


**SEMI-ANNUAL REPORT FOR THE IMPLEMENTATION
OF THE ENVIRONMENTAL TERMS DURING OPERATION AND MAINTENANCE OF PATHE
MOTORWAY, SECTION “SKARFEIA – RACHES” AND
CENTRAL GREECE MOTORWAY (E65), SECTION “XYNIADA – TRIKALA”**

**PROJECT: “DESIGN - CONSTRUCTION - FINANCING - OPERATION - MAINTENANCE AND
EXPLOITATION OF THE PROJECT
“CENTRAL GREECE MOTORWAY (E65)”**



Date	31.07.2019
Created by:	Concessionaire 

**REFERENCE PERIOD
A' SEMESTER 2019**

FOR THE ENVIRONMENTAL MANAGEMENT AND IMPLEMENTATION
OF ENVIRONMENTAL TERMS DURING OPERATION AND MAINTENANCE

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FOR THE ENVIRONMENTAL MANAGEMENT AND IMPLEMENTATION
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1. INTRODUCTION

This Environmental Management Report outlines the company's, KENTRIKI ODOS S.A., Environmental Management Processes during the operation and maintenance of the Concession Project for the first semester of 2019 (01.01.2019 to 30.06.2019).



The company ODOS KENTRIKIS ELLADOS S.A. has implemented a program to monitor the environmental impact, in accordance with the Concession Contract and the approved Environmental Terms (E.T.) of the project. The implementation of the program is done in such a way that it has multiple beneficial nature to the man-made and the natural environment on the areas of influence, as well as to serve in the best possible way the users at the section **Skarfeia – Raches (57 km) of the PATHE – E65 Motorway** and the section **Xyniada – Trikala (79.5 km) of the E65 Motorway**.



The monitoring of environmental and social parameters is done in such a way that enables early recognition of any 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 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 a

similar Environment.

At the PATHE motorway, section “Skarfeia – Raches”, and at the E65 motorway, section “Xyniada – Trikala”, a comprehensive environmental monitoring program is implemented, through which all Environmental Terms are met, as detailed below.

2. PROJECT DESCRIPTION

2.1 PATHE E65 Motorway

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State : Hellenic Republic

Concessionaire : ODOS KENTRIKIS ELLADAS S.A.

Motorway : PATHE

Section : Skarfeia – Raches

The PATHE motorway at the section Skarfeia – Raches includes:

1. 12 (twelve) Junctions

- Skarfeia semi-junction near K.P. 185+608
- Molos I/C near K.P. 190+456
- Thermopyles semi-junction near K.P. 198+374
- Mpralos I/C (Thermopyles) near K.P. 203+065
- E65 semi-junction near K.P. 207+234
- Anthili semi-junction near K.P. 209+984
- Roditsa I/C near K.P. 212+575
- Ag. Paraskevi I/C near K.P. 217+400
- Ag. Marina I/C near K.P. 223+320
- Stylida – Karavomylos I/C near K.P. 231+868
- Raches semi-junction near K.P. 241+105



2. 2 (two) Frontal & 8 (eight) Lateral Toll Stations

i. Frontal

- Agia Triada on K.P. 194+958
- Mavromantila on K.P. 220+077

ii. Lateral

- 2 on Molos I/C on K.P. 190+456
- 2 on Thermopyles I/C on K.P. 203+000
- 2 on Ag. Marina I/C on K.P. 223+320
- 2 on Karavomylos I/C on K.P. 231+868



3. 6 (six) Temporary Parking Areas

- K.P. 188+200 to Lamia
- K.P. 188+210 to Athens
- K.P. 221+700 to Lamia
- K.P. 221+700 to Athens
- K.P. 239+250 to Lamia

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- K.P. 239+250 to Athens

4. 6 (six) Tunnels

- K.P. 225+837 to K.P. 226+287, Bilaterally
- K.P.227+490 to K.P. 228+250 Bilaterally
- K.P. 228.433 to K.P. 229+000 (to Lamia)
- K.P. 228+710 to K.P. 229+000 (to Thessaloniki)

5. 3 Winter Maintenance Stations (SCS)

- Agia Triada SCS on K.P. 194+958
- Agia Marina SCS on K.P. 223+320
- Stylida SCS on K.P. 231+868

The sections of the Concession Contract Project are divided in five (5) Geographical Units (GU).

S/N	SECTION	Km
1	Skarfeia – Thermopyles	17.32
2	Thermopyles – Spercheios (except the bridge under construction by ERGOSE)	8.50
3	Spercheios - Ag. Paraskevi I/C	3.50
4	Ag. Paraskevi I/C – Ag. Marina I/C	8.50
5	Ag. Marina – Raches	19.20

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2.2 Central Greece Motorway (E65)

The Central Greece Motorway, Xyniada – Trikala Section includes:

1. 8 Junctions

- Xyniada I/C near K.P. 31+842
- Smokovo semi-junction near K.P. 48+367
- Anavra I/C near K.P. 60+875
- Sofades I/C near K.P. 72+345
- Karditsa I/C near K.P. 80+850
- Proastio I/C near K.P. 97+272
- Loggos semi-junction near K.P. 106+431
- Trikala I/C near K.P. 111+387



2. 2 Frontal and 3 Lateral Toll Stations

i. Frontal (2):

- Sofades K.P. 66+163
- Trikala K.P. 105+553

ii. Lateral (3):

- 2 on Anavra I/C on K.P. 60+875
- 2 on Proastio I/C on K.P. 97+272
- 2 on Trikala I/C on K.P. 111+387 (not in operation)



3. 2 Motorists Service Stations (MSS)

- Xyniada MSS on K.P. 43+364 bilaterally (expected)
- Sofades MSS on K.P. 70+330 bilaterally

4. 8 Parking Areas

- K.P. 104+950 to Lamia
- K.P. 101+800 to Egnatia
- K.P. 86+500 to Lamia
- K.P. 86+500 to Egnatia
- K.P. 52+100 to Lamia
- K.P. 52+100 to Egnatia



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- K.P. 34+750 to Lamia
- K.P. 34+750 to Egnatia

5. One Maintenance Control Center (MCC)

- Sofades MCC on K.P. 70+465



6. 3 Winter Maintenance Stations

- Xyniada SCS (same position as MCC/MSS K.P. 43+364) (expected)
- Sofades SCS (same position as MCC/MSS) on K.P. 70+330
- Trikala SCS (K.P. 105+500) (expected)

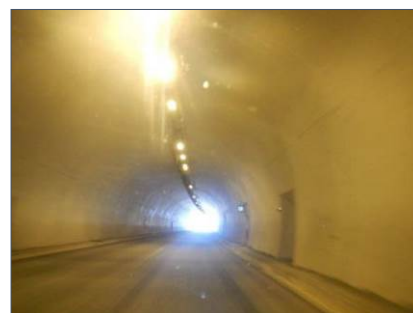


7. 2 Tunnels

- Tunnel T3A of 113 m length on K.P. 45+600
- Tunnel T3 of 387 m length on K.P. 46+000

8. 9 Bridges > 50 m

- Bridge of aprox. 70 m length on K.P. 48+256
- Bridge of aprox. 160 m length on K.P. 49+078
- Bridge of aprox. 295 m length on K.P. 51+103
- Bridge of aprox. 150 m length on K.P. 54+073
- Bridge of aprox. 150 m length on K.P. 55+313
- Bridge of aprox. 51.5 m length on K.P. 70+420
- Bridge of aprox. 92 m length on K.P. 89+919 (Kalentzis River)
- Bridge of aprox. 587 m length on K.P. 103+675 (Pineios River)
- Bridge of aprox. 74 m length on K.P. 110+509 (Trikala – Larisa highway)



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.

Concessionaire: ODOS KENTRIKIS ELLADAS S.A.

Motorway: PATHE (Skarfeia – Raches & E-65 (Ksiniada – Trikala)

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4. ENVIRONMENTAL AUTHORIZATION

4.1 JMD ETA and their validity – Present Situation

4.1.1 PATHE: Skarfeia – Raches Section

S/N	Section	E.T. Validity	Authorizations issued
1	Skarfeia – Lamia Subsection Skarfeia - Thermopyles	The section ETAD is valid until 27.12.2028 (Decision G.S.P.P. DIPA 96975/4083/27.12.2018)	<ul style="list-style-type: none"> • JMD No 146113/12.07.2005, E.T. Approval • JMD No 129696/06.06.2007. Amendment of JMD No ref. 146113/12.7.2005. • EYPE 122881/08.03.2010, Environmental authorization for Ag. Triada toll station and Molos I/C. • G.S.P.P. DIPA 96975/4083/27.12.2018. Amendment and renewal of E.T. • G.S.P.P. DIPA/85272/3419/27.11.2018: E.T. amendment for the construction and the operation of 6 Parking Areas
2	Thermopyles I/C – Nea Koiti Spercheiou	The section ETAD is valid until 31/12/2025 (Decision G.S.P.P. DIPA 146836/05.03.2015)	<ul style="list-style-type: none"> • JMD No 131550/04.03.2003, E.T. Approval • EYPE 121668/08.02.2010 Environmental authorization for toll station on Thermopyles I/C position. • G.S.P.P./DIPA 146836/05.03.2015 Amendment and renewal of E.T.
3	Nea Koiti Spercheiou - Roditsa I/C	The section ETAD is valid until 14/09/2028 (Decision G.S.P.P. DIPA 60908/1786/14.09.2018)	<ul style="list-style-type: none"> • JMD No 146109/30.09.2005 E.T. Approval • G.S.P.P./DIPA 145496/21.01.2015. E.T. Amendment • G.S.P.P. DIPA 60908/1786/14.09.2018. E.T. Renewal
4	Lamia – Raches Subsection Roditsa I/C - Ag. Marina I/C	The section ETAD is valid until 14.03.2026 (Decision G.S.P.P. DIPA 13590/15.03.2016)	<ul style="list-style-type: none"> • JMD 130665/02.05.2003 E.T. Approval • JMD 195214/11.01.2011 amendment of the Decision No 130665/2.5.2003 E.T. Approval • G.S.P.P./DIPA 13590/15.03.2016 Renewal and Amendment of E.T. • G.S.P.P. DIPA/85272/3419/27.11.2018: E.T. amendment for the construction and the operation of 6 Parking Areas

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5	Total Stylida – Karavomylos Bypass	The section ETAD is valid until 31/12/2023. (Ministerial Decision No 172866/23.05.2014)	<ul style="list-style-type: none"> • JMD 100198/30.05.2006 E.T. Approval • EYPE 172866/23.05.2014 Amendment and renewal of E.T. • EYPE 121667/08.02.2010 Environmental authorization for toll station on Ag. Marina – Stylida I/C and Stylida – Karavomylos I/C positions. • G.S.P.P./DIPA 12757/10.03.2016 Amendment of E.T. • G.S.P.P. DIPA/85272/3419/27.11.2018: E.T. amendment for the construction and the operation of 6 Parking Areas
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4.1.2 E65: Xyniada – Trikala Section

The per-section validity period of the approved environmental terms for the Central Greece Motorway (E65) as well as the authorizations issued are presented in the following table:

S/N	Section	E.T. Validity	Authorizations issued
1	Lamia – Makrychori	<p>The section ETAD is valid until 31/12/2025.</p> <p>(Decision of Director-General for Environment of YPEN No 151991/16.12.2015).</p>	<ul style="list-style-type: none"> • JMD No JMD ETA 144504/18.11.2005, E.T. Approval • Decision of Director-General for Environment of YPEKA No 167266/01.04.2013. Modification of the section K.P. 0+000 - K.P. 14+500 (except the Lamia I/C). • Ministerial Decision 173471/27.06.2014. Modification of the sections K.P. 31+212 – K.P. 85+000 (except the section K.P. 47+313 – K.P. 51+483). • Ministerial Decision 147997/14.04.2015. Modification of the section K.P. 47+313 – K.P. 51+483. • Decision of Director-General for Environment of YPEN No 151991/16.12.2015. Extension of validity period. • Ministerial Decision 24355/13.05.2016. Environmental authorization for Lateral toll stations on Anavra I/C and Frontal toll stations on Sofades. • Ministerial Decision 61420/16.12.2016. Modification on the section K.P. 14+500 – K.P. 31+212 and Lamia I/C (K.P. 5+500). • Ministerial Decision 21166/22.05.2017. Amendment as regards the integration of the water exploitation project development authorization at Fthiotida and Karditsa regional units for the operational needs of the motorway. • Ministerial Decision 17095/04.04.2017. Amendment as regards the execution of the water exploitation projects (drilling for water supplies) at Fthiotida and Karditsa regional units for the operational needs of the motorway

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			<ul style="list-style-type: none"> • Decision of Director-General for the environmental policy of the YPEN No 22199/23-11-2017. Environmental authorization Xyniada MSS and Sofades MSS. • Decision of Director-General Decision of Director-General for the environmental policy of the YPEN No 52131/22.12.2017 Update of the final design of the section K.P. 31+212 – K.P. 85+000 • Decision of Director-General for the environmental policy of the YPEN No 5396/07-02-2017: Technical and Environmental Study (TEPEM) for the installation and the operation of a Traffic Management Center in the Sofades MCC near K.P. 69+700 of E65 • YPEN/DIPA/67165/2283-07-2019-Amendment of Environmental Terms of section Lamia – Makrychori of E-65 as regards the environmental licensing of the borrow pit at “Kalamaki” section of Agia Paraskevi, Municipality of Lamia.
2	Improvement of the connecting road of Lamia – Karditsa N.R. with Central Greece Motorway (E65) at Xyniada Junction	The ETAD is valid until 01/12/2025	<ul style="list-style-type: none"> • JMD 4644/212888/01-12-2015
3	Makrychori – Kalampaka	The section ETAD is valid until 31/12/2025 . (Decision of Director-General for Environment of YPEN No 151991/16.12.2015.)	<ul style="list-style-type: none"> • JMD ETA 145521/18.11.2005. E.T. Approval • Decision of Director-General for Environment of YPEKA No 203583/04.12.2012. As regards the construction of the C-C on K.P. 137+000. • Decision of Director-General for Environment of YPEKA No 172041/26.11.2013. Modification of the section K.P. 85+800 - K.P. 137+550 (except the sections K.P. 115+100 - K.P. 118+043 and K.P. 131+475 - K.P. 132+420). • Decision of Director-General for Environment of YPEN No 151991/16.12.2015. Extension of validity period.

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			<ul style="list-style-type: none"> • Decision of Director-General for the environmental policy No 52133/22.12.2017. Update of the final design. • G.S.P.P. DIPA 95851/4000/21.12.2018. Amendment of E.T. and authorization of Trikala MSS
4	Connecting road of Smokovo I/C		<ul style="list-style-type: none"> • JMD 103681/05-05-2006
5	Kalampaka – Egnatia	The section ETAD is valid until 21/05/2028 . (G.S.P.P. No 9728/21.05.2018)	<ul style="list-style-type: none"> • JMD 147014/18.11.2005. E.T. Approval • JMD 151991/16-12-2015 • G.S.P.P. No 9728/21.05.2018 E.T. Approval due to amended design

4.2

Submissions

For PATHE/E65 Motorway, the reference period (A' semester of 2019), the company did not submit studies on the Operation & Maintenance of the Concession Project.

The studies on the construction part are presented in the respective Environmental Reports during the construction period for the first half of 2019.

4.3

Outstanding issues

The environmental studies that have been submitted for the section Skarfeia – Raches 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	Total Styliida – Karavomylos Bypass	TEPEM for Winter Maintenance stations on Ag. Marina I/C	<ul style="list-style-type: none">• Submission No of Kentriki Odos S.A. 18754/26.11.2015 to the General Secretariat of Infrastructure/Directorate-General for Transport Infrastructure/Operation and Maintenance of Concession Projects.• Submission No Infrastructure/Directorate-General for Transport Infrastructure/Operation and Maintenance of Concession Projects LE/KE/01/08/10/4524/03.12.2015 to DIPA	Approval of DIPA is pending.
2	E65 - S1: Lamia – Makrychori Section, subsection k.p. 33+000 – k.p. 61+150	Submission of Environmental Impact Assessment for the amendment of JMD EP 144504 / 18-11-2005, as modified and applicable to the required flood protection projects along E-65	<ul style="list-style-type: none">• Protocol No 20801/29-10-2018 from Kentriki Odos to EYDE• Protocol No 985/31-10-2018 from EYDE to DIPA	Approval of DIPA is pending.
3	E65 - S2: Makrychori – Kalampaka Section, subsection k.p. 88+237 – k.p. 89+919.	Submission of Environmental Impact Assessment for the amendment of JMD EP 45521/18-11-2005, as modified and applicable to the required flood protection works along	<ul style="list-style-type: none">• Protocol No 20800/29-10-2018 from Kentriki Odos to EYDE• Protocol No 7986/31-10-2018 from EYDE to DIPA	Approval of DIPA is pending.

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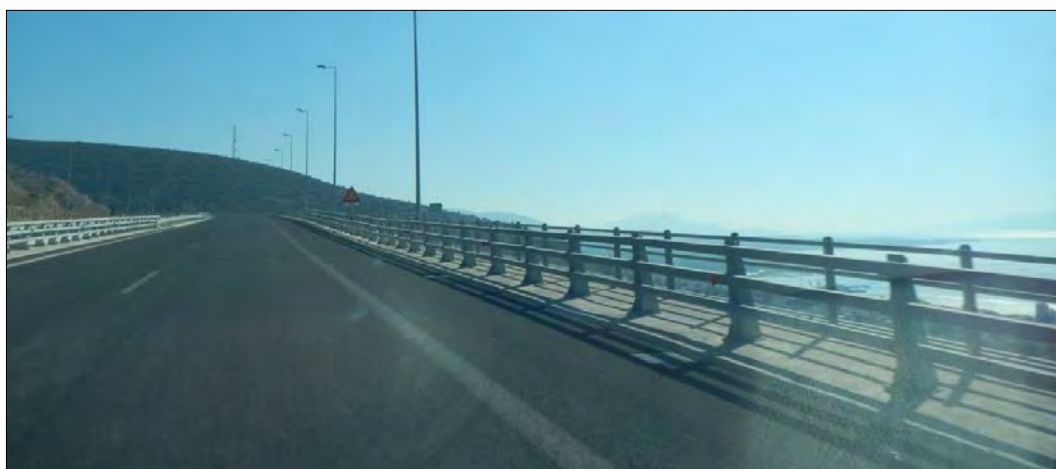
		Central Greece Motorway.		
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5. SENSITIVE AREAS OF THE PROJECT

The following table presents the natural areas under protection that the motorway passes through or is adjacent to.

S/N:	Section	Natura 2000 Area
1	Skarfeia – Thermopyles	<ul style="list-style-type: none"> Spercheios valley and estuary – Maliakos Bay (GR2440002)
2	Thermopyles – Spercheios (except the bridge under construction by ERGOSE)	<ul style="list-style-type: none"> Spercheios valley and estuary – Maliakos Bay (GR2440002) Lower Course and estuary of Spercheios River (GR2440005)
3	Spercheios - Ag. Paraskevi I/C	<ul style="list-style-type: none"> Spercheios valley and estuary – Maliakos Bay (GR2440002)
4	Ag. Paraskevi I/C – Ag. Marina I/C	<ul style="list-style-type: none"> Spercheios valley and estuary – Maliakos Bay (GR2440002) The karst springs of Ag. Paraskevi are located 250m away from the project, which are the main habitat of Pungitius Hellenicus, the rare and protected fish P.D.67/81. Sensitive environmental element of the area is the stork colony in the area between the settlements of Ag. Paraskevi and Megali Vrysi.



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6. ATMOSPHERIC POLLUTION

By the approved environmental terms, no program for air quality monitoring is provided for at the section of the PATHE – E65.

At the section Makrychori – Kalampaka of the E65 Motorway, the installation of a Measuring Station for Air Pollution is planned. The station is planned to be installed at the Sofades area. The findings of the permanent station will be presented in the annual report.

7. NOISE AND TRAFFIC VOLUME

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

- **9 24-hour** traffic noise measurements of the monitoring program at the PATHE Motorway, **Skarfeia – Raches Section**
- **7 24-hour** traffic noise measurements at the E65 Motorway, **Xyniada – Trikala Section**

A total of **16 24-hour** traffic noise measurements were obtained

The above measurements were carried out in accordance with the standards and the requirements of existing legislation. For the conduction of the measurements, special scientific equipment was used, which meets all the international standards and guidelines provided by the European and Greek legislation. For the year 2018, the monitoring program O.K.TH. (Road Traffic Noise) that has been submitted to the Directorate of KAPA/YPEN was approved with the YPEN/DKAPA/52656/1350/08-10-2018.



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.

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- 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 Noise, Vibration and Radiation department of the Directorate of KAPA/YPEN for approval.

Finally, it is noted that daily monitoring of the traffic volume is performed both on the PATHE motorway, “Skarfeia – Raches” Section, and the Central Greece motorway (E65), “Xyniada – Trikala” Section, at the transit level at the toll stations, and monthly reports are submitted. For 2018, the Annual Average Daily Traffic (AADT) calculation equals to 10,019 transits for both directions for the PATHE motorway, “Skarfeia – Raches” Section, while for the Central Greece motorway (E65), “Xyniada – Trikala” Section, the calculation equals to 1,980 transits for both directions.

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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 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.

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.



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Inspections are performed at the construction and maintenance work sites and the corresponding check list 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.

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).

The company responsible for the operation of PATHE motorway, "ODOS KENTRIKIS ELLADOS 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. Pursuant to DIPA No DIPA/ 37674/2016 (FEK

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2471/B/10.08.2016), PATHE motorway, Skarfeia – Raches Section, falls 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 ODOS KENTRIKIS ELLADOS 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.

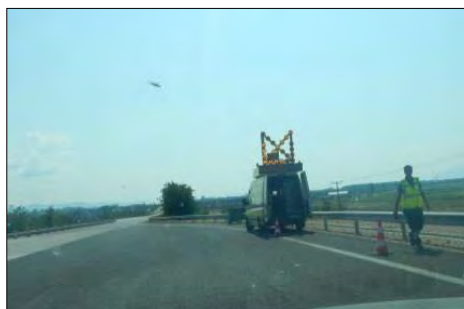
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For all previous years (before the operation of EWR), ODOS KENTRIKIS ELLADOS S.A. has prepared and submitted the relevant reports for waste producer pursuant to JMD 13588/725/06 and on the basis of Law 2939/2001 (and its amendment Law 3854/2010).

9. CLEANING AND MAINTENANCE

All cleaning and maintenance work taken place during 2018 and for which the compliance with the Environmental Terms was checked, are the following:

- Vegetation pruning and maintenance.
- Drain and culvert cleaning and maintenance.
- Advertising billboard removal.
- Sweeping.
- Parking Area cleaning and washing.
- Bins replacement.
- Metal rails replacement.
- Metal safety rails replacement.
- Fencing repairs after accidents.
- Rodent extermination and tunnel gutters inspection.



For all the above works, monthly inspections are performed that ensure compliance to the E.T., while in the relevant Reports, the check lists and corresponding tables per JMD are included.

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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.

It is noted that because of unfinished State contracting works at sections of PATHE E65, the pollutant retention tanks provided by JMD ETA 146113/12-07-2005 for the "Skarfeia – Thermopyles" section and by JMD 100198/30.05.2006, as amended by the decision G.S.P./YPEN/DIPA 12757/10.03.2016 for the "Total Styliada – Karavomylos Bypass" section are not yet constructed.

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Therefore, when the contract works are finished and delivered by the government, the Concessionaire shall implement plan to address the pollution, which will include the use of the said tanks in compliance with the E.T. and the contractual obligations.

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

Because of unfinished State contracting works in sections of PATHE E65, the pollutant retention tanks provided by E.T. D-18 of JMD ETA 146113/12-07-2005 “Approval of environmental terms for the construction and operation of the Skarfeia – Thermopyles subsection in Skarfeia – Lamia section of PATHE motorway” has not yet been completed.

Additionally, the polluted leaching temporary retention tanks are not constructed at the “Total Stylida – Karavomylos Bypass” section, which are required to be constructed by the E.T. d-13 of JMD 100198/30.05.2006, as amended by the decision G.S.P.P./YPEN/DIPA 12757/10.03.2016.

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 previous year (2018), the 1st semi-annual Report of Environmental Monitoring 2018 and the Annual Environmental Report 2018 of the Concession Project under study were prepared and submitted. The 2nd semi-annual report of 2018 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 managers, 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.

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16. INSPECTIONS BY ENTITIES – FINES

For the reference period (A' semester 2019), no environmental deterioration problems have been identified caused by the operation and maintenance of the motorway, and no fines have been imposed on the company responsible for the operation.

17. CERTIFICATIONS

ODOS KENTRIKIS ELLADOS 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, ODOS KENTRIKIS ELLADOS 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, ODOS KENTRIKIS ELLADOS S.A. is certified according to the following International Standards:

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

On 5-6/09/2018, the planned annual inspection was carried out by the independent certification body Bureau Veritas on all activities of ODOS KENTRIKIS ELLADOS 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.



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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

ODOS KENTRIKIS ELLADOS S.A. 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 the company 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.kentrikiodos.gr>.

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