

Environmental Bulletin of Kerkira “I. Kapodistrias” Airport (CFU) Reference year 2018

Fraport Greece

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1. INTRODUCTION

Location

Kerkira Airport “Ioannis Kapodistrias” is located S-SW of the city of Kerkira and east of Chalikiopoulos lagoon in an area of approximately 760 acres.

Administration

The airport administratively belongs to the Regional Unit of Kerkira of the Region of the Ionian Islands in the Municipal Unit of Kerkira of the Municipality of Kerkira.

Environmental licensing

Approved Environmental Terms	
E.T. Decision Reference number	11945/08.03.2017
E.T. Amendment Decision reference number	7208/30.03.2018

1.1. Airport Basic Data

Airport Basic Data	
Airport name IATA / ICAO	CFU / LGKR
Airport location – Airport Reference Point (ARP)	Latitude : 39° 36' 07" N Longitude : 19° 54' 42" E
Altitude	2m
Number of runways	1
Operation hours	0:01-24:00

Runways	Length/Width	Code			
Runway	2,373 m x 45 m	17/35			
Full length of parallel taxiway	N/A				
Number of taxiways	3				
Apron capacity	A	B	C	D	E
	-	-	9	-	2
Employees	High season	Low season			
Fraport Greece (FG) employees	38	38			
Employees of other companies	227	35			

Terminal	
➤ Total area (m ²)	21,000

Other buildings and service/storage areas	
➤ RFF Station (m ²)	1026

Parking Areas	
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Car parking spaces	700
Bus parking spaces	14
Taxi parking spaces	25

1.2. Airport facilities

1.2.1. Fuel Handlers

Number of fuel handler companies	
Number of fuel handler companies operating at the airport	2

Installations inside the airport		EKO	GISCO	HAFCO
Environmental Management System (EMS)	(YES/NO)	YES	YES	Not operating at the airport

1.2.2. Ground Handlers

Number of ground handler companies	
Number of ground handler companies operating at the airport	2

Installations inside the airport		SKYSERV	SWISSPORT	GOLDAIR
Vehicles (total number)		21	-	101
Environmental Management System (EMS)	(YES/NO)	YES	-	YES

2. TRAFFIC DATA STATISTICS

2.1. Annual Traffic Data

Annual Traffic Data for the year 2018	
Overall Annual Air Traffic Movements ¹	26,303
Percent of increase or decrease in relation to the previous year	17.0%
Annual passenger traffic	3,364,115
Percent of increase or decrease in relation to the previous year	15.3%
Annual cargo transferred (tn)	183
Percent of increase or decrease in relation to the previous year	-1.60%

Aircraft types
Prevailing aircraft types for domestic flights

¹ Military and training flights not included.

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Aircraft type	No. of flights
A320	1506
AT75	982
AT45	506
A32A	400
AT72	311
JS41	230
DH8D	228
A319	58
A321	56
AT43	53
Other	644
Prevailing aircraft types for international flights	
Aircraft type	No. of flights
B73H	6912
A320	3405
B738	1540
A32A	1466
A319	1294
A321	996
A32B	617
B75W	449
B737	403
B734	397
Other	3850

2.2. High season traffic data

High season traffic data (June-September)	
Highest traffic month	August
Air traffic movements during the month with highest traffic	5.161
Air traffic movements daily average number during the month with highest traffic	167


2.3. Low season traffic data

Low season traffic data (October-May)	
Lowest traffic month	February
Air traffic movements during the month with lowest traffic	348
Air traffic movements daily average number during the month with lowest traffic	12

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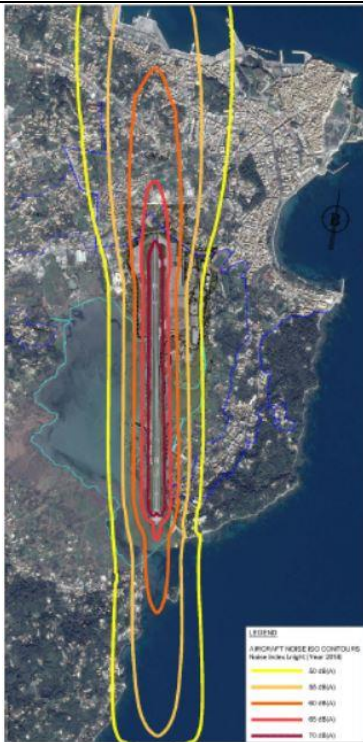
3. AIRCRAFT NOISE

3.1. Noise measurements during the reference year

Have noise measurements at the airport's surrounding area been performed during the reference year? [YES/NO]		YES
Measurement points		
		
Measurement points coordinates	Measurement points description	
1) Position: 39° 36' 44" N 19° 54' 28" E	Located north of the runway in an empty property.	
2) Position: 39° 36' 25" N 19° 55' 10" E	Located east of the runway in a yard next to a church.	
3) Position: 39° 34' 50" N 19° 54' 44" E	Located in Perama, south of the runway in the garden of a hotel.	
Measurement period	01.09.2018 -02 09.2018	
Noise indicators	Lden, Lnight	
Summary of measurement results:		
<p>Noise levels are monitored according to the airport's monitoring program. At measurement points 2 & 3 no exceedance was recorded in the noise indicators levels Lden = 70 dB (A) & Lnight = 60 dB. At measurement point 1 a slight exceedance of the Lden & Lnight indicators was recorded.</p>		

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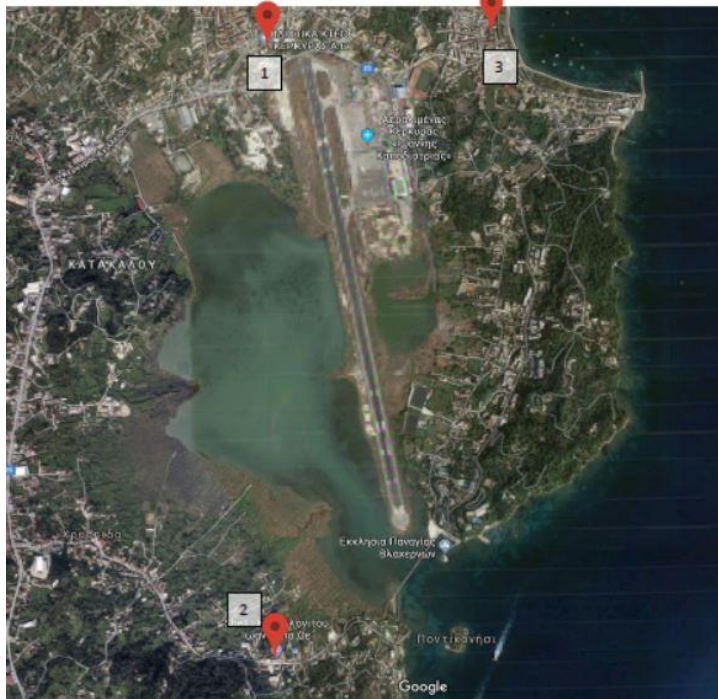
3.2. Noise levels calculation based on noise simulation software

Aircraft noise levels calculation based on noise simulation software [YES/NO]	YES
Software used: IMMI Noise Prediction Software	
Noise indicators and respective contours calculation:	L_{den}, L_{night}
 <p style="text-align: center;">L_{den}</p>	 <p style="text-align: center;">L_{night}</p>
Summary of results:	
<p>For the year 2018 some residential buildings within settlements that have an existing regulatory plan within a limited area in the vicinity of the airport are exposed to noise levels higher than the limits L_{den} = 70 dB(A) and L_{night} = 60 dB(A).</p>	

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4. AIR QUALITY

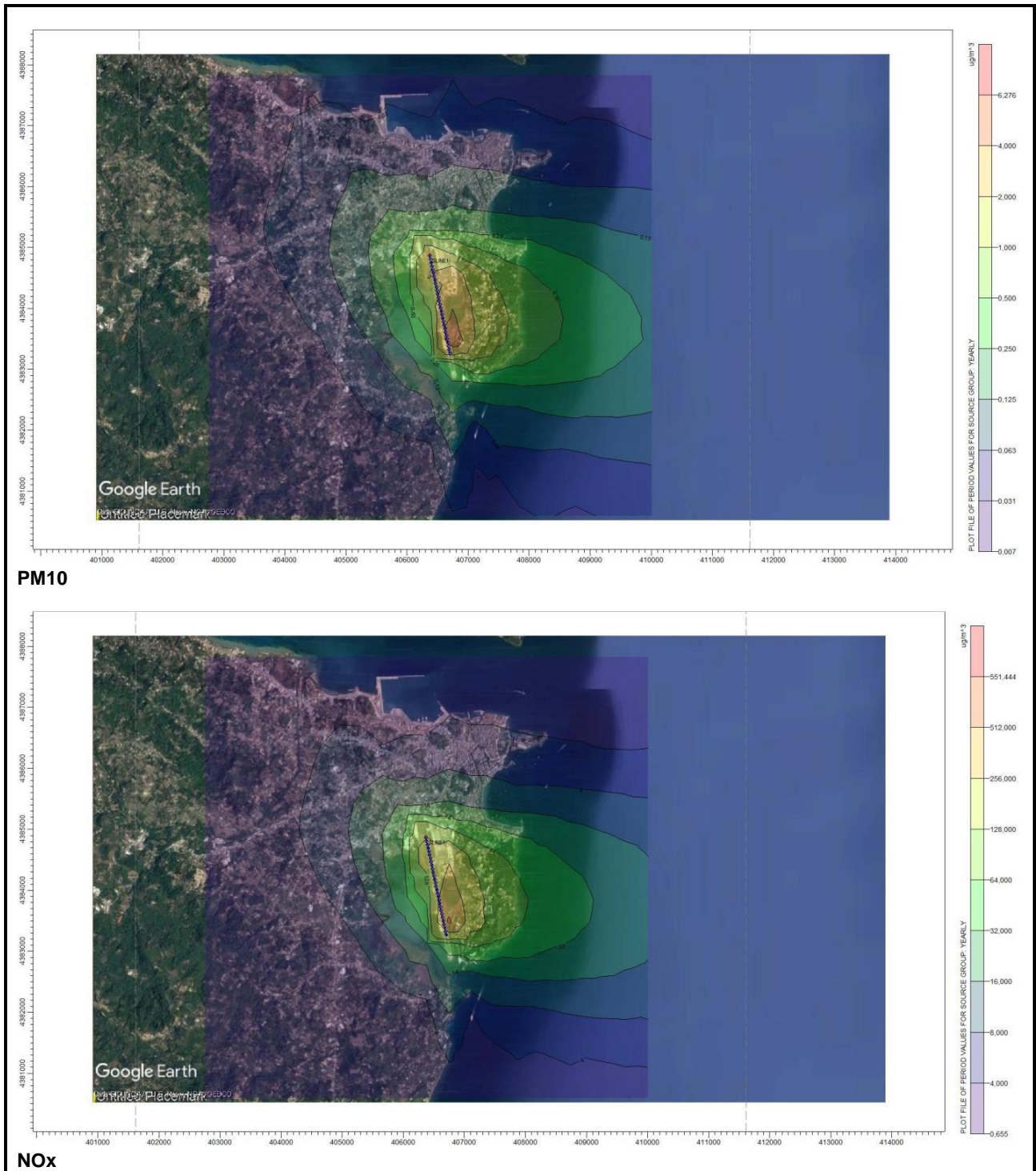
4.1. Air quality measurements during the reference year

Have air quality measurements at the airport's surrounding area been performed during the reference year? [YES/NO]		YES
Measurement points		
		
Measurement points coordinates	Measurement points description	
1) Position: --° --' --" N --° --' --" E	North of the airport at a distance of approximately 500m inside a parking lot (KTEO)	
2) Position: --° --' --" N --° --' --" E	South of the airport at a gas station at a distance of approximately 1.5 kilometer	
3) Position: --° --' --" N --° --' --" E	East of the airport at a distance of approximately 1 kilometer.	
Measurement period	31.08.2018 - 07 09.2018	
Pollutants measured: PM ₁₀ , PM _{2,5} , NO ₂ , SO ₂ , C ₆ H ₆ , O ₃		
Summary of measurement results:		
Air quality is monitored according to the airport's monitoring program. No exceedance of the air quality limits was observed.		

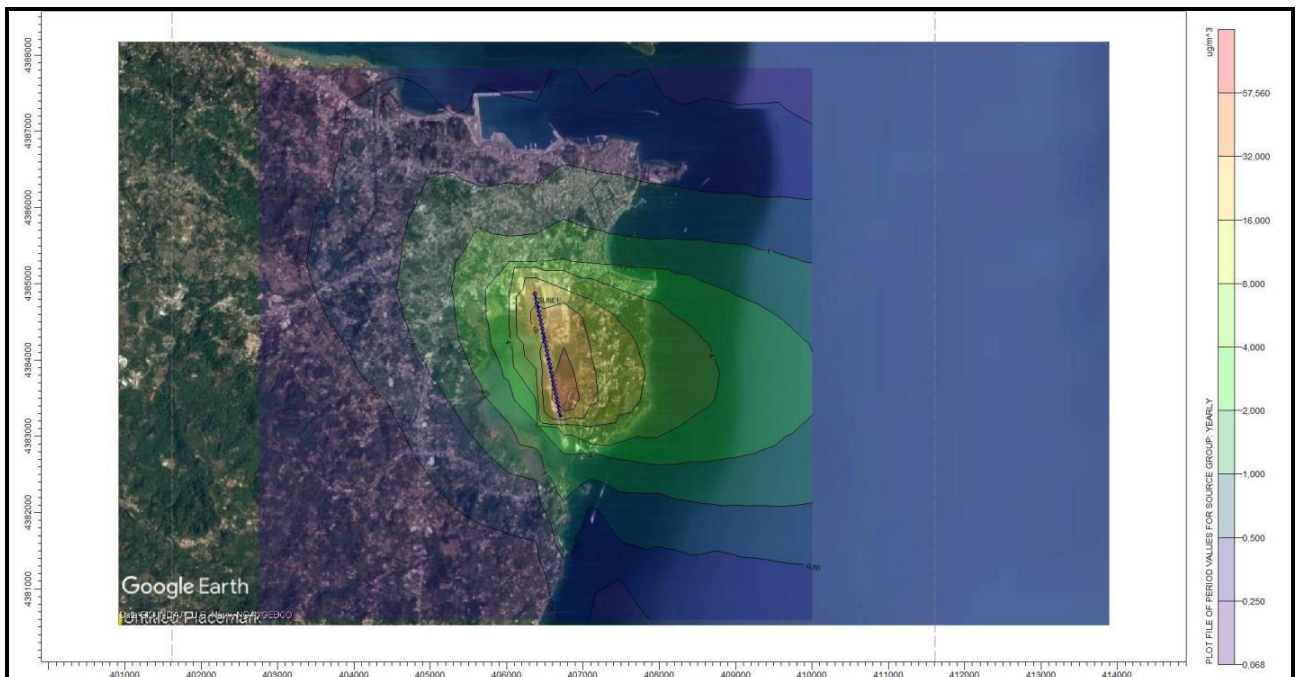
4.2. Air pollutants emission and dispersion modelling

Calculation of air pollutants concentrations based on an emission and dispersion modelling software [YES/NO]	YES
Software used: Emissions and Dispersion Modeling System (EDMS) - US Federal Aviation Administration & US EPA AERMOD	
Pollutants concentrations and respective contours calculation: PM ₁₀ , NO _x , SO _x , C ₆ H ₆	

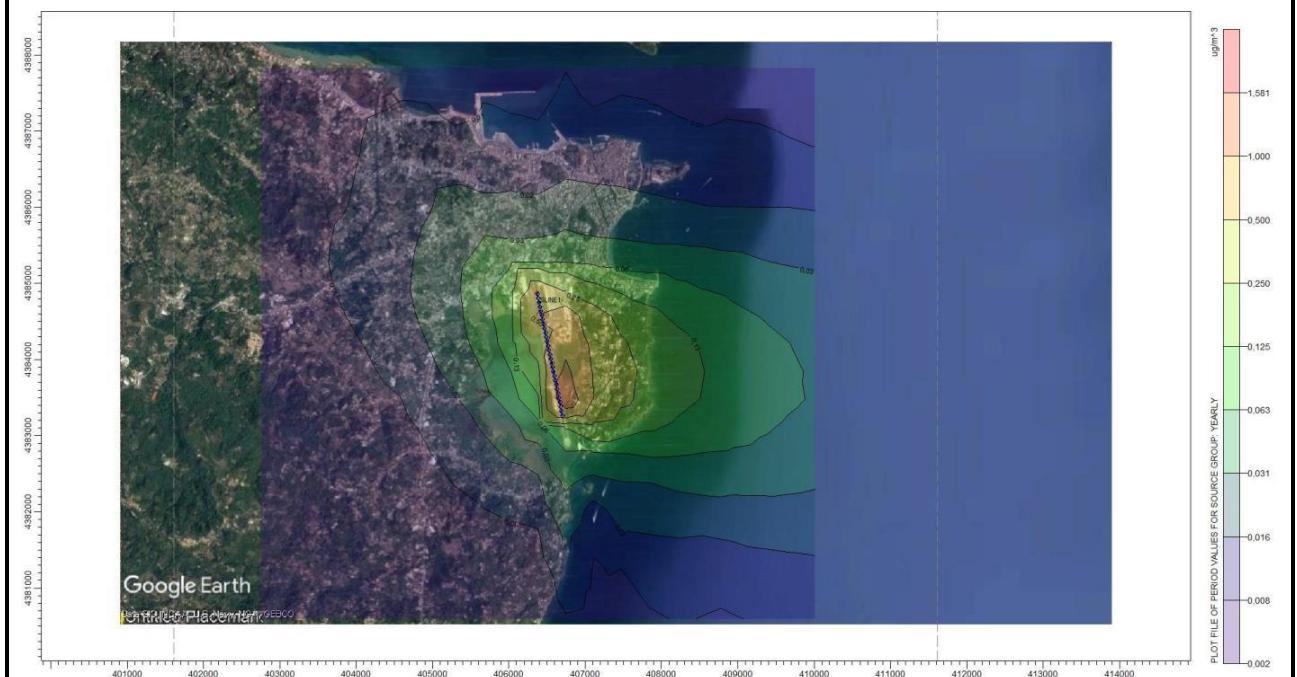
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SOx



Benzene

Summary of results:

Air quality is monitored according to the airport's monitoring program.

No exceedance of the air quality limits was observed.

It is noted that the simulation of the ozone cycle is a difficult procedure the results of which are greatly dependent from the meteorological conditions and solar radiation data used in the photochemical model. The simulation of the specific pollutant is not possible.

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5. WASTE MANAGEMENT

Waste management		
Waste	Collection	Management/Disposal
Municipal solid waste	Collection and emptying of garbage bins by an FG contractor inside the airport	Collection and management by the Company ANTI POLLUTION S.A.
Recyclables	Under development due to lack of local municipal or private infrastructures	Under development due to lack of local municipal or private infrastructures
Used oils	Collection by licensed collector "Cytop S.A."	Collection and management by licensed collector "Cytop S.A."
Electric & electronic waste	Collection by alternative management system "Appliances recycling S.A."	Collection and management by alternative management system "Appliances recycling S.A."
Accumulators	Collection by alternative management system "Re-Battery S.A."	Collection and management by alternative management system "Re-Battery S.A."
Small batteries	Collection in special bins of the company AFIS S.A. inside the airport	Collection and management by alternative management system "AFIS S.A."
Used tires	Collection by alternative management system "ECOELASTIKA S.A."	Collection and management by alternative management system "ECOELASTIKA S.A."

Notes:

1. Ground handlers and fuel handlers manage all the categories of waste they produce independently
2. The total quantities of the produced waste by category resulting from all activities of the airport are recorded by Fraport Greece A and submitted in the Electronic Waste Registry via the Annual Waste Producer Report as provided for by the applicable legislation.

6. ECOSYSTEM AROUND THE AIRPORT

6.1. Flora-Fauna

ECOSYSTEM AROUND THE AIRPORT	
Flora	
Are there protected zones of vegetation/habitats in the broader airport area? [YES/NO]	YES
<i>(if YES)</i> Short description: Kerkira Airport is adjacent to the protected site GR2230005 "PARAKTIA THALASSIA ZONI APO KANONI EOS MESONGI (KERKYRA)" of the Natura 2000 network. The marine region is characterized by a great diversity of flora. The area also includes Chalikiopoulos lagoon (type of priority habitat of the Directive 92/43/EC, 1150* Coastal lagoons)	
Fauna	
Are there protected species of fauna/birds in the broader airport area? [YES/NO]	NO
<i>(if YES)</i> Short description:	

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6.2. Ecologically fragile areas

Kerkira Airport is adjacent to the protected site GR2230005 “PARAKTIA THALASSIA ZONI APO KANONI EOS MESONGI (KERKYRA)” of the Natura 2000 network. The marine region is characterized by a great diversity of flora. The area also includes Chalikiopoulos lagoon (type of priority habitat of the Directive 92/43/EC, 1150* Coastal lagoons

7. WILDLIFE HAZARD MANAGEMENT

Wildlife hazard management	
<i>Extent of the problem</i> (bird species):	Birdstrikes
Tyto alba (Owl)	2
Passeridae spp. (Passeroidea)	2
Gallinula chloropus (Common moorhen)	1
Otus scops (Eurasian scops owl)	1
Ardea cinerea (Grey heron)	1
Ardeidae spp. (Heron)	3
Egretta garzetta (Little egret)	1
Phasianus colchicus (Common pheasant)	1
Columba livia (common pigeon)	4
Hirundinidae spp. (swallow)	3
Strix aluco (Tawny owl)	1
Motacilla alba (White wagtail)	1
Hirundinidae spp. (swallow)	3
Adopted measures	

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The following reports have been submitted to the Department of Airports Operation of the Hellenic Civil Aviation Authority:

1. "Wildlife hazard risk identification and management, Fraport Regional Airports of Greece A S.A., Reference period 11 April-31 December 2017"
2. "Wildlife hazard risk identification and management, Fraport Regional Airports of Greece B S.A., Reference period 11 April-31 December 2017"

In these reports, information is included for the following:

- Bird and other animal species management is done by FG in all airports with the exception of Aktion and Chania airports where wildlife hazard management belongs to the Hellenic Air Force
- Birdstrikes or other species strikes on aircrafts data refer to the period between April 11-December 31 2017
- Birdstrikes or other species strikes on aircraft risk evaluation (strikes indicator is taken under account (birdstrikes number to the total ATMs)
- Wildlife hazard management measures

Reference year summary results:

The number of strikes of birds or other animals to aircrafts cannot reduce the population of even endangered species, since only a limited number can be involved in a strike event (stochastic events). The loss of a limited number of animals cannot change the population status of the species.

8. CULTURAL HERITAGE

Have new cultural heritage properties been discovered during the reporting period? [YES/NO]				NO
<i>(if YES)</i> Details provided in the table below:				
Location	Date of discovery	Type of discovery	Additional protection measures taken	

9. RESOURCES CONSUMPTION

9.1. Energy consumption

Energy consumption (monthly electric energy consumption, in Kwh)	
MONTH	Kwh
January	86.037,40
February	162.849,20
March	189.784,00
April	342.219,92
May	469.709,60
June	531.426,60
July	599.428,40
August	652.248,40
September	575.601.6

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October	414.174,20
November	162.906,20
December	167.482,80
Total annual electric energy consumption (in Kwh)	4.353.868

9.2. Fuel consumption

Fuel consumption		
Number of FG vehicles at the airport	12	
Number of firefighting vehicles at the airport	3	
Total annual fuel consumption	Diesel (lt)	21.734,17
	Unleaded gasoline (lt)	535,94

9.3. Heating oil or natural gas consumption

Heating oil or natural gas consumption	
Total annual heating oil consumption (lt)	20.598,00
Total annual heating natural gas consumption (m ³)	N/A

9.4. Water consumption

Water consumption	
Period	Consumption [m ³]
January – March	1.369
March- August	13.828
September – December	9.873
Total annual consumption	25.070 m³

10. GREENHOUSE GAS EMISSIONS & CARBON FOOTPRINT

Greenhouse gas emissions that were included in the carbon footprint calculation are the CO₂ emissions included in scope 1 & 2 of the GHG protocol:

- Scope 1: Direct GHG emissions that occur from sources that are owned and/or controlled by the airport,
- Scope 2: Indirect GHG emissions from the generation of purchased electricity, steam, heat or cooling consumed by the airport.

SOURCE FLOWS	TOTAL CO ₂ EMISSIONS (t)
	2018
Direct emissions from heating fuel (scope 1)	55.0
Direct emissions from fuel used for fleet vehicles (scope 1)	45.3

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Direct emissions from fuel used for firefighting vehicles (scope 1)	14.0
Direct emissions from fuel used for generators (scope 1)	17.5
Indirect emissions from electricity consumption (scope 2)	2,651.5
Σύνολο (t)	2,783.3
Kg CO2 /passenger	0.83

Notes:

Fraport Greece A is committed to the monitoring, management and reduction of its airports carbon footprint. In order for this target to be achieved:

- Direct and indirect carbon emissions from all the emission sources in the airports' boundaries are calculated and reported, based on the GHG Protocol (scope 1 & 2)
- The airport is certified according to ISO 14064 regarding greenhouse gas emission by an independent certification body

11. HUMAN CONSUMPTION WATER MONITORING PROGRAM

Human consumption water quality	
Water supply (public water network or airport's boreholes)	Municipal Water & Sewage Company of Kerkira
Is sampling of the airport's water network performed? [YES/NO]	YES
(if YES) Sampling frequency:	Quarterly
Summary of results: The results of the microbiological and chemical analyses show that the parameters analysed as regards the airport's water network within the legislative limits defined by the Ministerial Decision Γ1 (δ)/ΓΠ οικ. 67322/ ΦΕΚ 3282 Β/19-9-2017 regarding the quality of human consumption water.	

12. RAINWATER

RAINWATER (collection, treatment disposal and recipient)		[YES/NO]
Area	Collection/treatment/disposal	
Apron and manoeuvring area	Collected in drainage ditches leading to the sea	YES
Other runoffs (runway etc.)	Collected in drainage ditches leading to the sea	YES
Treatment of rainwater by oil-separator		NO

13. GROUNDWATER MONITORING PROGRAM

Groundwater quality	
Is sampling of the airport's groundwater performed? [YES/NO]	YES
(if YES) Sampling frequency::	According to the frequency specified

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	by the ETs.
Parameters analyzed: pH, Conductivity, DO, Petroleum Hydrocarbons (TPH), BTEX, Heavy metals,	
Summary of results: Groundwater quality is monitored according to the airport's monitoring program. It is noted that the fuel handler companies monitor the quality of groundwater according to the Environmental terms and based on the data provided by them, no exceedances of the legislative limits occurred (Limits defined by the Ministerial Decision 1811 (G.G. 3322/30.12.2011) and the New Dutch List (2009)). It is noted that GISCO installation is currently under remediation.	

14. SEWAGE TREATMENT & DISPOSAL

Sewage	
Sewage network to the municipal waste water treatment plant (WWTP)	YES
Autonomous airport's waste water treatment plant (WWTP)	NO
Short description:	
Blue water	
Collection and disposal: Collection in septic tank and disposal to the municipal sewage network.	

Waste water treatment plant description (where applicable)	
<i>Description of characteristics and condition of the airport's WWTP including possible problems. Type and frequency of the effluent quality measurements.</i>	
Degree of treatment of airport's WWTP	N/A
Treatment method	N/A
Disposal of treated wastewater	N/A
Sludge disposal	N/A
Sampling frequency of WWTP effluent	N/A
Parameters analyzed	N/A
Summary of quality of WWTP effluent	N/A