


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

**PROJECT: "DESIGN - CONSTRUCTION - FINANCING - OPERATION - MAINTENANCE AND  
EXPLOITATION OF THE PROJECT  
"CENTRAL GREECE MOTORWAY (E65)"  
SECTION "SKARFIA – RACHES"**

Date	31.01.2018
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**REFERENCE PERIOD  
YEAR 2017**

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## **1. INTRODUCTION**

This Environmental Management Report concerns the year 2017 (01.01.2017-31.12.2017) and is prepared as dictated by the environmental terms, for the filing to the Directorate of Environmental Licensing (DIPA) of the Ministry of Environment (YPEN) from the project contractor or operator until 31/01 of each year, of a bulleting that sets out:

- The course of the execution of works, accompanied with the appropriate documentation for the observance of the environmental terms
- The sections of the projects which have been delivered for operation
- Licences or approvals
- Designs assigned, qualitative, quantitative and financial data for the environment protection works
- Antipollution and environment protection works which will be executed
- Summary of the results of the noise monitoring program, measurements of atmospheric pollution and water quality monitoring program
- Any problems that occurred, unanticipated situations as well as any information or proposal that could prove to be useful for limiting any adverse impact on the environment from the construction or operation of the project.

Furthermore, according to the Concession Agreement, the Concessionaire is obligated, throughout the Concession Period, to prepare a semi-annual report for the environmental management of the Project.

This report integrates reference data for the observance of environmental terms for the 2<sup>nd</sup> six-month period of 2017. Integration of the two reports (2<sup>nd</sup> six-month period and annual period) is effected for the economy and consistency of the reports, thus avoiding the fragmentation of information and records.

Therefore, this Report is an approach to the Environmental Management Processes and the observance of the Environmental Terms of the operating company AFTOKINITODROMOS KENTRIKIS ELLADOS S.A. for the Project, i.e. PATHE – E65, “Skarfia – Raches” section.

## **2. GENERAL**

This Environmental Management Report is an approach to the Environmental Management Processes of the operating company AFTOKINITODROMOS KENTRIKIS ELLADOS S.A., (distinctive title Odos Kentrikis Elladas S.A.) for the year 2017 (01.01.2017 to 31.12.2017).

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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 Skarfia – Raches (57 km) across the PATHE – 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, “Skarfia – Raches” section, a comprehensive environmental monitoring program is implemented, through which all Environmental Terms are met, as detailed below.

## 2.1 PROJECT OWNER

The Project Owner of the under-construction Project is the Directorate of Operation, Maintenance & Infrastructure with a Concession Agreement (Director D17), (Supervisor: Ms E. Kanellopoulou, 70 Panormou Str, 115 23 Athens).

## 3. PATHE – E65 MOTORWAY, SKARFIA – RACHES SECTION

### 3.1 DESCRIPTION OF THE PROJECT

**State :** Hellenic Republic

**Concessionaire :** ODOS KENTRIKIS ELLADAS S.A.

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**Motorway : PATHE**

**Section : Skarfia – Raches**

The PATHE motorway at the section Skarfia – Raches includes:

**1. 7 (seven) Junctions**

- Molos I/C near K.P. 65+500
- Thermopyles I/C near K.P. 18+000
- Roditsa I/C near K.P. 27+500
- Ag. Paraskevi I/C near K.P. 32+500
- Ag. Marina I/C near K.P. 38+200
- Stylida – Karavomylos I/C near K.P. 47+000
- Raches semi-junction near K.P. 57+000

**2. 2 (two) Frontal & 10 (ten) 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 Agia Paraskevi I/C on K.P. 32+200
- 2 on Ag. Marina I/C on K.P. 38+500
- 2 on Karavomylos I/C on K.P. 46+700

**3. 6 (six) Temporary Parking Areas**

- K.P. 187+800 Bilaterally
- K.P. 195+100 Bilaterally
- K.P. 196+000 to Lamia
- K.P. 205+000 Bilaterally
- K.P. 208+500 to Lamia
- K.P. 209+000 to Athens



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**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)



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

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

### 3.2 ENVIRONMENTAL AUTHORIZATION

#### 3.2.1 JMD ETA and their validity – Present Situation

The table below displays the validity period of the approved environmental conditions as well as the permits already issued:

S/N	Section	E.T. Validity	Authorizations issued
1	<b>Skarfia - Thermopyles Section</b>	The section ETAD is valid until <b>27.12.2028</b> (Decision G.S.P.P. DIPA 96975/4083/27.12.2018) The terms are in the process of being renewed. A renewal file of AEPO has been submitted by EYDE/KSSY (prot. no. FM02LM00/ME6/ok.96665/05-06-2014) within the period prescribed.	<ul style="list-style-type: none"> <li>• <b>JMD No 146113/12.07.2005, E.T. Approval</b></li> <li>• JMD No 129696/06.06.2007. Amendment of JMD No ref. 146113/12.7.2005.</li> <li>• EYPE 122881/08.03.2010, Environmental authorization for Ag. Triada toll station and Molos I/C.</li> </ul>
2	<b>Thermopyles I/C –Spercheios</b> (except the bridge under construction by ERGOSE)	The section ETAD is valid until <b>31/12/2025</b> (Decision G.S.P.P. DIPA 146836/05.03.2015)	<ul style="list-style-type: none"> <li>• <b>JMD No 131550/04.03.2003, E.T. Approval</b></li> <li>• EYPE 121668/08.02.2010 Environmental authorization for toll station on Thermopyles I/C position.</li> <li>• G.S.P.P./DIPA 146836/05.03.2015 Amendment and renewal of E.T.</li> </ul>
3	<b>Spercheios – Agia Paraskevi I/C Section</b>	The section ETAD is under renewal	<ul style="list-style-type: none"> <li>• <b>JMD No 146109/30.09.2005 E.T. Approval</b></li> <li>• G.S.P.P./DIPA 145496/21.01.2015. E.T. Amendment</li> </ul>
4	<b>Agia Paraskevi – Agia Marina I/C Section</b>	The section ETAD is valid until <b>14.03.2026</b> (Decision G.S.P.P. DIPA 13590/15.03.2016)	<ul style="list-style-type: none"> <li>• <b>JMD 130665/02.05.2003 E.T. Approval</b></li> </ul>
5	<b>Ag. Marina – Raches I/C Section</b>	The section ETAD is valid until <b>31/12/2023</b> (Ministerial Decision No 172866/23.05.2014)	<ul style="list-style-type: none"> <li>• <b>JMD 100198/30.05.2006 E.T. Approval</b></li> <li>• EYPE 172866/23.05.2014 Amendment and renewal of E.T.</li> <li>• EYPE 121667/08.02.2010 Environmental authorization for toll station on Ag. Marina – Stylida I/C and Stylida – Karavomylos I/C positions.</li> <li>• G.S.P.P./DIPA 12757/10.03.2016 Amendment of E.T.</li> </ul>

### 3.2.2 Submissions

For the reference period (year 2017), the following studies for the issuance of new E.T. have been submitted by the operation company, for the Skarfia – Raches section of PATHE.

S/N	Section	Outstanding Issues	Submissions	Observations
1	Skarfia – Raches Section	File amending AEPO for the construction and operation of six locations (three bilateral motorist service stations at PATHE section Skarfia – Raches)	<ul style="list-style-type: none"> <li>Submission prot. No. EYDE/ΕΠΚ&amp;ΔΕ Α/6/00α/08/24/16002/27-07-2017 to DIPA/YPEN</li> </ul>	<b>Approval of DIPA is pending.</b>

### 3.3.3 Outstanding issues

The environmental studies that have been submitted for the section Skarfia – 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	<b>Skarfia – Thermopyles Section</b>	Amendment – renewal of section E.T.	<ul style="list-style-type: none"> <li>A renewal file of AEPO in DIPA has been submitted by EYDE/KSSY (prot. no. KA/ΦΜ02ΛΜ00/ME6/ οικ. 96665/05-06-2014) within the period prescribed.</li> </ul>	<b>Approval of DIPA is pending.</b>
2	<b>Agia Marina – Raches Section</b>	TEPEM for Winter Maintenance stations on Ag. Marina I/C	<ul style="list-style-type: none"> <li>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.</li> <li>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</li> </ul>	<b>Approval of DIPA is pending.</b>



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3	<b>Skarfia – Raches Section</b>	File amending AEPO for the construction and operation of six locations (three bilateral motorist service stations at PATHE section Skarfia – Raches)	<ul style="list-style-type: none"> <li>Submission prot. No. EYDE/ΕΠΚ&amp;ΔΕ A/6/00α/08/24/16002/27-07-2017 to DIPA/YPEN</li> </ul>	<b>Approval of DIPA is pending.</b>
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### 3.3 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	Skarfia – Thermopyles Section	<ul style="list-style-type: none"> <li>Spercheios valley and estuary – Maliakos Bay (GR2440002)</li> </ul>
2	Thermopyles – Spercheios (except the bridge under construction by ERGOSE)	<ul style="list-style-type: none"> <li>Spercheios valley and estuary – Maliakos Bay (GR2440002)</li> <li>Lower Course and estuary of Spercheios River (GR2440005)</li> </ul>
3	Spercheios - Ag. Paraskevi I/C Section	<ul style="list-style-type: none"> <li>Spercheios valley and estuary – Maliakos Bay (GR2440002)</li> </ul>
4	Ag. Paraskevi I/C – Ag. Marina I/C Section	<ul style="list-style-type: none"> <li>Spercheios valley and estuary – Maliakos Bay (GR2440002)</li> <li>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.</li> <li>Sensitive environmental element of the area is the stork colony in the area between the settlements of Ag. Paraskevi and Megali Vrysi.</li> </ul>
5	Agia Marina – Raches I/C Section	<ul style="list-style-type: none"> <li>Spercheios valley and estuary – Maliakos Bay (GR2440002)</li> <li>Lower Course and estuary of Spercheios River (GR2440005)</li> </ul>



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#### 4. ATMOSPHERIC POLLUTION

By the approved environmental terms, no program for air quality monitoring is provided for.

#### 5. NOISE AND TRAFFIC VOLUME

Within the framework of the said program, the relevant Road Traffic Noise (O.K.TH.) specifications and recording locations were set up to capture the acoustic conditions before and after the implementation of the sound barriers at locations within and outside city plans and at sensitive receivers. The relevant Environmental Road Noise Measurement Reports are reported in this annual report. In addition, processed data from road noise measurements are displayed in the reports. As for the quantitative and qualitative evaluation of compliance with the limits - according to LV 1725291 – of maximum allowed noise level of indicator L10 (18 hours) on the facades of the nearest - to the PATHE axis – residences, extensive automated acoustic measurements are performed.

More specifically, measurements are made, according to the approved noise-monitoring program, with self-motored stations, at least 2 meters from the facade of the nearest residence. Usually, to efface adverse conditions, the measurement is closer to the source and to the most exposed facade. The program investigates the effectiveness of the applied sound barriers as well as the assessment of the necessity or not of implementing additional measures.

For the year 2017, a monitoring program of Road Traffic Noise (O.K.TH.) that has been submitted to the Directorate of KAPA/YPEN, was approved with the KAPA/YPEN Directorate under no. 21790/580/08-11-2017.

Furthermore, in the year 2017, 24-hour noise measurements (hourly analysis) were carried out along the road project in the Skarfia - Raches section (57km long), in 9 geographical locations (receivers) according to the approved noise measurement program (one 24-hour noise measurement per geographical location and per year).

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) based on the current legislation (M.D. 17252/20.5.92 OGG B395/13.6.92);
- the level A-weighted equivalent LAeq (24h); and

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- 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), the directive 2002/49ER & JMD 13586/724-28/3/06.

It should be noted that the statutory limits were **NOT** exceeded at any of the 9 (nine) locations where the 24-hour acoustic measurements were made during the current year (2017).

For 2018, 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 traffic is monitored daily in the PATHE section from Skarfia to Raches, at the level of passes from all toll stations (Molos, Agia Triada, Thermopylae, Agia Paraskevi, Agia Marina, Stylida), and no relevant monthly reports are submitted. The recorded Annual Average Daily Traffic of the Skarfia – Raches section for 2017 amounts to 9.465 passes (13,183 MEA) in both directions.

## 6. WASTE MANAGEMENT

### 6.1 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 (OGG

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24/A/13.02.2012), as amended by Article 157, paragraph 1 of Law 4389/2016 (OGG 94/A/27.05.2016) and JMD 1/1 (OGG 1/B'/04.01.2017). For the year 2015 and 2016, the relevant reports of waste producer were submitted to the electronic waste registry (EWR) by the concession company for every JMD ETA of the motorway separately (5 reports per year). Respective reports are expected to be submitted for the year 2017 as well.



## 6.2 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 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 (OGG 24/A/13.02.2012), as amended by Article 157, paragraph 1 of Law 4389/2016 (OGG 94/A/27.05.2016) and JMD 1/1 (OGG 1/B'/04.01.2017). For the year 2015 and 2016, the relevant reports of waste producer were submitted to the electronic waste registry (EWR) by the

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concession company for every JMD ETA of the motorway separately (5 reports per year). Respective reports are expected to be submitted for the year 2017 as well.

### 6.3 Waste Producer Table – EWR

Pursuant to Article 42, of Law 4042/2012 (OGG 24/A/13.02.2012), as amended by Article 157, paragraph 1 of Law 4389/2016 (OGG 94/A/27.05.2016) and JMD 1/1 (OGG 1/B'/04.01.2017), the Electronic Waste Registry was established, and by JMD 43942/4026 (OGG 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 (OGG 2471/B/10.08.2016), PATHE motorway, Skarfia – Raches Section, falls under Group 1 projects (Air and land transportation projects) – Road building, S/N 1, and under subcategory A1.



The waste generated by the operation and maintenance of the motorway is: Fluorescent tubes or 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. For those waste, the quantities and delivery mode to each approved Alternative Management System are recorded.

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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 years 2015 and 2016, the company responsible for the operation of the motorway “ODOS KENTRIKIS ELLADOS S.A.”, submitted – according to the requirements of the legislation – a separate report of waste producer to the electronic waste registry (EWR) for every JMD ETA of the Concession Project (5 reports per year). Relevant reports are expected to be submitted for every JMD-EPO of the motorway.

For all previous years, the operation company 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).

## 7. CLEANING AND MAINTENANCE

All cleaning and maintenance work taken place during 2017 and for which the compliance or not with the Environmental Terms was checked, are the following:

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- 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.
- Waste collection with garbage truck from the Kentriki Odos area of responsibility.

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.

## 8. ACCIDENTS – ACCIDENTAL POLLUTION – ACTION PLAN

The Concessionaire has prepared an Action Plan for emergencies, which constitutes an Appendix to the Police and Firefighting Agreement conducted between the Concessionaire and the Ministry of Interior, the measures for the timely collection and removal of hazardous substances are described, designed to prevent the pollution of waterways, soil, etc.

The said Intervention Plan includes all the measures, necessary equipment, etc. to be used in case of an accident and leakage of non-biodegradable substances.

Furthermore, for addressing accidental leakage, fuels which creates an immediate risk of surface water, soil pollution, etc. especially when the leakage in large quantities is provided by using adsorbents, such as sand, sawdust, or special geotextile is provided immediately after the escape. Such materials are immediately available by the Concessionaire for direct intervention.



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The disposal of those, in case of such an incident, shall be done in accordance with the directive for the disposal of toxic waste.

In addition, a comprehensive action plan for the operation of the motorway has been drawn up and is being implemented.

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 “Skarfia – Thermopyles” section and by JMD 100198/30.05.2006, as amended by the decision G.S.P.P./YPEN/DIPA 12757/10.03.2016 for the “Total Stylida – Karavomylos Bypass” section are not yet constructed.

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.

**9. 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 Skarfia – Thermopyles subsection in Skarfia – 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.

**10. PLANTINGS – MAINTENANCE OF VEGETATION**

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

**11. 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



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that covers the extended range of the environment. The group of scientists consists of Dr. Civil Engineer, MSc. Forester - Environmentalist – Ecologist, MSc. Architect Environmentalist, MSc. Surveyor Environmentalist, Geologist Environmentalist and Agriculturalist Environmentalist, to fully meet the inspection needs of the E.T. for the road project.



**12. REPORTS (SEMI-ANNUAL – ANNUAL SUBMISSIONS)**

For the previous year (2016), the Annual Environmental Report of the Concession Project was prepared and submitted while, for each motorway section separately (JMD respectively), tables of implementation of all environmental terms (protocol no.: 19618/07.03.2017 ODOS KENTRIKIS ELLADOS S.A.) have been consolidated and included in this Annual Environmental Report.

For the first and second semester of 2017, six-month compliance reports were prepared and submitted. (protocol no.: 19975/19-09-2017 ODOS KENTRIKIS ELLADOS S.A.).

**13. 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.

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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.

#### **14. INSPECTIONS BY COMPETENT ENTITIES – FINES**

For the reference period (2017), 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.

#### **15. 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.

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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 15/11/2017, 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.



## 16. FUTURE ENVIRONMENTAL ANTI-POLLUTION AND PROTECTION PROJECTS

The following environmental protection projects are planned to be performed by the Kentriki Odos operation company:

- The operation company KENTRIKI ODOS for the needs of the motorway operation and maintenance has submitted a TEPEM for the environmental permitting of the Snow Removal Station at the Agia Marina junction at CH. 223+300 (prot. no. 18754 26-11-2015). The Snow Removal Center is located on an area of 1,591,25sq.m. in the open space created between the southern branch of the junction (entrance to Agia Marina), the Larissa - Lamia NR and the motorway within its expropriation zone. The operation of a snowmobiling and truck machine and the construction of an underground drainage tank (sedimentation tank - oil collector - mud collector) are foreseen on the worksite.
- Environmental licensing by DIPA of the 3 both-sided parking areas in the Skarfia - Raches section is expected.

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**17. COST COVERAGE – FINANCIAL INFORMATION ON ENVIRONMENTAL PROTECTION PROJECTS**

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 for 2017 on environmental protection projects is given in the following table:

Investment Categories for the Environment	Amount (in €)
Vegetation Maintenance	
Traffic noise monitor program	
Environmental Advisors and personnel for monitoring the implementation of the E.T.	
Procurement of the air pollution monitoring equipment	
Certifications (ISO 9001:2015/ ISO 14001:2015)	
<b>TOTAL:</b>	

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It is pointed out that those aforementioned do not include works related to the Operation & Maintenance of the PATHE Motorway, or contributing to the protection and preservation of the environment, because they cannot be individually costed since they constitute an integral part of the Concessionaire's obligations under the Concession Agreement, and are kept on a regular basis (daily, weekly, monthly).

Those works are:

- Vegetation pruning and maintenance.
- Drain and culvert cleaning and maintenance.
- Advertising billboard removal.
- Sweeping.
- Parking Area cleaning and washing.
- Bins replacement.
- Waste collection with garbage truck from the Kentriki Odos area of responsibility.

#### 18. PROBLEMS THAT EMERED

According to AEPO 146113/12.07.2005, and in particular its environmental condition d18, to prevent pollution it is proposed to construct four temporary containment tanks of contaminated flushes of sufficient capacity 40m<sup>3</sup> each. The tanks are located at CH. 0+783 (near Platanias stream), CH. 4+160 (near Ai-Vlassorema), CH. 8+210 and CH. 16+350 (near Thermopylae). In addition, the tanks for the temporary retention of contaminated washes have not been constructed in the section "Overall Styliada - Karavomilos Bypass" which are required to be constructed in accordance with the approved Environmental Conditions (E.T. d-13 of JMD 100198/30.05.2006 as amended by Decision DGPP/YPEN/DIPA 12757/10.03.2016 (E.T. D.I)). It is noted that the concession agreement does not include the construction of the motorway section, but only the operation and maintenance of the motorway. The construction of the tanks is expected to be implemented by the Greek State.



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