Environmental Bulletin of Kefallinia Airport "Anna Pollatou" (EFL)

Reference year 2023

Kefalonia Airport

Issue Year: 2024

Fraport Regional Airports of Greece A S.A.

Contents

1. Introduction

1.1 Location

Kefallinia Airport "Anna Pollatou" (EFL) is located in the south part of the island of Kefallinia, south to Argostoli town, at a road distance of approximately 8 km from the center of the town. The airport's area is approximately 820 acres.

1.2 Administration

The Airport administratively belongs to the Municipal Unit of Argostoli of the Municipality of Kefallinia, in the Regional Unit of Kefallinia, Region of Ionion Islands, the seat of which is in Corfu.

1.3 Environmental licensing

Approved Environmental Terms	
E.T. Decision Reference number	32647/09.05.1995
E.T. Amendment Decision Reference Number	106586/08.08.2006
	151698/04.09.2015
	24341/19.05.2017
	39772/26.09.2017
	36368/20.12.2017
	85360/3423/07.03.2019
	57139/3842/24.05.2023

1.4 Airport Basic Data

Airport name IATA / ICAO	EFL / LGKF
Airport location – Airport Reference Point (ARP)	Latitude: 38° 07' 12" N Longitude: 20° 30' 01" E
Altitude	18m
Number of runways	1
Operation hours (summer)	08:30 – 23:00
Operation hours (winter)	Monday/Thursday 13:00 – 18:00 Tuesday/Wednesday/Friday/Sunday 11:00 – 16:00 Saturday CLOSED

Runways	***Length/Width***	***Code***
Runway	2,436m x 45m	14/32
Full length of parallel taxiway	N/A	
Number of taxiways	2	

Apron capacity	A	B	C	D	E
	-	-	2	1 (MARS)	-

Terminal	
Total area (m^2)	10.701

Other buildings and service/storage areas	
RFF Station (m^2)	1.172

Parking Areas	
Car parking spaces	165
Bus parking spaces	16
Taxi parking spaces	27

Employees	***High season (31.08.2023)***	***Low season (30.11.2023)***
Fraport Greece (FG) employees	27	25
Employees of other companies	411	201

1.5 Airport facilities

1.5.1 Fuel Handlers

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

Installations inside the airport	***EKO***	***GISSCO***	***HAFCO***
Environmental Management System (EMS)	YES	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 2023

Overall Annual Air Traffic Movements[1] ***8.112***	Percent of increase or decrease in relation to the previous year	***2,2%***
Annual passenger traffic ***860.533***		***5,3%***
Annual cargo transferred (tn) ***1***		***562%***

[1] Military and training flights not included.

Aircraft types

Prevailing aircraft types for domestic flights	
Aircraft type	No. of flights
AT76	1.048
AT45	446
A320	184
AT72	136
AT75	100
A20N	58
AT46	56
EC45	23
BE20	14
C56X	14
PC12	14
Other	258
Prevailing aircraft types for international flights	
Aircraft type	No. of flights
B738	2.762
A320	1.126
A319	314
A20N	202
A21N	166
A321	120
DH8D	81
C56X	70
F2TH	69
E55P	52
Other	799

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	1.874
Air traffic movements daily average number during the month with highest traffic	60

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	103
Air traffic movements daily average number during the month with lowest traffic	3

3. Aircraft noise

3.1 Noise measurements during the reference year

Measurement points

Summary of measurement results

Noise levels are monitored according to the airport's monitoring program and new approved environmental terms.
No exceedance of the noise indicators levels L_{den}=70 dB(A) and L_{night}= 60 dB(A) was observed.

Have noise measurements at the airport's surrounding area been performed during the reference year?	*YES*

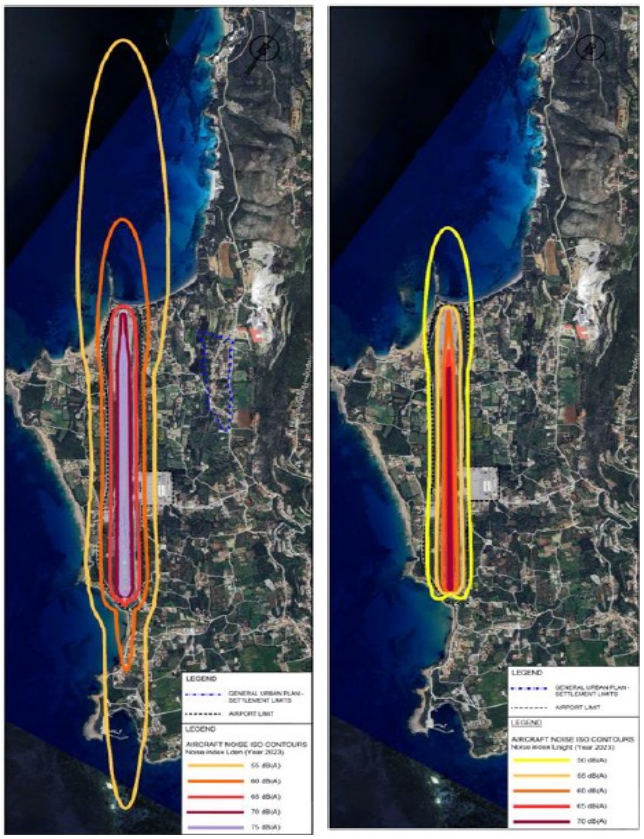
Measurement points coordinates	*Measurement points descritpion*
Position 1: 38° 06' 18'' N 20° 30' 46'' E	Ammes beach area, south of the runway in a hotel garden. Affected by arrivals in runway 32 and departures from runway 14.
Position 2: 38° 06' 41" N 20° 31' 04" E	Livathou area, south-east of the runway in the garden of a hotel. Affected by arrivals in runway 32 and departures from runway 14.
Position 3: 38° 07' 41" N 20° 29' 56" E	Minies area, to the east of the runway, at the yard of a private house. Affected by arrivals in runway 14 and departures from runway 32.
Measurement period	18.07.2023 – 19.07.2023
Noise indicators	L_{den}, L_{night}

Noise complaints: 1

Noise nuisance due to maintenance work at night.

3.2 Noise levels calculation based on noise simulation software

Noise contours



Aircraft noise levels calculation based on noise simulation software	***YES***
Software used:	IMMI Premium 2021
Noise indicators and respective contours calculation	L_{den} & L_{night}

Summary of results

For the year 2023 no buildings inside official settlement boundaries were found to be exposed to noise levels higher than the limits L_{den}=70 dB(A) and L_{night}=60 dB(A).

4. Air quality

4.1 Air quality measurements during the reference year

Air Quality Monitoring Network

Have air quality measurements at the airport's surrounding area been performed during the reference year?	***YES***

Measurement points	*Measurement points description*
Position 1	At a distance of approximately 2km, in the parking area of apartments
Position 2	At a distance of approximately 400m from the airport, in the parking area
Measurement period	17.07.2023– 01.08.2023 12.11.2023– 27.11.2023
Pollutants measured	PM_{10}, $PM_{2.5}$, NO_x, SO_2, C_6H_6, O_3, CO

Summary of measurement results

Air quality is monitored according to the airport's monitoring program and new approved environmental terms.
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	***NO***

Summary of results

According Approved Environmental Terms, in 2023 the air quality simulation was not foreseen.

5. Waste management

Waste	*Collection*	*Management/Disposal*
Recyclables (paper, plastic, metals, glass)	Separate collection by Kefallinia solid waste management body (EDAKI AE OTA)	Transport to Kefallinia landfill and transshipment for recycling
Residues (Mixed Waste) and Bulky Waste	Collection by Kefallinia solid waste management body (EDAKI AE OTA)	Disposal at mechanical recycling-composting facility of Kefallinia or Kefallinia landfill for material recovery or final disposal respectively.

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, after tender according to the provisions of the legislation in force.
4. In the year 2023 Fraport Greece A managed a total of 1.96 tons of Hazardous waste (FG A 0.11 tn, third parties 1.85 tn).
5. 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

(if YES) Short description: Kefallinia Airport "Anna Pollatou" is near to the Natura 2000 sites:

- GR2220004 Paraktia Thalassia Zoni Apo Argostoli Eos Vlachata (Kefalonia) and Ormos Mounta (Area: 3,679.27 ha), an important shore for the reproduction of the loggerhead turtle Caretta caretta
- GR2220002 Ethnikos Drymos Ainou (Area: 2,903.14 ha)

Fauna

Are there protected species of fauna/birds in the broader airport area?	YES

(if YES) Short description: Kefallinia Airport "Anna Pollatou" is near to the:

- Important Bird Area GR085: Mounts Agia Dynati and Kokkini Rachi, Kefalonia (Area: 17,303.83 ha)
- Ionian Archipelago Important Marine Mammal Area (Area: 960,600ha) where the species Delphinus delphis and Monachus monachus are recorded
- Hellenic Trench Important Marine Mammals Area (Area: 5660000ha) where the species Physeter microcephalus and Ziphius cavirostris are recorded

The protected bird species that have been observed at Kefallinia airport since April 2017 are presented below:
European roller (Coracias garrulous), Glossy ibis (Plegadis falcinellus), Great egret (Casmerodius albus), Marsh harrier (Circus aeruginosus), Montagu's harrier (Circus pygargus), Pallid harrier (Circus macrourus), Red-footed falcon (Falco vespertinus), Purple heron (Ardea purpurea), Shelduck (Tadorna tadorna), Squacco heron (Ardeola ralloides)

7. Wildlife hazard management

Wildlife strikes and wildlife hazard management measures

Wildlife species that suffered a strike	Strikes (%)
Gulls	80%
Small passerines	20%

Wildlife strike prevention measures

The presence and behavior of wildlife species at Kefallinia airport is monitored in regular intervals, daily, from dawn to dusk. Some of the wildlife control methods applied at Kefallinia airport are: distress calls (bioacoustics), digital sounds, anti-bird laser, etc. Preventive long-term actions that are mainly related to habitat management measures (e.g. grass cutting, water body management) are also taken to further reduce the presence of species constituting a risk to flight safety. In addition, a NOTAM is published and regularly updated.

8. Cultural heritage

Have new cultural heritage properties been discovered during the reporting period?	***NO***

9. Resources consumption

9.1 Energy consumption

Energy consumption (monthly electric energy consumption, in Kwh)	
Total annual electric energy consumption (in Kwh)	1.482.642,01

*Third parties' consumption is excluded

9.2 Fuel consumption

Fuel consumption		
Number of FG vehicles at the airport	12	
Total annual fuel consumption	Diesel (lt)	11.494,28
	Unleaded gasoline (lt)	331,16

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

Fuel consumption	
Total annual consumption (lt)	0

9.5 Water consumption

Water consumption	
Total annual consumption (m^3)	16.935,00

10. Greenhouse gas emissions & carbon footprint

Greenhouse gas emissions that were included in the carbon footprint calculation are the CO_2, CH_4 & N_2O 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_2e (t) Emissions (t)*
	2023
Direct emissions form heating fuel (scope 1)	0,0
Direct emissions from fuel used for fleet vehicles (scope 1)	31,4
Direct emissions from fuel used for generators (scope 1)	0,0
Indirect emissions from refrigerants (scope 1)	-
Indirect emissions from electricity consumption (scope 2)	791,9
Total (t)	823,3
Kg CO_2e /passenger	0,96

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 ACA (Airport Carbon Accreditation), Level-1

11. Human comsumption water monitoring program

Human consumption water quality	
Water supply (public water network or airport's boreholes)	Municipal Water & Sewage Company (DEYA) of Kefallinia
Is sampling of the airport's water network performed?	YES
(if YES) Sampling frequency:	Quarterly

Summary of results

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 Δ1(δ)/ ΓΠ οικ. 27829/2023 (GG 3525/B` 25.5.2023) regarding the quality of human consumption water.

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:	Annual
Parameters analyzed: pH, conductivity, TSS, DO, NO_3, NO_2, Oil & grease, BOD, COD, Total Petroleum Hydrocarbons (TPH), PAHs, BTEX, Heavy metals, 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. Surface rainwater monitoring for 2023, was performed and quality of the water is in accordance with the IFC guidelines. However there is presence of pathogens, which will be further investigated.

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:	Annual
Parameters analyzed: TPH, BTEX, MTBE (groundwater) & volatile hydrocarbons, aliphatic, aromatic and chlorinated (soil gas)	

Summary of results

Groundwater monitoring within airport boundary - Fraport Greece
Groundwater quality is monitored according to the airport's monitoring program from boreholes managed by Fraport Greece. Groundwater monitoring for 2023 was performed, results showed no exceedances.

Groundwater and/or soil and/or soil gas monitoring at fuel farms– Fuel Handlers
According to the approved environmental terms, monitoring of groundwater and air from the Fuel Handlers was performed by EKO (2022) and GISSCO (2023). Groundwater and soil tested showed no exceedances.

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*

*The data above refer to the new WWTP constructed in the context of the Imminent Works. During year 2023 until the technical problems were solved, the waste water was pumped to the local WWTP. WWTP start up started in September and normal operation began in December 2023. During December there was 1 exceedance in Total Nitrogen (N total) and 1 exceedance in Total Phosphorus (Total P). FG monitor effluent quality and take corrective actions when necessary.

Blue water

Collection and disposal:
Collection in watertight tank and disposal to the municipal sewage network.

Waste water treatment plant description (where applicable)
Description of characteristics and condition of the airport's WWTP including possible problems. Type and frequency of the effluent quality measurements.

Degree of treatment of airport's WWTP	Tertiary treatment & chlorination
Treatment method	Membrane bioreactors
Disposal of treated wastewater	Reuse via an aquifer recharge field with the method of soil infiltration
Sludge disposal	Landfill
Sampling frequency of WWTP effluent	According to Table 3 of the Annex of JMD 145116/2001
Parameters analyzed	BOD5, SS, TN,TP, T. Coliforms, Turbidity, NH_4, pH, residual Cl_2
Summary of quality of WWTP effluent	Limits for aquifer recharge as set in Table 3 of the Annex of JMD 145116/2001 according to the Environmental Terms Approval Decision no. 85360/3423/07.03.2019

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