


**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	31.01.2019
Created by:	Concessionaire 

**REFERENCE PERIOD
YEAR 2018**

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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 2018 (01.01.2018 to 31.12.2018). This Report also includes the reference data on compliance with the environmental terms during the 2nd semester of 2018.

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 K.P. 15+570
- Tatoi I/C K.P. 16+795
- Pyna I/C K.P. 18+770
- Kalyftaki I/C K.P. 20+060
- Varympompi I/C K.P. 23+225
- Mpogiati I/C K.P. 27+960
- Afidnes I/C K.P. 33+765
- Kapandriti I/C K.P. 35+240
- Markopoulo I/C K.P. 39+370
- Malakasa I/C K.P. 44+130
- Oinofyta I/C K.P. 55+690
- Oinoi I/C-1st branch K.P. 62+915
- Chalkida I/C K.P. 65+820
- Half-junction Schimatari A K.P. 66+385
- Half-junction Schimatari B K.P. 67+655
- Ritsona I/C K.P. 75+520
- Thebes I/C K.P. 89+835
- Camp I/C K.P. 100+270
- Akraifnio I/C K.P. 107+320
- Kastro I/C K.P. 114+815
- Martino I/C K.P. 125+770
- Malesina I/C K.P. 129+095
- Tragana I/C K.P. 137+475
- Atalanti I/C K.P. 145+325
- Livanates I/C K.P. 149+555
- Arkitsa I/C K.P. 154+500
- Longos I/C K.P. 166+180
- Latomeio I/C K.P. K.P. 172+640
- Half-junction K. Vourla (West) K.P. 177+585
- Half-junction K. Vourla (East) K.P. 179+895



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

i. Frontal

- Afidnes near K.P. 32+355
- Thebes near K.P. 96+115
- Tragana near K.P. 135+715

ii. Lateral

- 2 on the Kapandriti I/C K.P. 35+240
- 2 on the Malakasa I/C K.P. 44+130
- 2 on the Oinofyta I/C K.P. 55+690
- 2 on the Thebes I/C K.P. 89+835
- 2 on the Tragana I/C K.P. 137+475



3. 5 (five) Motorists Service Stations

- Varympompi MSS (to Athens) K.P. 24+535
- Kapanditi MSS (to Lamia) K.P. 36+455
- Malakasa MSS (Bilaterally) K.P. 47+875
- Schimatari MSS (Bilaterally) K.P. 70+695
- Atalanti MSS (Bilaterally) K.P. 144+200



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

- Parking Area (towards Athens) K.P. 38+387
- Parking Area (towards Athens) K.P. 63+926
- Parking Area (towards Lamia) K.P. 64+007
- Parking Area (towards Lamia) K.P. 83+473
- Parking Area (towards Athens) K.P. 84+439
- Parking Area (towards Lamia) K.P. 97+960
- Parking Area (towards Athens) K.P. 98+310
- Parking Area (towards Lamia) K.P. 110+718
- Parking Area (towards Athens) K.P. 113+668
- Parking Area (towards Lamia) K.P. 131+068
- Parking Area (towards Athens) K.P. 133+972
- Parking Area (towards Athens) K.P. 141+620
- Parking Area (towards Lamia) K.P. 142+400



5. 8 (Eight) Winter Maintenance Stations

- Varympompi SCS K.P. 24+535
- Markopoulo SCS K.P. 38+700
- Schimatari SCS K.P. 63+500
- Thebes SCS K.P. 89+835



- Akraifnio SCS K.P. 107+320
- Martino SCS K.P. 125+770
- Tragana SCS K.P. 135+715
- Latomeio SCS K.P. 173+300

6. 6 (six) Tunnels

- K.P. 168+609 to K.P. 169+300
(Bilaterally)
- K.P. 173+380 to K.P. 175+920
(Bilaterally)
- K.P. 176+110 to K.P. 176+380
(Bilaterally)



7. Other support facilities for the operation of the motorway

- Administration building K.P. 23+225
- Customer service building and Parking Areas on the site of Afidnes toll station K.P. 32+355
- Police building K.P. 32+355
- Markopoulo MCC (Maintenance Buildings) K.P. 38+700
- Thebes MCC (Maintenance, Fire-fighting and Police Buildings) K.P. 89+835
- Traffic Management Center (TMC) K.P. 63+500
- Atalanti MCC (Maintenance, Fire-fighting and Police Buildings) K.P. 145+325
- Tunnel Control Center K.P. 175+950

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

S/N	SECTION	Km
1	Metamorfosi – Yliki Section	80.366
2	Yliki – Kastro Section	20.712
3	Kastro – Tragana Section	20.383
4	Tragana – Arkitsa Section	18.77
5	Arkitsa – Agios Konstantinos Section	10.37
6	Agios Konstantinos – Kamena Vourla Section	16.11
7	Kamena Vourla – Midenitsa (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 K.P. 5+499
- Gavrolimni I/C on K.P. 18+507
- Efinochori half-junction on K.P. 27+635
- Mesolongi I/C K.P. 31+822
- Agrinio (South) I/C K.P. 51+464
- Ag. Ilia I/C on K.P. 55+565
- Angelokastro I/C on K.P. 59+917
- Rigani I/C on K.P. 65+201
- Agrinio (North) I/C K.P. 80+781
- Preveza I/C on K.P. 89+642
- Amfilochia I/C on K.P. 106+197
- Kompoti half-junction on K.P. 130+513
- Arta I/C on K.P. 140+891
- Filippiada I/C on K.P. 152+819
- Ammotopos half-junction on K.P. 159+769
- Gorgomylos I/C on K.P. 168+649
- Terovo I/C on K.P. 181+372
- Avgo I/C on K.P. 192+685
- Egnatia I/C on K.P. 200+991



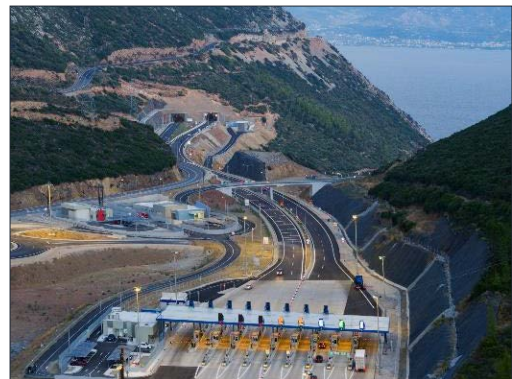
2. 4 Frontal & 10 Lateral Toll Stations

a. Frontal:

- Klokova near K.P. 15+335
- Angelokastro near K.P. 61+505
- Menidi near K.P. 116+147
- Terovo near K.P. 179+769

b. Lateral:

- 2 on Gavrolimni I/C on K.P. 18+507
- 2 on Mesolongi I/C on K.P. 31+822
- 2 on Agrinio I/C on K.P. 80+781
- 2 on Arta I/C on K.P. 140+891
- 2 on Gorgomylos I/C on K.P. 168+649



3. 9 Motorists Service Stations

- On Evinochori I/C on K.P. 27+220 (bilaterally)
- On Amvrakia on K.P. 86+215 (bilaterally)
- On Amfilochia on K.P. 100+560 (to Ioannina)
- On Filippiada on K.P. 154+130 (bilaterally)
- On Episkopiko on K.P. 194+870 (bilaterally)



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

- Klokova TMC on K.P. 15+355
- Mesolongi MCC on K.P. 31+548
- Amfilochia MCC on K.P. 100+560
- Filippiada MCC on K.P. 154+130
- Episkopiko TMC on K.P. 194+870



5. 4 Tunnels

- Makyneia Tunnel, 500 m length near K.P. 9+100
- Klokova Tunnel, 2,890 m length near K.P. 11+600
- Kalydona Tunnel, 1,230 m length near K.P. 28+350
- Ampelia Tunnel, 870 m length near K.P. 197+600



6. Bridges

- Makyneia Bridge, 67.5 (r) & 102 m (l) near K.P. 8+970
- Evinos River Bridge, 254 (r) & 259 m (l) near K.P. 23+600
- Xirorema Bridge, near K.P. 105+550
- Krikelo Bridge, 97 m length near K.P. 110+900
- Menidi Bridge, 554 m length near K.P. 123+400
- Gymnotopos Bridge, 253 m length near K.P. 163+650
- Bridge near K.P. 167+900
- Tsagkaropoulos Bridge, 440 m length near K.P. 172+100
- Bridge 105 m length near K.P. 172+800
- Kryfovos Bridge, 280 m length near K.P. 189+100



7. 4 Winter Maintenance Stations (SCS)

- Mesolongi SCS on K.P. 31+548
- Amfilochia SCS on K.P. 100+560



- Filippiada SCS on K.P. 154+130
- Terovo SCS on K.P. 194+870

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 – Kefalovryso 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 Karystou 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.



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)	<ul style="list-style-type: none">• No EYPE 113451/21-12-2001 exemption from ETA to address landslide at Malakasa• JMD No 126119/08-02-2007, E.T. Approval• 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 Malakasa 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.• No DIPA 153346/15.12.2015, TEPEM approval for the relocation of the police

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

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			<p>future motorists service stations positions of the motorway and the lateral toll stations of Oinofyta.</p> <ul style="list-style-type: none"> • MD 61030/1796/17-09-2018 Environmental terms renewal for the Metamorfosi – Yliki, Yliki – Kastro, Kastro –Tragana and Arkitsa –Ag. Konstantinos sections of the PATHE motorway.
4	Tragana – Arkitsa	<p>The section ETAD is valid until 06.02.2027 (Decision G.S.P.P. DIPA 6366/06.02.2017)</p>	<ul style="list-style-type: none"> • JMD No 36759/94/10-7-1995, No 103910/12-05-2006, E.T. Approval • No 143730/10-11-2009, Approval of noise protection measures. • No 146696/18-11-2009, Evaluation of environmental variations from the design alterations on positions of Kastro – Agios Konstantinos section of the PATHE motorway. • No EYPE 122399/1-4-2010 Construction and operation approval of Winter Maintenance stations. • No DIPA 145495/21.01.2015 E.T. Amendment about the Parking Areas, the future motorists service stations positions of the motorway and the lateral toll stations of Oinofyta. • Decision 6366/06.02.2017 Environmental terms renewal for Traganas – Arkitsa section of PATHE motorway and amendment about the Motorists Service Station of Atalanti.
5	Arkitsa – Agios Konstantinos	<p>The terms are in the process of being renewed. The Concessionaire has submitted ETAD Renewal Documentation for the PATHE section “Arkitsa – Ag. Konstantinos” with prot. No 41729/24-10-2016. The Renewal Documentation was promoted by EYDE/KSESP & D.E. to DIPA/YPEN with protocol No A/1/00b/08/24/11298, 26.10.2017. The documentation submission occurred within the</p>	<ul style="list-style-type: none"> • JMD No 39516/94/10-7-1995 & No 103908/12-05-2006, E.T. Approval • No 143730/10-11-2009, Approval of noise protection measures. • Ministerial Decision 145538/21.01.2015 E.T. Approval Arkitsa MSS. • No 146696/18-11-2009, Evaluation of environmental variations from the design alterations on positions of Kastro – Agios Konstantinos section of the PATHE motorway. • No EYPE 195241/12-01-2011 Atmospheric pollution and meteorological data stations on the Motorway approval.

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		period provided for in paragraph 4 of article 5 of Law 4014/2011, thereby the existing ETAD validity continues.	<ul style="list-style-type: none"> • MD 61030/1796/17-09-2018 Environmental terms renewal for the Metamorfosi – Yliki, Yliki – Kastro, Kastro –Tragana and Arkitsa –Ag. Konstantinos sections of the PATHE motorway.
6	Agios Konstantinos – Kamena Vourla	The terms are in the process of being renewed. The Concessionaire has submitted ETAD Renewal Documentation for the PATHE section “Ag. Konstantinos – K. Vourla” with prot. No 28107/24.10.2012. The documentation submission occurred within the period provided for in paragraph 4 of article 5 of Law 4014/2011, thereby the existing ETAD validity continues.	<ul style="list-style-type: none"> • JMD No 85676/30-07-2002, E.T. Approval • No 143730/10-11-2009, Approval of noise protection measures. • No EYPE 122399/1-4-2010 Construction and operation approval of Winter Maintenance stations.
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.	<ul style="list-style-type: none"> • JMD No 67031/19-10-1998, E.T. Approval • No 143730/10-11-2009, Approval of noise protection measures.

4.1.2 CONNECTING BRANCH OF PATHE: CHALKIDA – SCHIMATARI

S/N	Section	E.T. Validity	Authorizations issued
7	Chalkida – Schimatari	The section ETAD is valid until 01.04.2024 (Decision DIPA 171818/01-04-2014)	<ul style="list-style-type: none"> • JMD 106530/15-03-2000: Schimatari – Chalkida section improvement • JMD 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)

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)	<ul style="list-style-type: none"> • JMD 142128/25-07-2005 E.T. Approval • MD ETA 166142/13-02-2013 amendment 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.” • MD 147996/14-04-2015: Approval of Environmental Terms (ETA) 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 Amendment 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). • Decision 149145/19.11.2015 G.S.P.P./YPEN: extension of validity period. • MD ETA 8568/17-02-2017 “Amendment as to the environmental authorization of the final design of Antirrio I/C and the lateral toll stations of Gavrolimni I/C and Mesolongi 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). • Decision 23650/15.05.2017 G.S.P.P “Amendment for the environmental authorization of Evinochori MSS.” • Decision 1594/19-01-2018 E.T. amendment as to the alterations of the final design. • Decision 100769/05-02-2016: TEPEM Mesolongi and Filippiada MCC

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			<ul style="list-style-type: none"> 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
2	Agrinio Bypass	<p>The section ETAD is valid until 01-02-2027 [Decision G.S.P.P. DIPA No 5559 (Re: 153045/2015)]</p>	<ul style="list-style-type: none"> JMD 84982/96/11.04.1997 Approval of Environmental Terms 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” JMD 105889/08.07.2008 Extension of validity of JMD 84982/96/11.04.1997. JMD 144713/23.09.2009: E.T. Amendment Decision 100391/20.01.2016 E.T. Amendment Decision No 5559/ 01.02.2017 (Re. 153045/2015) G.S.P.P./YPEN: extension of validity period.
3	North Agrinio Bypass End (Kouvaras) – South Arta Bypass End (Kompoti)	<p>The section ETAD is valid until 02-03-2026 (Decision G.S.P.P. DIPA 11198/03.03.2016)</p>	<ul style="list-style-type: none"> JMD 141564/25-07-2005 E.T. Approval JMD 167980/30.04.2013: E.T. Amendment Decision of DG for Dec. EYPE 174140/ 28.07.2014: E.T. Amendment JMD 150063/25.06.2015: “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». Decision 11198/03.03.2016 G.S.P.P./YPEN: E.T. Amendment 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 Decision 9443/22.02.2017 of DEPUTY MINISTER of ENVIRONMENT AND ENERGY: E.T. Amendment for the environmental authorization <ul style="list-style-type: none"> ➤ of Amvrakia MSS (K.P. 81+150 to 81+435), ➤ of Amfilochia MSS and MCC (K.P. 95+300 to 95+762), ➤ of Frontal Toll Stations: of Menidi (K.P. 111+300) and Terovo (K.P.

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			<p>174+100),</p> <ul style="list-style-type: none"> ➤ of lateral toll station Gorgomylos I/C (K.P. 163+110), ➤ of the aggregate quarry exploitation of total surface area 33,938 m2 at position TOUMPANOS of Amfilochia (K.P. 96+000), ➤ of Episkopiko MSS and MCC (K.P. 189+378 to 189+669) ➤ 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. <ul style="list-style-type: none"> • Decision 1592/19-01-2018 E.T. amendment as to the alterations of the final design • Decision 100769/05-02-2016: TEPEM Mesolongi (and Filippiada) MCC
4	Arta Bypass	<p>The section ETAD is valid until 23-09-2024 (Decision G.S.P.P. DIPA 175041/23.09.2014)</p>	<ul style="list-style-type: none"> • JMD 120756/96/03.06.1997, 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. • JMD 132550/31.07.2003, Amendment 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.” • JMD 137938/31.12.2003, Amendment 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.”

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			<ul style="list-style-type: none"> • Decision of D.G. for the Environment of the YPEKA (No 175041/ 23.09.2014) Amendment and renewal - extension 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.) • Decision 141631/30-06-2009: Amendment of original ETAD as to the design of the Arta I/C
5	North Arta Bypass End (Filippiada) - Ioannina (Eleousa)	The section ETAD is valid until 02-03-2026 (Decision G.S.P.P. DIPA 11198/03.03.2016)	<ul style="list-style-type: none"> • JMD 141564/25-07-2005 E.T. Approval • JMD 167980/30.04.2013: E.T. Amendment • Decision of DG for Dec. EYPE 174140/ 28.07.2014: E.T. Amendment • JMD 150063/25.06.2015: “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». • Decision 11198/03.03.2016 G.S.P.P./YPEN: E.T. Amendment 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 • Decision 9443/22.02.2017 of DEPUTY MINISTER of ENVIRONMENT AND ENERGY: E.T. Amendment for the environmental authorization <ul style="list-style-type: none"> ➤ of Amfilochia MSS and MCC (K.P. 95+300 to 95+762), ➤ of Frontal Toll Stations: of Menidi (K.P. 111+300) and Terovo (K.P. 174+100), ➤ of lateral toll station Gorgomylos I/C (K.P. 163+110), ➤ of the aggregate quarry exploitation of total surface area 33,938 m2 at

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			<p style="text-align: right;">position TOUMPANOS of Amfilochia (K.P. 96+000),</p> <ul style="list-style-type: none"> ➤ of Episkopiko MSS and MCC (K.P. 189+378 to 189+669) ➤ 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. <ul style="list-style-type: none"> • Decision 1592/19-01-2018 E.T. amendment as to the alterations of the final design • Decision 100769/05-02-2016: TEPEM Mesolongi and Filippiada MCC • Decision 39059/05.10.2017: TEPEM Filippiada MSS
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4.2 Submissions

1st semester of 2018

For PATHE Motorway, the reference period (1st semester of 2018), the Concessionaire submitted the following environmental studies:

- Documentation of ETAD Amendment for section Ag. Konstantinos – K. Vourla for the environmental authorization of the proposed Fire-fighting Building at Knimida area (No 43972/16-02-2018)

For IONIA ODOS Motorway, the reference period (1st semester of 2018), the Concessionaire submitted the following environmental studies:

- TEPEM for the environmental authorization of the proposed Winter Maintenance station at the Terovo interchange (No 43905/5-2-2018)

2nd semester of 2018

For PATHE Motorway, the reference period (2nd semester of 2018), the Concessionaire submitted the following environmental studies:

- Documentation of JMD ETA 126119/08-02-2007 (Metamorfoosi – Yliki Section) and JMD ETA 36759/10-07-1995 (Tragana – Arkitsa Section) amendment, as have been amended and in force for the environmental authorization of the replacement of Three (3) Bridges project at Ritsona I/C, Thebes I/C and Atalanti I/C. (No 7213/04-10-2018)

For IONIA ODOS Motorway, the reference period (2nd semester of 2018), the Concessionaire submitted the following environmental studies:

- Documentation of JMD ETA 84982/11-04-1997 amendment, as have been amended and in force for the required flood protection projects and interventions along the Ionia Odos Motorway, Section: Agrinio Bypass (Kefalovryso Chrysovergi) (No EYDE/KSESP No 9468/20-12-2018)
- Documentation of JMD ETA 142128/25-07-2005 and MD 147996/14-04-2015 amendment, as have been amended and in force for the required flood protection projects and interventions along the Ionia Odos Motorway, Section Antirrio – Kefalovryso (South Agrinio Bypass End) (No 59065/29-10-2018)
- Documentation of JMD ETA 141564/25-07-2005 amendment, as have been amended and in force for the required flood protection projects and interventions along the Ionia Odos Motorway, Section: North Agrinio Bypass End (Kouvaras) – South Arta Bypass End (Kompoti) and North Arta Bypass End (Filippiada) - Ioannina (Eleousa) (No 59066/29-10-2018)

4.3 Outstanding issues

4.3.1 PATHE Motorway

The environmental studies that have been submitted 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"> The Concessionaire with the No 37074/03-10-2014 has submitted documentation of amendment for the relocation of Varympompi Winter Maintenance station. 	Approval of DIPA is pending.
2	Tragana – Arkitsa	Lateral toll stations to Atalanti I/C and Livanates I/C.	<ul style="list-style-type: none"> The Concessionaire has submitted an EIA (No 39707/22-6-15). 	Approval of DIPA is pending.
3	Agios Konstantinos – Kamena Vourla	<p>Renewal of the E.T. of the section.</p> <p>ETAD amendment for the authorization of Fire-fighting Building at Knimida</p>	<ul style="list-style-type: none"> The Concessionaire has submitted ETAD Renewal Documentation for the PATHE section “Ag. Konstantinos – K. Vourla” with prot. No 28107/24.10.2012. With the No: 32929/18-02-2014, ETA amendment documentation have been submitted to EYDE/KSESP (ex EYDE/EPA&IO) for the landslide projects at Ag. Konstantinos (Prot. No EYDE 21864/18-2-2014) Documentation of ETAD Amendment for section Ag. Konstantinos – K. Vourla for the environmental authorization of the proposed Fire-fighting Building at Knimida area (No 43972/16-02-2018) 	Approval of DIPA is pending.
8	Kamena Vourla – Midenitsa (Skarfeia)	Renewal of the E.T. of the section.	<ul style="list-style-type: none"> A study has been developed and submitted to EYDE/KSESP & D.E. (No 30440/17-06-2013) for the section E.T. renewal. 	Approval of DIPA is pending.

4.3.2 IONIA ODOS Motorway

The environmental studies that have been submitted 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">TEPEM for the environmental authorization of the proposed Winter Maintenance station at the Terovo interchange has been submitted (No 43905/5-2-2018).	Approval of DIPA is pending.

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

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 – Kefalovryso (South Agrinio Bypass End)	<ul style="list-style-type: none"> GR2310001 “Acheloos Delta, Mesolongi – Aitoliko Lagoon, estuary of River Evinos, Echinades Islands, Petalas Island” GR2310005 “Mount Varasova” GR2310010 “Mount Arakynthos and the Strait of Kleisoura”
2	Agrinio Bypass	<ul style="list-style-type: none"> GR2310008 “Ozeros Lake” GR2310001 “Acheloos Delta, Mesolongi – Aitoliko Lagoon, estuary of River Evinos, Echinades Islands, Petalas Island”
3	North Agrinio Bypass End (Kouvaras) – South Arta Bypass End (Kompoti)	<ul style="list-style-type: none"> GR2310007 “Amvrakia Lake area”, GR2110004 “Amvrakikos Gulf, Katafourko Lagoon and Korakonisia” AB3090025 «Louros River»
4	Arta Bypass	<ul style="list-style-type: none"> Rivers Arachthos and Louros
5	North Arta Bypass End (Filippiada) - Ioannina (Eleousa)	<ul style="list-style-type: none"> GR2310007 “Amvrakia Lake area”, GR2110004 “Amvrakikos Gulf, Katafourko Lagoon and Korakonisia” AB3090025 «Louros River»

6. ATMOSPHERIC POLLUTION

6.1 PATHE Motorway

According to the Environmental Terms of the Project, 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).

For the year 2018, a complete air pollution monitoring program was implemented by the above three air pollution stations, which are operating on a 24-hour basis. The air pollution report was submitted to the competent Service (No IC.P9.CC.45663/11-2-2019 NEA ODOS S.A.), a similar report will also be prepared and submitted for 2019.

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, NO₂, SO₂, O₃, PM₁₀, PM_{2,5}, C₆H₆ (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 (NO₂, CO, O₃, SO₂, Benzene, suspended particles PM₁₀ and PM_{2,5}) are calculated and stored.

For 2018, the measured pollutant records were as follows:

Suspended Particles PM₁₀

The Limit as of 01/01/2005 for PM₁₀ particles is 50µg/m³ on average daily value and **should not be exceeded more than 35 times per year**. Also the average annual value **should not exceed 40µg/m³**.

Number of exceedances of PM₁₀ daily mean values over 50µg/m³

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

The value (50µg/m³) was not exceeded > 35 times per year

The average annual value for 2018 was:

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

The value (40µg/m³) was not exceeded at any station.

Suspended Particles PM_{2.5}

For suspended particles PM_{2.5}, **the limit of average annual value as of 01/01/2015 is 25 µg/m³**.

The average annual value for 2018 was:

Average annual value in µg/m ³	Varympompi	Schimatari	Arkitsa
	9.59	10.61	9.54

The value (25µg/m³) was not exceeded at any station.

NO₂

The Limit as of 01/01/2010 is 200µg/m³ on average hourly value and should not be exceeded more than 18 times per year. Also the average annual value should not exceed 40µg/m³.

Number of exceedances of average hourly value over 200µg/m³

Number of exceedances of average hourly value in µg/m ³	Varympompi	Schimatari	Arkitsa
	0	0	0

The value (200µg/m³) was not exceeded > 18 times per year

The average annual value for 2018 was:

Average annual value in µg/m ³	Varympompi	Schimatari	Arkitsa
	38.35	18.70	26.39

The average annual value (40µg/m³) was not exceeded at any station.

CO

The Limit as of 01/01/2005 is 10 mg/m³ (maximum daily eight-hour value).

Number of exceedances over 10 mg/m³

Number of exceedances of maximum daily eight-hour value in mg/m ³	Varympompi	Schimatari	Arkitsa
	0	0	0

The maximum daily eight-hour value (10mg/m³) was not exceeded at any station.

The average annual value for 2018 was:

Average annual value in mg/m ³	Varympompi	Schimatari	Arkitsa
	0.41	0.25	0.22

SO₂

The Limit as of 01/01/2010 is 350µg/m³ as average hourly value and should not be exceeded more than 24 times per year. Also, the average daily value is 125 µg/m³, which should not be exceeded more than 3 times per year.



Number of exceedances of average hourly value over 350µg/m³

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

The maximum daily eight-hour value (350µg/m³) was not exceeded more than 24 times per year at any station.

The average daily value for 2018 was:

Average daily value in µg/m ³	Varympompi	Schimatari	Arkitsa
	5.1	2.83	3.07

The average daily value (125µg/m³) was not exceeded more than 24 times per year at any station.

O₃

The objective as of 01/01/2010 is 120µg/m³ 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/m³

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

The maximum daily eight-hour value (120µg/m³) was not exceeded and was not exceeded more than 25 times per year at any station.

The average annual value for 2018 was:

Average annual value in µg/m ³	Varympompi	Schimatari	Arkitsa
	22.3	45.03	41.10

Benzene

The limit as of 01/01/2010 is 5µg/m³ on average annual value.

The average annual value for 2018 was:

Average annual value in µg/m ³	Varympompi	Schimatari	Arkitsa
	0.51	0.65	0.20

The average annual value (5µg/m³) 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 PM₁₀

The Limit as of 01/01/2005 for PM₁₀ particles is 50µg/m³ on average daily value and **should not be exceeded more than 35 times per year**. Also the average annual value **should not exceed 40µg/m³**.

Number of exceedances of PM₁₀ daily mean values over 50µg/m³

Number of exceedances	Evinochori	Filippiada	Episkopiko
Average daily value in µg/m ³	0	0	0

The value (50µg/m³) was not exceeded > 35 times per year

The average annual value for 2018 was:

Average annual value in µg/m ³	Evinochori	Filippiada	Episkopiko
	10.00	15.28	6.27

The value (40µg/m³) was not exceeded at any station.

Suspended Particles PM_{2.5}

For suspended particles PM_{2.5}, **the limit of average annual value as of 01/01/2015 is 25 µg/m³**.

The average annual value for 2018 was:

Average annual value in µg/m ³	Evinochori	Filippiada	Episkopiko
	7.13	10.62	4.42

The value (25µg/m³) was not exceeded at any station.

NO₂

The Limit as of 01/01/2010 is 200µg/m³ on average hourly value and should not be exceeded more than 18 times per year. Also the average annual value should not exceed 40µg/m³.

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

Number of exceedances of average hourly value in $\mu\text{g}/\text{m}^3$	Evinochori	Filippiada	Episkopiko
	0	0	0

The value ($200\mu\text{g}/\text{m}^3$) was not exceeded > 18 times per year

The average annual value for 2018 was:

Average annual value in $\mu\text{g}/\text{m}^3$	Evinochori	Filippiada	Episkopiko
	3.74	13.31	5.21

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 mg/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 2018 was:

Average annual value in $\mu\text{g}/\text{m}^3$	Evinochori	Filippiada	Episkopiko
	0.02	0.19	0.11

SO₂

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 mg/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 2018 was:

Average daily value in $\mu\text{g}/\text{m}^3$	Evinochori	Filippiada	Episkopiko
	0.97	1.55	1.37

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 2018 was:

Average annual value in $\mu\text{g}/\text{m}^3$	Evinochori	Filippiada	Episkopiko
	0.18	0.14	0.31

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

7. NOISE AND TRAFFIC VOLUME

The year 2018, the 24-hour traffic noise measurements of the monitoring program obtained are:

- **52 24-hour** traffic noise measurements at the PATHE Motorway, **Metamorfosi – Longos section**
- **15 24-hour** traffic noise measurements at the PATHE Motorway, **Longos – 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:

- PATHE motorway, **Metamorfosi – Longos section**, of **52 measurements** in total, **5 24-hour** traffic noise measurements were conducted after complains
- PATHE motorway, **Longos – Scarfeia section**, of **15 measurements** in total, **4 24-hour** traffic noise measurements were conducted after complains
- At the section of Ionia Odos, in the total of **54 measurements**, **4 measurements–complains** are also included, which were integrated in the 54 measurements for reasons of uniform numbering, since it is the first year of operation of the motorway.

A total of 124 24-hour traffic noise measurements were obtained, and the result assessment of the 24-hour traffic noise measurements for 2018 shows that:

A. “METAMORFOSI – LONGOS” 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 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.



3. At positions P3, P6, 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.
4. At positions P11, P12, P14, P46, P47, P48 there are no exceedances and the receivers are within statutory settlement limits.
5. At positions P27, P35, P45, P49, P53, there are no exceedance and the receivers are outside statutory settlement limits.
6. At positions P21, P23 and P24, there are exceedances in receivers within the settlement limit and behind a 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.
7. At position 2, 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.
8. 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.
9. With regard to the measurements conducted to cover old and new complaints in this section, the following are noted:
 - Regarding Skylakos' complaint for Metamorphosi 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 DMEO's D9 liability, the traffic noise environment of the area will improve.
 - Regarding Pavlopoulos' complaint at Oinofyta Settlement, 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 indexes have been exceeded. Since last year recording had also revealed exceedance of the Lnight index, it was therefore proposed that an EAMYE study would be drawn up.
- Regarding the complaints by Basioulis and Avouris at Kifisia, no evaluation index has been exceeded.
- And finally, the Kaltsa's complaint investigation shows significant exceedances in all indicators, but an EAMYE with document YPEN/DKAPA/15969/656 21/03/2018 No has already been prepared and approved by the Department of Noise and Radiation of Directorate of KAPA.

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. "LONGOS – SKARFEIA" SECTION

In this section, a total of 6 exceedances were presented. More specifically:

1. Position 61, for the first time has showed a marginal exceedance in the L_{night} index, while no other exceedance was observed in all previous years. It is recommended the measurement to be repeated and that all necessary protect measures be taken in case of continued exceedance.
2. At position 63, only the L_{night} index was exceeded at 15 Macedonias Street. It is recommended the measurement to be repeated and that all necessary protect measures be taken in case of continued exceedance.
3. At position 65, only the L_{night} indicator was marginally exceeded. It is recommended the measurement to be repeated and that all necessary protect measures be taken in case of continued exceedance.
4. In any case, it is concluded that in order to draw safe conclusions the whole wider area needs to be monitored further, since between the positions where there are limit exceedances there are also positions with no violation of the established limits.
5. At Position 66 (Komma's complaint), the limits have been exceeded for a second consecutive year and it was therefore proposed that an EAMYE study would be drawn up.
6. Finally, there are exceedances of all indexes 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 all 54 traffic noise measurements performed, there is NO exceedance of an index. 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 2018, 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/52652/1349/08-10-2018.

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 indexes, 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, 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 for approval.

It is noted that the traffic volume is monitored daily at the section from Metamorphosi to Scarfeia of PATHE motorway, at the transit level at all toll stations (Afidnes, Kapandriti, Malakasa, Oinofyta, Thebes and Tragana), and are reported in monthly reports. For 2018, the Annual Average Daily Traffic was calculated at 22,511 transits in both directions at the Metamorfosi – Skarfeia section of PATHE.

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 2017, 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 2018 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.

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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 ODOΣ S.A. was registered in the Electronic Waste Registry (Reg. No 3959), 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 quality management system ISO 14001:2004. 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 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 2018 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 disposal of the polluted adsorbents and the hazardous waste produced by such an incident shall be done in accordance with the existing legislation to appropriately authorized administrators. The Concessionaire has established cooperation with appropriately authorized decontamination, transfer and management of hazardous waste company for the timely addressing of incidents on the motorway.

During the first semester of 2018, the following actions were taken by the Concessionaire in a diesel tanker rollover event in Arta:

- Immediate on-site environmental inspection and laboratory testing by specialist scientists
- Diesel collector leakage using absorbent materials and collaboration with a qualified partner
- Restoration of slope with pure plant material
- Appropriate disposal of polluted materials through a qualified partner
- Relevant information provision to the Region concerned on all actions
- Re-investigation and laboratory tests to confirm that no pollution load exists.

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 Mesolongi, 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 ENVIROMENTAL 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 previous year (2018), the 1st semi-annual Report of Environmental Monitoring (1st semester of 2018) and the Annual Environmental Report 2017 were prepared and submitted (No: 44458/12.04.2018 NEA ODOS S.A.) of the Concession Project under study. The 2nd semi-annual report of the 2018, as already mentioned, has been consolidated and included in this annual Environmental Management report.

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 2018, 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.

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 6-7/09/2018, 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). Following the inspection, the independent body recommended the continuance of the Certification 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.

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>



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