10.2004, situated at 3300 m north of the urban plan of the village of Bulgarevo - level terrain, which supposes that the mast of the generator will be visible from the closest houses of the village of Bulgarevo), on the grounds of article 6, (1) from the Ordinance No 7 for the hygiene requirements for health protection of the town environment - State Gazette, issue 4611992, amended issue 20/1999, hygiene-protective zone should be defined by the Ministry of Health, Direction Protection of Social Health, Department "Preliminary sanitary control and Health-technological expertise".

Director RIPCSH

D-r Sv. Angelova

REGIONAL INSPECTION FOR PROTECTION AND CONTROL OF THE SOCIAL HEALTH - Dobrich

Outgoing No RD 3963/03.04.2006

To: Dimitar Mihaylov Hristov

Sofia
Geo Power OOD

With regard to your application No 3276/21.03.2006, inspection on the spot by our representative and after a discussion by Expert counsel to the RIPCSH - Dobrich we would like to inform you, that the site 'wind generator" (landing estate No 019021 on the land of the village of Bulgarevo with United classification of the administrative-territorial and territorial units nuinber 07257, Kavarna municipality, plot No Φ 01821/29.10.2004, situated at 3500 m north of the urban plan of the village of Bulgarevo - level terrain, which supposes that the mast of the generator will be visible from the closest houses of the village of Bulgarevo), on the grounds of article 6, (1) from the Ordinance No 7 for the hygiene requirements for health protection of the town environment - State Gazette, issue 4611992, amended issue 20/1999, hygiene-protective zone should be defined by the Ministry of Health, Direction Protection of Social Health, Department "Preliminary sanitary control and Health-technological expertise".

Director RIPCSH

D-r Sv. Angelova

REGIONAL INSPECTION FOR PROTECTION AND CONTROL OF THE SOCIAL HEALTH - Dobrich

Outgoing No RD 3964/03.04.2006

To: Dimitar Mihaylov Hristov

Sofia
Geo Power OOD

With regard to your application No 3314/21.03.2006, inspection on the spot by our representative and after a discussion by Expert counsel to the RIPCSH - Dobrich we would like to inform you, that the site "wind generator" (landing estate No 018007 on the land of the village of Hadji Dimitar with United classification of the administrative-territorial and territorial units number 77044, Kavarna municipality, plot No Ф 01257/20.12.2005, situated at 1900 m south of the urban plan of the village of Hadji Dimitar - level terrain, which supposes that the mast of the generator will be visible from the closest houses of the village of Hadji Dimitar), on the grounds of article 6, (1) from the Ordinance No 7 for the hygiene requirements for health protection of the town environment - State Gazette, issue 46/1992, amended issue 2011999, hygiene-protective zone should be defined by the Ministry of Health, Direction Protection of Social Health, Department "Preliminary sanitary control and Health-technological expertise".

Director RIPCSH

D-r Sv. Angelova

REGIONAL INSPECTION FOR PROTECTION AND CONTROL OF THE SOCIAL HEALTH - Dobrich

Outgoing No **RD** 3965/03.04.2006

To: Dimitar Mihaylov Hristov

Sofia
Geo Power OOD

With regard to your application No 3315/21.03.2006, inspection on the spot by our representative and after a discussion by Expert counsel to the RIPCSH - Dobrich we would like to inform you, that the site "wind generator" (landing estate No 018024 on the land of the village of Hadji Dimitar with United classification of the administrative-territorial and territorial units number 77044, Kavarna municipality, plot No @ 01143/31.08.2005, situated at 1500 m south of the urban plan of the village of Hadji Dimitar - level terrain, which supposes that the mast of the generator will be visible from the closest houses of the village of Hadji Dimitar), on the grounds of article 6, (1) from the Ordinance No 7 for the hygiene requirements for health protection of the town environment - State Gazette, issue 4611992, amended issue 20/1999, hygiene-protective zone should be defined by the Ministry of Health, Direction Protection of Social Health, Department "Preliminary sanitary control and Health-technological expertise".

Director RIPCSH

D-r Sv. Angelova

REGIONAL INSPECTION FOR PROTECTION AND CONTROL OF THE SOCIAL HEALTH - Dobrich

Outgoing No RD 3966/03.04.2006

To: Dimitar Mihaylov Hristov

Sofia
Geo Power OOD

With regard to your application No 3316/21.03.2006, inspection on the spot by our representative and after a discussion by Expert counsel to the RIPCSH - Dobrich we would like to inform you, that the site "wind generator" (landing estate No 019044 on the land of the village of Hadji Dimitar with United classification of the administrative-territorial and territorial units number 77044, Kavarna municipality, plot No Φ 01156/21.09.2005, situated at 2700 m south of the urban plan of the village of Hadji Dimitar - level terrain, which supposes that the mast of the generator will be visible from the closest houses of the village of Hadji Dimitar), on the grounds of article 6, (1) from the Ordinance No 7 for the hygiene requirements for health protection of the town environment - State Gazette, issue 4611992, amended issue 20/1999, hygiene-protective zone should be defined by the Ministry of Health, Direction Protection of Social Health, Department "Preliminary sanitary control and Health-technological expertise".

Director RIPCSH

D-r Sv. Angelova

REGIONAL INSPECTION FOR PROTECTION AND CONTROL OF THE SOCIAL HEALTH - Dobrich

Outgoing No RD 3967/03.04.2006

To: Dimitar Mihaylov Hristov

Sofia
Geo Power OOD

With regard to your application No 3317/21.03.2006, inspection on the spot by our representative and after a discussion by Expert counsel to the RIPCSH - Dobrich we would like to inform you, that the site "wind generator" (landing estate No 019044 on the land of the village of Hadji Dimitar with United classification of the administrative-territorial and territorial units number 77044, Kavarna municipality, plot No Φ 01191/30.10.2005, situated at 1500 m south of the urban plan of the village of Hadji Dimitar - level terrain, which supposes that the mast of the generator will be visible from the closest houses of the village of Hadji Dimitar), on the grounds of article 6, (1) from the Ordinance No 7 for the hygiene requirements for health protection of the town environment - State Gazette, issue 4611992, amended issue 2011999, hygiene-protective zone should be defined by the Ministry of Health, Direction Protection of Social Health, Department "Preliminary sanitary control and Health-technological expertise".

Director RIPCSH

D-r Sv. Angelova

REGIONAL INSPECTION FOR PROTECTION AND CONTROL OF THE SOCIAL HEALTH - Dobrich

Outgoing No -RD 3968/03.04.2006

To: Dimitar Mihaylov Hristov

Sofia
Geo Power OOD

With regard to your application No 3318/21.03.2006, inspection on the spot by our representative and after a discussion by Expert counsel to the RIPCSH - Dobrich we would like to inform you, that the site "wind generator" (landing estate No 022058 on the land of the village of Hadji Dimitar with United classification of the administrative-territorial and territorial units number 77044, Kavarna municipality, plot No Ф 01028/24.03.2005, situated at 1900 m south of the urban plan of the village of Hadji Dimitar - level terrain, which supposes that the mast of the generator will be visible from the closest houses of the village of Hadji Dimitar), on the grounds of article 6, (1) from the Ordinance No 7 for the hygiene requirements for health protection of the town environment - State Gazette, issue 46/1992, amended issue 20/1999, hygiene-protective zone should be defined by the Ministry of Health, Direction Protection of Social Health, Department "Preliminary sanitary control and Health-technological expertise".

Director RIPCSH

D-r Sv. Angelova

REGIONAL INSPECTION FOR PROTECTION AND CONTROL OF THE SOCIAL HEALTH - Dobrich

Outgoing No RD 3969/03.04.2006

To: Dimitar Mihaylov Hristov

Sofia
Geo Power OOD

With regard to your application No 3319/21.03.2006, inspection on the spot by our representative and after a discussion by Expert counsel to the RIPCSH - Dobrich we would like to inform you, that the site "wind generator" (landing estate No 023103 on the land of the village of Hadji Dimitar with United classification of the administrative-territorial and territorial units number 77044, Kavarna municipality, plot No Ф 00967/10.01.2005, situated at 2000 m south of the urban plan of the village of Hadji Dimitar - level terrain, which supposes that the mast of the generator will be visible from the closest houses of the village of Hadji Dimitar), on the grounds of article 6, (1) from the Ordinance No 7 for the hygiene requirements for health protection of the town environment - State Gazette, issue 4611992, amended issue 2011999, hygiene-protective zone should be defined by the Ministry of Health, Direction Protection of Social Health, Department "Preliminary sanitary control and Health-technological expertise".

Director RIPCSH

D-r Sv. Angelova

REGIONAL INSPECTION FOR PROTECTION AND CONTROL OF THE SOCIAL HEALTH - Dobrich

Outgoing No RD 3970/03.04.2006

To: Dimitar Mihaylov Hristov

Sofia
Geo Power OOD

With regard to your application No 3320/21.03.2006, inspection on the spot by our representative and after a discussion by Expert counsel to the RIPCSH - Dobrich we would like to inform you, that the site "wind generator" (landing estate No 023132 on the land of the village of Hadji Dimitar with United classification of the administrative-territorial and territorial units number 77044, Kavarna municipality, plot No Ф 00980/26.01.2005, situated at 2700 m south of the urban plan of the village of Hadji Dimitar - level terrain, which supposes that the mast of the generator will be visible from the closest houses of the village of Hadji Dimitar), on the grounds of article 6, (1) from the Ordinance No 7 for the hygiene requirements for health protection of the town environment - State Gazette, issue 4611992, amended issue 20/1999, hygiene-protective zone should be defined by the Ministry of Health, Direction Protection of Social Health, Department "Preliminary sanitary control and Health-technological expertise".

Director RIPCSH

D-r Sv. Angelova

REGIONAL INSPECTION FOR PROTECTION AND CONTROL OF THE SOCIAL HEALTH - Dobrich

Outgoing No RD 3972/03.04.2006

To: Dimitar Mihaylov Hristov

Sofia
Geo Power OOD

With regard to your application No 3305/21.03.2006, inspection on the spot by our representative and after a discussion by Expert counsel to the RIPCSH - Dobrich we would like to inform you, that the site "wind generator" (landing estate No 018022 on the land of the village of Poruchik Chunchevo with United classification of the administrative-territorial and territorial units number 57861, Kavarna municipality, plot No Ф 00552/12.08.2005, situated at 2200 m southeast of the urban plan of the village of Poruchik Chunchevo - level terrain, which supposes that the mast of the generator will be visible from the closest houses of the village of Poruchik Chunchevo), on the grounds of article 6, (1) from the Ordinance No 7 for the hygiene requirements for health protection of the town environment - State Gazette, issue 4611992, amended issue 20/1999, hygiene-protective zone should be defined by the Ministry of Health, Direction Protection of Social Health, Department "Preliminary sanitary control and Health-technological expertise".

Director RIPCSH

D-r Sv. Angelova

REGIONAL INSPECTION FOR PROTECTION AND CONTROL OF THE SOCIAL HEALTH - Dobrich

Outgoing No RD 3973/03.04.2006

To: Dimitar Mihaylov Hristov

Sofia
Geo Power OOD

With regard to your application No 33061/21.03.2006, inspection on the spot by our representative and after a discussion by Expert counsel to the RIPCSH - Dobrich we would like to inform you, that the site "wind generator" (landing estate No 018036 on the land of the village of Poruchik Chunchevo with United classification of the administrative-territorial and territorial units number 57861, Kavarna municipality, plot No Ф 00544108.08.2005, situated at 1500 m southeast of the urban plan of the village of Poruchik Chunchevo - level terrain, which supposes that the mast of the generator will be visible from the closest houses of the village of Poruchik Chunchevo), on the grounds of article 6, (1) from the Ordinance No 7 for the hygiene requirements for health protection of the town environment - State Gazette, issue 4611992, amended issue 2011999, hygiene-protective zone should be defined by the Ministry of Health, Direction Protection of Social Health, Department "Preliminary sanitary control and Health-technological expertise".

Director RIPCSH

D-r Sv. Angelova

REGIONAL INSPECTION FOR PROTECTION AND CONTROL OF THE SOCIAL HEALTH - Dobrich

Outgoing No RD 3979/03.04.2006

To: Dimitar Mihaylov Hristov

Sofia
Geo Power OOD

With regard to your application No 3313/21.03.2006, inspection on the spot by our representative and after a discussion by Expert counsel to the RIPCSH - Dobrich we would like to inform you, that the site "wind generator" (landing estate No 022027 on the land of the village of Poruchik Chunchevo with United classification of the administrative-territorial and territorial units number 57861, Kavarna municipality, plot No ***0*** 00674/03.02.2006, situated at 950 m south of the urban plan of the village of Poruchik Chunchevo - level terrain, which supposes that the mast of the generator will be visible from the closest houses of the village of Poruchik Chunchevo), on the grounds of article 6, (1) from the Ordinance No 7 for the hygiene requirements for health protection of the town environment - State Gazette, issue 4611992, amended issue 2011999, hygiene-protective zone should be defined by the Ministry of Health, Direction Protection of Social Health, Department "Preliminary sanitary control and Health-technological expertise".

Director RIPCSH

D-r Sv. Angelova

REGIONAL INSPECTION FOR PROTECTION AND CONTROL OF THE SOCIAL HEALTH - Dobrich

Outgoing No RD 3980103.04.2006

To: Dimitar Mihaylov Hristov

Sofia
Geo Power OOD

With regard to your application No 3312/21.03.2006, inspection on the spot by our representative and after a discussion by Expert counsel to the RIPCSH - Dobrich we would like to inform you, that the site "wind generator" (landing estate No 021062 on the land of the village of Poruchik Chunchevo with United classification of the administrative-territorial and territorial units number 57861, Kavarna municipality, plot No Ф 00585130.10.2005, situated at 2900 rn southeast of the urban plan of the village of Poruchik Chunchevo - level terrain, which supposes that the mast of the generator will be visible from the closest houses of the village of Poruchik Chunchevo; and at 1700 m north of the Home for therapy for women with mental diseases), on the grounds of article 6, (1) from the Ordinance No 7 for the hygiene requirements for health protection of the town environment - State Gazette, issue 4611992, amended issue 2011999, hygiene-protective zone should be defined by the Ministry of Health, Direction Protection of Social Health, Department "Preliminary sanitary control and Health-technological expertise".

Director RIPCSH

D-r Sv. Angelova

REGIONAL INSPECTION FOR PROTECTION AND CONTROL OF THE SOCIAL HEALTH - Dobrich

Outgoing No RD 3981/03.04.2006

To: Dimitar Mihaylov Hristov

Sofia
Geo Power OOD

With regard to your application No 3304/21.03.2006, inspection on the spot by our representative and after a discussion by Expert counsel to the RIPCSH - Dobrich we would like to inform you, that the site "wind generator" (landing estate No 012083 on the land of the village of St. Nikola with United classification of the administrative territorial and territorial units number 65543, Kavarna municipality, plot No Ф 00770/07.10.2004, situated at 800 m north of the urban plan of the village of St. Nikola - level terrain, which supposes that the mast of the generator will be visible from the closest houses of the village of St. Nikola), on the grounds of article 6, (1) from the Ordinance No 7 for the hygiene requirements for health protection of the town environment - State Gazette, issue 4611992, amended issue 2011999, hygiene-protective zone should be defined by the Ministry of Health, Direction Protection of Social Health, Department "Preliminary sanitary control and Health-technological expertise".

Director RIPCSH

D-r Sv. Angelova

REGIONAL INSPECTION FOR PROTECTION AND CONTROL OF THE SOCIAL HEALTH - Dobrich

Outgoing No RD 3982/03.04.2006

To: Dimitar Mihaylov Hristov

Sofia
Geo Power OOD

With regard to your application No 3301/21.03.2006, inspection on the spot by our representative and after a discussion by Expert counsel to the RIPCSH - Dobrich we would like to inform you, that the site "wind generator" (landing estate No 018083 on the land of the village of St. Nikola with United classification of the administrative territorial and territorial units number 65543, Kavarna municipality, plot No Ф 00768/10.11.2005, situated at 1350 m southwest of the urban plan of the village of St. Nikola - level terrain, which supposes that the mast of the generator will be visible from the closest houses of the village of St. Nikola; and at 450 west from the Home for therapy for women with mental diseases), on the grounds of article 6, (1) from the Ordinance No 7 for the hygiene requirements for health protection of the town environment - State Gazette, issue 4611992, amended issue 20/1999, hygiene-protective zone should be defined by the Ministry of Health, Direction Protection of Social Health, Department "Preliminary sanitary control and Health-technological expertise".

Director RIPCSH

D-r Sv. Angelova

REGIONAL INSPECTION FOR PROTECTION AND CONTROL OF THE SOCIAL HEALTH - Dobrich

Outgoing No RD 3983/03.04.2006

To: Dimitar Mihaylov Hristov

Sofia
Geo Power OOD

With regard to your application No 3302/21.03.2006, inspection on the spot by our representative and after a discussion by Expert counsel to the RIPCSH - Dobrich we would like to inform you, that the site "wind generator" (landing estate No 012085 on the land of the village of St. Nikola with United classification of the administrativeterritorial and territorial units number 65543, Kavarna municipality, plot No Φ 00949/10.11.2005, situated at 1350 m north of the urban plan of the village of St. Nikola - level terrain, which supposes that the mast of the generator will be visible from the closest houses of the village of St. Nikola), on the grounds of article 6, (1) from the Ordinance No 7 for the hygiene requirements for health protection of the town environment - State Gazette, issue 4611992, amended issue 2011999, hygiene-protective zone should be defined by the Ministry of Health, Direction Protection of Social Health, Department "Preliminary sanitary control and Health-technological expertise".

Director RIPCSH

D-r Sv. Angelova

REGIONAL INSPECTION FOR PROTECTION AND CONTROL OF THE SOCIAL HEALTH - Dobrich

Outgoing No RD 3984103.04.2006

To: Dimitar Mihaylov Hristov

Sofia
Geo Power OOD

With regard to your application No 3303/21.03.2006, inspection on the spot by our representative and after a discussion by Expert counsel to the RIPCSH - Dobrich we would like to inform you, that the site "wind generator" (landing estate No 012085 on the land of the village of St. Nikola with United classification of the administrative territorial, and territorial units number 65543, Kavarna municipality, plot No Ф 00767/07.10.2004, situated at 1300 m north of the urban plan of the village of St. Nikola - level terrain, which supposes that the mast of the generator will be visible from the closest houses of the village of St. Nikola; and at 950 west from the Home for therapy for women with mental diseases), on the grounds of article 6, (1) from the Ordinance No 7 for the hygiene requirements for health protection of the town environment - State Gazette, issue 4611992, amended issue 20/1999, hygiene-protective zone should be defined by the Ministry of Health, Direction Protection of Social Health, Department "Preliminary sanitary control and Health-technological expertise".

Director RIPCSH

D-r Sv. Angelova

REGIONAL INSPECTION FOR PROTECTION AND CONTROL OF THE SOCIAL HEALTH - Dobrich

Outgoing No RD 3985/03.04.2006

To: Dimitar Mihaylov Hristov

Sofia
Geo Power OOD

With regard to your application No 3300/21.03.2006, inspection on the spot by our representative and after a discussion by Expert counsel to the RIPCSH - Dobrich we would like to inform you, that the site "wind generator" (landing estate No 011091 on the land of the village of St. Nikola with United classification of the administrative territorial and territorial units number 65543, Kavarna municipality, plot No Ф 00783/11.11.2004, situated at 1350 m north of the urban plan of the village of St. Nikola - level terrain, which supposes that the mast of the generator will be visible from the closest houses of the village of St. Nikola; and at 1350 m west of the Home for therapy for women with mental diseases), on the grounds of article 6, (1) from the Ordinance No 7 for the hygiene requirements for health protection of the town environment - State Gazette, issue 4611992, amended issue 2011999, hygiene-protective zone should be defined by the Ministry of Health, Direction Protection of Social Health, Department 'Preliminary sanitary control and Health-technological expertise".

Director RIPCSH

D-r Sv. Angelova

REGIONAL INSPECITON FOR PROTECTION AND CONTROL OF THE SOCIAL HEALTH - Dobrich

Outgoing No **RD** 3986/03.04.2006

To: Dimitar Mihaylov Hristov

Sofia
Geo Power OOD

With regard to your application No 3299/21.03.2006, inspection on the spot by our representative and after a discussion by Expert counsel to the RIPCSH - Dobrich we would like to inform you, that the site 'wind generator" (landing estate No 011063 on the land of the village of St. Nikola with United classification of the administrative territorial and territorial units number 65543, Kavarna municipality, plot No Ф 00769/07.10.2004, situated at 2200 m north of the urban plan of the village of St. Nikola - level terrain, which supposes that the mast of the generator will be visible from the closest houses of the village of St. Nikola; and at 1900 m west of the Home for therapy for women with mental diseases), on the grounds of article 6, (1) from the Ordinance No 7 for the hygiene requirements for health protection of the town environment - State Gazette, issue 4611992, amended issue 2011999, hygiene-protective zone should be defined by the Ministry of Health, Direction Protection of Social Health, Department "Preliminary sanitary control and Health-technological expertise".

Director RIPCSH

D-r Sv. Angelova

Coat of Arms
REPUBLIC OF BULGARIA

MINISTRY OF HEALTH

Ref. No 47-22-PSK-00467/27.06.2006
Sofia

TO
GEO POWER LTD
38, Chervena Stena Street
City of Sofia

Copy:
Regional Inspectorate for Protection and
Control of Public Health
Dobrich

The Ministry of Health on the grounds of Art. 6, item 1 of Ordinance No 7 of the Ministry of Health on the hygienic requirements for health protection of residential environment (State Gazetter issue 46 of 1992, amended and supplemented issue 46 of 1994, issues 89 and 101 of 1996, issue 101 of 1997 and issue 20 of 1999) and of Art. 141, Para. 1 of Ordinance No 14 dated 15.06.2005 of the Ministry of Regional Development and Public Works and the Ministry of Energy and Energy Resources on technical rules and norms for design, construction and use of the sites and facilities for production, transformation, transfer and distribution of electric power (SG issue 53 of 28.06.2005 in force since 29.09.2005) and on the grounds of the presented certified territorial sketches (No Ф01488/05.05.2004 for estate No 023056, No Ф01560/31.05.2004, for estate No 024085, No Ф01559/31.05.2004 for estate No 025051, No Ф01789/08.10.2004, for estate No 024103, No Ф01585/21.06.2004 for estate No 024145, No Ф01584/21.06.2004, for estate No 034041, No Ф01602/06.07.2004 for estate No 023108, No Ф01641/16.07.2004, for estate No 020085, No Ф01640/16.07.2004 for estate No 021013, No Ф01676/01.08.2004, for estate No 014124, No Ф01936/17.12.2004 for estate No 019218, No Ф01675/01.08.2004, for estate No 021064, No Ф01677/01.08.2004 for estate No 019180, No Ф01673/01.08.2004, for estate No 015166, No Ф01579/08.08.2004 for estate No 018099, No Ф01695/13.08.2004, for estate No 019216, No Ф01700/21.08.2004 for estate No 012041, No Ф01805/08.08.2004, for estate No 025082, No Ф01781/05.10.2004 for estate No 017022, No Ф01776/05.10.2004, for estate No 015099, No Ф01774/05.10.2004 for estate No 015101, No Ф01775/05.10.2004, for estate No 018067, No Ф01785/08.10.2004 for estate No 020086, No Ф01932/17.12.2004, for estate No 022069, No Ф01821/29.10.2004 for estate No 01920, No Ф01826/08.11.2004, for estate No 037028, No Ф01825/08.11.2004 for estate No 020097, No Ф01838/17.11.2004, for estate No 021067, No Ф01868/30.11.2004 for estate No 011080, No Ф01882/13.12.2004, for estate No 041429, No Ф01971/26.01.2005 for estate No 035099, No Ф01980/01.02.2005, for estate No 022062, No Ф02148/09.05.2005 for estate No 014139, No Ф02543/08.08.2005, for estate No 019100,
No Ф02655/07.09.2005 for estate No 019224, No Ф02790/21.09.2005, for estate No 026054, No Ф03178/03.01.2006 for estate No 015183, No Ф03271/30.01.2006, for estate No 026054, No Ф03272/30.01.2006 for estate No 022075, No Ф01672/01.08.2004, for

estate No 015168, No Ф03591/02.05.2006 for estate No 000532, of the village of Bulgarevo, municipality of Kavarna, No Ф02148/09.05.2005 for estate No 014139, No Ф02543/08.08.2005, for estate No 019100, No Ф00761/08.08.2004 for estate No 011063, No Ф00762/13.08.2004, for estate No 012083, No Ф00783/11.11.2004 for estate No 011091, No Ф00949/10.11.2005, for estate No 012085 of the village of Sveti Nikola, Municipality of Kavarna, No Ф00544/08.08.2005 for estate No 018036, No Ф00543/08.08.2005, for estate No 020044, No Ф00552/12.08.2005 for estate No 018022, No Ф00585/30.10.2005, for estate No 021062, No Ф00670/30.01.2006 for estate No 020038, No Ф00669/30.01.2006, for estate No 028027, No Ф00709/16.03.200 for estate No 014139, No Ф02543/08.08.2005, for estate No 019100, of the village of Porouchik Chounchevo, No Ф00976/10.01.2005 for estate No 023103, No Ф00980/26.01.2004, for estate No 023132, No Ф01028/24.03.2005 for estate No 022058, No Ф01143/31.08.2005, for estate No 018024, No Ф01257/20.12.2005 for estate No 018007, No Ф01155/21.09.2005, for estate No 019044, Ф01191/30.10.2005 for estate No 011112) of the village of Hadji Dimiter, municipality of Kavarna, general structural plan of the locality, letter (No 1766/20.04.2006) of RIEW – town of Varna about a report on the environmental impact assessment of the investment proposal for the construction of a wind farm, a report on EIA COORDINATES the location of Project:

CONSTRUCTION OF WIND FARM on the territory of the villages – the village of Burgarevo (estates Nos. 024145, 024103,024085,023108,023056,022075,022069,022062,02367,021064,021013,020097,020086,020085,019224,019218,019216,019201,019180,019100,018138,0,18099,018067,017822,015183,015183,015168,015166,015101,01501,015099,014139,014129,084124,012041,011080,000532,025051,025082,026054,0304043,035099,037028, the village of Sveti Nikola (estates Nos. 011063, 011091, 012083, 0128080, 018083), the village of Hadji Dimiter (estates Nos. 018009, 018024, 019044, 021112, 022058, 023103, 023132) and Porouchik Chounchevo (estates Nos 018022, 018036, 019018, 019036, 020038, 020044, 021052, 021062, 022027), the municipality of Kavarna.

The closed populated area to the wind energy park (estate No 022069), the village of Bulgarevo, the municipality of Kavarna is located at about 660 m in the southern direction).

Construction of one number of wind generator with height 59-100 m amd diameters of the rotor 82 m, power 2000 kW is anticipated in each of the estates enumerated hereinabove – 63 nos.. The wind generators will produce electric power with voltage 690 V/50 Hz which will be transformed from their own transformer 07/20kV located in the proximity of their tower and through an underground cable will be sent to an existing power transmission line 20 kV.

The conditions for joining the electric power distribution network 20kV must be coordinated with Electric power distribution – town of Varna.

The wind generators must be appropriately colored and signalized aimed at restricting the psychological and visual discomfort of the people, caused by the size of the facility and of its impact over the ornithofauna.

An emergency plan must be developed rendering an account of the impacts in Acts of God over the environment and the health of the people.

In putting the wind generators into operation at optimal loading measurements must be made for the levels of noise, vibrations and electromagnetic emissions along the regulation border of the village of Bulgarevo, the village of Sveti Nikola, the village of Hadji Dimiter and the village of Porouchik Chounchevo of the municipality of kavarna and in the nearest residential buildings and premises to the site, for compliance with the health norms for residential territories of the populated areas.

Hygiene standpoints are attached to the correspondence as follows: Nos. RD3939/03.04.2006,
RD3938/03.04.2006, RD3937/03.04.2006, RD3936/03.04.2006, RD3935/03.04.2006,
RD3934/03.04.2006, RD3933/03.04.2006, RD3932/03.04.2006, RD3931/03.04.2006,
RD3930/03.04.2006, RD3929/03.04.2006, RD3928/03.04.2006, RD3931/03.04.2006,
RD3926/03.04.2006, RD3925/03.04.2006, RD3924/03.04.2006, RD3927/03.04.2006,
RD3963/03.04.2006, RD3962/03.04.2006, RD3961/03.04.2006, RD3923/03.04.2006,
RD3959/03.04.2006, RD3958/03.04.2006, RD3957/03.04.2006, RD3960/03.04.2006,
RD3955/03.04.2006, RD3954/03.04.2006, RD3953/03.04.2006, RD3956/03.04.2006,
RD3951/03.04.2006, RD3950/03.04.2006, RD3949/03.04.2006, RD3952/03.04.2006,
RD3947/03.04.2006, RD3946/03.04.2006, RD3940/03.04.2006, RD3948/03.04.2006,
RD3942/03.04.2006, RD3943/03.04.2006, RD3944/03.04.2006, RD3941/03.04.2006,
RD3986/03.04.2006, RD3985/03.04.2006, RD3981/03.04.2006, RD3945/03.04.2006,
RD3984/03.04.2006, RD3982/03.04.2006, RD3972/03.04.2006, RD3983/03.04.2006,
RD3984/03.04.2006, RD3985/03.04.2006, RD3977/03.04.2006, RD3973/03.04.2006,
RD3974/03.04.2006, RD3979/03.04.2006, RD3976/03.04.2006, RD3978/03.04.2006,
RD3980/03.04.2006, RD3979/03.04.2006, RD3964/03.04.2006, RD3965/03.04.2006,
RD3966/03.04.2006, RD3967/03.04.2006, RD3969/03.04.2006, RD3970/03.04.2006,
RD3968/03.04.2006,
Of the Regional Inspectorate for Preservation and Control over Public Health, town of Dobrich.

DEPUTY MINISTER: /Sgd. Ill./
ATANAS DODOV, M. D.
SEAL

DD/VK

GEO Power Ltd Renewable Energy
E-mail: office@yomibg.com
Office – Sofia, 33-A, Krivolak Street, Sofia 1421, tel.: (+3592) 8655151, tel.: (+3592) 9632275, Fax (+359 2) 9633774

Ref. No 154 / 12.01.2006

To Mr. Director of
Company Water Supply
and Sewerage LTD
Town of Dobrich, District of kavarna

Subject: Location of water supply systems for potable water on the territory designated for the construction of the future WPP

Dear Mr. Director,

With regard to the construction of a Wind farm on the Territory of the villages of Bulgarevo, Sveti Nikola, Hadji Dimiter, Rakovski and Porouchik Chounchevo, Municipality of Kavarna, I am turning to you with a request to provide us with information about the location of eventually existing water supply systems for potable water on the territory of the WPP. We are asking you to present to us also map material with designated route of the water supply system and its diameter if any. We also need a standpoint on the part of the company managed by you with regard to the implementation of the investment intention.

Please find attached map material with the designated territory which the wind farm will be located on.

Respectfully yours, /Sgd. Ill./
/Eng. Dimiter Hristov/
Manager
GEO POWER LTD

12 January 2006
City of Sofia

WATER SUPPLY AND SEWERAGE LTD, Town of DOBRICH

TO
Geo Power LTD
33, Krivolak Street
1421 City of Sofia

SEAL

STANDPOINT

Subject: Construction of the future wind farm on on the Territory of the villages of Bulgarevo, Sveti Nikola, Hadji Dimiter, Rakovski and Porouchik Chounchevo, Municipality of Kavarna, region of Dobrich

Water Supply and Sewerage LTD town of Dobrich notifies you herein that it does not object to the implementation of your investment intentions.

The project of the wind farm must be obligatorily coordinated with Water Supply and Sewerage LTD town of Dobrich aimed at preservation of the effective rules and norms for locaton of lines and facilities of the technical infrastructure, in compliance with Art. 70, Para. 4 of the Territorial Structure Act prior to its consideration at an Expert Board and issuance of a Construction Permit.

PTO Manager: /Sgd. Ill./
/Eng. D. Dimov/
SEAL

MANAGER: /Sgd. Ill./
/Velichko Vasilev/
SEAL

GEO Power Ltd Renewable Energy
E-mail: office@yomibg.com
Office – Sofia, 33-A, Krivolak Street, Sofia 1421, tel.: (+3592) 8655151, tel.: (+3592) 9632275, Fax (+359 2) 9633774

Ref. No 155 / 12.01.2006

To Mr. Director of
Irrigation Systems
Town of Dobrich

Subject: Availability of an irrigation system on the territory designated for the construction of the future WPP

Dear Mr. Director,

With regard to the construction of a Wind farm on the Territory of the villages of Bulgarevo, Sveti Nikola, Hadji Dimiter, Rakovski and Porouchik Chounchevo, Municipality of Kavarna, we need information about the availability of an irrigation system on the territory anticipated for the construction of WPP. We also need a standpoint on the part of the enterprise managed by you with regard to the implementation of the investment intention.

Please find attached map material with the designated territory which the wind farm will be located on.

Respectfully yours, /Sgd. Ill./
/Eng. Dimiter Hristov/
Manager
GEO POWER LTD

12 January 2006
City of Sofia

MINISTRY OF AGRICULTURE AND FORESTRY
REGIONAL DIRECTORATE "AGRICULTURE AND FORESTS" – Town of DOBRICH

SEAL

To GEO POWER LTD, City of Sofia, represented
By its Manager Dimiter Mihaylov Hristov
Address: City of Sofia, 33 A, Krivolak Street

Subject: Request for standpoint with regard to the Construction of Wind farm on the Territory of the villages of Bulgarevo, Sveti Nikola, Hadji Dimiter, Rakovski and Porouchik Chounchevo, Municipality of Kavarna, region of Dobrich

Further to your application filed under ref. No RD-13-681/13.03.2006 in Regional Directorate "Agriculture and Forests" town of Dobrich we inform you that you should prepare the needed documents pursuant to Art. 30 of the Implementing Regulations of the Agricultural Land Conservation Act for the ratification of sites and Art. 40 – for a change in their designation. Attached hereto please find an extract of the Implementing Regulations of the Agricultural Land Conservation Act with the specific texts. The Commission pursuant to Art. 17, Para. 1, item 1 of the Agricultural Land Conservation Act with OD "Agriculture and Forests" has powers to review correspondence for sites with an area of up to 50 decares. The Projects comprising areas of over 50 decares are considered by the Commission pursuant to Art. 17, Para. 1, item 2 of the Agricultural Land Conservation Act with the Ministry of Agriculture and Forests. A standpoint may be expressed on correspondence completed in accordance with this procedure.

With regard to the implementation of a project for a change of the designation of agricultural lands for non-agriclutural purposes, the selection of sites is to be conformed with the need and the main designation of the cultivable lands – production of agricultural prodycts and not to impede the conduct of these undertakings for the areas which remained in the neighborhood as well as with the possibility that the relevant future sites will be with a provided access.

Encl.: as above

PP Director of RD "AF" Dobrich: /Sgd. Ill./
/Eng. Desislava Ivanova/
SEAL

EXTRACT:

Implementing REGULATIONS of the Agricultural Land Conservation Act

Adopted by Decree of the Council of Ministers No 240 dated 24.09.1996, promulgated State Gazette issue 84 dated 4.10.1996, amended and supplemented issue 100 dated 31.10.1997; amended issue 14 dated 18.02.2000; in force since 18.02.2000, issue 48 dated 13.06.2000, in force since 1.10.2000, issue 41 dated 24.04.2991, in force since 24.04.2001, amended and supplemented issue 66 dated 27.07.2001, issue 31 dated 4.04.2003, issue 41 dated 18.05.2004
Book 11.96, page 285; Book 11.97, page 322; Book 8/2001, page 11 bt. 5, r. 4 No 441
……

Art. 29. (Amended – State Gazette, issue 66 of 2001) (1) The following shall be indicated in the explanatory note with the design of the detailed urban plan:

1. The titles of the site/sites and/or data about anticipated activities;
2. The location of the site – locality, territory of the populated area and its functional type, municipality, region, distance from the borders of the general and/or detailed urban plan of the populated area, distance from the national road network and from other nearest existing sites;
3. The size and borders of the offered grounds or routes for the main site and of the offered auxiliary and supplementary sites and routes of networks and facilities of the technical infrastructure related to sites, road connections, grounds for recultivation (improvement) and for humus disposal areas for temporary use;
4. For quarries (open pits) – the amount of the investigated reserves, the power of the layer, the annual yield (production) and the annually needed area;
5. For the areas anticipated with the general and detailed urban plans for inclusion within the boders of the populated arease and the settlement formations, the motivations for that shall be entered;
6. With routes for overhead and underground sites – the amount of the agricultural land which may be used with certain limitations, the kind and nature of these limitations if such are imposed;
7. For terrains for inclusion in security and servitude zones – the kind and nature of the limitations with which the agricultural land may be used;
8. Explicitly the part, the exact borders and dimensions of the defined ground or route which affects areas of the forestry fund;

(2) When two or more grounds or routes for the site are described, it will be proposed in a motivated manner which variant should be ratified as final.

Art. 30. (Amended and supplemented – SG, issue 100 of 1997, amended issue 63 of 2000, issue 66 of 2001) (1) Correspondence shall be initiated for each site which shall contain:

1. Proposal by the persons pursuant to Art. 18 and 19 of the Agricultural Land Conservation Act for the ratification of a ground or route for building up or expansion of the site over agricultural land;
2. Sketch of the estate (estates) in a coordinate system "1970" in 2 copies with the input borders of the proposed grounds or routes certified by the municipal service for agriculture and forestry, respectively by the cadastre administrations;

(a) for grounds – in scale 1:500 to 1:5000 with coordinates of the bends;
(b) for routes – in an appropriate scale not smaller than 1: 10 000 with coordinates of the bends of the axis of the lineal site;

3. In the events when lands of the forestry fund are affected a standpoint shall be attached by the relevant state forestry board;
4. Certificate whether the land is under irrigation issued by the Minister of Agriculture and Forestry or by a person authorized by him within a 7-day term;
5. Deed for the category of the land issued in conformity with Art. 17, Para. 2 of the Agricultural Land Conservation Act and the Ordinance on Classification of Agricultural lands in event of a change of their designation;
6. Decision or standpoint issued in accordance with the procedure of chapter six of the Environmental Protection Act – for the events when such are required;
7. Design for a detailed urban plan and an explanatory note;

(2) When a ground or route is defined for the needs of a natural or juristic person, a copy of the document for ownership or right to construction over the land shall be attached. When the estate is co-owned, a notarially certified declaration of consent for the modification requested by the co-owners shall be attached as well.

(3) The determination of a ground or route for the needs of a natural or juristic person over lands of the state land fund or the municipal land fund shall be performed after preliminary written consent of the Minister of Agriculture and Forests or a decision of the Municipal Council.

(4) A copy of a document for ownership of the existing terrain, respectively a document by which it is provided for, expropriated or the designation of the land for the existing site was changed shall be presented to the ground defined with the design for a detailed urban plan for expansion of the existing terrain, as well as a sketch – a cadastre plan (map) of the executed construction.

(5) When two or more grounds or routes are offered for the site, a comparative table shall be attached which shall indicate the area, the quality, the irrigation, the manner of permanent use and the ownership of the affected agricultural lands.

.....

Section III

(Previous section II, amended – SG, issue 66 of 2001)

Change of the designation of agricultural lands for own non-agricultural needs

Art. 40. (Amended and supplemented – SG issue 100 of 1997, amended issue 66 of 2001)

(1) (Amended – SG issue 41 of 2004) With availability of a detailed urban plan entered into force for the site, the natural or juristic person – owner of the land may submit a proposal for a change of the designation of the land when the site is built up for one's own needs.

(2) The persons pursuant to Para. 1 shall prepare motivated proposal to the Commission pursuant to Art. 17, Para. 1 of the Agricultural Land Conservation Act, which the following shall be attached to:

1. (Amended – SG, issue 41 of 2004) a copy of the detailed urban plan entered into force – in 2 copies;
2. (Amended – SG, issue 41 of 2004) for pits (quarries) – designs for operation and recultivation;
3. (Amended – SG, issue 41 of 2004) for linear sites - a copy of the detailed urban (plot) plan entered into force with coordinates of the bends of the site in 2 copies

(3) When the land is ownership of a natural or a juristic person and a ground or route is ratified on it for he building of a site in the events pursuant to Art. 18 of the Agricultural Land Conservation Act the person building up the site or the investor may request a change of the designation of the agricultural land after he acquires ownership or right of construction over it.

(4) When the land is in the state land fund or is in the municipal land fund anda ground or route is ratified on it for the building up of a site by a natural or juristic person (investor) beyond the events pursuant to Art. 19 of the Agricultural Land Conservation Act, he shall be obligated to acquire right of ownership or right of construction over the land prior to the change of its designation in accordance with the procedure established by Para. 1 and 2.
(5) Pursuant to Para. 1 and 2 a proposal shall be made by the invevstor of the site for the change of the designation of municipal lands for municipal needs and of state lands for state needs.

Art. 41. (Amended and supplemented – SG, issue 100 of 1997, amended, issue 66 of 2001)

(1) The Coomission pursuant to Art. 17 of the Agricultural Land Conservation Act shall discuss the proposal and within a 14-day term of its submission it shall pronounce its judgment by a decision).
(2) The change of the designation of the agricultural land may be permitted in stages in compliance with the request of the owner of the land or of the investor.
(3) The decision of the commission shall indicate the amount of the fee which is to be paid pursuant to Art. 30 of the Agricultural Land Conservation Act and these Regulations.
(4) The decision for change of the designation of the land shall enter into force after the due fee for the site has been paid.

GEO Power Ltd Renewable Energy
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Ref. No 156 / 12.01.2006

To Mr. Director of
The Forestry
Town of Balchik

Subject: Information about available forest-shelter belts in the zone of the future WPP

Dear Mr. Director,

With regard to the construction of a Wind farm on the Territory of the villages of Bulgarevo, Sveti Nikola, Hadji Dimiter, Rakovski and Porouchik Chounchevo, Municipality of Kavarna, we are turning to you with the request to provide us with information about the available on the territory of the WPP forest-shelter belts with their characteristics – length, width, main composition, age of the plants as well as what their condition is.

Please find attached map material with the designated territory which the wind farm will be located on. We also need information about the forest-shelter belts which shall be input onto the map material attached to this letter.

Respectfully yours, /Sgd. Ill./
/Eng. Dimiter Hristov/
Manager
GEO POWER LTD

12 January 2006
City of Sofia

STATE GAME-BREEDING STATION – BALCHIK

SEAL

TO: GEO POWER LTD
City of Sofia

To your Ref. No 156 / 12.01.2006

Subject: Information about the condition of the forest-shelter belts in the territory of the designed by you wind farm in the territories of the villages of Bulgarevo, Sveti Nikola, Hadji Dimiter, Rakovski and Porouchik Chounchevo

36 field protective belts fall onto the territory of the designed park in conformity with the Forest Structural Design of 1996. The main ligneous species used at their afforestation are acacia, several species of ash-trees, gleditschia and cerris oak. The predominant part of the belts are 16 m wide and in places they are narrower. The plantations are from the average to good condition at the age of 2 to 50 years, their heigh varying from 1 to 15-16.

The forest-protection belts have special designation and constitute state public ownership.

Director: /Sgd. Ill./
/Eng. K. Todorova/

DK

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Ref. No 157 / 12.01.2006

To Mr. Director of
The Town Museum of History
Town of Kavarna

Subject: Standpoint on the construction of the future Wind farm

Dear Mr. Director,

With regard to the construction of a Wind farm on the Territory of the villages of Bulgarevo, Sveti Nikola, Hadji Dimiter, Rakovski and Porouchik Chounchevo, Municipality of Kavarna, we are asking you for your standpoint about the anticipated WPP.

Please find attached map material with the designated territory which the wind farm will be located on.

Respectfully yours, /Sgd. Ill./
/Eng. Dimiter Hristov/
Manager
GEO POWER LTD

12 January 2006
City of Sofia

SEAL of the Town Museum of History
Town of kavarna
Postal Code 9650
Registration index and date
RD-01-01-02/19.01.2006

To Mr. Manager of
GEO POWER LTD
City of Sofia

Standpoint on the Construction of a Future Wind farm

Dear Mr. Manager,

In answer to your enquiry for a standpoint about the construction of a Wind farm on the Territory of the villages of Bulgarevo, Sveti Nikola, Hadji Dimiter, Rakovski and Porouchik Chounchevo, Municipality of Kavarna we inform you that there are archeological sites included in the archeological map of Bulgaria with a definite regime of use located in the designated by you territory for construction. Provided that construction of wind generators falls within the location of the archeological settlements, the Investor shall be obligated either to displace the wind generator from the borders of the monument of culture or to finance the research of the archeological site /Art. 18 of the Monuments of Culture and Museums Act/.

The situation being as it is, it would be desirable to hold a meeting with your representative and to fix the archeological sites located there in your map material on the spot.

Respectfully yours, /Sgd. Ill./
/Darina Mircheva, Director of the
Museum of History – town of Kavarna/

19.01.2006
Town of Kavarna

GEO Power Ltd Renewable Energy
E-mail: office@yomibg.com
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Ref. No 158 / 12.01.2006

To Mr. Director of
The Hunting Fishing Society
Village of Bulgarevo

Subject: Construction of the future Wind farm

Dear Mr. Director,

With regard to the construction of a Wind farm on the Territory of the villages of Bulgarevo, Sveti Nikola, Hadji Dimiter, Rakovski and Porouchik Chounchevo, Municipality of Kavarna, we are asking you to state your standpoint about the anticipated WPP.

Please find attached map material with the designated territory which the wind farm will be located on.

Respectfully yours, /Sgd. Ill./
/Eng. Dimiter Hristov/
Manager
GEO POWER LTD

12 January 2006
City of Sofia

SEAL

To the Manager of
GEO POWER LTD
City of Sofia

Mr. Manager,

In answer to your letter No 169/12.01.2006 about the construction of a wind farm on the territory of the Hunting Fishing Society "Kaliakra", town of Kavarna, we notify you herein that the Company does not have any objections to the construction of the wind generator.

HFS "Kaliakra" town of Kaavarna proposes to you the conclusion of a contract with the company managed by you for mutual cooperation with the preservation of live nature.

Chairman HFS: /Sgd. Ill./
Kaliakra
/Zhivko Nikolov/
SEAL

30.01.2006

GEO Power Ltd Renewable Energy
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Ref. No 159 / 12.01.2006

To Mr. Director of
Geoprotection LTD
Town of Varna

Subject: Possibilities for implementation of an investment intention

Dear Mr. Director,

With regard to the construction of a Wind farm on the Territory of the villages of Bulgarevo, Sveti Nikola, Hadji Dimiter, Rakovski and Porouchik Chounchevo, Municipality of Kavarna, I am asking you to state your standpoint about the possibility for implementation of the investment itention from the point of view of the geoprotection.

Please find attached map material with the designated territory which the wind farm will be located on and the layout of the wind generators is indicated.

Respectfully yours, /Sgd. Ill./
/Eng. Dimiter Hristov/
Manager
GEO POWER LTD

12 January 2006
City of Sofia

GEO Power Ltd Renewable Energy
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Office – Sofia, 33-A, Krivolak Street, Sofia 1421, tel.: (+3592) 8655151, tel.: (+3592) 9632275, Fax (+359 2) 9633774

Ref. No 160 / 12.01.2006

To
BULGARIAN SOCIETY
FOR PROTECTION OF BIRDS
SOFIA BRANCH

Subject: Construction of the future Wind farm

Dear Mr. Director,

With regard to the construction of a Wind farm on the Territory of the villages of Bulgarevo, Sveti Nikola, Hadji Dimiter, Rakovski and Porouchik Chounchevo, Municipality of Kavarna, I am asking you for your standpoint about this investment intention.

Please find attached map material with the designated territory which the wind farm will be located on.

Respectfully yours, /Sgd. Ill./
/Eng. Dimiter Hristov/
Manager
GEO POWER LTD

12 January 2006
City of Sofia

BULGARIAN SOCIETY FOR PROTECTION OF BIRDS

TO
Teodora KARAIVANOVA
Director of RIEW – VARNA

GEO POWER LTD
With address: City of Sofia
33 A, Krivolak Street

REQUEST

By the BULGARIAN SOCIETY FOR PROTECTION OF BIRDS (BSPB) with headquarters city of Sofia, district of Slatina, housing estate of Yavorov, apartment block 71 and management address: Sofia, housing estate of Musagenitsa, apartment block 104, entrance A, floor 6 entered into the register of the non-profit associations with Sofia City Court under company file 17151/1993 with BULSTAT 121244539 ЮО and tax registration number 1227034609, represented by Borislav Nikolov Tonchev acting in his capacity of Chairman of the managing board, through his proxy Ivaylo Petrov Ivanov, authorized by power of attorney with reg. No 9160 certified on 15.09.2005 by Radostina Tyankova – Notary Public with reg. No 348 of the Notary Chamber

Dear Sirs,

By Decision no 162-PR/2005, ref. No 4335/13.10.2005 isued by the Director of the Regional Inspectorate of Environment and Waters – Varna it was determined to perform EIA of Investment Proposal for Construction of Wind farm on the Territory of the villages of Bulgarevo, Sveti Nikola, Hadji Dimiter, Rakovski and Porouchik Chounchevo, Municipality of Kavarna, region of Dobrich. On the grounds of which and on the grounds of Art. 9, Para. 2 of the Ordinance on the Conditions and the Procedure for Performance of Environmental Impact Assessments of Investment Proposals for Construction, Activities and Technologies, inclusive of Arr5. 81, Para. 5 of the Environmental Protection Act as well as in execution of Contract No 4693 between the Bulgarian Society for Protection of Birds and the Ministry of Environment and Waters for the "Construction of a representative and functionally unified national ecological network of protected zones for the birds as a part of the European ecological network NATURA 2000 and of Contract No 756/07.07.2005 between the Ministry of Environment and Waters and the Bulgarian Society for Protection of Birds for the "Implementation of research and assessment of the territory of the Black Sea coast in view of the preventive avoidance of conflicts from the point of view of the preservation of migrating birds with planning and development of wind farms" we delare our interest in the procedure of EIA defined by Decsion No 162-PR/2005, ref. No 4335/13.10.2005 issued by the Director of the Regional Inspectorate of Environment and Waters – Varna.

In conformity with the Public Information Access Act and in compliance with Art. 24, Para. 1 of the same we state herein our wish to receive the overall official and formal information on the occasion of the investment proposal, subject-matter of Decision No 162-PR/2005, ref. No 4335/13.10.2005.

We ask you to be included in the consultations as well as in the expert board under the procedure of the indicated hereinabove investment proposal as an interested party and organization.

Respectfully yours,
/Sgd. Ill./
/Ivaylo Ivanov/
SEAL

The Bulgarian Society for Protection of Birds is the partner of Birds International in Bulgaria.

GEO Power Ltd Renewable Energy
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Ref. No 161 / 12.01.2006

To
Mrs. Mariana ARMIROVA
EXECUTIVE DIRECTOR
CHIRAKMAN ASSOCIATION
Town of KAVARNA

Subject: Construction of the future Wind farm

Dear Mrs. Armirova,

With regard to the construction of a Wind farm on the Territory of the villages of Bulgarevo, Sveti Nikola, Hadji Dimiter, Rakovski and Porouchik Chounchevo, Municipality of Kavarna, I am asking you for the standpoint of the association managed by you about this investment intention.

Please find attached map material with the designated territory which the wind farm will be located on.

Respectfully yours, /Sgd. Ill./
/Eng. Dimiter Hristov/
Manager
GEO POWER LTD

12 January 2006
City of Sofia

CHIRAKMAN ASSOCIATION

Ref. No 1 / 15.03.2006

TO
THE MANAGER OF
GEO POWER LTD
CITY OF SOFIA

SUBJECT: STANDPOINT ON THE INVESTMENT INTENTION FOR THE CONSTRUCTION OF A WIND FARM

DEAR MR. HRISTOV,

Further to your letter ref. No 161 / 12.01.2006 for a request of a standpoint on an investment intention for the Construction of Wind farm on the Territory of the villages of Bulgarevo, Sveti Nikola, Hadji Dimiter, Rakovski and Porouchik Chounchevo, I inform you that we shall state our standpoint after acquaintance with the needed full information under this project.

RESPECTFULLY YOURS, /Sgd. Ill./

EXECUTIVE DIRECTOR
/M. ARMIROVA/
SEAL

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Ref. No 163 / 12.01.2006

To
THE TOWN-HALL
OF THE VILLAGE OF BULGAREVO

Subject: Construction of the future Wind farm

With regard to the construction of a Wind farm on the Territory of the villages of Bulgarevo, Sveti Nikola, Hadji Dimiter, Rakovski and Porouchik Chounchevo, Municipality of Kavarna, I am asking you to present a standpoint on this investment intention which shall also reflect the opinion of the inhabitants of the village.

Please find attached map material with the designated territory which the wind farm will be located on.

Respectfully yours, /Sgd. Ill./
/Eng. Dimiter Hristov/
Manager
GEO POWER LTD

12 January 2006
City of Sofia

GEO Power Ltd Renewable Energy
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Ref. No 153 / 12.01.2006

To
THE TOWN-HALL
OF THE VILLAGE OF
SVETI NIKOLA

Subject: Construction of the future Wind farm

With regard to the construction of a Wind farm on the Territory of the villages of Bulgarevo, Sveti Nikola, Hadji Dimiter, Rakovski and Porouchik Chounchevo, Municipality of Kavarna, I am asking you to present a standpoint on this investment intention which shall also reflect the opinion of the inhabitants of the village.

Please find attached map material with the designated territory which the wind farm will be located on.

Respectfully yours, /Sgd. Ill./
/Eng. Dimiter Hristov/
Manager
GEO POWER LTD

12 January 2006
City of Sofia

GEO Power Ltd Renewable Energy
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Ref. No 165 / 12.01.2006

To
THE TOWN-HALL
OF THE VILLAGE OF HADJI DIMITER

Subject: Construction of the future Wind farm

With regard to the construction of a Wind farm on the Territory of the villages of Bulgarevo, Sveti Nikola, Hadji Dimiter, Rakovski and Porouchik Chounchevo, Municipality of Kavarna, I am asking you to present a standpoint on this investment intention which shall also reflect the opinion of the inhabitants of the village.

Please find attached map material with the designated territory which the wind farm will be located on.

Respectfully yours, /Sgd. Ill./
/Eng. Dimiter Hristov/
Manager
GEO POWER LTD

12 January 2006
City of Sofia

GEO Power Ltd Renewable Energy
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Ref. No 166 / 12.01.2006

To
THE TOWN-HALL
OF THE VILLAGE OF RAKOVSKI

Subject: Construction of the future Wind farm

With regard to the construction of a Wind farm on the Territory of the villages of Bulgarevo, Sveti Nikola, Hadji Dimiter, Rakovski and Porouchik Chounchevo, Municipality of Kavarna, I am asking you to present a standpoint on this investment intention which shall also reflect the opinion of the inhabitants of the village.

Please find attached map material with the designated territory which the wind farm will be located on.

Respectfully yours, /Sgd. Ill./
/Eng. Dimiter Hristov/
Manager
GEO POWER LTD

12 January 2006
City of Sofia

GEO Power Ltd Renewable Energy
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Ref. No 167 / 12.01.2006

To
THE TOWN-HALL
OF THE VILLAGE OF
POROUCHIK CHOUNCHEVO

Subject: Construction of the future Wind farm

With regard to the construction of a Wind farm on the Territory of the villages of Bulgarevo, Sveti Nikola, Hadji Dimiter, Rakovski and Porouchik Chounchevo, Municipality of Kavarna, I am asking you to present a standpoint on this investment intention which shall also reflect the opinion of the inhabitants of the village.

Please find attached map material with the designated territory which the wind farm will be located on.

Respectfully yours, /Sgd. Ill./
/Eng. Dimiter Hristov/
Manager
GEO POWER LTD

12 January 2006
City of Sofia

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Office – Sofia, 33-A, Krivolak Street, Sofia 1421, tel.: (+3592) 8655151, tel.: (+3592) 9632275, Fax (+359 2) 9633774

Ref. No 168 / 12.01.2006

To Mr. Director
Of Prouchvane I Dobiv na
Neft I Gaz (Research and Yield of
Oil and Gas) JSC
Town of Pleven

Subject: Construction of the future Wind farm

Dear Mr. Director,

With regard to the construction of a Wind farm on the Territory of the villages of Bulgarevo, Sveti Nikola, Hadji Dimiter, Rakovski and Porouchik Chounchevo, Municipality of Kavarna, I am asking you to state the standpoint of the company managed by you.

We also need information about eventually available gas pipelines or concessions for yield of oil and gas on the territory of the WPP.

Please find attached map material with the designated territory which the wind farm will be located on.

Respectfully yours, /Sgd. Ill./
/Eng. Dimiter Hristov/
Manager
GEO POWER LTD

12 January 2006
City of Sofia

MINISTRY OF ENVIRONMENT AND WATERS
UNDERGROUND RESOURCES DEPARTMENT

Ref. No ZDOID-8128
Sofia, 17.05.2006

TO
GEO POWER LTD
City of Sofia 1421,
38, Chervena Stena Street

To your ref. No 181/10.05.2006

Subject: Granting information about oil fields and underground resources

Dear Mr. Hristov,

After examining the documents you've submitted to us regarding the site "Construction of win farm on the land of the villages of Bulgarevo, St. Nikola, Rakovski and Poruchin Chunchevo, municipality of Kavarna and checking by the competent officials of Underground resources Department, we found out the following:

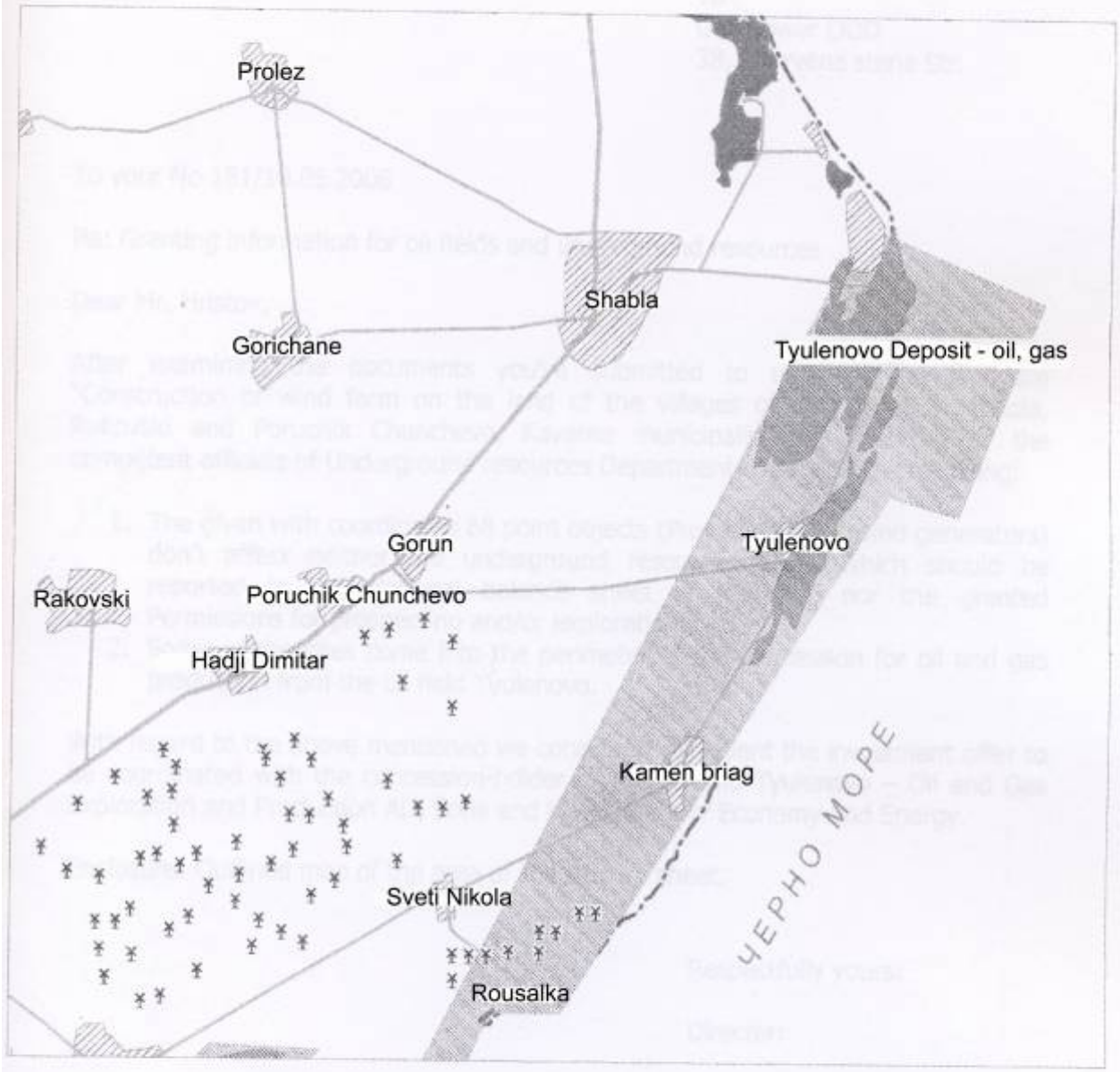
1. The given with coordinates 68 point objects (Project sites for wind generators) don't affect neither the underground resources fields, which should be reported in the National balance sheet of reserves, nor the granted permissions for prospecting and/or exploration;
2. Some of the sites come into the perimeter of the concession for oil and gas production from the oil field Tyulenovo.

With regard to the above mentioned we consider it expedient the investment offer to be coordinated with the concession-holder of the oil field Tyulenovo – Oil and Gas Exploration and Production AD, Sofia and the Ministry of Economy and Energy.

Enclosure: Outlined map of the area of the site – 1 sheet.

Respectfully yours: /Sgd. Ill./
Director
(Todor Dimitrov)

Schematic Map



M 1:120000

Key

- Wind Turbine Generators
- Deposit of ores and minerals
- Concession area

DELIVERY NOTE
R PS 64 □ for delivery
No 1155/7 □ for payment
The undersigned recipient: Hunting – Fishing Society in the village of Bulgarevo, p. c. 9660, municipality of Kavarna
Tel.: certify herein that I received:
□ letter □ small package
□ parcel □ postal order
…… BGN (Say: ……
……)
on 26.01.2006
Signature of the recipient: /Sgd. Ill./
Power of attorney No:……..
Authorized person: ……..
Notes on the delivery: …….
Described in □ book 242 □ page 269 □ o.d. 724/721
Consecutive No …….
Delivered by: ……
Checked by: …… SEAL

SEAL for Fee Paid SEAL
0.54 BGN

Name, second name, surname (title of the juristic person)
Evgenia K. Kotova
Geo Power LTD
33, Krivolak Street, entrance A, tel.: 8655151
Region ……..
1421 City of Sofia
Witnesses in rejection to receive a postal consignment, order:
1. …….
(full name)
address: …….
Signature: ……..
1. …….
(full name)
address: …….
Signature: ……..

DELIVERY NOTE
R PS 64 □ for delivery
No 1155/5 □ for payment
The undersigned recipient: Bulgarian Society for Protection of Birds, p. c. 1797, Sofia, Musagenitsa, bl.104, entr. A, apt. 6
Tel.: certify herein that I received:
□ letter □ small package
□ parcel □ postal order
…… BGN (Say: ……
……)
on 18.01.2006
Signature of the recipient: /Sgd. Ill./
Power of attorney No:……..
Authorized person: ……..
Notes on the delivery: …….
Described in □ book 242 □ page 269 □ o.d. 724/721
Consecutive No ……
Delivered by: /Sgd. Ill./
Checked by: …… SEAL

SEAL for Fee Paid SEAL
0.54 BGN

Name, second name, surname (title of the juristic person)
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address: …….
Signature: ……..
1. …….
(full name)
address: …….
Signature: ……..

DELIVERY NOTE
R PS 64 □ for delivery
No 1155/1 □ for payment
The undersigned recipient: Town-hall, the village of St. Nikola, p. c. 9662, municipality of Kavarna, region of Dobrich
Tel.: certify herein that I received:
□ letter □ small package
□ parcel □ postal order
…… BGN (Say: ……
……)
on 16.01.2006
Signature of the recipient: /Sgd. Ill./
Power of attorney No:……..
Authorized person: ……..
Notes on the delivery: …….
Described in □ book 242 □ page 269 □ o.d. 724/721
Consecutive No ……
Delivered by: /Sgd. Ill./
Checked by: …… SEAL

SEAL for Fee Paid SEAL
0.54 BGN

Name, second name, surname (title of the juristic person)
Evgenia K. Kotova
Geo Power LTD
33, Krivolak Street, entrance A, tel.: 8655151
Region ……..
1421 City of Sofia
Witnesses in rejection to receive a postal consignment, order:
1. …….
(full name)
address: …….
Signature: ……..
1. …….
(full name)
address: …….
Signature: ……..

DELIVERY NOTE
R PS 64 □ for delivery
No 1155/3 □ for payment
The undersigned recipient: Town-hall, the village of Porouchik Chounchevoo, p. c. 9606, municipality of Kavarna
Tel.: certify herein that I received:
□ letter □ small package
□ parcel □ postal order
…… BGN (Say: ……
……)
on 18.01.2006
Signature of the recipient: /Sgd. Ill./
Power of attorney No:……..
Authorized person: ……..
Notes on the delivery: …….
Described in □ book 242 □ page 269 □ o.d. 724/721
Consecutive No …….
Delivered by: /Sgd. Ill./
Checked by: …… SEAL

SEAL for Fee Paid SEAL
0.54 BGN

Name, second name, surname (title of the juristic person)
Evgenia K. Kotova
Geo Power LTD
33, Krivolak Street, entrance A, tel.: 8655151
Region ……..
1421 City of Sofia
Witnesses in rejection to receive a postal consignment, order:
1. …….
(full name)
address: …….
Signature: ……..
1. …….
(full name)
address: …….
Signature: ……..

DELIVERY NOTE
R PS 64 □ for delivery
No 1155/2 □ for payment
The undersigned recipient: Village of Rakovski, p. c. 9659, municipality of Kavarna; Town-hall of the village of Rakovski
Tel.: certify herein that I received:
□ letter □ small package
□ parcel □ postal order
…… BGN (Say: ……
……)
on 16.01.2006
Signature of the recipient: /Sgd. Ill./
Power of attorney No:……..
Authorized person: ……..
Notes on the delivery: …….
Described in □ book 242 □ page 269 □ o.d. 724/721
Consecutive No …….
Delivered by: /Sgd. Ill./
Checked by: …… SEAL

SEAL for Fee Paid SEAL
0.54 BGN

Name, second name, surname (title of the juristic person)
Evgenia K. Kotova
Geo Power LTD
33, Krivolak Street, entrance A, tel.: 8655151
Region ……..
1421 City of Sofia
Witnesses in rejection to receive a postal consignment, order:
1. …….
(full name)
address: …….
Signature: ……..
1. …….
(full name)
address: …….
Signature: ……..

DELIVERY NOTE
R PS 64 □ for delivery
No 1155/13 □ for payment
The undersigned recipient: Town-hall, the village of Hadji Dimiter, p. c. 9657, municipality of Kavarna
Tel.: certify herein that I received:
□ letter □ small package
□ parcel □ postal order
…… BGN (Say: ……
……)
on 17.01.2006
Signature of the recipient: /Sgd. Ill./
Power of attorney No:……..
Authorized person: ……..
Notes on the delivery: ……
Described in □ book 242 □ page 269 □ o.d. 724/721
Consecutive No ……
Delivered by: ……
Checked by: …… SEAL

SEAL for Fee Paid SEAL
0.54 BGN

Name, second name, surname (title of the juristic person)
Evgenia K. Kotova
Geo Power LTD
33, Krivolak Street, entrance A, tel.: 8655151
Region ……..
1421 City of Sofia
Witnesses in rejection to receive a postal consignment, order:
1. ……
(full name)
address: ……
Signature: ……..
1. ……
(full name)
address: ……
Signature: ……..

DELIVERY NOTE
R PS 64 □ for delivery
No 1155/6 □ for payment
The undersigned recipient: Geozashtita JSC – Western industrial zone p. c. 90000 Varna
Tel.: certify herein that I received:
□ letter □ small package
□ parcel □ postal order
…… BGN (Say: ……
……)
on 16.12.2005
Signature of the recipient: /Sgd. Ill./
Power of attorney No:……..
Authorized person: ……..
Notes on the delivery: ……
Described in □ book 242 □ page 269 □ o.d. 724/721
Consecutive No 2
Delivered by: /Sgd. Ill./
Checked by: …… SEAL

SEAL for Fee Paid SEAL
0.54 BGN

Name, second name, surname (title of the juristic person)
Evgenia K. Kotova
Geo Power LTD
33, Krivolak Street, entrance A, tel.: 8655151
Region ……..
1421 City of Sofia
Witnesses in rejection to receive a postal consignment, order:
1. ……
(full name)
address: ……
Signature: ……..
1. ……
(full name)
address: ……
Signature: ……..

DELIVERY NOTE
R PS 64 □ for delivery
No 1155/14 □ for payment
The undersigned recipient: Mr. Tsenko Tsonev, Mayor's Office – municipality, town of Kavarna p. c. 9660
Tel.: certify herein that I received:
□ letter □ small package
□ parcel □ postal order
…… BGN (Say: ……
……)
on 16.01.2006
Signature of the recipient: /Sgd. Ill./
Power of attorney No:……..
Authorized person: ……..
Notes on the delivery: …….
Described in □ book 242 □ page 269 □ o.d. 724/721
Consecutive No 81
Delivered by: /Sgd. Ill./
Checked by: …… SEAL

SEAL for Fee Paid SEAL
0.54 BGN

Name, second name, surname (title of the juristic person)
Evgenia K. Kotova
Geo Power LTD
33, Krivolak Street, entrance A, tel.: 8655151
Region ……..
1421 City of Sofia
Witnesses in rejection to receive a postal consignment, order:
1. …….
(full name)
address: …….
Signature: ……..
1. …….
(full name)
address: …….
Signature: ……..

DELIVERY NOTE
R PS 67 □ for delivery
No 1155/8 □ for payment
The undersigned recipient: Museum of History, p. c. 9650, Kavarna, Chirakman, region of Dobrich
Tel.: certify herein that I received:
□ letter □ small package
□ parcel □ postal order
…… BGN (Say: ……
……)
on 16.01.2006
Signature of the recipient: /Sgd. Ill./
Power of attorney No:……..
Authorized person: ……..
Notes on the delivery: …….
Described in □ book 242 □ page 269 □ o.d. 724/721
Consecutive No …….
Delivered by: /Sgd. Ill./
Checked by: …… SEAL

SEAL for Fee Paid SEAL
0.54 BGN

Name, second name, surname (title of the juristic person)
Evgenia K. Kotova
Geo Power LTD
33, Krivolak Street, entrance A, tel.: 8655151
Region ……..
1421 City of Sofia
Witnesses in rejection to receive a postal consignment, order:
1. …….
(full name)
address: …….
Signature: ……..
1. …….
(full name)
address: …….
Signature: ……..

DELIVERY NOTE
R PS 64 □ for delivery
No 1155/10 □ for payment
The undersigned recipient: Irrigation Systems JSC, p. c. 9650, Kavarna, 3, Bulgarian Street, region of Dobrich
Tel.: certify herein that I received:
□ letter □ small package
□ parcel □ postal order
…… BGN (Say: ……
……)
on 17.01.2006
Signature of the recipient: /Sgd. Ill./
Power of attorney No:……..
Authorized person: ……..
Notes on the delivery: …….
Described in □ book 242 □ page 269 □ o.d. 724/721
Consecutive No ……
Delivered by: /Sgd. Ill./
Checked by: …… SEAL

SEAL for Fee Paid SEAL
0.54 BGN

Name, second name, surname (title of the juristic person)
Evgenia K. Kotova
Geo Power LTD
33, Krivolak Street, entrance A, tel.: 8655151
Region ……..
1421 City of Sofia
Witnesses in rejection to receive a postal consignment, order:
1. …….
(full name)
address: …….
Signature: ……..
1. …….
(full name)
address: …….
Signature: ……..

DELIVERY NOTE
R PS 64 □ for delivery
No 1155/17 □ for payment
The undersigned recipient: Research and Production of Oil and Gas JSC, Pleven, p. c. 5800, 8, Vassil Levski Street
Tel.: certify herein that I received:
□ letter □ small package
□ parcel □ postal order
…… BGN (Say: ……
……)
on
Signature of the recipient: /Sgd. Ill./
Power of attorney No:……..
Authorized person: ……..
Notes on the delivery: …….
Described in □ book 242 □ page 269 □ o.d. 724/721
Consecutive No 3
Delivered by: /Sgd. Ill./
Checked by: …… SEAL

SEAL for Fee Paid SEAL
0.54 BGN

Name, second name, surname (title of the juristic person)
Evgenia K. Kotova
Geo Power LTD
33, Krivolak Street, entrance A, tel.: 8655151
Region ……..
1421 City of Sofia
Witnesses in rejection to receive a postal consignment, order:
1. …….
(full name)
address: …….
Signature: ……..
1. …….
(full name)
address: …….
Signature: ……..

DELIVERY NOTE
R PS 64 □ for delivery
No 1155/9 □ for payment
The undersigned recipient: Forestry, town of Balchik, p. c. 9600
Tel.: certify herein that I received:
□ letter □ small package
□ parcel □ postal order
…… BGN (Say: ……
……)
on 17.01.2006
Signature of the recipient: /Sgd. Ill./
Power of attorney No:……..
Authorized person: ……..
Notes on the delivery: …….
Described in □ book 242 □ page 269 □ o.d. 724/721
Consecutive No …….
Delivered by: /Sgd. Ill./
Checked by: …… SEAL

SEAL for Fee Paid SEAL
0.54 BGN

Name, second name, surname (title of the juristic person)
Evgenia K. Kotova
Geo Power LTD
33, Krivolak Street, entrance A, tel.: 8655151
Region ……..
1421 City of Sofia
Witnesses in rejection to receive a postal consignment, order:
1. …….
(full name)
address: …….
Signature: ……..
1. …….
(full name)
address: …….
Signature: ……..

DELIVERY NOTE
R PS 64 □ for delivery
No 1155/12 □ for payment
The undersigned recipient: Town-hall, the village of Bulgarevo, p. c. 9660, municipality of Kavarna
Tel.: certify herein that I received:
□ letter □ small package
□ parcel □ postal order
…… BGN (Say: ……
……)
on 16.01.2006
Signature of the recipient: /Sgd. Ill./
Power of attorney No:……..
Authorized person: ……..
Notes on the delivery: …….
Described in □ book 242 □ page 269 □ o.d. 724/721
Consecutive No …….
Delivered by: /Sgd. Ill./
Checked by: …… SEAL

SEAL for Fee Paid SEAL
0.54 BGN

Name, second name, surname (title of the juristic person)
Evgenia K. Kotova
Geo Power LTD
33, Krivolak Street, entrance A, tel.: 8655151
Region ……..
1421 City of Sofia
Witnesses in rejection to receive a postal consignment, order:
1. …….
(full name)
address: …….
Signature: ……..
1. …….
(full name)
address: …….
Signature: ……..

DELIVERY NOTE
R PS 64 □ for delivery
No 1155/4 □ for payment
The undersigned recipient: Association Chirakman "Hr. Smirnenski", Kavarna, p. c. 9650, municipality of Kavarna
Tel.: certify herein that I received:
□ letter □ small package
□ parcel □ postal order
…… BGN (Say: ……
……)
on 16.01.2006
Signature of the recipient: /Sgd. Ill./
Power of attorney No:……..
Authorized person: ……..
Notes on the delivery: …….
Described in □ book 242 □ page 269 □ o.d. 724/721
Consecutive No 1474
Delivered by: /Sgd. Ill./
Checked by: …… SEAL

SEAL for Fee Paid SEAL
0.54 BGN

Name, second name, surname (title of the juristic person)
Evgenia K. Kotova
Geo Power LTD
33, Krivolak Street, entrance A, tel.: 8655151
Region ……..
1421 City of Sofia
Witnesses in rejection to receive a postal consignment, order:
1. …….
(full name)
address: …….
Signature: ……..
1. …….
(full name)
address: …….
Signature: ……..

DELIVERY NOTE
R PS 64 □ for delivery
No 1155/15 □ for payment
The undersigned recipient: Water supply and sewerage LTD – kavarna, p. c. 9650, region of Dobrich
Tel.: certify herein that I received:
□ letter □ small package
□ parcel □ postal order
…… BGN (Say: ……
……)
on 16.01.2006
Signature of the recipient: /Sgd. Ill./
Power of attorney No:……..
Authorized person: ……..
Notes on the delivery: …….
Described in □ book 242 □ page 269 □ o.d. 724/721
Consecutive No 131
Delivered by: /Sgd. Ill./
Checked by: …… SEAL

SEAL for Fee Paid SEAL
0.54 BGN

Name, second name, surname (title of the juristic person)
Evgenia K. Kotova
Geo Power LTD
33, Krivolak Street, entrance A, tel.: 8655151
Region ……..
1421 City of Sofia
Witnesses in rejection to receive a postal consignment, order:
1. …….
(full name)
address: …….
Signature: ……..
1. …….
(full name)
address: …….
Signature: ……..

DELIVERY NOTE
R PS 64 □ for delivery
No 1155/11 □ for payment
The undersigned recipient: Hunting Fishing Society Kaliakra, p. c. 9650 Kavarna
Tel.: certify herein that I received:
□ letter □ small package
□ parcel □ postal order
…… BGN (Say: ……
……)
on 16.01.2006
Signature of the recipient: /Sgd. Ill./
Power of attorney No:……..
Authorized person: ……..
Notes on the delivery: …….
Described in □ book 242 □ page 269 □ o.d. 724/721
Consecutive No ……
Delivered by: /Sgd. Ill./
Checked by: …… SEAL

SEAL for Fee Paid SEAL
0.54 BGN

Name, second name, surname (title of the juristic person)
Evgenia K. Kotova
Geo Power LTD
33, Krivolak Street, entrance A, tel.: 8655151
Region ……..
1421 City of Sofia
Witnesses in rejection to receive a postal consignment, order:
1. …….
(full name)
address: …….
Signature: ……..
1. …….
(full name)
address: …….
Signature: ……..

DELIVERY NOTE
R PS 64 □ for delivery
No 1155/16 □ for payment
The undersigned recipient: RIPCPH – Dobrich, town of Dobrich, p. c. 9300, 57, Kiril I Metodiy Street
Tel.: certify herein that I received:
□ letter □ small package
□ parcel □ postal order
…… BGN (Say: ……
……)
on 17.01.2006
Signature of the recipient: /Sgd. Ill./
Power of attorney No:……..
Authorized person: ……..
Notes on the delivery: …….
Described in □ book 242 □ page 269 □ o.d. 724/721
Consecutive No 7
Delivered by: ……
Checked by: …… SEAL

SEAL for Fee Paid SEAL
0.54 BGN

Name, second name, surname (title of the juristic person)
Evgenia K. Kotova
Geo Power LTD
33, Krivolak Street, entrance A, tel.: 8655151
Region ……..
1421 City of Sofia
Witnesses in rejection to receive a postal consignment, order:
1. …….
(full name)
address: …….
Signature: ……..
1. …….
(full name)
address: …….
Signature: ……..

MINISTRY OF ENVIRONMENT AND WATER OF BULGARIA
Regional Inspection on Environment and Water – Varna

Varna 9000, 4, Yan Palach St, e-mail: riosvvn@mbox.contact.bg, fax: +359 52 634-593
Tel.: admin: +359 52 634 589, "green tel:" +359 52 634 582, hot line: +359 52 621 350

Outgoing Ref.No. 1766 / 20.04.2006 ingoing ref Nos. 26-00-2172 / 06.04.06

TO: Dimiter Hristov, Manager
"GEO POWER" OOD
38, Chervena Stena St
Sofia

Subject: Report on Environmental Impact Assessment /EIA/ of investment proposal for "Construction of wind farm in the territories of the villages of Bulgarevo, Sveti Nikola, Hadji Dimiter, Rakovski and Poruchik Chounchevo, municipality of Kavarna"

Dear Mr Hristov,

We inform you that the information written in the EIA report regarding the above investment proposal is insufficient to take a decision.

By virtue of Art. 14, par 2, i.4 of the Ordinance of terms and order of EIA commissioning (SG, i.25/2003, amend. and suppl.), the evaluation of its quality is "G".

In view of the above mentioned and by virtue of Art. 15, par.2 and 4 of the Ordinance, we return the Report for supplying additional data and removing the following problems till 15.06.2006:

1. To exclude from the EIA scope the seven wind generators, with a consignor "Yomi Engineering" OOD, Sofia, which have been already processed (an expert opinion as per EC No. 1-BH/2004 for coordination of a "General Ordinances plan and a detailed one of the wind farm in properties Nos 73 and 80, and the territory of the village of St. Nikola, Kavarna municipality).
2. To present a standpoint to the MH, which coordinates the location of the wind farm, limits the hygienic-protective zone and the measures for restraint of psychological and visual discomfort of people.
3. To harmonize the coordinates of the system of coordinates as of 1970 with the MEW, "Depths of the earth and underground wealth" department, by virtue of Art. 87, i.5 of the Underground wealth Act, in connection with the possible overlapping of part of the territory in the investment proposal with the "Tyulenovo" field.
4. To envisage a recultivation P for the territory damaged by the construction of wind generators, the sub-station and the underground cable network, specifying in advance this territory – 12 ha or 1,2 ha (whether the routes for transportation of underground cables and substation are included).

5. To describe in the REIA the necessity to change the status of agricultural lands for construction of wind generators and equipment as per the Rules for implementation of the Act for conservation of agricultural lands, and to specify the corresponding land for the aims of the investment proposal accordingly
6. Regarding the "Waste" factor – to specify in the report the qualities of waste generated during construction and exploitation. For the storage of hazardous waste the following must be done:

- Classification as per Ordinance No.3 for the waste classification (SG No.44/2004);
- Preparation of a programme as per the requirements of Art.29, par 1, i.3 of the Act on Waste management (LWM) (SG, i.86/2003, amend. and suppl.);
- Filing an application under Art.37 of the LWM for activities for temporary storage of hazardous waste;
- For the subsequent treatment of hazardous waste, by virtue of Art. 5 of the LWM, it is necessary to sign a contract with a person licensed under Art. 12 of the same Act.

7. To request an official information from the MEW, "PSZ" department in order to make an adequate assessment of natural locations under addendum I of the Biological Diversity Act (BDA) and the locations of species under addendum II of the BDA within the limits of the site where the investment proposal will be realized, and to establish the rate of violation of such locations.
8. To rate the level of risk of birds clashing with wind turbines having in mind the following factors:

- Flight Frequency Rate of birds over sites;
- Kinds of over flying birds;
- Height of flight;
- Way of turbine alignment;
- Factors typical for particular sites such as nourishing media, urbanization, etc.

9. To edit the measures in Chapter five of the REIA, the same being directed towards minimization of impact and realization of wind farm on environment and human health. To remove those measures contradicting the BDA, too. The Section must include a plan for removal of equipment after termination of activities.
10. To translate into Bulgarian the documents submitted in Addendums, which describe the main technical parameters of wind generators.

Respectfully Yours,

Sinan Mehmed, eng.
Director

"EKOEM-K" ET
Expert and consultancy activities,
Design and protection of
ekoem_ek@abv.bg
environment

Sofia, "Mladost 2", bl.235/entr.A/apt.4T
tel/fax: +359 28750033; GSM +359 888903631
e-mail:

e-mail: kostakewa@abv.bg

Outgoing ref.No. 2 / 23.05.2006

TO
Chavdar Georgiev
Deputy Minister
M environment and
Water of Bulgaria
67, Gladston St
Sofia 1000

Ingoing Ref.No. 94-00-739/25.05.2006

23rd May, 2006

Inquiry regarding: Preparation of a Report on Environmental Impact Assessment /EIA/ of an investment proposal

Dear Mr Georgiev,

As a leader of the team preparing the Report on Environmental Impact Assessment /EIA/ of an investment proposal for "Construction of wind farm in the territories of the villages Bulgarevo, Sveti Nikola, Hadji Dimiter, Rakovski and Poruchik Chounchevo.., municipality of Kavarna", I would like to ask the following:

IS IT NECESSARY THE CONSIGNOR OF THE EIA REPORT, DURING THE INVESTMENT OFFER STAGE, TO PREPARE AND SUBMIT THE FOLLOWING DOCUMENTS:

- A programme drawn up as per the requirements of Art.29, par. 1, i.3 of the LWM (SG, i. 86/2003, amend. and suppl.);
- A statement submitted under Art. 37 of the LWM for activities in connection with the temporary storage of hazardous waste;
- A contract signed for a consequential treatment of hazardous waste, by virtue of Art. 5 of the LWM, with a person with a license required under Art.12 of the same Act.

Aren't these the documents which must be required upon confirmation of investment offer, i.e. only upon commencement of construction-installation work?

I kindly ask you to answer as soon as possible.

Respectfully yours:

Team leader and
A company manager:

Emilia Kostakeva, Eng.

REPUBLIC OF BULGARIA
MINISTRY OF ENVIRONMENT AND WATER

Outgoing Ref.No. 94-00-34
Sofia, 09.06.2006

TO
Mrs. Emilia Kostakeva,
Manager of "EKOEM-K"
"Mladost", bl.235/entr.A/apt. 4T

To your ref.no. 2/23.05.2006

RE: Preparation of a report on EIA of an investment offer

Dear Mrs. Kostakeva,

Further to your inquiry we hereby express our point of view:

Under the requirements of the regulatory standards, the Environmental impact assessment (EIA) starts at the earliest possible stage of the investment offer. The Assessment can be combined with the working out of the preliminary pre-investment studies or the design task, being done before the act of the earliest approval by order of a special Act, and specifying the nature, place and capacity of the investment offer.

Admitting the earliest stage of doing the assessment, we think that at the stage of working out of the EIA report there is no reason to require on an obligatory basis, and there is no real opportunity to provide the following documents – worked out and presented by the consignor, as specified in your letter:

- a programme as per the requirements of Art.29, par.1, i.3 of the Act of waste management (LWM);
- a statement submitted under Art.37 of the LWM;
- A contract signed for a consequential treatment of hazardous waste, by virtue of Art. 5 of the LWM, with a person with a license required under Art.12 of the same Act.

The LWM sets clear requirements regarding the development, approval, implementation and control of Programmes for management of waste activities, not setting express requirement for coordination and combination with the EIA procedure.

Also the LWM sets clear requirements and procedures towards the above-mentioned documents as well as the cases in which they are required, and at what stage to be submitted. In view of this, the requirement for the availability of these documents upon the preparation of the report for EIA would contradict the following LWM Ordinances:

- Art. 7, par.3 of the LWM, which sets a requirement for the availability of an approval for activities with waste, if such is required by order of Art. 12 of the

LWM, at the stage of a permission to use the sites by order of the Act on town and country planning;

- Art. 39,par.1 of the LWM which sets the required documents to be submitted with the application – an approved programme for the management of waste activities (i.2) and a decision on doing or not doing an EIA as per the Environmental Protection Act (i.7).

We also think, that the Contract for a consequential treatment of hazardous waste required under Art. 5 of the LWM, must be provided by the waste owner after clarifying the precise quantities and type of waste. Under Art. 7 of the LWM, the individuals are obliged to present such information upon submitting documents for issuing of a building permit, i.e. at a much later stage of the EIA preparation than this one.

Respectfully yours,

Chavdar Georgiev
Deputy Minister

1000, Sofia, 67, Gladstone St. tel: +359 2 9406032; fax: +359 2 986484

MINISTRY OF ENVIRONMENT AND WATER OF BULGARIA
Regional Inspection on Environment and Water – Varna

Varna 9000, 4, Yan Palach St, e-mai: riosvvn@mbox.contact.bg, fax: +359 52 634-593
Tel.: admin: +359 52 634 589, "green tel:" +359 52 634 582, hot line: +359 52 621 350

Outgoing Ref.No. 3151 / 10.07.2006

ingoing ref Nos. 26-00-3609/14.06.2006
26-00-3839/23.06.2006
26-00-4095/07.07.2006

TO: Dimiter Hristov
Manager
"GEO POWER" OOD
38, Chervena stena St.
Sofia

COPY TO: "EKOEM-K" ET
"Mladost 2", bl. 235/entr. A,
Apt. 4T
Sofia

To your outgoing ref.nos 191/13.06.2006, 192/22.06.2006, 196/28.06.2006

RE: Report on Environmental Impact Assessment /EIA/ of investment proposal for "Construction of wind farm in the territories of the villages of Bulgarevo, Sveti Nikola, Hadji Dimiter, Rakovski and Poruchik Chounchevo, Municipality of Kavarna"

Dear Mr. Hristov,

The information submitted by you is incomplete, the missing information is not provided and the requirements detailed under i.7, i.8 and i. 9 of the letter (outgoing ref.no. 1766/20.06.2006 of RIEW-Varna, are not fulfilled, for that part of land, subject of the investment offer, which fall under a potential NATURE 2000 protected zone under the Birds Directive as per a submitted to RIEW- Varna card material with a MEW accompanying letter as well as in a region with intensive birds overflying (the migration route of birds Via Pontica).

On the grounds of Art. 16 of the Ordinance for the terms and order of EIA fulfillment (SG, i.25/2003, amend.) for the opening of a public discussion procedure you must make a risk assessment (as a result of a monitoring that has been carried out) of birds collision with generators which fall under a potentially protected zone by NATURE 2000, bearing in mind the following factors:

3.1. Frequency of flights of birds over the site;
3.2. Kinds of overflying species;
3.3. Height of flight;
3.4. Visibility of turbines;
3.5. Number of turbines;
3.6. Way of turbine alignment (in a row or in a block);
3.7. Speed angle
3.8. Blade dimensions
3.9. Factors specific for the site.

Respectfully Yours, Sinan Mehmed, Eng., Director

REPUBLIC OF BULGARIA
MINISTRY OF ENVIRONMENT AND WATER

Outgoing Ref.No. 26-00-2635
Sofia, 30.08.2006

TO: Dimiter Hristov
Manager
"GEO POWER" OOD
38, Chervena stena St.
1421 Sofia

To your ref.no.199/19.07.2006

RE: Receipt of documents in connection with offers for protected zones (potential NATURA 2000 lands) within the region of the investment offer of Geo Power OOD on the territory of the municipality of Kavarna

Dear Mr. Hristov,

We inform you that a documentation as per Art. 8, par 1 of the Biological Diversity Act (BDA) has been officially submitted to the M environment and water in connection with the offers for the "Balchik-Kaliakra" protected zone BG0001002 for habitats and for the protected zone "Kaliakra" BG0002051 for birds, situated within the region of the investment offer of GEO POWER OOD for the construction of a wind farm on the territory of the municipality of Kavarna.

A complete set of received documents, with cards and standard forms with data and assessments, was sent to the RIEW-Varna as per letters with outgoing ref.Nos. 48-00-448/24.07.2006 and 05-08-4579/14.09.2006. These are available for examination at the MEW building, the "National service for protection of nature" dept. as well as at the RIEW-Varna building.

From the moment of receipt of these documents at the MEW, about the offered potential protected zones, the application of Art. 72 of the Transitional and final provisions to the Act on Amendment and Supplement of the BDA (SG, i.88/2005) must commence.

Respectfully Yours:

Yordan Dardov
Deputy Minister

MINISTRY OF ENVIRONMENT AND WATER OF BULGARIA
Regional Inspection on Environment and Water – Varna

Varna 9000, 4, Yan Palach St, e-mai: riosvvn@mbox.contact.bg, fax: +359 52 634-593
Tel.: admin: +359 52 634 589, "green tel:" +359 52 634 582, hot line: +359 52 621 350

Outgoing Ref.No. 4236 / 20.09.2006 ingoing ref No. 26-00-1700/28.07.2006

TO: Dimiter Hristov
Manager
"GEO POWER" OOD
38, Chervena stena St.
Sofia

COPY TO: "EKOEM-K" ET
"Mladost 2", bl. 235/entr. A,
Apt. 4T
Sofia

RE: Report on Environmental Impact Assessment /EIA/ of investment proposal for "Construction of wind farm in the territories of the villages of Bulgarevo, Sveti Nikola, Hadji Dimiter, Rakovski and Poruchik Chounchevo, municipality of Kavarna"

Dear Mr Hristov,

We have requested additional information from you with our letter – outgoing ref.no. 3151/12.07.2006 – which is needed for opening a public discussion procedure, by order of Art. 16 of the Ordinance for the terms and order of EIA fulfillment (SG, i.25/03, amend.).

In a letter, submitted to the RIEW-Varna by "EKOEM-K" ET, Sofia, we have been fiven the expert standpoint regarding the risk level (as a result of four monitoring procedures done on spring and autumn migrations) of birds clashing into wind generators.

You have to submit the information as per i.7 and i.9 mentioned in the RIEW-Varna letter, outgoing ref.no.1766/20.04.2006, in order to open the public discussion procedure.

Respectfully your,

Sinan Mehmed
Director

A N N E X IV

DOCUMENTS, PROTOCOLS

PRELIMINARY AGREEMENT No.
For accession of an independent electric power producer
To the electric transmission system

Today, 24.06. 2005, in Sofia, between

"NAZIONALNA ELEKTRICHESKA KOMPANIA" (NATIONAL ELECTRICAL COMPANY) EAD, having its Headquarters and registered office at Sofia, 8, Triaditza St., registered under company case No. 29869/1991 of Sofia City Court, Tax Number 122301005, BULSTAT: 000649348**,** represented by Vassil Petrov Anasstassov, in his capacity of Executive Manager, hereinafter referred to as **NEK AD**, on the one hand,

And

"GEO POWER" OOD, having its Headquarters and registered office at 1421, Sofia, 33, Krivolak St., entr A/2nd fl., registered under company case No. 1149/2003 of Sofia City Court, Tax Number 2220141937, BULSTAT: 131039739**,** represented by Dimiter Mihailov Hristov, in his capacity of Manager, hereinafter referred to as **PRODUCER**, on the other hand,

The present preliminary agreement for accession of the PRODUCER to the electric transmission system of NEK EAD has been concluded under the terms of *Ordinance No. 6 for accession of electric power producers and users to the transmitting and distributing electric systems,* issued by the Minister of energy and energy resources, publ. SG, i.74/24.08.2004, named hereinafter **Ordinance No. 6**

1. SUBJECT OF THE AGREEMENT

1.1. With the present agreement NEK EAD and the PRODUCER state the required accession terms of a site – "St.Nikola" Wind farm (called the SITE in the agreement), property of the PRODUCER, to the electric power transmitting system as well as other rights and obligations of parties till signing of an accession SITE contract.

1.2. NEK EAD will determine the required as per Art. 52 terms as well as particular technical requirements for the SITE accession as per Art. 74, Ordinance No.6.

2. TERMS OF SITE ACCESSION

2.1. NEK EAD is obliged to join a wind power station to the electric power transmitting system, which station consists of the wind generators of "St.Nikola" Wind farm, located in the territories of the villages of Sv.Nikola and Balgarevo, municipality of Kavarna.

2.2. The SITE accession will be done at 110 kV as follows:

2.2.1. The SITE accession will be done by constructing an open terminal at the open power distribution device of 110 kV of "Kavarna" sub-station and construction of an accession aerial electric power line of 110 kV from the "Kavarna" sub-station to a sub-station of 110/20kV of the PRODUCER.

2.2.2. The construction of the 110/20 kV sub-station of the SITE is an obligation of the PRODUCER and is his property. The specific location of site meant for the sub-station construction and a terrain plan will be submitted to PRODUCER and NEK EAD additionally.

2.2.3. The construction of a new 110 kV Aerial electric power line from "Kavarna" sub-station to the PRODUCER's sub-station is an obligation of NEK EAD and is its property. The lightning protection rope of the new AL will have 12 in-built optic fibers type OPGW.

2.2.4. The construction of one 110 kV open terminal at a 110 kV OPDD of "Kavarna" sub-station is an obligation of NEK EAD and is its property.

3. TERMS/STAGES OF SITE CONSTRUCTION

3.1. Stage one:

Installed capacity	60 MW
Term of construction	November, 2006

3.2. Stage two:

Installed capacity	60 MW
Term of construction	May, 2007

3.3. Each party has the right to negotiate the requested capacity for the second stage not later than 3 /three/ months before the term under i.3.2. expires.

4. TERMS FOR CONSTRUCTION OF ACCESSION FACILITIES

4.1. NEK EAD will construct the accession facilities and will join the SITE of the PRODUCER to the electric power transmission system within the following terms:

4.1.1. The term for the construction of a new 110 kV AL from the "Kavarna" sub-station to the SITE is approximately 30 months and commences from the date at which the accession contract enters into force. The precise term depends mainly on the location of the 110/20kV sub-station, the distance to the "Kavarna" sub-station, the possible routes to cover and will be indicated in 45 days after a site plan for the sub-station is submitted by the PRODUCER to NEK EAD. The PRODUCER will pay the costs for studies of routes against documents submitted by NEK EAD.

4.1.2. The term for the construction of an open 110 kV terminal at the 110kV OPDD of the "Kavarna" sub-station is 14 months from the date of signing of the accession contract.

4.2. NEK EAD and the PRODUCER agree that the accession contract will settle their relations in connection with the means of design, construction and implementation as per the Ordinances of the Act on town and country planning of accession facilities, including

the possibility for the PRODUCER to construct by himself part of or all accession facilities which belong to NEK EAD on the grounds of Art. 60, par. 5,6,7 and 9 of Ordinance 6.

5. TECHNICAL PARAMETERS OF SITE

The technical parameters of the SITE are as follows:

5.1. Technical characteristic features of facilities at the 110/20kV sub-station – Appendix 1
5.2. One-layer plan of the 110/20kV sub-station Appendix 2
5.3. General plan of accession of win generators to the 110/20 kV Sub-station of SITE /two versions for the First stage/ Appendix 4

The final plan will be submitted to NEK EAD upon application for signing an accession contract.
5.4. Technical characteristics of wind power generators Appendix 5
5.5. P/Q diagramme in a table Appendix 6
5.6. Block plan of a wind power generator Appendix 7
5.7. Detailed data and technical parameters of facilities, mechanical ones, security settings, etc. will be coordinated by NEK EAD after the missing data in appendices have been submitted and supplied to the accession contract.
5.8. The PRODUCER has the right to amend technical parameters of the 110/20 kV sub-station /Appendix Nos.1 and 2/, as well as the type of wind power generators and their accession plan to the 110/20 kV sub-station of the SITE, named in the appendices to the present agreement. These amendments are coordinated with NEK EAD. If they lead to changes in accession terms and technical requirements, NEK EAD will inform the PRODUCER accordingly and the new technical parameters of facilities, mechanical ones, security settings, etc are attached to the accession contract.

6. TECHNICAL REQUIREMENTS FOR ACCESSION OF SITE

6.1. The technical requirements for the realization of accession are stated in detail by NEJ EAD in this agreement and the appendices to it. The submission of missing data may enforce corrections of terms and technical requirements towards SITE accession.

7. MEANS FOR COMMERCIAL MEASUREMENT OF ELECTRIC POWER

7.1. The means for commercial measurement are positioned in the SITE sub-station. The minimum technical requirements towards the measuring systems are as follows:
7.2. Measuring transformers – the requirements are stated in Appendix No. 1.
7.3. ***Electricity meters*** – AINRTAL – X stations, class 0.3S. ***NEK EAD is obliged for the delivery and installation.***
7.4. For the aims of the commercial measuring of electric power, in the SITE construction draft the PRODUCER is obliged to envisage and perform:

7.4.1. In the 110 kV OPDD command case – the terminal for secondary circuits of electric and voltage transformers with an option for sealing as per the requirements of Art. 24 and Art. 25 of the Rules for measuring electric power quantity.
7.4.2. The secondary circuits of the measurement system must be performed as per the requirements of Art. 40 of the Rules for measuring the electric power quantity with shielded cable under the following terms:
- voltage circuits – with a four-point cable with a copper lode of ≥ 2.5 mm² diameter
- electric circuits – with an independent couple of cables with a copper lode ≥ 2.5 mm² per every phase from an electric transformer to the control case, and from the control case to an electricity meter with a four point cable with a copper lode of ≥ 2.5 mm² diameter.
7.4.3. To build an independent cabinet with a space for mounting of commercial electricity meters and remote reading equipment, a signaling facility and registering the drop out of voltage and terminal connectors, equipped with accessories providing an option for independent shunting and accession of measuring equipment.

7.4.4. The cabinet with the commercial electricity meter and the required accessories to be mounted in a control room.

7.4.5. A voltage of 220 V AC to be supplied for the powering of reserve feeding devises of commercial electricity meters.

7.4.6. A shielded telephone cable to be installed from the cabinet with electricity meters to the premises where the technical communication means will be located to enable transmission of data from the electricity meters.

7.4.7. To submit calculations in the operating P for:

a/ choice of the diameter of connecting wires between the electricity measuring transformers and the electricity meter in order to guarantee the level of accuracy of electricity transformers;

b/ choice of capacity of secondary coils of measuring transformers.

7.5. Detailed technical requirements for the construction of a commercial measuring of electric power are shown in APPENDIX No. 8.

8. TECHNICAL MEANS OF TELECOMMUNICATION IN PRODUCER'S INSTALLATIONS

8.1. The PRODUCER is obliged to provide in the 110/20 kV sub-station:

a/ premises for a linear-equipment room, where the corresponding technical means will be installed;

b/ power supply;

c/ light;

d/ aerial-conditioner in the premises

e/ access of specialists of "Iztok" TDU for maintenance of technical means as per Art. 58 of "Rules for management of electric power system" for allocation of responsibilities.

f/ fixed telephone line to connect through a telecommunication operator reserve means for communication with the SITE.

8.2. NEK EAD is obliged to deliver, install and implement:

a/ optical telecommunication equipment and telephone technical devises;

b/ UPS 1.5 KVA.2h

9. ORGANIZATION OF RELAY PROTECTIONS

9.1. Volume and organization of relay protections in a 110 Kv OPDD of the PRODUCER must meet the requirements of Art. 49 of the "Rules for management of electric power system", Ordinance No. 3/9.06.2004 for the mechanism of electrical devices and wires and Ordinance No. 9 for the technical exploitation of electric power stations and networks. The minimum requirements towards the relay protections in the sub-station are stated in Appendix No. 3.

9.2. Both parties agree the particular parameters, settings, etc. to be pointed out in the accession contract. NEK EAD will fulfill its obligations as per Art. 75 of Ordinance No, 6 after the PRODUCER submits the technical characteristic features missing in the appendices.

10. ACCESSION PLACE AND PROPERTY LIMITS

10.1. The SITE will be joined to the electric power system through a 110 kV electric power line, ACO 400 from the SITE to the 110/20 kV "Kavarna" sub-station.

10.2. The property limits are the terminals for joining wires of electric power lines to the devices of PRODUCER's installation / Art. 69 and 70 of Ordinance No. 6/.

11. ACCESSION PRICE

11.1. The accession price of the SITE to the transmission network will be agreed upon between parties under the accession contract and will correspond to the accession costs of NEK EAD as per Art. 25, par. 1 of the Ordinance for control of electric power prices, namely for construction and mounting activities and deliveries of equipment for the construction of:

11.1.1. One 110 kV OPPD (open power distribution device) at "Kavarna" sub-station.

11.1.2. The 110 kV aerial electric power line (with a rope protecting against lightning induction type OPGW, length appr. 22 km.

11.1.3. Telecommunication devices to connect the SITE.

11.1.4. Expenses for fees in connection with issuing the necessary permit under Act.

11.1.5. Expenses for constituting real rights on properties where the route of the electric power line will pass through as well as the required notary fees.

11.1.6. Electricity and other costs connected to the carrying out of a 72-hour test till a permit is obtained to use it under the Act on town and country planning.

11.2. NEK EAD is obliged to plan the electric power line under i.11.1.2 as well as spend finances in the most economical and expedient way. All expenses made by NEK EAD out of the negotiated under i.11.1 ones, done without the PRODUCER's consent, will not comprise an element of the accession price and will be on the cost and account of NEK EAD.

11.3. NEK EAD is obliged not to aggravate the accession requirements and/or not to lower the safety of accession installations, if, after signing this agreement, a third party requests accession to the transmitting network under this agreement and the accession installations under this agreement are used for this third party accession.

11.4. If, after signing of this contract, a preliminary agreement for a third-party accession is signed and this accession influences or these accession installations are used under this agreement, NEK EAD is obliged to inform forthwith the PRODUCER and to agree upon allotment of accession price accordingly between the PRODUCER and the third party if one and the same installation are to be used as well as if the equipment and/or the pending construction-technical works concern both accessions.

12. RIGHTS AND OBLIGATION OF PARTIES

12.1. Till signing the contract the PRODUCER is obliged to:
12.1.1. To comply with the requirements of succession agreed upon in this agreement upon design of SITE;
12.1.2. If, due to any reason whatsoever, the design demands a change of accession terms, to inform NEK EAD forthwith.
12.1.3. To inform NEK EAD in writing for every change under the technical parameters and to offer for coordination the change in technical parameters of the SITE under the terms of i.5.8.
12.1.4. To submit for coordination draft designs of electric installations of accession site in a volume enough to prove the performance of the technical requirements for accession as per Art. 57. para 1, i.5 of Ordinance No. 6.
12.1.5. To inform NEK EAD in writing about the precise location of the electric installations of the SITE, to submit a site plan and a design visa.

12.2. Till signing the contract, NEK EAD is obliged:
12.2.1. To clarify the status of lands, through which the route of the 110 kV aerial electric power line from the 'Kavarna" sub-station to the 110/20 kV sub-station of the SITE, within 45 days after the information under i.12.1.5 is received.
12.2.2. To agree with the PRODUCER upon the chosen route by submitting the corresponding cards with a registered route on them.

13. AMENDMENT AND TERMINATION OF AGREEMENT

13.1. This agreement can be added and changed only with a written additional agreement between the parties. Changes of any provisions of this agreement are done by an additional agreement in a period of 1 month after the written notice of the initiator is sent and no objection is made by the other side.
13.2. Both parties have the right to terminate the AGREEMENT within a period of one month after sending a written notice, if there is a breach of agreement or non-fulfillment of obligations by the other party under this AGREEMENT and the negligent party does not eliminate the specified remarks.
13.3. The PRODUCER can unilaterally terminate the present AGREEMENT with a written notice send one month in advance, if the SITE will not be built. In such a case, the PRODUCER pays NEK EAD all costs incurred by NEK EAD till the date of termination.
13.4. All notifications and prior notices under this agreement are done in writing to the addresses below:

"GEO POWER" OOD
1421 SOFIA
33, Krivolak Str., Entr, A
Tel.: +359 2 8655151
Fax: + 359 2 9 633 774
e-mail: yomi@mail.techno-link.com

NEK EAD
1040,SOFIA
5, Veslets Str.
Tel.: + 359 2 9263636
Fax: +359 2 987 25 50

14. FINAL PROVISIONS

14.1. The Agreement enters into force on the date of signing and is terminated with the signing of the accession contract.
14.2. All disputes over the fulfillment of the present agreement will be solved through negotiations between parties. If no agreement is reached, the dispute will be taken to the court of arbitration at the Bulgarian Chamber of industry and commerce.
14.3. This AGREEMENT is written in two identical originals, one for each party.

ANNEXES:

Annex No. 1
Annex No 2 – Single line scheme of substation 110/20 kV.
Annex No 3 – Organization of the relay protective systems in the substation 110/20 kV of the Object, settings and reports from the last test.
Annex No 4 – General scheme of connecting the wind generators to substation 110/20 kV of the Object (2 variants for the 1st stage).
Annex No 5 – Technical characteristics of the wind generators
Annex No 6 – P/Q diagram as a table
Annex No 7 – Block scheme of a wind generator
Annex No 8 – Technical requirements to the construction of the commercial measurement of electric energy

For Geo Power Ltd – signed by Dimiter Hristov, Manager

For NEC Ltd – signed by Vassil Anastasov, Executive director

Annex No 1
Technical characteristics of the equipment in Open Distribution Device 110 kV on the Site

1. Power transformer

- P_H = 75 MVA
- U1/U2 = 110/20 kV
- uk = 10.5 – 11.5%
- steps 2 x 2.5%

Group of connection
Grounding of the neutral

a) a possibility shall be foreseen for the grounding of the neutral of each of the two transformers, while normally one of them is grounded
b) the regime of grounding shall be controlled by TDU "East"

2. Disconnectors

- U_H = 110 kV
- I_H = 1600 A
- Ik = 40 kA
- Iy = 100 kA

3. Circuit – breakers

- U_H = 110 kV
- I_H = 3150 A
- Ik = 40 kA
- Iy = 100 kA

4. Current transformers

- U = 110 kV
- I = 800 (4 x 200) A
- I = 40 kA
- I = 100 kA

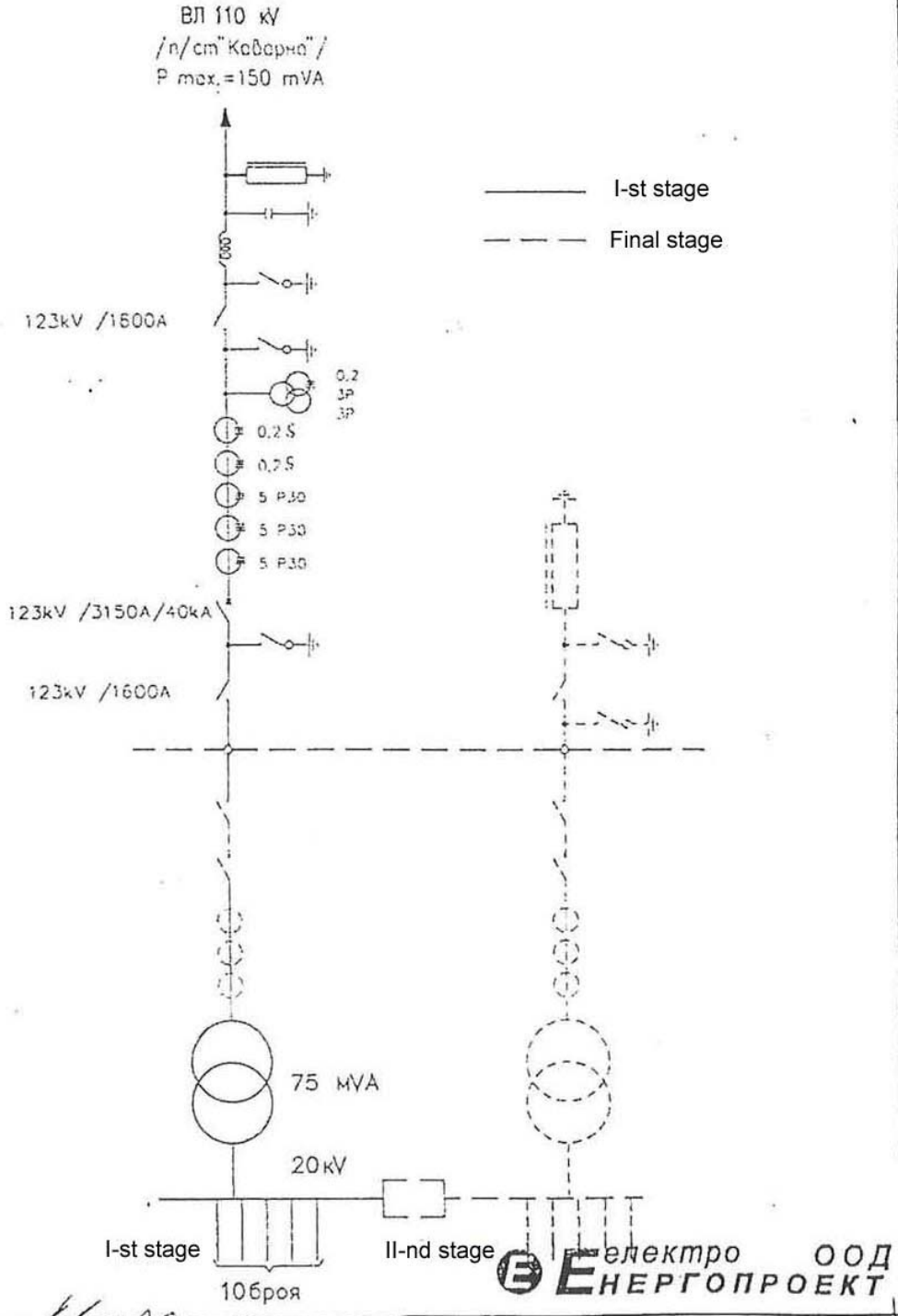
Number of the cores – 5
1st core (for measurement) – 15 VA, precision class 0.2S
2nd core (for measurement) – 30 VA, precision class 0.2S
3rd core (for relay protection) – 60 VA, precision class 5P30
4th core (for relay protection) – 60 VA, precision class 5P30
5th core (for relay protection) – 60 VA, precision class 5P30

5. Voltage transformers

number of the coils – 3
transition ratio – 110000/√3/110/√3100/√3/100…….
1st coil- for measurement – star – connected, voltage 100/√3 V, precision class 0.2 . 30 VA. For the purposes of the commercial measurement an individual circuit shall be isolated through a safety device
2nd coil – for relay protection – star connected, voltage 100/√3 V, precision class 3P, 150 VA
3rd coil – for relay protection – open triangle connected, voltage 100 V, precision class 3P, 100 VA

Wind Farm Sveti Nikola

Single line scheme 110 kV of substation 110/20 kV



Annex No 3
Organization of the relay protective systems in the substation 110/20 kV of the Object, settings and reports from the last test.

1. Terminal 110 kV to substation Kavarna

- main – remote protection, 2 sets
- spare – grounding protection, 1 set
- A B2

2. Power transformers

a) side 110 kV
- remote protection
- maximal current protection in a separate hardware
- group grounding protection / for the second stage of the installation of a second transformer/
- protection from overloading;
- technological protections.

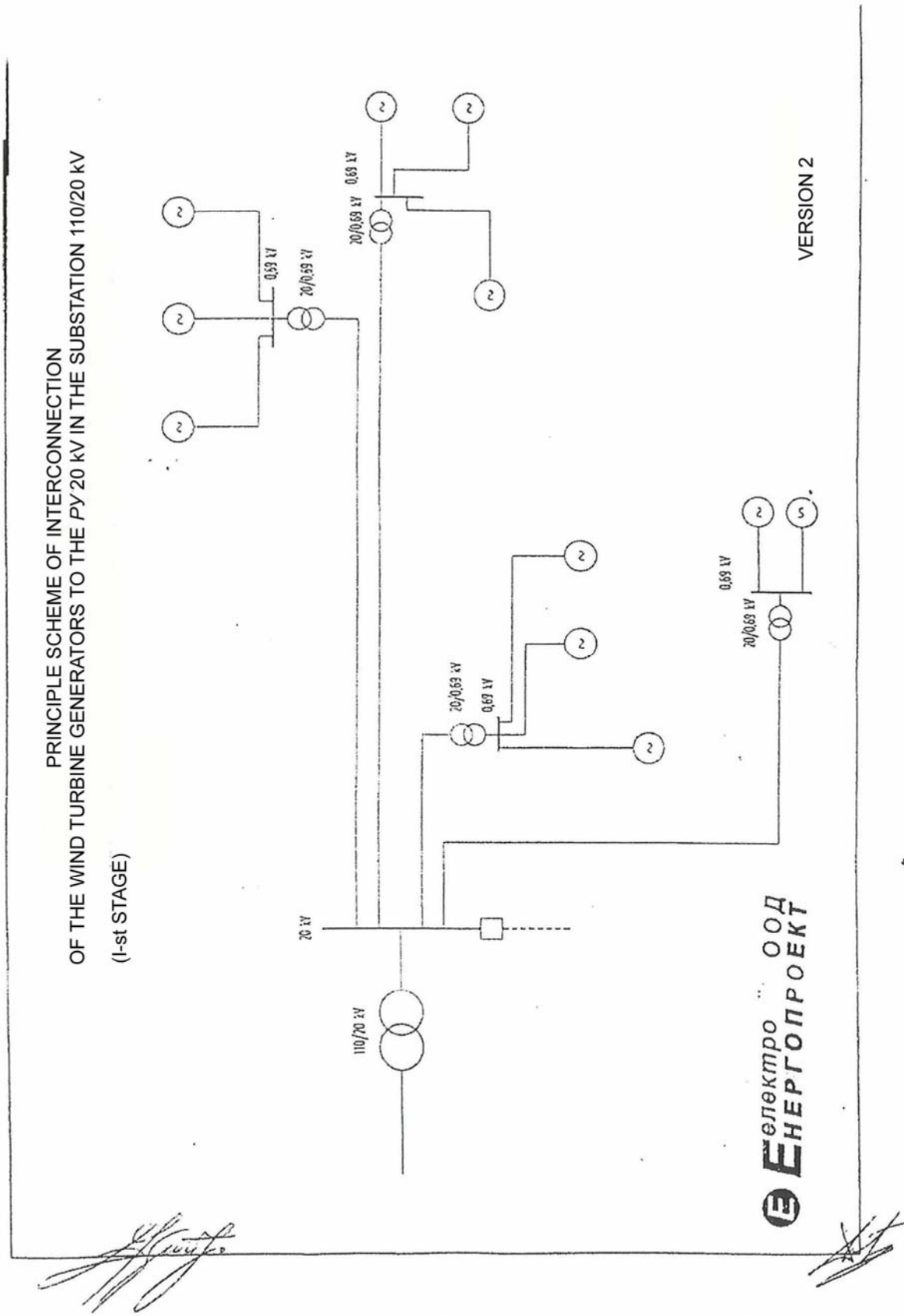
b) side 20 kV
- maximal direction of current protection
- grounding direction protection;
- protection from overloading.

3. Terminal input / output for 3РУ 20 kV.

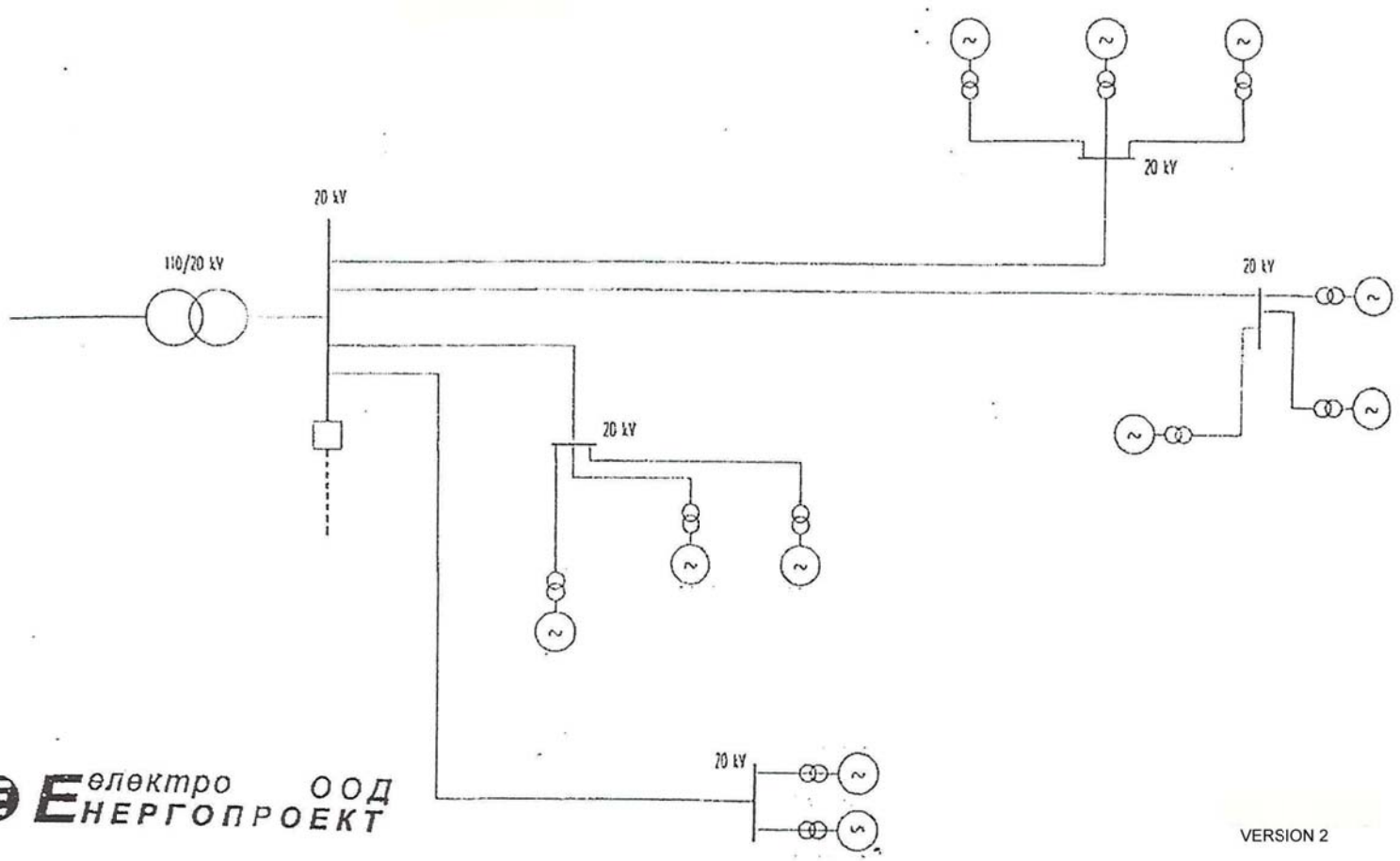
- maximal current direction system;
- grounding protection
- synchronizing after the system is totally determined.

4. The currents of on the short circuit reduced to the 110 kV buses and their dependence on the number of the switched on wind generators and their load will be supplied to NEC EAD after the tender for choosing the supplier of the generators, where the latter will receive the necessary date for the calculations.

Annex No 4
Principle scheme of connecting the wind generators to the РУ 20



PRINICPLE SCHEME OF INTERCONNECTION
OF THE WIND TURBINE GENERATROS TO РУ 20 kV AT THE SUBSTATION 110/20 kV
(I-st STAGE)



Електро ООД
ЕНЕРГОПРОЕКТ

VERSION 2

Annex No 5
Technical characteristics of the generators

1. In the production mode

Type of the generator – the final type of the generators will be determined after the auction for the generators.
Number of wind generators – 30 + 30
Installed capacity (individual) – 2 MW
Rated power (individual) – 2 MW
Rated voltage of the wind generator – 690 V
Rated current of the wind generator – 1675 A
Rated cosφ of the generator - ……
Excitation current – after the auction for the delivery of the wind generators
Excitation system - after the auction for the delivery of the wind generators
Regulator of the excitation – settings – parameters and intervals of their variation - after the auction for the delivery of the wind generators
Time constants - Tdq", Tdq', Tqo", Tqo'- after the auction for the delivery of the wind generators
Reactants – Xdq", Xdq', Xqo", Xq' - after the auction for the delivery of the wind generators
Power necessary for an aggregate's own consumption – 80 kW
Rated cosφ of the buses 110 kV - …….
Asymmetry of the voltages - …..
Deformation of the sinusoid /THD – Total harmonic distortion/ - ≤ 1%
Maintaining synchronism at frequency –

a) in normal operation mode – from 49.5 to 50.5 Hz
b) in emergency mode – from… to … Hz

Maintaining synchronism at bus voltage 110 V

a) in normal operation mode – from 99 to 121 kV
b) in emergency mode – from… to … kV

Voltage level in the connection point – 110 kV
Number of phases – 3

2. Consumption mode

Supplied power – 4 800 kW
Category to power supply ensured – 3rd

Annex No 6
P/Q diagram

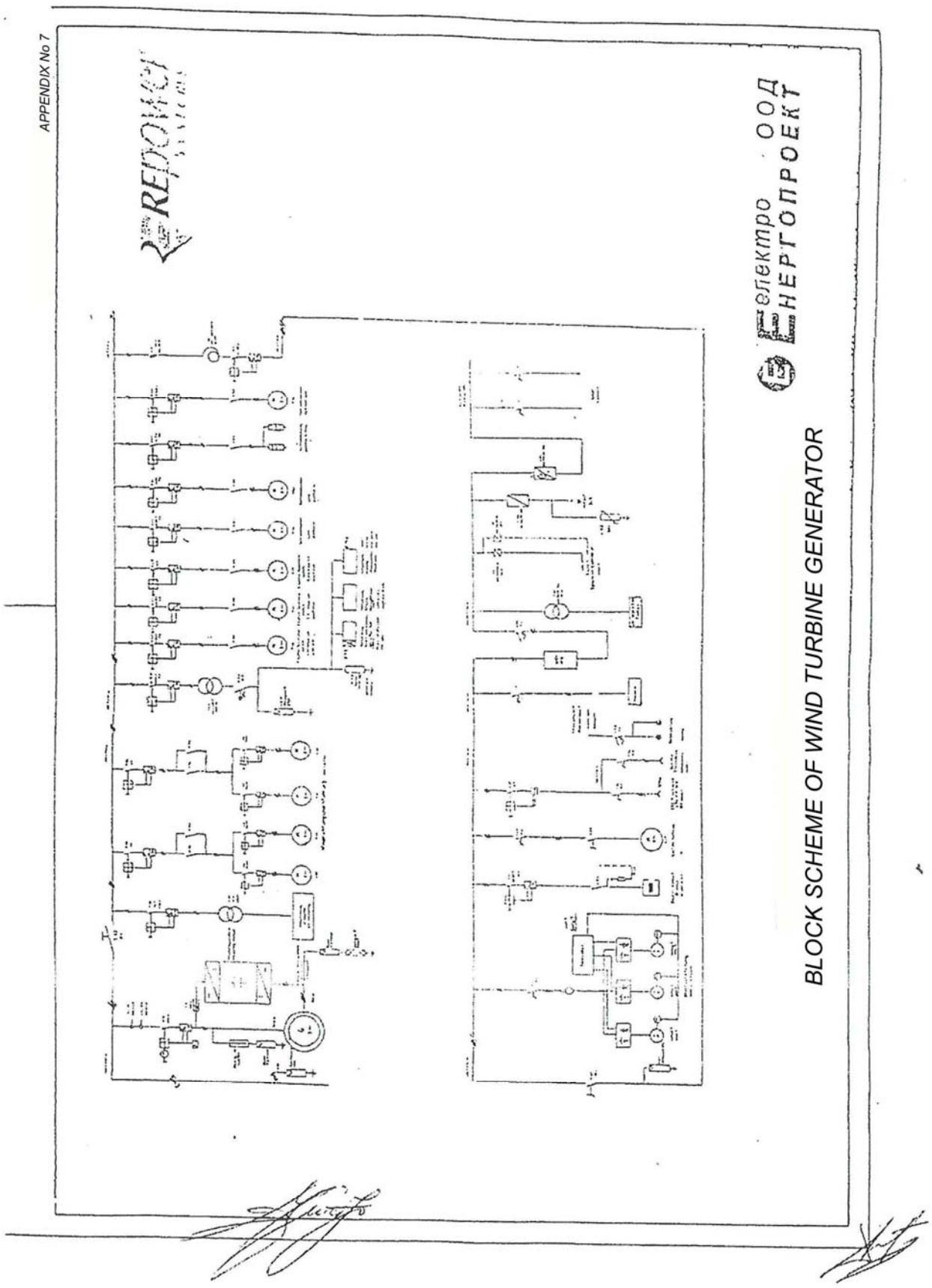
ПРИЛОЖЕНИЕ № 6

P/Q диаграма

P_{mc} [kW]	2200	P_{60} [kW]	2062.41	$P_{0.2}$ [kW]	2204.61
$p_{mc} = P_{mc} / P_n$	1.10	$p_{60} = P_{60} / P_n$	1.03	$p_{0.2} = P_{0.2} / P_n$	1.10
Output power [% of P_r]		Output power [kW]		Reactive power [kvar]	
0..10		87		-8	
10..20		303		-10	
20..30		495		-12	
30..40		705		-14	
40..50		910		-17	
50..60		1091		-20	
60..70		1304		-23	
70..80		1498		-29	
80..90		1696		-32	
90..100		1904		-37	
100..110		2026		-41	

Електро ООД
ЕНЕРГОПРОЕКТ

Annex No 7
Block scheme of a wind generator



Annex No. 8

TECHNICAL REQUIREMENTS
Towards construction of commercial measuring of electric power during construction of 110/20 Kv sub-station of "St.Nikola" Wind farm

1. **GOAL**

To formulate the main technical requirements for the design, construction and acceptance of measuring systems at the 110/20 kV sub-station of the "St.Nikola" Win Power Park.

2. **GROUNDS**

The present Technical requirements are written on the grounds of:

- Rules for measuring of electric power, regulated by Art. 83, para.1, i. 6 of the Energy Act.
- Measurements Act and the Ordinance for means of measuring which are subject to a meteorological control.

3. **ORGANIAZATIONAL AND TECHNICAL REQUIREMENTS**

3.1. The design and construction of measuring systems at the 110/20 kV sub-station of the "St.Nikola" Wind farm is done upon availability of:

- Electricity measuring transformers – 5-nuclear, with two nuclei class 0.2 and capacity of latter 10VA;
- Voltage measuring transformers, with two "star" and a "delta" windings.

3.1.1. MAIN UNITS where the elements of measuring systems are located:

3.1.2. A box, built in the control cabinet at a LPDD, with every accession at which the following elements have been mounted:

- Terminals of secondary winding circuits of IT measuring transformers meant for measuring;
- Automatic unipolar fuse of the "star" winding on a voltage transformer with signaling sockets, meant for measuring;

3.2.2. Electricity meter cabinet installed in a relay room. It contains:

- Static electricity meters of all 400 kV accessions – 2 items;
- A reserve power supply source, signaling of voltage drop out supply in electricity meters, with a normally open circuit and RS485 interface – to every static electricity meter, type RPS131. It is mounted on a DIN bus.
  Input points: – from terminal "voltage to circuits ……
  From terminal circuits ……..
  Output points: 151 directly to an electricity meter
  To terminal "signaling circuits"
  To terminal "information circuits" RS485 only for the first source. Subsequent sources are visited one by one without stepping on a terminal;
- Conducer RS232 RS485 – installed on every static electricity meter of the 400 kV accession unit, type CON 1H. It is mounted on a DIN bus.
  Input points: from RS232 of the static electricity meter, by using a 9-pin connector

to terminal "circuits" 220 V AC …..

Output points: to terminal "information circuits" RS 485 just for the first and last transformer

The main ========== (illegible)

- Communication modems
  - ➢ PSTN – type P2S

  Input points: from terminal "circuits 220 V AC" /L and N/
  From terminal "information circuits"
  From terminal "telephone" by using a 4-pin RJ connector

  Output points: to terminal of a GSM-modem /directly/
  - ► GSM – type P2CA

  Input points: from terminal "circuits: 220V AC" /L and N/
  From terminal of a PSTN-modem

  Output points: antennas
- Automatic unipolar fuses: for input point 220 V Ac /with a signaling socket/ and for and input point of voltage circuits 'A, B and C' on every electricity meter /without signaling sockets/;
- Surge voltage protection of voltage measuring circuits of every electricity meter, input point 220V AC and of the telephone line.
- Terminal rows:
  - ► "electrical measuring circuits" terminal – for every electricity meter
  - ► "voltage measuring circuits" terminal – for every electricity meter. The terminal also includes:
    - Automatic unipolar fuses at an input point "voltage circuits" without signaling sockets;
    - Fuse protection of voltage surge at voltage circuits for A, B and C and N, with signaling sockets;
  - ► "Circuits 220V AC" terminal – collective for the cabinet, including:
    - Automatic fuse at input point 220 V AC, with a signaling socket.
    - Surge voltage protection at input point 220 V AC with signaling sockets at L and N;
    - Terminals for transformers RS232/RS485/ per every electricity meter;
    - Terminals for reserve supply sources / per every electricity meter/;
    - Terminals for the PSTN – modem;
    - Terminals for the GSM-modem;
    - Terminal for a grounded socket
  - ► "Information circuits" terminal – collective for the cabinet, including:
    - Terminals "a", "b" and "GND" from transformers RS323/RS483 / for **two** of the electricity meters/
    - Terminals "a", "b" and "GND" from reserve power supply sources – for **one** of the electricity meters;
    - Terminals "a", "b" and "GND" – from the RAU signaling device
    - Terminals "a", "b" and "GND" – for the PSTN modem
    - Output points to panel 27P – 2 items. The groups formed by terminals a, b and GND are used.

    Note: All input points are fed unilaterally to terminals in the terminal row
  - ► "telephone" terminal – collective for cabinet, including:
    - Terminals for a telephone line from a repartitioner to a PSTN-modem – 2 items;

- Voltage surge protection of both telephone lines cables together with signaling sockets.

► "Signaling circuits" Terminal row – collective for cabinet, including:
- "Signal socket" terminals of an automatic fuse 220 V AC;
- "Signal sockets" terminals of reserve power supply resources per every electricity meter;
- "Signaling socket" terminal of voltage surge protection of:
  ' voltage measuring circuits /per every electricity meter/
  ' input 220V AC
  ' a telephone line
- A grounded socket with 2 seats;

3.2.3. RAU 116 signaling device with 16 digital inputs with illuminated signals. 3 – 1 digital outputs with opened sockets and RS485 interface. It is installed close to the Central signaling system panel – collective for all accessions.

Inputs: from a main fuse 220V DC
From a "signaling circuits" terminal row to the electricity meter cabinet. The following signals are passed:
- Drop out of 220 V AC – 1 signal for the cabinet;
- Drop out phase for measuring circuits – one signal per every electricity meter;
- /illegible/ /per every electricity meter/;
- The voltage surge protection is activated 220 V AC – 1 signal for the cabinet;
- The voltage surge protection is activated for the telephone line – 1 signal for the cabinet;

Outputs: to the electricity meters cabinet, terminal row "information circuits" RS485;
To the output socket on panel I/C from which a signal is passed to a bell/siren- "emergency signal electricity meters";

3.2.4. Main fuses with normally open signal sockets, installed on:
- Panel PN /personal needs/ AC – unipolar
- Panel PN DC – bipolar
- Control cabinet at the OPDD – unipolar /per each accession device/

3.3. The draft P worked out as a result of fulfilling these Technical requirements, is agreed upon with NEK EAD.

3.4. The following documents are attached to the draft P:
- A certificate for the approval of measuring transformers, issued by order of the Measurements Act and the Ordinance of means of measuring subject to meteorological control.
- A protocol for an initial meteorological check of measuring transformers done by order of the Measurements Act and the Ordinance of means of measuring subject to meteorological control.
- Measurements notes for determining the diameter of secondary circuits and of the nominal parameters of fuses.

3.7. A protocol is written for the acceptance of installation works on the secondary commutation.

4. SPECIAL TECHNICAL REQUIREMENTS

4.1. Measuring transformers

For the implementation of commercial measuring the following devices are used:

- A nucleus of an electric power transformer, class 0.25, to which the static electricity meter is attached;
- A "star" winding from a voltage transformer, class 0.2., to which the static electricity meter is attached;

4.2. Automatic fuses

- To provide selective actions;
- To be mounted on a DIN-bus IN 35 x 7.5;
- According to the protection circuits they must be:
  - For voltage circuits
    - √ In a cabinet at the OPDD – unipolar with signaling sockets, n.o.
    - √ In an electricity meter cabinet – unipolar, without signaling sockets
  - For a 220 V AC
    - √ In a PN panel AC - unipolar with signaling sockets, n.o.
    - √ In an electricity meter cabinet - unipolar with signaling sockets, n.o.
  - For a 220 V DC: in a panel PN DC – bipolar with signaling sockets, n.o.

4.3. Voltage surge protection

- To protect:
  - Voltage measuring circuits with U – 57 V
  - Auxiliary circuits with U – 220 V AC
  - A telephone line
- To have the option for signaling /with n.o. signaling sockets/
- To be installed on a DIN-bus TS 35 x 7,5

4.4. Signaling devices

The input and output lines to the signaling device RAU116 are formed on a terminal row. When choosing the place for installing the RAU116 device a room must be envisaged for **four** analogous devices more which will be installed for 110kV and 220 kV accessions.

4.5. Secondary commutation circuits

4.5.1. Secondary voltage circuits

- These are performed with 4-pin optical cable from the measuring transformer to the control cabinet and the OPDD, and from there to the electricity meter cabinet;
- Minimum allowable diameter – 2,5 mm copper cable, securing a voltage drop out o not more than ….. /illegible/

4.5.2. Secondary electric power circuits

- These are performed with a singular couple of optical cables /per each phase/ of the measuring transformer to the control cabinet in the OPDD, and from there to the electricity meter cabinet - with a 4-pin optical cable;
- Minimum allowable diameter – 2,5 mm copper cable, in accordance with the power of the secondary winding

4.5.3. Communication circuits – these are performed with an optic cable with twisted in couples cores, 4x2x0.5. One of the twisted couples is used for signals Rx and Tx. Accepted colour scheme – Rx, "a" respectively, - blue, Tx, "b" respectively, blue-white; GND –

green. For a telephone the orange and orange-white colours are used. It is obligatory to use insulated nozzles 0.5/12/18mm.
The maximum allowable cable length between the static electricity meter and the transformers RS232/RS485 – 2,5 m. The accession of the cable to a 9-pin RS232 connector is done by soldering, the soldered cables being insulated by a thermoplastic hose.
The telephone connection to the PSTN-modem is done by using a 4-pin RJ connector upon using the middle pins of the connector.

4.5.4. Signaling circuits – there are done with a cable, fire resistant, with a PVC insulation and copper wires. Minimal diameter1,5 mm.
Signals from sockets of main fuses, described under i.3.2.4., are passed to signal valve lights on the PN panel when there is:

- A lack of 220 V AC "measuring"
- A lack of 220 V DC "measuring"
- A switching off of the automatic voltage circuits "measuring". The signals of the three phases of each pf the accessions are united in the control cabinet of the OPDD.

The signals from the electricity meter cabinet are united in the RAU116 signaling device, which uses a collective "." per every 7 digital inputs. The "faulty signaling device" signal is combined with the "activated input of signaling device" one. For a touring signal is used "-". The input and output signals are described in i.3.2.3.

4.5.5. Operating circuits - 220V AC and DC – they are done by a fire-resistant cable, with a PVC insulation and copper wires. The minimal diameter is 1,5 mm². They are done as independent circles from the PN panels.

4.6. Grounding

- of secondary measuring circuits – in a single point of specialized terminals of measuring transformers
- of optical cable of secondary measuring circuits – in the electricity cabinet by using spring grounding terminals
- of shielded optical cables of communication circuits – in the electricity meters cabinet by using a yellow-green grounding terminal only for cables to the RAU116 and to the 27P panel. For the communication circuits in the cabinet the shield/foil is cut and the metal wire is twisted over the cable and covered by the thermo-hose.
- Of shielded telephone cable – in the electricity meter cabinet, by using the yellow-green grounding terminal
- 0f surge voltage protection – in the electricity meter cabinet by using the yellow-green grounding terminal or cable terminal as close to the ground as possible.
- Of the electricity meter cabinet – to the grounding outline of the sub-station.
- Of the RAU116 signaling device – to the grounding bus of the panel, with a resistor less than 0.5 om.

4.7. Terminals

4.7.1. General requirements

- To meet the requirements of EN 60947-7-1/2002;
- The cable connection to be effected by a screw one;
- Resistant to an operating temperature of -60° C to -120° C

- Resistant to electricity leakage of CT 600
- To be made from fire-extinguishing material – VO UL 94 without hazardous ingredients
- For the installation of a DIN bus TS 35 x 7,5
- With the option of entering a two-tier marking.

4.7.2. Terminals for electric power and voltage measuring circuits

- With an option of accession to a flexible wire with a diameter of up to 6 mm;
- With seats on both sides for accession of exterior equipment with a diameter of the opening 4 mm;
- With the option of circuit ripping within the terminal;
- With the option of a bridge connection among terminals done by bolts
- The electric power terminals must have an in-built option of independent shunting of each phase;
- Accessories: multi-polar bridges, dividing plates; end caps; stoppers, markings

4.7.3. Terminals for communication and secondary circuits

- With an option of accession of a flexible cable with a diameter of up to 2.5 mm
- With the option of circuit ripping within the terminal;
- With the option of a bridge connection among terminals done by bolts
- Accessories: multi-polar bridges, dividing plates; end caps; stoppers, markings

4.7.4. Grounding terminals

The terminals must be:

- Spring – per each shielded cable of electric power and voltage measuring circuits
- Yellow-green – for the communication circuits

4.8. Electricity meters cabinet

- On top of cabinet there must be a PVC nozzle with a diameter of the opening 10 mm for an antenna output
- It must have dust protected ventilation ooutlets
- The commutation within the cabinet must be done by cut cable channels
- Its is installed in a relay room with grounding

Note: No control measuring is envisaged to be installed in the control cabinet as per the meaning of Section IX of the Rules for measuring of electric power.

4.9. Grounded socket

- To supply before the automatic fuse in the electricity meters cabinet /for input of exterior measuring equipment/
- To let the DIN TS 35 x 7,5 bus installation

4.10. Safety precautions against unauthorized access to elements of measuring systems

4.10.1. In the control cabinets at the OPDD 400 kV

The terminal rows of the secondary circuits and the automatic fuses , meant for measuring, are installed in a dust-protected box with a transparent lid. The latter must allow the option of plumbing.

4.10.2. In an electricity cabinet

The door of the cabinet must be with a transparent window with an option for plumbing.

REpower Systems

Anlagenbeschreibung

REpower MM 82

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1 Beschreibung der Windkraftanlage

1.1 Konzept

Die REpower MM 82 basiert wie ihr Schwestermodell die MM 70 auf der Plattform der bewährten MD 70/77. Die Betriebserfahrung mit über 500 Anlagen des Typs MD 70/77 ist in die Entwicklung der MM 82 eingeflossen. Aufbauend auf den Qualitäten der MD-Baureihe, wie z.B. Wartungsfreundlichkeit, übersichtlicher solider Aufbau, großzügige und konservative Auslegung der Komponenten, kraftflussgerechte Ausführung der tragenden Strukturen, Umweltverträglichkeit usw., wurde die MM 82 entwickelt.

Durch die Verstärkung verschiedener Bauteile wie z.B. Rotorlager, Blattlager, Rotorwelle und Getriebe sowie den Einsatz von speziellen Werkstoffen im Bereich der Rotorblätter, können die erhöhten Lasten des Rotors sicher aufgenommen werden.

Die Anlage mit einer Nennleistung von 2 Megawatt verfügt über einen Rotordurchmesser von 82 Metern und einer Nabenhöhe von bis zu 100 Metern.

1.2 Der Rotor

Der Rotor besteht aus drei Rotorblättern, die über doppelreihige Vierpunktlager drehbar an die Gussnabe angeflanscht sind. Die Rotorblätter können so über die mitrotierenden Verstellantriebe um ihre Längsachse verstellt werden. Der Rotor wird in einem Drehzahlbereich von 8,5 bis 17,1 U/min betrieben. Um auch bei Netzausfall oder Anlagenstörung den weiteren Betrieb der Blattverstellung sicherzustellen, verfügt jedes Rotorblatt über eigene, unabhängige, mitrotierende Akkumulatorensätze.

Im Teillastbereich, d.h. bei Anlagenbetrieb unterhalb der Nennleistung, arbeitet die Anlage zur Ausnutzung der besten Rotoraerodynamik mit konstantem Blattwinkel und variabler Drehzahl.

Im Nennlastbereich, d.h. bei Anlagenbetrieb oberhalb der Nennwindgeschwindigkeit, wird die Anlage mit konstantem Nennmoment betrieben. Drehzahländerungen durch sich verändernde Windgeschwindigkeiten werden durch die Anpassung der Blattwinkel ausgeregelt.

Windenergie aus starken Böen wird durch die Beschleunigung des Rotors gespeichert und erst anschließend über die Blattverstellung gedämpft in elektrische Energie umgewandelt und schließlich ans Netz abgeführt.

1.3 Antriebsstrang

Die geometrische Anordnung der lastübertragenden Strukturteile nach dem "tilted-cone"-Prinzip garantiert eine optimale Ableitung der Rotorlasten in den Turm und ermöglicht eine äußerst kraftflussgerechte Auslegung der Komponenten. Der Triebstrang ist an drei Punkten unmittelbar über dem Kopfflansch des Turmes gelagert, der mit seiner konischen Geometrie eine breite Basis zur Aufnahme der Kräfte schafft. Die Neigung der Rotorwelle um 5 ° in Verbindung mit den 3,5° Konuswinkel der Rotornabe erlaubt einen extrem kurzen Überhang zwischen Rotorzentrum und Turmachse und verringert so eine materialintensive "Kopflastigkeit" der Anlage.

1.4 Getriebe

Das Getriebe ist als Planeten- / Stirnradgetriebe ausgeführt. Die Verzahnung ist hinsichtlich Wirkungsgrad und Geräuschentwicklung optimiert. In die Drehmomentenstütze des Getriebes sind elastische Buchsen integriert, die sich über Auflager am Maschinenträger abstützen. Die elastische Lagerung ermöglicht eine wirkungsvolle Schall- und Schwingungsentkopplung vom Maschinenträger.

1.5 Elektrisches System

Die Anlage ist mit einem drehzahlvariablen Generator- Umrichtersystem ausgestattet. Im Läuferkreis ist ein Frequenzumrichter geschaltet, der dem Läufer eine Spannung mit einstellbarer Frequenz aufprägt. Hierdurch lässt sich die Drehzahl in einem Bereich von +/-35% der Synchrondrehzahl einstellen. In Verbindung mit der elektrischen Blattverstellung bietet der drehzahlvariable Triebstrang sehr gute Ergebnisse in Bezug auf mechanische Beanspruchung und elektrische Netzqualität.

Entsprechend der vorherrschenden Windgeschwindigkeit wird die Anlage in den folgenden Betriebsbereichen betrieben:

- Im untersynchronen Bereich (Teillastbereich) liefert der Generatorstator 100 % der elektrischen Leistung ins Netz. Zusätzlich wird eine Schlupfleistung bereitgestellt, die vom Umrichter über die Schleifringe des Generators in den Läufer gespeist wird.
- Im übersynchronen Bereich (Nennlastbereich) liefert der Generatorstator 83 % der elektrischen Leistung direkt ins Netz und muss dabei nicht über den Umrichter geführt werden. Die verbleibenden 17 % der Leistung werden vom Läufer über den Umrichter ins Netz gespeist.

Die physikalischen Verluste entfallen und der Gesamtwirkungsgrad sowie die technische Verfügbarkeit sind erheblich besser.

Der Generator hat die Schutzklasse IP 54, die Kühlung erfolgt über einen Luft – Luft Wärmetauscher. Zum Überwachen der Maschinentemperatur sind Temperaturfühler in den Lagern wie auch in den Wicklungen installiert.

Ein Schutz vor dem Berühren sich bewegender Teile ist durch Abdeckungen gewährleistet. Für den Potentialausgleich ist das Gehäuse des Generators geerdet. Zur besseren Schalldämmung und -entkopplung ist der Generator über schall- und schwingungsentkoppelnde Elemente auf dem Maschinenträger gelagert.

Weitere Angaben zum elektrischen System, wie z.B. erweiterte Netzanschlussbedingungen, sind in der „Elektrischen Beschreibung" der WEA dokumentiert.

1.6 Bremssysteme

Das Abbremsen erfolgt durch die Verstellung der Rotorblätter in Fahnenrichtung. Jede der drei Verstelleinrichtungen am Rotorblatt ist komplett unabhängig ausgeführt. Bei Netzausfall werden die Antriebe durch die mitrotierenden Akkumulatoren gespeist.

Das Verdrehen eines Rotorblattes ist ausreichend, um die Anlage in den sicheren Drehzahlbereich zu bringen. Dadurch ergibt sich ein dreifach redundantes Sicherheitssystem. Die mechanische Scheibenbremse wird zusätzlich aktiviert und ermöglicht im Zusammenwirken mit dem Blattverstellungssystem (primäres Bremssystem) das Stoppen des Rotors.

Das primäre Bremssystem ist in „fail-safe" Funktion ausgeführt. Das heißt, bei Störung oder Ausfall nur einer Komponente im Bremssystem, schaltet sich die Anlage sofort in den sicheren Zustand.

1.7 Windnachführung

Das Maschinenhaus ist über ein Vierpunktlager mit dem Turm verbunden. Die Windnachführung des Maschinenhauses erfolgt durch vier netzgespeiste Getriebemotoren. Für den Halt der Gondel in Windrichtung sorgen zehn hydraulische Bremszangen. Im stromlosen Zustand sind die Bremsen aktiv.

Eine elektronische Windrichtungssensorik mit entsprechender Software steuert die Einschaltzeiten und die Drehrichtung der Motoren. Sie sorgt außerdem für die automatische Kabelentwindung, wenn sich die Anlage bei wechselnden Windrichtungen mehrfach in eine Richtung gedreht hat.

1.8 Maschinenhaus

Um den heutigen Ansprüchen einer innovativen Windenergieanlage gerecht zu werden, wurde die Gondelverkleidung von einem namhaften Designer entworfen. Das Ergebnis ist ein schlankes, der Aerodynamik angepasstes Design.

Als Material wurde für die Verkleidung Glasfaser verstärkter Kunststoff (GFK) gewählt. Zusätzlich zur Schalldämmung ist die Haube innen mit einer Isolierung ausgestattet. Um auch für Service und Wartung optimale Bedingungen zu schaffen, wurde die Gondel ausreichend groß dimensioniert. Wartungsarbeiten können mit geschlossener Haube erfolgen.

Der Einstieg aus dem Turm in die Gondel erfolgt über eine Luke im Grundrahmen. Zum Erreichen der Komponenten unterhalb des Grundrahmens ist zusätzlich eine Wartungsplattform montiert.

Sämtliche Komponenten, wie beispielsweise das Azimutsystem oder die Hydraulik, können über die Steuerung im Maschinenhaus bedient werden. Zur Sicherheit ist ein „Not-Aus"-Taster installiert.

1.9 Turm

Der Turm ist als konischer Stahlrohrturm ausgeführt, der je nach Nabenhöhe aus drei bzw. fünf Segmenten zusammengesetzt wird. Im Turmfuß ist eine Türöffnung vorgesehen, die einen wettergeschützten Aufstieg im Turminneren auf einer Leiter mit Steigschutzsystem ermöglicht. Jedes Turmsegment ist mit Plattformen und Notbeleuchtung ausgerüstet.

Im Turmfuß sind die Schaltschränke des Umrichters auf einer separaten Plattform montiert. Die Energieabführung vom Generator zum Turmfuß erfolgt über geschirmte Stromschienen. Sämtliche Steuersignale für den Betriebsrechner werden optisch über ein Glasfaserkabel übertragen und erfüllen alle heutigen Anforderungen zur elektromagnetischen Verträglichkeit (EMV).

Bei hohen Nabenhöhen wird optional ein Aufzugssystem mitgeliefert.

1.10 Korrosionsschutz

Alle Anlagenteile sind durch eine spezielle Mehrfachbeschichtung gegen Korrosion und andere Umwelteinflüsse geschützt. Das Beschichtungssystem erfüllt alle die nach DIN EN ISO 12944 erforderlichen Anforderungen.

1.11 Blitzschutz

Die Windenergieanlage ist mit einer von Blitzschutzexperten konstruierten Blitzschutzanlage ausgerüstet und erfüllt die nach internationaler Norm IEC 61024-1 geforderte Schutzklasse II. Die Ableitung erfolgt vom Rotor über Schleifringe und Funkenstrecken auf den Turm. Der Blitzstrom wird so über Fundament- bzw. Tiefenerder ins Erdreich abgeleitet.

Weitere Angaben zum Blitzschutz sind in der „Beschreibung Blitzschutz" der WEA dokumentiert.

1.12 Steuerung

Alle Funktionen der Windenergieanlage werden mit einer mikroprozessorgeführten Steuerung überwacht. Durch den Einsatz von Lichtwellenleitern wird eine maximale Übertragungsgeschwindigkeit erreicht und zugleich der Schutz vor elektromagnetischen Störfeldern gewährleistet.

Die kritischen Funktionen werden redundant kontrolliert. Der Notstopp erfolgt über eine „hart" verdrahtete Sicherheitsschleife parallel zum Betriebsrechner. So kann auch bei Ausfall des Rechners die Anlage in den sicheren Zustand geführt werden.

2 Technische Daten

Auslegungsdaten

Einschaltwindgeschwindigkeit (cut-in)	3,0	m/s
Nennwindgeschwindigkeit	12,0	m/s
Abschaltwindgeschwindigkeit (cut-out)	25,0	m/s

Rotor

Durchmesser	82	m
überstrichene Rotorfläche	5.281	m^2
Blattzahl	3	
Material	Hybridbauweise GFK (CFK)	
Nenndrehzahl	8,5 bis 17,1 +16 %	min^{-1}
Blattspitzengeschwindigkeit bei 17,1 min^{-1}	73,4	m/s
Achsneigung der Rotorwelle	5	°
Konuswinkel der Blätter	-3,5	°
Drehsinn (mit dem Wind auf den Rotor geschaut)	rechts	
Anordnung zum Turm	luvseitig	

Blattverstellung

Prinzip	Elektromotorische Einzelblattverstellung	
Leistungsregelung	Blattwinkel- und Drehzahlregelung	
Maximaler Blattwinkel	91	°
Pitchantrieb	Gleichstrommotoren, batteriegepuffert, synchrongeregelt	

Getriebe

Bauart	Planeten – Stirnradgetriebe	
Nennleistung	2.160	kW
Nennmoment	1.206	kNm
Übersetzung	ca. 105	

Elektrisches System

Nennleistung	2.000	kW
Generatorbauart	doppeltgespeister Asynchrongenerator, vierpolig	
Umrichterbauart	Pulsweitenmodulierte IGBTs	
Schutzklasse	IP 54	
Drehzahlbereich	900 bis 1800 +16,5%	min^{-1}
Nennspannung	690	V
Frequenz	50	Hz

Turm

Bauart	Stahlrohrturm einfach konisch	
Nabenhöhen	59, 80 und 100	m
Durchmesser am oberen Flansch	ca. 3,0	m
Durchmesser am unteren Flansch	ca. 4,0	m

Windnachführung

Ausführung	4 Getriebemotoren, 10 Bremszangen	
Verstellgeschwindigkeit	0,5	°/s
Lagerung	Vierpunktlager mit Außenverzahnung	

Steuerung

Prinzip	Mikroprozessor
Signalübertragung	Lichtwellenleiter
Fernüberwachung	PC-Modem, grafische Windows-Oberfläche

Massen

Rotorblatt	ca. 6,2	t
Nabe komplett inkl. Blattverstellung	ca. 17	t
Gondel (ohne Rotor)	ca. 66	t

Alle technischen Daten unterliegen der möglichen Änderung durch fortschreitende technische Entwicklung.

WIND POWER GENERATOR
REpower MM 70/ MM 82

Electric description

Description of the changes

Revision	Data of issue	Pages replaced	Changes
A	20.05.2002	None	Ist edition
B	12.05.2003	all	The data for the generator MM82 were completed

Designation	Document No	Revision No	Date of issue
Excerpt of the test report	D-2.1-VM.NV.01 - A	A	05.12.03
Equivalent scheme (1-pole)	S-2.1-GP.EL.01 – A	A	15.05.02
Manufacturer "s certificate			
Values concerning the connection to the network EON MM 70	D-2.1-VM.NV.05 – A	A	01.04.03
Values concerning the connection to the network EON MM 82	D-2.2-VM.NV.01 - A	A	28.03.03

General

REpower MM offers a wind power generator with regulated angle and variable number of cycles of the propeller for operation parallel to the network with the following basic characteristics:
Rated power – 2.000 kW
Diameter of the rotor – 70 m
Height of the hub – 65 m

As a possibility a generator with a greater diameter of the rotor could be used but with the same electric system.
Rated power – 2.000 kW
Diameter of the rotor – 82 m
Height of the hub – 59, 80, 100 m

The three propeller rotor is located leeward on the tower. The following of the wind direction is performed by active azimuth movement.
The generator is a rotor with contact rings (Phase rotor), with additionally included a static frequency transformer (inverter) for the back feeding of the sliding power. In this way the operation at variable cycles is implemented with simultaneous lower reverse impacts (reactions) of the network.
In the zone of incomplete loading the generator works at a constant angle of the propeller with about 10 – 20 cycles per minute (depending on the transition ratio). The

characteristics cycles – moment of rotation of the generator system is a constant preliminarily determined value. At wind velocities higher than the nominal wind velocity the generator operates with combined regulation of the generator system and the displacement of the angle of the blades of the propeller. Besides, generally the generator maintains a constant moment of rotation and the resulting deviations in the cycles are regulated by the displacement of the propellers. For the purpose there is a belt for the cycles up to maximum 22.0 operating cycles, respectively 22.3 cycles per minute.
The displacement of the propeller is individual for each bearing propeller and is individually made. The regulating movements are synchronized electronically. In case of switching of for safety considerations, (for instance, network failures) the generator is directly disconnected from the network and the buffer accumulators are connected to the DC motors for the displacement of the propellers. In this way the displacement of a single propeller serves, except for regulating the power, but also as a primary break system of the wind power generator.
Detailed technical data of REpower MM70/MM82 are presented in the attached Manufacturer's description and preliminary assessment of the compliance of the network.

Computer for the control of the operation processes

There is a computer for the control of the operation processes of the wind power generator which controls the wind conditions, the state of the generator /network and the functioning of the separate structural units, elements respectively of connection. As a reaction to this control the respective operation states are introduced and saved – start of operation, joining in, following the wind, regulation of the power, regulation of the angle of the propeller, normal stop, instant switching-off, emergency stop.
The remote control of the wind power system by a modem is also possible. Then the generator failures could be communicated to the main operation board for control by choice.

3. Network control in the computer network of the control of the operation processes

The network control from the computer for the control of the operation processes measures in three phases the current and the voltage, by which the 3-phase and the 1-phase control of the network is being performed. The network control estimates the currents and the voltages and their changes with the time and reacts immediately after the disconnection of the voltage of the generator or the static transformer of the number of the phases (the frequency), as well as stops the generator in case of:

Criteria for disconnection	Value of switching off	Time of switching off
- overvoltage	1,1∗UnG	≤ 100 ms (1
- low voltage	0.8∗UnG	3 s
- increase of frequency	51,5Hz	≤ 200 ms (1
- reduction of frequency	47,5 Hz	≤ 200 ms (1
- AWE/KU	93 ms	
- 1-phase/3-phase refusal of the network		(2
- current asymmetry	95 A	5 s (2
- phase shift/vector surge	+/- 6°	(1 (2

(1 – values for regulation depending on the respective company supplying electric power (EVU)
(2 – switching off is immediate

The switching off values depend on the respective company for electric power supply.
When there are no more failures in the network, the generator passes into automatic mode of operation.

4. Generator and frequency transformer

The wind generator is equipped with a system of variable revolutions for transforming the frequency of the generator. In connection with the electrical displacement of the propeller, the riser stand pipe with variable revolutions offers the best results concerning the mechanical load and the quality of the electricity in the network. The generator allows the control of the mode of operation in order to obtain easy transfer of the power with minimum deviations in the part of the partial load. In the interval of the rated load the generator can operate at constant power. A parallel purpose control of the reactive power makes possible the production of reactive power as well.
The principle of functioning of this generator, independent concerning the revolutions, is based on the double supplied asynchronous generator with wound rotor (contact rings) in combination with a frequency transformer in IGBT – technology. This system guarantees the continuous energy production with constant voltage and frequency, independent of the revolutions of the rotor.

In compliance with the predominating velocity of the wind the generator operates in the following modes:

1. Sub synchronous mode of operation (interval of partial to poor loading). The Starter of the generator supplies 100% electric power to the network. Power of sliding is additionally supplied, to be supplied to the rotor by the frequency transformer through the contact rings of the generator. In this way the exit frequency is maintained constant;
2. Synchronous operation mode (interval of partial loading). The starter of the generator supplies 100% electric power to the network.
3. Super synchronous mode of operation (interval of rated loading). The starter of the generator supplies about 80% electric power to the network. The remaining 20% are supplied to the network by the rotor through the frequency transformer.

Since the wind generator in principle operates like scales for rotating moments with a riser stand pipe Mrotor on one of the sides and generator Mgen on the other side, the system offers three possible degrees of freedom.
In compliance with the formula

$$P = 2*\pi*n*Mgen,$$

it is possible to determine the revolutions of the generator n and the moment of rotation Mgener. by the control of the process of operation..

4.1 Technical data for the generator

Principle: Rotor with contact rings (phase ring) with reverse supply of the power of the rortr through the network frequency transformer.
Rated power / revolutions – Pel = 2040 kW at n= 1800 1/min
Revolutions interval: n= 900 1/min up to n = 1800 1/min.To each number of revolutions there corresponds a definite power, whose average value is not exceeded because of system features.
Network voltage – 3AC 690 V ± 10% 50 Hz
Power coefficient – the frequency transformer and the generator reach the power coefficients from 0.9 indicatively to 0.975 capacitively (at rated power). The central operates at cosφ from 1
Structure: 3-phaseasynchronous rotor with contact rings, four poles
Type – 1001 (B3)
Dimensions of the type – 500
Type of protection – IP 54
Cooling – an air heat exchanger is installed, air / air type. The outside air flow comes from a secondary ventilator. The cooling air is sucked by the inner space of the gondola.
Sensors – PT 100 to control the bearings
PT 100 to control the coils
Message for wearing down of the brushes.

4.2. Technical data for the frequency transformer

Principle – Reverse supply of the power of the rotor through the pole transformer of the frequency on the side of the generator, like that of the network, intermediate (auxiliary) circuit with constant voltage. Semi-conductor elements IGBT.
Network compatibility – the frequency transformer is in compliance with all the requirements of the directive VDEW "Centrals of own power production of the network with average voltage. Directive on the joining in and the parallel operation of the centrals for won energy production of the network with average voltage, 2nd edition 1998
Network disturbances – the system of the generator registers the failures in the network and disconnects the wind power generator from the network. Upon returning to the network after self-testing, the system of the generator is serviceable.
Type of protection – IP 54

5. Consumption of energy by the generator for its own supply

The necessary power of the wind generator in stand-by mode is a sum of the necessary consumption of the individual elements:

- control (computer for the control of the operation and frequency transformer)
- azimuth movements
- hydraulic pump
- heating of the redactor and the distribution compartment
- charger for the accumulators
- movement for the control of the bearing propeller in auto-testing and start of motion
- motor power when the wind requires switching off

The necessary power amounts to maximum 25 kW when all the consumers operate simultaneously.

The necessary energy per year on the spot at average velocity of the wind is about 3 000 kWh/a.

Central with average voltage, owned by the client

The point of connection to the network of an enterprise for electric power supply is a substation for average voltage, owned by the client. The equipment for the connection of average velocity shall be in compliance with the technical directive (1 of the competent power supply enterprise. According to the number of the devices additional substations of the wind power stations are mounted and are connected to each other at the level of voltage 20 kV.
The necessary meter of the transformer shall also be in compliance with the Technical instruction for the operation and determines the border of the property in the substation upon the submission.
(1 – Construction and operation of substations for the supply of energy from the network at average voltage to clients.

Technical data for the transformer

- rated power – 2250 kVA, resp. 2500 kVA
- rated high voltage – depends on the enterprise for the power distribution;
- rated low voltage – 690 V (4%);
- connection group – Dyn 5
- relative short circuit voltage – 6%

7.Grounding installation

The grounding installation shall be constructed simultaneously with the works on the foundations. From the grounding device of the foundation at least 3 connection to the lower (base) flange of the tower are planned. These connections are distributed along the perimeter, connected to the lower flange. From the latter a low resistance connection is made to the bus equalizing the potentials. Besides the two ring-like grounding devices are connected in 3 points with the fundamental grounding device. The grounding installation of the transformer station is connected to the grounding installation of the wind generator. If the resistance of the grounding exceeds the one required by the power distribution enterprise, the grounding installation is completed with additional grounding devices placed a depth of 20 – 25 m , which join the cable shoes of the ring – like grounding devices.
This structure leads to the following advantages:
Protection of the people
By the ring-like grounding device the voltage is decreased by step and touch for the people who are near the foundation of the tower in case of thunder storms.
Labour safety
The deeply placed grounding device ensures stabile and low resistance to the distant grounding device for the whole grounding installation.

4. Protection from lightning

The wind power generator is equipped with a system of protection against lightning which takes into consideration the results from a direct strike of a lightning. The outside

protection system of the wind generator is connected to the fundamental system / the system of the ring-like grounding devices/ and so it ensures the safe decline of the lightning current. Individually the elements of the system operate as follows:

Outside lightning protection

In the propeller zone there is a receptor on each one, connected by a wire through the inner ring of the bearing of the propeller to the hub. From the hub the lightning current of the disk holding the rotor is accepted by the carbon contact inserts and is transmitted traveling over the bearing of the rotor to the carrier part (the safe –powered chassis) of the machine. From the carrier (the safe-powered chassis) the current of the lightning is transferred through two other carbon contact inserts to the gear ring of the azimuth bearing, which is firmly connected with the tower. The tower is used as a lightning conductor which results in the advantage that the inside is protected and there is no field there. The tower is firmly connected in the zone of the support flange in three points with the grounding device of the foundation, which guarantees the secure transition of the current into the ground.

Inside lightning protection

The encapsulated distribution compartments mounted in the installation made of steel sheets, are connected to a point of equalizing the potentials, which is in turn connected with the point of equalizing the potentials of the lightning protection. The cables which are especially endangered are platen and are also connected to this equalizing point. At the transitions between the zones of lightning protection 0A and 1, all cables coming in from the outside are connected to the point of equalizing. The expected currents in this zone are led away by the respective lightning conductors. With each other connection of the zones a device is placed for equalizing the potentials on the spot. All metal objects like distribution compartments, driving motors and the generator are connected to this point. The construction elements of the lightning protection system are chosen in compliance with the degree of extent to which the zone is endangered.

Wind power generator

REpower MD-MM

Specification of the power and communication cables for the wind power generators, type MD 70/77 and MM 70/82

Description of the changes

Revision	Date of issue	Replaced pages	Changes
B	02.09.03	all	various

Power and communication cables

for the wind generators type MD 70/77 and MM 70/82

Contents

1. Volume of the delivery
2. Telephone connections
2.1. E ON Zone of supply
3. Communications inside the park
4. Grounding system
5. Transformer next to the tower
6. Installation of cables for the transformer next to the tower
6.1. Determining the dimensions of the cables for the low voltage
6.1.1. MD 70/776
6.1.2. MM 70/82
6.2. Preliminary works performed by the client
6.3. Setting up networks using special switching-off modules
7. Documentation
8. Requirements to the operating PC

1.Volume of the delivery

The limit for the delivery of a wind generator WKA of the company REpower Systems Ag normally includes:

- upper edge of the constructed foundation;
- terminals for the switch of the low voltage in the WKA – distribution compartment;
- connecting boxes of the device for communication of data in the distribution compartment;
- 3 cable shoes for grounding on the wall of the tower.

2. Telephone connections

For the communication with the wind power generator (WKA) an ISDN is necessary with 2 channels and 2 free call numbers. If the number of the generators in a park is greater than 15, then there must be another ISDN connection ready to be used. The construction and the operation of the telephone connection is an obligation of the user of the generators. NTBA has to be mounted in the main equipment. REpower is responsible for the further construction of the telecommunication device behind the NTBA. The equipment of the ISDN – connection shall be finished by the acceptance and the start of operation of the site.
If a park includes a greater number of generators, they could be individually connected by a respective ISDN connection. The second possibility is the construction of a network inside the park with an optical cable and additional communication computers.
According to the competent enterprise for the electric power distribution, by rule in a park another connection is needed for the transmitter station. In the laying of the cables of the WPP, cables of the type

A-2YF(L)2Y4 x 2 X 0.8 or A-2Y(L)2Y 4 x 2 x 0.8
shall be foreseen (suitable for the Euro-ISDN). The cables must have non-metal protection against rodents.

2.1 E ON Zone of supply

If the WPP is located in a region, served by one electric power distribution company, which operates in compliance with the EON directives, 12-core copper cable shall be additionally laid from the main wind generator to the electric power meter of the distribution company, respectively to the determined transmitting rack bar in the transformer substation.

Communication inside the wind farm

- within the park borders the communication shall be accomplished by LWL cable. Used LWL cable type: A-DQ(ZN)B2Y8G 62,5/125 (8 fibre cable)
- the maximal distance shall not exceed 3000 m. greater distances shall be coordinated with REpower. The additional costs in this case shall be at the expense of the client;
- the length of the LWL cable over the foundations shall be at least 6 m;
- the finishing operations of the LWL cables with ST – sockets shall be performed by the constructor, and besides, for each fibre a damping report shall be elaborated;
- the connection of the ready fibres shall be performed by specialists of the REpower.

Task Splicebox Model H02050A0008 (Telegaertner company)

- 1X cassette for connection in the upper part ;
- 1X distribution plate 24-divisible, for the ST connections;
- 4X couplings.

The optimal topology of the network in the WPP depends on the P and shall be designed by a specialized company. Before start of activities a discussion shall be organized with the REpower. In the wind generator, containing the ISDN connection there shall be equipped a master device for the WPP.
Mode of operation: "master – slave".

Starting from the master equipment an optical ring shall be constructed which reaches each generator (slave 1, 2, … n) and passes only into one direction (TX – transmitter, RX – receiver).
Master /TX →RX/slave 1/TX →RX/slave 2/…. /slave n/TX→RX/master

The supply and the feeding wire could be in one cable.
The length of the cable between the TX of one and the RX of the next generator shall not exceed 3.0 km. For the purpose it would be reasonable in a row of generators to miss each second one, that is, the connection to be cut by an abrasion instrument (see Fig. 1)

Figure 1 – Wire connections among the wind generators in a WPP (schematically presented only the occupied fibres)

The number of the generators in the park could demand the construction of separate networks or the determination of another Master (another ISDN) in order to increase the safety against eventual failures of generators in the park. For this reason when the generators are more than 4, an immediate discussion shall be organized with REpower.
LWL – optical cable.

Grounding installation

- see scheme Equipment of A shallow foundation (foundation for a whole plate).

Documents No MD:Z-1.1-FG.AS.01-A – revision in force
Z-1.1-FG.AS.02 –A – revision in force (only for the 90 m high hubs)
MM:Z-1.1.FG.AS.01 –A – revision in force

- see scheme Equipment of a foundation for pilots

Documents No MD: Z-1.1-PG.AS.01 – A – revision in force
MM: Z-1.1-PG.AS.01 – A - revision in force

5. Transformer next to the tower

- see Specification of transformer station

Documents No MD: V-1.1-EL.TR.01 – A – revision in force
MM: V-1.1-EL.TR.01 –A revision in force

Installation of the cables to the transformer next to the tower

The cables shall be included in a triangle so that a magnetic field must be generated, rotating clockwise. When the CU single conductors shall be laid, attention must be paid so that the 3-phase current systems L1, L2 and L3 respectively to be laid in connection. Each

3-phase current system shall be laid through only one passage of the transformer substation, respectively through a pipe in the foundation of the generator, the distribution of several passages is forbidden. Besides, attention should be paid all the cable stacks (low pressure cables from the transformer to the static frequency inverter, etc.) to be laid at a distance of 20 cm and a depth of 80 cm without crossing each other.

The lengths of the systems/conductors shall be identical, if possible.

Besides in the course of laying attention shall be paid their beds to be of sand, without stones and after the laying they shall be cleaned by sand blowing. In the process of back filling the cables must not be bended and broken and the radii of bending determined by the manufacturers shall be observed. At both ends the cables must be clearly and permanently marked with information about their purpose and origin.
Besides, a cable pipe shall be foreseen for the PE-conductors, as well as for the communication cables.
In the course of laying the individual cables and conductors attention must be paid to the data of the manufacturer concerning the temperature of laying.
The ends of the low voltage cables and of the communication cables as well as of the optical cables shall protrude at least 6 m from the foundations.
In the process of installing the transformer in te tower there must be a discussion with REpower.

Test

Test and elaboration of a report in compliance with the validated at present standards VDE 0100, especially part 610.
Test of the isolations with 1000 V DC.
Test of the position of the phase in each separate system.

6.1. Determining the dimensions of the low voltage cables

In the process of determining the dimensions of the low voltage cables attention shall be paid to the data supplied by REpower. These data shall be taken from the respective cable specifications. The further mentioned values are not obligatory and are orientation values.

6.1.1. MD 70/77

- list of the cables – K-1.1-EL.TR.01-A – revision in force
- rated power 690 V
- electric current for calculation of the phase – 1380 A
- type of the cables – single conductor copper NYY
- execution: 4 systems for 3-phase current with respectively 3∗1∗240 mm², as well as 2∗1∗240 mm² PE/PEN (14 conductors)

6.1.2. MM 70/82

- list of the cables – K-2.1-EL.TR.01-A – revision in force
- rated power 690 V
- electric current for calculation of the phase – 1675 A
- type of the cables – single conductor copper NYY-O
- execution: 5 systems for 3-phase current with respectively 3∗1∗300 mm², as well as 2∗1∗300 mm² PE/PEN (17 conductors)

6.2. Preliminary works performed by the client

- the installation and the start of operation of the low voltage systems must end successfully in compliance with the validated VDE standards;
- the low pressure installations shall be checked when ready for switching on and shall be marked respectively in such a manner, as to allow the start of operation to be safely performed by third parties (personnel, engaged in the start of operation), without further tests;
- the data of the location, the isolation and grounding values shall be registered and filed;
- the name of the appointed manager responsible for the installation shall be pointed out;
- the applications necessary for the start of operation and the signalization for the readiness shall be coordinated with the competent electric power distribution company.

6.3. Setting up networks using special switching-off modules

If several generators must be controlled by one switching-off module, cables shall be foreseen from the module to each generator to be controlled (star-like topology).
An external telephone cable shall be used.

- external telephone cable – recommended type D-2YF(L)2Y 4 x 2 x 0.8 (as ISDN connection, screened if possible, filled with petrolate, the number of the couples of cores could be different, if necessary). For each generator to be controlled a couple of cores shall be foreseen. The ISDN connection and the shadow throwing switching-off shall by no means pass through the same cable.

The choice of the generator, where the special switching-off module and the necessary measuring devices shall be located, shall be coordinated with REpower before the design of the network inside the wind energy park.

Documentation

In order to be able to look for failures and eventual extensions later, it is necessary to maintain detailed documentation, containing at least the following components:

- plan of the routes with presentation of the topology, the distances, the connections and the types of cables, used for the low and high voltages;
- functional electric plans for the connections of each generator with data about the connections in the LML-distribution boxes;
- LWL – reports;
- elaborated reports on the grounding.

The maintenance of this documentation is the responsibility of the company – designer and the company – contractor respectively.

8. Requirements to the operating PC

The software WPMS Wind Power Management System, Mita-Technik A/S is necessary for the communication with the generators. The software could be purchased only through REpower.
Requirements to the system:

- Pentium processor or one comparable with it with minimum 133 MHz;
- Minimum 16 MB RAM
- Graphic card with minimum 256 colours and resolution of 1024 x 768 Pixel

- 20 MB memory on the hard disk;
- Operation system Windows 95, 98, NT, 2000, XP;
- Mouse
- Modem / ISDN adapter
- Ports: 1 x parallel, 1 x serial for the modem

Text to the schemes:

Scheme No S-2.1-GP.EL.01-A

1/5
Einspeisung – energy supply
Uebergabe – transition
Messung – measurement
Wandlersatz – measuring transformer
Betreiber – user
Abgang Windpark – output wind farm

2/5
Dehn – extension
Dehnguard – protection against extension
Stator – stator
Rotor – rotor
Frequenzumrichter – static frequency transformer
Netzueberwachung – control over the network
Windrichtungsnachfuehrung – following the wind direction

3/5
Dehnguard – protection against extension
1.Luefter Generator extern – 1st ventilator of the generator, external
2.Luefter Generator extern – 2nd ventilator of the generator, external
3.Luefter Generator extern – 3rd ventilator of the generator, external
Getriebeoelokuehler – oil radiator of the reductor
Getriebeoelpumpe – oil pump of the reductor
Getriebeoelheizung – heating the oil of the reductor
Hydraulikoelpumpe – hydraulic pump
Geno-Heizung – heating of the generator
Versorgung – feeding
Reset-Sicherheitskette one-shot – going back to the starting position of the protection circuit one shot
Versorgung – feeding
Schuetze – contactors
Hilfsantriebe – auxiliary drive
Heizung – heating
Windgeschwindigkeit – wind velocity
Windfane – wind cone

4/5
Controller – controller
Dehnguard – protection against extension

Achse 1 – axis 1
Achse 2 – axis 2
Achse 3 – axis 3
Elektr. Azimut – electr. azimuth
Bremse – break
Lasten Aufzug – lift
CEE Steckdose – CEE contact box
Service Steckdose – service contact box

5/5
Modem – modem
Topbox – electric box
Seite 4 – side 4
Synchron. Controller – synchr. controller
24 V via UPS – 24 V via UPS
Geber – - indicator

COORDINATES OF THE PROPERTIES ON THE TERRITORY OF THE WIND FARM, WHERE THE GENERATORS WILL BE LOCATED

	N	Territory	H m	B	L
1	2	3	4	5	6
1	70	Village of Bulgarevo	75.0	43°25’45.1	28°26’51.6
2	11080	Village of Bulgarevo	111.0	43°27’00.3	28°24’18.0
3	11091	Village of Bulgarevo	70.5	43°26’54.7	28°29’10.7
4	12041	Village of Bulgarevo	110.5	43°27’17.0	28°25’50.4
5	14124	Village of Bulgarevo	108.4	43°26’14.5	28°24’35.7
6	14129	Village of Bulgarevo	105.2	43°26’18.3	28°24’08.0
7	14139	Village of Bulgarevo	111.3	43°26’33.5	28°23’45.9
8	15099	Village of Bulgarevo	109.1	43°27’33.4	28°25’32.0
9	15101	Village of Bulgarevo	104.7	43°27’07.4	28°25’39.0
10	15166	Village of Bulgarevo	93.7	43°26’46.4	28°25’40.1
11	15168	Village of Bulgarevo	98.4	43°27’03.7	28°25’17.6
12	17022	Village of Bulgarevo	97.1	43°25’45.7	28°24’31.3
13	18067	Village of Bulgarevo	109.6	43°25’53.7	28°25’01.3
14	18099	Village of Bulgarevo	103.2	43°25’45.6	28°24’48.6
15	19180	Village of Bulgarevo	94.4	43°26’20.8	28°25’44.7
16	19201	Village of Bulgarevo	108.1	43°26’25.3	28°25’11.0
17	19216	Village of Bulgarevo	84.9	43°26’07.6	28°26’09.2
18	19218	Village of Bulgarevo	88.3	43°26’28.0	28°25’59.4
19	19224	Village of Bulgarevo	101.7	43°26’28.1	28°25’25.2
20	20085	Village of Bulgarevo	83.4	43°26’20.9	28°27’03.0
21	20086	Village of Bulgarevo	91.9	43°26’34.8	28°26’33.4
22	20097	Village of Bulgarevo	86.6	43°26’14.3	28°26’35.2
23	21013	Village of Bulgarevo	87.6	43°26’29.6	28°27’22.0
24	21064	Village of Bulgarevo	75.7	43°26’44.0	28°28’06.1
25	21067	Village of Bulgarevo	84.2	43°26’50.7	28°27’36.4
26	22063	Village of Bulgarevo	99.2	43°25’24.4	28°25’01.9

	N	Territory	H m	B	L
1	2	3	4	5	6
27	22069	Village of Bulgarevo	90.9	43°24’54.9	28°25’08.7
28	23056	Village of Bulgarevo	102.9	43°25’39.9	28°25’34.8
29	23108	Village of Bulgarevo	94.5	43°25’48.2	28°25’51.2
30	24085	Village of Bulgarevo	78.3	43°25’57.6	28°26’31.7
31	241043	Village of Bulgarevo	79.6	43°25’28.2	28°26’45.1
32	24145	Village of Bulgarevo	70.0	43°25’37.2	28°27’10.9
33	25051	Village of Bulgarevo	77.3	43°26’31.0	28°28’08.5
34	25082	Village of Bulgarevo	79.5	43°26’09.8	28°27’57.8
35	26054	Village of Bulgarevo	80.0	43°26’00.2	28°27’37.0
36	34041	Village of Bulgarevo	93.3	43°24’57.7	28°25’25.7
37	35099	Village of Bulgarevo	95.3	43°25’13.5	28°25’58.0
38	37028	Village of Bulgarevo	74.7	43°25’30.3	28°27’29.2
39	180112	Village of Bulgarevo	93.4	43°25’28.3	28°24’34.1
40	220014	Village of Bulgarevo	89.8	43°25’10.3	28°24’38.4
41	18022	Village of Poruchik Chunchevo	67.3	43°28’39.1	28°29’43.0
42	18036	Village of Poruchik Chunchevo	74.8	43°28’52.9	28°29’18.9
43	19018	Village of Poruchik Chunchevo	71.2	43°28’42.5	28°28’26.6
44	20038	Village of Poruchik Chunchevo	75.0	43°28’14.1	28°28’59.0
45	21052	Village of Poruchik Chunchevo	72.8	43°27’57.8	28°29’41.7
46	22005	Village of Poruchik Chunchevo	73.5	43°28’47.0	28°28’48.1
47		Village of Sveti Nikola	60.0	43°25’20.3	28°29’37.9
48		Village of Sveti Nikola	67.1	43°25’19.8	28°29’52.6
49		Village of Sveti Nikola	70.1	43°25’19.6	28°30’07.5
50		Village of Sveti Nikola	59.9	43°25’04.4	28°29’37.9
51		Village of Sveti Nikola	72.0	43°25’21.8	28°30’27.2
52		Village of Sveti Nikola	65.3	43°25’21.0	28°30’53.5
53		Village of Sveti Nikola	64.4	43°25’34.6	28°30’54.4
54		Village of Sveti Nikola	61.0	43°25’34.2	28°31’08.8
55		Village of Sveti Nikola	58.0	43°25’46.1	28°31’29.5
56		Village of Sveti Nikola	55.0	43°25’45.8	28°31’43.7
57		Village of Sveti Nikola	75.2	43°27’11.9	28°28’44.5
58		Village of Sveti Nikola	66.1	43°26’21.6	28°28’51.8
59		Village of Sveti Nikola	115.0	43°26’53.8	28°29’32.1
60		Village of Sveti Nikola	73.8	43°26’58.1	28°29’52.2
61		Village of Hadji Dimiter	105.0	43°27’22.7	28°25’42.8
62		Village of Hadji Dimiter	91.7	43°27’31.8	28°26’57.4
63		Village of Hadji Dimiter	91.1	43°27’27.2	28°26’59.9
64		Village of Hadji Dimiter	87.2	43°26’51.7	28°27’19.2
65		Village of Hadji Dimiter	87.1	43°27’38.5	28°27’24.8
66		Village of Hadji Dimiter	85.3	43°27’26.2	28°27’39.1
67		Village of Hadji Dimiter	86.2	43°27’14.0	28°27’12.1
68		Village of Hadji Dimiter	78.4	43°27’01.2	28°27’53.1

METHODICAL BASIS OF THE NUMERICAL MODELLING OF THE GROUND WIND

The numerical modeling of the direction and the velocity of the wind, the energy density of the wind flow in different locations in the relief as well as on different levels over the surface of the earth was performed by space interpolation of the direction and the velocity of the wind registered experimentally and collected as data in the meteorological station near the pint of interest. Data about the terrain and its forms were also taken into account, the presence of barriers and the unevenness of the surface. In this way the suitability of a specific place for the use of wind as a source of energy could be assessed. We shall review here the main prerequisites which are a part of the method of solving the problem of evaluation of the wind characteristics and the flow parameters from the standpoint of its use as an energy source. Different programs for numerical modeling of the ground wind could be used such as WindPro, WAsP, WindFarmer, GEN, as well as other authors' developments.

1. Brief description of the program for modeling

The method includes the following main elements (Fig.1)

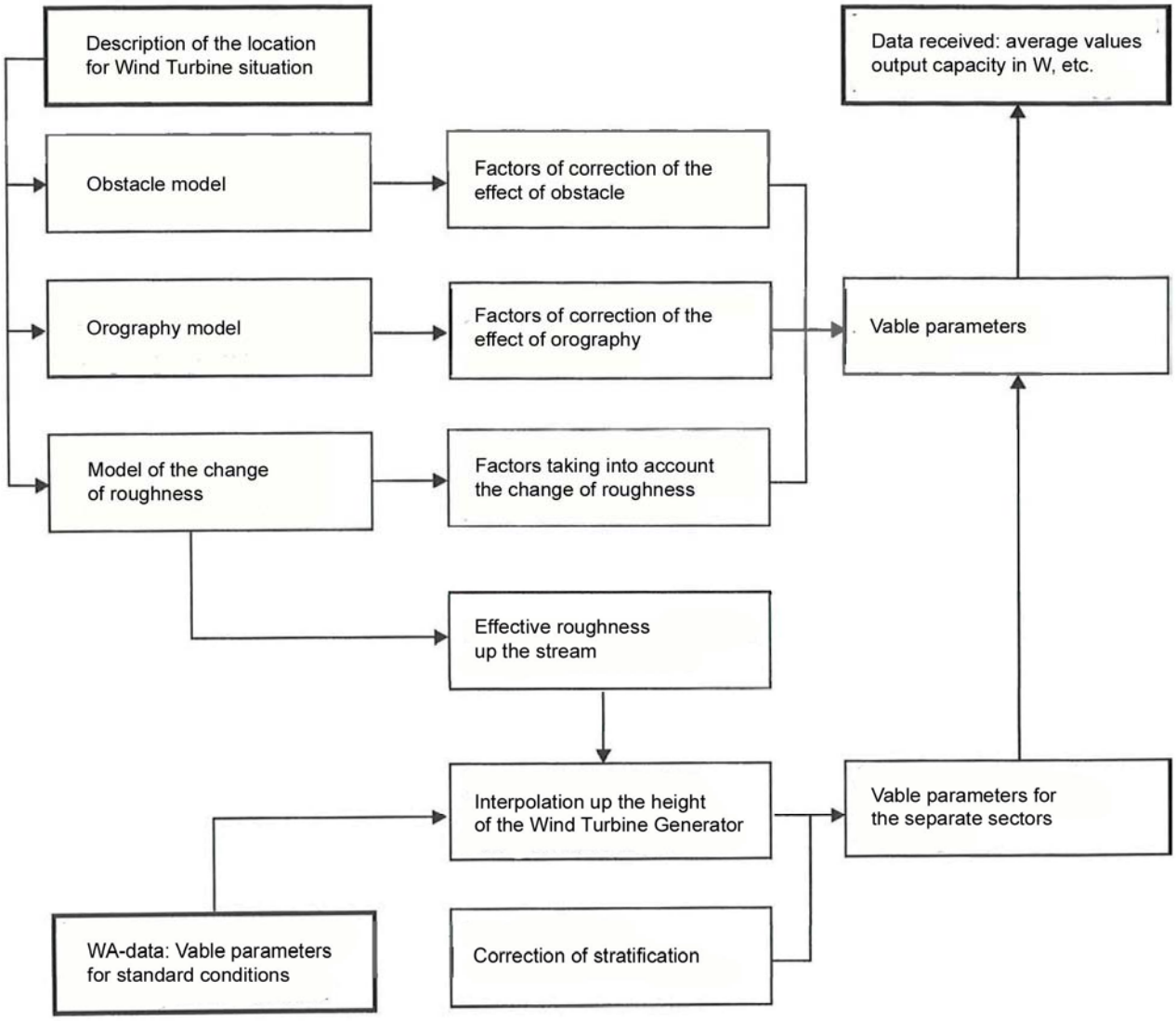


Figure 1. Scheme of a moder of Numerical modelling of the ground wind

Roughness of the terrain

Roughness of the terrain means the collective effect of the base surface and the obstacles, leading to the general decrease of the wind velocity near the surface of the earth. The roughness of the terrain is parameterized by a parameter of roughness Zo (Table 1). Formally Zo is the height where the average wind velocity becomes zero, if the wind profile upwards is logarithmic. The roughness of a specific surface is determined by the dimensions and the location of the elements leading to roughness. The geometric and physical characteristics of the various elements of roughness are also important. Each element of roughness is characterized by its height h, the area of the cross-section against the wind S and the permeability P.

Table 1 Classes and parameters of roughness for different characteristics of the base surface

Class of roughness	Parameter of roughness	Characteristics of the terrain
0	10 -4	Water surfaces – sea, fiords, lakes
	10 -3	Surface covered with snow
	10 -2	Surface covered with grass
1	0.05	Open surfaces without significant obstacles
2	0.10	Closed surfaces without significant obstacles
	0.20	Slightly hilly terrain with many trees and buildings
3	0.30	Forest belts
	0.50	Suburb
	0.80	Forest
	1.0	Town, residential district

Classes of roughness

For the purposes of the modeling a definite class of roughness is attributed to each type of landscape. The effect of roughness decreases with the height over the surface. In the final results the roughness is presented in numerical values and as a % of impact.

Effect of the obstacles

The obstacles cause a strong disturbance in the wind field which spreads vertically up to 3 times h (the height of the obstacle) and horizontally along the flow 30 -40 times h. Whether an obstacle ensures a protection of a place or not depends on the following parameters; the distance from the obstacle to the point of interest, the height of the point, the length of the obstacle, the permeability of the obstacle (Table 2).

Table 2 Permeability of different obstacles

Characteristics of the obstacle	Permeability
Walls and other firm barriers	0.0

Very compact obstacles	0.35
Compact obstacles	0.35 – 0.50
Open obstacles	> 0.50

Because the length of the barriers is finite - L, this causes a decrease of the area of the protected zone because of the interference of the waves in this direction. With the increase of the height over the surface the effect of the barriers decreases. In the final results the effect of the obstacles is given as % for each azimuth sector.
The sectors used in the analysis were 12 with dimensions 30 degrees (or 8 with dimensions of 45 degrees). For them the relative decrease of the wind velocity is expressed as follows:
$R2 = (1 + 0.2\ x/L)^1$ for $L/x \geq 0.3$ Or

$R2 = 2L/x$ for $L/x \leq 0.3$ (1)

Effect of the orography

The main elements of the orography
The main orographyc elements are: its elements (hills, peaks, slopes, valleys, mountain chains) leading to additional effects, which near the peaks result in the increase of the wind, and in the valleys and the base of the peaks – in the decrease of the winds. The deformation of the air flows depends on the space orientation towards the predominating wind. The relative change in the velocity at 10 m above the surface of the earth is determined as follows:

$dS = (U_2 - U_1)/U_1$ (2)

where U1 and U2 are the velocities of the wind on the hill and at the surface in front of the hill in the direction of the air flow.
With the increase of the height above the surface the effect of the orography decreases depending on the geometrical dimensions of the elements. In the final results this effect is measures as % per each azimuth sector and deviation in degrees from the main direction.

2. Statistical basis of modeling

The density of the wind energy (E) is calculated from the following expression:

$$\overline{E} = \overline{\frac{1}{2}\rho U^3} = \frac{1}{2T}\int_0^T \rho U^3(t)dt = \frac{1}{2}\rho\overline{U^3} \quad (3)$$

Where ρ = const. is the air density
U – the velocity of the wind
T – the time interval

Since the wind velocity data are accidental in character, the statistical approach shall be used for the description of the wind. The statistics of the average values could be arranged in tables by the frequencies of observation of a velocity or some more compact representation could be used – in this case – the Vable statistical distribution.

The two-parameter statistical distribution of Vable for the frequency of observation of the wind velocity could be written as follows:

$$f(U) = k / A(U / A)^{k-1} \exp(-(U / A)^{k}) \quad (4)$$

Where f(U) is the frequency of observation of the velocity U.

The two Vable parameters are the dimensional parameter A [m/s] and the parameter of the form k.
The energy production is expressed by the following integral:

$$\int \Pr(u) P(u) du \quad (5)$$

Where Pr(u) is the density of the distribution
P(u) is the power curve

The equation above could be simplified as follows

$$\int (k / A)(u / A)^{k-1} \exp(-(u / A)^{k} P(u) du \quad (6)$$

Where A and k are the parameters of Vable function.

3. Physical basis of the used models

The programs for the numerical modeling contain the possibility for elimination of the measured data from the topographic effect and for performing analysis of the frequency distribution. The correction of the data could be performed individually for each measurement or an appropriate transformation of the frequency distribution could be made. This problem here was solved using the latter approach.

- **model of modifying the roughness**

the logarithmic profile of the wind is used only in the case of a comparatively homogeneous surface. If this is not the case, deviations from it could be observed and it will not be possible to attribute a single parameter of roughness to these surfaces. The efficient parameter of roughness could be obtained in different ways depending on the height of the observation. The average change in the roughness of the surface underneath and the velocity of the wind near the surface depend on the conditions of the surface only through the distance down the flow on the change in the roughness.

- **model of the obstacle**

the effect of the friction of the surface is a result of the resistance of the obstacle. The total effect is modeled with the roughness parameter. Near the obstacle at a distance comparable with the height H of the obstacle, the wind profile is disturbed. The purpose of the model used here is to correct the data from the effect of individual obstacles far enough from each other, in order to avoid the complications from the interference of the waves.

- **orographyc model**

the effect of the orography on the wind manifests itself in the change in the velocity and its direction. The purpose of the orographyc model is to eliminate the data for the wind affected by this influence. The BZ model of Troen was used here to calculate the disturbances in the velocity of the wind, induced by the orographyc elements like single hills or complex terrain. The theory of Jackson and Hunt of the flow of the wind around a low hill is in the basis of the model \. The staring equations are those for the motion of a neutral flow and it was accepted that the modifications in the flow result of the complex terrain could be considered as disturbances of the main state of the wind – the logarithmic profile. The necessary information which shall be supplied to the program is the height of the terrain for each point of the network.

- **stratification model**

the modification of the logarithmic profile of the velocity of the wind depending on the stratification is often neglected in the assessment of the wind statistics. This model treats the different wind profiles as small disturbances of the main neutral state. A simplified procedure is used which requires the introduction of the heat flow near the ground in the form of an average value and mean square deviation.

- **integrating model of analysis**

this model consists of the models described above. On the basis of the data from the observations of the wind, the description of the roughness of the surrounding terrain, the obstacles and the orography, the local climate of the wind is calculated in the form of parameters of the Vable distribution for standard conditions.

- **applied model of the program**

the applied model makes possible the calculation of the distribution of the wind velocity at a certain point on the basis of the local climate. The procedure is as close as possible to the reverse of the analysis model. The corrective factors for the obstacle, the modification of the roughness and the orography, are calculated exactly like in the analysis model, but here the used data concerns the obstacles, the roughness and the orography of the place – object of the calculations. Logarithmic interpolation is used for heights and roughness, different from the standard ones. The roughness values for each sector are calculated in the model of the roughness modification. The corrective factors are applied for the A – parameters for each sector and the k-values from the tables are preserved. In the end correction is made for the stratification in a way, described in the stratification model. For a definite height over the surface and from the data of the roughness of the terrain, the obstacles and the orographyc phenomena, the model calculates the values of the Vable sector parameters and the sector frequency for the chosen regional climate.

4. Special database of the modeling

4.1. Database of the direction and the velocity of the wind

As an input of the programs data are used from the observations of the velocity and the direction of the wind in the form of temporary rows. It would be best the data from hour or synoptic observations of the wind (in three hour period) to be used as an input, but data from the climatic observations could also be used (observations performed three times a day). This information shall be presented in the form of azimuth degrees and the velocity is presented in m/sec for a definite interval where the average for the velocity is

calculated (2 minutes or 10 minutes). Climatic eight term synoptic observations of the direction and the velocity of the wind over Kaliakra for a 10 year period were used here, which includes over 29 000 individual observations of the direction and the velocity of the wind. This leads to steady results based on long-term observations (wind climate) and to the elimination of the short-term (one – year) variations of the velocity of the wind.

4.2. Database of the orography

Database is being developed for the orography by specialized software and hardware and for the purpose maps are used with different scale (for instance M 1:5000, 1:10000, 1:25000 or 1:50000), according to the character of the problem, by developing electron files in the computer.

4.3. Database of the obstacles

Specialized database is being created of the obstacles in the region of the meteorological station in the place of interest, which is based on the use of special procedure and program. This base is also in electron form and contains results for the location of the station and the points of interest with the obstacles around them.

4.4. Database of the roughness of the surface underneath

The database is being developed by a special procedure and software describing the character of the surface cover in the region of the station as well as in the region from the station to the point of interest.
Determining the Vable function parameters designated here as A and k for the different degrees of roughness, for different heights over the terrain and different directions, an atlas of the wind in the place is developed which helps in solving the following problems:

- determining the effect of the influence of the obstacles, the roughness, the orography on the direction and the velocity of the wind;
- the space interpolation and extrapolation of the velocity and the direction of the wind for the point of interest in the space (directions of the predominating interest, velocity of the wind);
- determining the density of the flow in a random point of the relief;
- determining the amount of electric energy in a type of turbine with definite parameters (power, height of the axis of the generator over the terrain, diameter of the blades, etc.);
- determining the space orientation of the wind farm;
- choosing a generator with optimal parameters for each point in the investigated region, etc.

МОГИЛИЩЕ

Р.КОВСКИ

ПОР.ЧУНЧЕВО

ХАДЖИ ДИМИТЪР

КАМЕН БРЯГ

ЧЕРНА

СВ.НИКОЛА

КУРОРТ „РУСАЛКА"

БЪЛГАРЕВО

History Museum – Kavarna
Department Archeology

Municipality of Kavarna

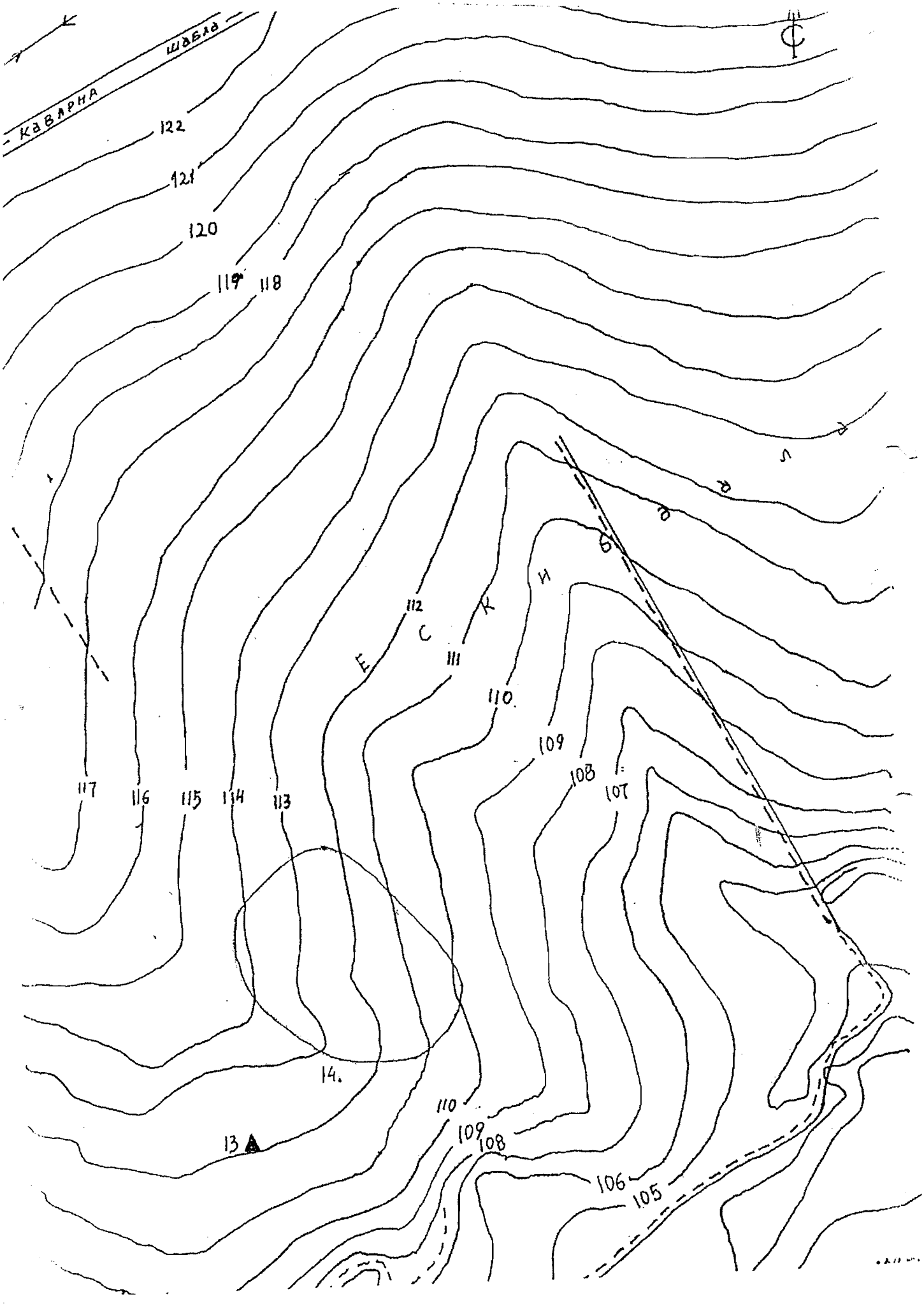
Residential place: Kavarna Cadast. No 35064
Archeological object: village from the Hellenistic, Roman and Early Byzantine era, area of 250 x 200 m
Location: 3250 m to the east, place "Diamandioglu"

Instructions for the use of the territory: Regime B, All excavation works, not connected to the farming activities are forbidden.
All farming activities are allowed under the conditions of Art. 18 of the Monuments of Culture and the Museums Act

Graphical scheme (M 1:5 000) attached at the back

Prepared by: Approved by:
(A. Salkin) (I. Sotirov)

(D. Toptanov)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History Museum – Kavarna
Department Archeology

Municipality of Kavarna

Residential place: Kavarna Cadast. No 35064
Archeological object: village from Early Byzantine and Ancient Bulgarian era, area of 650 x 350 m
Location: 4750 m to the north-east, place "Tyutyukler"

Instructions for the use of the territory: Regime B, All excavation works, not connected to the farming activities are forbidden.
All farming activities are allowed under the conditions of Art. 18 of the Monuments of Culture and Museums Act

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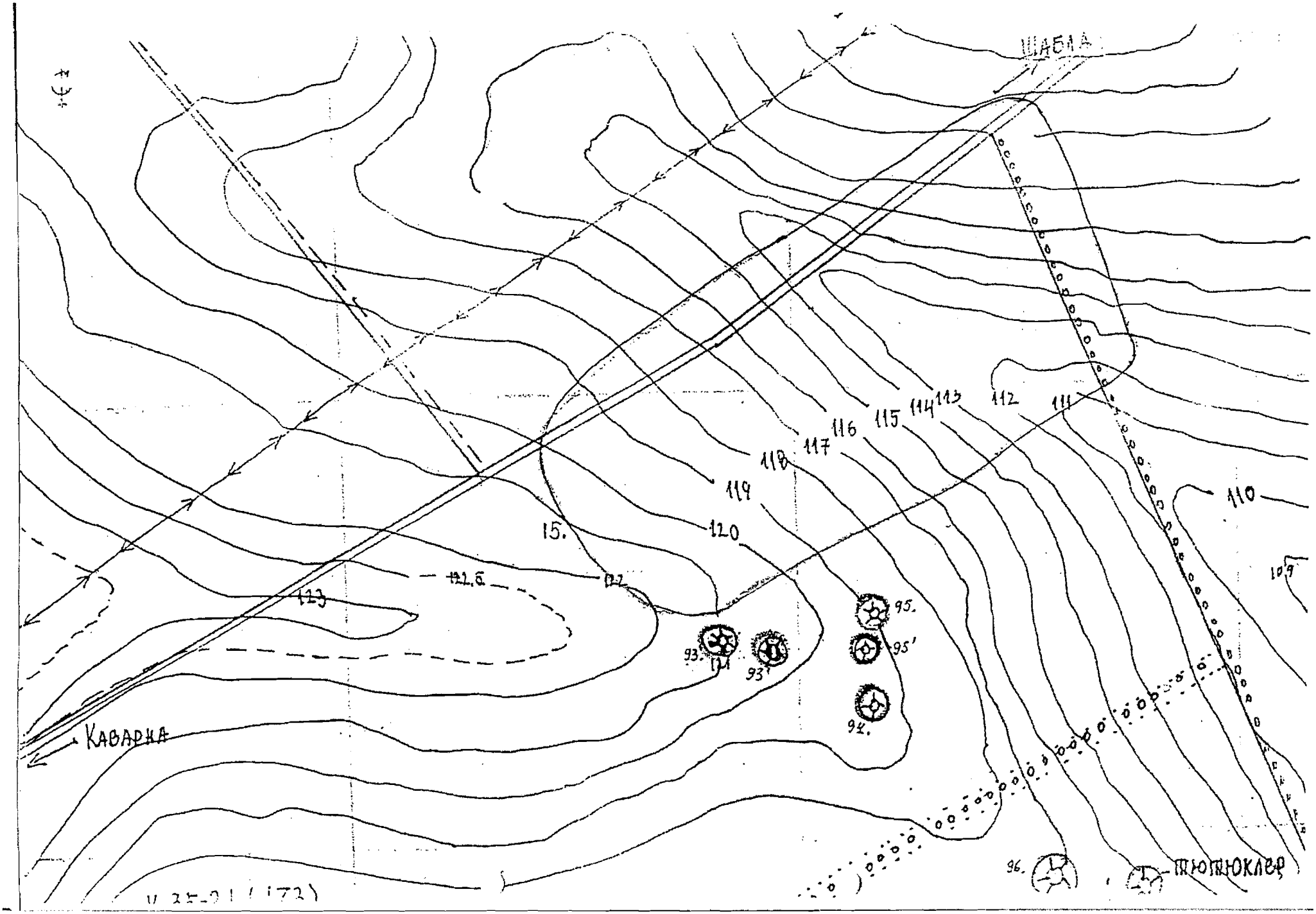
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History Museum – Kavarna
Department Archeology

Municipality of Kavarna

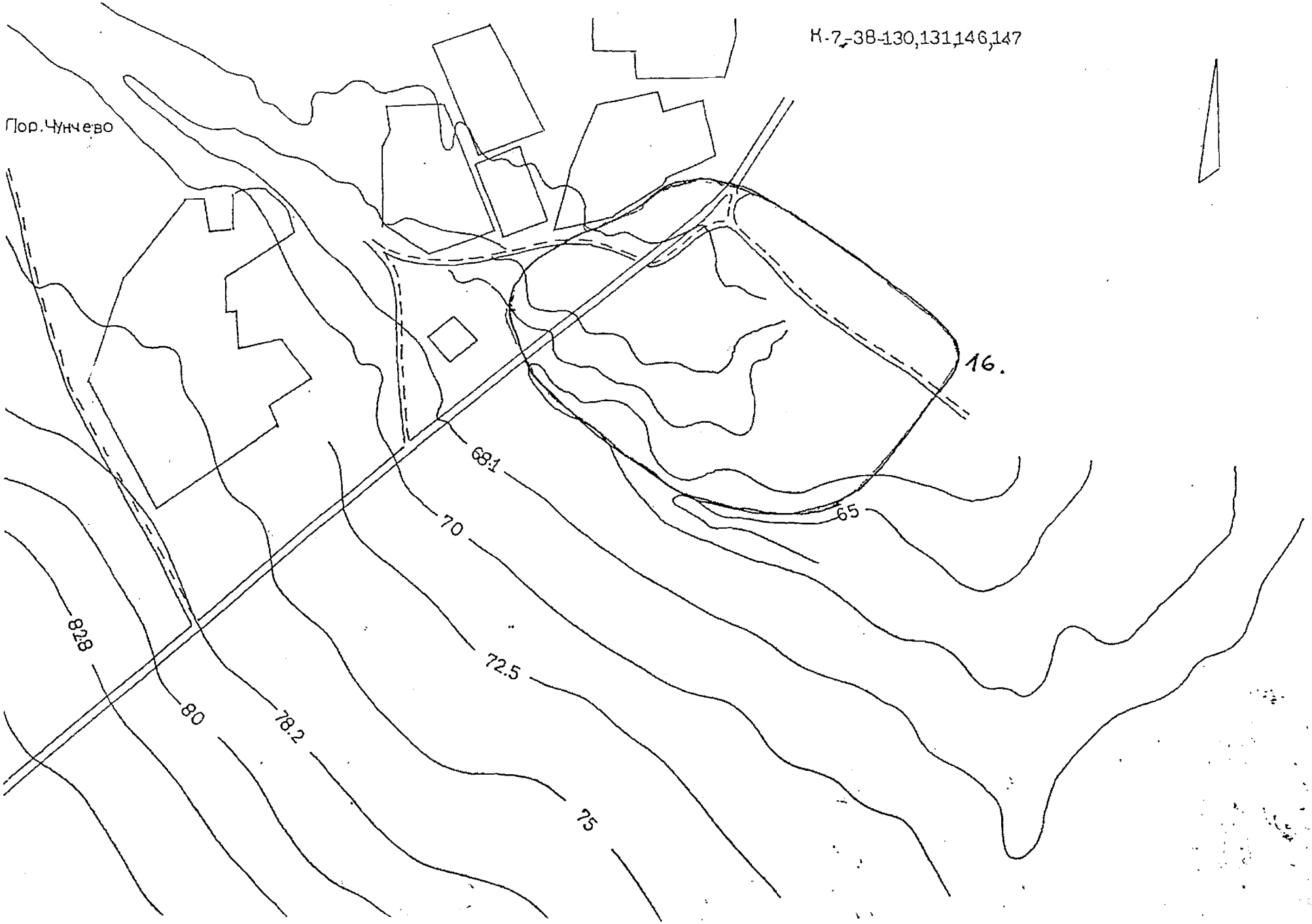
Residential place: Poruchik Chunchevo Cadast. No 57861
Archeological object: village from the pre- Roman, Roman, Early Byzantine and Early Medieval era, area of 400 x 320 m
Location: in the south-east end of the village

Instructions for the use of the territory: Regime B, All excavation works, not connected to the farming activities are forbidden.
All farming activities are allowed under the conditions of Art. 18 of the Monuments of Culture and Museums Act

Graphical scheme (M 1:5 000) attached at the back

Prepared by: Approved by:
(A. Salkin) (I. Sotirov)

(D. Toptanov)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History Museum – Kavarna
Department Archeology

Municipality of Kavarna

Residential place: Hadji Dimiter Cadast. No 77044
Archeological object: village from the Roman and Early Byzantine era, area of 250 x 200 m
Location: 2300 m to the south east of the village

Instructions for the use of the territory: Regime B, All excavation works, not connected to the farming activities are forbidden.
All farming activities are allowed under the conditions of Art. 18 of the Monuments of Culture and Museums Act

Graphical scheme (M 1:5 000) attached at the back

Prepared by: Approved by:
(A. Salkin) (
I. Sotirov)

(D. Toptanov)

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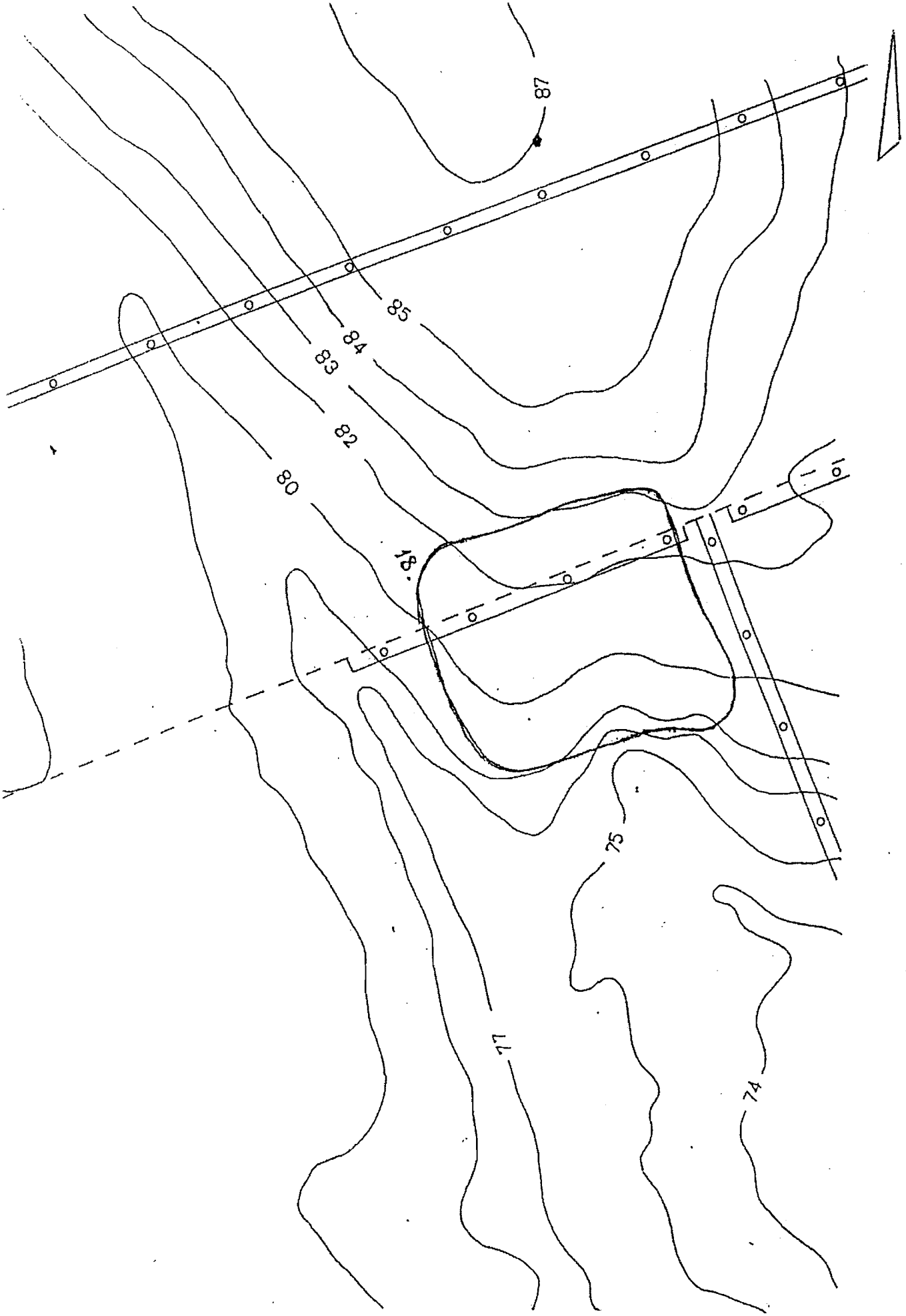


History Museum – Kavarna
Department Archeology

Municipality of Kavarna

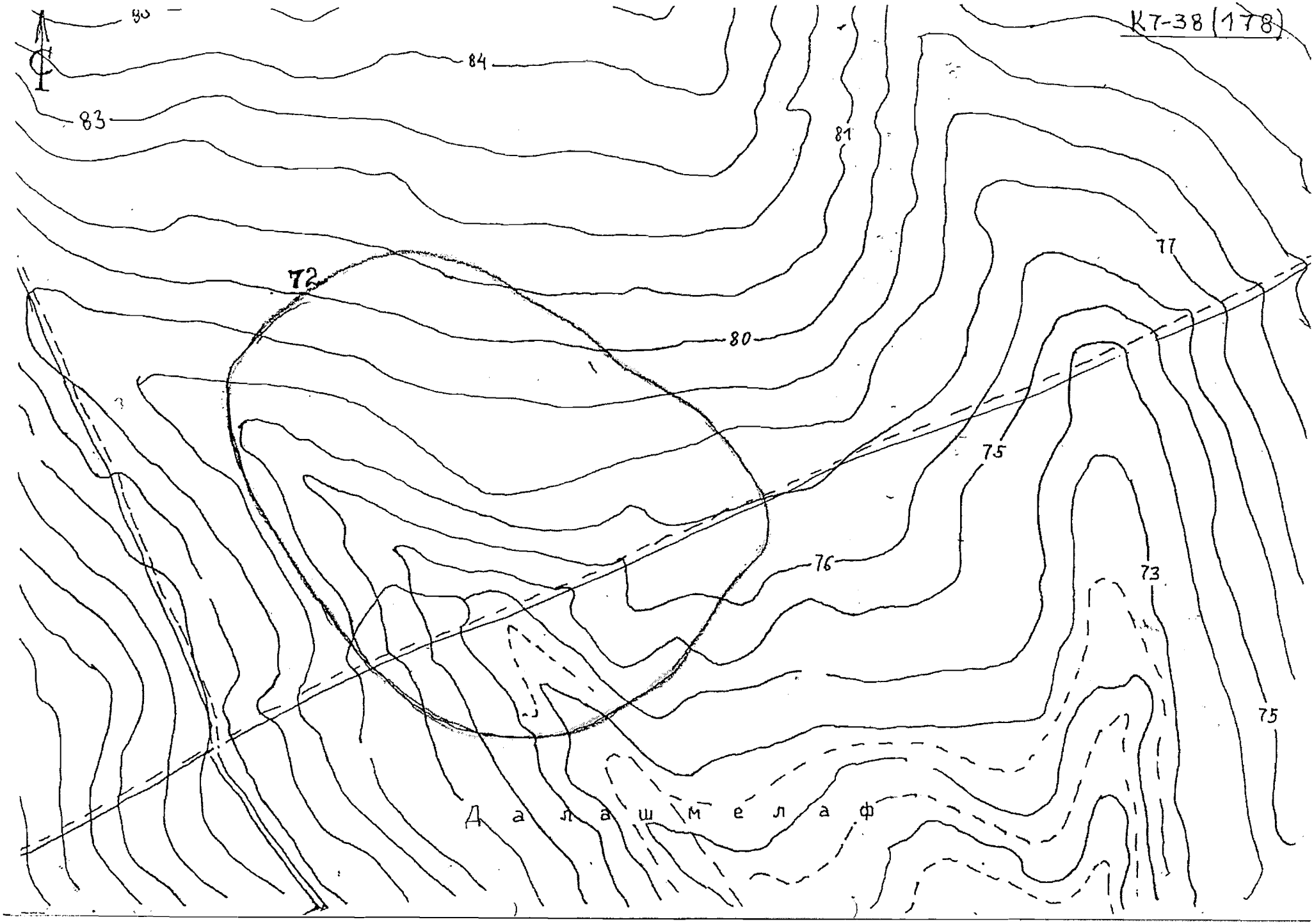
Residential place: Bulgarevo Cadast. No 07257
Archeological object: village from the pre- Roman, Roman, Early Byzantine era and the Ist and IInd Bulgarian Kingdom, area of 600 x 400 m
Location: 5000 m to the north-east

Instructions for the use of the territory: Regime B, All excavation works, not connected to the farming activities are forbidden.
All farming activities are allowed under the conditions of Art. 18 of the Monuments of Culture and Museums Act

Graphical scheme (M 1:5 000) attached at the back

Prepared by: Approved by:
(A. Salkin) (
I. Sotirov)

(D. Toptanov)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REPORT
ON THE PERFORMED MONITORING OF THE AUTUMN MIGRATION OF THE BIRDS ON THE TERITORY OF THE MUNICIPALITY OF KAVARNA

The performed monitoring on the autumn migration of the birds in the region of the Kavarna municipality is for the period August 15 – November 15, 2004. The reports were based on two stationary points located on the territory planned for the construction of the wind farm on the territory of the village of Sveti Nikola. One of the points is in the south-west and the other – in the north-east part of the Site (that is, the territory planned for the construction of the WPP). This is a part of the West Black sea route of migration Via Pontica and one of the far-east points on the Black sea coast (see the attached map). The visual observations were performed daily from 8.00 to 19.00 astronomical time and after October 15th – to 17.00. In days when the weather was bad the field observations were shorter. The report period includes 85 days with 730 hours of terrain work.
In the middle of October terrain observations were performed in order to establish the type contents of the bats in the region between the archeological reserve Yaylata and Taukliman. The basic method to determine the type variety was the registration of the ultrasonic sounds of the bats and the direct observation in the caves near the Rusalka resort. The detector type Petterson D 240 was used and sound recording technique type Sony. The computer analysis was performed by the specialized software BatSound 3.10.
The percentage of the sunny and cloudy days was 32.6%. The days with broken clouds were 34.8%. the winds were moderate and constant, predominantly from the north, north-east and north-west, and after Oct.16th – mainly from the south and the south-west. We have to note that the weather during the monitoring period was warm and comparatively dry for the season. Days with mist were rare, as well as prolonged cold, rain, stormy wind. The change of these parameters could influence the migration in other years.

During the monitoring on the territory of the Site we found 85 types of birds from 15 orders (Table 1). The types belonging to the song birds prevail (order Passeriformes). The Falconiformes (the birds of prey) are also of a rich order variety – 18 types, that is more than half of the types of the birds of prey in the whole country. The close vicinity of the sea is a prerequisite some types of Charadriiformes to fly over and feed on the site. These are four types of sea gulls and the Burchinus oedicnemus. Four types belong to the Columbiformes, two of them – the domestic type of the rock pigeon Columba livia f. domestica and the turtle dove Streptopelia decaocto are synantropic and are closely related to the nearby villages. From the rest of the classes 3 types belong to Coraciiformes, 2 to Anseriformes, 2 to Ciconiiformes, 2 to Apodiformes, 2 to Strigiformes, 2 to Pelecaniformes, 2 to Gruiformes, 2 to Galliformes, 2 to Piciformes, 1 to Caprimulgiformes and 1 to Cuculiformes.
At the beginning of the period till the end of September most of the birds, mainly those from Paseriformes, flew to the north and the north-east. Having in mind the direction of the wind in this period, the direction of the migration turned out to be against the wind. The three classes of sparrows – the coast Riparia riparia, the village Hirundo rustica and the town Delichon urbica, the main migrants in the period August 20th – September 20th, flew down to 50 cm over the surface, following the relief. They skillfully avoided the bushes, the technical equipment even in stormy weather and strong winds. The same was true for the two types of Apodidae - Apus apus and Apus melba and for the bee-eater Merops apiaster.

The presence of separate bushes and trees attract many of the song-birds, which fly on a broad front staying for a while on the territory looking for food and rest. At the end of August and the beginning of September the Lanius collurio and the Lanius minor were the most numerous. After them (the end of September – the beginning of October) the most numerous were Motacilla alba, the Phoenicurus ochrurus and the Turdus philomelos, and at the end of October there came the Carduelis spinus and the Melanocorphypha calandra.
The roaming birds and the day-time birds of prey are 22 types. The white stork Ciconia ciconia, the grey heron Ardea cinerea, the grey crane Grus grus and the pelican Pelecanus crispus are among them. Most of the populations of these types migrate from the end of August till the middle of October. Except for the white stork whose population is numerous and passes through the investigated territory till the end of August, the rest are in small numbers and even in single representatives. The main stream of migrating storks (4500 birds) passed through the region in question on August 21 – 23, grouped in flocks of 150 – 700 birds. The direction of the migration was from the archeological reserve Yaylata to the Bolata region, that is, from the north-east to the south-west. Part of the flocks flew in low above the sea surface (about 150 m) and formed a "chimney" over the dung-hill and the game-preserve, crossed cape Kaliakra and flew to the west towards the village of Bulgarevo. Separate small groups of storks (5 – 15 birds) passed about 3000 m to the north or to the north-west of the site towards the town of Kavarna.
We registered 18 types of the class Falconiformes. The most numerous were the Buteo buteo, the Accipiter nisus, the Falco tinnunculus and the Circus species. Their peak populations were registered after the middle of October. The main migration direction was parallel to the sea coast from the north-east to the south-west. Most of the birds of prey fly over the cliff and 300 – 400 m towards the land. Part of the flocks of the ordinary buzzard (most often in groups of 5-6 birds) come from the north over the village of Sveti Nikola. On October 25th the greatest number of buzzards - 58 were registered and part of them passed to the west of the site. Most of the birds passed between 10.00 and 12.30 o'clock. The weather was sunny with a slight wind from the south, very damp and hazy. In the south-west part of the site the birds went down to 20 – 6- m and joined the birds coming from over the cliff. There, roaming upwards, they catch the warm air flows (the so called chimneys). The presence of up-going thermals in this part of the site is probably due to the forest phytocenosis and the lowering of the relief in the fenced game-preserve. After a certain height the birds flew to the south-west to the village of Bulgarevo.
The greatest part of the day-time birds of prey use the region of the site as a place for food and rest and stay there for a few days. Some types hunt mainly in the farming eco-systems, for instance the falcons (Falco tinnunculus and Falco subbuteo), others like the hawks (Accipiter) and the buzzards (Buteo) prefer the steppe habitats where the food for them is abundant. The circuses stick to the region of the site and the neigh bouring farming areas and often fly 1 – 2 m over the surface.
Seven types of bats were registered on the territory of the investigated region:

- small horseshoe-nosed (Rhinolophus hipposideros). This type is widely spread in the region. In day time it uses the caves and the rock clefts on the sea shore as hiding places. It could be seen during the whole year. Its grounds for food are most often the terrains near the sea covered with bushes and trees. Probably when the weather is quiet these bats fly over the site;
- large horseshoe-nosed (Rh. Ferrumequinum). It is to be seen often with the former type. Five –six bats were registered in the caves near Taukliman;
- Myotis sp. Single bats were observed from the smaller type of this species. They flew actively by single isolated trees on the territory of the site;

- midnight bat (Eptesicus serotinus). Single bats were registered in the region of the rocky wreath and over the open steppe territories;
- small brown bat (Pipistrellus pipistrellus). Hunting representatives of this type were registered near isolated trees in the open part of the investigated territory;
- Pipistrellus pygmaneus. This type could often be seen in the region of the damp zones near the Black sea coast. For the whole country this is a rare species. It was observed near the rocky wreath;
- Pipistrellus nathusii. This is a migrating type in the autumn and it was registered in great numbers and in very high feeding activity along the whole Black sea coast. In the evening of October 16th a large group was registered which was feeding around isolated trees in the steppe habitats. These were probably migrants because the previous nights no representatives of this type had been observed.

Visiting three of the caves in the Russalka region we registered active large horseshoe-nosed (Rh. Ferrumequinum) and we established traces of probably a reproduction colony. The guano remnants on the floor of the cave were evidences of a hiding place of these bats in the spring and the summer.

Table 1 Classes of birds registered in the period 18.08 – 15.11.2004 on the area for the construction of the Wind farm in the territory of the village of Sveti Nikola

No	Class
1	Accipiter brevipes
2	Accipiter gentiles
3	Accipiter nisus
4	Alauda arvensis
5	Anas platyrhynchos
6	Anser albifrons
7	Anthus campestris
8	Apus apus
9	Apus melba
10	Aquila pomarina
11	Ardea cinerea
12	Asio flammeus
13	Bubo bubo
14	Burhinus oedicnemus
15	Buteo buteo
16	Buteo rifunus
17	Calandrella brachydactyla
18	Caprimulgus europaeus
19	Carduelis carduelis
20	Carduelis chloris
21	Carduelis spinus
22	Ciconia ciconia
23	Circaetus gallicus
24	Circus aerouginosus
25	Circus cyaneus
26	Circus pygargus
27	Columba livia
28	Columba palumbus
29	Coracias garrulous

30	Corvus corax
31	Corvus frugilegus
32	Corvus monedula
33	Coturnix coturnix
34	Crex crex
35	Cuculus canorus
36	Delichon urbica
37	Dendrocopos major
38	Dendrocopos syriacus
39	Erithacus rubecula
40	Falco cherrug
41	Falco peregrinus
42	Falco subbuteo
43	Falco tinnunculus
44	Falco vespertinus
45	Fringilla coelebs
46	Galerida cristata
47	Garrulus glandarius
48	Grus grus
49	Hirundo rustica
50	Lanius collurio
51	Lanius minor
52	Larus cachinnans
53	Larus melanocephala
54	Larus minutus
55	Larus ridibundus
56	Melanocorypha calandra
57	Merops apiaster
58	Miliaria calandra
59	Milvus migrans
60	Motacilla alba
61	Motacilla flava
62	Muscicapa striata
63	Oenenthe isabellina
64	Oenenthe oenanthe
65	Oenenthe pleschanka
66	Oriolus oriolus
67	Pandion haliaetus
68	Pelecanus crispus
69	Perdix perdix
70	Pernis apivorus
71	Phalacrocorax carbo
72	Phoenicurus ochruros
73	Phoenicurus phoenicurus
74	Phylloscopus collybita
75	Pica pica
76	Riparia riparia
77	Saxicola rubetra

78	Saxicola torquata
79	Streptopelia decaocto
80	Streptopelia turtur
81	Sturnus vulgaris
82	Sylvia curruca
83	Turdus merula
84	Turdus philomelos
85	Upupa epops

Additional observations in the spring and in the autumn in the next years will update this information.
The construction works shall be performed before or after the generative period of the birds so that not to disturb them when laying the eggs and brooding, under the constant control of an ecologist.
It is necessary to elaborate a year-round monitoring program of the impact of the wind generators over the ornitho-fauna and the eventual losses, compared to the number of the populations and their annual growth.

Elaborated by: (s)

Nikolay Karaivanov
Team leader for the BAS experts

Conclusion

from the performed monitoring of the autumn migration of the birds on the territory of the Kavarna municipality in the period 15.08 – 15.11. 2004, in compliance with the recommendations of the EIE Report, discussed by the interested public on 21.09.2004

The main directions of the flights of the birds most frequently registered over the territory of the future WPP in the investigated period were the northwest – for the sparrows, the bee-eaters, the Apodidae, and southwest – for the storks and the day-time birds of prey. Most of the birds follow the coast line and fly over the cliff. The following zones could be determined as risky:

- between the sea coast and the cliff;
- the strip from the cliff to about 400 m inwards]
- the south-west end of the territory of the WPP (part of the cadastral unit 73), where most of the roaming birds form a "chimney", they gain height and fly towards Kavarna. This zone as well as the territory of the game preserve is also risky for these classes of birds.

The overall number of the migrating roaming birds in the region is small in comparison with the populations of the classes passing through the country. This could be attributed to the location of the area too much to the east and to the specific climatic characteristics for this year. We suppose that most of the migrants pass at about 20 – 30 km inwards, avoiding the investigated area.

After we got acquainted with the plan for the installation of the equipment and the determined risk zones, we established that the three end generators in the south-west part of the area are to be located in the risk zone described in item 3.
We recommend the competent authorities to take into account this conclusion and move the mentioned generators out of the risk zone.

Translation!

STANDPOINT
RE: MONITORING OF THE AUTUMN MIGRATION OF THE BIRDS ON THE TERRITORY OF KAVARNA MUNICIPALITY

OBJECT: WIND FARM ON THE LAND BETWEEN THE VILLAGE OF BULGAREVO AND THE VILLAGE OF ST. NIKOLA, KAVARNA MUNICIPALITY

INVESTOR: GEO POWER LTD.

CHARACTERISTICS OF THE STATE OF THE ORNITHO-FAUNA ON THE LAND BETWEEN THE VILLAGE OF BULGAREVO AND THE VILLAGE OF ST. NIKOLA, KAVARNA MUNICIPALITY

Dobroudja is one of the regions in our country, that that have undergone drastic changes in the landscape during the last decades. The steppe has been turned into arable lands, amongst which are situated different in size massifs of oak and oak-lime woods. The bio-diversity in the bigger part of the region is strongly reduced, only a limited quantity of species finds suitable conditions in the agrocenosis. The shelter belts play an important role of corridors for invasion of the birds in the arable lands. Some of them are 40-50 years old and offer good subsistent conditions for wood species of mammals and birds. The drop of the relief in some places with the dry ravines, xerotherm grass formations and sparsely woods are prerequisites for increasing of the variety of species. All these considerable in area and heterogeneous biotopes mutually influence each other by forming of floral and faunal communities in each one of them.

The territory that we examined is situated northerly of the road connecting the village of St. Nikola and the village of Bulgarevo, next to the asphalt road from Kavarna to the village of Gorun. These are entirely agricultural territories, with built black roads and artificially planted shelter belts.

Our data for the ornitho-fauna are from carried out terrain researches in different seasons from 1996 to 2004 and the carried out monitoring of the autumn migration of the birds from August 15th to November 15th 2004.

The composition of the nesting bird's species in the agrocenosis is quite scant. In the researched by us seven different monocultures we found a total of 7 bird species (Table 1). For comparison we will point that in the woodland phytocenoses in Dobroudja are found 51 species, in the steppe and grass biotopes respectively 26 and 13, and in the shelter belts 32 species of nesting birds.

This once more proves that the artificial agroecosystems have limited composition of plant and animal components and week self-regulation mechanisms.

The wheat crops are inhabited mostly by three lark species – sky lark (Alauda arvensis), calandra lark (Melanocorypha calandra) and crested lark (Galerida cristata); yellow wagtail (Motacilla flava), common quail (Coturnix coturnix) and grey partridge (Perdix perdix). The sky lark ranges in all types of monocultures and is dominating specie in them. Here it finds suitable conditions and the density of the pairs is relatively higher – 7.22 pairs per 10 ha, than in the steppes and the grass

phytocenoses. The yellow wagtail and the quail are also typical representatives for the agrocenosis. The yellow wagtail was only not found in the flax crops, in soy crops it is dominating specie (21.95) together with the sky lark. The quail was missing in the alfalfa fields and it was probably due to the fact that it was mowed and thus its height couldn't offer optimum conditions for this specie.

The total density of the nesting birds in the arable lands is higher than that in the natural grass ecosystems. In spite of that it is relatively low (8.93 pairs per 10 ha) in comparison with other explored plant complexes, typical for Dobroudja region. By the different crops with higher density distinguish the ornithocomplexes in the flax crops – 24.7 pairs per 10 ha, and the lowest density is by the sunflower – 3.95 pairs per 10 ha. This is possibly due to the later vegetation of these crops.

Table 1. Composition of species, density and domination of the nesting birds in the agro ecosystems

№	Specie	Number of pairs	p/ 10 ha	d
1.	Alauda arvensis	542	7.22	80.90
2.	Coturnix coturnix	46	0.61	6.86
3.	Motacilla flava	42	0.56	6.26
4.	Melanocorypha calandra	32	0.43	4.78
5.	Galerida crstata	4	0.05	0.60
6.	Perdix perdix	2	0.03	0.30
7.	Emberiza hortulana	2	0.03	0.30
	Total:	670	8.93	100%

In the shelter belts we found 32 nesting bird species, belonging to 9 orders (Table 2). Most of the species – 18, are from the order Passeriformes. About ¼ of the birds – 121 pairs or 24.89% of dominance belongs to the Spanish sparrow (Passer hispaniolensis). That is due to the colonial way of nesting of the specie, as in some of the belts nest 15, even 20 pairs on an area between 0.5 and 1 ha. Except the Spanish sparrow, dominant are three more species – lesser grey shrikes (Lanis minor), corn bunting (Miliaria calandra) and the Eurasian golden oriole (Oriolus oriolus). Together with five subdominant species: nightingale (Luscinia megarhynchos), two species of buntings, magpie (Pica pica) and blackbird (Turdus merula), define the character of the nesting community in these specific for the region phytocenoses. Summary the numbers of these nine species exceeds 83%. These are species, related mainly with the tree-bushy complex neighboring the open areas where those birds feed. Amongst the seldom ranging birds, the so called sporadic species, are night and day pray birds, Galliformes, Columbiformes, etc. which are non typical for the open agricultural areas, and the wood belts appear to be the only suitable for them habitat. Finding wood species as great-spotted woodpecker (Denrocopos major), European nightjar (Caprimulgus europaeus), European greenfinch (Carduelis chloris), common buzzard (Buteo buteo) etc. define the significance of the shelter belts for the invasion of such type of fauna in the open level agrocenoses.

From the rest 8 orders (without Passeriformes) with highest numbers and density are the turtle dove and the Eurasian collared dove, respectively 2.03 and 1.74 pairs per 10 ha. The Eurasian collared dove is non typical specie and its high density in the

settlements in this region is probably a prerequisite for its appearance in the close shelter belts. An additional condition is the rich food sources in the neighboring agricultural areas.

Table 2. Composition of species, numbers and density of the nesting birds in shelter belts.

№	Specie	Number of pairs	p/ 10 ha	d
1.	Passer hispaniolensis	121	17.54	24.89
2.	Lanius minor	70	10.14	14.40
3.	Emberiza calandra	51	7.39	10.49
4.	Oriolus oriolus	50	7.25	10.29
5.	Luscinia megarhychos	29	4.20	5.96
6.	Emberiza hortulana	24	3.48	4.94
7.	Emberiza melanocephala	22	3.19	4.52
8.	Pica pica	21	3.04	4.32
9.	Turdus merula	16	2.32	3.29
10.	Streptopelia turtur	14	2.03	2.88
11.	Streptopelia decaocto	12	1.74	2.47
12.	Garrulus glandarius	11	1.59	2.26
13.	Cuculus canorus	8	1.16	1.64
14.	Lanius collurio	8	1.16	1.64
15.	Dendrocopos major	4	0.58	0.82
16.	Alauda arvensis	4	0.58	0.82
17.	Sturnus vulgaris	4	0.58	0.82
18.	Buteo buteo	2	0.29	0.41
19.	Upupa epops	2	0.29	0.41
20.	Falco tinnunculus	1	0.14	0.21
21.	Falco vespertinus	1	0.14	0.21
22.	Falco subbuteo	1	0.14	0.21
23.	Phasianus colchicus	1	0.14	0.21
24.	Perdix perdix	1	0.14	0.21
25.	Columba palumbus	1	0.14	0.21
26.	Caprimulgus europeas	1	0.14	0.21
27.	Otus scops	1	0.14	0.21
28.	Acrocephalus palustris	1	0.14	0.21
29.	Silvia communis	1	0.14	0.21
30.	Silvia curruca	1	0.14	0.21
31.	Carduelis chloris	1	0.14	0.21
32.	Passer montanus	1	0.14	0.21
	Total:	486	70.43	100%

During the autumn migration from August 15th to November 11, 2004 in the researched territory we found presence of 86 bird species, belonging to 14 orders (Table 3). Most of them are from order Passeriformes, 46 species; some of them are constant for the region. They cling mainly to the shelter belts or to the bushes along the road. The most numerous migrants are swallows – barn swallow (Hirundo rustica) and house martin (Delichon urbica), pied wagtail (Motacilla alba), order Sylvia, order Phylloscopus. By barn swallows the migration peak is about September

10th and by the house martins – several days later. Big part of them use the arable lands for a convenient feeding places as well.

The diversity of day pray bird species is significant. We observed 17 species of this order, some of them in small numbers or only single specimens registered. The order Circus, order Accipiter and order Buteo also use the plentiful food sources and they could stay for several days or weeks in this area.

From the day pray birds the most numerous is the common buzzard (Buteo buteo). The peak of its migration we observed on October 24th – 119 specimen, which were flying one by one or in small groups, the biggest one numbered 41 specimen. In some of the flocks fly also single long-legged buzzards (Buteo rufinus). A bigger part of the birds passed through the region between 11.00 and 14.00 hours. More than 70% of the flocks were flying in northwest direction at an average altitude of 180-200 m. This was probably due to the fact, that it's possible some of the birds to be swept away by the strong northern winds over the sea, because there the coast is oriented from east to west.

From the rest of the big hovering bird species during the autumn migration we found six species – two species pelicans: great white pelican (Pelecanus onocrotalus) and Dalmatian pelican (Pelecanus crispus), grey heron (Ardea cinerea), white stork (Ciconia Ciconia), mute swan (Cygnus olor) and common crane (Grus grus). All of them, however, are of low numbers on the explored territories. The occasional single flocks number from ten to 40-50 specimen. The altitude of the flight is over 300-400 m and the direction of the migration is most often west-southwest. Considerably more frequent and more numerous flocks pass at 4000-5000 m southwest of the observed region, that is between the road Kavarna – Bulgarevo and the sea shore, where they fly over the cliff from east to west.

More numerous than this group of birds are the white storks, occasional groups of them spend the night or feed together with herring gulls in the stubbles and farmlands. Such groups, with numbers between 7 and 57 specimens, we observed in the end of August, after that remained only single, most probably old and sick birds.

We should mention that the weather during the period of the carried out monitoring was warm and comparatively dry for the season. There were no foggy days, long cold spells, rain or stormy winds. The change in these parameters could influence the migration during another year.

The lands, sown with autumn wheat, during the winter months could serve as feeding source for some geese wintering in the region – red-breasted goose (Branta ruficollis), great white-fronted goose (Anser albifrons). In this region feed also some wintering representatives of the pray birds.

Table 3. Composition of species during the period 15.08.-15.11.2004 on the land between the village of St. Nikola and the village of Bulgarevo

№	Specie
1.	Accipiter brevipes
2.	Accipiter gentilis
3.	Accipiter nisus

№	Specie
4.	Alauda arvensis
5.	Anthus campestris
6.	Apus apus
7.	Apus melba
8.	Aquila clanga
9.	Aquila pomarina
10.	Ardea cinerea
11.	Buteo buteo
12.	Buteo rufinus
13.	Calandrella brachydactyla
14.	Caprimulgus europaeus
15.	Carduelis cannabina
16.	Carduelis carduelis
17.	Carduelis chloris
18.	Carduelis spinus
19.	Ciconia ciconia
20.	Circaetus gallicus
21.	Circus aeruginosus
22.	Circus cyaneus
23.	Circus macrourus
24.	Circus pygargus
25.	Coccothraustes coccotraustes
26.	Columba livia
27.	Columba palumbus
28.	Coracias garrulous
29.	Corvus corone cornix
30.	Corvus frugielegus
31.	Corvus monedula
32.	Coturnix coturnix
33.	Cuculus canorus
34.	Cygnus olor
35.	Delichon urbica
36.	Dendrocopos major
37.	Erithacus rubecula
38.	Falco subbuteo
39.	Falco tinnunculus
40.	Fringila coelebs
41.	Galerida cristata
42.	Garrulus glandarius
43.	Grus grus
44.	Hieraaetus pennatus
45.	Hirundo daurica
46.	Hirundo rustica
47.	Lanius collurio
48.	Lanius minor
49.	Larus cachinnans
50.	Melanocorypha calandra
51.	Merops apiaster
52.	Miliaria calandra

№	Specie
53.	Milvus migrans
54.	Motacilla alba
55.	Motacilla flava
56.	Muscicapa striata
57.	Oenanthe isabellina
58.	Oenanthe oenanthe
59.	Oriolus oriolus
60.	Passer montanus
61.	Pelecanus crispus
62.	Pelecanus onocrotalus
63.	Perdix perdix
64.	Pernis apivorius
65.	Phalacrocorax carbo
66.	Phoenicurus ochruros
67.	Phoenicurus phoenicurus
68.	Phyllocopus collybita
69.	Phyllocopus sibilatrix
70.	Phyllocopus trohilus
71.	Pica pica
72.	Porzana porzana
73.	Riparia riparia
74.	Saxicola ruberta
75.	Saxicola torquata
76.	Streptopelia decaocto
77.	Streptopelia turtur
78.	Sturnus vulgaris
79.	Sylvia atrcapilla
80.	Sylvia communis
81.	Sylvia curruca
82.	Troglodytes troglodytes
83.	Turdus merula
84.	Turdus philomelos
85.	Upupa epops
86.	Vanellus vanellus

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Report
on the performed "Monitoring of the spring migration of the birds in the region of the villages Bulgarevo and Sveti Nikola, Kavarna municipality"

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The performed monitoring on the spring migration of the birds in the region of the villages Bulgarevo and Sveti Nikola, the Kavarna municipality, includes the period from 01.03 to 31.05. 2005. The region of investigation is one of the most eastern territories of Bulgaria near the Black sea coast. It covers mostly farming lands and forest belts, located to the northwest of the asphalt road between the villages Bulgarevo and Sveti Nikola to the first class road E 87 Kavarna – Shabla. The reports of the day-time migrating birds were performed at a stationary point located at the highest part of the territory in question, a hill neighbouring belt No 2359. It is located about 3.5 km to the north of the village of Bulgarevo. The visual observations were performed every day from 8.00 to 19.00. In days with unfavourable climatic conditions, the period of observation was shortened.
In order to establish the terms and the dynamics of the migration of the roaming and the song birds we used the route and the transect methods. The transects were permanent and encompassed the forest belts and the farming lands, sown with different mono-cultures. The routes were followed every morning between 9.00 and 11.00 o'clock, and sometimes in the afternoon between 16.00 and 18.00 o'clock. Counting the birds in the farming lands and the forest belts the movement was parallel to the belt. Every noticed and heard bird was registered one of the sides of the agrocenosis in a strip of 50 m and on the other side of the belt. The distance from the bird to the axis of the movement was registered when the birds were in the agrocenoses, and only their number was registered when they were in the belts, without the distance to the route. The length of the transect was 5700 m.
Parallel to these permanent observations certain monitoring was performed on the night migration of the birds against the moon disk.
Ornithological nets were placed at specific places in the investigated territory to catch some birds. In this way additional information was supplied about the types of the birds and the ratio of the migrants in the different periods.
The period of the monitoring reported here includes 73 days with over 600 hours field work.
In the period 01.03 – 31.05. 2005 in the region between the villages Bulgarevo and Sveti Nikola we established 72 types of birds. Six of them besides the larks, are found only in the farming lands and do not enter the forest belts. These are the Coturnix coturnix, the Motacilla flava feldegg and the Motacilla alba, the Oenanthe oenanthe and the Larus cachinnans and L. fuscus, feeding in the agrocenoses. Table 1 contains all the types of

birds, registered both in the farming lands and the forest belts, their status of distribution in the region and the dates of arrival for the migrating types.
These 72 types of birds belong to 11 classes. The most numerous are the song birds, class Passeriformes – 49 types.
The other 10 classes are represented as follows: Falconiformes – 7 types, Columbiformes – 4, Coraciiformes – 2, Charadriiformes – 2, Galliformes – 2, Piciformes – 2, Apodiformes – 1, Cuculiformes – 1, Pelecaniformes – 1, Caprimulgiformes – 1.
51 of these types are migrating birds. Some of the types registered by us, are to be met all around the year and others stay for the winter in these areas.
In the period of the investigation (01.03. – 31.05.2005) flocks of day-time migrating roaming birds were not registered. Larger groups and flocks (50 – 60 birds) of Larus cachinnans were regular4ly registered. The greater part of them feed in the agricultural lands and some fly over the region migrating for food or for the season. On April 14th we registered a flock of 10 Phalacrocorax carbo flying 250 m over the investigated territory to the northeast. Because of the scarce data we could not make any conclusions for the direction, the height of the flight and the dynamics of the flocks of the day-time migrants during the spring monitoring performed that year.
We registered 7 types of birds of prey. The regularly observed were the Buteo buteo and the Falco tinnunculus. As a feeding ground the farming lands were visited by the Circus aeruginosus, C, cyaneus, C, pygargus and more rarely by the C.macrourus.Most of them were observed individually or in couples. On May 23rd a small Aquila pomarina flew over the region to the north.
These habitats are used as feeding ground by the swallows and Apodidae arriving in the end of March and the beginning of April. The other types of the Passeriformes registered in the region by the transect method showed different values in the dynamics of their numbers.
The artificial forest belts offer various habitats for the different groups of birds and play the role of corridors during the migration mainly for the Passeriformes connected with the forest and the bushes. In the beginning of the period , in March, the values of the density of the birds registered in the forest belts were still low. Towards the end of the month these values increased and on the 30 – 31.03 they reached 58 – 60 birds on 10 ha. The types were comparatively few, and the higher density was due to the greater number of Turdus merula and the T. philomelos, for which these are generally the peak values during the spring migration. The next high density values were observed in the middle of April (13 – 14.04). This coincided with the incoming of new migrants to the region. After April 20th, both the density and the number of the types of the migrating birds through the forest belts gradually increased to about 84.62 birds per 10 ha. After the middle of May a steep decrease was observed for those parameters and in the end of the month they stabilized at the level of the values for the nesting communities. The performed parallel investigations in the steppe habitats showed that the peaks of the migration for the types connected with the vegetation areas was about a moth later. In the steppe habitats these values (density and number of types) are maximal about April 15 – 20, while for the forest belts – about May 14 – 15. The possible reasons could be both ecological differences in the types, and the fact that the belts are not yet covered with leaves in April and do not offer suitable protection.
These ecological parameters are different for the agricultural areas. Though in March the dominating species were the Alauda arvensis and the Melanocorypha calandra, the density was high due to the fact that the investigated territory was used as a place of stay in the winter by types typical to areas further north. The next high density values were established in the middle of April (17.04) which coincided with the peak of the migration

of Motacilla flava. Its density was 4.56 birds / 10 ha and the overall density reached 34.74 birds/10 ha. On this date there were peak values for the larks as well, which was in compliance with the data for the steppe territories. The birds were still staying in groups of several. After April 20th the types density in the agroechosystems gradually decreased and after May 20th there were values of about 3 – 4 couples / 10 ha. Then the nesting couples and the nesting grounds had already been formed. The different stage of development of the mono-cultures in this period determined the differences in the number and density of the bird populations. The maize and the sunflower were at that time about 10 cm high and the optimal conditions were offered by the winter wheat. There the density reached 8.24 couples / 10 ha, while for the sunflower it was only 3.55 couples / 10 ha. This was confirmed by the results of the present investigation.

The data about the performed observations on the night migration showed the following:

According to the data collected by that time the night migrating birds included the classes: Passeriformes – 87%, Charadiiformes – 7%, Auseriformes – 2% and Apodiformes – 6 %. Due to the method limitations the types of the night migrants could not be strictly defined. The detailed investigations in other regions in the country give the types of the night migrants. These published data show that there are specific features in the composition of the birds flying during the night in the regions near the Black sea coast, because of the great number of sea birds.

In the region of the present investigation in the spring of 2005 the lowest values of the density of the night migrants were registered for the whole country in that season. The geographical location of the region and the specific topography here suppose a low concentration of night migrants. The registered directions of the flights followed the coast line, that is, southwest – northeast.

The night migration in the region was observed at height varying from 50 to 1600 m over the area. The largest was the number of birds flying between 300 and 800 m.

Conclusion

During the spring migration from March 1 to May 31 2005 in the region between the villages of Bulgarevo and Sveti Nikola we registered 72 types of birds. 51 of them were migrating types. Some of the registered types were met during the whole year, others stayed only for the winter in these areas.

In the period mentioned flocks of day-time migrating roaming birds over the territory were not registered.

The density of the smaller types and the song birds using the forest belts as migration corridors was the highest in the end of March, the middle of April and the middle of May. The highest density was registered on May 14th – 84.62 birds / 10 ha.

In the spring the mass night migration took place in April and May. Despite this the registered density values in this region were lower than these established for other regions in the country. The highest number of night migrants flew between 300 and 800 m over the area. The first to migrate were the types staying for the winter in the Mediterranean and North Africa. The maximal density values were established in the middle of May for a mixed composition of migrants crossing the Sahara desert and to closer territories.

Table 1 Types of the birds registered in the farming areas and the forest belts between the villages Bulgarevo and Sveti Nikola in the period 01.03. – 31.05.2005.

No	Type	Status	First observation in the

			region
1	Acrocephalus palustris	M	03.04.2005
2	Alauda arvensis	P	
3	Anthus campestris	M	12.4.2005
4	Anthus cervinus	M	17.4.2005
5	Apus melba	M	26.3.2005
6	Aquila pomarina	M	23.5.2005
7	Buteo buteo	P, M	
8	Calandrella brachydactyla	M	17.3.2005
9	Caprimulgus europaeus	P	14.5.2005
10	Carduelis carduelis	P	26.3.2005
11	Carduelis chloris	P	26.3.2005
12	Circus aeruginosus	P, M	13.3.2005
13	Circus cianeus	M	15.3.2005
14	Circus macrourus	M	3.03.2005
15	Circus pygargus	M	30.5.2005
16	Coccothraustes coccothraustes	P,M	23.4.2005
17	Columba livia f. domestica	P	
18	Columba palunbus	M	27.3.2005
19	Coracias garrulous	M	26.4.2005
20	Coturnix coturnix	M	15.4.2005
21	Cuculus Cnorus	M	19.4.2005
22	Delichon urbica	M	28.3.2005
23	Dendrocopos major	P	
24	Dendrocopos syriacus	P	
25	Emberiza citronella	P	
26	Emberiza hortulana	M	14.5.2005
27	Emberiza melanocephala	M	14.5.2005
28	Erithacus rubecula	P	
29	Falco tinnunculus	P, M	3.3.2005
30	Ficedula albicollis	M	9.4.2005
31	Ficedula hypoleuca	M	22.4.2005
32	Fringilla coelebs	P	
33	Galerida cristata	P	
34	Garrulus glandarius	P	
35	Hippolais palida	M	23.5.2005
36	Hirunda daurica	M	20.4.2005
37	Hirundo rustica	M	16.4.2005
38	Lanius collurio	M	29.4.2005
39	Lanius minor	M	7.5.2005
40	Larus cachinnans	P	
41	Larus fuscus	M,W	4.4.2005
42	Luscinia megarhynchos	M	3.4.2005
43	Melanocorypha calandra	P	
44	Merops apiaster	M	16.4.2005
45	Milaria calandra	P	26.3.2005
46	Motacilla alba	P, M	16.3.2005
47	Motacilla flava feldegg	M	13.4.2005

48	Muscicapa striata	M	14.5.2005
49	Oenanthe oenanthe	M	27.3.2005
50	Oriolus oriolus	M	25.4.2005
51	Passer domesticus	P	
52	Passer hispaniolensis	M	21.4.2005
53	Perdix perdix	P	
54	Phalacrocorax carbo	M	14.4.2005
55	Phoenicurus ochruros	M	26.3.2005
56	Phoenicurus phoenicurus	M	5.4.2005
57	Phylloscopus collybita	M	26.3.2005
58	Phylloscopus sibilatrix	M	27.3.2005
59	Pica pica	P	
60	Saxicola rubetra	M	27.3.2005
61	Saxicola torquata	M	27.3.2005
62	Streptopelia decaocto	P	
63	Streptopelia turtur	M	26.4.2005
64	Sturnus vulgaris	P	
65	Sylvia atricapilla	M	26.3.2005
66	Sylvia borin	M	2.4.2005
67	Sylvia communis	M	6.4.2005
68	Sylvia curruca	M	7.4.2005
69	Troglodytes troglodytes	P	13.3.2005
70	Turdus merula	P	
71	Turdus philomelos	M	26.3.2005
72	Upupa epops	M	16.3.2005

P – permanent for the region
M – migrating types
W – types staying for the winter

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Report
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Contractor: Institute for Zoology, BAS

The spring migration of the birds on the investigated territory included the period 01.03 – 31.05.2005. The site of the spring monitoring was located about 2 um to the southwest of the village of Sveti Nikola, in the immediate vicinity of the Rusalka resort. In the same region an observation was performed in the autumn of 2004 on the autumn migration of the birds in connection with the construction of the wind farm on the territory of the village of Sveti Nikola. The roaming and the day-time birds of prey were registered by the method applied in the previous year. The visual observations were accomplished mainly from two stationary points. One of them was in the south western and the other – in the northeastern part of the site. The observations were performed every day from 8.00 to 19.00 astronomical time and before 01.04 – ti 17.00. In days with unfavourable weather the field observations were shortened. The period of monitoring included 80 days and 700 hours field work.

In order to be able to register the migration periods and the dynamics for the song and the non-roaming birds we applied the transect method. The transect was permanent and included uniform parts of the steppe habitats. The rout was followed every morning between 9.00 and 11.00 and sometimes between 16.00 and 18.00. The birds in the 50 m strip of land to the left and to the right were registered with their exact distance in m from the axis of the movement. The transect was over the Rusalka resort from the asphalt road between Sveti Nikola and Rusalka in the northeastern direction to the southwestern end of the archeological reserve Yaylata. The length of the route was 1750 m.

Some ornithological nets were placed in order to catch some birds and acquire a more complete representation of the types of the birds. Besides in the periods of full moon observations were performed on the night migration of the birds against the moon disk.

During the spring migration from 01.03 to 31.05.2005 in the region mentioned we registered 68 types of birds. 47 of them were migrating through the territory and some of them remained and reproduced in these areas. The types registered by the transect method were 41 and other 13 types were registered with the help of the ornithological nets. Table 1 contains all the types of birds registered in the period March – May 2005 in the steppe territories over the Rusalka resort, on the territory of the village of Sveti Nikola. The status of their distribution was also shown as well as the dates of arrival for the migrating types.

The 68 types belong to 9 classes. These are about 17 % of the birds registered in the country. As a comparison we could mention that during the autumn migration in 2004 in

the same region 85 types of birds were registered and in the farming areas and the forest belts there were 72 registered types.
The greatest number of types were the Passeriformes – 46. Some of them are generally met all the year and others stay for the winter in considerable number on these territories. During the period of the performed monitoring we did not register migrating flocks of storks, pelicans and cranes *except for 6 white storks Ciconia ciconia, which fed in the steppe on 21.04.2005). No intensive migration was established for the roaming day-time birds of prey. We regularly observed single representatives of Buteo buteo and B. rufinus., some of which were permanent, nesting in the region and hunting over the steppe areas. Representatives of the Circus and Falco tinnunculus also regularly fed there. Only at the end of the period, May 29, one representative of Pernis apivorus flew over to the north east at about 25 m over the cliff. The smaller representatives of the Falco were observed in migrating flocks of F. subbuteo and F. vespertinus, often forming mixed flocks. The peak values for these two types in the region were established in the end of April and the end of May. The maximum was on May 23 – 24 when we observed 128 birds migrating mainly to the northwest.
The birds registered by the transect method were mainly small-sized and song-birds. Their regular registration made possible the determination of the density and the dynamics for the separate migrants and for the ornithocenosis as a whole. We established also the peak values in the spring migration.
The numerical values of the established representatives of the different types and their density per 10 ha showed almost identical curves. The number and the density of the birds increased on April 3 and 5, after which there was a decrease of these values. The absolute maximum and the highest values (just like in the investigations in other parts and habitats in the Kavarna municipality) for the spring migration for these types were registered in the middle of April, on the 14th of April. These are the Carduelis cannabina, the Oenanthe oenanthe, the Upupa epops, etc. The overall density reached 172 birds / 10 ha. On this date the greatest variety of types was also registered – 23 on the investigated area of 172 ha. After that the number and the density decreased and after May 20 the density reached 15 – 17 couples / 10 ha. About May 10 -11 we established the arrival of new migrants – Coturniz coturnix, Emberiza melanocephala, Streptopelia turtur and Oriolus oriolus, but their number was low and did not affect the overall density.
The most numerous types, excluding the flocks of Sturnus vulgaris on the investigated territory were the larks. Big flocks of Melanocorypha calandra used this territory to stay the winter. Lower number of Alauda arvensis distributed further to the north also spent there the winter months. Following the dynamics of those two types we established high numbers at the end of March. The Alauda arvensis in these steppe areas is generally found in smaller numbers not only in the migration period but in the nesting period as well, when the dominating type is the Melanocorypha calandra. The peak values for the second type were registered in the first ten days of April and about May 8 -10. Flocks of larks were registered then in higher numbers and the density reached up to 68 birds / 10 ha. For the Alauda arvensis the higher numbers were registered in the middle of April (14.04) and about April 20 (18 – 21.04). The density in these periods reached 25 – 27 birds / 10 ha. After May 15 couples started forming for both types which invaded new territories and the density decreased to the normal for the nesting period in these habitats – 6 – 8 couples / 10 ha for the Melanocorypha calandra and 2 – 3 couples / 10 ha for the Alauda arvensis.
The Calandrella brachydactyla, also characteristic for this biotype, appeared in the end of March and the beginning of April but in smaller numbers. Towards the middle of April the

couples were already formed. The mass migration for this lark was registered on April 21, 2005, when the density reached 15.43 birds / 10 ha.
The presence of bushes and underdeveloped forests in the immediate vicinity was the preferred area for some types of small-sized and song birds during their migration period. In April we established the migration of Regulus regulus and R. ignicapillos, Carduelis chloris, Erithacus rubecula, Luscinia megarhynchos, Phylloscopus collybita, etc.
In the region of the present investigation in the spring of 2005 the lowest values of the density for the night migration for the country for the season were registered. The geographical location of the region and the specific topography do not suppose the concentration of night migrating types of birds. The registered directions of the flight followed the coast line, that is from the southwest to the northeast.
The night migration in the region took place at the height of 50 – 1600 m over the area. The greatest number of birds flew between 300 and 800 m. The first to fly over the region were the migrants staying for the winter in the Mediterranean and North Africa. The maximal values of the density for the night migrants were registered in the middle of May for a mixed composition of types, migrating to over the Sahara desert and to nearer areas. Compared to the migration of the birds in the autumn of 2004, we established in the spring of 2005 17 types less which makes about 4%. Six of the classes observed during the autumn monitoring were not registered now. Smaller number of types belonged to the classes of the day-time birds of prey, etc.

Conclusion

During the spring migration from March 1 to May 31, 2005 in the region of Sveti Nikola and the Rusalka resort we registered 68 types of birds. 47 of them were migrating through the territory and some of them stayed and reproduced successfully.
In the period mentioned no flocks of day-time migrating roaming birds were registered over the territory.
Migrating flocks of the falcon orca and Falco vespertinus were observed, often in mixed flocks. The peak values for those two types in the region were established at the end of April and at the end of May.
The highest density values for the types registered by the transect method in the period of the spring migration were in the middle of April (April 14). The overall density reached 172 birds / 10 ha. On this date the greatest variety of types was also registered – 23.
In the spring the mass night migration took place in April and May. Despite that the registered density values for this region were lower than these for the other regions in the country. The highest number of night migrants flew between 300 and 800 m over the area.

Director…….. (s)

Sen. Res.Assoc. Dr. Mladen Jivkov

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Team leader, IZ - BAS

Table 1. Types of birds registered in the spring of 2005 in the steppe regions over the Rusalka resort

No	Type	Status	First observation in the region
1	Accipiter gentiles	P, M	4.10.2005
2	Accipiter nisus	P, M	5.13.2005
3	Alauda arvensis	P	
4	Anthus campestris	M	4.12.2005
5	Apus apus	M	4.18.2005
6	Apus melba	M	3.26.2005
7	Burhinus oedicnemus	M	4.11.2005
8	Bute buteo	P,M	
9	Buteo rufinus	P, M	
10	Calandrella brachydactyla	M	3.17.2005
11	Carduelis cannabina	P	3.26.2005
12	Carduelis carduelis	P	3.26.2005
13	Carduelis chloris	P	3.26.2005
14	Ciconia ciconia	M	5.25.2005
15	Circus aeruginosus	M, P	3.13.2005
16	Circus cyaneus	M	3.15.2005
17	Circus macrourus	M	3.3.2005
18	Columbia livia f. domestica	P	
19	Corvus corax	P	5.10.2005
20	Corvus corone cornix	P	
21	Corvus monedula	P	
22	Coturnix coturnix	M	4.15.2005
23	Cuculus canorus	M	4.19.2005
24	Delihon urbica	M	3.28.2005
25	Emberiza hortulana	M	5.14.2008
26	Emberiza melanocephala	M	5.10.2005
27	Erithacus rubecula	P	
28	Falco tinnunculus	P, M	3.3.2005
29	Falco vespertinus	M	4.26.2005
30	Falco subbuteo	M	4.26.2005
31	Ficedula hypoleuca	M	4.22.2005
32	Fringilla coelebs	P	
33	Galerida cristata	P	
34	Garrulus glandarius	P	
35	Hirundo rustica	M	4.16.2005
36	Lanius collurio	M	4.29.2005
37	Lanius minor	M	5.7.2005
38	Larus cachinnans	P	
39	Larus fuscus	M, W	4.4.2005
40	Lullula arborea	P	
41	Luscinia megarhynchos	M	4.3.205
42	Melanocorypha calandra	P, M	
43	Marops apiaster	M	4.16.205
44	Milaria calandra	P	3.26.2005
45	Motacilla alba	P, M	3.16.2005
46	Motacilla flava feldegg	M	4.13.2005

47	Oenanthe oenanthe	M	3.27.2005
48	Oenanthe pleschanka	M	4.16.2005
49	Oriolus oriolus	M	4.26.2005
50	Passer domesticus	P	
51	Passer hispaniolensis	M	4.21.2005
52	Passer montanus	P	
53	Pernis apivorus	M	5.29.2005
54	Phoenicurus ochruros	M	3.26.2005
55	Phoenicurus phoenicurus	M	4.5.2005
56	Phylloscopus collybita	M	3.26.2005
57	Pica pica	P	
58	Regulus ignicapillus	M	4.4.2005
59	Regulus regulus	M	4.6.2005
60	Saxicola rubetra	M	3.27.2005
61	Saxicola torquata	M	3.27.2005
62	Streptopelia turtur	M	4.26.2005
63	Sturnus vulgaris	P	
64	Troglodytes troglodytes	P	3.13.2005
65	Turdus merula	P	
66	Turdus philomelos	M	3.26.2005
67	Turdus pilaris	M, W	26.3.2005; 16.04.2005
68	Upupa epops	M	3.16.2005

M – migrating types
P – permanent for the region
W – staying for the winter

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Report
on the performed "Ornithological and ornithocenological investigation of the autumn migration of the birds in the region of the villages Bulgarevo and Sveti Nikola, Kavarna municipality"

Employee: GeoPower Ltd.
Contractor: Institute for Zoology, BAS

The performed ornithological and ornithocenological investigation includes the whole period of the autumn migration of the birds in the region of the villages of Bulgarevo, Sveti Nikola and Hadji Dimiter, the Kavarna municipality. The investigation period was 15.08. – 15.11.2005. The investigation was performed in two regions chosen by the Employee. In the same areas we performed monitoring in the autumn of 2004 and the spring of 2005 and the data for the two years would be compared and summarized. One of the regions included mainly farming areas and forest belts located to the northwest of the asphalt road between the villages Bulgarevo and Sveti Nikola to the first class road E 87 Kavarna – Shabla. The other region was in the steppe habitats near the coast, about 2 km to the south east of Sveti Nikola, immediately over the Rusalka resort. The registrations of the day-time migrating birds were performed by a standard method from stationary points located in the highest part of the mentioned area, the high hill near belt 2359, located about 3.5 km to the north of the village of Bulgarevo. Two stationary points were chosen in the steppe territories. One of them was in the southwestern and the other – in the northeastern part of the site. The visual observations were performed every day between 8.00 and 19.00.

This was due to the colonial way of nesting of this type and in some of the belts 15 and even 20 couples nested on a territory of 0.5 – 1 ha. Besides Passer hispaniolensis three other types predominate – Lanius minor, Miliaria calandra and the Oriolus oriolus. With the five types of sub-dominants – the Luscinia megarhynchos, the two types of Emberiza citrinella, Pica picas and Turdus merula, determine the character of the nesting community in these specific for the region phytocenoses. Totally the number of these nine types is over 83%. These are types connected to the trees and bushes neighbouring the open territories where they feed. Among the rarely met, the so called sporadic types, were the day and night birds of prey, the Galiformes, Columbae etc., which are not typical for the open farming areas and the forest belts are the only place suitable as their habitat. The registration of forest types like Dendrocopos major, Caprimulgus europaeus, Carduelis chloris, Buteo buteo, etc., determines the significance of the forest belts for the invasion of such type of fauna in the open plain agrocenoses.
From the other 8 types (excluding the Passeriformes) the greatest in number were the Streptopelia turtur and Streptopelia decaocto (turtle-dove), 2.03 and 1.74 couples / 10 ha

respectively. The former is a non-typical synantropic kind and the high density in the residential areas in this region is probably a prerequisite for its appearance in the near forest belts. An additional condition is the rich feeding base in the neighbouring agricultural fields.

Table 2 Types, number and density of the nesting birds in the forest belts

No	Type	Number of couples	p/10 ha	d
1	Passer hispaniolensis	121	17.54	24.89
2	Lanius minor	70	10.14	14.40
3	Emberiza calandra	51	7.39	10.49
4	Oriolus oriolus	50	7.25	10.29
5	Luscinia megarhynchos	29	4.20	5.96
6	Emberiza hortulana	24	3.48	4.94
7	Emberiza melanocaphala	22	3.19	4.52
8	Pica pica	21	3.04	4.32
9	Turdus merula	16	2.32	3.29
10	Streptopelia turtur	14	2.03	2.88
11	Sreptopelia decaocto	12	1.74	2.47
12	Garrulus glandarius	11	1.59	2.26
13	Cuculus canorus	8	1.16	1.64
14	Lanius collurio	8	1.16	1.64
15	Dendrocopos major	4	0.58	0.82
16	Alauda arvensis	4	0.58	0.82
17	Sturnus vulgaris	4	0.58	0.82
18	Buteo buteo	2	0.29	0.41
19	Upupa epops	2	0.29	0.41
20	Falco tinnunculus	1	0.14	0.21
21	Falco vespertinus	1	0.14	0.21
22	Falco subbuteo	1	0.14	0.21
23	Phasianus colchicus	1	0.14	0.21
24	Perdix perdix	1	0.14	0.21
25	Columba palumbus	1	0.14	0.21
26	Caprimulgus europaeus	1	0.14	0.21
27	Otus scops	1	0.14	0.21
28	Acrocephalus palustris	1	0.14	0.21
29	Sylvia communis	1	0.14	0.21
30	Sylvia curruca	1	0.14	0.21
31	Carduelis chloris	1	0.14	0.21
32	Passer montanus	1	0.14	0.21
	Total	486	70.43	100%

During the autumn migration from 15.08 to 15.11.2005 we established the presence of 86 types of birds in the investigated areas, belonging to 14 classes (Table 3). Most of them belong to the Passeriformes, 46, some of which are permanent for the region. These stich mainly to the forest belts and the bushes along the roads. The most numerous migrants were the swallows Hirundo rustica and the Delichon urbica, the Motacilla alba, the Sylvya, the Phylloscopus. The peak of the migration for the Hirundo rustica was about Sept.10^{th},

and for the Delichon urbica – several days later. Most of them used the agricultural fields as feeding grounds.
The type variety of the day birds of prey was significant. We observed 17 types of these, some of them in small numbers or even in single representatives. The Circus, the Accipiter and the Buteo classes used the abundant food base and remained several days and weeks in this region.
The Buteo buteo was the most numerous of the day time birds of prey. The peak of its migration was registered on October 24 – 119 birds which flew individually or in small groups, the biggest of which included 41 birds. In some of the flocks there flew representatives of B.rufinus. Most of the birds passed over the region between 11.00 and 14.00. More than 70% of the flocks flew to the northwest at about 180 – 200 m. This was probably due to the fact that some of the birds could be blown away by the strong north winds over the sea, since the coastline there is oriented from the east to the west.
We registered 6 types of the other roaming large birds during the autumn migration. These were the two types of pelicans – Pelecanus onocrotalus and Pelecanus crispus, the Ardea cinerea, the Ciconia ciconia, the Cygnus olor and the Grus grus. All these were in small numbers on the investigated territory. The separate flocks included from 10 to 40-50 birds. The height of the flight was over 300 – 400 m and the direction of the migration was most often to the west – the southwest. Much more often and more numerous were the flocks passing at 4000 – 5000 m to the southwest from the region of the investigation, that is, between the road Kavarna – Bulgarevo and the sea coast where the birds flew over the cliff from the east to the west.
The white storks were more numerous in this group and separate groups of them stay for the night or feed together with *Larus argentatus* in the stubble and the ploughed fields. Such groups of 7 – 57 birds were observed in the end of August and later only single birds remained, probably old or sick.
We must note that the weather during the period of the investigation was warm and comparatively dry for the season. There were no days with fogs and long chilly periods, rain or strong winds. The changes of these parameters could affect the migration in other years.
The autumn wheat fields in the winter months could serve as feeding grounds for the geese staying for the winter in this area – the Brania ruficollis and the Anser albifrons. Some representatives of the birds of prey staying here for the winter also feed in this area.

Table 3. Types of the birds registered in the period 15.08 – 15.11.2005 on the territory between the villages Bulgarevo and Sveti Nikola

No	
1	Accipiter brevipes
2	Accipiter gentiles
3	Accipiter nisus
4	Alauda arvensis
5	Anthus campestris
6	Apus apus
7	Apus melba
8	Aquila clanga
9	Aquila pomarina
10	Ardea cinerea

11	Buteo buteo
12	Buteo rufinus
13	Calandrella brachydactyla
14	Caprimulgus europaeus
15	Carduelis cannabina
16	Carduelis carduelis
17	Carduelis chloris
18	Carduelis spinus
19	Ciconia ciconia
20	Circaetus gallicus
21	Circus aeruginosus
22	Circus cyaneus
23	Circus macrourus
24	Circus pygargus
25	Coccothraustes coccothraustes
26	Columba livia
27	Columba palumbus
28	Coracias garrulous
29	Corvus corone cornix
30	Corvus frugilegus
31	Corvus monedula
32	Coturnix coturnix
33	Cuculus canorus
34	Cygnus olor
35	Delichon urbica
36	Dendrocopos major
37	Erithacus rubecula
38	Falco subbuteo
39	Falco tinnunculus
40	Fringilla coelebs
41	Galerida cristata
42	Garrulus glandarius
43	Grus grus
44	Hieraetus pennatus
45	Hirundo daurica
46	Hirundo rustica
47	Lanius collurio
48	Lanius minor
49	Larus cachinnans
50	Melanocorypha calandra
51	Merops apiaster
52	Miliaria calandra
53	Milvus migrans
54	Motacilla alba
55	Motacilla flava
56	Muscicapa striata
57	Oenenthe isabelina
58	Oenenthe oenanthe

59	Oriolus oriolus
60	Passer montanus
61	Pelecanus crispus
62	Pelecanus onocrotalus
63	Perdix perdix
64	Pernis apivorus
65	Phalacrocorax carbo
66	Phoenicurus ochruros
67	Phoenicurus phoenicurus
68	Phylloscopus collybita
69	Phylloscopus sibilatrix
70	Phylloscopus trohilus
71	Pica pica
72	Porzana porzana
73	Riparia riparia
74	Saxicola rubetra
75	Saxicola torquata
76	Streptopelia decaocto
77	Streptopelia turtur
78	Stumus vulgaris
79	Sylvia atricapilla
80	Sylvia communis
81	Sylvia curruca
82	Troglodytes troglodytes
83	Turdus merula
84	Turdus philomelos
85	Upupa epops
86	Vanellus vanellus

Elaborated by: .. (s)
Nikolay Karaivanov
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astronomic time, and after 30.10. – till 17.00. In days with unfavourable weather the period of observation was shortened.

In order to include the migration period and the dynamics in the case of song birds and the non-roaming birds we applied the transect method. The transects were permanent and identical to those of the spring monitoring. They encompassed uniform parts of the steppe habitats , the forest belts and the agricultural lands. Their detailed description as well as the proposed method were described in the reports fror the spring monitoring, performed by the Institute for zoology, BAS, ref. No 227-RD-08/10.06.05 and 301-RD-08/02.08.05. The length of the route in the steppe territories was 1750 m, and in the agricultural lands – 5700 m.

In order to get a complete representation of the types of birds and the ratios between them we spread ornithological nets for birds. Besides, in the periods of full moon, observations were performed on the night migration of the birds against the moon disk.

During the autumn monitoring of the migration of the birds between August 15th and November 15th, 2005 we registered in the region 102 types of birds. 20 types of the

roaming birds and the birds of prey migrate in the autumn. Table 1 presents all the types of birds registered in the steppe territories and in the farming fields in the whole period of monitoring, spring and autumn. The status of their distribution in the region and the dates of arrival and departure for the migrating types were also registered.

During the spring migration on the same area we registered 88 types of birds, 68 in the steppe habitats and 72 in the farming areas and the forest belts. During the autumn period of monitoring in 2004 their number was larger and closer to the types established now. So for the three seasons of observation we registered as a whole 137 types of birds which is 34% of the types registered on the territory of the country.

These types of birds belong to 16 classes. The song birds from the Passeriformes are the most numerous – 72 types. The representatives of the birds of prey class Falconiformes are 21 types and the representatives of the Charadriiformes – 9 types. The other 13 types are represented by Columbiformes – 4 types, Coraciiformes – 3 types, Anseriformes – 3 types, Ciconiiformes – 4 types, Apodiformes – 3 types, Strigiformes – 3 types, Pelecaniformes – 3 types, Gruiformes – 3 types, Galliformes – 2 types, Piciformes – 2 types, Cuculiformes – 1 type, Podicipediformes – 1 type and Caprimulgiformes – 1 type.

It could be said that in the autumn the type variety is the greatest and the autumn m migration is more intensive than the spring one.

21 types of birds from the migrating roaming birds and birds of prey passes through the investigated region in the autumn of 2005. 8 types of these were not registered during the spring monitoring. Among these were the Accipiter brevis, the steppe falcon Aquila nipalensis, the grey crane Grus grus, the black stork Ciconia nigra, etc. The main direction of the migration in August and the beginning of September was the southwest, and in the end of September and October – the northwest. This was the main direction for the small and the song birds. The direction was always opposite the wind and the birds flew against it.

In the beginning of the period, the second half of August, the main migrants were the white storks Ciconia ciconia. About 3400 storks as a whole flew through the region of Kavarna between the sea coast and the road Kavarna – Shabla (E 87). The main direction of the migration was from the northeast to the southwest and the height of the flight was about 300 m (between 150 and 500 m). The main flowpassed between August 18 and 26. The migration peak for this type was registered on August 23 and 24, when 2500 birds migrated. The migrating storks in this autumn kept to about 8 – 10 km into the land, avoiding the far east coast territories. The direction and the location of these coincided with the road from Sveti Nikola to Bulgarevo. Part of the flocks observed from Rusalka, followed the coast line, then they flew to the west towards the village of Bulgarevo and crossed over the sea towards the Golden sands, staying as close as possible to the coast. The main flow of white storks passed like this in the autumn of 2004. Then the birds were 1000 more.

In the period after the middle of August we observed single migrants or small groups of some birds of prey, Buteo buteo, Accipiter nisus, Circaetus gallicus, Pernis apivorus, Falco vespertius, Milvus migrans, etc. In most of the cases these flew at about 100 – 150 m to the southwest. On August 20 about 200 Pernis apivorus flew to the northeast over the farming fileds. Small Aquila pomarina in groups of 5 – 6 birds were registered on August 18 and 23. They flew at 300 – 400 m to the southwest.

Some of the birds of prey remained longer in the region both over the steppe areas and the farming fields. In these cases the birds flew lat lower heights, about 50 – 100 m active flight. The representatives of the Circus and some falcons, looking for food, flew very low over the ground.

We established single flocks of roaming birds including black storks and pink pelicans. They passed over the farming areas between Bulgarevo and Sveti Nikola, coming from the northeast and flying to the southwest. On August 16 11 black storks passed at 200 m and on August 21 – 29 pink pelicans flew over at 350 m.

The most numerous from the other non- roaming birds were the Merops apiaster. The migration period for them was long. They started migrating in August and in the beginning of September they were still one of the main migrants, with the peak values in the beginning of October.

The highest peak values of the migration were registered after September 20. Then the weather abruptly turned cold and it started raining. May be this was one of the reasons for the mass migration of the birds of prey for the Falconiformes the peak period was between September 22 and October 1, for the Buteo buteo and the Merops apiater the peak was on September 22 – 24. The Merops apiaster predominated in scarce flocks of 70 – 80 birds. The main flow passed to the southwest of the investigated territory, following the cliff from Cape Kaliakra to Kavarna. They gained height of 500 – 600 m to the west and the northwest and crossed the line Balchik – Kavarna, going deeper over the land. After September 25, probably because of the strong stormy north wind, the birds flew over Cape Kaliakra and further to the north over the land. The Merops apiaster decreased significantly, and the Buteo buteo and the Circus aeruginosis increased. The highest migration peaks were registerd on September 25 and 26. More than 3500 roaming birds from 14 classes flew over the Cape Kaliakra these two days. Most of the birds flew to the northwest, coming from the sea struggling with the strong north wind.

The main direction during the migration peak was from the Cape Kaliakra into the land to the northwest. The birds crossed the line of the road Bulgarevo – Sceti Nikolaover the investigated territory to the northwest and north – northwest. Due to the thermals over the cape and the gained height they flew over the region at about 200 m. The main representatives were the Buteo buteo, Ciconia nigra, Aquila pomarina, hawks and Circaetus gallicus. For two hours over 860 Buteo buteo were registered, and about 100 small hawks, 15 Aquila pomarina, 10 Circaetus gallicus. The birds flew uniformly in non-compact flocks.

This day over 1100 pink pelicans flew over the region, representing the roaming birds. This is the greatest mass migration for the type during the autumn monitoring of the investigated territory. The birds came from the north, from the Tylenovo village and kept to the coast line, flying to the south over the steppe territoriesand Cape Kaliakra, at 200 – 300 m over the land. Flocks of migrating pelicans were observed on September 24, 27 and 28, but in much smaller numbers. On September 27 pelicans were registerd over the farming fields between Bulgarevo, Sveti Nikola and Hadji Dimiter. 50 pelicans of this type flew from the northeast to the southwest, reaching the cliff, then turning towards the town of Kavarna at 150 m.

On September 27 the main migrants were the Buteo buteo and the small hawks, but in smaller numbers. On October 1 there were peak values in the migration of the Aquila pomarina. On this day we registered 203 migrating Aquilaя pomarina in Kavarna region. These birds migrated mainly to the southwest at 300 – 400 m and after October 1 the intensity of the migration abruptly decreased.

The mass migrants among the song birds were the swallows, mainly the Delichon urbica and the Hirundo rustica, more rarely the Riparia riparia, the Motacilla alba and the Fringilla coelebs. On September 25 and 26 for 1 hour on a front of 200 m we registered between 2610 and 3600 swallows flying low over the land in mixed flocks, where the Hirundo rustica predominated. The migration for this type is of that intensity almost to October 6. In the period of September 23 – 26 the Motacilla alba migrate also in great numbers. On

September 26 for 1 hour on a front of 200 m 3300 birds of this kind were registered. The highest values for the Fringilla coelebs were later. On Octeber 16 2400 birds of this kind were registered for 1 hour on a front of 200 m. The birds flew in flocks of 30 – 40, low over the ground – at 5 – 20 m. The main direction of the migration is to the north, northwest or northeast. This was probably due to the direction of the wind and the specific geographical location of the investigated territory.

We [erformed ornithocenological investigations by the transect method over the migrating small-size and song birds in the steppe and farming areas. In the steppes over Rusalka and Sveti Nikola we obtained almost identical results to these from the ornithological investigations in the steppes of Cape Kaliakra. There were two well expressed peak values of the overall density in the middle of September and about October 8 – 10.

Between September 7 – 13 we registerd high values of the number of tyoes and the density of the migrants in the steppe habitats – 60 – 70 birds / 10 ha. At that time the most numerous were the Merops apiaster, the Sturnus vulgaris, the Melanocorhypha calandra and the Carduelis carduelis. The migration period of the Merops apiaster was longer, they started migrating in August and in the beginning of September they were still the main migrants. Their peak values were registered in the beginning of October. For the Carduelis carduelis a second peak was also observed in the end of October and the beginning of November. The more frequently met in the beginning of September were the Ficedula parva, the Anthus trivialis and the Lanius collurio. About September 15 – 20 the Oenanthe oenanthe and the quails started migrating. At the beginning of October the mass migrants were the larks and the Anthus pratensis. It was for them as well as for the Motacilla alba, that the high density was due to, reaching 110 birds / 10 ha. Towards the end of October the most frequently met were the Carduelis cannabina and the Fringilla coelebs, and in the beginning of November - the C. spinus and the Carduelis carduelis . The greatest part of them as well as the Alauda arvensis, the Melanocorhypha calandra and the Turdus pilaris stayed in the region for the winter.

In the farming areas and the forest belts around Bulgarevo and Sveti Nikola the curves calculated on the basis of the registered representatives per unit of area are a bit different. In the agroecosystems the density was low during the whole period. We registered peak values on September 10 -20 and that was due to the migrating at that time Motacilla alba. In the forest belts the migration was more intensive in the end of August and the beginning of September, as well as in the end of October and the beginning of November. In the first case the peak was due to the migration of Muscicapa striata, Lanius and Merops apiaster, and in the second – to the Carduelis carduelis, Fringilla coelebs and Carduelis. Some types like Muscicapa striata, song-birds, Sylvias etc. used then forest belts predominantly as natural corridors during the migration.

Comparing the variety of types in the separate habitats during the autumn monitoring we could say that the greatest number of types were met in the steppe territories, and the agricultural areas were the poorest in this aspect. From the registerd 102 types of birds in the autumn of 2005, 33 were observed only in the steppes over the Rusalka resort. In the agroecosystems these were 7 types. Most of them were birds of prey like Aquilla nipalensis, Circus pygargus, falco columbarius, etc. These types migrated through the other habitats and it was a coincidence that they were not registered in the region between Sveti Nikola and Rusalka.

Table 1. Types of birds registered during the performed monitoring in the autumn of 2004 and the spring and autumn 2005 in the region of the villages Bulgarevo and Sveti Nikola, the Kavarna municipality

No	Latin name	Name in English	Status	Observation in the spring	Observation in the autumn
1	Accipiter brevipes		M		10/31/2005
2	Accipiter gentiles		P,M		
3	Accipiter nistis		P,M	3/13/2005	
4	Acrocephalus palustris		M	4/3/2005	
5	Alauda arvensis		P		
6	Anas platyrhynochos		M, W	3/4/2005	11/12/2005
7	Anser albifrons		W		
8	Anthus campestris		M	4/12/2005	
9	Anthus cervinus		M		
10	Anthus trivialis		M	4/16/2005	
11	Apus apus		M	4/18/2005	
12	Apus melba		M	3/26/2005	9/22/2005
13	Aquila clanga		M		9/24/2005
14	Aquila pomarina		M		10/3/2005
15	Aquila nipalensis		M		10/1/2005
16	Ardea cinerea		M	3/15/2005	9/20/2005
17	Asio flammeus		M		
18	Athene noctua		P		
19	Bubo bubo		P		
20	Burhinus oedicnemus		M	4/11/2005	9/25/2005
21	Buteo buteo		P, M		
22	Buteo rufinus		P, M		
23	Calandrella brachydactyla		M	3/17/2005	
24	Caprimulgus europaeus		M		9/27/2005
25	Carduelis cannabina		P	3/26/2005	
26	Carduelis carduelis		P	3/26/2005	
27	Carduelis chloris		P	3/26/2005	
28	Carduelis spinus		M, W		11/5/2005
29	Ciconia ciconia		M	5/25/2005	8/26/2005
30	Ciconia nigra		M		10/17/2005
31	Circaetus gallicus		M	4/16/2005	9/26/2005
32	Circus aeruginosis		P, M	3/13/2005	9/29/2005
33	Circus cyaneus		M, W	3/15/2005	9/1/2005
34	Circus macrourus		M	3/3/2005	10/27/2005

35	Circus pigargus		M		8/21/2005
36	Coccothraustes coccothraustes		P, M	4/23/2005	
37	Columba livia		P		
38	Columba palumbus		M	3/27/2005	9/21/2005
39	Coracias garrulous		M	4/26/2005	9/28/2005
40	Corvus corax		P		
41	Corvus corone cornix		P		
42	Corvus frugilegus		P		
43	Corvus monedula		P		
44	Coturnix coturnix		M	4/15/2005	10/27/2005
45	Crex crex		M		9/25/2005
46	Cuculus canorus		M	4/19/2005	9/22/2005
47	Cygnus olor		M, W		
48	Delichon urbica		M	3/28/2005	10/16/2005
49	Dendrocopos major		P		
50	Dendrocopos cyriacus		P		
51	Emberiza calandra		P		
52	Emberiza citronella		P		
53	Emberiza hortulana		M		
54	Emberiza melanocephala		M		
55	Eriticus rubecula		P		
56	Falco cherrug		M		9/26/2005
57	Falco columbarius		M, W	3/16/2005	3/16/2005
58	Falco peregrinus		M, W	4/26/2005	
59	Falco subbuteo		M	5/8/2005	11/10/2005
60	Falco tinnunculus		P		
61	Falco vespertinus		M	4/29/2005	10/28/2005
62	Ficedula hypoleuca		M	4/22/2005	
63	Ficedula parva		M	4/5/2005	
64	Fringila coelebs		P		
65	Fringila montitongilla		M, W		
66	Galerida cristata		P		

67	Garrulous glandarius		P		
68	Grus grus		M		9/27/2005
69	Haemalopus esphalegus		M		9/11/2005
70	Hippolais		M		
71	Hippolais pallida		M		8/30/2005
72	Hirundo daurica		M	4/20/2005	
73	Hirundo rustica		M	4/16/2005	10/30/2005
74	Lanius collurio		M	4/29/2005	10/28/2005
75	Lanius minor		M	5/7/2005	
76	Lanius cachinnans		P		
77	Lanius fuscus		M, W		
78	Lanius melanocephala		P, M	4/4/2005	
79	Lanius minutus		M, W		
80	Lanius ridibundus		P, M		
81	Lullula arborea		P		
82	Luscinia megarhynchos		M	4/3/2005	
83	Melanocorhypha calandra		P, W		
84	Merops apiaster		M	4/16/2005	9/29/2005
85	Miliana calandra		P		
86	Milvus migrans		M	3/18/2005	9/20/2005
87	Motacilla alba		P, M		
88	Motacilla cinerea		P, M		10/1/2005
89	Motacilla flava feldegg		M	4/13/2005	8/31/2005
90	Muscicaps striata		M	5/14/2005	9/28/2005
91	Nyclicorax nyclicorax		M		9/8/2005
92	Oenanthe hispanica		M		9/1/2005
93	Oenanthe isabellina		M	4/15/2005	10/17/2005
94	Oenanthe oenanthe		M	3/27/2005	10/17/2005
95	Oenanthe pleschanka		M	4/16/2005	
96	Oriolus oriolus		M	4/25/2005	9/4/2005
97	Pandion hallaetus		M, W		8/30/2005
98	Parus caeruleus		P		
99	Parus major		P		
100	Passer domesticus		P		

101	Passer hispaniolensis		M	4/21/2005	
102	Passer montanus		P		
103	Pelecanus crisbus		M		9/27/2005
104	Pelecanus onocrotalus		M	4/29/2005	10/31/2005
105	Perdix perdix		P		9/28/2005
106	Pernis apivorus		M		
107	Phalacrocorax aristotelis		P		
108	Phalacrocorax carbo		P, M		11/10/2005
109	Phoenicurus ochruros		M	3/26/2005	10/29/2005
110	Phoenicurus phoenicurus		M	4/5/2005	11/10/2005
111	Phylloscopus collybita		M	3/26/2005	
112	Phylloscopus sibilatrix		M	3/27/2005	
113	Phyloscopus trochilus		M	4/23/2005	
114	Pica pica		P		
115	Podiceps rigricollis		M, W		
116	Porzana porzana		M		9/15/2005
117	Regulus ignicapillus		M, W		
118	Regulus regulus		M, W		
119	Riparia riparia		M		9/27/2005
120	Saxicola rubetra		M	3/27/2005	10/27/2005
121	Saxicola torquata		M	3/27/2005	10/10/2005
122	Scolopax rusticola		M		10/29/2005
123	Streptopelia decaocto		P		
124	Streptopelia turtur		M	4/26/2005	9/27/2005
125	Sturnus vulgaris		P		
126	Sylvia atricapilla		M	3/26/2005	10/9/2005
127	Sylvia borin		M	4/2/2005	
128	Sylvia communis		M	4/6/2005	
129	Sylvia curruca		M	4/7/2005	
130	Sylvia risoria		M	4/2/2005	
131	Troglodytes troglodytes		P, M		
132	Turdus merula		P		
133	Turdus		M	3/26/2005	11/8/2005

	philomelos				
134	Turdus pilaris		M, W	4/16/2005	9/21/2005
135	Turdus viscivorus		M, W		9/25/2005
136	Upupa epops		M	3/16/2005	9/17/2005
137	Vanellus vanellus		M		11/11/2004

M – migrating type
P – type permanent for the region
W – type staying for the winter
The dates of the observations are the earliest in the spring and the latest in the autumn for the migrating types
The types staying for the winter were registered with the earliest dates of their appearance in the region

Conclusion

In the performed monitoring of the migration of the birds in the region of the villages Bulgarevo, Sveti Nikola and Hadji Dimiter, the Kavarna municipality, we established 137 types of birds from 16 classes. The migration was more intensive and the type variety was greater in the autumn. The storks, the pelicans, Buteo, Pernis apivorus, Circus and Accipiter nisus are more numerous than the birds of prey and the roaming birds.
During the autumn migration in the beginning of the period, the second half of August, the main migrants were the white storks. About 3400 storks passed through the region of Kavarna, between the sea coast and the road Kavarna – Shabla (E 87) in 2005, and in 2400 their number was higher – about 4500. The main direction of the migration was from the northeast to the southwest, and the height of the flight – about 300 m (between 150 and 500 m). The migration peak was registered for this type on August 23 and 24 2005, when 2500 birds migrated, while the pervious year the main group passed between August 21 and 23. The migrating storks in that autumn stuck to about 8 – 10 km into the land, avoiding the far eastern coast areas. The direction and the location followed the road from Sveti Nikola to Bulgarevo. A part of the flocks observed from the Rusalka resort followed the coast line and then turned to the west to the village of Bulgarevo, crossed the sea towards the Golden sands staying as close to the coast as possible. The main flow of white storks passed in this way in the autumn of 2004.
The autumn flight of the pelicans and the black storks followed the same direction from the northeast to the southwest. Small groups of black storks were registered over the farming fields between Bulgarevo and Sveti Nikola in the end of September, flying to the northwest.
In the spring of 2005 flocks of roaming birds were not registered over the investigated territories.
The peak numbers for the birds of prey in the autumn of 2005 were registered in the end of September. Then the weather abruptly turned cold and it started raining. In 2004 the mass migration for these types , though of a lower intensity, was a month later – after the middle of October. The main migration directions in the region of Kavarna were two. One of them was from the northeast to the southwest, following the coast line and reaching Cape Kaliakra. Most of the birds followed the route over the steppe territories over the Rusalka resort and the Yaylata region. From Cape Kaliakra most of the birds of prey flew to the northwest deep over the land. Following this route they flew over the agricultural

areas and the forest belts in the investigated territories between the villages of Bulgarevo, Sveti Nikola and Hadji Dimiter. The average height of the flight for the roaming birds, passing over the region, was 150 – 350 m for the storks and the pelicans and 200 – 400 m for the birds of prey.

The mass migrants through the region from the small size and the song birds were the swallows, Motacilla alba, Merops apiaster, Fringilla, larks, etc. The direction of their flight in the spring was from the southwest to the northeast, following the coast line. In the autumn the direction of their flight was the same as that of the birds of prey – to the northwest. So they overcame the strong north winds and fly further over the land. The migration peaks for these types, registered by the transect method, were established in the middle of September and about October 10th.

Some of the migrating types remained in the region for the winter. In the steppe territories mainly larks stayed for the winter as well as birds of prey, Carduelis, Turdus. The agrocenoses and areas sown with winter wheat offer a good feeding ground for the geese staying for the winter in the region.

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Report
on the performed monitoring of the spring migration of the birds in the region of the villages Bulgarevo and Sveti Nikola, the Kavarna municipality

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The present report was based on the performed investigation of the spring migration of the birds in 2006. In the investigated regions the agricultural areas of the villages Bulgarevo, Sveti Nikola and Hadji Dimiter and the steppe territories over the Rusalka resort we also performed monitoring on the migrating birds in the spring of 2005 and the autumns of 2004 and 2005.
The term for the monitoring was from 15.03 to 15.05.2006. The collection of the data was by an established and approved method of observation of the day-time migrants and by the transect method for establishing the dynamics and the terms for the smaller-sized and song birds. In this way we could determine the preferences of the birds to the different habitats during the migration as well as the differences in the ornitho-fauna on the two sites.
The regions of the two sites were identical with the performed monitoring in the last three seasons. One of the regions included mainly agricultural areas and forest belts, located to the northwest of the qsphalt road berween the villages of Bulgarevo and Sveti Nikola to the first class road E 87 Kavarna – Shabla. In this season we included also the territories around the village of Hadji Dimiter, with which the investigated area increased almost twice. We included an additional transect covering four more forest belts and the surrounding farming fields with overall length of 7 200 m.
The other region was located in the steppe territories near the coast and about 2 km to the southeast of the village of Sveti Nikola, immediately over the Rusalka resort. The registrations of the day migrants were performed by a standard method from stationary points located in the highest part of the territory mentioned. By the transect method we established the type composition and the parameters of the migration for the song birds as well as their preference to the different habitats. In this way we could observe the migrating flocks and birds from three stationary points covering an area of about 40 square km. in the period mentioned – 15.03 – 15.05.2006 in the region of the villages Bulgarevo, Sveti Nikola and Hadji Dimiter we established 113 types of birds. The type variety increased in comparison with the spring of 2005 because of the increased area of the monitoring. This completed and updated the collected information and helped in the e3laboration of a complete and objective assessment of the condition of the ornitho-fauna and the migration parameters in this region.
The most numerous from the 113 types of registered birds were the Passeriformes. 88 types were migration and the rest were permanent or staying for the winter. Table 1 contains all the types of birds registered in the investigated area with the status of their distribution in the region. In the steppe territories over the Rusalka resort we registered

70 types of birds, in the forest belts – 65 types and in the farming fields – 15 types. In the spring of 2005 in the same area 88 types of birds were registered. In the steppe territories there were 68 types and in the forest belts and the farming fields – 72 types.
Besides the larks the following species showed preference for the open agricultural areas: the Coturnix coturnix, the Motacilla flava feldegg, the Motacilla alba, the Oenanthe oenanthe and the Oenanthe pleschanka, as well as the Larus cachinans feeding in the agrocenoses.
A limited number of types, connected to similar habitats, showed preference to the steppe territories during the migration. These wer the Burinus oedicnemus, the Calandrella brachydactyla, the Crex crex, the Falco and the Buteo which definitely prefer these territories for hunting and making food reserves. The artificial forest belts offer various habitats to different groups of birds and play the role of migration corridors mainly for the Passeriformes, which are related to the trees and the bushes. The representatives of the Phylloscopus, the Regulus regulus and Regulus ignicapillus, the Ficedula, the Jynx torquilla and the Caprimulgus europaeus were among them.
During the autumn monitoring of the migration of the birds between August 15th and November 15th 2005 performed in the same region we established 102 types of birds. 20 types of the roaming birds and the birds of prey migrate in the autumn in this region. In the spring of 2005 their number was considerably smaller, only 8 and flocks of day-time migrants were not registered. In the present season this group amounted to 18 types. This included t4 types of the Ardeidae and the Cygnus olor. As a whole the large sized day-time migrants observed in the spring of 2006 in the whole areaamounted to 23 types, distributed as follows:

- Falconiformes – 13 types;
- Ciconiiformes – 6 types;
- Pelecaniformes – 1 type;
- Anseriformes – 1 type;
- Gruiformes – 1 type.

No intensive migration of these potentially endangered by the wind generators species was established. We regularly observed single representatives of birds of prey, Buteo buteo, B. rufinus, Circus and Falco tinnunculus. Some of these birds were permanent, nesting in the region and hunting in these territories.
We observed flocks of white stork and grey crane (Grus grus) from the roaming types of birds. On April 16th 3 flocks of storks, 6, 8 and 30 birds respectively, flew roaming over the farming fields to the north-west. The height of the flight was 100, 150 and 300 m for the 3 flocks respectively. On April 9th a flock of 6 grey cranes passed over the cliff and the Rusalka resort to the south-west and the Bolata area. On April 15th 2 more cranes flew in the same direction over the same place.
The most numerous from the day-time migrants were the swans. Small flocks of swans, including 6 – 11 birds, were periodically observed from March 24th to May 15th. Most of the birds flew to the northeast, near the sea coast, over the steppe territories. Only on April 15th a flock of 11 birds flew to the north over the farming fields in the region of the village of Bulgarevo. For the whole period 49 migrating swans, 44 storks and 8 cranes were registered.
In the region of the site over the Rusalka resort we registered 4 night herons - Nycticorax nycticorax on April 20th and 8 grey чапли Ardea cinerea on May 10th., migrating to the northeast at the height of 200 m. In the farming fields between Bulgarevo, Sveti Nikola and Hadji Dimiter we observed two more types of чапли. On April 19th we registered 9

Ardea purpurea flying to the north and on March 28th – 3 big Egretta alba, flying at 1500 m to the northeast.

We have individual registrations of Aquila pomarina and Circaetus gallicus in the steppe territories and one Pelecanus onocrotalus and one Circaetus gallicus over the farming fields on April 15th. On April 13th two big Antropoides virgo passed near Hadji Dimiter at 180 m over the forest belts and the agricultural areas to the east – northeast.
In the beginning of May the small falcons, mostly Falco subbuteo increased their presence as well as the Falco vespertinus, but we did not observe mixed flocks or groups larger than 3-4 birds in both regions.
15 types of birds were registered within the farming fields during the spring migration. These were mostly small song birds, the quail and the Perdix perdix. The most numerous were the larks, the Alauda arvensis and the Melanocorypha calandra, for these were the most characteristic for them bio-topes during the reproduction period. The same is valid for the quail and the Motacilla flava feldegg. The Oenanthe oenanthe showed preference to the agrocenosisduring the migration. During the autumn migration the stubble and the ploughed fields are also preferred by this type. In the reproduction period the Oenanthe oenanthe was not met in these habitats. The most often observed type from those feeding in the agrocenosis was that of the Larus cachinnans and Larus minutus. These habitats are used as feeding grounds by the swallows and the Apus Apus, arriving in the end of March and the beginning of April.
During the performed ecological investigations by the transect method we established the dynamics in the number of some types of birds as well as the density of the communities per unit of area in the forest belts. Towards the end of March we observed an increase of these values and on March 30 – 31 they reached over 178 birds / 10 ha. The type composition was not rich and the high density is due to the greater number of Fringilla coelebs, for which these were the peak values during the spring migration. The densitry of this type on march 31st in the forest belts reached 52.74 birds / 10 ha. The next high values of the density were registered in the middle of April (16 – 18.04). This coincided with the invasion of new types of migrants in the region – the Anthus trivialis, the Phylloscopus sibilatrix, the Phylloscopus collybita, the Carduelis carduelis. In the beginning of May (5 – 10.05) the type variety increased again and the density obtained peak values – over 200 birds / 10 ha. Mass migrants were the Oriolus oriolus, the Muscicapa striata, Lanius, Streptopelia turtur, etc. In the middle of May the couples started forming and the nesting territories were determined and the density decreased to the parameters of the nesting communities for these biotopes.

Conclusion

During the spring migration from March 15th to May 15th 2006 in the region of the villages Bulgarevo, Sveti Nikola and Hadji Dimiter we established 113 types of birds. 88 of them were migrating types. Some of the registered types were to be met all the year and other stayed for the winter on these territories.
In the mentioned period an insignificant number of flocks of day-time migrating roaming birds was registered over the investigated territory. The migration of the potentially endangered by the wind generators types was of very low intensity. Most of the birds preferred the coast line and flew near the cliff. Only on April 15th a flock of 11 swans flew over the farming fields in the region of Bulgarevo to the north. The most numerous from the big day-time migrating birds were the swans. For the whole period we observed 49 migrating swans, 44 storks and 8 cranes. Based on these low parameters of the number

of birds we could say that the spring migration in the investigated region is of very low values.
We regularly observed single birds of prey, Buteo buteo, Buteo rufinus, representatives of theCircus and falco tinnunculus. Some of these birds were permanent, nesting in the region and hunting over that area. The direction of the migration was mainly to the north and north-east and the average height was 150 – 200 m.
The density of the smaller bids and the song birds using the forest belts as migration corridors had peak values in the end of March, the middle of April and the beginning of May. The highest density was 219.13 birds / 10 ha, registered on May 10th.

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Team leader, IZ - Bas

No	Type		Status
	Latin name	Name in English	
1	Accipiter nisus		P, M
2	Alauda arvensis		P
3	Anas plathyrhynchos		P
4	Anthus campestris		M
5	Anthus cervinus		M
6	Anthus pratensis		M, W
7	Anthus trivialis		M
8	Antropoides virgo		M
9	Apus apus		M
10	Apus melbA		M
11	Aquila pomarina		M
12	Ardea cinerea		M
13	Ardea purpurea		M
14	Bubo bubo		P
15	Burhinus oedicnemus		M
16	Buteo buteo		P, M
17	Buteo rufinus		P, M
18	Calandrella brachydactyla		M
19	Caprimulgus europaeus		M
20	Carduelis cannabina		P
21	Carduelis carduelis		P
22	Carduelis chloris		P, W
23	Carduelis spinus		M;
24	Ciconia ciconia		M
25	Circaetus gallicus		P, M
26	Circus aeruginosus		M, W
27	Circus cyaneus		M
28	Circus macrourus		M
29	Circus pygargus		;
30	Coccothraustes coccothraustes		P, M

31	Columba livia f. domestica		P
32	Columba oenans		M
33	Columba palumbus		M
34	Coracias garrulous		M
35	Corvus corone cornix		P
36	Corvus monedula		P
37	Coturnix coturnix.		M
38	Crex crex		M
39	Cuculus canorus		M
40	Cygnus olor		M, W
41	Dendrocopos major		P
42	Dendrocopops syriacus		P
43	Egretta alba		M, W
44	E,beriza hortulana		M
45	Emberiza melanocephala		M
46	Erithacus rubecula		P
47	Falco peregrinus		M
48	Falco subbuteo		M
49	Falco tinnunculus		P
50	Falko vespertinus		M
51	Ficedula albicolis		M
52	Ficedula hypoleuca		M
53	Ficedula parva		M
54	Ficedula semitorquata		M
55	Ficedula coelebs		P
56	Garrulus glandarius		P
57	Grus grus		M
58	Hippolais icterina		M
59	Hippolais pallida		M
60	Hirundo daurica		M
61	Hirundo rustica		M
62	Jynx torquilla		M
63	Lanius collurio		M
64	Lanius minor		M
65	Lanius senator		M
66	Larus cachinnans		O
67	Larus fuscus		M
68	Larus minutus		M, Wm
69	Luscinis luscinia		M
70	Luscinia megarhynchos		M
71	Melanocorypha calandra		P, W
72	Merops apiaster		M
73	Miliaria calandra		P
74	Motacilla alba		P, M
75	Motacilla flava		M
76	Muscicapa striata		M
77	Nycticorax nycticorax		M
78	Oenanthe hispanica		M

79	Oenanthe oenanthe		M
80	Oenanthe pleschanka		M
81	Oriolus oriolus		M
82	Parus major		P
83	Passer domesticus		P
84	Pelecanus onocrotalus		M
85	Perdix perdix		P
86	Phalacrocorax carbo		M
87	Phoenicurus ochrurus		M
88	Phoenicurus phoenicurus		M
89	Phylloscopus collybita		M
90	Phylloscopus sibilatrix		M
91	Phylloscopus trochilus		M
92	Pica pica		P
93	Plegadis falcinellus		M
94	Pluvialis apricaria		M
95	Regulus ignicapillus		M, W
96	Regulus regulus		M, W
97	Riparia riparia		M
98	Saxicola rubetra		M
99	Saxicola torquata		M
100	Streptopelia decaocto		P
101	Streptopelia turtur		M
102	Sturnus vulgaris		P
103	Sylvia atricapilla		M
104	Sylvia borin		M
105	Sylvia communis		M
106	Sylvia curruca		M
107	Sylvia nisoria		M
108	Troglodytes troglodytes		P, M
109	Turdus merula		P
110	Turdus philomelos		M
111	Turdus pilaris		M, W
112	Turdus viscivorus		M, W
113	Upupa epops		M

M – migrating type
P – permanent for the region
W – staying for the winter

Annex V

DECISION FOR APPROVING THE ASSIGNMENT OF EIE
ASSIGNMENT FOR AN EIE REPORT
ABOUT THE INVESTMENT PROPOSAL CONSTRUCTION OF A WIND FARM ON THE TERRITORY OF THE VILLAGES OF BULGAREVO, SVETI NIKOLA, HADJI DIMITER, RAKOVSKI AND PORUCHIK CHUNCHEVO, THE KAVARNA MUNICIPALITY

Ministry of Environment and Water
Regional inspectorate of the environment and water – Varna
Varna 9000, Yan Palah str., No 4, e-mail: RIOSV-VN@MBOX.CONTACT.COM,
Tel 052 / 634 – 589, Fax 052 / 634 – 593

Ref. No 782 / 07.02.2006 No 26-00-260/17.01.2006

To
Geo Power Ltd.
Krivolak str. No 33 a
Sofia

Concerning: the assignment for determining the scope and the contents of the evaluation of the impact on the environment for the investment proposal Construction of a Wind farm on the territory of the villages of Bulgarevo, Sveti Nikola, Hadji Dimiter, Rakovski and Poruchik Chunchevo, the Kavarna municipality

Dear Mr. Hristov,

On the grounds of Art. 95, paragraph 2 of the Environmental protection act (SG No 91/02, amended and supplemented) and Chapter 3 of the Ordinance on the Terms and Rules for Performance of EIA (SG No 25/03), we state herein the following opinion on the presented by RIOEW – Varna Assignment for the sope and contents of the EIE report of the investment proposal Construction of a Wind farm on the territory of the villages of Bulgarevo, Sveti Nikola, Hadji Dimiter, Rakovski and Poruchik Chunchevo, the Kavarna municipality:

The assignment for determining the scope and the contents of the EIE report contains the necessary amount of information under Art. 10 paragraph 3 of the Regulation.
The EIE report shall contain prognosis and assessment of:

- Ambient air – only during the construction (construction, installation and transportation activities);
- Wastes – during the construction and the operation – types, amounts, treatment (for instance – sending them for further treatment to companies licensed under Art. 12 of the Wastes management act);
- Flora and fauna – during the construction and the operation;
- Geological environment – reporting the results from consultations with Geo-protection Ltd.- Varna;
- Soils – the necessity shall be discussed for the recultivation of the affected areas;
- Harmful physical factors – during the operation – noise, vibrations, electro-magnetic fields;
- Health and hygienic aspects – during the operation with assessment of the noise, the psychological and visual discomfort resulting from the size and the operation of the equipment.

In connection with the performed evaluation of similar investment proposals, located in the chosen region, the cumulative (synergetic) impacts shall be reviewed conserning the route of the migration of the birds – Via Pontica, the "pollution" of the landscape and the health and hygienic conditions.

The greater part of the area planned for the construction of the wind farm potentially falls into the scope of the protected zone of Nature 2000 on the grounds of the Directive for the birds, according to the maps submitted to RIOEW – Varna by MOEW (ref No 04-00-7387/06.12.2005).
In order to perform an adequate evaluation of the migration in the region of the site, where the investment proposal would be implemented, and in order to establish the extent of the danger of collision of birds with the wind generators, it would be necessary to perform preliminary ornithological investigation of the migration routes and periods.
The risk for the endangered migrating types of birds should be evaluated on the basis of a program of monitoring of the birds, which should be performed on the site for at least 12 months.
The method which would be used should be clearly identified and should reflect the level of the risk for each type of birds in a broader context (for instance – for the separate types the height of the flight should be mentioned, the frequency of flying over the site, etc.).
Alternatives shall be reviewed and evaluated of the location, the number, the height, the sound power of the equipment and the "zero alternative" with the grounds for the choice and the impact on the environment (the migration process and the health of the people).

Concerning the requirements of Art. 95, paragraph 3, consultations shall be made with:

- Directorate National Nature Protection Service with MOEW;
- M Public Health;
- The Regional Directorate Forestry and Agriculture;
- NEC – about the possibility of connecting to the existing electric power network;
- The National Institute for the Cultural monuments to the M Culture;
- Geo-Protection Ltd., Varna
- An ecological NGO.

On the grounds of the above mentioned, the corrected assignment for the scope of the EIE, taking account of the performed consultations with short summaries and references to them, with the motives for the accepted and overthrown notes and/or recommendations, shall be included to the EIE report in connection with the application for evaluating its quality.
The EIE report shall contain a detailed map material in scale – plan – situation with the WPP and the closest residential areas with the numbers of the properties.
The structure of the EIE report shall be in compliance with the requirements of Art. 96, paragraph 1 of the Environmental protection act, and Art 12 of the Regulation on Terms and Rules for Performance of EIA (GA No 59 / 2003, amended and supplemented).
The non-technical summary of the report shall be elaborated in compliance with Art 12, paragraph 2 of the Regulation and item 27 §1 of the additional orders of the EPA as a single document, available to the public.

Respectfully … (s) …
Director Teodora Karaivanova

TERMS OF REFERENCE

REGARDING A REPORT ON ENVIRONMENTAL IMPACT ASSESSMENT

OF AN INVESTMENT PROPOSAL FOR "CONSTRUCTION OF WIND FARM WITHIN LANDS OF THE VILLAGES OF BULGAREVO, SVETI NIKOLA, HADJI DIMITER, RAKOVSKI AND POROUCHIK CHOUNCHEVO, KAVARNA MUNICIPALITY"

TERMS OF REFERENCE

REGARDING A REPORT ON ENVIRONMENTAL IMPACT ASSESSMENT

OF AN INVESTMENT PROPOSAL FOR "CONSTRUCTION OF WIND FARM ON THE TERRITORY OF THE VILLAGES OF BULGAREVO, SVETI NIKOLA, HADJI DIMITER, RAKOVSKI AND POROUCHIK CHOUNCHEVO, KAVARNA MUNICIPALITY"

I. GROUNDS

The main goal of the developed Terms of Reference regarding the Report on environmental impact assessment of the investment proposal for "Construction of wind farm on the territory of the villages of Bulgarevo, Sveti Nikola, Hadji Dimiter, Rakovski and Porouchik Chounchevo, Kavarna Municipality" is to determine size and contents of report and, after the authorized body of experts discuss and accept it, to guarantee flawless construction and functioning of the wind park regarding the environmental and people's health. Besides, the Terms of Reference document specifies research parameters, analysis and assessment of registered experts who will work on fulfilling the task; helps their work and facilitates procedures of report approval. This document complies with the existing jurisdiction in the field of preservation of environment and reflects the characteristic features of territory and of activities to be carried out there.

Grounds for developing of these Terms of Reference:
The reason for developing the Terms of Reference document is the intention of the "GEO POWER" company to develop wind farm on the territory of the villages of Bulgarevo, Sveti Nikola, Hadji Dimiter, Rakovski and Porouchik Chounchevo, Kavarna Municipality, with the total of 120 MW installed power, including 60 wind-generator installations, electricity transmission networks of 20 kV and 110Kv, electricity substation 20/110. The produced electricity will be added to the national electricity transmission network of the Republic of Bulgaria.

The Report on environmental impact assessment of the investment proposal for "Construction of wind farm on the territory of the villages of Bulgarevo, Sveti Nikola, Hadji Dimiter, Rakovski and Porouchik Chounchevo, Kavarna Municipality" is worked out in compliance with the Environmental Protection Act – Chapter Six "Ecological assessment and environmental impact assessment", Sectors I and III, and is to comply with the legislative regulations and acts in force in this field.

According to the requirements of the above-mentioned documents, the Report on environmental impact assessment of the investment proposal for "Construction of wind farm on the territory of the villages of Bulgarevo, Sveti Nikola, Hadji Dimiter, Rakovski and Porouchik Chounchevo, Kavarna Municipality" must follow up to what extent the investment initiative will provide a stable development of municipality and how the potential harmful impact on environmental components such as air, water (potable,

surface, underground), geological base, vegetation, fauna, biological diversity, landscape characteristics, cultural and historical heritage and health of people – will be limited.

During the work-out of scope and contents of the Report on assessment on the OUP impact the main requirements of EU documents dealing with environmental impact assessment of investment intentions, which determine MEW activities in the synchronization process of Bulgarian and European legislation, are taken into account. This kind of assessment aims at helping the process of decision making regarding the realization of investment proposals and, because of that, in this individual case, additional information of the potential impact of wind-powered installations on environment is asked to be provided by countries with significant experience in the assessment of impact upon use of alternative energy sources.

II SCOPE AND CONTENTS OF THE REPORT ON ENVIRONMENTAL IMPACT ASSESSMENT OF AN INVESTMENT PROPOSAL FOR "CONSTRUCTION OF WIND FARM ON THE TERRITORY OF THE VILLAGES OF BULGAREVO, SVETI NIKOLA, HADJI DIMITER, RAKOVSKI AND POROUCHIK CHOUNCHEVO, KAVARNA MUNICIPALITY"

The Terms of Reference document on the Report on Environmental impact assessment of the investment proposal for "Construction of wind farm on the territory of the villages of Bulgarevo, Sveti Nikola, Hadji Dimiter, Rakovski and Porouchik Chounchevo, Kavarna Municipality" is worked out on the grounds of standards in force for the country – the Environmental Protection Act(EPA) (published in SG, 91/2002, changed 98/2002, changed 86/2003, add 70/2007, i72/2005) and Art. 10, par. 1 of the Regulation for terms and order of carrying out an Environmental impact assessment of investment proposals for construction, activities and technologies (published in SG, i. 25/2003). It is in line with all new tendencies and methodologies used in environmental impact assessment of investment proposals, with all recommendations of Bulgarian and international team studies, which analyze the now existing work-outs of the impact of various investment proposals; as well as with methodological instructions of leading countries in this field of construction wind power complexes and assessment of their impact.

Under Article 10, par.1 of the Regulation for terms and order of carrying-out of an Environmental impact assessment of investment proposals for construction, activities and technologies, the present Terms of reference document includes:

1. Characteristic features of the investment proposal.
2. Alternatives for the realization of the investment proposal.
3. Characteristic features of the environment in which the investment proposal will be realized as well as an impact forecast done.
4. Significance of impact on environment.
5. Structure of the EIA Report.
6. List of required attachments to the EIA Report.
7. Stages, steps and terms of working out the EIA Report.

1. CHARACTERISTIC FEATURES AND GENERAL NOTES ON THE INVESTMENT PROPOSAL

Name of the Investment proposal:

"Construction of wind farm on the territory of the villages of Bulgarevo, Sveti Nikola, Hadji Dimiter, Rakovski and Porouchik Chounchevo, Kavarna Municipality"

Address of Principal:

"Geopower" OOD
Sofia 1421
33A, Krivolak Str.
Manager – Dimiter Mihaylov Hristov
Tel./fax: +359 2 963 3774
e-mail: office@techno-link.com

Physical characteristics of the investment proposal

The territory which is reviewed in the investment proposal is situated on the territory of the villages of Bulgarevo, Sveti Nikola, Hadji Dimiter, Rakovski and Porouchik Chounchevo, Kavarna Municipality, the total area being approximately 60 sq.km. There are no elements of the National ecological network nearby. Within the region of Sveti Nikola village, "Rusalka" resort and Kaliakra Cape there is a proposal for Korine, Kaliakra locality as per NATURA 2000, which to this day is not legally regulated. The problem of access to the Kaliakra reserve is reviewed in details in a EIA Report for a change of OUP Kavarna Municipality regarding the construction of a wind farm within the lands of Sveti Nikola on a municipal land, the investor being "YOMI ENGINEERING" OOD company.

The territory under review is assigned with the current Plan of Territorial Arrangement of agricultural activities and other production-compatible activities.

The position of individual sites in the region is shown on Appendix 1 and App. 2. After a preliminary territory balance is done, it is determined that approximately 12 ha or 0,15 % of the total area will be taken away for the realization of investment proposal. On the Plan for land split the envisaged properties are entered as agricultural land, because, up to now, these lands have not underwent the so called "change of land purpose" procedure. Future users of land will keep its main purpose while with the detailed Plans of arrangement an opportunity will be sought to change land purpose on a minimum area of cultivated land and, at the same time, envisage maximum recovery of temporarily violated terrains by next re-cultivation. The investment proposal does not violate zone arrangement or land use as per the approved Plan of territorial arrangement of Kavarna Municipality.

Next to the properties reviewed in the investment proposal is positioned the wind power P of "YOMI ENGINEERING" OOD company. In May 2003 the company participated in a tender and won the ceded right of construction for construction twenty wind-generator installations on municipal agricultural land with a total area of 2 700 000 sq.m within the land of Sveti Nikola Village, Kavarna Municipality. The contracted terms between Kavarna Municipality and "YOMI ENGINEERING" OOD company envisage the company to carry out all legal procedures of planning, co-

ordination and provision of design documentation for issuing a construction permit and construction of a wind farm.

Observing Bulgarian laws, the "YOMI ENGINEERING" OOD Company has worked out design activities using licensed specialists teams and these:

- Determine precise limits of protected territories and buffer zones;
- Include monitoring data of flora and fauna;
- Specify and include coordinated with the M Health sanitary-hygienic distance of generators from settlements – 500 m.

Independent experts have written a Report of the impact on environment with a positive conclusion. From the twenty wind-generator stations planned, seven remain to be realized.

It is envisaged construction actions to conform to the main land use for agricultural needs, the installations being constructed and mounted in the non-active agricultural season. The construction stages, subsequent exploitation, recovery and closing are one-time, the aim being to build a minimum area. The exploitation maintenance of installations, which are contemporary technological machines, does not require additional auxiliary and communication areas. After ending all construction and assembly activities it is envisaged all temporarily built roads and working sites to be covered by soil layer and to recover the land. This is possible because, usually in the wind farm construction practice there are no examples of fulfillment of a permanent transport network to each and every installation for energy production. To this effect, for the realization of the investment proposal it is not envisaged to build a new or change an existing road infrastructure. The properties for setting up the installations are sought to be with an access to existing farm roads.

Main characteristic features of production process

A wind-generator is chosen for the realization of the investment proposal which is a product of the German company Re Power Systems. The rotors of the company-produced generators vary from 48,4 m to 126,0 m. The height of the main body is from 59 m to 100 m, it is solid, metal and conic shaped and, according to the height, consists of 3 to 5 segments. Each segment is equipped by a platform and emergency lightning. The diameter of the first ring of the main body is 4,5 m. For emergency access at the base of each tower there is a door and inner staircase, which helps in bad meteorological conditions an emergency access to the motor casing. The model is MM 82. This model is suitable for various conditions; it can be mounted both on land and in water. For the generators seating an area of approximately 30/30 m must be provided.

With regard to the environment the chosen model has the following advantages:

- Lack of oil and lubricant flow due to protection with additional tubs of the board construction.
- Closed system for lubricating mechanisms.
- Personnel protection by screening of the electric transmission network.
- Lack of noise made by wind within tower construction due to its solid body (in contrast to the lattice poles).

The system for protection and control of generators is appropriately chosen. For protection against electromagnetic radiation control signals are fed through a fibro optical cable. A multilayered cover complying with ISO 12944 protects from corrosion all parts of generator. Generators are protected against lightning in accordance with standards IES 61021-1. All functions of the generator are tracked by an additional system for control and emergency stopping.

One of the main activities in connection with the investment proposal is the production of electricity and its transmission to Kavarna substation for switching in the national electricity transmission network.

The realization of the wind farm, subject of present Terms of Reference document for EIA, is connected only with construction of foundations and mounting of towers, rotors and concomitant installations for control and emergency stopping. The foundations will be solid and an ordinary concrete will be used. During exploitation of the wind farm the use of resources will be of the wind potential mainly. This is a natural resource of the chosen territory for construction a wind farm and herein lays the great benefit of its construction and exploitation.

Expected waste and emissions as a result of exploitation of the investment proposal

During exploitation of the wind farm, subject of the present investment proposal, no generation of waste, noxious gases and liquids is expected. Other detrimental side effects are not expected. During realization of foundations and mounting of installations some insignificant quantity of daily waste and drop outs, generated during construction and assembly activities, is expected. During construction and assembly activities, as a result of excavations, some dust emissions and land masses will be generated. This waste and emissions have temporary character and, with the fulfillment of the construction P, their generation will be stopped.

General information – wind power complexes

The Report of the American association of wind energy, written in 2002, regarding the global wind-energy market, shows that, in the period of 1997-2002 the world electricity production through use of wind energy, has increased four times – from 7 600 MW to 31 128 MW. According to the European wind energy association data the increase for the same period in Europe is 33 %.

Use of this kind of energy resource is relatively small in Bulgaria regardless of the many research studies of potential sites which comply with the main requirement for the most significant resource – the wind. Notwithstanding that the National Energy Strategy of our country deals with the issues of use of energy effective resources and of restorative resources, there is a very limited experience in planning, design, construction and assessment of impact of such complexes. Just because of that, for the development of the present Terms of reference document some normative documents and methodological instructions from Australia, Great Britain, Ireland and the USA have been used, as well as published documents in the European Union; a

general information being included of the requirements towards the construction of wind power complexes and limitation of their impact on environment.

Technical requirements towards the chosen territory for construction of wind farm installations:

While choosing a terrain for construction wind farm installations the world practice recommends the observation of the following 5 main requirements:

- Availability of energy resources of wind at various points in space and at various heights;
- Opportunity to switching in the electricity transmission network – technical and financial effectiveness of connections to existing networks and installations of the technical infrastructure;
- The already built transport infrastructure and opportunities for access to terrain.
- Clarified land ownership.

In this case all these preliminary studies are done. The first model studies of wind speed and direction are carried out; the necessary area for construction of the park is determined with the fixed 60 generators guaranteeing effectiveness of investment; connections to transport and technical infrastructure are studied; the ownership of land and the ways of its lasting use are specified; the construction license to build on municipal land is paid.

Ecological requirements towards the chosen territory for construction of wind farm installations

Besides taking into account expectations of all plans and policies on national, regional and local levels in the environmental impact assessment, the following ecological requirements should be considered:

- The landscape classification – presence of protected landscapes and permissible remoteness from their boundaries;
- Visual compatibility of chosen territory – visual connections from and to the territory, especially from significant elevation points and routes;
- Remoteness from territories for habitation with the aim of protecting these from noise, disturbance of TV signal, reflecting lights and visual changes;
- Protection of preserved plants and animals which are permanently or just for the season resident on the territory;
- Remoteness from sites and complexes of CHI – archaeological and historical monuments;
- Preservation of habitation comfort in tourist and vacation complexes nearby;
- Compatibility with the existing telecommunications on the territory and nearby – radio relaying stations, TV, installations of mobile operators, etc.
- Providing safety of flights and of the work at airport complexes, situated near the territory of the wind power complexes.

In this case ***the most essential attention should be paid to protected territories, tourist complexes and the areas of visual impact.***

Provision of Information

- Final information of normative documents in force for the country – laws and sub-legal acts in connection with the environment and health on national, regional and local levels;
- Final information, forming the criteria for environmental impact assessment, from international documents – Directives, conventions, agreements, charts, declarations, etc. signed by the Republic of Bulgaria, which conformity to is obligatory;
- Results of theoretical studies of potential impact on environment of wind power complexes;
- Data regarding the condition of environment and all components, subject to assessment of national, regional and local institutions – MEW with the corresponding directorates, NIPK, IAOS, RIOSV – Varna, Regional Council of Dobrich and the Municipal Council of Kavarna.
- Data of the working manufacturing companies, farms and warehouses on the territory and in the neighborhood, regarding pollution of environment, the wind consumption, waste and waste waters treatment;
- Data of manufacturing companies situated in the neighborhood, which are a risk factor for people's health and environment and which can bring cumulative effects.
- Results and recommendations by EIA reports from Ecological expert Councils of MOSV and RIOSV – Varna, on significant investment proposals on the territory or near the chosen terrain for realization of the investment proposal, incl. Reports on assessment of impact of analogous Ps for construction of wind farm installations in the region of Dobrich;
- Additional information of the territory by nongovernmental organizations and associations, listed in Section IV of the present Terms of Reference document on EIA report.
- Information from the Land commission regarding the ownership of the terrain chosen for the realization of the investment proposal, ways of lasting use, etc.;
- Information regarding the protected territories and sites nearby;
- Data of tourist complexes, sites and routes, capacity, load, remoteness and visual commitment;
- Technical parameters of wind farm installations and concomitant networks, installations and sites.

2. ALTERNATIVES FOR THE REALIZATION OF THE INVESTMENT PROPOSAL

At present stage the investment proposal does not suggest alternatives regarding its realization. At a later stage of the development of offer it will be possible to consider alternatives in view of locality of wind power generators in the case of:

- possible admissible distances between them;
- migration road of birds "via Pontica";
- preservation of plant diversity on the territory;
- Non-conflict entry of generators in the landscapes.

Alternatives are possible in regard with the installed power of wind generators and from there the social and economic significance of these alternatives. Of course, a "zero

alternative" exists – it must be considered on an equal level with the possible ways of realization of the investment proposal.

What concerns the alternatives for energy production by renewable resources (energy production by WEC, biomass, sun energy), it can be pointed out that for a region with availability of significant real renewable natural resource such as wind, they are unacceptable. The studies made by the "Geo power" OOD company for the territory of Bulgaria and the measuring of wind indices for a period of one year, as well as the opportunity to combine the two activities – agriculture and energy production – all these determine the optimal effectiveness of the investment proposal.

3. CHARACTERISTIC FEATURES OF THE ENVIRONMENT, IN WHICH THE INVESTMENT PROPOSAL WILL BE REALIZED

The region where the investment proposal "Construction of a wind farm on the territory of the villages of Bulgarevo, Sveti Nikola, Hadji Dimiter, Rakovski and Porouchik Chounchevo, Kavarna Municipality will be realized, is situated in the North-Eastern part of the Republic of Bulgaria.

The municipality of Kavarna is located in the region of Dobrich and comprises a territory of 48,3 sq.km. 21 settlements fall within its boundaries, and according to the latest census data the number of the population is 18 285 people, which is approximately 2 % of the population in the region of Dobrich. The area of the municipal territory if 480 865 dka, which comprises 0,43 % of the country's territory.

Road network of the municipality comprises 121,4 km, from which 24,2 km are first class roads. The road-bed of the international road E-87 passes through the municipality, too.

Protected territories, which are situated within the boundaries of the Kavarna municipality, are the "Kaliakra" natural reserve with an area of 687,9 ha and the protected land of "Taukliman" with an area of 89,5 ha. The importance of these protected territories is determined as international because of the presence of rare and threatened with extinction plants, animals and birds. The territory of the region of Dobrich is crossed also by Via Pontica which must be taken into account in the preparation of the EIA and complicates in a way the task of EIA experts.

"Yailata", the national archaeological reserve is situated on the boundary of Kavarna and Shabla municipalities with an area of 90 ha and 182 ha guarded area, where the remains of monuments of culture from the 5^{th} century BC are being preserved as well as a restored fortress from the 5-6 century. Preliminary studies show that no KIN areas fall within the boundaries of the chosen territory, subject of the asse4ssment.

Areas, specified as protected, sanitary-guarded or such as of the National ecological network as per the Bulgarian legislation and the European directives, definitely do not fall within the region of the investment proposal.

4. SIGNIFICANCE OF IMPACT ON ENVIRONMENT

The expected significant impacts on the individual components of environment are defined according to the "Instructions for EIA of investment proposals" of MOSV as of 2002. In this part of the Terms of reference document on EIA report of the investment intention for "Construction of wind farm on the territory of the villages of Bulgarevo, Sveti Nikola, Hadji Dimiter, Rakovski and Porouchik Chounchevo, Kavarna Municipality" the assessment of the significant impact of the investment intention on the components of the environment will be done in a succession observing the dimensions and reversibility of the provoked changes by construction and the next exploitation of site. During the assessment the specific peculiarities of the investment proposal will be taken into account, too – the construction of wind farm installations for production of energy from a renewable natural resource such as the wind.

The monitoring of experts on sites analogous with the investment intention prove that the impact on the built wind generators ***will not negatively influence*** the following components of environment: air, climate, waters, geological medium, lands and soils, plants, landscape, cultural and historical heritage, waste, dangerous substances, medical-hygienic aspects of environment. In such installations as wind power generators it is more important to identify and assess the ***specific impacts,*** which they render on the environment. Here we will review in brief exactly the specifics of impact on some components of the environment.

Wind power installations will create a stable and new landscape for Bulgaria. They will dominate the surrounding landscape which, in some cases, is defined as a "visual pollution". If you look at it impartially, with a view changed in this way you will obtain a creation of a new one, i.e. to a new kind of landscape of the place. This view differs in its content and vision from the rest of the territory and its assessment depends to a greater extent on its special impact on people. Such types of assessment are subjective ones but in this case you can approach the issue in two directions.

The first one deals with the dimensions of transformation of landscape view, with the obligatory taking into account of social needs and importance of such sites. This formulation can be addressed, to a greater extent, to people living near the WDPI (the wind farm installations) because, to them, working at the turbines will have not just an ecological but also a considerable economic effect. In this case we can speak only of visual negative outdoor effects. But these effects when compared to the positive ecologic and economic benefits can be totally ignored.

The second direction refers to the subjective-emotional comfort of people passing through or nearby the site and their assessment of apprehending the visual-aesthetical qualities of new techno-genetic elements of landscape. It is evident that, in equal topographic conditions, view and visual content of a given site, the individual ability of apprehension is most decisive for the assessment. In the case with the wind farm installations the main stream of spectators of the landscape will be the cars passing by the park en route the village of Bulgarevo to the village of Kamen Bryag and from the town of Kavarna to the village of Hadji Dimiter. At a speed of average over 80 km/h of the cars the distance for the travelers will be approximately 7 km and the visibility of the surrounding landscape will be within the limits of approximately 5 minutes. It can be assumed that, to a certain number of visitors, this techno-genetic landscape, new for Bulgaria, will have a definite value of an attraction.

The nearest settlements to the wind farm installations are the villages of Sveti Nikola, Bulgarevo and Hadji Dimiter. From a point of view of impact on population as a visual apprehension, noise and light effects we have to point out that there is a sanitary-guarded area around the wind power generators coordinated with the RIOKOZ – Dobrich and the M Health which comprises 500 m. The investment proposal envisages individual generators to be situated according to these instructions and the other standards in force in the country. So this specific impact of the investment proposal is marked as insignificant.

Each wind power generator occupies small area, which is necessary just for erecting the foundation and, due to that fact, we can assume that damages on agricultural cultures and impacts on the animal world will be minimal. Besides these impacts are short-lived because construction and assembly activities will be followed by re-cultivation of affected terrains.

We do not expect a negative trans-boundary characteristic of impact of the investment proposal.

On a global scale we expect that the investment proposal for the construction of a wind farm on the territory of Kavarna municipality with an installed power of 120 MW will contribute to reduction of carbon dioxide emissions in atmosphere.

It is assumed that the only possible significant impact of wind turbines and their characteristics will be on migrating birds because, this part of North-eastern Bulgaria, where the generators are supposed to be situated, is a corridor for birds migrating en route "Via Pontica". This migration is subject to monitoring, entrusted by the "GEO POWER" OOD company and done by experts from the Zoology Institute at the Bulgarian Academy of Sciences.

In general the assessment of ***positive and negative impacts*** of the realization of investment proposal on environment is done on the grounds of an ecological and economic point of view.

Impacts of the offered site on environment will be extremely varied. Because of that, within the framework of the EIA Report on the site, they will be assessed on the grounds of the already existing, although short-lived, observations and studies. On the other hand, every site of similar type and dimension is important because of its novelty and uniqueness. The latter is associated with use of renewable resources of energy which is one of the significant issues of the energy policy of Republic of Bulgaria. Observations on the work of wind power generators will give opportunities to obtain precise information regarding the impact of such types of sites on the affected components of environment discussed above. The results of these observations will provide objective information of the consequences from the realization of the wind power complexes and will be used for the development of further long-termed reliable forecast of impact of sites of similar type on environment.

The economic aspect of the investment proposal will, undoubtedly, have a positive effect – it will help the real natural resource - the wind to be used in the region where the wind power generators are offered to be built and this will be a significant contribution to the energy provision of population in the region.

5. STRUCTURE OF THE EIA REPORT

Annotation on the investment proposal for construction, activities and technologies

The investment proposal can briefly be characterized in the following way:

The "GEO POWER" OOD Company intends to build on the lands of the villages of Bulgarevo, Sveti Nikola, Hadji Dimiter, Rakovski and Porouchik Chounchevo, Kavarna Municipality, a wind farm with a total installed power of 120 MW, including 60 wind power generators, energy transmission networks of 20 kV and 110 kV, electric substation 20/110. The energy produced will join the national energy transmission network of Republic of Bulgaria.

The main peculiarity of the investment proposal for construction of wind farm on the territory of the Kavarna municipality, is obtaining of energy from renewable natural resource such as the wind. The renewable energy resources are characterized by the fact that their use does not lead to exhausting of natural resources of land (coal, petrol and other mineral fuels) and does not cause piling of dangerous waste (as is the case with the nuclear and electric power plants).
In this direction the realization of the investment proposal will be a contribution to the obtaining of energy from renewable resources.

The "GEO POWER" OOD Company has carried out on its own studies on the potential of wind on the territory of Republic of Bulgaria and the Kavarna region is chosen as an optimal choice for the realization of investment proposal.

A wind power generator, produced by the German company "Re Power Systems", is chosen for the realization of investment proposal. The rotors of generators produced by the company, vary from 48,4 m to 126,0 m. The height of main body is from 59 m to 100 m, it is solid, metal, conic and, according to the height, consist of 3 to 5 segments. Each segment is equipped with a platform and emergency lights. The diameter of the first ring of the main body is 4, 5 m. For emergency access there is a door and inner staircase at the base of each tower, which, in bad meteorological conditions, helps an emergency access to the motor casing. The model is MM 82. This model is suitable for various conditions; it can be mounted both on land and in water. For the generators seating an area of approximately 30/30 m must be provided.

The main activity referred to in the investment proposal is the production of energy and its transmission to Kavarna substation to join the national electricity transmission network.

The investment proposal will be realized in stages, the wind park being envisaged to be built in two stages, namely:

- ***First stage*** – construction of a substation, an electricity transmission network and 30 wind power generators with an installed power of 60 MW in 2006-2007;
- ***Second stage*** – construction of 30 wind power generators with an installed power of 60 MW in 2007-2008.

New or change of existing road infrastructure is not envisaged for the realization of investment proposal. The properties, which the installations will be situated on, are chosen to have an access to existing agricultural roads.

The methods of construction are these of mounting, the foundations being built monolithically.

Alternatives of locality

The locality of individual sites in the region is shown in the attached maps (Attachment 2). The territory of the developed investment proposal comprises an area of total 60 sq.km.. On the basis of a preliminary balance of territory it is established that, for the realization of investment proposal, some 12 ha or 0,15 % of the total area will be taken away.

During the analysis of the impact on environment the locality of wind power generators will be assessed in respect of:

- possible admissible distances between them;
- "Via Pontica" – the migration route of birds;
- keeping the diversity of plants on the territory;
- non-conflict entry of generators within the landscape;

"The zero alternative" will be reviewed, too, on an equal footage with the possible ways of accomplishment of the investment proposal.

What concerns the alternatives of energy production by renewable resources (energy production by EPP, biomass, sun energy) we can point out that, for the region, at the presence of a real renewable natural resource such as the wind is, they are unacceptable. The studies carried out by the "GEO POWER" OOD Company on the territory of Bulgaria and the measurements of wind indices taken in the course of one year, as well as the possibilities to combine the two activities – the agricultural and the energy production, determine the optimal effectiveness of the investment proposal.

Description and analysis of components and factors of environment and of material and cultural heritage; forecast and assessment of probable impacts on components of environment which are expected to be affected to a considerable extent by the investment proposal

This part of the Report looks at the natural features of individual sites for mounting the wind power generators with a view to locality and existing environmental conditions, the existence of protected territories, preserves and cultural-historic sites. We will describe and assess the probable significant impacts on population and environment as a result of:

- The realization of the investment proposal;
- The use of natural resources;
- The emissions of noxious substances during the normal exploitation and in emergency situations, the generation of waste and creation of discomfort.

Regarding the individual components of environment the analysis will be done in accordance with the detailed description given below.

Air in atmosphere

- An assessment of air quality as per existing and updated data;
- Existing sources of pollution – pollution by transport, by industry, by agriculture, by combustion installations, by natural sources;
- Sewage installations, observation and control centers;
- Determining the risk areas;
- Sources of pollution as per the forecast of the current PTM (Plan for territorial management)
- Forecast and assessment of expected changes in the quality of air in atmosphere (pollution of air in atmosphere), incl. that of the ground atmospheric layer, the territorial scope of areas with polluted air as a result of the PTM forecast;
- Emissions, which will influence significantly the environment, assessed as characteristic features and importance, sensibility, impact on climate, etc.;

- Forecast for the impact on the air quality in the atmosphere with the establishment of the territorial scope of existing impact as per an approved methodology;

- Components of environment to be significantly influenced by the changes in the atmospheric air and climate;

- Assessment of the impact on atmospheric air as per the norms and standards of tolerable contents in force for the country;

Climate

- Climatic and meteorological factors influencing the quality of atmospheric air;
- Analysis of components – temperature, rain, fog, frost, etc.
- Wind analysis – direction and speed; data per hour in quarters, long-termed data; energy resources of wind for various points in space and at different heights. Correlation of wind regime on the locality of measurement and on the recommended one for mounting of generators;
- Unfavorable climatic phenomena;
- Emissions which will significantly influence climate, assessed as a level of impact;
- Forecast of changes in the climate by determination of territorial scope of existing impact as per approved methodology;
- Components of environment to be significantly influenced by changes in climate;
- Assessment of expected impacts of these changes on other components of environment and on sites and installations, existing or envisaged as per the PTM.

Surface and underground water

- Surface water, conditions and factors of formation:
  - Existing and prospective installations for water use and consumption – assessment of impact of installations on the flow away regime, quantity and quality of surface water;
  - Availability and characteristic features of spot sources of water sites pollution;

  - Characteristic features of flow away at specific spots;

- Ecologically minimal water quantities, sensitive areas;
- Assessment of water resource, water resources consumption;

- Qualitative characteristics of drinking and waste water
  - Concordance of drinking water with the current Regulation No. 9/2001 (SG, i.30/2001) and of underground water upon use of drinking and industrial needs;
  - Admissible contents of detrimental and dangerous substances in waste water, directed to water basins;
  - directing industrial waste water in sewage systems of settlements or resorts;
  - Condition of sewage works;

- Qualitative characteristics of underground water:

  - Water delivery rate, contents, temperature, purity;
  - Use potential;
  - Water-bearing areas and areas with a specific statute.

- Sources of pollution envisaged in the investment proposal;
- Forecast and assessment of expected changes in the regime of surface and underground water as a result of the realization of the investment proposal;
- Forecast and assessment of expected changes in the quality of water, incl. on the quality of water within the limits of the sanitary-guarded areas, at directing waste waters (with the indicated emission standards), at direct and indirect leading away in underground waters, activities on the surface of the land, etc.
- Components of environment which will be significantly influenced by the changed hydrologic and hydro-geologic conditions and by the changed quality of waters.
- Forecast and assessment of underground waters.

Geologic basis and earthquake

- Engineering and geologic division of territory; geologic structure
- Tectonics;
- Physical-geologic processes and phenomena – erosion, swamping, suffosion, landslides, faults, etc. Remoteness of investigated territories from coast line of a geologic risk;
- Physical and mechanical properties;
- Analysis of geologic, hydro-geologic and tectonic data of the territory, seismic risk and gamble;

- Forecast and assessment of expected changes in the geologic and hydro-geologic conditions.

Rich Natural underground resources

There is no data for the presence of rich natural resources of the territory chosen for the construction of the win-driven park installations and of that nearby, but despite of this the

expert on this component must give his opinion how far the envisaged activities in the realization of the investment proposal will prevent the extraction of rich natural resources.

Land and soil

- Types of soil, distribution;
- Characteristics of soil status – damaged land, erosion, over-humidity of soil, salted, acid, polluted by detrimental and dangerous substances;
- Spatial distribution of polluted and damaged land and soil;
- Spatial distribution of rich land and soil, suitable for development of agriculture; change of soil fruitfulness;
- Status of the elements of irrigation system;
- Forecast and assessment of expected changes in soil as a result of the changed way of long-term use because of the investment proposal;
- Determination of territories, affected during construction and mounting of installations and of territories in need of re-cultivation of soil after termination of construction process.

Vegetation

- Status of vegetation, changes in type and vegetation cover, including centuries-old or remarkable trees (as per the Law of biological diversity);
- Presence of medicinal plants in connection with the Law of medicinal plants;
- Vegetation of the steppes, characteristics and location;
- Status and threats on the important for preservation plant species and their habitats;
- Green system – green corridors, protected strips of land, landscape gardening and parks at sports and recreational terrains, gardening of rivers and gullies, etc. Aesthetic impact of vegetation and green system;
- Statute, functions, characteristics and status of woods next to the investigated territory;
- Biological diversity – important resources for preservation of biological diversity, alien to the environment species, threatening the natural habitats; fragmentation of habitats, activities threatening the phyto diversity;
- Determination of areas in need of special intervention;
- Forecast and assessment of expected changes in vegetation cover, the species, including centuries-old or remarkable trees;
- Forecast and assessment of expected changes in biological diversity;
- Determination of areas and terrains, which require special intervention;
- Forecast and assessment of expected changes of the condition of important for preservation plant species and their habitats.

Animal world

- Characteristics of status of animal world – diversity of species, threatened, protected and extinct species, habitats;
- Important places with regard to feeding, construction a nest, breeding, seasonal presence, migration;
- Biological diversity – important resources for keeping the biological diversity, alien to environment species, threatening the natural habitats, fragmentation of habitats, activities threatening populations of individual species and destroying the structure of zoocenosis;

- Determination of risk areas with regard to animal world;
- Status and threats to important for preservation animal species and their habitats;
- A potential for use of territories to develop hunting and fishing;
- Forecast and assessment of impact on the animal world, as a result of the realization of the investment proposal;
- Expected changes in behavior, distribution, number, migration; fragmentation of existing habitats;
- Forecast and assessment of expected changes on the status of important for the preservation process animal species and their habitats;

Note: The greatest quantity of studies have been done regarding the impact of win-driven generators on birds. There is no proof that wind power complexes are more dangerous to birds than the other installations and conductors of technical infrastructure. The fins of generators move at a speed which lets them being noticed and avoided by most of the birds when these are appropriately coloured. Because the wind power complexes can influence the populations of bats, we have to pay special attention in this part with regard to feeding, habitats and migration of bats.

Landscape

- Types of landscape and importance of the existing classification;
- Main components, determining the character of landscape – relief, water areas and drafts, vegetation cover, leading human activity in the anthropgeneous landscape;
- Visual commitment of territory – view to territory and outside it; determination of the visual frame;
- Status of landscape – a complex assessment of its ecologic, scientific, historic, cultural, aesthetic, social and economic value; importance of landscape;
- Sensitivity to landscape and its individual components;
- Spatial distribution of protected, cultural and damaged landscapes in neighbouring territories;
- Natural and anthropogeneous change of relief;
- Forecast and assessment of expected changes in landscape character;
- Assessment of stability of environment for self-recovery of landscape;
- Impact of changes in landscape on environmental look, aesthetic value of natural frame, of visual commitment, etc.;
- Changes in impact and perception of characteristic landscapes, of silhouettes, of natural and built by man accents;
- Determination of areas of visual impact and perception of environment in a static way and while moving on main roads and tourist routes nearby the territory;
- Assessment and forecast of landscape status, changes in its structure and the functional purpose as a result of the development of urbanization processes both in the investigated and in the neighboring territories;

Protected natural sites and territories

- Distribution, characteristics, statute and status of protected natural sites and territories;
- Buffer areas and territories with a specific regime of protection;
- Hot spots in the area of protected territories;

- Forecast and assessment of expected changes in the protected natural sites and territories as a result of the realization of the investment proposal.
- Forecast of expected changes in behavior and route of migrating birds en route Via Pontica, spring and autumn migrations;
- Compatibility of newly envisaged functions with these in the neighboring territories;
- Boundaries of distribution of risk factors regarding protected sites.

Cultural heritage

There is no data available for the presence of cultural monuments on the investigated territory, but, in spite of that, the nearest to the wind farm installation CHI sites must be analyzed and to pay special attention to the visual impact and areas of visibility in order to guarantee the preservation of authenticity of environment.

- Characteristics and status of historical, architectural and archeological monuments, folklore and traditions, language and dialects, religion and beliefs, settlements; individual and group monuments;
- Characteristic structures, distribution, number and value; approaches and access; monuments found in areas at risk of pollution and damaging;
- Analysis of components of environment which influence cultural monuments and their level of impact (climate, water, vegetation, soil, etc.) additional factors on impact;
- Status of sites, complexes and monuments; a protected provided according to the current standards; compatibility of functions in neighboring territories;
- Cultural and natural frame and level of preservation of authenticity of environment;
- Forecast and assessment of expected impacts on the status of historical, architectural, archaeological and other monuments, found out of the investigated territory, as a result of the realization of the investment proposal.
- Limits of impact and distribution of risk factors regarding the character of environment, the aesthetic and social value of KIN;
- The potential danger of breaking the authentic natural and anthropogeneous fame of CHI.

Waste

- Type, character and quantity of generated waste; means of collecting, transporting, storing, neutralizing, recycling; measures for decreasing the quantity of deposited waste;
- Registering old pollution waste and non-regulated dumping-grounds situated on the territory of the wind farm installations on the territory of the villages of Bulgarevo, Sveti Nikola, Hadji Dimiter, Rakovski and Porouchik Chounchevo, Kavarna Municipality;
- Location of installations for waste, access, visual impact, capacity, period of exploitation;
- Route schedules for collecting and transporting of waste;
- Forecast and assessment of expected changes in environment of the territory, envisaged in the investment proposal regarding management of waste – collection, transportation, deposition, handling, neutralization, etc..

5.3.13. Harmful physical factors

- Noise – sources of noise pollution, impact on various sites in region, impact on the working medium and on settlements, limits of distribution;
- Vibrations – sources of vibrations and limits of distribution. Impact on permanently residing/working people on the territory and possible impact on population and tourists;

- Ionic radiation – sources, types, scope of distribution, level of pollution, data about the region from the national monitoring system;
- Non-ionic radiation – sources, types, technologies emanating electro-magnetic radiation, scope of distribution, impact on working people and the population, level of pollution.
- Forecast and assessment of impact of noise as a result of the realization of investment proposal; cumulative effect;
- Forecast and assessment of impact of non-ionic radiation as a result of the realization of investment proposal;
- Forecast and assessment of impact of ionic radiation as a result of the realization of investment proposal;
- Forecast and assessment of impact of vibrations as a result of the realization of investment proposal;
- Forecast and assessment of other physical violators of environment and recording of requirements of current standards regarding health protection of people and environment.

5.3.14. Dangerous and harmful substances

- Dangerous and harmful substances (UN classification);
- Toxic substance – sources, characteristics, distribution;
- Physical pollution of environment;
- Existing sources of pollution, areas of impact, affected population;
- Forecast and assessment of expected changes as a result of the impact of dangerous and harmful substance, which are result of the realization of the investment proposal;
- Taking into account requirements of current standards in the country and comparison to international ones;
- Areas of distribution of violations and pollution on part of newly envisaged sources.

5.3.15. Health and sanitary aspects of environment

- The present status of the environment. Identification of sources of harmful impacts on health of population, on tourists and temporary visitors. Ergonomic problems. Risk and biological factors of environment – stray dogs, rodents and harmful insects;
- General omissions in the hygienic status of the territory;
- Hygienic risk and health risk;
- Forecast and assessment of expected changes as a result of the impact of dangerous and harmful substances, resulting from the realization of the investment proposal;
- Taking into account the requirements of current standards in the country and comparison to the international ones;
- Areas of distribution of violations and pollution from newly envisaged sources;
- Determination of potentially affected population and territories, areas and/or sites with specific hygienic and protected status or subject to health protection according to the forecast of the territorial scope of impact on components of environment;

Characteristics of individual factors regarding their impact on man's health and comparing

them to the existing hygienic standards and requirements as well as the WHO standards.

- Synthesis of assessments by components to assess the accumulating impacts on the components of environment and people's health.

5.4. Information about methodologies used for forecast and assessment of impact on environment

This sector of the EIA Report of the investment proposal for the "Construction of wind farm on the territory of the villages of Bulgarevo, Sveti Nikola, Hadji Dimiter, Rakovski and Porouchik Chounchevo, Kavarna Municipality", must include a list of methodologies for the assessment and forecast of impact on environment used in the working out of the report for every single component of environment and in general for synthesis parts. Here, a list of standards is attached, on the basis of which the analysis, assessments and forecast for conformity with current technical-economic, structural, sanitary-hygienic, etc standards for the country are used. The attached to present issue list does not include Bulgarian and international documents (conventions, strategies, declarations, agreements, national and regional action plans, in connection with environment protection and health of population, with the energy efficiency and the use of wind energy). They must be included in the list of literature used attached to the EIA Report together with all the rest information sources.

At present stage, the issue includes just some of the methodologies which can be used in working out of the EIA report of the investment proposal under review, because, on one hand, every team has its own methods of work, and, on the other hand, some of the analyses and assessments of the specific task require use of specific methods. The more significant of these are as follows:

1. Statistical and dynamic models of meteorological conditions;
2. Statistic and model studies of water flow.
3. UNESCO requirements for the assessment of seismic risk and specific methods worked out for specific cases;
4. Leopold Matrix of ecological assessment of impact on vegetation.
5. Assessment of health risk as per the WHO requirements and the Agency for environmental preservation of the USA
6. WHO Risk Management Chart
7. Toxicometry
8. Biological monitoring;
9. Lists and matrixes of the vegetation and animal world;
10. Complex expert assessment of landscape.

5.5. Measures envisaged to prevent, decrease and, where possible, to stop significant harmful (negative) impact on environment and health of people as a result of the realization of the investment proposal for the "Construction of wind farm on the territory of the villages of Bulgarevo, Sveti Nikola, Hadji Dimiter, Rakovski and Porouchik Chounchevo, Kavarna Municipality"

In this part we have to make an assessment of the envisaged in versions measures for limiting the negative impact, as well as of these for elimination of existing violations of environment.

Regarding the most important impacts of wind farm installations on environment the following offers for their timely removal must be made:

- Measures to be taken against noise in the most unfavorable conditions, according to the type of generators, relief and local characteristic features of wind;

Suitable coloring of installations must be chosen according to the environmental imagery, at the background of which these will be apprehended, for non-conflict entry in the landscape and for the safe passage of birds flying-by.

- Additional installations, suitable for protection of birds and bats; alternative habitats;
- Protection of tourists and drivers on neighboring roads from flashes and blinding by fins rotation in low sun position and the corresponding orientation of generators;
- Measures to eliminate potential violations in telecommunications – television, radio and microwave signals;
- Appropriate network schedule for realization of construction, consistent with migration periods, nesting, etc. of important to the biological diversity species;
- Measures for the protection of working people and potential visitors and passers-by near accidents and breakdowns in extreme situations and natural disasters (earthquakes, storms, extreme speed of wind, etc.), in accordance with international standards;
- Measures to recover vegetation destroyed during construction and installation of generators.

5.6. Conclusion

In the conclusion the team of experts who have written the EIA Report on the investment proposal, will present a summary of positions on the impact of investment proposal on individual components of environment and human health.

6. Required annexes, lists and other documents

6.1. Information sources

6.1.1. Legislative and standard acts
6.1.2. Literature

6.2. Consultations

6.2.1. List of consultations carried out
6.2.2. List of attached proofs of consultations carried out – protocols and written statements of meetings

6.3. A team of Authors

6.3.1. List of experts with a competency field and worked-out parts of the EIA Report (signed by the experts)

6.3.2. Certificates of individual experts as per Art.83, par.4 of the EPA
6.3.3. Declarations as per Art. 11, par. 3 of the Regulation for the conditions and order of fulfillment of an environmental impact assessment of investment proposals for construction, activities and technologies

7. Stages, phases and terms for working out EIA Report

The term of working out of the Report on Environmental Impact Assessment 22 working days and enters into force 5 (five) working days after the decision for approval of the Terms of Reference document is published as per Art.95, par.2, i.4 of the Environmental Protection Act.

LIST OF ORGANIZATIONS
FOR CARRYING OUT CONSULTATIONS ON THE EIA REPORT

No.	Organization	Address	Motives
1	2	3	4
1	Executive Environmental Agency, National System for Environmental Monitoring	1618 Sofia, 136 Tzar Boris III blvd., P.O.Box 251 tel.:+359 2 9559011; fax: +359 2 9559015; telex:+359 2 23894 e-mail: ncesd@nfp-bg.eionet.eu.int	Collecting information about the air in atmosphere, soils, waters
2	M Environment and Waters, "National Agency of nature protection" Dept.	Sofia 1000, 22, Maria Louisa Blvd. 02 94065554	Collecting information on protected areas
3	MEW, "Preventive activities" Dept., "Protection of air purity" Dept. and "Waste Management" Dept.	Sofia, 8, Gladstone Str. 02 9406544	Consultations on the EIA Report and European Standards
4	M Energy and Energy Resources	Sofia 1040, 8, Triaditsa Str. 02 9878425	Strategies for use of renewable and alternative energy sources
5	M Transport and Communications	Sofia 1000, 9, Djakon Ignatii Str. 02 940 95 00	Transport and technical infrastructure data
6	M Regional Development and Public works, "Civil works, engineering infrastructure and landscape" Dept.	Sofia, 17-19 Kiril and Methodiy Str. 02 94059	Transport and technical infrastructure data
7	M regional development and public works, EA "Roads"	Sofia, 17-19 Kiril and Methodiy Str. 02 94059	Transport infrastructure data
8	"Civil protection" Department, Dobrich Region	Dobrich 9300q 16, Bulgaria str. 058 2 20 36	Introcution to Action plans in emergency situations Area of distribution Population potentially affected in emergencies
9	National Institute of monuments of cultural heritage	Sofia 1000, 16, Dondukov Blvd, 02 9874801	Studiying of potential NIMCH sites

10	RIEW-Varna	Varna, 4, Jan Palah str. 052 634589	Data regarding the ecology of region as per components – air, ware, soil , waste
11	Municipal Land survey Committee	Kavarna	Check of ownership data
12	Traffic Police Varna	Varna, 5, Jan Huniadi Str. 052 502250	Data regarding load of transport infrastructure and road accidents
13	Agency of Regional Development	Varna	Data regarding development of region
14	Union of hunters and fishermen in Bulgaria	Varna	Data regarding the potential of territory within the area of impact
15	Regional administration – Dobrich	Dobrich 9300, 5, Nezavisimost Str. 05843760	Data regarding development of region
16	Kavarna Municipality – Mayor's Office	Kavarna 9650, 50, Dobrotiza Str. 057085122	General data of the territory and development strategies
17	Kavarna Municipality – Terriorial construction and structure and cadastre	Kavarna 9650, 50, Dobrotiza Str. 057085122	Data regarding Environment status
18	Kavarna Minicipality, "Administrative Law, information services, employment and social relations" Dept.	Kavarna 9650, 50, Dobrotiza Str. 057085122	Data regarding employment and unemployment
19	Kavarna Minicipality, "Minicipal ownership, social policy, commerce, agriculture and civil status" Dept.	Kavarna 9650, 50, Dobrotiza Str. 057085122	Data regarding ownership, social services, agriculture and demographic structure
20	Kavarna Minicipality, Ecology and reproduction of environment" Dept	Kavarna 9650, 50, Dobrotiza Str. 057085122, ext. 26	Data regarding the status of environmental components
21	Water Supply and Sewerage – Kavarna	Kavarna	Data regarding watersupply and sewage
22	Energy supply EOOD	Kavarna	Data regarding energy supply and

			use
23	Bigger companies in the neighborhood	Kavarna	Data regarding pollution by industrial enterprises, Energy consumption, water consumption, waste waters, sewage works, waste management
24	Animal farms	Kavarna municipality	
25	RIEW-Varna	Varna, 4, Jan Palah Str. 052 634589	Data regarding pollution of environmental components
26	Town hall, Sveti Nikola village	Sveti Nikola village	
27	Town Hall, Bulgarevo village	Bulgarevo village	
29	Town Hall, Hadji Dimiter village	Hadji Dimiter village	
30	Town Hall, Rakovski village	Rakovski village	
31	Town Hall, Porouchik Chounchevo village	Porouchik Chounchevo village	
32	Russalka resort	Russalka	
33	Forestry office Balchik	Balchik	Data regarding vegetation, steppe species
34	Bulgarian society for birds protection	Sofia 1111, zhkYavorov, bl=71, tel 722640, bsbp_hq@bats-bulgaria.org	Data regarding migrations, populations and number
35	NMP-BAS Bats Research and protection group	Sofia 1000, 1, Tsar Osvoboditel Blvd, 987 50 72 brpg@bats-bulgaria.org	Data regarding protected species, populations, feeding and habitats
36	RIEW-Dobrich		

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