

Environmental Bulletin of Kerkira “I. Kapodistrias” Airport (CFU) Reference year 2019

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 (winter & summer)	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
	-	-	8	2	-
Employees	High season (31.08.2019)	Low season (30.11.2019)			
Fraport Greece (FG) employees	24	22			
Employees of other companies	1,078	617			

Terminal	
➤ Total area (m ²)	21,000

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

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Parking Areas	
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)		29	-	100
Environmental Management System (EMS)	(YES/NO)	YES	-	YES

2. TRAFFIC DATA STATISTICS

2.1. Annual Traffic Data

Annual Traffic Data for the year 2019	
Overall Annual Air Traffic Movements ¹	25,312
Percent of increase or decrease in relation to the previous year	-3.8%
Annual passenger traffic	3,275,897
Percent of increase or decrease in relation to the previous year	-2.6%
Annual cargo transferred (tn)	180
Percent of increase or decrease in relation to the previous year	-1.9%

¹ Military and training flights not included.

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Aircraft types	
Prevailing aircraft types for domestic flights	
Aircraft type	No. of flights
A320	1,475
AT45	1,000
AT75	530
DH8D	292
A32A	240
AT72	215
A321	47
B462	34
C56X	33
A319	32
Other	704
Prevailing aircraft types for international flights	
Aircraft type	No. of flights
B73H	6,752
A320	3,233
B738	1,667
A32A	1,498
A319	1,000
A321	839
A32B	431
A20N	394
B73W	334
B737	288
Other	4,274

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	4,977
Air traffic movements daily average number during the month with highest traffic	161


2.3. Low season traffic data

Low season traffic data (October-May)	
Lowest traffic month	December
Air traffic movements during the month with lowest traffic	317
Air traffic movements daily average number during the month with lowest traffic	10

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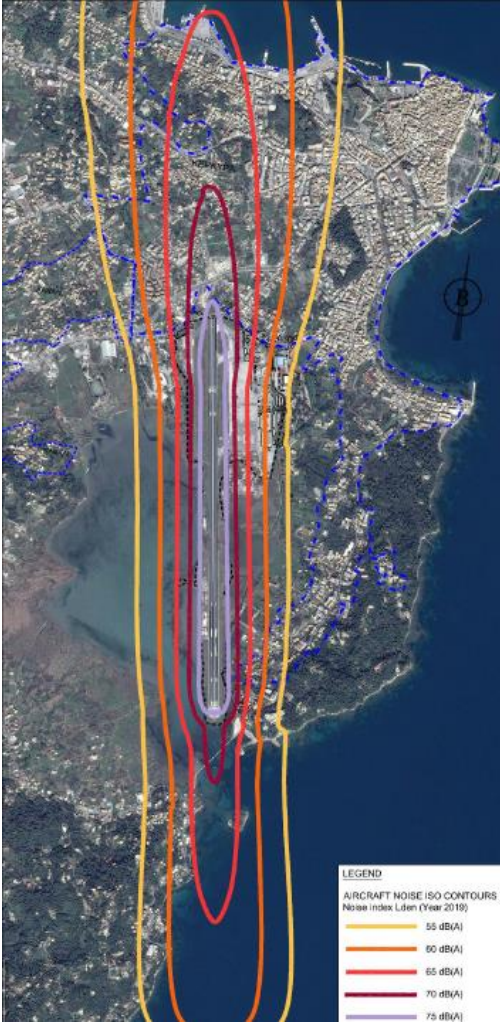
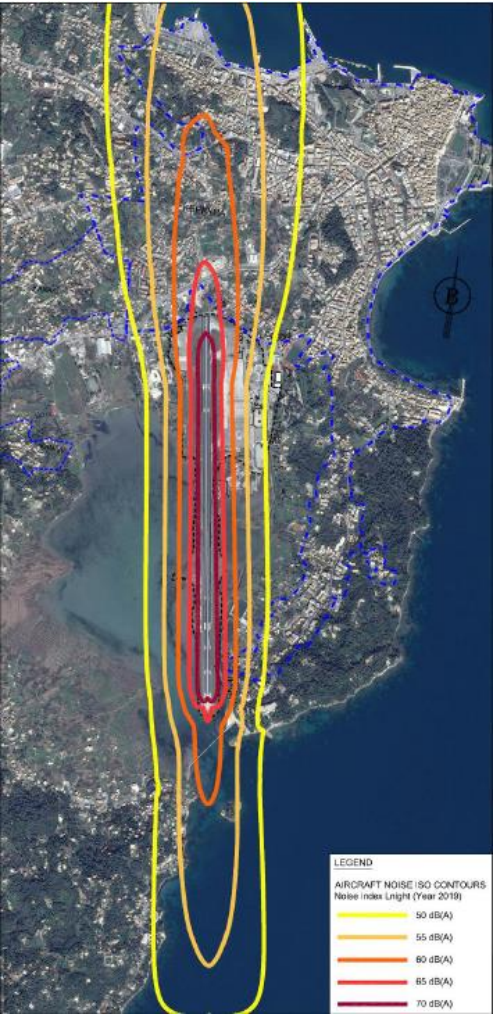
3. AIRCRAFT NOISE

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. Affected by arrivals in runway 17 and departures form runway 35.	
2) Position: 39° 36' 25" N 19° 55' 10" E	Located east of the runway in a yard next to a church. Affected from arrivals and depatures in both directions.	
3) Position: 39° 34' 50" N 19° 54' 44" E	Located in Perama, south of the runway in the garden of a hotel. Affected by departures from runway 17 and arrivals on runway 35.	
Measurement period	26.07.2019 – 28.07.2019	
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 an exceedance of the Lden & Lnight indicators was recorded (Lden = 74,9dB(A), Lnight = 68,4dB(A)).</p>		

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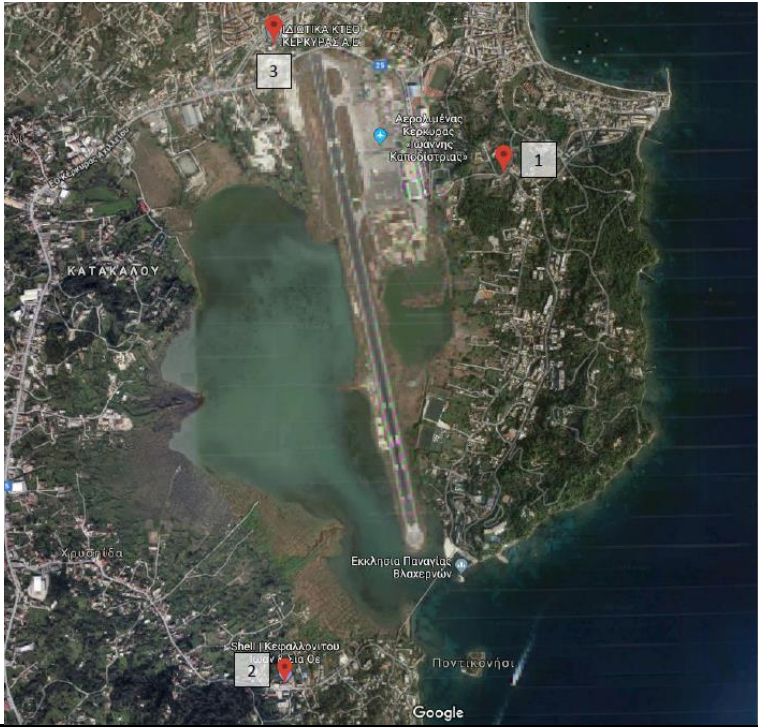
3.2. Noise levels calculation based on noise simulation software

Aircraft noise levels calculation based on noise simulation software [YES/NO]	YES
Software used: IMMI Noise Prediction Software (CNOSSOS EU assessment method based on Directive 2015/996/EU)	
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 2019 some residential buildings inside official settlement boundaries within a limited area in the vicinity of the airport are exposed to noise levels higher than the limits $L_{den} = 70 \text{ dB(A)}$ and $L_{night} = 60 \text{ dB(A)}$. The area of the respective noise contours is smaller than that of 2018 due to the decrease in traffic.</p>	

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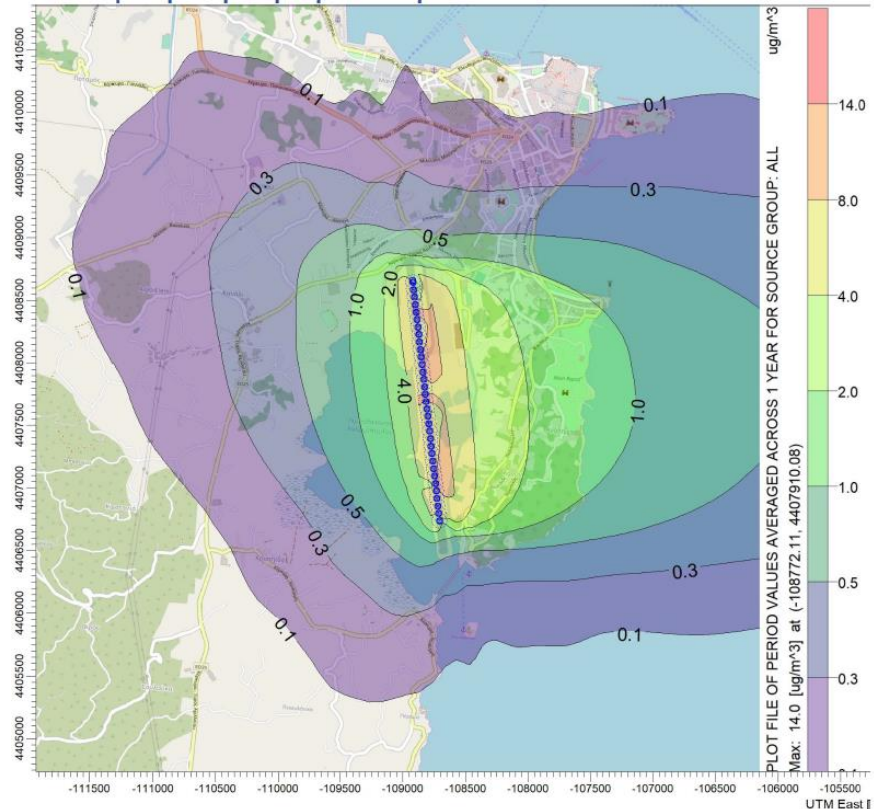
4. AIR QUALITY

4.1. Air quality measurements during the reference year

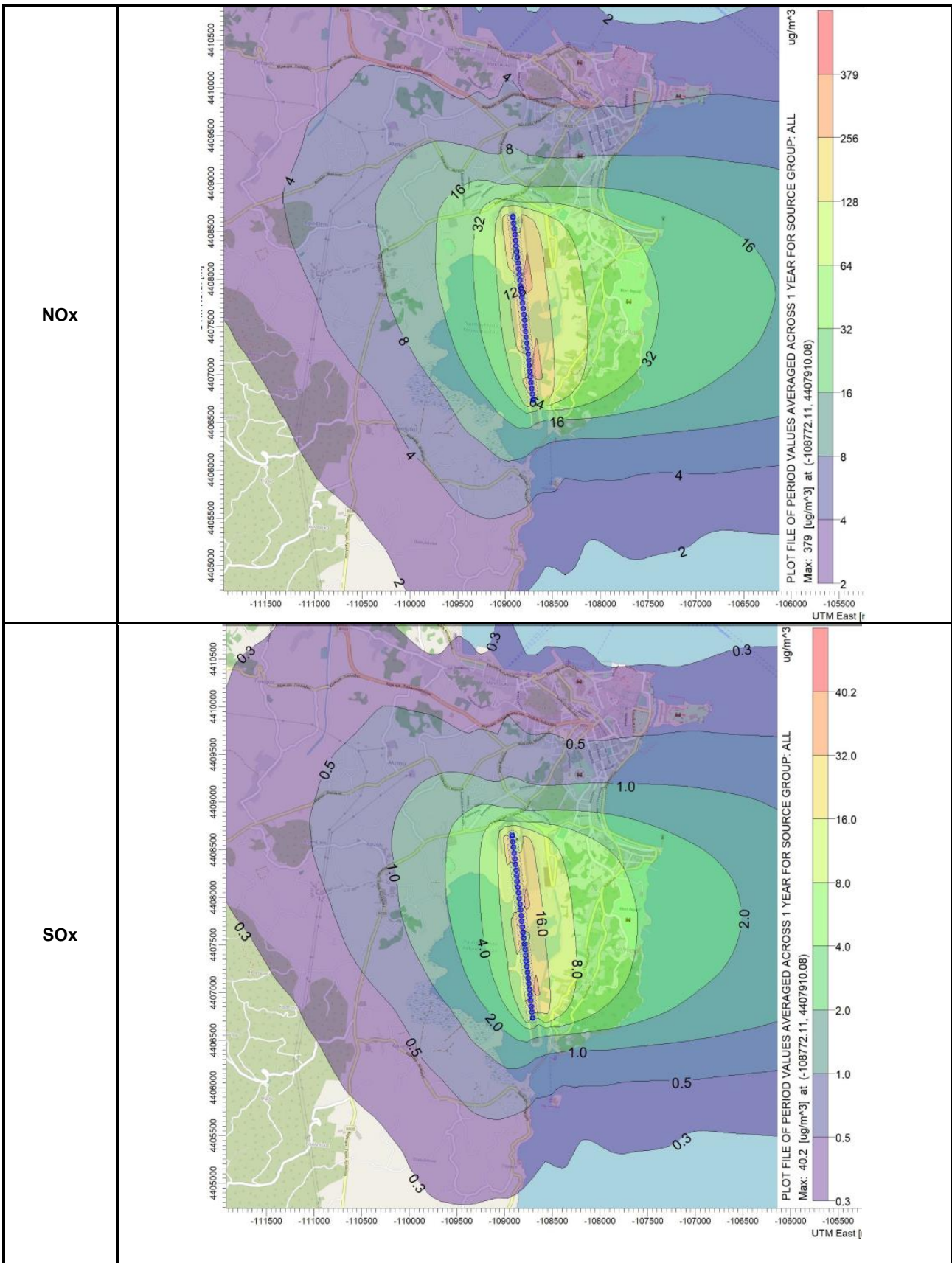
Have air quality measurements at the airport's surrounding area been performed during the reference year? [YES/NO]		YES
Measurement points		
		
Measurement points coordinates	Measurement points description	
1) Position: --° --' --" N --° --' --" E	East of the airport, at a distance of approximately 700m at a monastery courtyard	
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, in a parking lot (KTEO) at a distance of approximately 500m.	
Measurement period	24.07.2019 – 31.07.2019	
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.		

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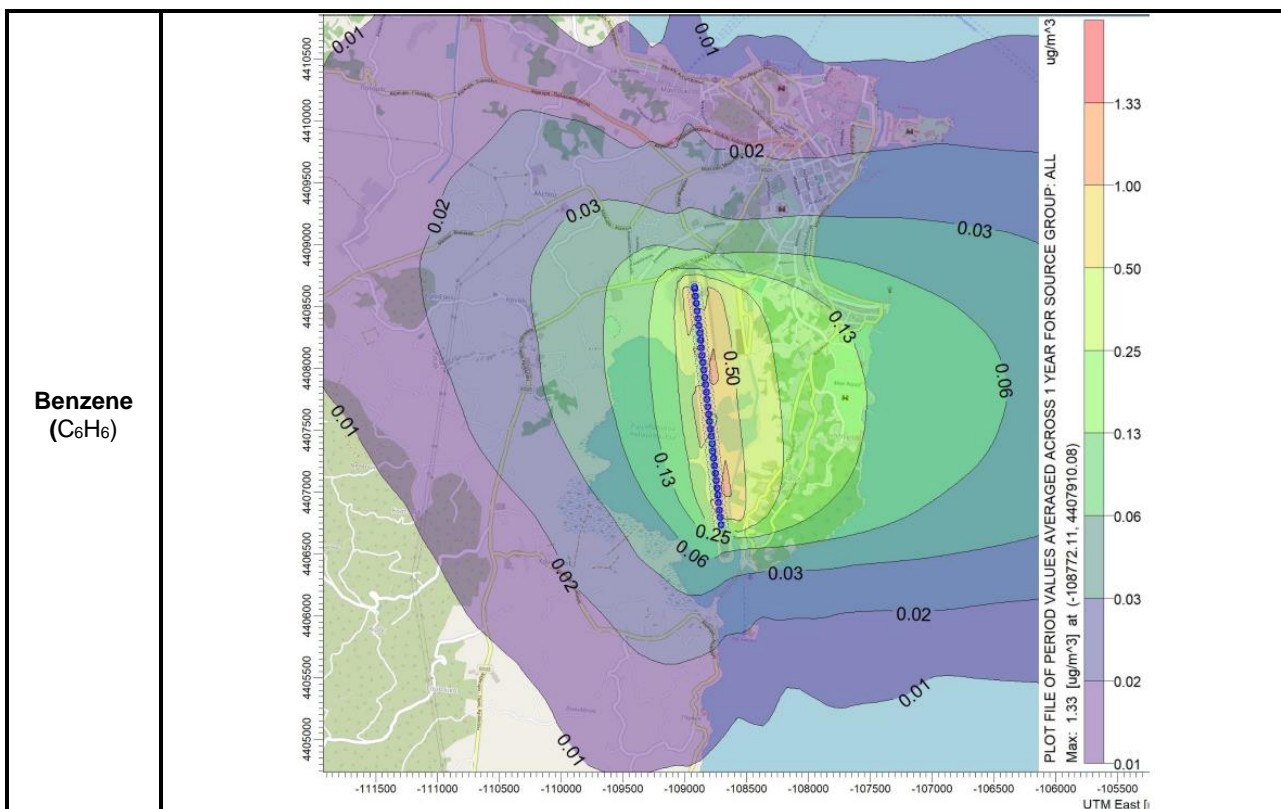
4.2. Air pollutants emission and dispersion modelling

Calculation of air pollutants concentrations based on an emission and dispersion modelling software [YES/NO]		YES
Software used: Aviation Environmental Design Tool (AEDT) - US Federal Aviation Administration & US Environmental Protection Agency AERMOD		
Pollutants concentrations and respective contours calculation: PM ₁₀ , NO _x , SO _x , C ₆ H ₆		
PM10		

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Summary of results:

Air quality is monitored according to the airport's monitoring program.
No exceedance of the air quality limits was observed.

5. WASTE MANAGEMENT

Waste management		
Waste	Collection	Management/Disposal
Recyclables (paper, plastic, metals, glass)	Separate collection by appropriately licensed private company (June-December 2019)	Disposal at Kerkira material recovery facility for recycling
Residues (Mixed Waste) and Bulky Waste	Separate collection by appropriately licensed private company	Disposal in landfill (January-May 2019) and mixed MSW treatment plant (May-December 2019)

Σημειώσεις:

- Regarding the different categories of the MSW (recyclables, mixed waste), Airport Users handle their waste autonomously. The implementation of a central system by Fraport Greece is expected.
- Regarding the "alternative management" waste categories (Waste lubricant oil WLO, WEEE, etc.):
 - Waste Lubricant Oil (WLO): Collection and management by authorized collector "CYTOP S.A."
 - Waste Electrical & Electronic Equipment (WEEE): Collection and management by alternative management system "Appliances Recycling S.A."
 - Accumulators: Collection and management by alternative management system "Re-Battery S.A."
 - Small batteries: Collection and management by alternative management system "AFIS S.A."
 - Used tires: Collection and management by alternative management system "ECOELASTIKA S.A."

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Waste management		
Waste	Collection	Management/Disposal
3. 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:	

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	
Extent of the problem (animal species):	Strikes (%)
<i>Not identified*</i>	18%
<i>Anas platyrhynchos (Mallard)</i>	14%
<i>Hirundo rustica (Barn swallow)</i>	9%
<i>Ardea cinerea (Grey heron)</i>	9%
<i>Phasianus colchicus (Pheasant)</i>	9%
<i>Larus michahellis (Yellow-legged gull)</i>	7%
<i>Himantopus himantopus (Black-winged stilt)</i>	5%
<i>Passer domesticus (House sparrow)</i>	5%
<i>Egretta garzetta (Little egret)</i>	5%
<i>Columba livia (Pigeon)</i>	5%
<i>Tyto alba (Barn owl)</i>	2%

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Wildlife hazard management	
Extent of the problem (animal species):	Strikes (%)
<i>Buteo buteo</i> (Common buzzard)	2%
<i>Falco tinnunculus</i> (Common kestrel)	2%
<i>Vanellus vanellus</i> (Lapwing)	2%
<i>Pica pica</i> (Magpie)	2%
<i>Lanius collurio</i> (Red-backed shrike)	2%
<i>Hirundinidae</i> spp. (Swallows)	2%
Adopted measures :	
<ul style="list-style-type: none"> • Pyrotechnics application by the use of signal pistols, as an additional short-term measure to disperse birds from the maneuvering area • Drainage ditches are periodically checked and if necessary cleaned, to ensure efficient water run-off and, thus, reducing the attractiveness of the airside to the wildlife • Regular grass cutting at the airside • Fence maintenance • Trapping of mammals (mainly stray cats and dogs) that may be found at the maneuvering area by the use of trap and under the permit received by the ministry of Environment & Energy “<i>Monitoring and trapping birds and mammals population at the 14 regional airports operated by Fraport Greece</i>” (Permit: 165654/142, 12/2/2018) • Systematic monitoring and census of bird species populations on and off-airport (in a distance of 13km from the airport) and mapping of their habitat and the areas that are attractive to birds • Seminar awareness video on the identification and safe removal of reptiles and information about the snake species at Kerkira, under the collaboration with the Lalitsa Non-Profit Association • Awareness video on the safe handling of stray dogs • Holding of the wildlife strike committee, to raise awareness across the airport users and local authorities about the risk of the wildlife strikes on aircraft and the measures obtained to eliminate such a risk 	
Reference year summary results:	
<p>Hellenic Civil Aviation Authority receives annual reports referring to the risk assessment of the wildlife hazard as well as to the wildlife hazard management at the 12 regional airports operating by Fraport Greece. Aktion Airport and Chania Airport “Ioannis Daskalogiannis” are excluded, in accordance with the Concession Agreement, Annex 20, paragraph 6.3.3 & 6.3.4.</p>	

***“Not identified” refers to birdstrikes evidence (e.g. blood or part of feathers) that does not allow the bird species identification*

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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
Total annual electric energy consumption (in Kwh)	4,203,185

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)	21,360
	Unleaded gasoline (lt)	1,586

9.3. Heating oil or natural gas consumption

Heating oil or natural gas consumption	
Total annual heating oil consumption (lt)	-*
Total annual heating natural gas consumption (m ³)	N/A

*Heating and air conditioning is performed via heat pumps

9.4. Water consumption

Water consumption	
Total annual consumption (m ³)	20,203

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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)
	2019
Direct emissions from heating fuel (scope 1)	0,0
Direct emissions from fuel used for fleet vehicles (scope 1)	38.7
Direct emissions from fuel used for firefighting vehicles (scope 1)	22.2
Direct emissions from fuel used for generators (scope 1)	30.4
Indirect emissions from electricity consumption (scope 2)	2,681.6
Σύνολο (t)	2,772.9
Kg CO₂ /passenger	0.85

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 was certified during the reference year 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
<p>Summary of results: The results of the chemical analyses show that the water provided by the Municipal Water & Sewage Company of Kerkira is non potable due to high concentration of sulphates. The rest of the results of the microbiological and chemical analyses show that the parameters analyzed as regards the airport's water network are 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.</p>	

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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*
Rainwater quality		
Is sampling of the airport's rainwater performed? [YES/NO]		YES
(if YES) Sampling frequency::		Yearly
Parameters analyzed: pH, conductivity,TSS, DO, NO ₃ , NO ₂ , Oil & grease, BOD, COD, Total Petroleum Hydrocarbons (TPH), PAHs, BTEX, Heavy metals,PCBs, Detergents		
Summary of results: Surface rainwater quality is monitored according to the airport's monitoring program. Due to the absence of designated recipients and relevant national quality limits for surface rainwater, the Environmental Health & Safety Guidelines of the International Finance Corporation (IFC) are adopted. According to FG's analyses results and based on the abovementioned specifications, the airport's rainwater environmental condition is adequate and no further treatment measure is necessary.		

*Oil separators installation is planned by the end of Imminent Works.

13. GROUNDWATER MONITORING PROGRAM

Groundwater quality	
Is sampling of the airport's groundwater performed? [YES/NO]	YES
(if YES) Sampling frequency::	Yearly
Parameters analyzed: pH, conductivity,TSS, DO, NO ₃ , NO ₂ , Oil & grease, BOD, COD, Total Petroleum Hydrocarbons (TPH), PAHs, BTEX, Heavy metals,PCBs, Detergents	
Summary of results: Groundwater quality is monitored according to the airport's monitoring program. In addition the fuel handling companies monitor the quality of groundwater according to the environmental terms. According to FG's analyses results,, the environmental monitoring reports of the fuel handlers, and based on the New Dutch List (2009) which is adopted in the absence of relevant national specifications/limits, the environmental condition of the ground water is found adequate and no decontamination measures are necessary, except from the area of GISSCO installation and one area identified from the 2017 Environmental Baseline Study, which were under remediation during the reference year.	

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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 watertight 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