

ENVIRONMENTAL BULLETIN OF AKTION AIRPORT (PVK)

Reference year 2021

Fraport Regional Airports of Greece A S.A.

Issue year: 2022

BLANK PAGE

Contents

Contents	3
1. INTRODUCTION	4
1.1. Location	4
1.2. Administration	4
1.3. Environmental licensing	4
1.4. Airport Basic Data	4
1.5. Airport facilities	5
1.5.1. Fuel Handlers	5
1.5.2. Ground Handlers	5
2. TRAFFIC DATA STATISTICS	6
2.1. Annual Traffic Data	6
2.2. High season traffic data	7
2.3. Low season traffic data	7
3. AIRCRAFT NOISE	8
3.1. Noise measurements during the reference year	8
3.2. Noise levels calculation based on noise simulation software	8
4. AIR QUALITY	9
4.1. Air quality measurements during the reference year	9
4.2. Air pollutants emission and dispersion modelling	10
5. WASTE MANAGEMENT	11
6. ECOSYSTEM AROUND THE AIRPORT	12
6.1. Flora-Fauna	12
6.2. Ecologically fragile areas	12
7. WILDLIFE HAZARD MANAGEMENT	13
8. CULTURAL HERITAGE	14
9. RESOURCES CONSUMPTION	15
9.1. Energy consumption	15
9.2. Fuel consumption	15
9.3. Heating oil or natural gas consumption	15
9.4. Fuel consumption for generator	15
9.5. Water consumption	15
10. GREENHOUSE GAS EMISSIONS & CARBON FOOTPRINT	16
11. HUMAN COMSUMPTION WATER MONITORING PROGRAM	17
12. RAINWATER	18
13. GROUNDWATER AND/OR SOIL AND/OR SOIL GAS MONITORING	19
14. SEWAGE TREATMENT AND DISPOSAL	20

1. INTRODUCTION

1.1. Location

Aktion (PVK) airport is located in the west part of Sterea Ellada, at a distance of 4 km from Preveza, 16km from Vonitsa and 20 km from Lefkada. Cape Aktio is surrounded to the east by Amvrakikos Gulf and to the west by the Ionian Sea.

1.2. Administration

The airport administratively belongs to the Regional Unit (RU) of Aitoloakarnania of the Region of West Greece and the Ionian and more specifically to the Municipal Unit of Anaktorio of the Municipality of Aktio – Vonitsa, Local Community of Aghios Nikolaos Vonitsis..

1.3. Environmental licensing

Approved Environmental Terms	
E.T. Decision Reference number	Ref. No οικ. 11543/07.03.2017
E.T. Amendment Decision Reference Number	Ref. No οικ.50502/08.12.2017

1.4. Airport Basic Data

Airport name IATA / ICAO	PVK / LGPZ
Airport location – Airport Reference Point (ARP)	Latitude: 38° 55' 32" N Longitude: 20° 45' 55" E
Altitude	3.32 m
Number of runways	2
Operation hours (summer)	Monday – Friday & Sunday 07:15 – 23:15 Saturday 07:15 – 01:30 (Sunday)
Operation hours (winter)	Monday /Wednesday /Friday /Sunday CLOSED Tuesday 10:00 – 16:00 Thursday /Saturday 09:30 – 17:00

Runways	Length/Width			Code	
Runway	2,871m x 45m			07L-25R	
Runway	2,974 x 30m			07R-25L	
Full length of parallel taxiway	2,974m				
Number of taxiways	3				
Apron capacity	A	B	C	D	E
	-	-	3	-	1 (MARS)

Employees	High season (31.08.2021)	Low season (30.11.2021)
Fraport Greece (FG) employees	25	20
Employees of other companies	281	203

Terminal	
➤ Total area (m ²)	9.648

Other buildings and service/storage areas	
➤ RFF Station (m ²)	Housed in HAF facilities

Parking Areas	
Car parking spaces	81
Bus parking spaces	14
Taxi parking spaces	17

1.5. Airport facilities

1.5.1. Fuel Handlers

Number of fuel handler companies	
Number of fuel handler companies operating at the Airport	1

Installations inside the airport	EKO	GISSCO	HAFCO
Environmental Management System (EMS)	Not operating at the airport	YES	Not operating at the airport

1.5.2. Ground Handlers

Number of ground handler companies	
Number of ground handler companies operating at the Airport	3

Installations inside the airport	SKYSERV	SWISSPORT	GOLDAIR
Environmental Management System (EMS)	YES	YES	YES

2. TRAFFIC DATA STATISTICS

2.1. Annual Traffic Data

Annual Traffic Data for the year 2021	
Overall Annual Air Traffic Movements ¹	4.520
Percent of increase or decrease in relation to the previous year	93%
Annual passenger traffic	372.096
Percent of increase or decrease in relation to the previous year	130,5%
Annual cargo transferred (tn)	0
Percent of increase or decrease in relation to the previous year	0

Aircraft types	
Prevailing aircraft types for domestic flights	
Aircraft type	No. of flights
AT45	522
AT75	96
AT72	80
EC45	33
A320	17
EXPL	16
C56X	12
BE20	12
GLEX	10
C550	10
Other	92
Prevailing aircraft types for international flights	
Aircraft type	No. of flights
A320	843
B73H	643
A32A	263
A20N	171
A21N	170
B738	158
A32B	126
A319	120
B734	103
A321	102
Other	921

¹ Military and training flights not included.

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	1.227
Air traffic movements daily average number during the month with highest traffic	40

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	48
Air traffic movements daily average number during the month with lowest traffic	2

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?		NO*
Measurement points		
N/A		
Measurement points coordinates	Measurement points description	
N/A	N/A	
Measurement period	N/A	
Noise indicators	N/A	

Summary of measurement results:

*Fraport Greece, during the years 2018-2019, has implemented a noise & air pollution monitoring program, according to the Approved Environmental Terms of the airport. The monitoring program included the implementation of special simulation tools in combination with confirmation measurements, of air pollution and noise, in representative positions around the airport. At the end of the two year period of the program in April 2020, in implementation of the Environmental Terms, a Technical Evaluation Report was submitted to the Directorate for Climate Change and Air Pollution of the Ministry for Environment & Energy, with proposals for the most suitable in terms of effectiveness, air pollution & noise monitoring program for the years ahead (ref. number 39833/833/29.4.2020).
According to the program, which is also an appendix in approved Environmental Impact Study, in 2021 noise measurements are not foreseen.

3.2. Noise levels calculation based on noise simulation software

Aircraft noise levels calculation based on noise simulation software	NO*
Software used: N/A	
Noise indicators and respective contours calculation: N/A	
Noise contours: N/A	

Summary of results:

*Fraport Greece, during the years 2018-2019, has implemented a noise & air pollution monitoring program, according to the Approved Environmental Terms of the airport. The monitoring program included the implementation of special simulation tools in combination with confirmation measurements, of air pollution and noise, in representative positions around the airport. At the end of the two year period of the program in April 2020, in implementation of the Environmental Terms, a Technical Evaluation Report was submitted to the Directorate for Climate Change and Air Pollution of the Ministry for Environment & Energy, with proposals for the most suitable in terms of effectiveness, air pollution & noise monitoring program for the years ahead (ref. number 39833/833/29.4.2020).
According to the program, which is also an appendix in approved Environmental Impact Study, in 2021 noise modeling was not foreseen.

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?		NO*
Measurement points		
N/A		
Measurement points	Measurement points description	
N/A	N/A	
Measurement period:	N/A	
Pollutants measured:	N/A	

Summary of measurement results:

*Fraport Greece, during the years 2018-2019, has implemented a noise & air pollution monitoring program, according to the Approved Environmental Terms of the airport. The monitoring program included the implementation of special simulation tools in combination with confirmation measurements, of air pollution and noise, in representative positions around the airport. At the end of the two year period of the program in April 2020, in implementation of the Environmental Terms, a Technical Evaluation Report was submitted to the Directorate for Climate Change and Air Pollution of the Ministry for Environment & Energy, with proposals for the most suitable in terms of effectiveness, air pollution & noise monitoring program for the years ahead (ref. number 39833/833/29.4.2020). According to the program, which is also an appendix in approved Environmental Impact Study, in 2021 air pollution measurements are not foreseen.

4.2. Air pollutants emission and dispersion modelling

Calculation of air pollutants concentrations based on an emission and dispersion modelling software		NO*
Software used: N/A		
Pollutants concentrations and respective contours calculation: N/A		
PM ₁₀		N/A
NO _x		N/A
SO _x		N/A
Benzene (C ₆ H ₆)		N/A

Summary of results:	
<p>*Fraport Greece, during the years 2018-2019, has implemented a noise & air pollution monitoring program, according to the Approved Environmental Terms of the airport. The monitoring program included the implementation of special simulation tools in combination with confirmation measurements, of air pollution and noise, in representative positions around the airport. At the end of the two year period of the program in April 2020, in implementation of the Environmental Terms, a Technical Evaluation Report was submitted to the Directorate for Climate Change and Air Pollution of the Ministry for Environment & Energy, with proposals for the most suitable in terms of effectiveness, air pollution & noise monitoring program for the years ahead (ref. number 39833/833/29.4.2020).</p> <p>According to the program, which is also an appendix in approved Environmental Impact Study, in 2021 the air pollution simulation was not foreseen.</p>	

5. WASTE MANAGEMENT

Waste	Collection	Management/Disposal
Recyclables (paper, plastic, metals, glass)	Separate collection by the Municipality of Vonitsa	Disposal in material recovery facility for recycling
Residues (Mixed Waste) and Bulky Waste	Collection by the Municipality of Vonitsa	Disposal in landfill

Notes:

1. Regarding the different categories of the MSW (recyclables, mixed waste, bulky waste), the Airport Users handle their waste together with Fraport Greece A (central management).
2. Regarding the 'alternative management' waste categories (Waste lubricant oil WLO, WEEE, etc.):
 - i. Waste Lubricant Oil (WLO): Collection and management by authorized collector "CYTOP S.A."
 - ii. Waste Electrical & Electronic Equipment (WEEE): Collection and management by alternative management system "Appliances Recycling S.A."
 - iii. Accumulators: Collection and management by alternative management system "Re-Battery S.A."
 - iv. Small batteries: Collection and management by alternative management system "AFIS S.A."
 - v. Used tires: Collection and management by alternative management system "ECOELASTIKA S.A."
3. The total quantities of the hazardous waste further to the above-mentioned and produced at the airport, are managed by licensed private companies which have a contract with Fraport Greece A, according to the provisions of the legislation in force.
4. The total quantities of the produced waste by category resulting from all activities of the airport, the collectors and final recipients, are recorded by Fraport Greece A and submitted in the Electronic Waste Registry of the Ministry for Environment and Energy via the Annual Waste Producer Report according to the provisions of the legislation in force.

6. ECOSYSTEM AROUND THE AIRPORT

6.1. Flora-Fauna

Flora	
Are there protected zones of vegetation/habitats in the broader airport area?	YES
In the broader area of Amvrakikos bay, sites that belong to the “NATURA 2000” network exist, such as the broader area of the delta of the rivers Louros and Arachthos, the lagoons (Rodia, Tsoukalio, Logarou, and other smaller ones), and the marine area that surrounds them (GR2110001, GR2110004), as well as the lakes Voulkaria and Saltini.	
Fauna	
Are there protected species of fauna/birds in the broader airport area?	YES
The protected bird species that have been observed at the vicinity of Aktio Airport since April 2017 are presented below: White stork (<i>Ciconia ciconia</i>) Griffon vulture (<i>Gyps fulvus</i>) at Kleisoura area, southeast of Aktio Airport The field survey dates will gradually increase during the following years.	

6.2. Ecologically fragile areas

In the broader area of Amvrakikos bay, sites that belong to the “NATURA 2000” network exist, such as the broader area of the delta of the rivers Louros and Arachthos, the lagoons (Rodia, Tsoukalio, Logarou, and other smaller ones), and the marine area that surrounds them (GR2110001, GR2110004), as well as the lakes Voulkaria and Saltini.

The Sites GR2110001, GR2110004 and GR2310006 are additionally protected by international conventions such as the Ramsar Convention (for wetlands of international importance), the Barcelona Convention (for the protection of the Mediterranean from pollution), the Bern Convention (for the conservation of wildlife and natural habitats), as well as by the Directive 79/409/EEC (on the conservation of wild birds) and Directive 92/43/EEC (on the conservation of natural habitats and of wild fauna and flora). Site GR2310006 is also protected in a national and regional level as a wildlife sanctuary (Government GAzetter No. 671/15.9.82). In addition the broader area of Amvrakikos bay is protected by the J.M.D 30027/1193/90 and J.M.D.16611/22.02.93.

7. WILDLIFE HAZARD MANAGEMENT

Wildlife strikes and wildlife hazard management measures	
Wildlife species that suffered a strike	Strikes (%)
-	-
Wildlife strike risk mitigation measures*:	
*The Hellenic Air Force (HAF) is responsible for the management of birdstrike risk.	
Reference year summary results:	
-	

8. CULTURAL HERITAGE

Have new cultural heritage properties been discovered during the reporting period?	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)	
Total annual electric energy consumption (in Kwh)	1.527.210

9.2. Fuel consumption

Fuel consumption		
Number of FG vehicles at the airport	7	
Number of firefighting vehicles at the airport	Management by HAF	
Total annual fuel consumption	Diesel (lt)	2.409,45
	Unleaded gasoline (lt)	219,03

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. Fuel consumption for generator

Water consumption	
Total annual consumption (lt)	0

9.5. Water consumption

Water consumption	
Total annual consumption (m ³)	6.658

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)
	2021
Direct emissions form heating fuel (scope 1)	0,0
Direct emissions from fuel used for fleet vehicles (scope 1)	7,0
Direct emissions from fuel used for firefighting vehicles (scope 1)	*
Direct emissions from fuel used for generators (scope 1)	0,0
Indirect emissions from electricity consumption (scope 2)	920,5
Total (t)	927,5
Kg CO₂ /passenger	2,49

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

*The Hellenic Air Force (HAF) is responsible for the management of the airport's RFF vehicles.

11. HUMAN COMSUMPTION WATER MONITORING PROGRAM

Human consumption water quality	
Water supply (public water network or airport's boreholes)	Municipal network of Lefkada & Aetoloakarnania
Is sampling of the airport's water network performed?	YES
<i>(if YES)</i> Sampling frequency:	Quarterly
<p>Summary of results: The results of the microbiological and chemical analyses show that the parameters analyzed as regards the airport's water network are <u>within the legislative limits</u> defined by the Ministerial Decision Γ1 (δ)/ΓΠ οικ. 67322/ GG 3282 B/19-9-2017 regarding the quality of human consumption water.</p>	

12. RAINWATER

RAINWATER (collection, treatment disposal and recipient)		
Area	Collection/treatment/disposal	[YES/NO]
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
(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.	

13. GROUNDWATER AND/OR SOIL AND/OR SOIL GAS MONITORING

Groundwater and/or soil and/or soil gas quality	
Is sampling of the airport's groundwater and/or soil and/or soil gas performed?	YES
(if YES) Sampling frequency:	According to the Environmental Terms
Parameters analyzed: TPH, BTEX, MTBE	
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 the environmental monitoring reports of the fuel handlers, and based on the New Dutch List (20013) 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.	

14. SEWAGE TREATMENT AND DISPOSAL

Sewage	
Sewage network to the municipal waste water treatment plant (WWTP)	NO
Autonomous airport's waste water treatment plant (WWTP)	YES*

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	Tertiary treatment & chlorination
Treatment method	Prolonged ventilation
Disposal of treated wastewater	Drain ditch to the Ionian Sea based on Joint Ministerial Decision KYA 328925/7912 (Government Gazette 35/Δ/2017)
Sludge disposal	Landfill
Sampling frequency of WWTP effluent	Monthly based on the decision determining the recipient
Parameters analyzed	BOD, COD, TSS, T. Coliforms, E.Coli, pH, Dissolved Oxygen, Grease and Oils, Residual Chlorine
Summary of quality of WWTP effluent	The WWTP effluent quality is within the limits set out in the decision specifying the recipient

**Due to the maintenance/upgrade works the WWTP operation has ceased and sewage is transported to Vonitsa WWTP via tank trucks*