

ENVIRONMENTAL BULLETIN OF MITILINI “ODYSSEAS ELYTIS” AIRPORT (MJT)

Reference year 2021

Fraport Regional Airports of Greece B S.A.

Issue Year: 2022

**Environmental Bulletin of Mitilini Airport
“Odysseas Elytis” (MJT) - 2021**



BLANK PAGE

Contents

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	8
4.1. Air quality measurements during the reference year	10
4.2. Air pollutants emission and dispersion modelling	11
5. WASTE MANAGEMENT	10
6. ECOSYSTEM AROUND THE AIRPORT	14
6.1. Flora-Fauna	14
6.2. Ecologically fragile areas	14
7. WILDLIFE HAZARD MANAGEMENT	15
8. CULTURAL HERITAGE	16
9. RESOURCES CONSUMPTION	17
9.1. Energy consumption	17
9.2. Fuel consumption	17
9.3. Heating oil or natural gas consumption	17
9.4. Water consumption	17
10. GREENHOUSE GAS EMISSIONS & CARBON FOOTPRINT	18
11. HUMAN COMSUMPTION WATER MONITORING PROGRAM	19
12. RAINWATER	20
13. GROUNDWATER AND/OR SOIL AND/OR SOIL GAS MONITORING	21
14. SEWAGE TREATMENT AND DISPOSAL	22

1. INTRODUCTION

1.1. Location

“Odysseas Elytis” airport of Mytilene is located at a distance of 6km from the capital of Mytilene island, near the east coast of the island of Lesbos. At the south-west the settlements Akrotiri, Taxiarches and Aghia Marina are located, at the north the settlements Neapoli and Vareia are located, whereas at the south the village Agrilia Kratigos is located.

1.2. Administration

The airport administratively belongs to the Municipal Community of Mytilene and the Local Community of Aghia Marina of the Municipal Unit of Mytilene of the Municipality of Lesbos of the homonym Regional Unit that belongs to the Region of South Aegean

1.3. Environmental licensing

Approved Environmental Terms	
E.T. Decision Reference number	JMD 81441/20.12.2002
E.T. Amendment Decision Reference Number	Ref. No οικ. 23984/11.05.2016
	Ref. No οικ. 1004/16.01.2018

1.4. Airport Basic Data

Airport name IATA / ICAO	MJT / LGMT
Airport location – Airport Reference Point (ARP)	Latitude: 39° 03' 28" N Longitude: 26° 35' 55" E
Altitude	18.41 m
Number of runways	1
Operation hours (summer & winter)	00:01-24:00

Runways	Length/Width					Code
Runway	2,406m x 45m					14/32
Full length of parallel taxiway	N/A					
Number of taxiways	5					
Apron capacity	A	B	C	D	E	
	-	-	4	1	-	
Employees	High season (31.08.2021)			Low season (30.11.2021)		
Fraport Greece (FG) employees	30			25		
Employees of other companies	303			269		

Terminal	
➤ Total area (m ²)	7.140

Other buildings and service/storage areas	
➤ RFF Station (m ²)	1.180

Parking Areas	
Car parking spaces	141
Bus parking spaces	12
Taxi parking spaces	13

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 2021	
Overall Annual Air Traffic Movements ¹	4.931
Percent of increase or decrease in relation to the previous year	32,2%
Annual passenger traffic	285.344
Percent of increase or decrease in relation to the previous year	38,5%
Annual cargo transferred (tn)	213
Percent of increase or decrease in relation to the previous year	-6,6%

Aircraft types	
Prevailing aircraft types for domestic flights	
Aircraft type	No. of flights
DH8D	1.008
A320	664
AT76	618
AT45	560
AT75	522
AT72	454
A32A	215
A20N	183
A319	64
A321	45
Other	178
Prevailing aircraft types for international flights	
Aircraft type	No. of flights
B73H	157
A20N	67
7M8	55
A320	40
B738	21
B737	14
F2TH	5
GALX	5
A321	5
C56X	4
Other	47

¹ Military and training flights not included.

2.2. High season traffic data

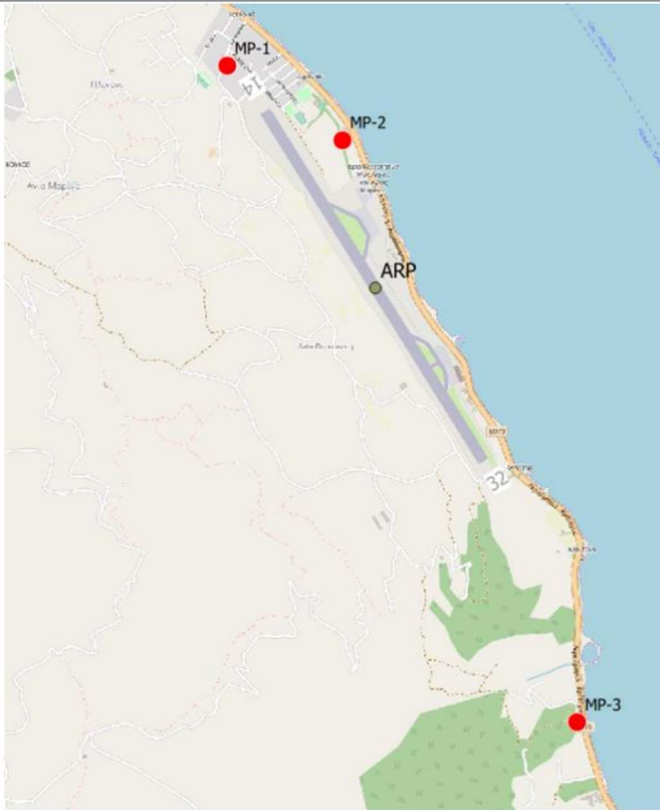
High season traffic data (June-September)	
Highest traffic month	August
Air traffic movements during the month with highest traffic	597
Air traffic movements daily average number during the month with highest traffic	19

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	256
Air traffic movements daily average number during the month with lowest traffic	9

3. AIRCRAFT NOISE

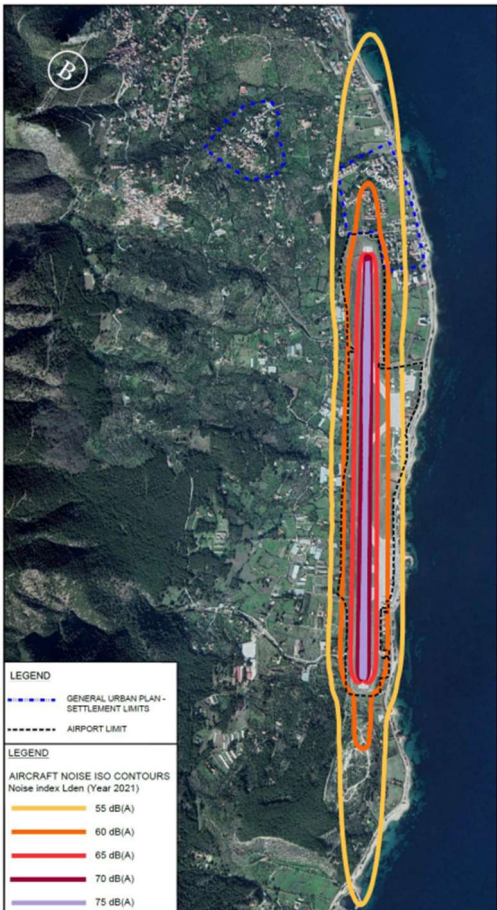
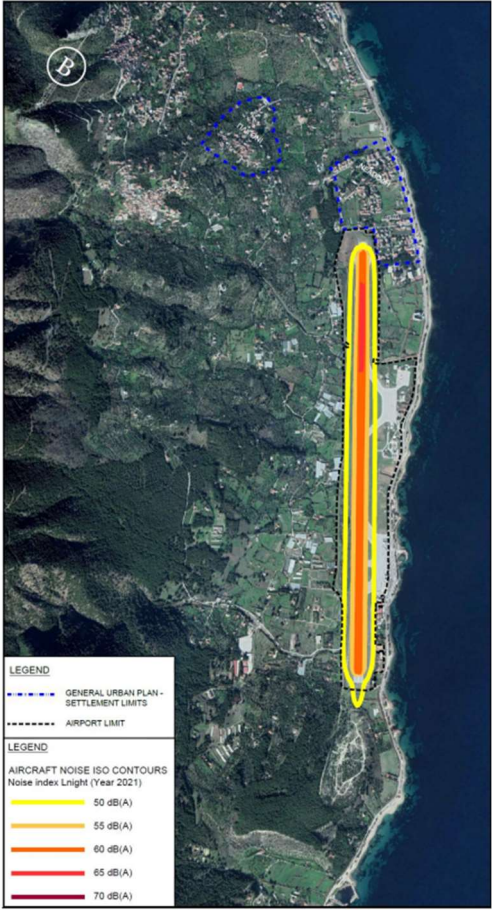
3.1. Noise measurements during the reference year

Have noise measurements at the airport’s surrounding area been performed during the reference year?		YES
Measurement points		
		
Measurement points coordinates	Measurement points description	
Θέση 1: 39° 04' 10" N 26° 35' 19" E	Neapoli area, north of the runway in a hotel yard. Affected by arrivals RWY 14 and departures RWY 32.	
Θέση 2: 39° 03' 56" N 26° 35' 47" E	East of the runway on a hotel roof. Affected by all flights to and from both directions	
Θέση 3: 39° 02' 06" N 26° 36' 44" E	To the south of the runway, in the yard of a house. Affected by arrivals RWY 32 and departures RWY 14.	
Measurement period	29.07.2021 - 30.07.2021	
Noise indicators	L _{den} , L _{night}	

Summary of measurement results:

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

3.2. Noise levels calculation based on noise simulation software

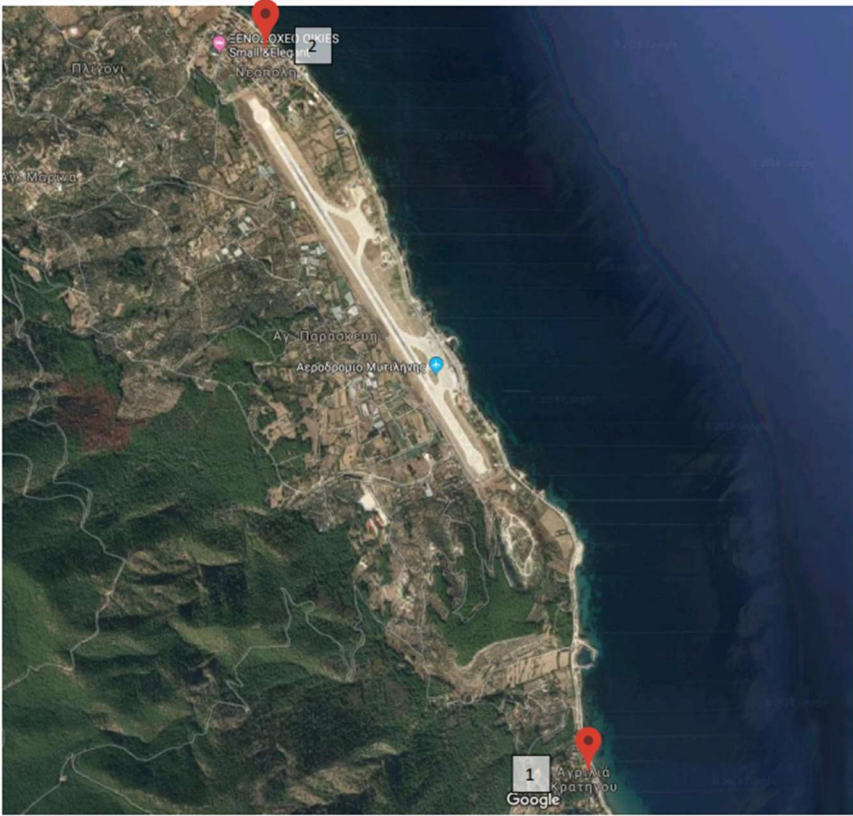
Aircraft noise levels calculation based on noise simulation software	YES
Software used: IMMI Noise Prediction Software (methodology CNOSSOS-EU according to Directive 2015/996/EU)	
Noise indicators and respective contours calculation: L_{den} , L_{night}	
Noise contours:	
 <p style="text-align: center;">L_{den}</p>	 <p style="text-align: center;">L_{night}</p>

Summary of results:

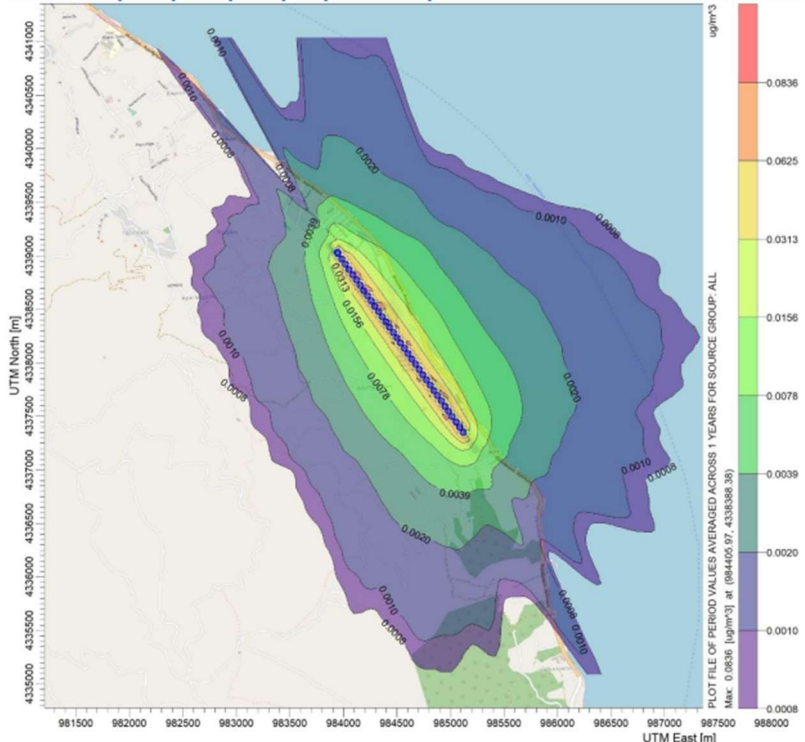
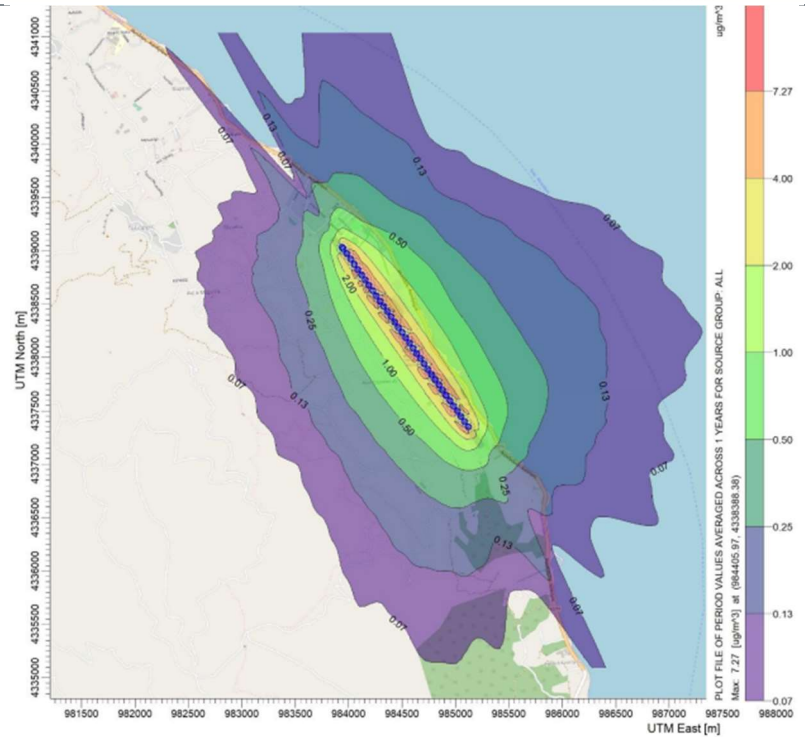
For the year 2021 no populations or buildings inside official settlement boundaries were found to be exposed to noise levels higher than the limits $L_{den}=70$ dB(A) and $L_{night}=60$ dB(A).

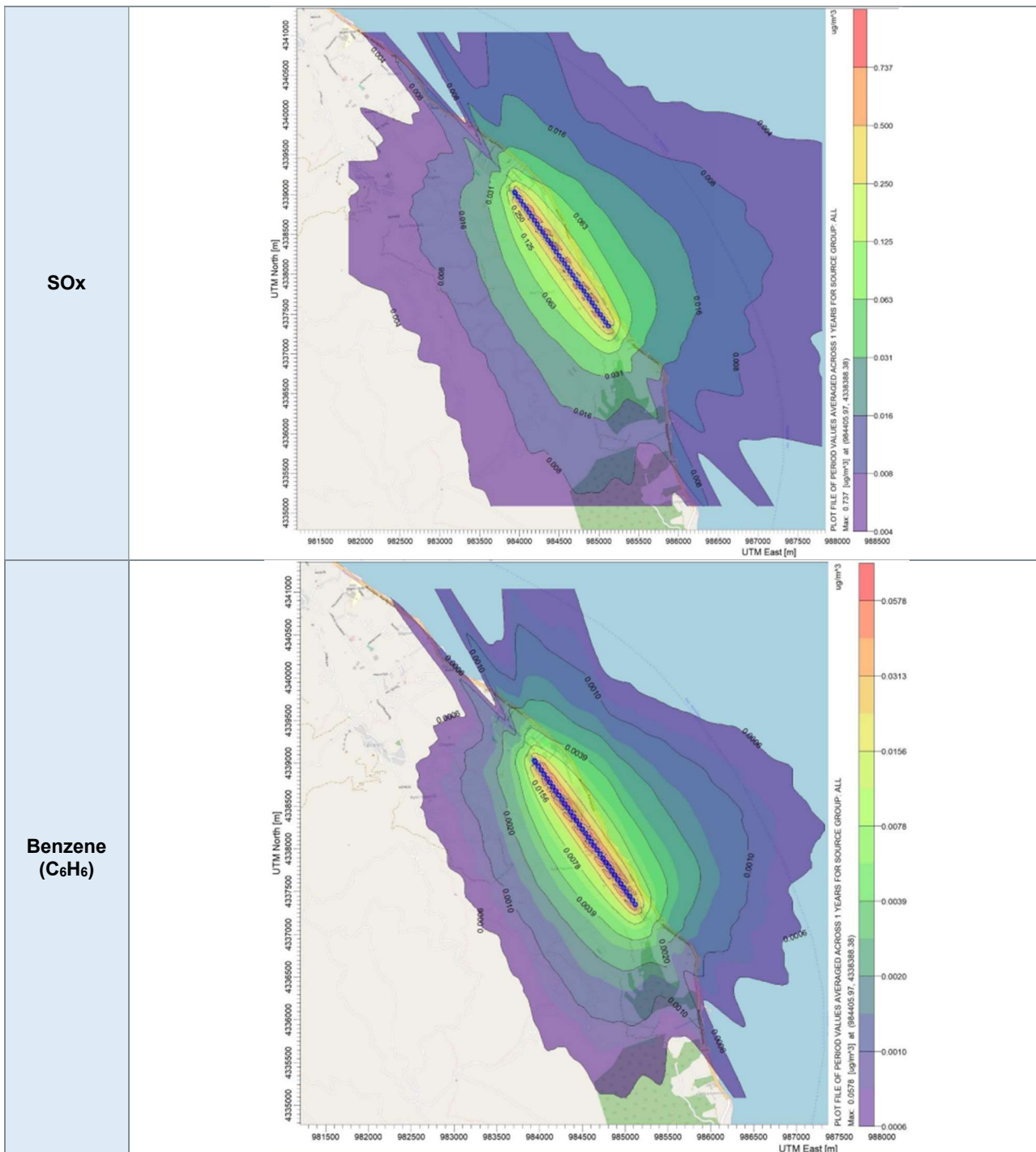
4. AIR QUALITY

4.1. Air quality measurements during the reference year

Have air quality measurements at the airport’s surrounding area been performed during the reference year?		YES
Measurement points		
		
Measurement points	Measurement points description	
Position 1	Settlement Agrilia Kratigos at a distance of approximately 2 km from the runway	
Position 2	At a distance of approximately 700m to the north of the runway.	
Measurement period:	27.01.2021 – 11.02.2021	
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
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		
NO_x		



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	Collection	Management/Disposal
Recyclables (paper, plastic, metals, glass)	Separate collection by the Municipality of Lesvos	Disposal at material recovery facility or transshipment for recycling
Residues (Mixed Waste) and Bulky Waste	Collection by the Municipality of Lesvos	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?	NO
<i>(if YES)</i> Short description:	
Fauna	
Are there protected species of fauna/birds in the broader airport area?	YES
<i>(if YES)</i> Short description: The protected bird species that have been observed at Mitilini airport since April 2017 are presented below:	
<i>Black stork (Ciconia nigra), Eurasian skylark (Alauda arvensis), European kingfisher (Alcedo atthis), Mediterranean gull (Larus melanocephalus), Northern lapwing (Vanellus vanellus), Red-footed falcon (Falco vespertinus), Sandwich tern (Sterna sandvicensis), Short-toed snake eagle (Circaetus gallicus)</i>	

6.2. Ecologically fragile areas

The airport is located outside the limits of the protected areas included in the National Protected Areas Network and is at long distance from them.

The nearest areas of the NATURA 2000 network is the SCI & SAC “Lesvos: Kolpos Geras, Elos Dipi and Mount Olympos” (GR4110005) and the SPA “Lesvos: Kolpos Geras, Eli Dipi and Charamida” (GR4110013), at a distance of approximately 5km from the airport.

The nearest Wildlife Sanctuary (WS) is “Divolo-Akothi (Loutron)” with code K293, also at a distance of approximately 5km from the airport.

7. WILDLIFE HAZARD MANAGEMENT

Wildlife strikes and wildlife hazard management measures	
Wildlife species that suffered a strike	Strikes (%)
Yellow-legged gull (<i>Larus michahellis</i>)	29%
Barn swallow (<i>Hirundo rustica</i>)	14%
Common kestrel (<i>Falco tinnunculus</i>)	14%
Little owl (<i>Athene noctua</i>)	14%
Pigeon (<i>Columba livia</i>)	14%
Red-rumped swallow (<i>Cecropis daurica</i>)	14%
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. ● 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)	1.348.300

9.2. Fuel consumption

Fuel consumption		
Number of FG vehicles at the airport	4	
Number of firefighting vehicles at the airport	4	
Total annual fuel consumption	Diesel (lt)	4.577,82
	Unleaded gasoline (lt)	41,61

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)	5.333

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)	17,5
Direct emissions from fuel used for firefighting vehicles (scope 1)	11,0
Direct emissions from fuel used for generators (scope 1)	1,3
Indirect emissions from electricity consumption (scope 2)	812,6
Total (t)	842,4
Kg CO₂ /passenger	2,95

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 year 2021 according to ACA (Airport Carbon Accreditation)

11. HUMAN CONSUMPTION WATER MONITORING PROGRAM

Human consumption water quality	
Water supply (public water network or airport's boreholes)	Municipal Water & Sewage Company (DEYA) of Lesvos
Is sampling of the airport's water network performed?	YES
<i>(if YES)</i> 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 <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	

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, with the exception of one sample where the TSS value was elevated possibly due to the unlined trenches and no treatment measure was required.	

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
<p>Parameters analyzed: Groundwater: TPH, BTEX, benzene, MTBE, PAH (16 priority compounds according to USEPA, except Naphthalene) PAH [Benzo(b)fluoranthene, Benzo(k)fluoranthene, Indeno(1,2,3,c,d)pyrene, Benzo(g,h,i)perylene], Naphthalen & Soil gas: Acetone, Benzene, 2-Butanone, Chlorobenzene, Chloroform, Chloromethane, 1,2-Dichloroethane 1,2-Dicholoroethene (trans), Ethylbenzene, n-hexane, 4-methyl-2-perntanone (MIBK), methyl-tertiary-butylether (MTBE), Napthalene, Styrene, Tetracholoroethylene (PCE), Toluene, 1,1,1-Trichloroethane, Tricholoroethylene (TCE), Vinyl chloride (VC), Xylene (total)</p>	
Summary of results:	
<p>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 EKO and GISSCO, regarding the condition of groundwater and soil gas after the completion of the remediation works, the concentrations of the chemical parameters in the analyzed samples of soil gas and groundwater remained in non detected levels and as a result below the target concentrations defined in the Technical Report of 08/12/2017 (Technical specifications for soil and groundwater remediation and target concentrations in fuel handling facilities polluted areas at the 14 Regional Airports). No remediation measures are necessary.</p>	

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	Secondary treatment & chlorination
Treatment method	Prolonged ventilation
Disposal of treated wastewater	Limited irrigation during March-October according to the Environmental Terms**
Sludge disposal	Landfill
Sampling frequency of WWTP effluent	Monthly
Parameters analyzed	BOD, SS, TN,TP, T. Coliforms, E.coli, pH, residual Cl ₂
Summary of quality of WWTP effluent	Limits as set in Table 1 of the Annex of JMD 145116/2001

*The data above refer to the WWTP, which was upgraded in the context of the Imminent Works during the reference year. Due to the fact that, the irrigation field construction works had not been completed the treated effluent was transported to the local municipal WWTP via tank trucks during the reference year.

** During November-February, the treated effluent was transported by tank trucks to the local municipal WWTP because the Planning and Implementation Study and the Hydrogeological study of the disposal projects for the disposal of wastewater for the enrichment of the underground aquifer were not approved as foreseen by the Environmental Terms Decision.