




PROJECT:

## EastMed Pipeline Project






Document Title:	<b>EastMed Greek Section – Environmental and Social Impact Assessment</b>
Document Subtitle	Chapter 12 – Codification of results and proposals for the approval of environmental terms
Project Document No:	PERM-GREE-ESIA-0012_0_ESIAch12

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## Abbreviations

See Document Map.

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## 1 CODIFICATION OF RESULTS AND PROPOSALS FOR THE APPROVAL OF ENVIRONMENTAL TERMS

In this chapter the results and the proposals of the Environmental and Social Impact Assessment Study are coded in the form of environmental terms.

The abovementioned codification of results and proposals aims at enhancing the effectiveness of the consultation process with the interested party and the competent services without committing the competent Environmental Authority to the nature and content of the decision to issue.

### 1.1 Type and size of activity

#### 1.1.1 General elements of the project



The EastMed Pipeline Project will connect eastern Mediterranean natural gas sources to the European energy system through a dedicated connection via a completely new route, integrating markets along the way and enhancing diversification.

The entire EastMed Pipeline Project is approximately 2,000 km long; the 1,440-km offshore gas pipeline will link Israel, Cyprus and Greece and pass through Crete and the SE Peloponnese, before traversing for 540 km the Greek mainland to its final 210 km stretch along the Ionian coast to reach Italy via the Poseidon Pipeline.

EastMed consists of a Southern Line and a Northern Line to deliver gas from Israeli and Cypriot sources, respectively, through Peloponnese and Western Greece, to the Poseidon Pipeline Project in north-west Greece. Upstream of Crete these two lines are designed to work complementarily as well as independently, foreseeing infrastructure in Cyprus and Crete dedicated to each line. Thanks to this, the system is highly flexible, contributing to security of supply. The EastMed Pipeline Project comprises the following main components:

#### A. Southern Line of EastMed (Israel → Cyprus → Greece):

- Transports gas from Israeli sources directly from the EastMed Compression Platform (ECP) in Israeli waters to a compression and metering station in Crete (CS2/MS2) and from there to the mainland Greece and the Poseidon Pipeline Project,
- Delivers gas to Cyprus for domestic consumption through a subsea Inline Tee Assembly (ITA) and a branch pipeline from the subsea ITA to Cyprus (OSS1 comes from Israeli platform to ITA, OSS1a from ITA to a Metering and Pressure Reduction Station (MS1a/PRS) in Cyprus and OSS2 from ITA to Crete),

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#### B. Northern Line of EastMed (Cyprus → Greece):

- Delivers dry gas originating from one or more of the Cypriot offshore gas discoveries to the compression and metering stations in Cyprus (CS1/MS1) first, through OSS1b and then in Crete (CS2/MS2N), through OSS2N and from there to the mainland Greece and Poseidon Pipeline Project.

#### C. Combined Lines of EastMed (Crete & mainland Greece → Poseidon Pipeline Project):



- At LF3 the gas flow streams from two pipelines will be combined into a single large-diameter pipeline (CCS1-OSS4-CCS2) for transportation to the Poseidon Pipeline Project Compressor Station at Florovouni<sup>1</sup> in north-west Greece,
- Combination of the Southern and Northern flow streams will require additional compression along the CCS1 section in Peloponnese (provided through the Compression station CS3).

#### 1.1.2 Main Project Components in Greece

The components of the Greek Section of the EastMed Pipeline Project are summarized below:

- **Line OSS2 / OSS2N** (South Cretan Sea): The Greek section route of Line OSS2/OSS2N stretches approximately 390 km across the eastern Mediterranean Sea, from the middle of the sea straits between Greece and Cyprus to the designated landfall in Crete (LF2), reaching a maximum depth of approximately 3,000 m (for only about 10 km). The OSS2/OSS2N will have an outer diameter of 26";
- **LF2** (Landfall site in Crete): The suggested LF2 landfall site of the pipeline is located in south-eastern Crete in the area of Atherinolakkos, in the Municipality of Sitia, R.U. of Lassithi;
- **CS2/MS2 and CS2/MS2N** : At a short distance (~800 m north-west) to the existing Power Public Corporation (PPC) power station lies the proposed site for construction of the compressor and metering stations (CS2/MS2 and CS2/MS2N) . From the LF2 landfall site to the installation site of the compressor and metering stations, two twin pipelines (two entering and two exiting the Facilities) will be constructed in parallel configuration with indicative length of 1 km each. The pipelines entering the station will have a 26" outside diameter and the ones exiting it will have a 28" outside diameter;
- **Line OSS3/OSS3N** (South Aegean Sea): The route of Line OSS3/OSS3N starts from the selected LF2 landfall in south-eastern Crete, and by crossing the Cretan Fore-Arc Basin and the Hellenic (Cretan) Margin ends at landfall LF3 in south-eastern Peloponnese. Its total length is



<sup>1</sup>Compressor Station of the Poseidon Pipeline Project system at Florovouni in north-west Greece belongs to another project with the same owner and has received environmental permitting through a separate procedure (ETA: ΥΠΕΝ/ΔΙΠΑ/35872/2373/07-06-2019, ΑΔΑ: ΩΠΝ34653Π8-419)

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approximately 430 km and the maximum water depth is approximately 1,600 m. The OSS3/OSS3N will have an outside diameter of 28";

- **LF3** (Landfall site in Peloponnese): LF3 landfall site of the pipeline is located ~300 m north of the settlement of Agios Fokas in the Municipality of Monemvasia of the R.U. of Laconia;
- **CCS1**: The section of the pipeline located in Peloponnese starts from the LF3 landfall site and following a north-northwestern direction terminates at LF4 landfall site. More specifically, the routing runs ~6.5 km west of Monemvasia, continues with a north-northwest course running ~1.5 km north-northeast of the settlement of Molai, and continues in the same direction between the settlements of Geraki and Grammousa. Then it continues across the semi-mountainous part located between the settlements of Kalloni and Goritsa on the slopes of Mount Parnon. Following the same north-west direction, it runs for ~4 km initially west, and then north of the city of Sparta and from there, following a route parallel to the National Road of Megalopoli-Sparta, runs for ~6 km initially west and then north of the city of Megalopoli. In the area of Megalopoli, tie-in to the National Gas Grid (with design capacity of 1 BSCM/yr) is foreseen. From then on, CCS1 continues in the direction of the settlement of Karytaina, passing in a distance of ~2 km west of it. After that, it continues within the R.U. of Ilia, crosses at a distance of ~10 km east of Ancient Olympia and 3 km east of the artificial lake of Pinios. Then the routing enters the R.U. of Achaia and runs along the ridge of Mount Movri ending at the beach of Kalamaki in the Patraikos Gulf. CCS1 will have an outside diameter of 48" and a total length of approximately 300 km;
- **Megalopoli's Branch** : The Megalopoli's Branch bears off CCS1 near Soulari settlement and by following a northern direction extends approximately 10 km to Megalopoli town. The Megalopoli's Branch will have an outside diameter of 16";
- **MS4/PRS4** : Megalopoli Metering Station / Pressure Reduction Station will have the functionality to measure and regulate the flow; in the same plot a Heating Station will be located.
- **CS3** : The CS3 station will be installed downstream from the take-off point for the Megalopoli MS4/PRS4 station and relevant Megalopoli branch . CS3 station will be able to manage 20 BSCM/yr of natural gas.;
- **Dispatching and O&M Centre** : The Dispatching and Operation and Maintenance Centre (O&M) in the R.U. of Achaia.
- **LF4** (Landfall site in Peloponnese): The suggested LF4 landfall site of the pipeline is located 2.8 km north-east of the settlement of Lakkopetra on the southern shoreline of the Patraikos Gulf in the Municipality of Western Achaia of the R.U. of Achaia;
- **OSS4**: From Peloponnese to Western Greece, the pipeline crosses Patraikos Gulf in a north-east direction. The length of this offshore section (OSS4) is approximately 17 km and the maximum depth is approximately 110 m. OSS4 will have an outside diameter of 46";





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- **LF5** (Landfall site in Western Greece): The suggested LF5 landfall site of the pipeline is located located approximately 3 km south of the settlement of Galatas in the Municipality of Nafpaktia of the R.U. of Etoloakarnania;
- **CCS2**: The section of the pipeline located in western Central Greece starts from the LF5 landfall site and in a north-north-western direction ends in the mountainous area of Florovouni which is located ~3.5 km south-east of the settlement of Perdika, in the Municipality of Igoumenitsa of the R.U. of Thesprotia, where the already licensed compressor station of Poseidon Pipeline Project is scheduled to be constructed. Initially, the route intersects with the Evinos River and the Ionian Road and continues through the mountain range of Mount Arakynthos with a north-western course towards Lake Trichonida. It runs south of the lake on a western course and at a distance of ~1 km north of the settlements of Gavalos, Mataraga and Papadates and then passes ~3.5 km south-west of the city of Agrinio. It continues north, crosses the river Acheloos, runs ~500 m west of the settlement of Lepenou, and runs to the north through the mountain range and passes ~700 m west of the settlement of Varetadas, and ~500 m from the settlement of Valmada. Then the routing crosses the plain area north of the Amvrakikos Gulf, between the settlements of Peranthi & Loutrotopos and Polydroso & Rachi. Continuing initially west and then north-northwest, the routing runs ~2 km south of the settlement of Kamarina, ~1 km east of the settlement of Heimadio and ~1.5 km west of the settlement of Kanalaki. For the next 15 km, the routing runs through a plain area on a north-west course passing ~1 km west of the settlement of Spatharaioi, ~1 km west of the settlement of Margariti, ~500 m north of the settlement of Karteri and ends in Florovouni. CCS2 will have an outside diameter of 48" and a total length of approximately 250 km.

Along the onshore section, Scraper Stations – SS (in total seven<sup>1</sup>) and Block Valve Stations - BVS (fifteen in total) will be installed as per the current Project design. BVSs will be placed at distances of approximately 30 km. A Landfall Station (LS) (four in total) will be installed near each landfall site. For the section starting at landfall site LF3 in south-east Peloponnese to the Poseidon Pipeline Project's compressor station at Florovouni (sections CCS1, OSS4 and CCS2), the design pressure of the Project is 100 barg while the maximum operating pressure (MOP) is considered equal to 95 barg. For the Megalopoli's Branch line, the design pressure is 80 barg while the MOP is equal to 75 barg.

<sup>1</sup> It is clarified that 1 Scraper station will be located within the MS4/PRS4 and Heating Station at Megalopoli area, 1 Scraper station will be located within the future CS3, in the R.U. of Achaia, and 4 Scraper Stations will be located within the same plot as the Landfall Stations, bundling permanent facilities of the project as much as possible. The seventh SS concerns the Megalopoli's Branch.

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The design pressure of the OSS2 and OSS2N sections is 363 barg, while the MOP is considered equal to 345 barg. The design pressure of the OSS3 and OSS3N sections is 231 barg, while the MOP is equal to 220 barg. From a technical point of view, the two pipelines (Southern and Northern) are independent but also parts of a unique project system.

### 1.1.3 Project Classification



The classification of the Project according to the requirements of the MD 170225/2014 is provided in Table 1-1. Relevant legislation includes:

- MD 1958/2012, as codified by MD YA 37674/2016, regarding environmental classification of projects, as amended by MD 2307/2018 and MD 17185/2022;
- Greek and European statistical classification of economic activities (STAKOD and NACE, respectively); and
- JMD 3137/191/Φ.15/12 (B' 1048), as amended and applicable, regarding nuisance classes of projects.

It is emphasised that the type of the Project may not be explicitly mentioned in some of the relevant legislation (i.e. NACE or JMD 3137/2012). In such cases, it was deemed appropriate to present the group that is most relevant to the Project under consideration.

**Table 1-1 EastMed Classification in Compliance with MD 170225/2014**

Legislation	Classes	Project Classification
MD 1958/ 2012	Group	11 - Transport of energy, fuels and chemical compounds
	a/a	1 – Pipelines of national importance or included in European or international networks and associated/ supporting facilities
	Category	A1 – Project and activities that may have very significant impacts on the environment
	Comments	-
STAKOD 08/ NACE Rev.2*	Section	D – Electricity, Gas, Steam and Air Conditioning Supply
	Division	35 – Electricity, gas, steam and air conditioning supply
	Group	35.2 – Manufacture of gas, distribution of gaseous fuels through mains
	Class	35.23
	Description	Trade of gas through mains
JMD 3137 / 191 / Φ.15 / 2012*	Group	n/a
	Subgroup	n/a

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Legislation	Classes	Project Classification
	s/n	n/a
	Nuisance Class	n/a
<p>* The classification presents the activity most relevant to the Project (according to the study team). The classification concerns only the compressor stations.</p> <p>It is noted that the compressor stations, having a total capacity &gt;50 MW, fall into the provisions of JMD 36060/1155/E.103 regarding “Establishing a framework of rules, measures and procedures for the integrated prevention and control of environmental pollution from industrial activities, in compliance with the provisions of Directive 2010/75 / EU "On Industrial Emissions (Integrated Pollution Prevention and Control)" of the European Parliament and of the Council of 24 November 2010”</p>		

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#### 1.1.4 Design of the Project



The design of the Project is described in Chapter 6 of the Environmental and Social Impact Assessment (ESIA) Study and is depicted on maps of the section 15.1.2 – Project Definition and Area of Interest.

#### 1.1.5 Geographical Coordinates

The following table provides the coordinates at the beginning, middle and end of the individual sections as well as the centroids of the major stations (Compressors and Metering Stations) of the Project, in the Hellenic Geodetic Reference System 1987 (EGSA 87). The coordinates are based on the level of accuracy associated with the actual design stage.

**Table 1-2 Coordinates of the Sections and Major Components of the Project in Greece**

Section/ Component	Point	X (EGSA87)	Y (EGSA87)
Line OSS2/OSS2N	Start	1.059.268	3.795.135
	Middle	878.515	3.820.053
	End	694.578	3.874.859
Crete (pipeline)	Start	694.556	3.874.857
	Middle	694.146	3.875.055
	End	693.942	3.875.460
Station CS2/MS2 and CS2/MS2N (Crete Facilities)	Centroid	693.712	3.875.571
Line OSS3/OSS3N	Start	694.578	3.874.859
	Middle	583.480	3.943.988

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Section/ Component	Point	X (EGSA87)	Y (EGSA87)
Peloponnese (CCS1 pipeline)	End	415.621	4.050.681
	Start	415.621	4.050.681
	Middle	329.949	4.135.672
	End	279.707	4.228.552
Station MS4/PRS4 & Heating (Megalopoli Facilities)	Centroid	337.845	4.131.779
Megalopoli's Branch (pipeline)	Start	337.831	4.131.868
	Middle	337.745	4.135.891
	End	336.696	4.139.763
Station CS3	Centroid	283.670	4.200.375
Patraikos Gulf (OSS4 pipeline)	Start	279.707	4.228.552
	Middle	283.780	4.236.089
	End	286.649	4.244.179
Western Greece (W. Greece – Epirus) (CCS2 pipeline)	Start	286.649	4.244.179
	Middle	255.180	4.323.961
	End	185.526	4.362.847

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### 1.1.6 Project Owner



The Project is developed by the company IGI Poseidon S.A. based in Athens, Greece. IGI Poseidon (IGI) is a Company equally owned (50 – 50%) by DEPA International S.A. and Edison S.p.A., founded in June 2008, subject to Greek law.

## 1.2 Statutory basic characteristics of a Project area and sensitive environmental information

### 1.2.1 Spatial planning and land use

In line with the guidelines of the General Framework for Spatial Planning and Sustainable Development (GG. 128/A/03.07.2008) on energy, it is proposed to strengthen the international role of the country as a transmission hub for electricity, gas and oil.

Specifically, according to the GFSPSD:

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*Preface III par. A. (2)*

*"The geographical location of the country provides advantages of cooperation in the fields of economy, transport, energy, etc. with countries of the broader region (Balkans, Black Sea countries, Russia, Middle East). Despite the problems and tensions in some countries in the region, the general developments favour the cooperation and promise more favourable conditions in the future."*

*And in addition to the directions for energy planning:*

*Art. 6 B1 par. c (d)*

*B.1. General directions for energy*

*"For the energy sector the following is sought: [...]"*

*(d) the strengthening of the international role of our country as a centre of transmission of electricity, natural gas and oil"*




In addition, according to the relevant Regional Frameworks for Spatial Planning and Sustainable Development, it is necessary to promote the necessary infrastructures in the field of natural gas use in order to meet the development objectives of the country and to consolidate the four Regions from which the pipeline passes, as energy centres of the Country, thus having a key role in the interconnection of energy networks in the Greek space as well as in south-east Europe.

### **1.2.2 Administrative Jurisdiction**




According to the proposed route, the EastMed Pipeline Project passes through the following Local Authorities:

**Table 1-3 Administrative Jurisdiction of the Project.**

Region	Regional Unit	Municipality	Municipal Unit
<b>Crete</b>	Lassithi	Sitia	Lefki
		Monemvasia	Molai Monemvasia
<b>Peloponnese</b>	Laconia	Evrota	Niata
			Elos
			Geronthra
		Sparti	Skala
			Therapnoi Spartiaton

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Region	Regional Unit	Municipality	Municipal Unit	
Western Greece	Arcadia		Oinounta	
			Mystras	
			Pellana	
		Megalopoli	Falesia	
			Megalopoli	
			Gortyn	
	Western Greece	Ilia	Andritsaina-Krestena	Andritsainis
				Alifeiras
			Ancient Olympia	Ancient Olympia
				Foloi
Achaia		Western Achaia	Pyrgos	Oleni
			Ilida	Pinia
				Olenia
				Larissos
				Dymi
				Mombri
Western Greece	Nafpaktia		Chalkia	
			Iera Polis of Messolonghi	Iera Polis of Messolonghi
	Etoloakarnania	Agrinio		Makrynia
				Arakinthos
				Thestieis
				Agrinio
				Stratos
				Amfilochia
	Epirus	Arta	Nikolaos Skoufas	Kompotio
				Arachthos
Artaion			Amvrakikos	
			Philothei	
Preveza		Ziros	Philippiada	
		Preveza	Louros	

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Region	Regional Unit	Municipality	Municipal Unit
			Zalogo
		Parga	Fanari
	Thesprotia	Igoumenitsa	Margaritio
			Perdika
The Municipality of Oichalia of R.U of Messinia and the Municipality of Andravida-Kilini of R. U of Ilia are not crossed by the Project itself, but only by the study area.			

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### 1.2.3 Landscape type features

According to section 15.1.6 – Land uses and socioeconomic map, the pipeline crosses different types of areas that are distinct in:

- Agricultural Landscape,
- Agricultural Plain Landscape,
- Built Landscape,
- Coastal Agricultural Landscape,
- Coastal Mosaic of Agricultural and Natural Landscape,
- Coastal Rural Landscape,
- Hilly Natural (Forest) Landscape,
- Hilly Natural (Shrublands) Landscape,
- Marshlands,
- Mosaic of Agricultural and Natural (Shrublands) Landscape,
- Mountainous Natural (Forest) Landscape,
- Mountainous Natural (Shrublands) Landscape,
- Nearshore Seascape,
- Phryganic Landscape,
- Riparian Agricultural Landscape,
- Riparian Natural Landscape,
- Rural Landscape, and
- Wetlands.

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#### 1.2.4 Elements of environmental sensitivity of the project area

The statutory protected areas along the pipeline routing are presented in the following table.

**Table 1-4 Crossed Protected Areas by the EastMed Pipeline Project.**

Code	Name	Zone/Category	Crossing length (km)
<b>Nature Reserves</b>			
392914	STENON KAI EKVOLON ACHERONTA KAI KALAMA KAI ELOUS KALODIKIOU KAI PERIFEREIAKI ZONI	-	2.65
<b>National Parks</b>			
328999	MESSOLONGHI-AETOLIKO LAGOON NATIONAL PARK, DOWNSTREAM AND ESTUARIES OF ACHELOOS AND EVINOS RIVERS AND ECHINADES ISLANDS.	Peripheral Zone (ΠΠ1)	1.66
		Peripheral Zone (ΠΠ2)	1.10
349977	AMVRAKIKOS WETLANDS NATIONAL PARK	Zone C: Zone of Environmental Control	72.20
349979		Zone B: Special Regulations Area	5.35
349976		Zone A: Nature Reserve Zone in National Park	0.45
<b>Habitat and species protection areas (Special Areas of Conservation)</b>			
GR2540001	ORI GIDOVOUNI, CHIONOVOUNI, GAIDOUROVOUNI, KORAKIA, KALOGEROVOUNI, KOULOCHERA KAI PERIOCHI MONEMVASIAS SPILAIΟ SOLOMOU, TRYPA KAI PYRGOS AG. STEFANOY KAI THALASSIA ZONI EOS AKROTIRIO KAMILI	-	1.90
GR2310009	LIMNES TRICHONIDA KAI LYSIMACHEIA	-	1.23
GR2110001	AMVRAKIKOS KOLPOS, DELTA LOUROU KAI ARACHTHOU (PETRA, MYTIKAS, EVRYTERI PERIOCHI, KATO POUS ARACHTHOU, KAMPI FILIPPIADAS)	-	0.57
GR2120002	ELOS KALODIKI	-	0.14
<b>Habitat and species protection areas (Special Areas of Conservation – Special Protection Areas)</b>			
GR2330002	OROPEDIO FOLOIS	-	10.25
<b>Habitat and species protection areas (Special Protection Areas)</b>			
GR2540007	ORI ANATOLIKIS LAKONIAS	-	1.95



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Code	Name	Zone/Category	Crossing length (km)
GR2110004	AMVRAKIKOS KOLPOS, LIMNOTHALASSA KATAFOURKO KAI KORAKONISIA	-	0.39
<b>Wildlife Refuges</b>			
K524	Pratagos – Aetofolia (Elikas -Agios Nikolaos)	-	1.02
K361	Oros Arakynthos-Mataragkas-Gavalou	-	5.62
K316	Petalas (Amfilochias-Kechrinias-Papadatou-Stanou)	-	12.44
K728	Iera Moni Retha kai Iera Moni Longos Dimon Amfilogias, Menidiou, Inachou	-	3.27
K838	Lekatsa Dimou Zalongou	-	1.42



Prepared by: ASPROFOS, 2022.

Details of the cultural and historical environment are given in Chapter 5 (Section 5.1.3) and Chapter 8 (Section 8.5) of the present ESIA.

### 1.3 Specific emission limit values of pollutant loads and concentrations according to the applicable provisions

#### 1.3.1 Limit values and critical air quality levels are mentioned in the following decisions:

- In the M.D. with n. 14122/549/E103/24.3.2011 (B '488), which sets out measures to improve the quality of the air in compliance with the provisions of Directive 2008/50/EC;
- In the M.D. with n. 22306/1075/E103/29.5.2007 (B '920), which sets target values and limits for the assessment of concentrations of arsenic, cadmium, mercury, nickel and polycyclic aromatic hydrocarbons in ambient air in compliance with the provisions of Directive 2004/107/EC, as amended and in force;
- For the point source of diffuse dust from construction sites of the Project, the limit of 100 mg/m<sup>3</sup> applies, as defined by article 2 par. D of PD 1180/1981 (AD293) "On the regulation of issues related to the establishment and operation of industries, handicrafts..."; and
- According to Annex V of Joint Ministerial Decision 36060/1155/E.103/2013 (A '1450), as amended and is in force:
  - NO<sub>x</sub> emissions <50 mg / Nm<sup>3</sup> (NO<sub>x</sub> expressed as NO<sub>2</sub>); and
  - SO<sub>2</sub> emissions <35 mg / Nm<sup>3</sup>.

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### **1.3.2 For liquid waste, the following would be applied:**

- The M.D. with n. 5673/400/1997 (B '192), which lays down measures and conditions for the treatment of urban waste water, as amended and in force;
- The n. E1β/221/1965 (B' 138) Sanitary Waste Disposal Directive as amended remains in force following Circular 191645/3.12.2013 (ΑΔΑ: ΒΛΟΧ0-9ΝΥ); and
- Special provisions that may have been imposed on the project area.

### **1.3.3 For solid and hazardous waste management**

- For the sorting at source, collection, transport and management of solid waste, recyclable and non-recyclable, the provisions of Law 4042/2012 (AD 24) are applicable, regarding the national waste management plan, ratified by ΠΥΣ 39/31.8.2020 (GG 185 A') "Approval of the National Waste Management Plan (ESDA)" ΠΥΣ 2018 and Law 2939/2001 (A' 179), as amended by Law 4496/2017 (A' 170) and in force;
- The following legislations (as amended and in force) are applicable regarding hazardous waste:
  - The JMD. 13588/725/2006 (B' 383),
  - The JMD 24944/1159/2006 (B' 791) and
  - The JMD 62952/5384/2016 (B '4326).
- For the management of non-hazardous waste, the provisions of JMD oik.114218/1997 (GG 1016B) are applicable, regarding the measures and conditions of management, as in force;
- For the management of wastes that fall under the provisions on alternative waste management, the provisions of Law 2939/2001 (A' 179) are applicable, as amended by Law 4496/2017 (A' 170) and in force, and according the relevant issued regulatory acts;
- For the waste of electrical and electronic equipment that fall under the provisions of JMD 23615/651/E.103 /2014 (B' 1184), as in force;
- The provisions of JMD 41624/2057/E103/10 (B' 1625), as in force, apply to the batteries and accumulators waste;
- For the waste from excavation construction and demolition works, the provisions of JMD 36259/1757/E103/2010 (B' 1312), as in force, are applicable; and
- The provisions of PD 82/2004 (A '64) are applicable for oil waste.

### **1.3.4 For the Quality of surface water resources**

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The guidelines values of surface water quality are defined in JMD 50388/2704/E103/2003 (BA 1866) and 51354/2641/E103/2010 (BA 1909), as amended by JMD 170766/2016 (BA 69).

### 1.3.5 For the management of waste oils



- The Presidential Decree 82/2004 (A 64) as in force; and
- Waste management activities, such as the ones described in the relevant legislative framework for Waste Production and Management, are not foreseen during implementation nor operation of the Project.

## 1.4 Specific noise and vibration levels according to the applicable provisions

- For the noise emitted by the construction equipment of the Project, the provisions of M.D. 37393/2028/29.3.2003, which lays down measures and conditions for the environmental noise emission by equipment for use outdoors (B 1418), as amended by M.D. 9272/471/2.3.2007 (B '286);
- For the noise emitted during the operational phase of the Project, the forecasts of Presidential Decree 1180/1981 ('293) «on the regulation of matters relating to the establishment and operation of industries, crafts of all types in mechanical engineering and warehouses and the safeguarding of the environment in general» as amended and in force; and
- For the measures, terms and methods of noise evaluation, Y.A. 13586/724/06 (BD 384) «Definition of measures, terms and methods for the assessment and management of noise in the environment, in compliance with the provisions of Directive 2002/49/EC "on the assessment and management of environmental noise" of the Council of 25.6.2002» is applicable.

## 1.5 Conditions, Measures and Restrictions to be taken in order to confront (Prevention – Minimization – Reformation – Rehabilitation) the potential Environmental Implications.



### 1.5.1 General terms

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- The entity implementing and operating the Project (Project owner), as well as the physical or legal entities entrusted with its implementation or operation, are responsible for complying with the environmental conditions, measures and restrictions, which would be imposed by the relative Decision and indicatively suggested in this section;
- The Project owner is required to take all necessary measures in order to ensure:
  - The observance of the environmental terms by all those involved or contributing to the implementation and operation of the Project,
  - The ability to address and restore unpleasant environmental conditions due to actions or omissions in breach of environmental conditions.
- In the procedures for the conclusion of agreements between the Project owner and third parties, the conditions should be laid down for compliance with the environmental requirements of the relative Decision. A similar requirement applies to operators and third parties who may be involved in the operation of the Project;
- The Project owner should designate a member or business unit (environmental monitoring officer) responsible for monitoring compliance with the environmental conditions of the relative Decision and submitting the required environmental monitoring reports;
- From the costs of the construction and operation of the Project, priority should be given to those relating to environmental protection and rehabilitation projects that would be required to fully respect the conditions and limitations of the relative Decision;
- Sub-projects and activities related to the construction or the operating activities, additional to the ones already described in the ESIA and therefore included in provisions of the present decision, are environmentally permitted in accordance with the provisions of Articles 6 and 7 of Law 4014/2011. In case they refer to sub-projects or activities whose general impact assessment is included in the Environmental and Social Impact Assessment Study and therefore the present decision already includes general and/or special terms and restrictions for their implementation, Project Owner is possible to submit a Technical Environmental Study (TEPEM) which is assessed and approved by the environmental authority competent for the project, based on its classification in the M.D. 1958/2012 (B '21), as amended and in force.

### **1.5.2 Design finalization – implementation planning**

- Before starting construction work:
  - The required permits should be obtained,
  - All pre-operations such as geological/geotechnical studies, surveys, markings should have been completed.

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### **1.5.3 Measures and conditions for the mitigation of the environmental impact during the construction phase:**




#### *1.5.3.1 Use of natural resources*

In order to secure the fairly use of natural resources at least the following conditions should be implemented:

- The necessary materials for the Project, such as aggregates or earthy material, concrete and asphalt mixtures, can be provided by the existing plants that are legally managed and comply with the obligations laid down in environmental regulation;
- the re-use of the excavated and dredged material should be maximized, provided that they are free of hazardous materials; and
- In general, the materials that will be used during the construction phase should be environmentally friendly, free from substances harmful to health and the environment and that are included in the MD 475/2002/2003 (ΦΕΚ Β' 208) and MD 121/2003/2003 (ΦΕΚ Β' 1045).

#### *1.5.3.2 Solid waste management*

- The management of solid waste (including excavated and dredged material), any other waste that require special management (e.g. used lubricants) and hazardous or toxic wastes will be managed in accordance with the requirements of the relevant legislation. For this purpose, a Waste Management Plan and a Hazardous Waste and Material Management Plan should be developed and implemented, by covering at least the following requirements:
  - Estimation of the type and quantity of waste, for each forthcoming stage of construction and tentative receptor,
  - Legislation requirements for the management of each of the types of waste that will occur during construction phase,
  - Procedures for verification of adequate chemical quality of waste before any (temporary or permanent) disposal,
  - Available solutions for the management of each type of waste and documentation of the compliance of each solution with the relevant applicable provisions,
  - Requirement for all third parties that are to be involved in the construction phase to comply to the waste management plan including, but not limited to, (a) follow specific waste handling procedures, (b) monitoring and (c) properly managing of all records and documentations.
- The Waste Management Plan and the Hazardous Waste and Material Management Plan will be prepared by the Project owner, either independently or in collaboration with third parties. If



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necessary, modifications or revisions of the Plans should be performed, ensuring that the aforementioned requirements are fully met;

- A term for compliance with the Waste Management Plan should be provided in applying of the condition 1.5.3.1;
- Excavation materials that will not be used for the construction of embankments and backfilling of the Project may only be disposed at legitimate disposal sites. In any case it is forbidden to deposit surplus or inappropriate excavated material in areas interrupting water flow of surface bodies;
- The excavation work during the construction should be made in the mildest possible way and preferably minimizing the potential use of explosives;
- Regular maintenance of the construction equipment will be carried out outside the working strip or in specific for this purpose areas within the working strip. In the case of emergency maintenance, a record will be kept by the supervisor. For these cases:
  - Waste oils will be managed in accordance with the Presidential Decree 82/2004 (A '64), which lays down measures, conditions and program for the alternative management of lubricating oil waste,
  - If there are unusable tires, they will be delivered for alternative management to a certified manager.
- Solid wastes of vessels will be managed in accordance with Law 1269/1982 as amended by M.D. 2431.06.1/2005. In compliance with the provisions of Annex V “Prevention of Pollution by Garbage from Ships” of the International Convention for the Prevention of Pollution from Ships (MARPOL); and
- In general, all vessels will operate in accordance with national and international standards.

#### 1.5.3.3 *Liquid waste management*

- Throughout the construction, pollution of surface and ground water from all kinds of runoff should be avoided, as well as the disposal of any non biodegradable substances on the soil;
- Take all precautionary measures to prevent oil spills from damage, negligence, etc. Nevertheless, in case a leakage of such materials occurs, care should be taken in order to avoid extensive contamination of the soil and aquifer;
- A Pollution Prevention and Emergency Spill Response Plan should be developed and enforced before beginning of activities;
- In order to deal with accidents, the project’s implementation entity or any third party involved in the construction of the Project should have on site and ready to use the appropriate materials eg. especially binding products of biodegradation or collection of oils and lubricants, etc.;

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- The final form of the Project after the pipeline is covered, should allow rainwater runoff in order to avoid soil erosion or flooding;
- The drainage flows should be free from suspended materials (eg slurries or sludges) and non-biodegradable substances (eg lubricants, fuels, etc.);
- Washing of mechanical equipment and vehicles will be carried out exclusively inside the construction sites, in specific areas as that defined in the relevant legislation (Law 3207/2003). It is forbidden to dispose washing water in the water resources;
- Liquid wastes of vessels will be managed in accordance with Law 1269/1982 as amended by M.D. 3104/2003. In compliance with the provisions of Annex IV “Prevention of Pollution by Sewage from Ships” of the International Convention for the Prevention of Pollution from Ships (MARPOL); and
- In general, operate all vessels in accordance with national and international standards.



#### 1.5.3.4 Dredging works performance

During dredging it is proposed to adopt all available measures to reduce suspended sediment concentrations; some indicative measures are:

- In general, during the trenching and in order to minimize the sediment suspension, a silt curtain or similar, should be used, if necessary, around the working area;
- When using a trailing suction hopper dredger the trailing velocity should be optimized, as well as suction mouth and discharge and effort should be made to reduce or even eliminate overflow;
- When using a cutter suction dredger: optimize cutter speed, swing velocity and discharge and employ a special cutter-head design;
- When using a grab dredger, employ watertight grab/clamshell, use silt screen, limit grab time above water and limit grab dragging on bed; and
- When using a backhoe dredger, use a special bucket for reducing sediment losses and silt screen (applicable for current velocities less than 0.5 m/s).

#### 1.5.3.5 Management of Dredged material

- Dredging material should be used as much as possible for backfilling purposes;
- Minimizing the volumes of sediment that must be dredged by using improved Best Environmental Practices;
- Dredged materials will be handled following the requirements listed in OSPAR guidelines (Oslo Paris Convention) for Management of Dredged Material at Sea;

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- Dredged materials related to the construction works may only be disposed at sea following the Updated Guidelines on Management of Dredged Materials (Decision IG 23/12);
- In case the dredged materials classified as unsuitable for free disposal at sea may only be disposed at legitimate disposal sites. The management of the dredged materials should be presented in detail in the Aggregates Management Plan;
- With regard to the dumping of dredged material at sea, at least the following appropriate methods should be chosen in order to minimize the environmental effects:
  - Deposit vessels should be equipped with accurate positioning systems which shall be switched on recording mode during deposit operations and the activity of the vessels should be reported to the permitting and supervising authority,
  - Deposit vessels and operations should be inspected regularly to ensure that the conditions of the deposit permit are being complied with and that the crew is aware of their responsibilities under the permit,
  - The dredged material and the sediments in the receiving area should be similar as far as possible,
  - The dredged material should be evenly distributed on the defined disposal site,
  - The concentration of material should not exceed the height specified in the Aggregates Management Plan.



#### 1.5.3.6 GHGs emissions limitation

- All vehicles and vessels used in the construction of the Project should have a valid European certificate of conformity with the respective limits of gaseous pollutants;
- All vehicles and vessels should be maintained at regular intervals; and
- All vessels used in the construction of the Project should operate in line with M.D. 2263.1-7/38042/2018, in compliance with the provisions of Annex VI “Prevention of Air Pollution from Ships” of the International Convention for the Prevention of Pollution from Ships (MARPOL).

#### 1.5.3.7 Dust emissions limitation

- In any construction activity where emissions of dust, suspended particles or odorous substances are likely, procedures and equipment should be adopted to ensure a drastic reduction of these emissions, while the duration of these processes should be minimized;
- Loading – depositing of loose materials and the routes of construction vehicles within the construction area of the Project during the dry periods of the year should be carried through under watering or different equivalent way of dust suspension minimization ;



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- The emission of dust from the effect of wind on stacks of materials that are temporarily created in the project area is limited either by covering the stacks or by wetting them or by using solutions that temporarily solidify the outer surface of the stack;
- Vehicles carrying soil or materials from/to the construction sites will be covered to minimise entrainment by the wind;
- The width of the working strip to be limited to what is absolutely necessary;
- Drivers should be instructed on driving practices (measured acceleration, speed limits etc) that reduce dust emissions; and
- Use of water in sensitive areas for control of loose materials on paved or unpaved road surfaces.

#### 1.5.3.8 Control of Noise & Vibration

- Where practicable noisy equipment will be sited as far away as possible from receptors.
- Construction contractors might use alternatives to audible reversing alarms, such as visual and/or broadband noise emitting models with the same level of safety, or apply appropriate techniques to maximize mobile equipment movement speed.
- Alternatives to diesel and petrol engines and pneumatic units, such as hydraulic or electric-controlled units, may be used, where practicable.
- Where practicable, stationary equipment will be located in an acoustically treated enclosure.
- Throttle settings will be reduced, and equipment turned off when not being used.
- Equipment will be regularly inspected and maintained to ensure it is in good working order. Equipment will not be operated until it is maintained or repaired, where maintenance or repair would address the annoying character of noise identified.
- Use of compressors, generators and pumps fitted with properly lined and sealed acoustic covers or enclosures, which will be kept closed whenever the machines are in use, and positioning of all ancillary plant (e.g. generators, compressors) so as to cause minimum noise disturbance.
- For machines with fitted enclosures, doors and door seals will be checked to ensure they are in good working order and that the doors close properly against the seals.
- Shutting down of machines in intermittent use in the intervening periods between works.

#### 1.5.3.9 Observe the following conditions, according to the decisions of Culture and Sport Minister



- All excavation work provided in the folder of ESIA will be carried out under the supervision of the relevant Archaeological Services, which must be notified in writing in time to grant the relevant permit.

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- Due to project's large extent and in order to avoid delays, provision should be made by its implementing body for the carrying out of archaeological investigations and works in which, according to the applicable legislation (Article 37 of Law 3028/2002, article 25 of Law 3614/2007 and article 10 of Law 3840/2010), monitoring of all the excavation works of the project is included.
- Signing a Memorandum of Understanding between the Project Owner and the relevant Competent Authorities. In the event that antiquities are found during construction, the works may be temporary suspended until the findings are investigated and / or a local route adjustment is applied.
- Prior to the start of the relevant construction works, trial cuts will be performed at specific Project locations, in case the local Ephorates request it. Record the static integrity of the above-ground elements close to the project footprint so that can be reinforced or stabilized structurally before any work.
- Limitation of vibrations capable of disrupting the integrity of existing structures. Use of appropriate means to minimize vibration.

#### *1.5.3.10 Intervention in forests and forest areas*

- Before the start of the project's implementation, the provisions of the MD 15277 (B '1077) must be observed, regarding the characterization of the extent of intervention (according to article 14 of Law 998/79) and its ownership status.
- Excavations should be limited to what is absolutely necessary, and any deterioration of forest vegetation will be limited to the minimum possible and only in the occupied area .
- Do not deposit excavation materials and construction materials in streams and torrents in order to ensure the free flow of their water in forest areas outside the project occupancy zone.
- The project owner takes care of the protection of the environment, mainly in the prevention of fires during the construction of the project, and measures are taken to guard the site in order to avoid accidents.
- The interventions in forest areas for the implementation of this project should be carried out under the terms, conditions and procedure foreseen by the Forestry Legislation.
- Before the start of the project implementation, in forests and woodlands, a Preliminary Phytotechnical Reinstatement Study as provisioned by the MD 15277/2012 (GG 1077/B/2012) should be submitted to the competent Forestry, for approval, for the restoration of forest vegetation as well as the improvement of the landscape aesthetics impacted from the construction of the project. The plant species to be used should be indigenous and not foreign to the natural plant association of the area. Planting works should begin immediately on each part

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of the project where the earthworks have been completed and the final surfaces have been formed. Plantings should be maintained for the first 3 years under the responsibility of the project promoter.



- Worksite installations should be developed in places where there is no forest vegetation. If this is not feasible, the contractor will assume responsibility for restoring them at the end of the project.
- The logging and eventual grubbing of trees should be limited to what is absolutely necessary and the logging products should be made available by the competent forestry authorities in accordance with the provisions of forestry legislation.
- Non-observance of the above conditions implies the prosecution of the responsible persons under the provisions of Article 71 of Law 998/1979 as amended by Article 41 of law 4280/2014 and in the case of repeat the revocation of the relative decision.
- The Forestry service is not responsible for any claims, assertions and problems that may be created by the third and on areas other than those specified above, through the relative Decision.
- The Decision Approving the Environmental Terms that will be issued does not affect the rights of the State over the land.
- The monitoring and application of the terms of the Decision to be issued, concerning the implementation of forest law provisions, is assigned to the relevant Forestry Office.

#### *1.5.3.11 Irrigation networks*



- Priority is to restore the irrigation networks that may be affected during the construction phase of the project.

#### *1.5.3.12 Intervention in Protected Areas, fauna and flora protection*

- In areas of biodiversity interest excavation works provided in the folder of the Environmental Impact Study will be carried out under the supervision of the Natural Environment and Biodiversity Management Directorate, which will be notified in writing in time in order to be granted a relevant permit, if required.
- Provision should be made by the project implementation body for the implementation of an environmental and social monitoring program, including the monitoring of all excavation works by appropriately qualified employees.
- A relevant Memorandum of Understanding will be signed between the Project Implementing Entity and the Natural Environment and Biodiversity Management Division. .
- Development of a Biodiversity Management Plan including interaction guidelines for employees.

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- An ecology specialist will monitor implementation of environmental terms, per construction front, especially in areas of biodiversity interest (protected areas or areas identified during pre-construction field surveys).
- Throughout the construction, all necessary measures should be taken to avoid sea pollution, as well as any additional measures that will be indicated by the competent Port Authority, in accordance with Law 743/1977 (A' 319), as codified and is in force with MD 55/1998 (A' 58).
- Artificial lighting will be limited in compliance with best practices to mitigate light pollution on wildlife and to preserve the view of the night sky.
- Open trenches will be routinely checked for trapped animals, which will be immediately rescued and relocated.
- The Project will provide for the presence of Marine Mammal and Fauna Observer (MMO/MFO) on board or near the construction vessels to ensure the application of mitigation procedures in case protected animals are spotted near the working vessels
- Qualified and experienced MMOs shall undertake visual and acoustic search for marine mammals and turtles.
- Immediately before any ground disturbance, destructive survey will be undertaken of any place that may provide sheltering opportunity for amphibians or reptiles. This is likely to be required where piles of loose material and debris are present within the work area.
- If any reptiles or amphibians are found during these pre-construction surveys, they will be caught and moved to a suitable receptor site (replicating, where possible, the conditions of the area being lost to construction) a minimum of 50 m away from the works.
- Develop a Marine Traffic Management Plan, including maximum speed per marine area, notification procedures, anchoring and berthing areas, guidelines for employees, etc.
- Mooring should be avoided to the extent possible over *Posidonia oceanica*. If this is not feasible, seagrass-friendly moorings should be installed on meadow clearings, depending on the substrate. Indicatively, sand screws on sandy patches, dead weight moorings on large sandy patches, or grouted anchors on rocky patches. In meadows without clearings but with a well-developed mat, a special ecological anchor device can be used (e.g. Harmony P anchors).
- All vessels should comply to the Marine Traffic Management Plan (incl. temporary pause of activities if a marine reptile is detected within a 50 m zone from the construction activities vessels. Marine Mammal Observers (MMOs) shall also monitor for turtles, all collisions with turtles (or other marine megafauna) must be reported.
- Establish anchoring exclusion zones to prevent and minimise impacts to areas containing critical habitat triggers.



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#### 1.5.3.13 Other terms

- For construction works in the marine area, the Project Owner should inform the Hellenic Navy Hydrographic Service (HNHS) about the start date and its planned end. After the completion of the works an accurate bathymetric diagram and horizontal plan of the executed project should be submitted to the HNHS, in order to update the respective Greek Paper Nautical Charts (XEE) and other Nautical publications.
- The Project Owner should care for the marking of the project in the sea, both during the construction phase and after the completion of the works, according to the instructions of the Hellenic Navy Lighthouse Service (HNLS).
- All appropriate measures should be taken so that the balance of anthropogenic activities is not disturbed during the construction works.
- The environmental monitoring officer shall ensure that data relating to the conformity of construction works with environmental conditions are collected. The Project Owner is responsible for collecting and making available to the environmental monitoring officer the relevant data.

#### 1.5.4 Measures and conditions for the mitigation of the environmental impact during the operation phase.

- There must be a fire-extinguishing system approved by the Fire Service in all project facilities (valves, compressors).
- The project owner takes care of the protection of the environment, mainly in the prevention of fires during the operation of the project, and measures are taken to guard the site in order to avoid accidents.
- All vehicles and vessels used during the operation of the project should have a valid certificate of conformity with the respective limits of gaseous pollutants.
- The environmental conditions proposed in the Environmental Impact Study accompanying the relative Decision should be followed and do not contradict the above.
- The Project body responsible for the environmental monitoring of this project is required to prepare a program and coordinate its implementation in order to monitor the environmental impact of the project and the implementation of the environmental conditions related to its operation.
- Taking into consideration all the above, the Project owner is obliged to submit an annual environmental monitoring report at the end of March each year.



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## 1.6 Period of validity of the decision approving environmental conditions – Conditions for its renewal and amendment

- The environmental terms of the relative Decision shall be valid for 10 years from the date of publishing provided that there is no change to the data on which it was issued.
- Prior to the termination of this period, the Project promoter must initiate the process of renewal of the environmental terms, as defined in article 5 of Law 4014/2011. According to the same article, if the renewal folder is submitted on time (at least two months before the expiry date), , the environmental conditions remain in force until the completion of the renewal process.
- For the modernization, improvement, extension or modification of the Project, the compliance with Article 6 of Law 4014/2011 is required. In the event that regular and extraordinary environmental inspections find serious environment degradation problems, or if environmental impacts not foreseen by the Environmental and Social Impact Assessment Study and the relative Decision are observed, additional environmental terms shall be imposed or the terms of that Decision shall be amended as provided in paragraph 9 of article 2 of Law 4014/2011, in conjunction with Article 6 of the same law.

## 1.7 Other provisions

- The relative Decision:
  - Does not cover any safety issues related to accidents or the safety and hygiene of personnel, which are still regulated by the relevant provisions.
  - Does not exempt the project owner from the obligation to issue any other permits, approvals or regulatory acts provided by the applicable legislation to the Project,
  - Has been issued without considering the ownership titles of the project site, as well as the terms and restrictions for the construction of the land,
  - Does not result to the legalization of any arbitrary existing constructions to which the provisions of the current legislation apply,
  - Any the above data which were examined in the Environmental Impact Study are referred under the responsibility of the Project Owner.
- The relative Decision shall apply subject to its non-contradiction to town planning and other specific provisions which prevail over it.

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## 1.8 Obligations regarding the monitoring of compliance with environmental conditions

- The relative Decision, the stamped Environmental and Social Impact Assessment Study, as well as subsequent files for renewal, modification, technical environmental studies together with relevant decisions, should be available at the project site during the implementation phase and the headquarters of the operation owner then. These items will be displayed by the liable entity in any responsible, under the law, supervisory body.
- The project owner will subsequently:
  - Keep at the work site or at its seat data to demonstrate compliance with the environmental terms of the Project (eg invoices, contracts, supporting documents, data registries, etc.),
  - Allow access to the Project in any competent supervisory body and to facilitate any check by them,
  - Provide all required data and information,
  - Facilitate the control and comply with the recommendations – instructions from the relevant control bodies to comply with environmental legislation.
- If issues arise during the implementation of the relative Decision, which are not covered by the terms of the relative Decision, they shall be resolved in accordance with the applicable legislation and where this is not possible on the basis of the ESIA of the Project or subsequent files in relation to its environmental licensing.
- If pollution occurs or other degradation of the environment or breach of the terms of the relative decision, penalties are applied to the responsible for the project operation, as provided for by the Articles 28, 29 and 30 of Law 1650/1986, as amended and is in force (Law 4819/2021).

## 1.9 Publication

The obligation imposed by law for publication of the relative Decision shall be implemented through the posting on the special website at [aepo.ypeka.gr](http://aepo.ypeka.gr) web address, as provided by Article 19a of Law. 4014/11 and the M.D. with n. 21398 / 2.5.2012 (B '1470).

## 1.10 Legal possibilities against the relative Decision

Against the relative decision, an appeal for cancellation may be filed to the Council of State, within the fixed time limits set by the applicable provisions.