


**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	15.07.2021
Created by:	Concessionaire 

**REFERENCE PERIOD
A' SEMESTER 2021**

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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 2021 (01.01.2021 to 31.12.2021).



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

State : Hellenic Republic

Concessionaire : ODOS KENTRIKIS ELLADAS S.A.

Motorway : PATHE

Section : Skarfeia – Raches

1. 12 (twelve) Junctions

The PATHE motorway at the section Skarfeia – Raches includes:

- Skarfeia semi-I/C near K.P. 185+500
- Molos semi-I/C near K.P. 190+500
- Thermopyles semi-I/C near K.P. 198+500
- Mpralos (Thermopiles) I/C near K.P. 203+000
- E65 semi-I/C near K.P. 207+000
- Anthili semi-I/C near 210+000
- Roditsa I/C near K.P. 212+500
- Ag. Paraskevi I/C near K.P. 217+500
- Ag. Marina I/C near K.P. 223+500
- Stylida – Karavomylos I/C near K.P. 232+000
- Karavomylos – Achinos I/C near K.P. 237+000
- Raches semi-I/C near K.P. 241+000



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

i. Frontal

- Agia Triada near K.P. 195+000
- Mavromantila near K.P. 220+000

ii. Lateral

- 2 on Molos I/C near K.P. 190+500
- 2 on Thermopyles I/C near K.P. 203+000
- 2 on Ag. Marina I/C on K.P. 223+500
- 2 on Karavomylos I/C near K.P. 232+000



3. 6 (six) Temporary Parking Areas

- Near K.P. 188+000 to Lamia
- Near K.P. 188+000 to Athens

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- Near K.P. 221+500 to Lamia
- Near K.P. 221+700 to Athens
- Near K.P. 239+250 to Lamia
- Near K.P. 239+250 to Athens

4. 6 (six) Tunnels

- Near K.P. 225+800 to K.P. 226+500, Bilaterally
- Near K.P. 227+500 to K.P. 228+500 Bilaterally
- Near K.P. 228+500 to K.P. 229+000 (to Lamia)
- Near K.P. 228+700 to K.P. 229+000 (to Thessaloniki)

5. 3 Winter Maintenance Stations (WMS)

- Agia Triada WMS near K.P. 195+000
- Agia Marina WMS near K.P. 223+500
- Stylida WMS near K.P. 232+000

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. 32+000
- Smokovo semi-I/C near K.P. 48+500
- Anavra I/C near K.P. 61+000
- Sofades I/C near K.P. 72+500
- Karditsa I/C near K.P. 81+000
- Proastio I/C near K.P. 97+500
- Loggos semi-I/C near K.P. 106+500
- Trikala I/C near K.P. 111+500



2. 2 Frontal and 3 Lateral Toll Stations

i. Frontal (2):

- Sofades near K.P. 66+000
- Trikala near K.P. 105+500

ii. Lateral (3):

- 2 on Anavra I/C near K.P. 61+000
- 2 on Proastio I/C near K.P. 97+500
- 2 on Trikala I/C near K.P. 111+500 (not in operation)



3. 2 Motorists Service Stations (MSS)

- Xyniada MSS near K.P. 43+500 bilaterally (not constructed)
- Sofades MSS near K.P. 70+500 bilaterally

4. 8 Parking Areas

- Near K.P. 105+000 to Lamia
- Near K.P. 102+000 to Egnatia
- Near K.P. 86+500 to Lamia
- Near K.P. 86+500 to Egnatia
- Near K.P. 52+000 to Lamia
- Near K.P. 52+000 to Egnatia



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- Near K.P. 35+000 to Lamia
- Near K.P. 35+000 to Egnatia

5. One Maintenance Control Center (MCC)

- Sofades MCC near K.P. 70+500



6. 3 Winter Maintenance Stations

- Xyniada WMS (same position as MCC/MSS near K.P. 43+500) (not constructed)
- Sofades WMS (same position as MCC/MSS) near K.P. 70+500
- Trikala WMS (near K.P. 105+500) (not constructed)



7. 2 Tunnels

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

8. 9 Bridges > 50 m

- Bridge of aprox. 70 m length near K.P. 48+500
- Bridge of aprox. 160 m length near K.P. 49+000
- Bridge of aprox. 295 m length near K.P. 51+000
- Bridge of aprox. 150 m length near K.P. 54+000
- Bridge of aprox. 150 m length near K.P. 55+500
- Bridge of aprox. 51.5 m length near K.P. 70+500
- Bridge of aprox. 92 m length near K.P. 90+000 (Kalentzis River)
- Bridge of aprox. 587 m length near K.P. 103+500 (Pineios River)
- Bridge of aprox. 74 m length near K.P. 110+500 (Trikala – Larisa highway)



3. SUPERVISORY SERVICES (PROJECT OWNERS)

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. Z. Karvounis.
- **Directorate D17, Directorate of Infrastructure Operation, Maintenance & Exploitation with Concession Contract**, 70 Panormou St., 115 23, Athens, Deputy Supervisor Mrs. S. Chouliara.

Concessionaire: ODOS KENTRIKIS ELLADAS S.A.

Motorway: PATHE (Skarfeia – Raches & E65 (Xyniada – 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.D.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/85272/3419/27.11.2018: E.T. amendment for the construction and the operation of 6 Parking Areas • G.S.P.P./DIPA 96975/4083/27.12.2018. Amendment and renewal of E.T. • G.S.P.P./DIPA 3048/162/05.08.2020. Compliance with JMD 1915/2018 requirements (B' 304).
2	Thermopyles – Nea Koiti Spercheiou	The section ETAD is valid until 31/12/2025 (Decision-G.D.P.P. DIPA 46836/05.03.2015)	<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. • G.S.P.P./DIPA 3048/162/05.08.2020. • Compliance with JMD 1915/2018 requirements (B' 304).
3	Nea Koiti Spercheiou - Roditsa I/C	The section ETAD is valid until 14/09/2028 (Decision-G.D.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 • G.S.P.P./DIPA 3048/162/05.08.2020. Compliance with JMD 1915/2018 requirements (B' 304).

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4	Lamia –Raches Subsection Roditsa I/C – Ag. Marina I/C	The section ETAD is valid until 14.03.2026 (Decision-G.D.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 • G.S.P.P./DIPA 3048/162/05.08.2020. Compliance with JMD 1915/2018 requirements (B' 304).
5	Stylida – Karavomylos Total 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 • G.S.P.P./DIPA 3048/162/05.08.2020. Compliance with JMD 1915/2018 requirements (B' 304). • G.S.P.P./DIPA 77442/4790/07.08.2020, Technical Environmental Study (TE.PE.M.) of the snow removal station at Agia Marina I/C (CH. 223+320).

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/DIPA 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/67165/2283-07-06-2019 – Amendment of Environmental Terms of the section Lamia – Makrychori of E65 as regards the environmental licensing of the borrow pit at “Kalamaki” location of Agia Paraskevi, Municipality of Lamia.
2	Improvement of the connecting road of Lamia – Karditsa NR with Central Greece (E65) at Xyniada I/C location	The ETAD is valid until 01/12/2025 (decision Secr.-Gen. of Decentralized Administration with prot. no. 4644/212888/01-12-2015)	<ul style="list-style-type: none"> • Secr.-Gen. of Decentralized Administration with prot. no. 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/DIPA 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/DIPA 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. (Decision G.D.P.P./DIPA 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./DIPA No 9728/21.05.2018 E.T. Approval due to amended design

4.2 Submissions

For **PATHE Motorway, Skarfeia – Raches Section**, during the reference period (A' semester of 2021) no environmental studies referring to the Operation and Maintenance of the Concession Project have been submitted by the Concessionaire.

For **E65 Motorway**, during the reference period (A' semester 2021), the following environmental study has been submitted by the Concessionaire.

- Environmental Impact Assessment for the Amendment of the Approved Environmental Terms (JMD 144504/18.11.2005) of the E65 Central Greece Road Axle, Makrichori – Lamia section, (CH. 32+000 – 61+000), Flood-protection projects at Xyniada – Anavra subsection (CH. 32+000 – 61+000).
[Concessionaire to EYDE/KSESP with prot. no. 22495/27.04.2021, EYDE/KSESP to G.D.P.P./DIPA with prot. no. Φ9.18/120905/11.05.2021]

4.3 Outstanding issues

4.3.1 PATHE: Skarfeia – Raches Section

No pending issues on environmental licensing

4.3.2 E65: Xyniada – Trikala Section

All the environmental studies that have been submitted up to the end of the reference year of the present report for the PATHE Skarfeia – Raches section have been approved.

S/N	Section	Outstanding issues	Submissions	Observations
1	E-65 – Section S1; Lamia – Makrichori Section, subsection CH. 33+000 – CH. 61+150	Submission of Environmental Impact Study for the amendment of JMD EPO 144504/18-11-2005, as amended and applicable to the required flood protection works along the E-65	<ul style="list-style-type: none">• Kentriki Odos S.A. submission to EYDE/KSESP with prot. no. 20801/29-10-2018• EYDE/KSESP submission to G.D.P.P./DIPA with prot. no. Φ1/7985/31-10-2018• Kentriki Odos S.A. new submission to EYDE/KSESP with prot. no. 22495/27.04.2021• EYDE/KSESP submission to G.D.P.P./DIPA with prot. no. Φ9.18/120905/11.05.2021	Approval of DIPA is pending.
2	E65 – Section S2; Makrychori - Kalampaka, subsection CH. 88+237 –	Submission of Environmental Impact Study for the amendment of the JMD EPO 145521/18-11-2005,	<ul style="list-style-type: none">• Kentriki Odos S.A. submission to Directorate D17 with prot. no. 208000/29.10.2018• EYDE/KSESP submission to GDPP/DIPA with prot. no. Φ1/7986/31-10-2018	Approval of DIPA is pending.

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	CH. 89+919	as amended and in force regarding the required anti-flood protection projects along Central Greece Motorway		
3	E65 – Section S2: Makrychori – Kalampaka Section, subsection CH. 85+800 – CH. 137+553	Documentation File for the adjustment to the requirements of the JMD 1915/2018 (OGG 3048/2018) of E65 motorway, Makrychori – Kalampaka section	<ul style="list-style-type: none"> • Kentriki Odos S.A. submission to the D17 Directorate with prot. no. 21470/20.11.2019 • D17 submission to G.D.P.P./DIPA with prot. no. ΑΕ/ΚΕ/00/08/10/13316/13-01-2020 	Approval of DIPA is pending.

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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 required at the section of the PATHE (Skarfeia – Raches).

According to the environmental terms and the relevant approvals at the section Makrychori – Kalampaka of the E65 Motorway, one Measuring Station for Air Pollution is installed. The station is installed at the G.U. of Sofades area at the entrance of the adjacent Motorist Service Station. The station has been put on trial on 15.03.2019.

For the year 2020, 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 prepared and will be filed to the Service KAPA/YPEN (Prot. No. 12815/228/09.02.2021, EYΔE Directorate D17) with receipt prot. no. 33715/9-2-2021 & EYDE/KSESP with receipt prot. no. 33715/09.02.2021). A similar report will also be prepared and submitted for 2021.

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 (Gov. Gazette 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 CO, CO₂, NO, NO₂, SO₂, O₃, TSP, PM₁₀, PM_{2,5}, C₆H₆ (Benzene), C₇H₈ (toluene) and xylene polluting emissions
2. The meteorological conditions of each installation

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, via the 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 2020, the measured pollutant records were as follows:

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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. In addition, the average annual value should not exceed 40µg/m³.

- **The value of 50µg/m³ >35 times per year was not exceeded.**
- **The average value of 40µg/m³ was not exceeded.**

Suspended Particles PM_{2.5}

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

- **The average value of 25µg/ m³ was not exceeded.**

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. In addition, the average annual value should not exceed 40µg/m³.

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

- **The value of 200µg/m³ >18 times per year was not exceeded.**
- **The average annual value of 40µg/m³ was not exceeded.**

CO

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

- **The maximum daily eight-hour value of 10 µg/m³ was not exceeded.**

SO₂

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



- **The maximum average hourly value (350µg/m³) > 24 times per year was not exceeded.**
- **The average hourly value of 125 mg> m³ 3 times per year was not exceeded**

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Benzene

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

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

7. NOISE AND TRAFFIC VOLUME

The year 2020, 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, and the result assessment of the 24-hour traffic noise measurements for 2020 shows that:

A. “Skarfeia – Raches” Section

In this section, in the total of 9 24-hour traffic noise measurements, **there is NO exceedance** and no additional measures are necessary.

**B. “Xyniada – Trikala” Section**

In this section, in the total of 7 24-hour traffic noise measurements, **there is NO exceedance** and no additional measures are necessary.

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 2020, 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/80712/1423/16-11/2020.

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

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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 2020, the monitoring program of the Road Traffic Noise has been completed and approved. For 2021, a similar program **is ongoing**, 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 2020, the Annual Average Daily Traffic (AADT) calculation equals to 8.069 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 1.456 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 checklist 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 checklist.

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 2020, 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 2020, the procedure is expected to be completed according to the foreseen 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.



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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 2020, 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 2471/B/10.08.2016), PATHE (Skarfeia – Raches Section) and E65 motorways fall under Group 1

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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 environmental management system ISO 14001/2015.

For 2020, 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 the year 2020, the procedure is expected to be completed according to the foreseen deadlines.

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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 works that took place during the first semester of 2020 and for which compliance to 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 decontamination process, as well as the transportation and absolute management of contaminated absorbent of the polluted adsorbents and the hazardous waste produced by such an incident shall be done in accordance with the existing legislation, by appropriately licensed companies for the decontamination, transportation and management of hazardous waste, with the aim of timely response to highway accidents.

It is noted that, upon completion of unfinished State contracting works at sections of PATHE E65, the pollutant retention tanks have been constructed and delivered to the Concessionaire, as provided by JMD ETA 146113/12-07-2005 for the "Skarfeia – Thermopyles" section.

It should be pointed out that, 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)

- Pollution Control Units

It is pointed out that the tanks for temporary retention of contaminated leachate in the section of “Total Bypass of Stylida – Karavomylos” have been constructed in accordance with the E.T. d-13 of JMD 100198/30.05.2006.

It should be noted that the polluted leaching temporary retention tanks 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, have been constructed.

Respectively, as for E65, pollution retention tanks have been constructed, to comply with the E.T. 29 and 48 of JMD 144504/18-11-2005.

It is noted that the Concessionaire has designed and disposes a pollution response plan to be implemented in case of accidental pollution that will include the use of these tanks in application of the ETs and its contractual obligations.

- Water Quality

Within the framework of the water-monitoring program, for 2020, nine (9) samplings were carried out in two sets on the E-65 Motorway and in the PATHE section of Sperchios, i.e. a total of eighteen (18) samplings.

Taking into account the overall results of all the examinations, the operation of the E65 motorway and PATHE section of Sperchios, which places severe strain on the water bodies, may be characterized as negligible in relation to the other anthropogenic activities.

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 Aftokinitodromos Kentrikis Elladas Concession S.A. is the “Concessionaire” for the Project “Central Greece (E65) Motorway” according to the Concession Agreement.

Under the Operation & Maintenance Agreement dated 5.3.2021 the Concessionaire has assigned to the Operator, and the Operator has undertaken all of its obligations, risks, liabilities and rights of the Concessionaire under the Concession Agreement, in respect of the operation and maintenance of the Concession Project, on a back to back basis.

In accordance with the provisions of the Concession Agreement and the Operation and Maintenance Agreement, the Concessionaire - among others - retains the following responsibilities:

- Monitors and supervises the observance of the Environmental Requirements in accordance with the Concession Agreement provisions
- Submits reports and updates to the State in accordance with the Concession Agreement provisions

The obligations regarding the protection of the environment during the Operation & Maintenance activities of the motorways are set out in Art. 11 of the Concession Agreement, Art. 2.3 and Art. 2.6 of the SCC and in Annex A of the SCC (Environmental Licensing of the Project). The JMDs of the Approved Environmental Terms (JMC AET) that govern the Project are set out in Annex E.

The AETs are distinctive per motorway section and specific in terms of needs for every area, but also in terms of the motorway O&M impact on the environment.

For the effective compliance of those above mentioned, an Environmental Management System is implemented to cover these specific requirements. Maintaining a relevant certification according to the corresponding international standard ISO 14001 provides the possibility of maintaining in force the above environmental terms for a longer period.

This System, in synergy with the correspondingly certified Environmental Management System of the Concessionaire will cover horizontally the entire Concession Project.

To implement those aforementioned, both the Operation and the Concessionaire provide an Environmental department with specialized personnel, which is responsible for the inspection and compliance with the E.T. of the motorways' entire length. They also cooperate with a special advisor in order to create a group of scientists to cover the extended range of the environment.

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The group of scientists consists of a Civil Engineer – Transportation Expert – Acoustical Engineer, Environmentalist – Environmental Planner, and Environmentalist – Chemist – Acoustical Engineer, to fully meet the inspection needs of the E.T. for the road project.

14. REPORTS (SEMI-ANNUAL – ANNUAL SUBMISSIONS)

For the year (2020), the 1st semi-annual Report of Environmental Monitoring of the Concession Project under study, which has been submitted by the Concessionaire under prot. no. 21959/28.07.2020 letter of the Supervisory Authorities and GPDD/YPEN (D17 receipt prot. no. 16744-30.07.2020, DIPA receipt prot. no. 74665/4582-30.02.20 & KSESP receipt prot. no. Γ/5499-30.07.20), as well as the annual report of 2020 Environmental Monitoring of the Concession Project under study, which has been submitted by the Concessionaire under prot. no. 22385/08.03.2021 to the Supervisory Authorities and GDPP/YPEN (D17 receipt prot. no. 60746/09.03.21, EYDE/KSESP receipt prot. no.: 60719/09.03.21 and DIPA/YPEN receipt prot.no. 23245/1543-09.03.21), have been drafted.

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

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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 the reference period (A' semester 2021), 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.

Furthermore, 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.

Additionally, ODOS KENTRIKIS ELLADOS S.A., recognizing the need for smooth operation of the motorways under its responsibility, designed a Business Continuity Plan on which it relied for the implementation of a Business Continuity Management System (BCMS). In 2020, BCMS was certified according to the international standard ISO 22301:2012, thus making ODOS KENTRIKIS ELLADOS S.A. the first Concession Company to receive the relevant certification.

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

- ISO 9001 (Quality Management System)

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- ISO 45001 (Health & Safety Management System)
- ISO 14001 (Environmental Management System)
- ISO 39001 (Road Traffic Safety Management System)
- ISO 22301 (Business Continuity Management System)

On 28 and 29/9/2020, 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), ISO 45001 (Health & Safety Management System), ISO 14001 (Environmental Management System).

On 2-4/9/2020, the planned annual inspection on the Management System ISO 39001 (Road Safety) was carried out by the independent certification body TUV Hellas.

On 13-15/10/2020 the planned annual inspection on the Management System ISO 22301 (Business Continuity) was carried out by the independent certification body TUV Hellas.

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



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>.