

ENVIRONMENTAL BULLETIN OF SKIATHOS “ALEXANDROS PAPADIAMANTIS” AIRPORT (JSI)

Reference year 2021

Fraport Regional Airports of Greece B S.A.

Issue year: 2022

**Environmental Bulletin of Skiathos Airport
“Alexandros Papadiamantis” (JSI) - 2021**



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	9
4. AIR QUALITY	10
4.1. Air quality measurements during the reference year	10
4.2. Air pollutants emission and dispersion modelling	11
5. WASTE MANAGEMENT	12
6. ECOSYSTEM AROUND THE AIRPORT	13
6.1. Flora-Fauna	13
6.2. Ecologically fragile areas	13
7. WILDLIFE HAZARD MANAGEMENT	14
8. CULTURAL HERITAGE	15
9. RESOURCES CONSUMPTION	16
9.1. Energy consumption	16
9.2. Fuel consumption	16
9.3. Heating oil or natural gas consumption	16
9.4. Fuel consumption for generator	16
9.5. Water consumption	16
10. GREENHOUSE GAS EMISSIONS & CARBON FOOTPRINT	17
11. HUMAN COMSUMPTION WATER MONITORING PROGRAM	18
12. RAINWATER	19
13. GROUNDWATER AND/OR SOIL AND/OR SOIL GAS MONITORING	20
14. SEWAGE TREATMENT AND DISPOSAL	21

1. INTRODUCTION

1.1. Location

The airport of Skiathos with IATA code JSI has been operating since 1972 and is located at approximately 1km (north-east) from the town of Skiathos and at a very short distance of approximately 20m from the coastline of the island.

1.2. Administration

The airport administratively belongs to the Municipality of Skiathos, of the Regional Unit of Sporades, Region of Thessaly

1.3. Environmental licensing

Approved Environmental Terms	
E.T. Decision Reference number	68597/24.06.1999
E.T. Amendment Decision Reference Number	106193/11.07.2008
	120306/11.01.2010
	37970/22.12.2017
	5778/13.03.2018
	6306/20.03.2018

1.4. Airport Basic Data

Airport name IATA / ICAO	JSI / LGSK
Airport location – Airport Reference Point (ARP)	Latitude: 39° 10' 39" N Longitude: 23° 30' 13" E
Altitude	16.36m
Number of runways	1
Operation hours (summer)	05:30 – 22:30
Operation hours (winter)	Monday 13:00 – 17:00 Tuesday /Saturday 14:00 – 18:00 Wednesday 09:00 – 13:00 Thursday /Friday /Sunday CLOSED

Runways	Length/Width			Code	
Runway	1,628m x 30m			02/20	
Full length of parallel taxiway	-				
Number of taxiways	3				
Apron capacity	A	B	C	D	E
	-	-	3	1	-

Employees	High season (31.08.2021)	Low season (30.11.2021)
Fraport Greece (FG) employees	23	16
Employees of other companies	254	137

Terminal	
➤ Total area (m ²)	9.526

Other buildings and service/storage areas	
➤ RFF Station (m ²)	1.144

Parking Areas	
Car parking spaces	70
Bus parking spaces	13
Taxi parking spaces	20

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)	YES	Not operating at the airport	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	2.972
Percent of increase or decrease in relation to the previous year	85,8%
Annual passenger traffic	206.007
Percent of increase or decrease in relation to the previous year	131,7%
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
DH8D	294
AT75	158
AT76	152
AT46	150
AT72	80
AT45	34
A109	18
EC35	16
F2TH	12
DH8A	10
Other	180
Prevailing aircraft types for international flights	
Aircraft type	No. of flights
B73H	348
A320	318
B738	240
A319	126
A318	108
A2ON	88
E190	70
7M8	56
AT75	52
A32B	46
Other	416

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	847
Air traffic movements daily average number during the month with highest traffic	27

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	30
Air traffic movements daily average number during the month with lowest traffic	1

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		
PM₁₀		N/A
NO_x		N/A
SO_x		N/A
Benzene (C₆H₆)		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 the air pollution simulation was not foreseen.

5. WASTE MANAGEMENT

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

Notes:

- Regarding the different categories of the MSW (recyclables, mixed waste, bulky waste), the Airport Users handle their waste together with Fraport Greece B (central management).
- 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.”
- 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 B, according to the provisions of the legislation in force.
- 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 B 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: see §6.2	
Fauna	
Are there protected species of fauna/birds in the broader airport area?	YES
(if YES) Short description: The protected bird species that have been observed at Skiathos airport since April 2017 are presented below: <i>Black-crowned night heron (Nycticorax nycticorax), Eurasian stone-curlew (Burhinus oedicephalus), European kingfisher (Alcedo atthis), Ferruginous duck (Aythya nyroca), Great egret (Casmerodius albus), Lesser kestrel (Falco naumanni), Marsh harrier (Circus aeruginosus), Short-toed snake eagle (Circaetus gallicus)</i>	

6.2. Ecologically fragile areas

The airport is outside the limits of the protected areas included in the National Protected Areas Network. On the island of Skiathos there is only one area included in the NATURA 2000 network. The said area is called “Skiathos: Koukounaries and Broader Sea Area” with code GR1430003 which is listed as Site of Community Importance (SCI) and Special Area of Conservation (SAC), according to Directive 92/43/EC. The said area is at a distance of approximately 8.5km from the airport.

7. WILDLIFE HAZARD MANAGEMENT

Wildlife strikes and wildlife hazard management measures	
Wildlife species that suffered a strike	Strikes (%)
Common pheasant (<i>Phasianus colchicus</i>)	50%
Hooded crow (<i>Corvus cornix</i>)	25%
Small passerine (<i>Passeriformes spp.</i>)	25%
Wildlife strike risk mitigation measures:	
<ul style="list-style-type: none"> • Inspections of the manoeuvring area for wildlife monitoring and control at regular intervals • Drainage ditches are regularly monitored and when 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. Skiathos airport is equipped with lawn mower • Fence maintenance • Systematic monitoring of bird species populations and their habitat on and off-airport (at a distance of 13km from the airport) • Holding of the wildlife strike committee meeting, to raise awareness across the airport users and local authorities about the risk of the wildlife strikes on aircraft and the measures applied to mitigate such a risk 	
Reference year summary results:	
<p>Hellenic Civil Aviation Authority (Safety and occurrence management division) 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>	

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)	3.099.330

9.2. Fuel consumption

Fuel consumption		
Number of FG vehicles at the airport	6	
Number of firefighting vehicles at the airport	4	
Total annual fuel consumption	Diesel (lt)	7.714,03
	Unleaded gasoline (lt)	158,82

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)	3.103

9.5. Water consumption

Water consumption	
Total annual consumption (m ³)	4.918

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)	6,8
Direct emissions from fuel used for firefighting vehicles (scope 1)	14,2
Direct emissions from fuel used for generators (scope 1)	8,3
Indirect emissions from refrigerants (scope 1)	-
Indirect emissions from electricity consumption (scope 2)	475,9
Total (t)	505,2
Kg CO₂ /passenger	2,45

Notes:

Fraport Greece B 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)	Airport borehole
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 of the water supplied from the airport's borehole show that the water parameters analyzed are within the legislative limits defined by the Ministerial Decision Γ1 (δ)/ΓΠ οικ. 67322/ GG 3282 B/19-9-2017 regarding the quality of human consumption water. The results of the microbiological and chemical analyses of the water of Terminals T1 & T2 is non potable due to the periodic existence of high concentrations of nickel and iron. The other results of the microbiological and chemical analyses show that the parameters analyzed as regards the water network of Terminals T1 & T2 are within the legislative limits 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		YES

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, with the exception of one sample from the oil-separator where there was an excess in TSS, Oil & grease and Zinc and high values in Cr, Cu, Pb and Ni. Monitoring and investigation will continue at this point.	

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: Volatile hydrocarbons, aliphatic, aromatic and chlorinated (soil gas)	
Summary of results:	
The results of the analyses from the airport's borehole indicate that the water is suitable for human consumption and no pollution is present. Due to the low level of the aquifer, it was not possible to take water samples from the fuel handler's monitoring boreholes.	

14. SEWAGE TREATMENT AND DISPOSAL

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

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