


**ANNUAL REPORT  
FOR THE ENVIRONMENTAL MANAGEMENT AND IMPLEMENTATION OF  
ENVIRONMENTAL TERMS DURING  
OPERATION AND MAINTENANCE OF CONCESSION PROJECT**

**PROJECT: “DESIGN - CONSTRUCTION - FINANCING - OPERATION - MAINTENANCE  
AND EXPLOITATION OF THE PROJECT  
IONIA ODOS MOTORWAY FROM ANTIRRIO TO IOANNINA,  
PATHE ATHENS (METAMORFOSI I/C) – MALIAKOS (SKARFEIA) AND  
CONNECTING BRANCH OF PATHE SCHIMATARI - CHALKIDA”**



Date	31.01.2020
Created by:	Concessionaire 

**REFERENCE PERIOD  
YEAR 2019**

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## **1. INTRODUCTION**

This Environmental Management Report outlines the company's, NEA ODOS S.A., Environmental Management Processes during the operation and maintenance of the Concession Project for the year 2019 (01.01.2019 to 31.12.2019). This Report also includes the reference data on compliance with the environmental terms during the 2nd semester of 2019.

The implementing of a program to monitor the environmental impact for the NEA ODOS S.A., apart from its enforcement by the environmental terms of the project, is done in such a way that it has multiple beneficial nature to the man-made and the natural environment of the areas of influence, as well as to serve in the best possible way the users, where the **PATHE Motorway, Metamorfofi – Skarfeia Section 172 km**, and the **IONIA ODOS “Antirrio – Ioannina” of 196 km length** passes.



The monitoring of environmental and social parameters is done in such a way that enables early recognition of harmful tendencies and permits the reduction and/or elimination of the negative effects, by intervening with suitable protective measures. Additionally, the constant monitoring enables the effectiveness assessment of the proposed protection measures, so that the protection of the affected by the operation and the maintenance of the motorway environmental parameters is ensured over time. The diligent collection and recording of qualitative and quantitative evidence during constant E.T. monitoring also aims to promote further awareness on the impacts that the construction of such projects may have on similar environments.

At the PATHE motorway, section “Metamorfofi – Skarfeia”, and at the IONIA ODOS MOTORWAY “Antirrio – Ioannina”, a comprehensive environmental monitoring program is implemented, through which all Environmental Terms are met, as detailed below.

## 2. PROJECT DESCRIPTION

### 2.1 PATHE Motorway

**State :** Hellenic Republic

**Concessionaire :** NEA ODOS S.A.

**Motorway :** PATHE

**Section :** Metamorfosi – Skarfeia



The PATHE motorway at the **section Metamorfosi – Skarfeia** includes:

#### 1. 30 (thirty) Junctions

- Metamorfosi I/C near K.P. 15+500
- Tatoi I/C K.P. near 17+00
- Pyna I/C K.P. near 17+000
- Kalyftaki I/C near K.P. 20+000
- Varympompi I/C near K.P. 23+000
- Mpogiati I/C near K.P. 28+000
- Afidnes I/C near K.P. 34+000
- Kapandriti I/C near K.P. 35+000
- Markopoulo I/C near K.P. 39+500
- Malakassa I/C near K.P. 44+000
- Oinofyta I/C near K.P. 56+000
- Oinoi I/C-1st branch near K.P. 63+00
- Chalkida I/C near K.P. 66+000
- Half-junction Schimatari A near K.P. 66+500
- Half-junction Schimatari B near K.P. 67+500
- Ritsona I/C near K.P. 75+500
- Thebes I/C near K.P. 90+000
- Camp I/C near K.P. 100+500
- Akraifnio I/C near K.P. 107+500
- Kastro I/C near K.P. 115+00
- Martino I/C near K.P. 126+000
- Malesina I/C near K.P. 129+000
- Tragana I/C near K.P. 137+500
- Atalanti I/C near K.P. 145+500
- Livanates I/C near K.P. 149+500
- Arkitsa I/C near K.P. 154+500
- Loggos I/C near K.P. 166+000
- Latomeio I/C near K.P. 172+500
- Half-junction K. Vourla (West) near K.P. 177+500
- Half-junction K. Vourla (East) near K.P. 180+000



**2. 3 (three) Frontal & 10 (ten) Lateral Toll Stations**

**i. Frontal**

- Afidnes near K.P. 32+500
- Thebes near K.P. 96+00
- Tragana near K.P. 135+500

**ii. Lateral**

- 2 on the Kapandriti I/C near K.P. 35+500
- 2 on the Malakassa I/C near K.P. 44+000
- 2 on the Oinofyta I/C near K.P. 55+500
- 2 on the Thebes I/C near K.P. 90+000
- 2 on the Tragana I/C near K.P. 137+500



**3. 5 (five) Motorists Service Stations**

- Varympompi MSS (to Athens) near K.P. 24+500
- Kapanditi MSS (to Lamia) near K.P. 36+500
- Malakasa MSS (Bilaterally) near K.P. 48+000
- Schimatari MSS (Bilaterally) near K.P. 70+500
- Atalanti MSS (Bilaterally) near K.P. 144+000



**4. 13 (thirteen) Temporary Parking Areas with WC facilities**

- Parking Area (towards Athens) near K.P. 38+500
- Parking Area (towards Athens) near K.P. 64+000
- Parking Area (towards Lamia) near K.P. 64+000
- Parking Area (towards Lamia) near K.P. 83+500
- Parking Area (towards Athens) near K.P. 84+500
- Parking Area (towards Lamia) near K.P. 98+000
- Parking Area (towards Athens) near K.P. 98+500
- Parking Area (towards Lamia) near K.P. 110+500
- Parking Area (towards Athens) near K.P. 113+500
- Parking Area (towards Lamia) near K.P. 131+000
- Parking Area (towards Athens) near K.P. 134+000
- Parking Area (towards Athens) near K.P. 141+500



- Parking Area (towards Lamia) near K.P. 142+500



#### **5. 8 (Eight) Winter Maintenance Stations**

- Varympompi SCS near K.P. 24+500
- Markopoulo SCS near K.P. 38+500
- Schimatari SCS near K.P. 63+500
- Thebes SCS near K.P. 90+000
- Akraifnio SCS near K.P. 107+500
- Martino SCS near K.P. 126+000
- Tragana SCS near K.P. 135+500
- Latomeio SCS near K.P. 173+500

#### **6. 6 (six) Tunnels**

- Near K.P. 168+500 to near K.P. 169+500 (Bilaterally)
- Near K.P. 173+500 to near K.P. 176+000 (Bilaterally)
- Near K.P. 176+000 to near K.P. 176+500 (Bilaterally)



#### **7. Other support facilities for the operation of the motorway**

- Administration building near K.P. 23+000
- Customer service building and Parking Areas on the site of Afidnes toll station K.P. 32+355
- Police building near K.P. 32+500
- Markopoulo MCC (Maintenance Buildings) near K.P. 38+500
- Thebes MCC (Maintenance, Fire-fighting and Police Buildings) near K.P. 90+000
- Schimatari Traffic Management Center (TMC) near K.P. 63+500
- Atalanti MCC (Maintenance, Fire-fighting and Police Buildings) near K.P. 145+500
- Tunnel Control Center near K.P. 176+000

The sections of the Concession Contract Project are divided in seven (7) Geographical Units (GU).

S/N	SECTION	Km
1	Metamorfosi – Yliki Section	80.36
2	Yliki – Kastro Section	20.71
3	Kastro – Tragana Section	20.38
4	Tragana – Arkitsa Section	18.77
5	Arkitsa – Agios Konstantinos Section	10.37

6	Agios Konstantinos – Kamena Vourla Section	16.11
7	Kamena Vourla – Mendenitsa (Skarfeia) Section	3.74

## 2.2 IONIA ODOS Motorway

**State:** Hellenic Republic

**Concessionaire :** NEA ODOS S.A.

**Motorway :** IONIA ODOS

**Section:** Antirrio – Ioannina

Ionias Odos includes:

### 1. 19 Junctions

- Antirrio I/C on near K.P. 5+500
- Gavrolimni I/C on near K.P. 18+500
- Evinochori half-junction on near K.P. 27+500
- Messolonghi I/C near K.P. 32+000
- Agrinio (South) I/C near K.P. 51+500
- Ag. Ilia I/C on near K.P. 55+500
- Aggelokastro I/C on near K.P. 60+00
- Rigani I/C on near K.P. 65+000
- Agrinio (North) I/C near K.P. 81+000
- Preveza I/C on near K.P. 89+500
- Amfilochia I/C on near K.P. 106+000
- Kompoti half-junction on near K.P. 130+500
- Arta I/C on near K.P. 141+000
- Filippiada I/C on near K.P. 153+000
- Ammotopos half-junction on near K.P. 160+000
- Gorgomylos I/C on near K.P. 168+500
- Terovo I/C on near K.P. 181+500
- Avgo I/C on near K.P. 192+500
- Egnatia I/C on near K.P. 201+000



### 2. 4 Frontal & 10 Lateral Toll Stations

**a. Frontal:**

- Klokova near K.P. 15+500
- Aggelokastro near K.P. 61+500
- Menidi near K.P. 116+00
- Terovo near K.P. 180+000

**b. Lateral:**

- 2 on Gavrolimni I/C near K.P. 18+500
- 2 on Messolonghi I/C near K.P. 32+00
- 2 on Agrinio I/C near K.P. 81+000
- 2 on Arta I/C near K.P. 141+000
- 2 on Gorgomylos I/C near K.P. 168+500



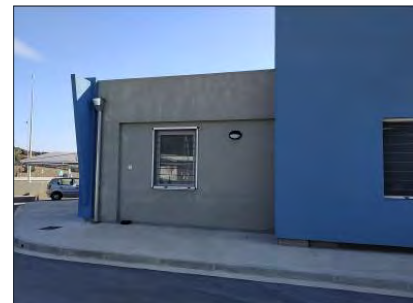
**3. 9 Motorists Service Stations**

- On Evinochori I/C near K.P. 27+000 (bilaterally)
- On Amvrakia near K.P. 86+000 (bilaterally)
- On Amfilochia near K.P. 100+500 (to Ioannina)
- On Filippiada near K.P. 154+000 (bilaterally)
- On Episkopiko near K.P. 195+000 (bilaterally)



**4. Other support facilities for the operation of the motorway (MCC – Maintenance Control Center, TMC – Traffic Management Center)**

- Klokova TMC near K.P. 15+500
- Messolonghi MCC near K.P. 31+500
- Amfilochia MCC near K.P. 100+500
- Filippiada MCC near K.P. 154+000
- Episkopiko TMC near K.P. 195+000



**5. 4 Tunnels**

- Makyneia Tunnel, 500 m length near K.P. 9+100
- Klokova Tunnel, 2,890 m length near K.P. 11+500
- Kalydona Tunnel, 1,230 m length near K.P. 28+500
- Ampelia Tunnel, 870 m length near K.P. 197+500



**6. Bridges**

- Makyneia Bridge, 67.5 (r) & 102 m (l) near K.P. 9+000

- Evinos River Bridge, 254 (r) & 259 m (l) near K.P. 23+500
- Xirorema Bridge, near K.P. 105+500
- Krikelo Bridge, 97 m length near K.P. 111+000
- Menidi Bridge, 554 m length near K.P. 123+500
- Gymnotopos Bridge, 253 m length near K.P. 163+500
- Bridge near K.P. 168+000
- Tsagkaropoulos Bridge, 440 m length near K.P. 172+000
- Bridge 105 m length near K.P. 173+000
- Kryfovos Bridge, 280 m length near K.P. 189+000



**7. 4 Winter Maintenance Stations (SCS)**

- Messolonghi SCS near K.P. 31+500
- Amfilochia SCS near K.P. 100+500
- Filippiada SCS near K.P. 154+000
- Terovo SCS near K.P. 195+000

The sections of the Project are divided in five (5) Geographical Units (GU), in accordance with the approved Environmental Terms of the project.

S/N	SECTION	Km
1	Antirrio – Kefalovryssos Section (South Agrinio Bypass End)	42,66
2	Agrinio Bypass Section	32,77
3	North Agrinio Bypass End (Kouvaras) – South Arta Bypass End (Kompoti)	53,36
4	Arta Bypass Section	16,05
5	North Arta Bypass End (Filippiada) - Ioannina (Eleousa)	50,30

### 3. SUPERVISORY SERVICES (PROJECT IMPLEMENTERS)

The Supervisory Services of the Concession Project are:

- Special Service for Public Works / Construction of Transportation Projects with Concession Contract (EYDE/KSESP), 5 Karyistou St., 115 23, Athens, Supervisor Mr. N. Dimopoulos.
- Directorate D17, Directorate of Infrastructure Operation, Maintenance & Exploitation with Concession Contract, 70 Panormou St., 115 23, Athens, Supervisor Ms. E. Kanellopoulou.

**Concessionaire:** NEA ODOS S.A.

**Motorway:** PATHE (Metamorfossi – Skarfeia) & IONIA ODOS

Neas Erythraias Ave. 19, Nea Erythraia, 146 71 – Athens, Greece

**Tel:** +30 210 3447300, **Fax:** +30 210 6178011

**Email:** info@neaodos.gr



**4 ENVIRONMENTAL AUTHORIZATION**  
**4.1 JMD ETA and their validity – Present Situation**  
**4.1.1 PATHE (METAMORFOSI – SKARFEIA)**

The per-section validity period of the approved environmental terms for the PATHE section Metamorfosi – Skarfeia as well as the authorizations issued are presented in the following table:

S/N	Section	E.T. Validity	Authorizations issued
1	Metamorfosi – Yliki Section	The section ETAD is valid until 17-09-2028 (Decision G.S.P.P. DIPA 61030/17.09.2018)	No EYPE 113451/21-12-2001 exemption from ETA to address landslide at Malakasa <b>JMD No 126119/08-02-2007, E.T. Approval</b> No EYPE 144265/22-09-2009 E.T. amendment No 143730/10-11-2009, Approval of noise protection measures. No EYPE 141083/20-10-2009 Construction and operation of MCC at Kapandriti and Thebes approval No EYPE 196674/25-02-2011 Evaluation of environmental variations by the construction and operation of the administration building at Varympompi. No DIPA 151044/03.08.2015 TEPEM approval for the general administration building of PATHE at Varympompi (K.P. 18+600). No DIPA 151494/29.10.2015 TEPEM approval for the relocation of the maintenance building from Kapandriti MCC to Malakassa area No EYPE 195827/31-01-2011 Evaluation of variations by the construction and operation of six Parking Areas. No EYPE 172045/09-04-2014 TEPEM approval for Hellenic Police’s vehicle refueling facilities at Thebes.

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		<p>No DIPA 153346/15.12.2015, TEPEM approval for the relocation of the police building from the environmentally authorized position Kapandriti MCC (K.P. 29+000) to Afidnes area.</p> <p>No DIPA 100451/30.05.2016, Evaluation of compliance documentation of at-grade I/C 1 Final Design at Malakassa I/C area.</p> <p>No DIPA 39764/24.08.2016, Evaluation of compliance documentation of Oinoi at-grade I/C (IKL1) Final Design at Oinoi I/C area.</p> <p>No EYPE 122399/1-4-2010 Construction and operation approval of Winter Maintenance stations at PATHE.</p> <p>No EYPE 195241/12-01-2011 Atmospheric pollution and meteorological data stations on the Motorway approval.</p> <ul style="list-style-type: none"> <li>• Air &amp; Noise Pollution Control (EARTH) Document: 213863/30-11-2012: Noise barrier EAMYE approval for 3rd Lyceum of Kifissia (15+426 - 15+573), and AKKV (171+316 - 171+360 and 178+604 - 178+881)</li> </ul> <p><b>No EYPE 200817/23-07-2012 E.T. amendment (side network)</b></p> <p>No EYPE 200858/25-7-2012 No need to modify the E.T. for the installation and operation of customer service building and Parking Areas on the site of Afidnes toll station.</p> <p><b>No DIPA 145495/21.01.2015 E.T. Amendment</b> about the Parking Areas, the future motorists service stations positions of the motorway and the lateral toll stations of Oinofyta.</p> <p><b>MD 1170/16-01-2018 E.T. amendment</b> for the alteration of Kifissia, Varympompi interchange (with lateral toll stations) and the lateral toll stations of Ag. Stefanos.</p> <p><b>MD 61030/1796/17-09-2018 Environmental terms renewal</b> for the Metamorfosi – Yliki, Yliki – Kastro, Kastro –Tragana and Arkitsa –Ag. Konstantinos sections of the PATHE motorway.</p>
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			<p>No YPEN/DKAPA/15969/656/21-03-2018 EAMYE approval for K.P. 21+080 to Athens.</p> <p>No 10300/6-6-2018 TEPEM approval for the Mech. Laboratories, wash – lubrication facilities at Thebes, Martino &amp; Atalanti MCC.</p> <p>No YPEN/DIPA/54395/1335/15-01-2019, Amendment of the Environmental Terms of sections for the replacement of three bridges at Ritsona, Thiva and Atalanti junctions.</p>
2	Yliki – Kastro	<p>The section ETAD is valid until 17-09-2028 (Decision G.S.P.P. DIPA 61030/17.09.2018)</p>	<p><b>JMD No 36118/94/10-07-1995, Approval of environmental terms</b></p> <ul style="list-style-type: none"> <li>No 101617/22-09-2006: Amendment as to the Yliki alterations (91 &amp; 97), pollutant retention tanks, and ATEMKE site restoration (for the concession)</li> </ul> <p><b>JMD No 140792/12-06-2009, E.T. amendment</b></p> <p>No 143730/10-11-2009, Approval of noise protection measures.</p> <p><b>No DIPA 145495/21.01.2015 E.T. Amendment</b> about the Parking Areas, the future motorists service stations positions of the motorway and the lateral toll stations of Oinofyta.</p> <ul style="list-style-type: none"> <li><b>MD 61030/1796/17-09-2018 Environmental terms renewal</b> for the Metamorfosi – Yliki, Yliki – Kastro, Kastro –Tragana and Arkitsa –Ag. Konstantinos sections of the PATHE motorway.</li> </ul>
3	Kastro – Tragana Section	<p>The section ETAD is valid until 17-09-2028 (Decision G.S.P.P. DIPA 61030/17.09.2018)</p>	<p><b>JMD No 33838/94/10-7-1995 &amp; No 103909/12-05-2006, E.T. Approval</b></p> <p><b>No 139132/30-04-2009 E.T. Amendment</b></p> <p><b>No 43269/09-09-2016 DIPA, E.T. Amendment</b>, about the construction of right side road network from Malesina I/C to MC 19 on Proskyna – Theologou street.</p> <p>No 143730/10-11-2009, Approval of noise protection measures.</p> <p>No 146696/18-11-2009, Evaluation of environmental variations from the design alterations on positions of Kastro – Agios Konstantinos section of the PATHE motorway.</p>

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			<p>No EYPE 122399/1-4-2010 Construction and operation approval of Winter Maintenance stations.</p> <p><b>No DIPA 145495/21.01.2015 E.T. Amendment</b> about the Parking Areas, the future motorists service stations positions of the motorway and the lateral toll stations of Oinofyta.</p> <p><b>MD 61030/1796/17-09-2018 Environmental terms renewal</b> for the Metamorfosi – Yliki, Yliki – Kastro, Kastro –Tragana and Arkitsa –Ag. Konstantinos sections of the PATHE motorway.</p>
4	Tragana – Arkitsa	<p>The section ETAD is valid until 06.02.2027 (Decision G.S.P.P. DIPA 6366/06.02.2017)</p>	<p><b>JMD No 36759/94/10-7-1995, No 103910/12-05-2006, E.T. Approval</b></p> <p>No 143730/10-11-2009, Approval of noise protection measures.</p> <p>No 146696/18-11-2009, Evaluation of environmental variations from the design alterations on positions of Kastro – Agios Konstantinos section of the PATHE motorway.</p> <p>No EYPE 122399/1-4-2010 Construction and operation approval of Winter Maintenance stations.</p> <p><b>No DIPA 145495/21.01.2015 E.T. Amendment</b> about the Parking Areas, the future motorists service stations positions of the motorway and the lateral toll stations of Oinofyta.</p> <p><b>Decision 6366/06.02.2017 Environmental terms renewal</b> for Tragana – Arkitsa section of PATHE motorway and amendment about the Motorists Service Station of Atalanti.</p> <p><b>No YPEN/DIPA/54395/1335/15-01-2019</b>, Amendment of the environmental terms of the sections of the replacement of three bridges at Ritsona, Thiva, Atalanti junctions.</p>

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5	Arkitsa – Agios Konstantinos	The AEPO of the section shall be in force until 17.09.2028 (decision GDPP/DIPA 61030/1796/17-09-2018).	<p><b>JMD No 39516/94/10-7-1995 &amp; No 103908/12-05-2006, E.T. Approval</b></p> <p>No 143730/10-11-2009, Approval of noise protection measures.</p> <p>Ministerial Decision 145538/21.01.2015 E.T. Approval Arkitsa MSS.</p> <p>No 146696/18-11-2009, Evaluation of environmental variations from the design alterations on positions of Kastro – Agios Konstantinos section of the PATHE motorway.</p> <p>No EYPE 195241/12-01-2011 Atmospheric pollution and meteorological data stations on the Motorway approval.</p> <p><b>MD 61030/1796/17-09-2018 Environmental terms renewal</b> for the Metamorfofi – Yliki, Yliki – Kastro, Kastro –Tragana and Arkitsa –Ag. Konstantinos sections of the PATHE motorway.</p>
6	Agios Konstantinos – Kamena Vourla	The AEPO of the section is in force until 17.09.2029 (Decision of GDPP/DIPA 82386/5348/17.09.2019).	<p>JMD No 85676/30-07-2002, E.T. Approval</p> <p>No 143730/10-11-2009, Approval of noise protection measures.</p> <p>No EYPE 122399/1-4-2010 Construction and operation approval of Winter Maintenance stations.</p> <p>Decision GDPP/DIPA 82386/5348/17-09-2019</p> <p>Renewal of environmental terms of Ag. Kon/nos – K. Vourla &amp; environmental licensing of the foreseen Fire-fighting building at the area of Knimida.</p>
7	Kamena Vourla – Mendenitsa	The terms are in the process of being renewed. A study has been developed and submitted to EYDE/KSESP & D.E. (No 30440/17-06-2013) for the section E.T. renewal.	<p>JMD No 67031/19-10-1998, E.T. Approval</p> <p>No 143730/10-11-2009, Approval of noise protection measures.</p>

**4.1.2 CONNECTING BRANCH OF PATHE: CHALKIDA – SCHIMATARI**

S/N	Section	E.T. Validity	Authorizations issued
7	Schimatari - Chalkida	The section ETAD is valid until 01.04.2024 (Decision MD 171818/01-04-2014)	<ul style="list-style-type: none"> <li>• JMD 106530/15-03-2000: Schimatari – Chalkida section improvement</li> <li>• MD 171818/01-04-2014 New EIA of the section approval due to expiry of the original JMD ETA validity and approval of frontal toll stations at Chalkida (Vathy)</li> </ul>

#### 4.1.3 IONIA ODOS MOTORWAY (ANTIRRIO – IOANNINA)

The per-section validity period of the approved environmental terms for the **IONIA ODOS** motorway as well as the authorizations issued are presented in the following table:

S/N	Section	E.T. Validity	Authorizations issued
1	Antirrio – Kefalovryso (South Agrinio Bypass End)	The section ETAD is valid until 18-11-2025 (Decision G.S.P.P. DIPA 149145/19.11.2015)	<p><b>JMD 142128/25-07-2005 E.T. Approval</b></p> <p><b>MD ETA 166142/13-02-2013 amendment</b> as to the road corridor alignment design of the mentioned project at Vasiliki, Evinos river and Antirrio areas as well as the micro-optimizations along the above mentioned approved project.”</p> <p><b>MD 147996/14-04-2015: Approval of Environmental Terms (ETA)</b> for project “Ionia Odos: Antirrio – Kefalovryso (South Agrinio Bypass End)”, Kolova area from K.P. 6+163.5 to 11+827 (6+195.6 to 11+552 originally approved alignment design), and <b>Amendment</b> as to section from K.P. 5+4104.5 to 6+163.5 (5+104.5 to 6+195.6 originally approved alignment design), and K.P. 11+827 to 14+904.4 (11+552 to 14+904.4 approved alignment design).</p> <p><b>Decision 149145/19.11.2015 G.D.P.P./DIPA: extension</b> of validity period.</p> <p><b>MD ETA 8568/17-02-2017 “Amendment</b> as to the environmental authorization of the final design of Antirrio I/C and the lateral toll stations of Gavrolimni I/C and Messolonghi I/C (near K.P. 14+300 and K.P. 27+530 of IONIA ODOS respectively), and (II) amendment environmental authorization of the frontal toll station of Klokova (near K.P. 10+100 of IONIA ODOS).</p> <p><b>Decision 23650/15.05.2017 G.D.P.P/DIPA “Amendment</b> for the environmental authorization of Evinochori MSS.”</p> <p><b>Decision 1594/19-01-2018 E.T. amendment</b> as to the alterations of the final design.</p> <ul style="list-style-type: none"> <li>Decision 100769/05-02-2016: TEPEM Messolonghi and Filippiada MCC</li> </ul>

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			<ul style="list-style-type: none"> <li>Decision 23680/05.10.2016 Approval of the Technical and Environmental Study (TEPEM) for the motorway Administration and Traffic Management Building of IONIA ODOS and the Fire-fighting Building at Klokova</li> </ul>
2	Agrinio Bypass	<p>The section ETAD is valid until 01-02-2027 [Decision G.S.P.P. DIPA No 5559/01.02.2017 (Re: 153045/2015)]</p>	<p><b>JMD 84982/96/11.04.1997 Approval of Environmental Terms</b> for the construction and operation of the project “Western Greece Motorway (Ionia Odos)” at the section “Agrinio Wide Bypass – from K.P. 0+000 to K.P. 34+401 or K.P. 34+811 – to Regional Unit of Aitolokarnania”</p> <p>JMD 105889/08.07.2008 Extension of validity of JMD 84982/96/11.04.1997.</p> <p>JMD 144713/23.09.2009: E.T. Amendment</p> <p>Decision 100391/20.01.2016 E.T. Amendment</p> <p>Decision No 5559/01.02.2017 (Re. 153045/2015) G.D.P.P./DIPA: extension of validity period.</p>
3	North Agrinio Bypass End (Kouvaras) – South Arta Bypass End (Kompoti)	<p>The section ETAD is valid until 02-03-2026 (Decision G.D.P.P./DIPA 11198/03.03.2016)</p>	<p><b>JMD 141564/25-07-2005 E.T. Approval</b></p> <p><b>JMD 167980/30.04.2013: E.T. Amendment</b></p> <p><b>Decision of DG for Dec. EYPE 174140/ 28.07.2014: E.T. Amendment</b></p> <p><b>JMD 150063/25.06.2015:</b> “E.T. Amendment as to the sections at K.P. 105+500 to 108+700, 115+720 to 120+700, 152+446 to 154+796 to 181+710 to 186+650».</p> <p><b>Decision 11198/03.03.2016 G.D.P.P./DIPA: E.T. Amendment</b> for the relocation or reconstruction of existing pylons of DEI due to involvement in the IONIA ODOS motorway under construction and Extension of validity period</p> <p><b>Decision 9443/22.02.2017</b> of DEPUTY MINISTER of ENVIRONMENT AND ENERGY: <b>E.T. Amendment</b> for the environmental authorization</p> <ul style="list-style-type: none"> <li>➤ of Amvrakia MSS (K.P. 81+150 to 81+435),</li> <li>➤ of Amfilochia MSS and MCC (K.P. 95+300 to 95+762),</li> <li>➤ of Frontal Toll Stations: of Menidi (K.P. 111+300) and Terovo (K.P. 174+100),</li> </ul>

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			<ul style="list-style-type: none"> <li>➤ of lateral toll station Gorgomylos I/C (K.P. 163+110),</li> <li>➤ of the aggregate quarry exploitation of total surface area 33,938 m<sup>2</sup> at position TOUMPANOS of Amfilochia (K.P. 96+000),</li> <li>➤ of Episkopiko MSS and MCC (K.P. 189+378 to 189+669)</li> <li>➤ of the updated final design of the motorway to the sections from K.P. 152+446 to K.P. 162+354 and from K.P. 178+500 to K.P. 182+665.</li> </ul> <p>Decision 1592/19-01-2018 E.T. amendment as to the alterations of the final design</p> <p>Decision 100769/05-02-2016: TEPEM Messolonghi (and Filippiada) MCC</p>
4	Filippiada - Arta Bypass	<p>The section ETAD is valid until 23-09-2024            (Decision YPEKA/EYPE no. 175041/23.09.2014)</p>	<p><b>JMD 120756/96/03.06.1997</b>, Approval of Environmental Terms for the construction and operation of the project “Motorway Ioannina – Antirrio, section Filippiada – Arta Bypass from K.P. 60+000 to K.P. 82+000 starting at Ioannina to Preveza and Arta regional units, including a 1km section of connecting road with Arta town.</p> <p><b>JMD 132550/31.07.2003, Amendment</b> of the Joint Ministerial Decision for the Approval of the Environmental Terms for the construction and operation of the project: “Approval of Environmental Terms for the construction and operation of the project “Motorway Ioannina – Antirrio, section Filippiada – Arta Bypass from K.P. 60+000 to K.P. 82+000 starting at Ioannina to Preveza and Arta regional units, including a 1km section of connecting road with Arta town.”</p> <p><b>JMD 137938/31.12.2003, Amendment</b> of the Joint Ministerial Decision for the Approval of the Environmental Terms for the construction and operation of the project: “Approval of Environmental Terms for the construction and operation of the project “Motorway Ioannina – Antirrio, section Filippiada – Arta Bypass from K.P. 60+000 to K.P. 82+000 starting at Ioannina to Preveza and Arta regional units, including a 1km section of connecting road with Arta town.”</p>

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			<p>Decision of D.G. for the Environment of the YPEKA/EYPE (No <b>175041/ 23.09.2014</b>) <b>Amendment and renewal - extension</b> of validity period of No 120756/96/3.6.1997 JMD Approval of Environmental Terms (as amended and in force) for the construction and operation of the project: “Filippiada – Arta Bypass (from K.P. 60+000 to 82+000) of Motorway Ioannina – Antirrio, including a 1km section of connecting road with Arta town” as to the final design of the project (longitudinal section/cross section of the road, technical and hydraulic works, side road network, tolls, road safety, etc.)</p> <ul style="list-style-type: none"> <li>Decision 141631/30-06-2009: Amendment of original ETAD as to the design of the Arta I/C</li> </ul>
5	North Arta Bypass End (Filippiada) - Ioannina (Eleousa)	The section ETAD is valid until 02-03-2026 (Decision G.D.P.P./YPEN no. oik. 11198/03.03.2016)	<p><b>JMD 141564/25-07-2005 E.T. Approval</b> <b>JMD 167980/30.04.2013: E.T. Amendment</b> <b>Decision of DG for Dec. EYPE 174140/ 28.07.2014: E.T. Amendment</b> <b>JMD 150063/25.06.2015: “E.T. Amendment</b> as to the sections at K.P. 105+500 to 108+700, 115+720 to 120+700, 152+446 to 154+796 to 181+710 to 186+650». <b>Decision 11198/03.03.2016 G.D.P.P./YPEN: E.T. Amendment</b> for the relocation or reconstruction of existing pylons of DEI due to involvement in the IONIA ODOS motorway under construction and Extension of validity period <b>Decision 9443/22.02.2017</b> of DEPUTY MINISTER of ENVIRONMENT AND ENERGY: <b>E.T. Amendment</b> for the environmental authorization</p> <ul style="list-style-type: none"> <li>➤ of Amfilochia MSS and MCC (K.P. 95+300 to 95+762),</li> <li>➤ of Frontal Toll Stations: of Menidi (K.P. 111+300) and Terovo (K.P. 174+100),</li> <li>➤ of lateral toll station Gorgomylos I/C (K.P. 163+110),</li> <li>➤ of the aggregate quarry exploitation of total surface area 33,938 m2 at position TOUMPANOS of Amfilochia (K.P. 96+000),</li> </ul>

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			<ul style="list-style-type: none"> <li>➤ of Episkopiko MSS and MCC (K.P. 189+378 to 189+669)</li> <li>➤ of the updated final design of the motorway to the sections from K.P. 152+446 to K.P. 162+354 and from K.P. 178+500 to K.P. 182+665.</li> </ul> <p>Decision 1592/19-01-2018 E.T. amendment as to the alterations of the final design</p> <p>Decision 100769/05-02-2016: TEPEM Mesolongi and Filippiada MCC</p> <p>Decision 39059/05.10.2017: TEPEM Filippiada MSS</p>
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## 4.2 Submissions

### 1<sup>st</sup> semester of 2019

For PATHE Motorway, the reference period (1<sup>st</sup> semester of 2019), the Concessionaire submitted the following environmental studies:

- Submission of documentation regarding the adjustment with the requirements of JMD 1915/2018 (B' 304) for Metamorfossi – Skarfia section of PATHE Motorway (Concessionaire to EYDE/KSESP with prot. no. 45752/05-03-2019, EYDE/KSESP to G.D.P.P./DIPA with prot. no. LE/IO/01/08/10/9383/09-04-2019).
- Corrections on File for the documentation regarding the adjustment with the requirements of JMD 1915/2018 (B' 304) for Metamorfossi – Skarfia section of PATHE Motorway (Concessionaire to EYDE/KSESP with prot. no. 45870/03-04-2019, EYDE/KSESP to G.D.P.P./DIPA with prot. no. LE/IO/01/08/10/9383/09-04-2019).

### B' semester of 2019

For PATHE Motorway, the reference period (B' semester of 2019), the Concessionaire submitted the following environmental studies:

- Environmental Impact Study (EIS) regarding the amendment of approved environmental terms 126119/08-02-2007, of Metamorfossi – Yliki Section of PATHE motorway, as have been amended, renewed and in force for the design, construction and operation of Varimpompi I/C by adding temporary works to the junction of Elaion and Ermionis road, at the Adames area of the Municipality of Kifissia (Concessionaire to EYDE/KSESP with prot. no. 46265/08.07.2019 and EYDE/KSESP to G.D.P.P./DIPA with prot. no. 6073/01.08.2019).

For IONIA ODOS Motorway, the reference period (B' semester of 2019), the Concessionaire submitted the following environmental studies:

- Environmental Impact Study (EIS) regarding the amendment of approved environmental terms (JMD prot. no. 141564/25-07-2005), of section: North Agrinio Bypass End (Kouvaras) – South Arta Bypass End (Kompoti) and North Arta Bypass End (Filippiada) - Ioannina (Eleousa) as in force, concerning the design of Kompoti semi-junction (Concessionaire to EYDE/KSESP with prot. no. 46977/30-12-2019 and EYDE/KSESP to G.D.P.P./DIPA with prot. no. 866/04.02.2020).

### 4.3 Outstanding issues

#### 4.3.1 PATHE Motorway

The environmental studies that have been submitted up to the reference year of the present report for the section Metamorfosi – Skarfeia of the PATHE and the E.T. issuance is not yet completed are presented in the following table.

S/N	Section	Outstanding issues	Submissions	Observations
1	Metamorfosi – Yliki	Relocation of Varympompi Winter Maintenance station to a new position northwest of Varympompi interchange (K.P. 23+400)	<ul style="list-style-type: none"> <li>Submission of Nea Odos S.A. to EYDE (Directorate D17) with prot. no. 37074/03-10-2014</li> <li>Submission EYDE (Directorate D17) to DIPA with prot. no. 37395/17-10-2014</li> </ul>	<b>Approval of DIPA is pending.</b>
2	Tragana – Arkitsa	Lateral toll stations to Atalanti I/C and Livanates I/C.	<ul style="list-style-type: none"> <li>Submission of Nea Odos S.A. to EYDE (Directorate D17) with prot. no. 39707/22-6-2015</li> <li>Submission EYDE (Directorate D17) to DIPA with prot. no. 37395/17-10-2014</li> </ul>	<b>Approval of DIPA is pending.</b>
3	Kamena Vourla – Mendenitsa (Skarfeia)	Renewal of the E.T. of the section.	<ul style="list-style-type: none"> <li>Submission of Nea Odos S.A. to EYDE/KSESP &amp; D.E. with prot. no. No 30440/17-06-2013).</li> <li>Submission of EYDE/KSESP &amp; D.E. to DIPA with prot. no. No 30440/17-06-2013.</li> </ul>	<b>Approval of DIPA is pending.</b>

#### 4.3.2 IONIA ODOS Motorway

The environmental studies that have been submitted up to the reference year of the present report for the section Antirrio – Ioannina of the IONIA ODOS and the E.T. issuance is not yet completed are presented in the following table.

S/N	Section	Outstanding issues	Submissions	Observations
1	Terovo I/C	Terovo SCS	<ul style="list-style-type: none"> <li>Submission of Nea Odos S.A. to EYDE/KSESP with prot. No 43905/5-2-2018.</li> <li>Submission to EYDE/KSESP to DIPA/YPEN with prot. no. F1/1795/28-02-2018.</li> </ul>	<b>Approval of DIPA is pending.</b>
2	Antirrio – Kefalovryssos (south end of Agrinio bypass)	Amendment File of JMD EPO 142128/25-07-2005 and MD 147996/14-04-2015, as amended and in force regarding the required flood protection works and interventions along Ionia Odos motorway	<ul style="list-style-type: none"> <li>Submission of Nea Odos S.A. to EYDE/KSESP with prot. No 45308/29-10-2018.</li> <li>Submission to EYDE/KSESP to DIPA/YPEN with prot. no. 7999/31-10-2018.</li> </ul>	<b>Approval of DIPA is pending.</b>
3	North Agrinio Bypass End (Kouvaras) – South Arta Bypass End (Kompoti) and North Arta Bypass End (Filippiada) – Ioannina (Eleousa)	Amendment File of JMD EPO 141564/25-07-2005 and MD 147996/14-04-2015, as amended and in force regarding the required flood protection works and interventions along Ionia Odos motorway	<ul style="list-style-type: none"> <li>Submission of Nea Odos S.A. to EYDE/KSESP with prot. No 45307/29-10-2018.</li> <li>Submission to EYDE/KSESP to DIPA/YPEN with prot. no. 7998/31-10-2018.</li> </ul>	<b>Approval of DIPA is pending.</b>
4	Agrinio Bypass (Kefalovryssos – Chryssovergi)	Amendment File of JMD EPO 141564/25-07-2005 and MD 147996/14-04-2015, as amended and in force regarding the required flood protection works and interventions along Ionia Odos motorway	<ul style="list-style-type: none"> <li>Submission of Nea Odos S.A. to EYDE/KSESP with prot. No 45444/03-12-2018.</li> <li>Submission to EYDE/KSESP to DIPA/YPEN with prot. no. 612/25-01-2019.</li> </ul>	<b>Approval of DIPA is pending.</b>

## 5. SENSITIVE AREAS OF THE PROJECT

### 5.1 PATHE Motorway

The following table presents the natural areas under protection that the motorway passes through or is adjacent to, according to the approved E.T.

S/N:	Section	Ecologically Sensitive Areas
1	Yliki – Kastro Section	<ul style="list-style-type: none"> <li>GR 2410001 «Yliki and Paralimni Lakes – Voiotikos Kifissos System»</li> </ul>
2	Kastro – Tragana Section	<ul style="list-style-type: none"> <li>GR 2410001 «Yliki and Paralimni Lakes – Voiotikos Kifissos System»</li> </ul>
3	Tragana – Arkitsa Section	<ul style="list-style-type: none"> <li>GR 2440001 “Wetland and islands of Atalanti Bay”</li> </ul>
4	Agios Konstantinos – Kamena Vourla Section	<ul style="list-style-type: none"> <li>GR 2440002 «Spercheios valley and estuary»</li> </ul>

### 5.2 IONIA ODOS Motorway

The following table presents the natural areas under protection that the motorway passes through or is adjacent to, according to the approved E.T.

S/N:	Section	Ecologically Sensitive Areas
1	Antirrio – Kefalovryssos (South Agrinio Bypass End)	<ul style="list-style-type: none"> <li>GR2310001 “Acheloos Delta, Messolonghi – Aitoliko Lagoon, estuary of River Evinos, Echinades Islands, Petalas Island”</li> <li>GR2310005 “Mount Varassova”</li> <li>GR2310010 “Mount Arakynthos and the Strait of Kleisoura”</li> </ul>
2	Agrinio Bypass	<ul style="list-style-type: none"> <li>GR2310008 “Ozeros Lake”</li> <li>GR2310001 “Acheloos Delta, Messolonghi – Aitoliko Lagoon, estuary of River Evinos, Echinades Islands, Petalas Island”</li> </ul>
3	North Agrinio Bypass End (Kouvaras) – South Arta Bypass End (Kompoti)	<ul style="list-style-type: none"> <li>GR2310007 “Amvrakia Lake area”,</li> <li>GR2110004 “Amvrakikos Gulf, Katafourko Lagoon and Korakonissia”</li> <li>AB3090025 «Louros River»</li> </ul>
4	Arta Bypass	<ul style="list-style-type: none"> <li>Rivers Arachthos and Louros</li> </ul>
5	North Arta Bypass End (Filippiada) - Ioannina (Eleousa)	<ul style="list-style-type: none"> <li>GR2310007 “Amvrakia Lake area”,</li> <li>GR2110004 “Amvrakikos Gulf, Katafourko Lagoon and Korakonissia”</li> <li>AB3090025 «Louros River»</li> <li>GR2130012 “Broader area of Ioannina lake”</li> </ul>

## **6. ATMOSPHERIC POLLUTION**

### **6.1 PATHE Motorway**

According to the Environmental Terms of PATHE motorway the air pollution measurement network for PATHE motorway includes 3 measuring stations: at Varympompi Interchange, Schimatari Interchange and Arkitsa Interchange. The Varympompi station was put into trial operation on 21/12/2011. Arkitsa station was put into trial operation on 19/12/2011 and Schimatari station put into trial operation on June of 2013 (later, due to insufficient power supply at the position).

According to the Environmental Terms of the Ionia Odos Motorway, the air pollution measurement network also includes three (3) stations, at the Evinochori MSS, at the Filippiada MSS and at the Episkopi MSS. The station installation works began in June 2018 and their full operation (after the trial period) was completed in August 2018.

For the year 2019, a complete air pollution monitoring program was implemented by the above six air pollution stations, which are operating on a 24-hour basis. The air pollution report was submitted to the competent Services. The air pollution report was submitted to the competent services (Directorate KAPA/YPEN with prot. no. 14512/319-07.02.2020, EYDE (Directorate D17) with receipt prot. no. 14293-07.02.2020 & EYDE/KSESP with receipt prot. no. C/968-07.02.2020). A similar report will also be prepared and submitted for 2020.

For the measurement of pollutants, the stations have been equipped with approved analyzers in accordance with the National Legislation (Ministerial Decision No 14122/549/E.103/2011 (FEK 488/B`/30.3.2011) "Measures to improve the air quality, in accordance with the provisions of Directive 2008/50/EC" of the European Parliament and of the Council of the European Union of 21 May 2008 on ambient air quality and cleaner air for Europe. For every 24 hours, at each station the following are recorded:

1. The pollutants CO, NO<sub>2</sub>, SO<sub>2</sub>, O<sub>3</sub> (only for PATHE motorway), PM<sub>10</sub>, PM<sub>2,5</sub>, C<sub>6</sub>H<sub>6</sub> (benzene)
2. The meteorological conditions of each installation area.

The pollutants are measured continuously throughout the day. The average primary pollution values are calculated every five minutes in the recording system that is installed at each station and connected to the analyzers. These measurements are transferred to the server of the air pollution measuring system (which is installed at Afidnes Control Center), via the Nea Odos optical fiber network, where they are stored. At the end of each month the measurements are corrected on the network server. The corrections include calibration results and analyzer limit and slip corrections. After corrections, the average hourly, eight-hour, and 24-hour values of pollutants (NO<sub>2</sub>, CO, O<sub>3</sub>, SO<sub>2</sub>, Benzene, suspended particles PM<sub>10</sub> and PM<sub>2,5</sub>) are calculated and stored.

For 2019, the measured pollutant records were as follows:

### 6.1 PATHE Motorway

#### Suspended Particles PM<sub>10</sub>

The Limit as of 01/01/2005 for PM<sub>10</sub> particles is 50µg/m<sup>3</sup> on average daily value and **should not be exceeded more than 35 times per year**. Also the average annual value **should not exceed 40µg/m<sup>3</sup>**.

Number of exceedances of PM<sub>10</sub> daily mean values over 50µg/m<sup>3</sup>

Number of exceedances	Varympompi	Schimatari	Arkitsa
Average daily value in µg/m <sup>3</sup>	6	3	3

**The value (50µg/m<sup>3</sup>) was not exceeded > 35 times per year**

The average annual value for 2018 was:

Average annual value in µg/m <sup>3</sup>	Varympompi	Schimatari	Arkitsa
	16.96	16.37	14.49

**The value (40µg/m<sup>3</sup>) was not exceeded at any station.**

#### Suspended Particles PM<sub>10</sub>

For suspended particles PM<sub>10</sub>, the Limit as of 01/01/2010 is 50µg/m<sup>3</sup> on average hourly value and should not be exceeded more than 35 times per year. Also the average annual value should not exceed 40µg/m<sup>3</sup>.

For suspended particles PM<sub>10</sub>, **the limit of average annual value as of 01/01/2015 is 50 µg/m<sup>3</sup>**.

Number of exceedances	Varympompi	Schimatari	Arkitsa
Average annual value in µg/m <sup>3</sup>	5	1	0

**The value (50µg/m<sup>3</sup>) was not exceeded more than 35 times per year at any station.**

The average annual value for 2019 was:

Average annual value in µg/m <sup>3</sup>	Varympompi	Schimatari	Arkitsa
	19,32	16,61	13,91

**The average value (40µg/m<sup>3</sup>) was not exceeded at any station.**

#### Suspended Particles PM<sub>2,5</sub>

For suspended particles PM<sub>2,5</sub>, the Limit as of 01/01/2010 is 25µg/m<sup>3</sup> on average annual value.

The average annual value for 2019 was:

Average annual value in $\mu\text{g}/\text{m}^3$	Varympompi	Schimatari	Arkitsa
	11,67	11,36	9,87

**The average value ( $25\mu\text{g}/\text{m}^3$ ) was not exceeded at any station.**

### NO<sub>2</sub>

The Limit as of 01/01/2010 is  $200\mu\text{g}/\text{m}^3$  on average hourly value and should not be exceeded more than 18 times per year. Also the average annual value should not exceed  $40\mu\text{g}/\text{m}^3$ .

Number of exceedances of average hourly value over  $200\mu\text{g}/\text{m}^3$

Number of exceedances of average hourly value in $\mu\text{g}/\text{m}^3$	Varympompi	Schimatari	Arkitsa
	0	0	0

**The value ( $200\mu\text{g}/\text{m}^3$ ) was not exceeded at any station**

The average annual value for 2019 was:

Average annual value in $\mu\text{g}/\text{m}^3$	Varympompi	Schimatari	Arkitsa
	38.35	18.70	26.39

**The average annual value ( $40\mu\text{g}/\text{m}^3$ ) was not exceeded at any station.**

### CO

The Limit as of 01/01/2005 is  $10\text{ mg}/\text{m}^3$  (maximum daily eight-hour value).

Number of exceedances over  $10\text{ mg}/\text{m}^3$

Number of exceedances of maximum daily eight-hour value in $\text{mg}/\text{m}^3$	Varympompi	Schimatari	Arkitsa
	0	0	0

**The maximum daily eight-hour value ( $10\text{mg}/\text{m}^3$ ) was not exceeded at any station.**

The average annual value for 2019 was:

Average annual value in $\text{mg}/\text{m}^3$	Varympompi	Schimatari	Arkitsa
	0,77	0,29	0,89

### SO<sub>2</sub>

The Limit as of 01/01/2010 is 350µg/m<sup>3</sup> as average hourly value and should not be exceeded more than 24 times per year. Also, the average daily value is 125 µg/m<sup>3</sup>, which should not be exceeded more than 3 times per year.



Number of exceedances of average hourly value over 350µg/m<sup>3</sup>

Number of exceedances	Varympompi	Schimatari	Arkitsa
Average hourly value in mg/m <sup>3</sup>	0	0	0

**The maximum average hourly value (350µg/m<sup>3</sup>) was not exceeded more than 24 times per year at any station.**

The average daily value for 2019 was:

Average daily value in µg/m <sup>3</sup>	Varympompi	Schimatari	Arkitsa
	2,12	3,82	3,87

**The average daily value (125µg/m<sup>3</sup>) was not exceeded more than 24 times per year at any station.**

### O<sub>3</sub>

The objective as of 01/01/2010 is 120µg/m<sup>3</sup> as maximum daily eight-hour value and should not be exceeded more than 25 times per year (average in 3 years).

Number of exceedances of maximum daily eight-hour value over 120µg/m<sup>3</sup>

Number of exceedances of maximum daily eight-hour value in µg/m <sup>3</sup>	Varympompi	Schimatari	Arkitsa
	0	0	0

**The maximum daily eight-hour value (120µg/m<sup>3</sup>) was not exceeded at any station.**

The average annual value for 2019 was:

Average annual value in µg/m <sup>3</sup>	Varympompi	Schimatari	Arkitsa
	16,5	36,83	39,55

### Benzene

The limit as of 01/01/2010 is 5µg/m<sup>3</sup> on average annual value.

The average annual value for 2019 was:

Average annual value	Varympompi	Schimatari	Arkitsa

in $\mu\text{g}/\text{m}^3$	0,63	0,03	0,00
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**The average annual value ( $5\mu\text{g}/\text{m}^3$ ) was not exceeded at any station.**

## 6.2 IONIA ODOS Motorway

According to the Environmental Terms of the Project, the Ionia Odos air pollution measurement network includes three (3) stations, at the Evinochori MSS, at Filippiada MSS and at Episkopiko MSS. The station installation work commenced in June 2018 and their full operation (after the trial period) was completed in August 2018.

### Suspended Particles PM<sub>10</sub>

The Limit as of 01/01/2005 for PM<sub>10</sub> particles is 50µg/m<sup>3</sup> on average daily value and **should not be exceeded more than 35 times per year**. Also the average annual value **should not exceed 40µg/m<sup>3</sup>**.

Number of exceedances of PM<sub>10</sub> daily mean values over 50µg/m<sup>3</sup>

Number of exceedances	Evinochori	Filippiada	Episkopiko
Average daily value in µg/m <sup>3</sup>	1	0	1

**The value (50µg/m<sup>3</sup>) was not exceeded at any station**

The average annual value for 2019 was:

Average annual value in µg/m <sup>3</sup>	Evinochori	Filippiada	Episkopiko
	14,32	11,71	15,44

**The value (40µg/m<sup>3</sup>) was not exceeded at any station.**

### Suspended Particles PM<sub>2,5</sub>

For suspended particles PM<sub>2,5</sub>, **the limit of average annual value as of 01/01/2015 is 25 µg/m<sup>3</sup>**.

The average annual value for 2019 was:

Average annual value in µg/m <sup>3</sup>	Evinochori	Filippiada	Episkopiko
	10,01	8,68	10,48

**The value (25µg/m<sup>3</sup>) was not exceeded at any station.**

### NO<sub>2</sub>

The Limit as of 01/01/2010 is 200µg/m<sup>3</sup> on average hourly value and should not be exceeded more than 18 times per year. Also the average annual value should not exceed 40µg/m<sup>3</sup>.

Number of exceedances of average hourly value over 200µg/m<sup>3</sup>

Number of exceedances of average hourly value in µg/m <sup>3</sup>	Evinochori	Filippiada	Episkopiko
	0	0	0

**The value (200 $\mu\text{g}/\text{m}^3$ ) was not exceeded at any station**

The average annual value for 2019 was:

Average annual value in $\mu\text{g}/\text{m}^3$	Evinochori	Filippiada	Episkopiko
	6,58	12,78	10,62

**The average annual value (40 $\mu\text{g}/\text{m}^3$ ) was not exceeded at any station.**

**CO**

The Limit as of 01/01/2005 is 10  $\text{mg}/\text{m}^3$  (maximum daily eight-hour value).

Number of exceedances over 10  $\text{mg}/\text{m}^3$

Number of exceedances of maximum daily eight-hour value in $\text{mg}/\text{m}^3$	Evinochori	Filippiada	Episkopiko
	0	0	0

**The maximum daily eight-hour value (10 $\text{mg}/\text{m}^3$ ) was not exceeded at any station.**

The average annual value for 2019 was:

Average annual value in $\mu\text{g}/\text{m}^3$	Evinochori	Filippiada	Episkopiko
	0,33	0,29	0,32

**SO<sub>2</sub>**

The Limit as of 01/01/2010 is 350 $\mu\text{g}/\text{m}^3$  as average hourly value and should not be exceeded more than 24 times per year. Also, the average daily value is 125  $\mu\text{g}/\text{m}^3$ , which should not be exceeded more than 3 times per year.



Number of exceedances of average hourly value over 350 $\mu\text{g}/\text{m}^3$

Number of exceedances Average daily value in $\text{mg}/\text{m}^3$	Evinochori	Filippiada	Episkopiko
	0	0	0

**The maximum daily eight-hour value (350 $\mu\text{g}/\text{m}^3$ ) was not exceeded more than 24 times per year at any station.**

The average daily value for 2019 was:

Average daily value in $\mu\text{g}/\text{m}^3$	Evinochori	Filippiada	Episkopiko
	2,18	1,82	2,37

**The average daily value ( $125\mu\text{g}/\text{m}^3$ ) was not exceeded more than 24 times per year at any station.**

### **Benzene**

The limit as of 01/01/2010 is  $5\mu\text{g}/\text{m}^3$  on average annual value.

The average annual value for 2019 was:

Average annual value in $\mu\text{g}/\text{m}^3$	Evinochori	Filippiada	Episkopiko
	0,09	0,25	0,17

**The average annual value ( $5\mu\text{g}/\text{m}^3$ ) was not exceeded at any station.**

## 7. NOISE AND TRAFFIC VOLUME

The year 2019, the 24-hour traffic noise measurements of the monitoring program obtained are:

- **46 24-hour** traffic noise measurements at the PATHE Motorway, **Metamorfossi – Loggos section**
- **23 24-hour** traffic noise measurements at the PATHE Motorway, **Loggos – Skarfeia section**
- **3 24-hour** traffic noise measurements at the connecting branch of **PATHE Motorway, Schimatari – Chalkida section**
- **54 24-hour** traffic noise measurements at the IONIA ODOS Motorway, **Antirrio – Ioannina section**

The above traffic noise recordings also include 24-hour traffic noise measurements following noise complaints/grievances, as sent by the Concession Project Supervisory Service or as done through the Nea Odos Customer Service Center. For the above sections, have been conducted in total:

- PATHE motorway, **Metamorfossi – Loggos section**, of **46 measurements** in total, **6 24-hour** traffic noise measurements were conducted after complains
- PATHE motorway, **Loggos – Skarfeia section**, of **23 measurements** in total, **5 24-hour** traffic noise measurements were conducted after complains
- Connecting branch of PATHE, Schimatari – Chalkida, **3 24-hour** traffic noise measurements
- IONIA ODOS motorway, Antirrio – Ioannina section, of 54 24-hour traffic noise measurements, of which 2 24-hour traffic noise measurements were conducted after complaints.

**A total of 126 24-hour traffic noise measurements were obtained**, and the result assessment of the 24-hour traffic noise measurements for 2019 shows that:

### **A. “METAMORFOSSI – LOGGOS” SECTION**

In this section, which is the most burdensome regarding the volume, it is necessary to group the conclusions due to different local conditions. More specifically:

1. At positions P4, P5, P7, P13 there are exceedances due to non-implementation of anti-noise barriers for the reasons mentioned above.
2. At position P11 – Leontaritos’ complaint - there are exceedances with the receiver being within the settlement limit. In combination with the position P12 - Kaliviti complaint - which



does not exceed, it is recommended the measurement to be repeated and that all necessary protect measures be taken in case of continued exceedance.

3. At positions P15, P16, P18, P19, P20, P26, P37, P38, P39, P40, P41, P42, P44, P50, P51, P52, P54 & P55, there are exceedances but the receivers are outside of the statutory settlement limits and therefore do not require noise protection.
4. At positions P3, P6, P7, P8, P9, P10, P17, P22, P25, P28, P30, P34, P36 & P43, there is no exceedance and all of the above positions are located behind embedded barriers.
5. At positions P11, P12, P14, P46, P47, P48 there are no exceedances and the receivers are within statutory settlement limits.
6. At positions P27, P35, P45, P49, P53, there are no exceedance and the receivers are outside statutory settlement limits.
7. At positions P21, P23 and P24, there are exceedances in receivers within the settlement limit and behind an embedded barrier, which are exclusively due to the heavily congested side network and more specifically, at the side network running through the Oinofyta settlement where the percentage of heavy-duty vehicles, which are also moving at speeds well past the 50km/h limit, is particularly high.
8. At position P2, there is an exceedance picked up by a receiver behind the embedded barrier, but as mentioned above, the barrier is not constructed in its entirety, resulting in approximately 80 meters missing from the start of the barrier and approximately 100 meters from its end. It is also noted that the volume of the side network is particularly heavy and contributes significantly to the final noise level.
9. At Position P1, there is an exceedance on a receiver within a settlement limit and behind a constructed noise barrier near K.P. from 16+051 to 16+650 to Lamia. This noise barrier is under the responsibility, design and construction of Directorate Road Construction Projects and Studies, Attica Region (DMO.D9). An on-site investigation revealed that the barrier was constructed beyond the position of the approved design and more specifically about 90 meters in the direction of Lamia. However, the construction of the barrier is particularly poor, mainly with gaps between the transparent PMMA sheets and the support wall as well as poor assembly of rubber gaskets which in many cases hang from the metal pillars, as shown in the following photographs. It is recommended to monitor the phenomenon and if necessary, to take the necessary corrective actions.
10. With regard to the measurements conducted to cover old and new complaints in this section, the following are noted:
  - Regarding Skylakos' complaint for Metamorphossi area, the measurement show that all indicators are within the limits of the current legislation, although it should be noted that if the remaining barrier meters missing, under DME0's D9 liability, the traffic noise environment of the area will improve.
  - Regarding Pavlopoulos' complaint at Oinofyta Settlement P26, although there are significant exceedances, which in part are due to the highly congested side network of the Oinofyta settlement, the receiver is outside statutory settlement limits and therefore does not require noise protection according to the existing legislation.

- Regarding the complaint of Theodorou (P27) at Schimatari, the receiver is within the settlement limit and both Lden and Lnight indicators have been exceeded. Since last year recording had also revealed exceedance both of the Lden and the Lnight indicators and based on the fact that this is the third year where exceedances were observed, an EAMYE study, which has been submitted to the Directorate of KAPA with prot. no. YPEN/DKAPA/7752/156/23.01.20, has been drawn up.
- The Abouris' and Basiouli's complaints at Kifissia that were in the 2018 schedule due to extremely low prices, have been replaced by the Leontaritou and Kalivitis complaints respectively. At position P11 – Leontaritou's complaint – there are exceedances with the indicator within the settlement boundary. In combination with the position P12 – Kaliviti's complaint - which does not show any exceedances, it is recommended the measurement to be repeated and that all necessary protect measures be taken in case of continued exceedance.
- Finally, the Kaltsa's complaint (P7) investigation shows significant improvement in all indicators, all within boundaries, but an EAMYE study, which had been approved with document YPEN/DKAPA/15969/656 21/03/2018 No by the Department of Noise and Radiation of Directorate of KAPA. However, due to the location of the barrier and the significantly increased traffic load, it is recommended the measurement to be repeated and that all necessary protect measures be taken in case of continued exceedance.

#### **B. "SCHIMATARI – CHALKIDA" SECTION**

In this section, in the total of 3 24-hour traffic noise measurements, there is NO exceedance and no additional measures are necessary.

#### **C. "LOGGOS – SKARFEIA" SECTION**

As regards positions P56-P60 of Loggos – Skarfeia section, no exceedances were presented. The section of the motorway adjacent to the Kammena Vourla settlement, where there is no anti-noise barrier, for a more complete and more objective picturing of the



acoustic environment in the wider area, it was decided to perform 2 weekly measurements at positions P68 and P72 respectively) for the period from 18.7.2019 to 25.7.2019.

At the same time, for the purposes of comparison within the same period, 24-hour acoustic measurements were performed at positions 063, 064, 065 and 066. The results of the above measurements can be summarized as follows:

- At position P61, throughout the week (daily from 18/7 to 15/7), the L<sub>night</sub> indicator was exceeded at all 5 days. Indicatively, no other exceedance was observed during Saturday - Sunday.

- At position P62, throughout the entire week (weekdays), the  $L_{den}$  indicator was exceeded 4 times, on Thursday 18/7, Friday 19/7, Monday 22/7 and Tuesday 23/7, and the  $L_{night}$  indicator was exceeded 2 times (Thursday 18/7 and Wednesday 24/7). Indicatively, an exceedance was observed at the  $L_{den}$  and on Sunday 21/7.
- Based on those aforementioned, as for the positions P61 and P62, the preparation of EAMYE study is proposed.
- At position P63, only the  $L_{night}$  indicator was exceeded at 15 Makedonia Street. Given that this is the second consecutive year of exceedances, the elaboration of EAMYE study is recommended.
- At position P64, only the  $L_{night}$  indicator was marginally exceeded only for once. It is recommended the measurement to be repeated and that all necessary protect measures be taken in case of continued exceedance.
- At position P65, both the  $L_{night}$  and the  $L_{den}$  indicators were marginally exceeded. It is recommended the measurement to be repeated and that all necessary protect measures be taken in case of continued exceedance. For proximity reasons, it is recommended to include this position in the EAMYE study for position P66.
- At position P66 (Komma's complaint), the limits have been exceeded for a third consecutive year and it was therefore proposed that an EAMYE study would be drawn up.
- Finally, there are exceedances of all indicators at positions 67 and 68, but these are receivers outside of statutory settlement limits and therefore do not require noise protection.

#### **D. IONIA ODOS "Antirrio – Ioannina" Section**

In this section and in positions P53 of all P54 traffic noise measurements performed, there is NO exceedance of an indicator. Exceedance is observed only in case P50 and only for the  $L_{night}$  indicator; there is a house outside the settlement boundary that was not expropriated during construction, at the request of its owner. In any case, the evolution of the phenomenon will be monitored, but it is recalled that, under the current legislation, the indicator does not require anti-noise protection.



However, there are several measurements that are close to the statutory thresholds and need to also be monitored in the next program, as the approved environmental terms require.

For the year 2019, the monitoring program O.K.TH. (Road Traffic Noise) that has been submitted and approved by the Directorate of KAPA/YPEN with the prot. no the YPEN/DKAPA/79861/1870/20-09-2019.

The noise measurement results and records of the road traffic volume, with the position, date, and measurement time interval, the prevailing meteorological conditions, the contact details and name of the measurement manager were recorded in a results sheet. In the case of systematic excess of the current limit for road traffic noise recording, the construction and operation of the project entity shall take the necessary measures to address the excesses.

- Before each 24-hour traffic noise measurement, calibration of the instruments was performed using specific acoustical calibrator, so that the reliability of the results be monitored during the recordings of the traffic noise environment.
- The following are mentioned for all measurement positions: the exact position, the exact time period and day of measurement, while it is noted that the measurement was performed under lack of rain and strong wind conditions, while for conditions of light wind, speed < 3 m/sec, always the use of a special windbreaker cover for the microphone was ensured. No traffic noise recordings were performed if other sources of noise pollution were noted in the immediate environment of the recording position, e.g. residents gatherings, construction of roads, buildings etc., or if the traffic flow was not the usual (e.g. weekends or holidays), or if the traffic fluidity was interrupted or disturbed from any random event, such as accident, etc.

In every 24-hour measurement, the following were recorded:

- the L1, L10, L50, L95, L99 indexes as well as the maximum (Lmax) and minimum values (Lmin);
- the O.K.TH. (Road Traffic Noise) level L10 (18-hour); & the level A-weighted equivalent LAeq (08.00–20.00);
- the level A-weighted equivalent LAeq (24h); and
- the Lden, Lday, Levening & Lnight indicators, as well as the Ld-e of existing legislation in line with JMD with No 211773/2012 (FEK 1367/B/27-4-2012).



For 2019, Road Traffic Noise Monitoring program has been completed and approved. For 2020, similar program shall be implemented, which is expected to be completed within the year (recording of 24-hour measurements in selected positions), when it shall be submitted to the Directorate of KAPA/YPEN for approval.

It is noted that the traffic volume is monitored daily at the section from Metamorphossi to Skarfeia of PATHE motorway, at the transit level at all toll stations (Afidnes, Kapandriti, Malakassa, Oinofyta, Thebes and Tragana), and are reported in monthly reports. For 2019, the Annual Average Daily Traffic was calculated at 24,302 transits (in both directions) at the Metamorfossi – Skarfeia section of PATHE, while the Annual Average Daily Traffic was calculated at 6,692 transits (in both directions) at IONIA ODOS.

The tables below show the CHs of 24-hour measurements in all motorway sections. More specifically:

**Section: Metamorfossi – Loggos**

S/N MEASUREMENT	AREA	DIRECTION	CH.
P1	Metamorfossi	Towards Lamia	16+300
P2	Metamorfossi	Towards Athens	16+320
P4	Kifissia	Towards Lamia	20+320
P5	Kifissia	Towards Lamia	20+520
P7	Kifissia	Towards Athens	21+080

P8	Kifissia	Towards Athens	21+650
P9	Kifissia	Towards Lamia	21+450
P10	Kifissia	Towards Athens	21+650
P11	Kifissia	Towards Athens	21+780
P12	Kifissia	Towards Athens	22+150
P13	Kifissia	Towards Lamia	22+800
P14	Nea Erythraia	Towards Lamia	23+520
P15	Nea Erythraia	Towards Lamia	23+830
P16	Krioneri	Towards Athens	25+100
P17	Ekali	Towards Lamia	25+430
P21	Oinofyta	Towards Athens	59+250
P22	Oinofyta	Towards Athens	59+380
P23	Oinofyta	Towards Athens	59+530
P24	Oinofyta	Towards Athens	59+680
P25	Oinofyta	Towards Athens	59+760
P26	Oinofyta	Towards Athens	59+940
P28	Schimatari	Towards Athens	65+900
P29	Schimatari	Towards Athens	65+960
P30	Schimatari	Towards Athens	66+750
P34	Kastro	Towards Athens	115+590
P35	Tragana	Towards Lamia	137+250
P36	Tragana	Towards Athens	137+670
P37	Municipality of Dafnoussia	Towards Lamia	146+240
P38	Municipality of Dafnoussia	Towards Lamia	146+700
P40	Municipality of Dafnoussia	Towards Lamia	148+300
P41	Livanates	Towards Lamia	150+050
P42	Municipality of Dafnoussia	Towards Lamia	150+800
P43	Livanates	Towards Lamia	151+250
P44	Municipality of Dafnoussia	Towards Athens	152+200
P45	Arkitsa	Towards Athens	153+840
P46	Arkitsa	Towards Lamia	153+880
P47	Arkitsa I/C	Towards Athens	154+780
P48	Kedros	Towards Lamia	157+350
P49	Municipality of Dafnoussia	Towards Athens	158+250
P50	Municipality of Dafnoussia	Towards Lamia	158+900
P51	Achlades	Towards Athens	159+140
P52	Municipality of Dafnoussia	Towards Athens	160+780
P53	Municipality of Dafnoussia	Towards Athens	161+320
P54	Municipality of Dafnoussia	Towards Lamia	162+280
P55	Louros	Towards Athens	162+970

**Section: Schimatari – Chalkida**

S/N MEASUREMENT	AREA	DIRECTION	CH
P31	Kalochori – Pantichi	Towards Chalkida	6+500
P32	Vathi	Towards Chalkida	7+500
P33	Vathi	Towards Chalkida	7+000

**Section: Loggos - Skarfeia**

<b>S/N MEASUREMENT</b>	<b>AREA</b>	<b>DIRECTION</b>	<b>CH.</b>
P56	Kamena Vourla	Towards Athens	170+000
P57	Kamena Vourla	Towards Lamia	171+350
P58	Agios Konstantinos	Towards Lamia	173+340
P60	Kamena Vourla	Towards Lamia	178+680
P61-A,P61-B,P61-C,P61-D,P61-E,P61-F,P61-G	Kamena Vourla	Towards Lamia	179+100
P62-A,P62-B,P62-C,P62-D,Θ62-E,P62-F,P62-G	Kamena Vourla	Towards Lamia	179+190
P63	Kamena Vourla	Towards Lamia	179+300
P64	Kamena Vourla	Towards Lamia	179+600
P65	Kamena Vourla	Towards Lamia	179+690
P66	Kamena Vourla	Towards Lamia	179+785
P69	Patereika	Towards Lamia	186+300

**Section: Ionia Odos**

<b>S/N MEASUREMENT</b>	<b>AREA</b>	<b>DIRECTION</b>	<b>CH.</b>
P1	ANTIRRIO	Towards Antirrio	4+960
P2	MAKYNEIA	Towards Antirrio	8+850
P3	RIZA	Towards Antirrio	10+700
P4	RIZA	Towards Ioannina	11+080
P5	RIZA	Towards Antirrio	11+210
P6	CHANIA GAVROLIMNIS	Towards Ioannina	18+490
P7	AGIOS GEORGIOS	Towards Ioannina	27+140
P8	AGIOS GEORGIOS	Towards Ioannina	27+520
P9	STOUMPEIKA	Towards Antirrio	30+350
P10	AGIOS THOMAS	Towards Ioannina	33+700
P11	AGIOS THOMAS	Towards Ioannina	33+980
P12	AGIOS THOMAS	Towards Antirrio	34+400
P13	AGIOS THOMAS	Towards Antirrio	35+250
P14	TRELAGKATHA	Towards Antirrio	35+830
P15	TRELAGKATHA	Towards Ioannina	35+820
P16	TRELAGKATHA	Towards Antirrio	36+090
P17	TRELAGKATHA	Towards Ioannina	36+260
P18	TRELAGKATHA	Towards Ioannina	36+950
P19	AGRILIA	Towards Antirrio	37+500
P20	NEA YDRAGOGEIA	Towards Ioannina	39+600
P21	NEA YDRAGOGEIA	Towards Antirrio	39+600
P22	KEFALOVRYSSO	Towards Antirrio	47+600
P23	KEFALOVRYSSO	Towards Ioannina	48+360
P24	KEFALOVRYSSO	Towards Ioannina	48+790
P25	KEFALOVRYSSO	Towards Antirrio	48+880
P26	CHALIKI	Towards Ioannina	49+800
P27	KEFALOVRYSSO	Towards Antirrio	55+150

**ANNUAL REPORT**  
**FOR THE ENVIRONMENTAL MANAGEMENT AND IMPLEMENTATION**  
**OF ENVIRONMENTAL TERMS DURING OPERATION AND MAINTENANCE**

P28	KEFALOVRYSSO	Towards Ioannina	55+120
P29	RIGANI	Towards Antirrio	67+120
P30	RIVIO	Towards Antirrio	86+180
P31	KAMPOS AMFILOCHIAS	Towards Ioannina	107+320
P32	KAMPOS AMFILOCHIAS	Towards Antirrio	107+650
P33	KRIKELLOS	Towards Ioannina	108+860
P34	KRIKELLOS	Towards Antirrio	109+180
P35	KRIKELLOS	Towards Ioannina	111+400
P36	MAKRIRACHI	Towards Ioannina	114+400
P37	PSILA ALONIA	Towards Ioannina	132+450
P38	AGIOS DIMITRIOS - ARTA	Towards Ioannina	139+400
P39	AGIOS DIMITRIOS - ARTA	Towards Ioannina	139+700
P40	AGIOS DIMITRIOS - ARTA	Towards Ioannina	141+100
P41	ARTA	Towards Antirrio	145+130
P42	ARTA	Towards Ioannina	145+190
P43	ARTA	Towards Ioannina	145+370
P44	ARTA	Towards Ioannina	146+300
P45	ARTA	Towards Antirrio	147+600
P46	ARTA	Towards Antirrio	149+900
P47	KAMPI	Towards Ioannina	153+800
P48	KAMPI	Towards Antirrio	153+880
P49	AMMOTOPOS	Towards Ioannina	159+650
P50	NEOS GORGOMILOS	Towards Antirrio	169+600
P51	NEOS GORGOMILOS	Towards Antirrio	173+400
P52	EPISKOPIKO	Towards Antirrio	195+410
P53	EPISKOPIKO	Towards Ioannina	196+300
P54	EPISKOPIKO	Towards Ioannina	196+600

## **8. WASTE MANAGEMENT**

### **8.1 Liquid wastes**

A comprehensive Environmental Management Plan has been developed and implemented, which includes the procedure for the management of hazardous liquid waste in accordance with the environmental terms and the existing legislation, while proper management documentation is requested by the subcontractors. Relevant archive has been created with the agreements and waste delivery receipts of authorized mineral oil management companies.

For the hazardous liquid waste resulting from the operation and maintenance works on the motorway, the concession company follows all procedures provided by the current legislation and cooperates with management entities authorized for environmental purposes.

Inspections are performed at the construction and maintenance work sites and the corresponding check list table is filled. Based on the checks, in case of failure to comply with the provisions, guidelines (corrective actions) for compliance are provided. The implementation of the corrective actions is checked through new inspections based on the check list.

Furthermore, the concession company submits annual reports for waste producer at the electronic waste registry (EWR) pursuant to Article 42 of Law 4042/2012 (FEK 24/A/13.02.2012), as amended by Article 157, paragraph 1 of Law 4389/2016 (FEK 94/A/27.05.2016) and JMD 1/1 (FEK 1/B'/04.01.2017). For the year 2018, the relevant report of waste producer was submitted to the electronic waste registry (EWR) by the concession company for every JMD ETA of the motorway separately. For 2019 the process is expected to be completed in accordance with the deadlines.

### **8.2 Solid wastes**

The Concessionaire has contracted with the subcontractor for the cleaning and the collection of solid waste from the motorway, which are then transferred to appropriate licensed premises.

For the hazardous solid waste resulting from the operation and maintenance works on the motorway, the concession company follows all procedures provided by the current legislation and cooperates with management entities authorized for environmental purposes.





Inspections are performed at the construction and maintenance work sites and the corresponding check list table is filled. Based on the checks, in case of failure to comply with the provisions, guidelines (corrective actions) for compliance are provided. The implementation of the corrective actions is checked through new inspections based on the check list.

Furthermore, the concession company submits annual reports for waste producer at the electronic waste registry (EWR) pursuant to Article 42 of Law 4042/2012 (FEK 24/A/13.02.2012), as amended by Article 157, paragraph 1 of Law 4389/2016 (FEK 94/A/27.05.2016) and JMD 1/1 (FEK 1/B'/04.01.2017). For the year 2018, the relevant report of waste producer was submitted to the electronic waste registry (EWR) by the concession company for every JMD ETA of the motorway separately. For 2019, the process is expected to be completed in accordance with the foreseen deadlines.

### **8.3 Waste Producer Table – EWR**

Pursuant to Article 42, of Law 4042/2012 (FEK 24/A/13.02.2012), as amended by Article 157, paragraph 1 of Law 4389/2016 (FEK 94/A/27.05.2016) and JMD 1/1 (FEK 1/B'/04.01.2017), the Electronic Waste Registry was established, and by JMD 43942/4026 (FEK B' 2992/19.09.2016), liable for the electronic recording and registration are every organization or enterprise the establishments of which produce waste and falling within the scope of Chapter A of Law 4014/2011 (A' 209).

For PATHE as well as Ionia Odos motorway, the NEA ODOS S.A. was registered in the Electronic Waste Registry (Reg. No 1739), as it falls within the scope of the provisions of Law 4014/2011, since in accordance with the No DIPA/ 37674/2016 (FEK 2471/B/10.08.2016), the motorways fall under Group 1 projects (Air and land transportation projects) – Road building, S/N 1, and under subcategory A1.

Fluorescent tubes and other mercury-containing waste, lead batteries, tires collected from the motorway, engine, gear and lubricating oils, iron and steel, plastics, animal tissue waste (dead animals), plant-tissue waste, and waste produced by the operation and maintenance works on the motorway and the quantity and delivery mode to each approved Alternative Management System of which is recorded.



Moreover, the company responsible for the operation NEA ODOS S.A., in the context of corporate social responsibility, has contracted Alternative Management System companies and recycles paper, plastic, batteries, used/damaged electrical and electronic equipment. Additionally, the company responsible for the operation has a certified environmental quality management system certified by ISO 14001:2015. For the year 2018, the relevant report of waste producer was submitted to the electronic waste registry (EWR) by the concession company for every JMD ETA of the Concession Project separately. For 2019, the process is expected to be completed in accordance with the deadlines.



For all previous years (before the operation of EWR), NEA ODOS S.A. has prepared and submitted the relevant reports for waste producer pursuant to JMD 13588/725/06 and on the basis of Law 2939/2001 (and its amendment Law 3854/2010).



**9. CLEANING AND MAINTENANCE**

All cleaning and maintenance work taken place during the second semester of 2019 and for which the compliance with the Environmental Terms was checked, are the following:

- Vegetation pruning and maintenance.
- Garbage collection by garbage truck.
- Advertising billboard removal.
- Dead animal removal.
- Drain and culvert cleaning and maintenance.
- Sanitation system gutter slots cleaning.
- Drainage and other hydraulic works cleaning.



- Manual waste collection.
- Sweeping/Cleaning.
- Parking Area cleaning and washing.
- WC cleaning
- Bins replacement.
- Fencing Repair.
- Metal safety rails replacement
- Tunnel Maintenance.
- Road Marking Works.

Compliance with the E.T. relating to all the above tasks are recorded monthly in the “checklists” and in the corresponding semi-annual, annual tables per JMD annexed hereto.



## **10. ACCIDENTS – ACCIDENTAL POLLUTION – ACTION PLAN**

The Concessionaire has prepared an Action Plan for emergency situations, in which the measures for the timely collection and removal of hazardous substances after a relevant incident on the motorway are described, designed to prevent the pollution of waterways, soil, or wider environment of the motorway. The Plan is an Appendix to the Police and Firefighting Agreement conducted between the Concessionaire and the Ministry of Interior, the Police and the Fire Department and includes all the measures to be taken and the necessary equipment to be used by the Concessionaire in case of an accident and leakage of non-biodegradable substances.

It is also highlighted that during incident of hazardous cargo management, the competent bodies of the Fire and Traffic Departments shall be entirely in charge of the coordination. The Concessionaire's role is auxiliary with a focus on the traffic management (signs, blocks, diversions) at the direction of the relevant departments, the restoration of the road surface (cleaning, obstruction removal, etc.) and infrastructures (damages, rails restoration, etc.) and the re-opening of the relevant road after the end of the incident.

As primary and essential tool for addressing accidental leakage, which creates an immediate risk of surface water and soil pollution, the use of adsorbents, such as sand, sawdust, or special geotextile is provided immediately after the escape of the hazardous cargo. Such materials are immediately available by the Concessionaire, the patrol units and the maintenance contractor for direct intervention.

The decontamination process, as well as the transportation and final management and disposal of the polluted adsorbents and the hazardous waste produced by such an incident shall be done in accordance with the existing legislation with appropriately authorized decontamination, transfer and management of hazardous waste companies for the timely addressing of incidents on the motorway.

## 11. SPECIAL TERMS (E.G. TANKS, DRAINAGE MANAGEMENT)

- On-site infrastructure

A total of 9 Winter Maintenance stations have been environmentally authorized (with No 122399/1-4-2010 of EYPE) along the PATHE motorway. The installed and operating stations are located in the areas of Markopoulo, Schimatari, Thebes, Akraifnio, Martino, Tragana and Ag. Konstantinos (Latomeio).

For IONIA ODOS, the installed stations are located in the areas of Messolonghi, Amfilochia, Filippiada and Terovo.

- Visual disturbance by signs

All advertising billboards and signs within the concession limit have been removed. Regular inspections are carried out throughout the motorways, the advertising billboards - signs located within the expropriation limit are removed.

- Tunnel fire safety.

There is cooperation with the Fire Department. Fire drills under "Large Scale" conditions was conducted on 10/4/2014 (the previous one was on 3/3/2010). The tunnel fire fighting equipment is functional, with a network of 6" pipelines, under 7 Atm stable pressure, and HDS every 50m in each tunnel over 500m in length, with two taps, a storz and a 25m hose, in accordance with the Construction Study.

- Pollution Control Units

With the completion of the motorway improvements in Yliki area, it is expected that the retention – infiltration rainwater runoff tanks will be constructed at the site, as provided by E.T. d-29.5 of JMD 101617/22.09.2006 for the Yliki-Kastro section.

Two of the total seven Pollution Control Units have not been constructed in the section "Agios Konstantinos - Kamena Vourla", which are planned to be constructed in accordance with the E.T. d-32 of JMD 85676/30.07.2002. The Greek State is expected to install the remaining two tanks.

## 12. PLANTINGS – MAINTENANCE OF VEGETATION

The Concessionaire has contracted with a Subcontractor for the maintenance and management of the vegetation and the plantings.

## 13. CONCESSIONAIRE'S ENVIRONMENTAL DEPARTMENT

The Concessionaire provides an Environmental department with specialized personnel, which is responsible for the inspection and compliance with the E.T. of the motorway entire length. The

Concessionaire is also cooperating with special advisor in order to create a group of scientists that covers the extended range of the environment. The group of scientists consists of: Civil Engineer – Transportation Expert – Acoustical Engineer, Environmentalist – Environmental Planner, and Environmentalist – Chemist – Acoustical Engineer, to fully meet the inspection needs of the E.T. for the road project.

#### **14. REPORTS (SEMI-ANNUAL – ANNUAL – SUBMISSIONS)**

For the year 2019, the 1st semi-annual Report of Environmental Monitoring of 2019 of the Concession Project under study was compiled, which was submitted by the Concessionaire with document no. 46388/20.08.2019 to the Supervisory Services and GDPP/YPEN.

#### **15. MONTHLY FOLLOW UP – CHECK LISTS**

Based on the Environmental Monitoring and Control Program and the Environmental Management System, the “Tables For the Implementation of the Environmental Terms” are established, outlining the ways and methodology of the necessary actions, in order to ensure the implementation of the Environmental Terms.

Environmental supervisors, in collaboration with the project engineers, perform regular (monthly) checks and complete the control tables, i.e. the implementation of the "Environmental Monitoring and Control Program". They also provide the necessary guidelines or directions based on the Environmental Monitoring and Control Program for any environmental issue that arises.



After each regular (monthly) check, the corresponding checklist is filled out, which shows deviations from the implementation of the environmental terms identified by the inspections. The same table provides the proposed corrective actions. The tables are sent to the company responsible for the operation to take all necessary actions and the appropriate measures to comply with the environmental law and the environmental terms of the project. In the following recheck, it is examined whether all the necessary measures and the proposed corrective actions have been taken and the corresponding fields of the monthly checklist are filled.

The Environmental Management System (EMS), which is implemented by the company responsible for the operation, consists of the Manual, the Procedures, the Work Instructions related to the environment and the compliance with the environmental requirements of the project. The environmental management manual, procedures and instructions are applied uniformly throughout the project and are constantly evolving to meet project needs.

#### **16. INSPECTIONS BY ENTITIES FINES**

For 2019, no environmental deterioration problems have been identified caused by the operation and maintenance of the motorways, and no fines have been imposed on the company responsible for the operation.

Specifically, in the year 2019 an environmental inspection was carried out on the Ionia Odos by the Directorate of Environment & Spatial Planning of the Region of Western Greece, without finding any violations or problems of environmental degradation.

#### **17. CERTIFICATIONS**

NEA ODOS S.A. has developed and implemented a common Integrated Management System (IMS) resulting from the integration of the Quality, Environment and Safety & Health Systems applied by the company. The aim of the IMS is to ensure the most efficient management of quality, environmental and S&H issues by eliminating overlapping procedures and controls.

Additionally, NEA ODOS S.A. has designed and implemented a Road Safety Management System, which has been certified according to the international standard ISO 39001:2012, making it the first second generation Concession Company to receive such certification, which is a milestone for the safe and efficient fleet management, and demonstrates the company's commitment to implement safe practices on the motorway.

Collectively, the NEA ODOS S.A. is certified according to the following International Standards:

- ISO 9001 (Quality Management System)
- OHSAS 18001 (Health & Safety Management System)
- ISO 14001 (Environmental Management System)
- ISO 39001 (Road Traffic Safety Management System)

On 10 and 11/10/2019, the planned annual inspection was carried out by the independent certification body Bureau Veritas on all activities of NEA ODOS S.A. and in accordance with the International Standards: ISO 9001 (Quality Management System), OHSAS 18001 (Health & Safety Management System), ISO 14001 (Environmental Management System).

On 3-4/7/2019, the planned annual inspection was carried out by the independent certification body TUV Hellas, in accordance with the International Standards: ISO 39001 (Road Safety).

Following the above inspections, the independent bodies recommended the continuance of the Certifications for all standards and for at least one year until the next scheduled annual inspection.



## 18. ENVIRONMENTAL BUDGET

The required percentage for the total operating and maintenance of the motorway budget required to fully comply with the Environmental Terms and restrictions of the relevant JMD-ETA has been secured as a matter of priority. Expenditure on environmental protection projects is given in the annual progress reports on compliance with the Environmental Terms.

Investment Categories for the Environment	2019 (in €)
Environmental Studies (EIA, TEPEM, Renewal Studies, ETA, Environmental Authorization of accompanying works and activities, etc.)	
Vegetation Protection and Maintenance	
Traffic noise monitoring program	
Environmental Advisors and personnel for monitoring the implementation of the E.T.	
Atmospheric Pollution and Meteorological Data Stations Operation and Air Pollution Monitoring	
Certifications It refers to the cost of the company integrated system which is included in ISO 14001:2015	
Waste management and disposal	
Environmental Education and Training	
Other: Installation of noise-barriers at Kifissia	
Other: Implementation Study of noise-barriers at Schimatari (payment in advance 30%)	
<b>TOTAL:</b>	

## 19. CORPORATE SOCIAL RESPONSIBILITY

Nea Odos compiles a Corporate Responsibility Report in accordance with the Global Reporting Initiative (GRI) standard, the GRI Standards, and meets the Baseline Selection criteria (in accordance with: Core option).

The Report covers all the core and substantial issues that Nea Odos has identified and focuses on, including environmental issues.

The Reports are issued on an annual basis and cover the 5 Corporate Responsibility pillars for Operation & Maintenance activities:

- Road Safety
- Quality on Provision of Human Resources Services
- Caring for the Environment
- Collaboration with Local Communities and Social Contribution

The Corporate Responsibility Report is posted at <http://www.neaodos.gr>



Nea Erythrea, 146 71, Athens, Greece

Tel.: +30 210 34 47 300, Fax: +30 210 61 78 011,

Web. <http://www.neaodos.gr>, Email: [info@neaodos.gr](mailto:info@neaodos.gr)