AVINOR

AERODROME MANUAL

Oslo Airport

Photo: Avinor/Catchlight

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RECORD OF AMENDMENTS

Version number	Date	Detail	Amended by
1.0	27/06/24	First time published	Nina Lundby
2.0	17/01/25	Totally revised	Jan Ole Johansen

PART A – GENERAL

0 ADMINISTRATION AND CONTROL OF THE AERODROME MANUAL

Administration and control of the Aerodrome Manual including the following:

0.1 Introduction

0.1.1 Statement regarding applicable requirements

A statement signed by the Accountable manager confirming that the Aerodrome Manual complies with all applicable requirements and the terms of the certificate.
SD00029 Accountable Manager's Statement (available upon request).

0.1.2 Statement regarding operational instructions

Avinor's Accountable manager has signed a statement verifying that Avinor has a management system that must be complied with by the relevant personnel: *SD00029 Accountable Manager's Statement* (available upon request).

0.1.3 Brief description

Oslo Airport's (OSL) Aerodrome Manual is available electronically to relevant personnel in English. The content is structured according to Reg (EU) No 139/2014, AMC3 ADR.OR.E.005 Aerodrome manual. *Users are responsible for ensuring the validity of printed versions.*

0.1.4 Explanations, abbreviations, and definitions

Explanations, abbreviations, and definitions of terms necessary for the use of the manual are provided in the text.

0.2 Amendement and revision

Management of the Aerodrome Manual includes the following:

0.2.1 Responsibility

The department Sikkerhet og beredskap (Safety, Security and Quality), Oslo Airport, is responsible for ensuring active monitoring of amendments and revisions and keeping the English versions of the Aerodrome Manual up to date.

0.2.2 Record of amendments and revisions

Version control is performed in the management system according to internal procedures for major and minor versions. Content changes in published versions are listed in a table at the beginning of this document.

0.2.3 Handwritten amendments and revisions

Handwritten amendments and revisions are not used.

0.2.4 Annotations

The Aerodrome Manual is available through Avinor's management system and on avinor.no/engm. Annotations are displayed electronically. Page or paragraph annotations and their effective dates are described in the table at the beginning of this document and in Avinor's management system.

0.2.5 Effective pages or paragraphs

Validity is indicated in the header of this document and in the management system.

0.2.6 Annotation of changes

Changes in the content of this manual are marked as follows: changes in paragraphs are indicated by a left margin line, and changes in tables are highlighted in grey.

0.2.7 Temporary revisions

Temporary revisions are not used. Permanent changes to the Aerodrome Manual will require the document to be issued with a new version number.

If there are operational changes that are not described in the Aerodrome Manual, those changes will be documented online (avinor.no/engm under "Operational Information"). The changes will be removed from "Operational Information" once the Aerodrome Manual is revised.

0.2.8 Distribution

The Aerodrome Manual is available electronically. Avinor employees can access it through Avinor's management system, while other personnel can access it via the external database on www.avinor.no (password required).

1 GENERAL INFORMATION

General information:

Avinor Oslo Airport
P.O. Box 150
2061 Gardermoen, Norway

Phone:
(+47) 64 81 00 00 Switchboard
(+47) 64 81 90 00 AIS/NOTAM
(+47) 64 82 00 00 Airport Operations Centre (APOC)
(+47) 95 71 69 23 Coordinator for removal of disabled aircraft
(+47) 64 80 33 15 Military Wing Ops

Overall organization for Oslo Airport refers to point 2.1.

Roles and responsibilities are described in *IN01454 Styring av Lufthavn - Lokale detaljer - Oslo Lufthavn* (available upon request).

The Norwegian Civil Aviation Authority (CAA Norway) can be reached at homepage: Civil Aviation Authority Norway (luftfartstilsynet.no)

1.1 Purpose and scope

The purpose of the Aerodrome Manual is to describe the safe and efficient operation of the airport. It meets the requirements in Reg (EU) 139/2014 ADR.OR.E.005 Aerodrome Manual.

The manual contains relevant information to describe infrastructure, equipment, operating routines, and any restrictions in use at the airport.

The content is part of Avinor's management system.

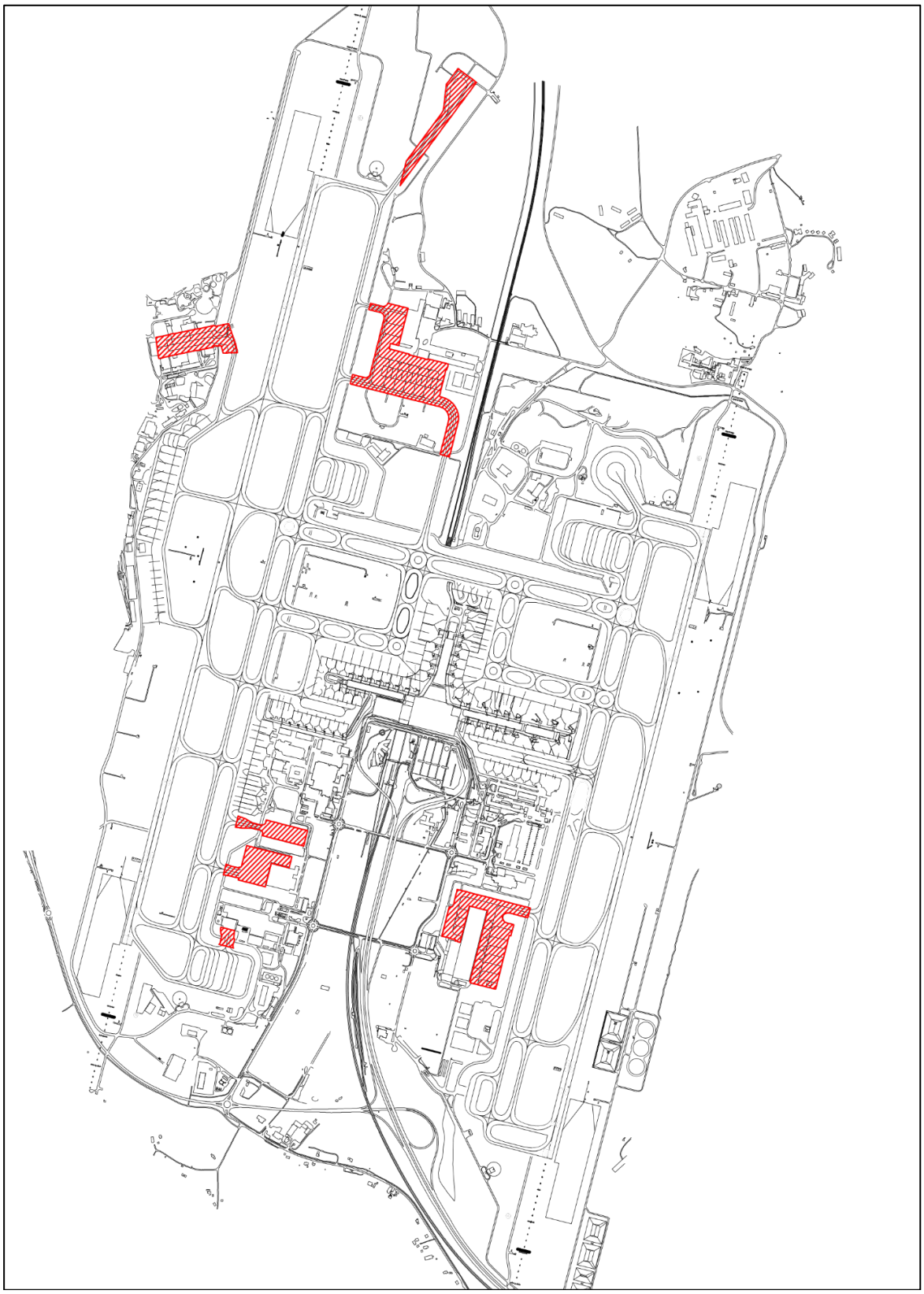
Due to the size and complexity of operations and related procedures, this manual does not contain all the procedures, but includes references where applicable. Referenced information, documentation, and procedures are made available as necessary to all operational staff via the external database on www.avinor.no (password required).

All data referenced from AIP Norway are subject to change according to the AIRAC cycle. For operational use and current information see AIP Norway.
AIP Norway is available here: AIP Norway - current - Avinor.

1.2 Legal requirements

Oslo Airport has an Aerodrome Certificate from the CAA Norway and Avinor is certified as an airport operator in accordance with Reg (EU) No 139/2014.

Areas marked in red are not part of the certified aerodrome.



1.3 Conditions for use of the Aerodrome

Conditions for the use of Oslo Airport is described in AIP Norway AIP GEN, AIP AD 1, AIP AD 2 and.

1.4 Audits/inspections by Competent Authorities

Avinor is obliged to operate the airport in accordance with existing laws and regulations. International and national authorities supervise Avinor's operations. Avinor's employees shall contribute to the relevant supervisory authorities being able to carry out their supervisory activities in the most efficient way possible.

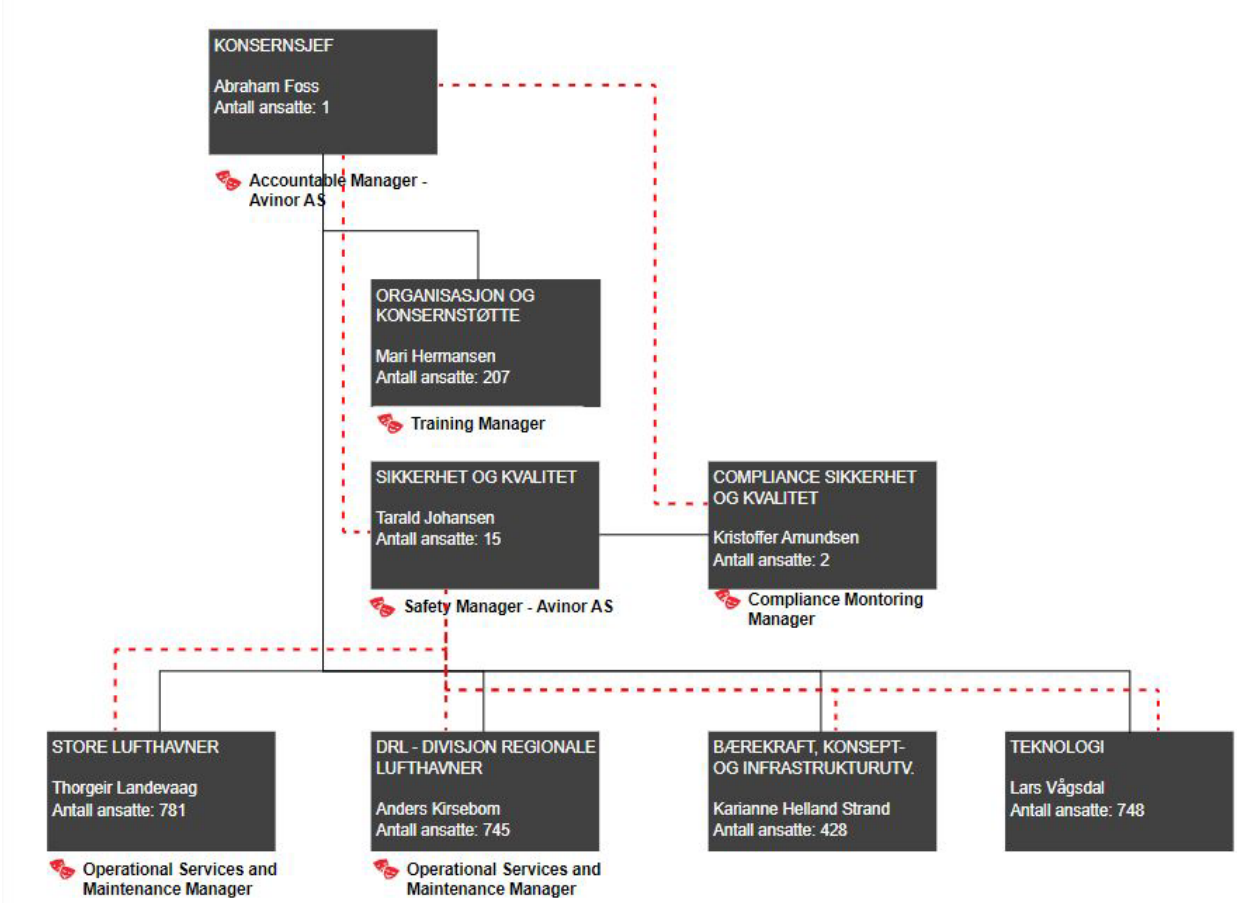
PART B — AERODROME MANAGEMENT SYSTEM, QUALIFICATION AND TRAINING REQUIREMENTS

2 A DESCRIPTION OF THE MANAGEMENT SYSTEM

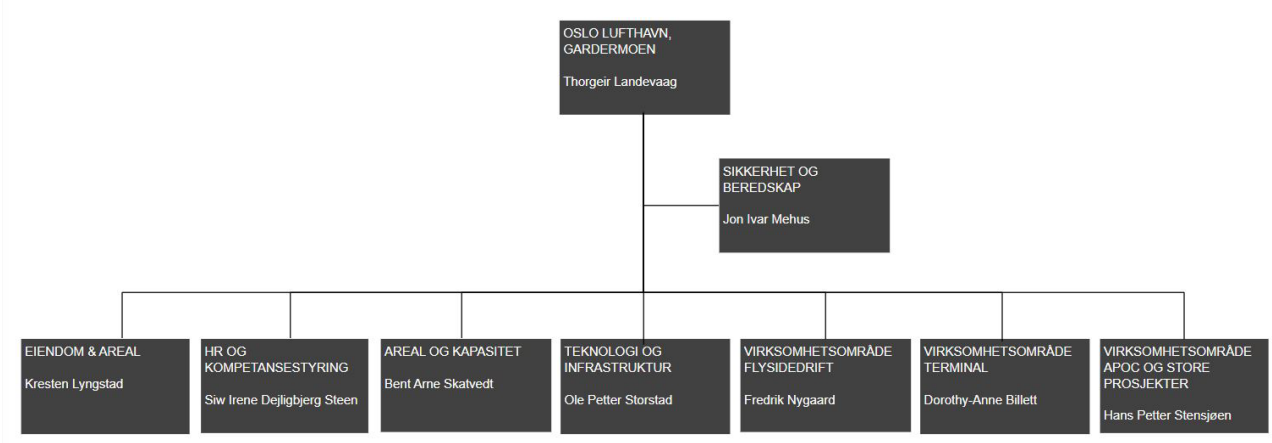
2.1 Aerodrome organisation and responsibilities

In Avinor's management system, the organizational structure is described through organizational charts, reporting lines, job descriptions, internal agreements, and delegations. The following chart shows reporting lines related to aviation safety work as well as the organizational structure. *English versions can be provided upon request.*

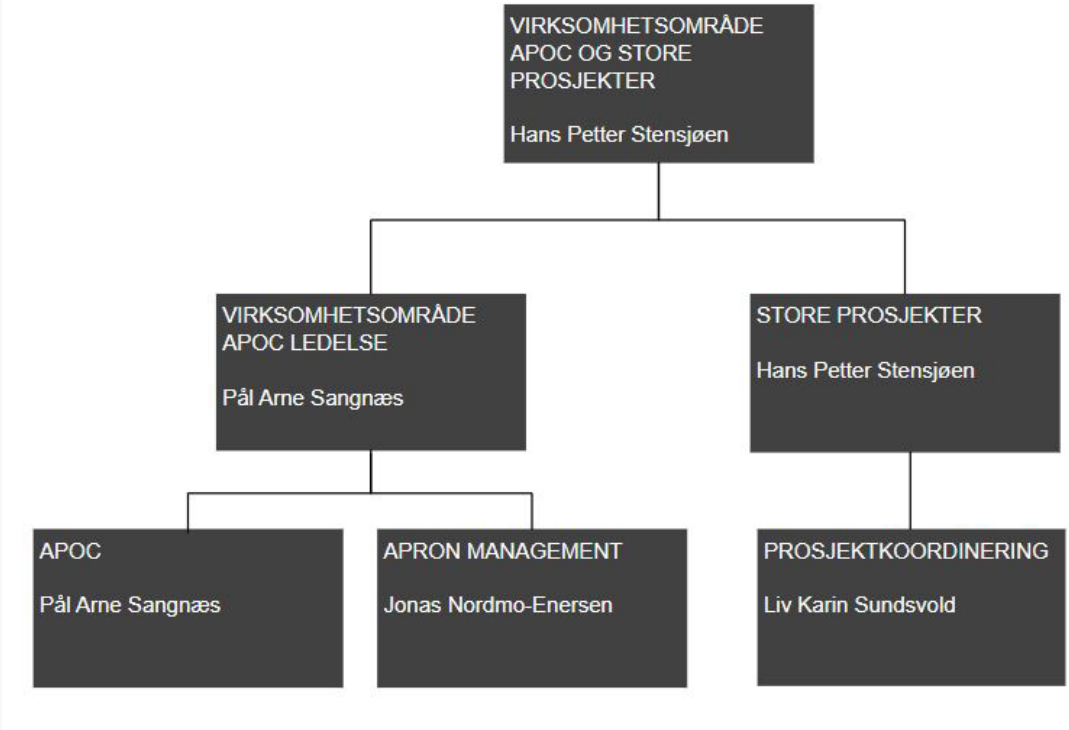
Flight safety per 02.01.2025:



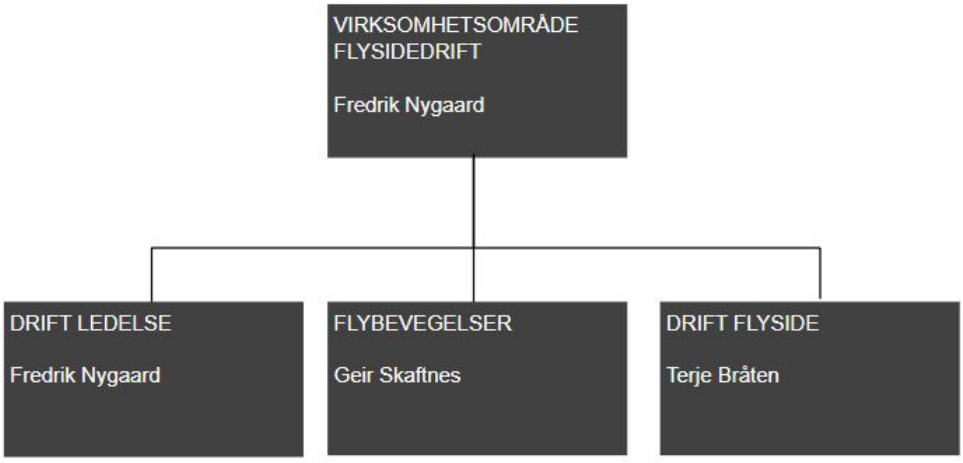
Oslo Airport – organisational chart per 02.01.2025:



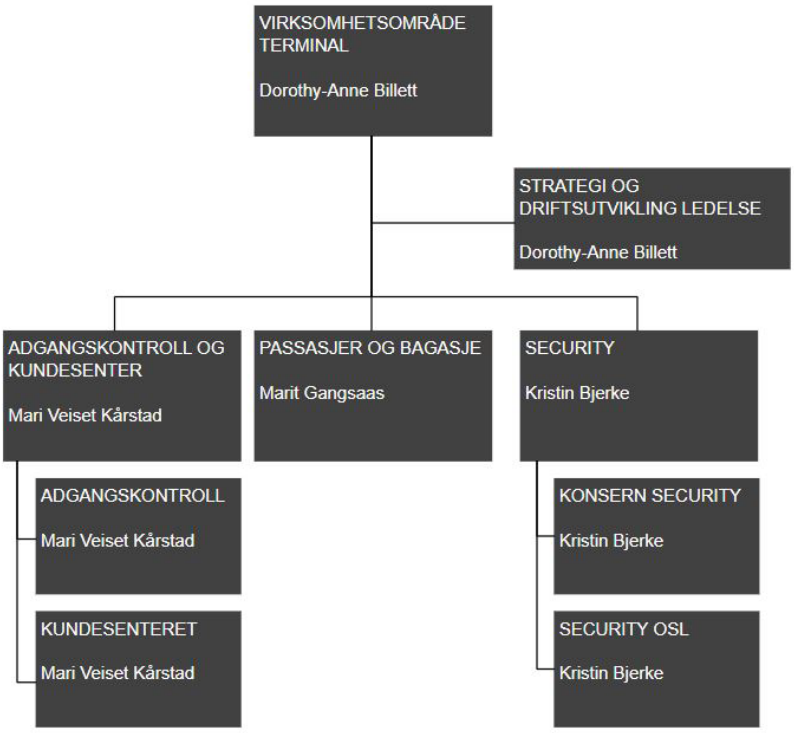
Oslo Airport – Airport Operations Centre per 02.01.2025:



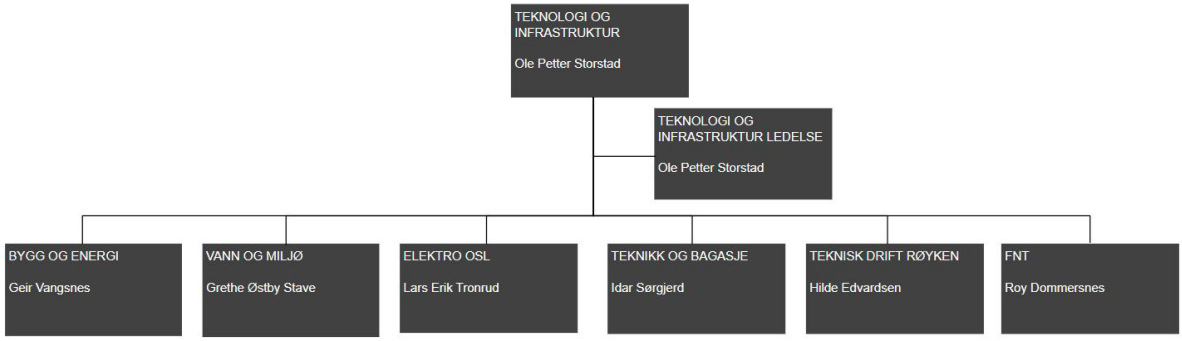
Oslo Airport – Airside operations per 02.01.2025:



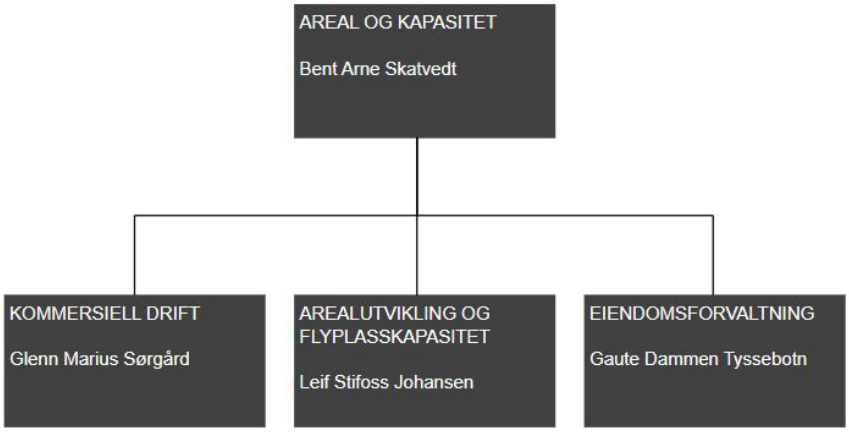
Oslo Airport – Terminal operations per 02.01.2025:



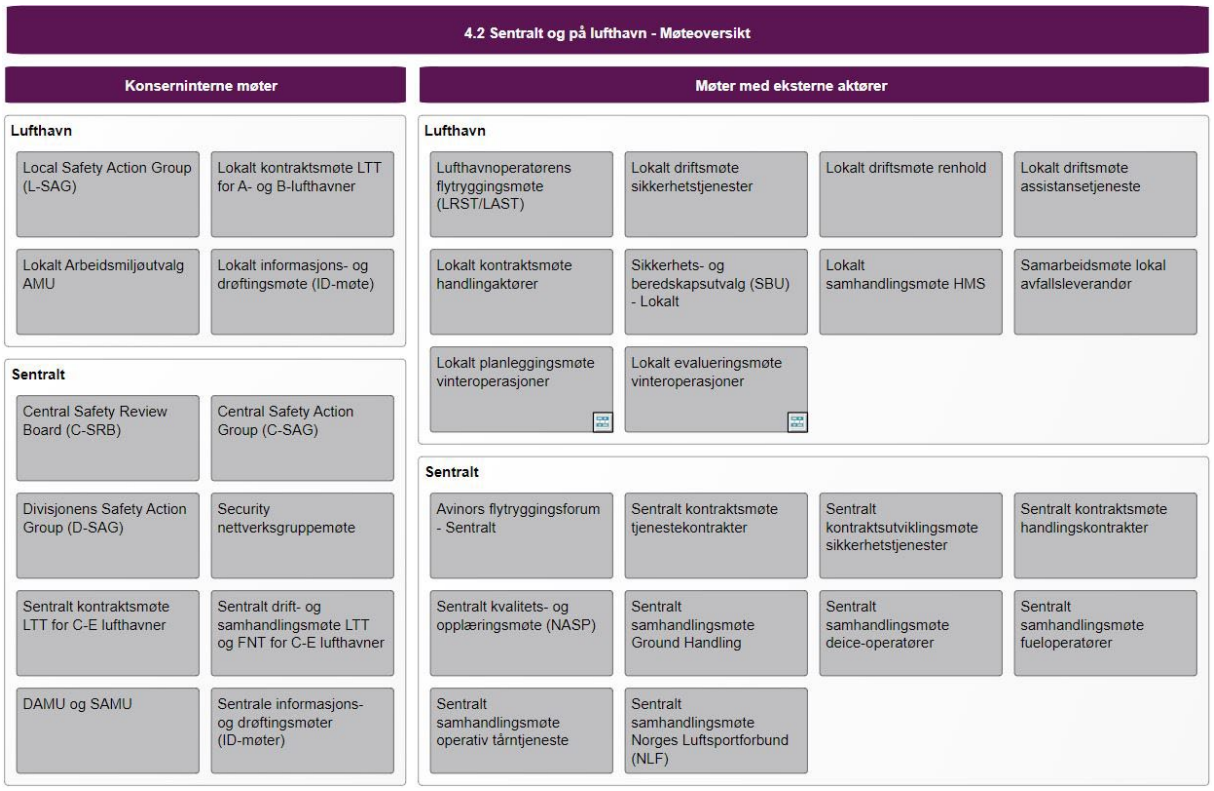
Oslo Airport – technology and infrastructure per 02.01.2025:



Oslo Airport – Area and capacity per 02.01.2025:



The airport has established regular meetings according to Avinor's guidelines:



Details will be made available upon request.

2.2 Safety Management System

Safety management is integrated into Avinor's management system SMART, and the following applies:

2.2.1 Scope of the management system

Safety management contains the necessary processes needed to ensure compliance with laws, requirements, regulations, and other internal and external framework conditions. It also contributes to the effective management of flight safety.

Safety management includes systematic measures implemented to achieve, maintain, and further develop the safety level in accordance with Avinor's safety goals. Safety challenges are identified and addressed within the safety management framework, including its associated organization and processes.

Apron Management Services (AMS)
Avinor AS, as the airport operator, is responsible for Apron Management Service and utilizes the existing organizational structure and management system, including its safety management.

2.2.2 Safety policy and objectives

Based on a common long-term vision and mission, strategic direction, goals, and measures for safety management are established. These are followed up in business reviews.

A policy for flight safety, (*SD00046 Flysikkerhet – Konsernpolicy*, available upon request), is applicable to Avinor AS, Svalbard Lufthavn AS, and Avinor Flysikring AS. It has been adopted by the Central Safety Review Board (C-SRB) and signed by the CEO/respective

accountable managers. The policy describes the overall purpose and direction for all work that affects flight safety.

All employees and others who work for or on behalf of Avinor must be familiar with the policy. The policy is periodically assessed for relevance and communicated to all.

All objectives directly or indirectly contribute to supporting the flight safety policy.

Action plans are not drawn up for flight safety, as Key Performance Indicators (KPIs) are monitored through reporting and other sources.

2.2.3 Safety responsibility

Roles and responsibilities for safety management are described in *LD00042 Sikkerhetsstyring – Ledelse* (available upon request).

Roles and responsibilities for Oslo Airport including the safety responsibility – names of function holders and deputies are provided on request:

Function
Airport Director
Operational Services and Maintenance Manager (OSMM)
Local Safety Manager
Crisis Management Chiefs
Accountable Security Manager
Local Security Manager
Mechanical Engineering Manager
Map Coordinator
Authorized Personnel for training in winter operations, including conduction Aerodrome Familiarisation Rounds
Authorized person responsible for the practical implementation of Airside Driving.
Technical Responsible
Operations manager High voltage
Operations manager High voltage RWY/TWY lighting
TIP Responsible (Security)
Risk Coordinator
Training Coordinator
Document Coordinators
Local Chief Safety Representative
Local Environmental Manager
Chemical Contacts
Waste Contact

2.2.4 Documentation control procedures

All Avinor’s governing documents are version-managed to ensure they are updated, available, and always in accordance with all relevant requirements.

2.2.5 Safety risk management process

Avinor has a comprehensive process to ensure safety in its operations. The process involves multiple steps and includes various aspects of safety management. Here is a description of Avinor's process:

- **Identification of safety risks**: Avinor conducts thorough risk assessments to identify potential safety risks in its operations. This includes identifying hazards, assessing the likelihood of their occurrence, and evaluating the consequences if they were to occur.

- **Development of safety policy**: Based on the identified risks and best practices in the aviation industry, Avinor develops a comprehensive safety policy. This policy establishes clear guidelines and expectations for safety management within the organization.

- **Implementation of safety management system**: Avinor implements a robust safety management system that includes all aspects of safety management. This system includes procedures, guidelines, and routines designed to ensure that safety requirements are met in a systematic and effective manner.

- **Training and awareness**: Avinor ensures that all employees undergo necessary training and awareness programs on safety procedures and requirements. This includes training on hazard identification, incident reporting, and proper handling of safety situations.

- **Monitoring and reporting**: Avinor has a system for continuous monitoring of safety performance and reporting of safety incidents. This enables the identification of trends, detection of potential risks, and implementation of measures to improve safety.

- **Continuous improvement**: Avinor places a strong emphasis on continuous improvement of the safety management system. This involves evaluating the effectiveness of existing measures, learning from experiences, and implementing necessary changes to further enhance safety.

By conducting an AMS verification of our GHSP, Avinor will ensure that all stakeholders have a robust Management and Safety Management System. The verification also includes training and implementation of Avinor's procedures.
Through this comprehensive process, Avinor ensures that safety is a central part of its operations. By identifying risks, implementing measures, and continuously improving the safety management system, Avinor actively works to maintain a safe and secure operation within the aviation sector.

2.2.6 Monitoring of safety actions, and risk mitigation measures

Flight safety work in Avinor is continuous and integrated into our daily operations. Reporting on safety performance and safety management performance facilitates appropriate decision-making and continuous improvement of safety procedures. Management information from various sources/methods is used for monitoring and reporting, both reactively and from a risk-based perspective.

To monitor flight safety performance, registration and subsequent reporting of safety targets and safety data from operations are required.
Reporting to the management group and board is conducted for safety management and flight safety on selected targets and KPIs according to the annual cycle for overall safety management and given deadlines.

KPIs have been established to monitor the performance of safety management processes and flight safety performance. Through monitoring safety indicators and risks, measures are taken to ensure that barriers have the desired effect.

Safety performance is monitored and followed up in various meeting forums.

2.2.7 Safety performance monitoring

Refer to point 2.2.6.

2.2.8 Safety reporting

All employees have a duty to report accidents, serious incidents, and occurrences that may affect flight safety. Some of these reports are mandated by the authorities and are automatically sent to the Norwegian Civil Aviation Authority. All employees must be aware of hazards and report any hazards identified at the airport.

Deviations and incidents discovered by suppliers and partners (GHSP at the airport) shall be reported to Avinor, and a dedicated reporting system is available through avvik.avinor.no. Data integration has been established between Avinor and some companies, which report in their own system.

Avinor maintains an open and fair culture where accidents, serious incidents, occurrences, and suggestions for improvement are reported and analysed without negative consequences for the reporter (just culture). Refer also to point 2.5.

Note: "Just Culture" is a culture in which front-line operators and others are not *punished for actions, omissions or decisions taken by them which are commensurate with their experience and training, but where gross negligence, wilful violations and destructive acts are not tolerated.*

2.2.9 Emergency response planning

The airport's emergency plans can be found in Part E, section 19.

2.2.10 Management of change

Change management processes are implemented by Avinor as an airport operator, including individual airports linked to Avinor' s operator certificate, and Avinor as a supplier of air traffic management services. All changes that impact Avinor's certificates, such as physical changes, system changes, personnel changes, equipment changes, technology changes, work process changes, management system changes, and security management system changes, must follow the change management process specific to the service and be recorded in the respective change log. Depending on the nature of the change, the Norwegian Civil Aviation Authority must be informed and/or prior approval from the Norwegian Civil Aviation Authority must be obtained.
Change management is addressed in Avinor' s management system (SMART), process 4.6.

2.2.11 Safety promotion

Promoting knowledge and handling of safety-related questions, safety measures, and consequences is crucial to ensure focus and awareness of flight safety within and outside Avinor. All Avinor employees involved in flight safety must receive relevant flight safety information, understand the reasons behind certain measures, and be aware of the introduction or changes to processes and procedures. Effective communication of flight safety information should flow smoothly and clearly within the line organization and reach operational personnel throughout the organization. Information must also be communicated to relevant partners. Avinor employees should have the opportunity to propose improvement suggestions to contribute to the continuous improvement of flight safety and propose solutions to potential hazards.

Managers and nominated roles have the responsibility to promote Avinor's safety and quality policy, as well as safety management.

When there is a need to issue Safety Information, it will be made available at avinor.no/engm - Operational Information - Safety Information.

In the event of an incident or a crisis, separate communication routines defined in the crisis management are utilized.

2.2.12 Safety management system output

The safety management processes generate information that is maintained and developed to provide indications of flight safety performance. This information is available in separate reports in Power BI (internal to Avinor). It is monitored and followed up in various meeting forums.

2.3 Compliance monitoring

Avinor has an independent compliance monitoring system to ensure adherence to relevant laws, regulations, and internal rules. This to ensure safe operations, good management, and continuous improvement and development of Avinor' s management system.

2.4 Requirements for provision of aeronautical data

The description of aeronautical data and aeronautical information provision activities is an integral part of Avinor' s management system. For more information, refer to Part E 7.1.

2.5 Reporting accidents and serious incidents to Norwegian Civil Aviation Authority

Avinor reports accidents, serious incidents, and occurrences to the Norwegian Civil Aviation Authority through the European database ECCAIRS. Accidents and serious incidents are also reported to the Norwegian Accident Investigation Board.

The definition of accident, serious incident, and occurrence is available in Regulation (EU) No 996/2010. Document *IN04492 Occurrence reporting - Contracted organizations* describes the reporting requirements for actors operating at Avinor' s airports. This document is available on the external database.

Responsibilities and roles for accident, serious incident and occurrence reporting in Avinor are described in *LD00034 Avvikshåndtering – Ledelse* (available upon request).

Avinor has established an internal system for non-conformance and incident reporting with functionality for forwarding to the authorities. A registration channel has been established via avvik.avinor.no, (select EN in top menu for English version), for suppliers and partners. In addition, data interfaces have been established in the reporting systems of some partners. Reporting should take place as quickly as possible and no later than 72 hours after the non-conformance/incident occurred.

Relevant information and attachments are stored in Avinor's system for deviation and incident reporting. Completed investigator reports are stored in Avinor's archive system.

2.6 Use of alcohol, psychoactive substances, and medicines

Avinor has adopted procedures related to the use of drugs and gambling, which are described in Avinor's management system and apply to all employees.
There are also established internal requirements related to mandatory abstinence, which apply to Avinor's employees who serve as flight technical personnel, personnel in the air traffic control service, and in the ground service. Employees who are covered by the rules may have to undergo drug testing under the Aviation Act.

2.7 Procedures for:

2.7.1 Complying with safety directives

Avinor takes immediate action upon receiving a safety directive. Safety directives are registered in a system for non-conformity and incident management, and the implementation of measures are documented in this system. Correspondence with the authorities is done in the same way as ordinary findings after an audit.

2.7.2 Reaction to safety problems

Safety issues are identified through various capture methods. Measures are implemented and followed up in accordance with the deviation and incident process and the process for operational risk management.

2.7.3 Safety recommendations issued by Safety Investigation Authorities

Avinor shall provide feedback to the Norwegian Safety Investigation Authority on how safety recommendations are followed up. The Accident Investigation Board documents these in a common European database. The Norwegian Civil Aviation Authority independently assesses whether the safety recommendations have been sufficiently followed up by Avinor. Before Avinor can close a safety advisory, it must be approved by the Ministry of Transport. Avinor receives feedback on the decision via the Norwegian Aviation Authority. The Norwegian Civil Aviation Authority must keep an overview of the status of follow-up on all safety recommendations.

2.8 Procedures for recording aircraft movements

Information about flight movements and details is obtained from various sources and collected in a data warehouse at Avinor. The air traffic control service provider confirms the flight movements. The data is enriched with information from airlines and airport systems. The data is available to all Avinor employees. The level of detail is limited when the data is provided to external parties.

3 QUALIFICATION AND TRAINING FOR AERODROME PERSONNEL

For aerodrome personnel to gain access to the airport, they are required to undergo specific training and qualification processes. The training consists of e-learning courses to obtain an ID card and specialized training for driving vehicles airside.

The overall training process includes the following steps:

- E-Learning Courses: Aerodrome personnel are required to complete e-learning courses that cover essential topics related to airport operations, safety regulations, security procedures, and emergency response protocols. These courses are typically designed to provide a comprehensive understanding of the airport environment and the responsibilities of personnel working airside.

- ID Card Application: After completing the e-learning courses, individuals must apply for an ID card. This process involves submitting necessary documentation, such as identification proof and background checks, to obtain the required security clearance. The ID card serves as an access pass to restricted areas of the airport.

- Airside Driving Training: Personnel who need to operate vehicles airside, such as ground handling staff or airport security personnel, must undergo specialized training for airside driving. This training focuses on the safe operation of vehicles in the vicinity of aircraft, including knowledge of runway markings, communication protocols, and adherence to airside traffic regulations. It may involve both theoretical instruction and practical driving exercises.

- Certification and Assessments: Throughout the training process, individuals may be required to pass assessments or examinations to demonstrate their understanding of the material covered. Successful completion of these assessments leads to the issuance of certifications or qualifications, which validate the individual's competence and readiness to work airside.

It is important to note that the specific training requirements may vary depending on the role and responsibilities of the aerodrome personnel. Different job functions may require

additional training or qualifications tailored to their specific tasks, such as firefighting training for airport firefighters or aircraft marshalling training for ramp agents.

Overall, the training and qualification process for aerodrome personnel aims to ensure that individuals have the necessary knowledge, skills, and awareness to safely and efficiently carry out their duties within the airport environment.

3.1 Training program

Avinor' s training program outlines the certificate requirements for various roles, as defined in Avinor' s management system process 8*. Management and competence (HR) - Competence requirements (applies only to Avinor employees)*. Additionally, there are specific training requirements for equipment and tasks relevant to each role, which may vary from person to person.

A detailed training program for all Ground Handling Service Providers (GHSP) should be described in their governing documentation, including initial and recurrent training. They should also be able to demonstrate that they have a system for storing training records. Avinor will verify this during an AMS verification.

3.1.1 Responsibilities, frequencies, syllabi and standard

Avinor's Training Manager holds overall responsibility for competence management in Avinor. Line managers are responsible for ensuring that employees possess sufficient competence, while process leaders/subject managers are responsible for continuously assessing the need for training measures within their respective areas of responsibility.

Before the development of new learning measures, a training analysis must be conducted. Based on the analysis, decisions have been made regarding which measures should be implemented. Examples of various measures include:

- Manager training
- Information dissemination (intranet, email, etc.)
- Online learning
- Infographics, videos, games, smart books, fact sheets, podcasts/V-logs
- Classroom training
- Combined learning (combination of classroom and online learning)

New training needs may arise due to various reasons, such as:

- New external statutory requirements
- New internal requirements
- Desired changes in behaviour
- Technological changes
- Changes in educational requirements

Avinor's Training manager has overall responsibility for competence management in Avinor, line managers are responsible for ensuring that employees have sufficient competence, and the process leader/training manager is responsible for continuously assessing the need for training measures within their own area of responsibility.

3.1.2 Procedures for:

3.1.2.1 Competency assessment and checking of the trainees

A person undergoing training (initial or recurrent) must demonstrate that they have the necessary competence to perform their tasks safely. The responsibility for this verification lies with the department manager or the approved instructor from that department. Instructors working for a GHSP are responsible for ensuring that the employee has the necessary knowledge.

3.1.2.2 The event that personnel do not achieve the required standards.

Avinor's management system has established specific processes to address employees who do not meet the required standards.

3.1.3 Documentation storage and storage periods.

Documentation storage and storage periods refer to the practice of storing training records and related documents for a certain period of time. These records serve as evidence of completed training and are typically required to be maintained for regulatory compliance and auditing purposes.

The storage period for documentation may vary depending on the specific regulations and requirements of the CAA Norway and Aerodrome Operator. It is important to adhere to these guidelines to ensure that the records are accessible and available for review when needed.

During the storage period, the documentation should be securely stored in a manner that protects it from loss, damage, or unauthorized access. This can include physical storage in locked cabinets or digital storage in secure databases or document management systems.

It is also important to establish proper indexing and organization of the documentation to facilitate easy retrieval and reference. This can involve categorizing the records based on training types, dates, individuals, or any other relevant criteria.

Once the storage period has elapsed, the documentation may be subject to disposal or archival procedures, depending on the specific requirements and policies. This may involve securely destroying physical records or implementing data retention and deletion processes for digital records.

Overall, proper documentation storage and adherence to storage periods ensure compliance with regulatory requirements, facilitate effective record-keeping, and support transparency and accountability in training processes.

3.2 Proficiency check program, including responsibilities and frequency

A proficiency check program is a structured system designed to assess and validate the skills and knowledge of individuals in performing specific tasks or duties. The program typically includes defined responsibilities and a frequency for conducting proficiency checks. Here is an explanation of these elements:

Responsibilities:

- Regulatory Authorities: Regulatory authorities, such as the CAA Norway and Aerodrome Operator, are responsible for establishing the requirements and guidelines for proficiency checks. They define the standards and criteria that individuals must meet to demonstrate proficiency in their respective roles.

- Training Department/Instructors: The training department or designated instructors are responsible for conducting the proficiency checks. They ensure that the checks are carried out in accordance with the established standards and procedures. They may also provide training and guidance to individuals to help them prepare for the checks.

- Individuals Undergoing Proficiency Checks: The individuals who are required to undergo proficiency checks have the responsibility to adequately prepare for the assessment. They must demonstrate their competence and proficiency in performing the required tasks or duties.

Frequency:

The frequency of proficiency checks can vary depending on the specific role, regulations, and industry standards. Typically, the frequency is determined based on factors such as the complexity of the tasks, the level of risk involved, and regulatory requirements. Some common frequencies for proficiency checks include:

- Initial Proficiency Check: This is conducted when an individual is initially assigned to a role or task. It ensures that they possess the necessary skills and knowledge to perform their duties safely and effectively.

- Recurrent Proficiency Check: After the initial check, recurrent proficiency checks are conducted at regular intervals to ensure that individuals maintain their skills and knowledge over time. The frequency of recurrent checks can range from months to years, depending on the specific requirements.

- Ad Hoc Proficiency Check: In addition to the scheduled checks, ad hoc proficiency checks may be conducted in response to specific events or circumstances. These checks may be triggered by changes in regulations, incidents, or performance concerns.

It is important to note that the exact responsibilities and frequency of proficiency checks may vary based on the specific industry, regulatory requirements, and organizational policies. It is essential to follow the guidelines and instructions provided by the relevant authorities and ensure compliance with the established proficiency check program.

3.2.1 Personnel that do not achieve the required standards.

Refer to point 3.1.2.2.

3.2.2 Storage and retention period for training documentation

Refer to point 3.1.3.

3.2.3 Measuring the effectiveness of the program

Measuring the effectiveness of a proficiency check program involves evaluating various factors, including the reduction of deviations and incidents, changes in behaviour and the transfer of experience. Here's an explanation of each aspect:

- **Evaluation**: Evaluation involves assessing the proficiency check program itself to determine its effectiveness. This can be done through feedback surveys, interviews, or assessments of the program's structure, content, and delivery methods. The evaluation helps identify areas for improvement and ensures that the program aligns with the intended goals and objectives.

- **Reduction of Deviations and Incidents**: One measure of the program's effectiveness is the reduction of deviations and incidents in the workplace. By regularly assessing individuals' proficiency and ensuring they meet the required standards, the program aims to minimize errors, accidents, and non-compliance. Tracking and analysing incident reports and data can provide insights into the program's impact on reducing deviations and incidents.

- **Changes in Behavior**: Another indicator of program effectiveness is the observable changes in behavior among individuals who have undergone proficiency checks. This can include improved adherence to standard operating procedures, increased awareness of safety protocols, and enhanced decision-making skills. Behaviour

changes can be assessed through observations, self-assessments, or feedback from supervisors and peers.

- **Transfer of Experience**: The proficiency check program should facilitate the transfer of experience and knowledge from experienced individuals to those undergoing the checks. This can be measured by evaluating the effectiveness of mentoring or coaching programs, assessing the knowledge retention and application of individuals, and tracking the progression of skills and expertise over time.

To measure the effectiveness of the program in these areas, organizations can use a combination of quantitative and qualitative methods. This may include analysing incident data, conducting surveys or interviews, observing behaviours in real-life scenarios, and tracking performance metrics.

Regular monitoring and evaluation of the proficiency check program allow for continuous improvement and ensure that it remains effective in enhancing safety, performance, and compliance within the organization.

3.2.4 Documentation storage and storage periods.

Refer to point 3.1.3.

PART C - PARTICULARS OF THE AERODROME SITE

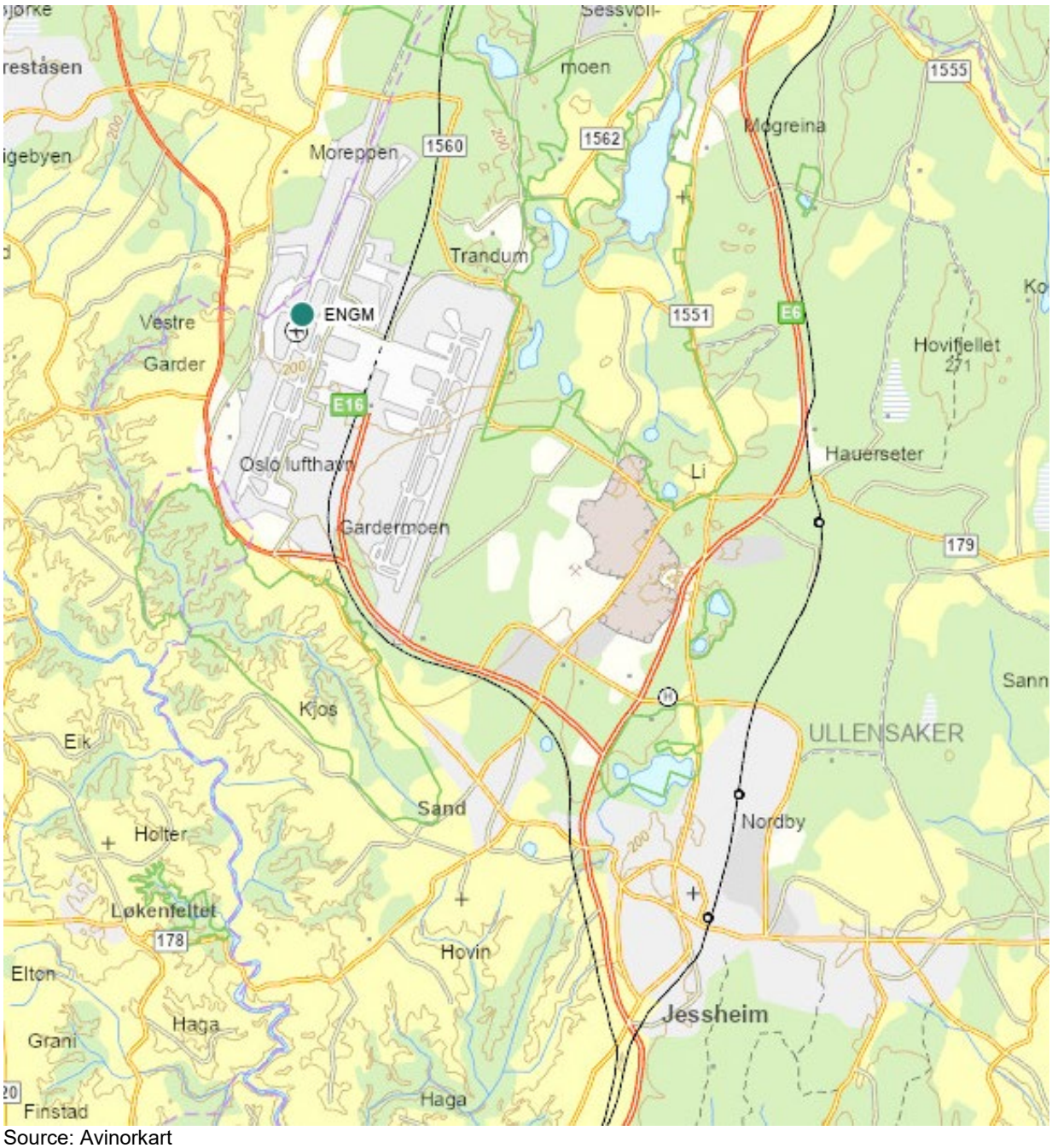
4 A DESCRIPTION OF THE AERODROME SITE

The aerodrome site is described in the AIP Norway ENGM/Oslo Gardermoen entry.

Note: All data referenced from AIP Norway are subject to change according to the AIRAC cycle. For operational use and current information see AIP Norway.

4.1 Distance of aerodrome from nearest town

The nearest town is Jessheim 3,7 NM (airline) southeast of Oslo Airport (ICAO Code ENGM). The distance to the capital city, Oslo, is 19 NM (straight line), southwest of the airport.



Source: Avinorkart

4.2 The aerodrome geographical data

AIP Norway, ENGM AD 2 Aerodrome Chart, includes essential information about the aerodrome's location (longitude and latitude), boundaries, major facilities, Aerodrome Reference Point (ARP), layout of runways, taxiways, and aprons, as well as aerodrome visual and non-visual aids and wind direction indicators.
Additionally, the Gardermoen "Ferdselskart" /*Airfield Map* is issued to the airport community, providing a simplified combined view of the airfield layout and can be found on the Avinorkart web site (search for *Oslo Airport*).

4.3 Location of aerodrome facilities and equipment outside boundary

Except for a section of the approach lighting on each runway (which are displayed on the Norway AIP aerodrome chart), no significant aeronautical facilities are positioned outside the boundaries of the aerodrome.

4.4 Physical characteristics of the aerodrome

Description of the physical characteristics of the aerodrome can be found in the AIP Norway ENGM OSLO/Gardermoen entry, with detailed information on elevations, visual and non-visual aids, information regarding the aerodrome reference temperature, strength of pavements, rescue and firefighting level protection, ground aids and main obstacles.

4.5 Exemptions or derogations, equivalent level of safety, special conditions, and operating limitations

Differences from ICAO Annex 14 SARPs (Standards and recommendations for the aerodromes) is described in AIP Norway, ENGM AD 2.23.

Operations with large aircraft (code letter F) is described AIP Norway, ENGM AD 2.23.

Malfunction of stop bar is described AIP Norway, ENGM AD 2.23.

AIP Norway, ENGM AD 2.23, para 6: Differences from ICAO ANNEX 14 SARPS:

- 6.1 Centreline marking on TWY LIMA ORANGE is orange. Centreline marking on TWY LIMA BLUE is blue, REF ENGM AD 2 Aircraft Parking/Docking Chart TWY LIMA Blue/Orange/Centre
- 6.2 Centreline lights on TWY LIMA ORANGE are orange and green. Centreline lights on TWY LIMA BLUE are blue and green, REF ENGM AD 2 Aircraft Parking/Docking Chart TWY LIMA Blue/Orange/Centre.
- 6.3 RWY AHEAD" is used as mandatory instruction marking, REF para 5.2.16
- 6.4 Slopes on ACFT stand 205-208 (1.2%) and stand 11 (2.1%) exceed requirements, REF para 3.13.5.
- 6.5 The distance between the red safety line and the critical ACFT type is less than 4.5 M for code C and 7.5 M for code D, E and F on all ACFT stands, REF para 3.13.6.
- 6.6 Distance between passenger bridges and fuselage is less than 4.5 M for code C and 7.5 M for code D, E and F at all ACFT stands, REF para 3.13.6. The table below is indicating distance for the critical ACFT type.

ACFT stand	Code letter	Distance bridge-aircraft
38, 49, 60, 61, 64, 65, 68, 69, 72, 73, 77, 81	C	1,0 M < 1,5 M
15	C	1,5 M < 2 M
11, 13, 14, 16, 18, 20, 22, 24, 26, 36, 39, 41, 43, 44, 45, 48	C	2,0 M < 2,5 M
46	C	2,5 M < 3,0 M
50	C	> 5,0 M
54	C	4,5 M < 5,0 M
46R, 51	E	2,5 M < 3,0 M
53	E	3,5 M < 4,0 M
40, 56, 58	E	4,0 M < 4,5 M
76	E	2,0 M < 2,5 M
52	F	4,0 M < 4,5 M

AIP Norway, ENGM AD 2.23, para 7: Difference from national directive.

7.1 Gardermoen Control tower, providing Air Traffic Control (ATC), is not equipped with VHF direction finding equipment (VDF). REF BSL G 2-1, chapter 5 § 24 and Appendix 7, para 3 (1) c og (2). *Note: This directive is not published in English.*

4.6 Description of the types of operations that the aerodrome is approved to conduct

The airport can operate IFR/VFR traffic. The AD reference code is 4E for all runways.
CAT 3 approaches are available for all runways.

All flights operating at Oslo Airport, Gardermoen are subject to compulsory allocation of arrival and departure times.

Ground handling is compulsory at Oslo Airport.

An agreement on ACFT de-icing must be established with a de-icing operator prior to engine start-up for departure. Ref. AIP Norway, ENGM AD 2.20 for detailed information on de-icing.

Planned Diversion Procedure: Airline and other operators are advised that before selecting Oslo Airport as an alternate, prior arrangements for ground handling should be agreed with one of the nominated handling agents.

The use of the airport for training purposes is prohibited.

Further aerodrome regulations can be found and shall be complied with, in AIP Norway ENGM entry, with special attention to the noise abatement procedures in AIP Norway, ENGM AD 2.21.

PART D - PARTICULARS OF THE AERODROME REQUIRED TO BE REPORTED TO THE AERONAUTICAL INFORMATION SERVICE

5 THE AERONAUTICAL INFORMATION SERVICES AVAILABLE AND GENERAL INFORMATION ABOUT THE AERODROME

Changes required to the Oslo airport Gardermoen entry in the AIP Norway are facilitated by the airport Flight Operations department and coordinated with Avinor Aeronautical Information Management department.
Aerodrome information reported to the Aeronautical Information Management department can be found in the AIP Norway ENGM entry.

5.1 Name of the aerodrome

Oslo Airport, Gardermoen
ICAO: ENGM

5.2 Location of the aerodrome

19 NM/35 km northeast of Oslo.

5.3 Geographical coordinates

Aerodrome reference point (ARP): 601210N 0110502E
ARP is located on RWY 01L/19R at the taxiway intersection A6/C2, ref. AIP ENGM AD 2 Aerodrome Chart.
Geoid undulation: 125 FT

5.4 Aerodrome elevation and geoid undulation

AD ELEV: 682 FT

5.5 Elevation of aerodrome points

Ref AIP Norway ENGM AD 2, Aerodrome Chart ICAO.

Runway	Threshold Elevation	Geoid Undulation
01R	671 FT	125 FT
19L	682 FT	125 FT
01L	657 FT	126 FT
19R	676 FT	126 FT

Runway	Runway End Elevation
01R	682 FT
19L	671 FT
01L	676 FT
19R	657 FT

Runway	Highest Elevation of the Touch Down Zone of a Precision Approach Runway
01R	675 FT (901 M from threshold)
19L	682 FT (Highest point at threshold)
01L	663 FT (451 M from threshold)
19R	676 FT (154 M from threshold)

Helicopter Final approach and take-off area (FATO)
FATO Threshold Elevation/Geoid Undulation:

FATO THR 19 667 FT/126 FT
FATO THR 01 668 FT/126 FT

5.6 Aerodrome reference temperature

Aerodrome Reference temperature: 21.6°C.

5.7 Aerodrome beacon

There is a white flashing high intensity omnidirectional light located on the control tower roof. This can be turned off, if necessary, e.g.in fog/low cloud as the light may be reflected into the tower cabin.

5.8 Name of the aerodrome operator and contact details.

Aerodrome operator: Avinor AS

Avinor Oslo Lufthavn
Oslo Lufthavn, Gardermoen
Postboks 100
2061 Gardermoen
Norway

Phone: (+47) 64 81 20 00 (Switchboard)

6 AERODROME DIMENSIONS AND RELATED INFORMATION

This type of information is published in AIP Norway, which can be found on the Avinor AIS portal.
Note: Based on new regulations the ACN-PCN will be replaced by the new ICAO Aircraft Classification Rating – Pavement Classification Rating (ACR-PCR)

6.1 Runway

Aerodrome Terrain and Obstacle Chart - ICAO (Electronic)
The ATOC-e for Norway is a digital chart displaying aerodrome, obstacle, and terrain data for airports in Norway. It is made available on the Avinor AIS portal.

For aerodromes not covered by the ATOC-e, the Aerodrome Obstacle Chart - ICAO Type A is published.

Runway Designation/True Bearing
01L: 016.01°
19R: 196.03°
01R: 016.04°
19L: 196.06°

FATO Designation/True Bearing
FATO 01 and FATO 19.
True bearing THR FATO 01/19: NIL

Runway Length and Width
01L: 3600 x 45 M
19R: 3600 x 45 M
01R: 2950 x 45 M
19L: 2950 x 45 M

Displaced Threshold Location
None

Slope
The ATOC-e provides the possibility for the user to calculate slope for any portion of the runway. In the layers list, activate the Runway centre line elevation layer. Elevation every

thirty meters along the runway centre line appears. Combined with the measuring tool, the user can calculate slope for any portion of the runway and identify elevation for top and bottom points for slope changes along the runway. Available on the Avinor AIS portal.

Surface Type
Runway surface: Asphalt/concrete, grooved PCN-75/F/A/W/T
FATO surface: Concrete, PCN-30/F/B/Y/T

Note: Based on new regulations the ACN-PCN will be replaced by the new ICAO Aircraft Classification Rating – Pavement Classification Rating (ACR-PCR).

Type of Runway
01L: Precision approach runway CAT III
19R: Precision approach runway CAT III
01R: Precision approach runway CAT III
19L: Precision approach runway CAT III
An Obstacle Free Zone (OFZ) is established for each precision instrument approach runway.

Type of FATO/TLOF
FATO 01/19 D-value 17
TLOF GA NORTH D-value 17
Design: Performance class 3, slope design category B.

6.2 Runway Strip Length and Width and Surface Type

01L/19R: 3720 x 280 M – Grooved Asphalt and graded earth and grass in non-paved areas.
01R/19L: 3070 x 280 M – Grooved Asphalt and graded earth and grass in non-paved areas.

Runway End Safety Areas (RESAs) Length
01L – 240m x 150 M
19R – 240m x 150 M
01R– 240m x 150 M
19L – 240m x 150 M

Runway Stop way Length and Width and Surface Type
01L None
19R None
01R None
19L None

Runway Clearway Length
01L None
19R None
01R None
19L 400 x 150 M

Taxiways Width and Surface Type

Taxiway	Width	Surface	PCN
A1, A2, A9, B1, B2, B8, B9	23 M	Concrete	PCN-75/R/A/W/T
A3, A4, A5, A6, A7, B3, B4, B5, B6, B7, D, D1, E, G, G1, H, J, J1, J2, K, K1, K2, L BLUE, L CENTER, L ORANGE, M, N, N5, P, P1, P2, Q, R, R1, S, T, U, U1, U2, U3, V, W, Y, Z,	23 M	Asphalt	PCN-75/F/A/W/T
C, C1, C2, C3,	23 M	Asphalt	PCN-65/F/B/X/U
C4	18 M	Asphalt	PCN-30/F/B/Y/U

Note: Taxiway U is part of the military side and is not under control by ATC or the civil airport authority.

Note: ACN-PCN will be replaced by PCR in November 2024. Review of the PCR values will be done in Q2/Q3 2024.

Apron/Aircraft Stands Surface Type

Area	Surface	PCN
CARGO	Concrete	PCN-75/R/A/W/T
GA CENTRAL	Asphalt	PCN-65/F/B/X/T
GA NORTH	Asphalt	PCN-30/F/B/Y/T
GA SOUTH	Concrete	PCN-65/F/B/X/T
MAIN EAST	Concrete	PCN-75/R/A/W/T
MAIN WEST	Concrete	PCN-75/R/A/W/T
MILITARY TERMINAL	Concrete	PCN-75/R/A/W/U

6.3 Visual aids

The lighting at the runways at Oslo airport, Gardermoen is precision approach Category III.

Visual Aids – Approach

Frangible Calvert coded approach lightning is installed on all runways. The approach lights are of LED on RWY 01R/19L and on RWY 01L/19R, installed with 30m interval angled from 5,5º to 6,5º.

- Sequence flashing lights, installed on the approach centrelines: LED on RWY01R/19L and on RWY 01L/19R.

The approach lighting system, on all runways, over the inner 300m consisting of 27 barrettes of four lights each arranged in nine rows of three at 30m longitudinal intervals symmetrically each side of the extended runway centreline. The lights are directional high intensity white (centre barrette) or red (outer barrettes) and are set at the same angles as the corresponding approach lighting.

RWY 01L

670m High intensity lighting with 4 crossbar system. The lights are white directional.

Note: For RWY 01L, the ATC will implement low visibility procedures when RVR is below 750m for CAT 3 operations.

RWY 19R and 19L

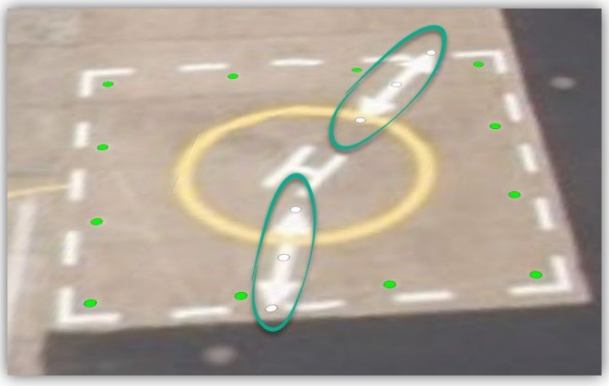
900m High intensity lightning with 5 crossbar system. The lights are white directional.

RWY 01R

880m High intensity lighting with 5 crossbar system. The lights are white directional flight path.

FATO 01/19

White omnidirectional alignment guidance lights, (see picture):



Visual Approach Slope Indicator System
Precision Approach Path Indicators (PAPI) are installed on all four runways.
Note: PAPI angle calibrated for B747.

Marking and Lighting of Runways, Taxiways and Aprons

Runway Lighting

- Centreline lights are at 15m spacing. The lights are LED bi-directional, high intensity and beamed the horizontal. The lights are white to a point 900m from the runway end, with the following 600m alternate red and white and the final 300m all red in colour.
- Edge lights at 60m longitudinal spacing and positioned 22.5m each side of the centreline. The lights are LED bi-directional, high intensity, white. The last 600m the lights are yellow.
- Touchdown zone lights over the first 893m of each runway direction consisting of 30 barrettes of four lights arranged in fifteen rows of two at 60m longitudinal intervals symmetrically each side of the runway centreline. The lights are unidirectional, high intensity LED, white.
- Threshold lights at each landing threshold. These lights are directional, high intensity, green.
- Runway End lights which are directional, high intensity, red.
- Runway Guard Lights comprising alternating flashing amber, operating H24.
- Runway exits is indicated using alternate yellow and green LED lights on all runway entry and exits on the runway side of the CAT 3 holding point marking.

FATO lightning
Green LED edge lights.

Runway Marking Aids:
Full ICAO runway designation, runway threshold, aiming point, touchdown zone and runway centre-line markings. Leadoffs from the runway are marked by a continuous yellow line from the centreline of the runway.
Two illuminated windsocks indicators installed on each runway.

FATO marking:
White edge marking and flightpath marking. Yellow marked landing circle with white identification marking.

Taxiways and Aprons

Taxiways:
Green centreline lighting is installed on all taxiways except on taxiway C4 from Charlie to GA north, which has blue edge lighting.
Associated with the taxiway centrelines, at specific taxiway intermediate holding points, red directional LED stop bars is embedded in the pavement. Ref AIP Norway ENGM AD 2 for the specific locations.

Operating Stop Bars

Understanding Stop Bars

- Stop bars are a series of red, unidirectional lights installed across taxiways at runway holding positions.

- They are used to control the movement of aircraft and vehicles, ensuring they do not enter an active runway without clearance.

General Rules:

- **Do Not Cross an Illuminated Stop Bar**: It is strictly prohibited to cross a stop bar when it is illuminated. This is a critical safety measure to prevent runway incursions.
- **Clearance Requirement**: Aircraft and vehicles must receive explicit clearance from Air Traffic Control (ATC) before crossing a stop bar.

Receiving Clearance:

- **Request Clearance**: Pilots or vehicle operators must request clearance from ATC to cross a stop bar.
- **Repeat Clearance**: Upon receiving clearance, the pilot or operator must repeat the clearance to confirm understanding and ensure there is no miscommunication.
- **Verify Clearance**: ATC will verify the clearance and, if necessary, turn off the stop bar lights to allow safe crossing.

Crossing Procedure:

- **Wait for Stop Bar to Extinguish**: Do not proceed until the stop bar lights are turned off by ATC.
- **Proceed with Caution**: Once the stop bar is extinguished, proceed with caution, ensuring the path is clear and safe to cross.

Alternative Clearance:

- **Request Alternative**: If there is any doubt or confusion about the clearance, or if the stop bar remains illuminated despite receiving clearance, request an alternative clearance from ATC.
- **Follow New Instructions**: Adhere to any new instructions or routes provided by ATC to ensure safe movement on the airfield.

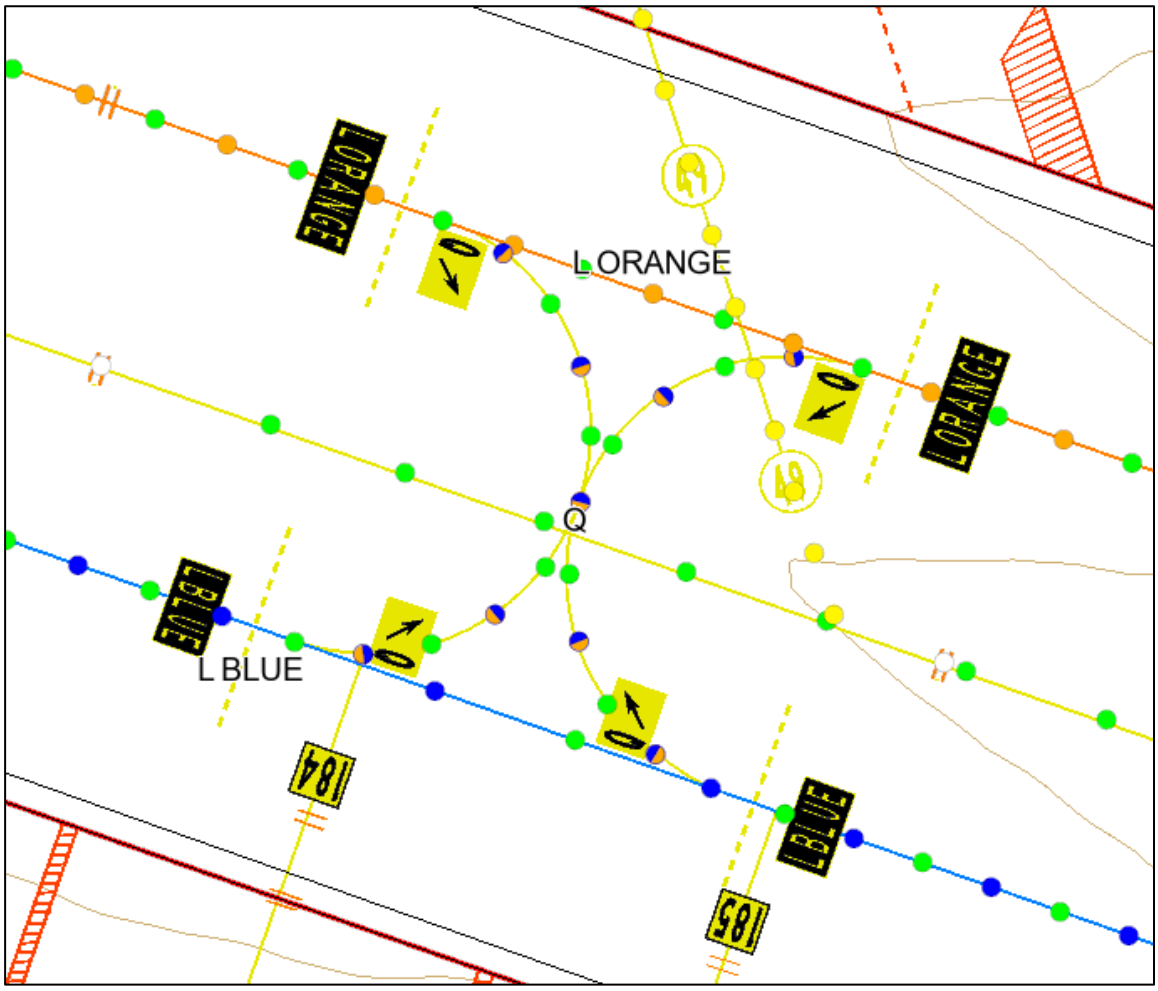
Communication:

- **Maintain Communication**: Keep continuous communication with ATC during the entire process.

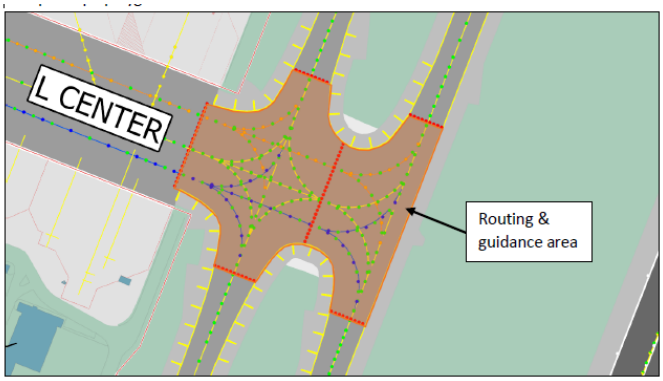
Report Any Issues:
Immediately report any issues or uncertainties to ATC to prevent potential safety hazards.

By following these procedures, the operation of stop bars can be managed effectively, ensuring the safety of all aircraft and vehicles on the airfield.

Lima Area
On taxiway Lima Blue alternate green and blue centreline LED lights.
On taxiway Lima Orange alternates green and orange centreline LED lights.
On taxiway Quebec alternating green/blue and green/orange lights.



Routing & Guidance
Ref. AIP Norway ENGM AD 2, Aircraft Parking/Docking Chart - Civil terminal area East
The taxiway lights on Lima Blue, Orange and Centre are always turned on.
At the intersection taxiway Sierra/Lima, see illustration, all taxiway lights are turned off.
In this area taxiway LIGHTS will automatically be switched on for aircraft to/from taxiway LIMA ORANGE/CENTER/BLUE indicating the taxi route the pilot shall follow to aircraft stand og from the aircraft start position.
Aircraft with wingspan greater than 36 M (code D/E) will automatically be routed via taxiway LIMA CENTER. This is due to wingspan limitations and dependencies on LIMA taxiways.



Taxiway lights in the Routing & Guidance area will always be turned off and lit automatic to the taxiway to be used, cleared from ATC.

If Routing & Guidance is not available, Follow Me for code D and E is mandatory for in taxing to the LIMA area.

Taxiway Marking Aids
Yellow painted centreline.
Nonconforming taxiway centreline colours: - taxiway LIMA BLUE with blue colour. - taxiway LIMA ORANGE with orange colour.

Aprons

- Yellow painted aircraft stand lead-in line
- Stands that can be used by different types of aircraft will have different lead-in lines. "Most demanding" aircraft will have a solid yellow painted lead-in line.
- Yellow painted multiple marshaller and towing stop line
- Red/white painted boundary of responsibility line
- Red painted aircraft stand safety line
- Broken red painted aircraft stand dividing line
- Broken white painted tractor pushback line and pushback limit line
- White painted equipment parking area line
- Red hatching painting within a red border no parking area
- Green painted air bridge wheel position
- Red painted box for underground services including fuel hydrant markings
- Green painted line to indicate fuel hydrant location

Lighting

Flood lighting is provided on apron/aircraft parking areas, including the deice pads.

Markings

Yellow painted aircraft stand centrelines.

Visual Docking Guidance System

The docking systems installed at Oslo Airport are of the type Safedock T1 at all terminal aircraft stands, except 79 which has Safedock Flex.
Docking, also called Advanced Visual Docking Guidance Systems (A-VDGS), provides active guidance to pilots to support safe, efficient, and precise parking of aircraft. The docking uses laser to measure distance and, in a way, see where the aircraft is. The docking information display has a large display that shows the pilot how far away the stop point is and whether the aircraft is positioned correct on the centreline.

When the docking itself is not used for docking, Airport Collaborative Decision Making (A-CDM) information is displayed on the display. It shows arrival times if the aircraft stand is empty, and a flight is expected within 3 hours. Departure times are shown if there is a plane parked, and it is due to leave within 3 hours. The display also shows information if the Passenger Boarding Bridge (PBB) is out in a position that is not safe and if there is an error on the Ground Power Unit (GPU,

The aircraft stands equipped with docking is displayed on AIP Norway AIP Charts:

- Aircraft parking-Docking Chart - Civil terminal area West, ENGM AD 2. Aircraft parking-Docking chart - Civil terminal area East, ENGM AD 2.

Availability of Standby Power
All control systems used by ATC is backed up by universal power supply, this also includes all systems instrument approach, runway, and taxiway lightning.

6.4 VOR aerodrome checkpoints

Not applicable.

6.5 Standard taxi routes

Standard taxi routes are not established at Oslo Airport, Gardermoen.

All turns made by aircraft with wingspan 36 M or greater must be made with judgemental oversteering on all TWYs.

6.6 Geographical coordinates of each Runway Threshold

Runway 01L threshold	601106.00N 0110425.48E
Runway 19R threshold	601257.84N 0110529.99E
Runway 01R threshold	601032.72N 0110628.02E
Runway 19L threshold	601204.35N 0110720.95E

FATO

FATO 01 threshold	601235.92N 0110502.43E
FATO 19 threshold	601236.51N 0110502.55E

6.7 Aerodrome obstacles

The geographical coordinates, and the top elevation of significant obstacles in the approach and take-off areas, in the circling area and in the surroundings of the airport (in the form of charts): is available at https://ais.avinor.no/no/Obstacle

6.8 Pavement surface type and bearing strength

Refer to point 6.2

6.9 Pre-flight altimeters check locations

Ref AIP Norway ENGM AD 2, Aircraft Parking/Docking Chart.

6.10 Declared distances

Runway Designator	TORA	TODA	ASDA	LDA	Remarks
01L	3600 M	3600 M	3600 M	3600 M	TORA/ASDA/TODA are calculated from the RWY extremity (THR 01L) and requires "backtrack".
19R	3600 M	3600 M	3600 M	3600 M	
01R	2950 M	2950 M	2950 M	2950 M	
19L	2950 M	3350 M	2950 M	2950 M	

USE OF EXIT TAXIWAYS WITH CURVATURE AT Oslo Airport
When exiting a runway at A4, A5, A6, B3, B4, B6 or B7, exit speed must be adjusted to allow for a gradually increasing curvature. Excessive speed through the curve may incur a risk of taxiway excursion during low friction conditions.

Exit taxiways with curved exit from RWY are provided at the following positions (distance from RWY THR to turn-off point on RWY CL are indicated in brackets):

Runway 01L A6 (1769 M)
Runway 01R B6 (1749 M)
Runway 01R B7 (2133 M)
Runway 19L B4 (1693 M)
Runway 19L B3 (2156 M)
Runway 19R A5 (1651 M)
Runway 19R A4 (2020 M)

6.11 Contact details for removal of disabled aircraft

Capability for removal of disabled aircraft available for "Light" and "Medium" aircraft. Aircraft recovery arrangements shall be submitted to Oslo airport, Gardermoen, via apoc.aom@avinor.no. Ref. point 21.

6.12 Rescue and firefighting services

Ref: AIP Norway ENGM AD 2.6 Rescue and fighting services and the Avinor AIS portal Operational hours
Information regarding types and amounts of extinguishing agents normally available, is provided in Part E point 20.

6.12 Exemptions and limitations

Exceptions or derogations from the applicable requirements, cases of equivalent level of safety, special conditions, and limitations:

CS	Type	Certification conditions
CS-ADR-DSN E.360	SC	Non-conforming slopes on stands: - Stand 11: 2.1% - Stand 205-208: 1.2%
CS-ADR-DSN E.365	SC	Minimum clearance distances between passenger loading bridges and nose of aircraft are not in compliance with requirements. See AIP for further details.

CS ADR-DSN L.520	SC	Nonconforming TWY centre line colours: - TWY LIMA BLUE with blue colour. - TWY LIMA ORANGE with orange colour.
CS ADR-DSN L.605	ELoS	Mandatory instruction marking. The inscription consists of the term RWY AHEAD, not the runway designating numbers.
CS ADR-DSN M.710	SC	Nonconforming TWY centreline lighting: - TWY LIMA BLUE: alternating green/blue lights. - TWY LIMA ORANGE: alternating green/orange lights. - TWY QUEBEC: alternating green/blue lights directed North and alternating green/orange lights directed South. ACFT taxiing North towards TWY LIMA ORANGE will see alternating green and orange lights, ACFT taxiing South towards TWY LIMA BLUE will see alternating green and blue lights.
CS ADR-DSN M.715	SC	TWY centre line lights to Hangar 9 and SAS-hangar does not meet the requirement of distance between the lights for operations in RVR conditions of 350 m or less. Lights are lit during LVP, but it is not allowed to taxi to Hangar 9 and SAS hanger in RVR conditions of 350 m or less.

Deviation from ICAO SARPs and national regulations, see point 4.5.

PART E - PARTICULARS OF OPERATING PROCEDURES OF THE AERODROME, ITS EQUIPMENT, AND SAFETY MEASURES

7 REPORTING OF AERODROME DATA

7.1 Arrangements and procedures for reporting changes to the aerodrome information

The aeronautical information publication service in Norway is carried out by Avinor, and the tasks are divided between two units:

- The Aeronautical Information Management Department in Sustainability, Concept, and Infrastructure Development (BKI) at Avinor AS, which produces AIP, AIP SUP, and AIC.
- The AIS/NOTAM Department at Avinor Air Traffic Services AS, which provides NOTAM services, briefing and flight planning for civil and military aviation.

Aeronautical information is announced in the Integrated Aeronautical Information Package (IAIP), which consists of the following publications:

Permanent and temporary changes to data and information:

- AIP Norway (including amendments)
- AIP SUP
- AIC

Temporary changes to operational conditions:

- NOTAM
- SNOWTAM

As well as

- Pre-flight Information bulletins
- Checklists and lists of valid NOTAMS

AIP, AIP SUP, and AIC are published electronically and are available at www.avinor.no/ais. Subscriptions to future editions of AIP Norway can be obtained by contacting aim@avinor.no. Aeronautical information is also updated in the European Aeronautical Database (EAD). All information owners and approved requesters/sources of aeronautical information in Norway, on the Norwegian continental shelf, and in Svalbard are responsible for their own aviation information and ensuring that it is always up to date. External users can contact aim@avinor.no to receive Avinor internal documents referenced in this document.

At Oslo Airport, the Flight Operations department is responsible for ensuring that the establishment and modification of infrastructure, technical equipment, flight-related procedures, and airport data at and around Oslo Airport are announced in accordance with regulations and guidelines set by Avinor. The airport must follow Avinor’s central guidelines (refer to point 2 2). It is particularly important that information exchange occurs according to the deadlines specified by the AIRAC system.

The Oslo Airport Flight Operation department is the approved "information owner" for the airport information published AIP Norway. The Flight Operation department is also responsible for external announcements related to its areas of responsibility.

Note: Issuance of SNOWTAM is done by the Field Maintenance department, and only authorized personnel have approval to report runway status in accordance with EASA 139/2014 GM1 ADR.OPS.A057(d)(4).

The Flight Operation department fulfils its announcement responsibilities based on local procedures and guidelines:
In development/maintenance cases and/or projects/works that may require announcements, the respective project manager/coordinator is responsible for identifying the need for an announcement and shall contact the Flight Operations department to initiate the announcement. When planning projects that require external announcements in AIP, the requirement is to comply with the AIRAC system submission deadlines and consider deadlines agreed upon with Avinor AIS Announcement and Cartography and Geodata.

The announcement of NOTAM is managed by APOC in collaboration with the affected stakeholders.

7.2 Aeronautical data surveying

Avinor's GIS and Mapping department manages this information on behalf of the airports and ensures compliance with regulatory requirements. At Oslo Airport, the Flight Operations department is responsible for reporting changes, corrections, errors, or deficiencies to the GIS and Mapping department and/or to the Aeronautical Information Management department, so that the airport's charts are always up to date.

The geographic information is entered, maintained, and distributed in Avinor's geographic information system (AvinorGIS/Avinor Maps) and AIP Norway.

In the case of physical changes at the airport, both on the airside and landside outdoors, the geographic database shall be updated to reflect the actual conditions at the airport.

The airport shall follow correct procedures for surveying reference points and calculating runway lengths. The airport orders surveying from the GIS and mapping Department. Avinor's Airport Design Section is responsible for the runway lengths to be announced, while the GIS and mapping Department is responsible for reference points. The GIS and mapping Department has a framework agreement with surveying firms that perform surveys and calculations according to Avinor's specifications.

8 ACCESSING THE AERODROME MOVEMENT AREA

Everyone who has an operational need to access security-controlled areas at Oslo airport must have a certificate of entry. For persons, either an ID card or a visitor's card is required, for vehicles an entry certificate is required. Visitor's card always requires an escort. The airport is responsible for issuing ID cards to all employees who have a need for and are entitled to this, as well as a vehicle registration certificate.

The airport has two areas where access control and/or security control are implemented:

Demarcated Area (DA): This refers to the airport's General Aviation (GA) area, located west of runway 19R/01L. Access control is conducted in this area, and vehicle entry should be coordinated with the main gate.

Critical Part (Red Zone): This refers to the remaining part of the airport's area. In this area, both personnel and vehicles must undergo access control and security checks before entry.

Applies to all types of entry certificate

- Before issuing a certificate of entry, it must be an official need, as well as an approved application.
- The entry certificate for a person must always be worn visibly on the DA and CP areas.

- Entry certificate for a person must be presented on request at the airport's other offices areas.
- Entry permits issued by others than Avinor do not have electronic access.

Responsibility
The airport director or the person he/she has authorized must regulate the activity at the airport so that there is no danger to people or damage to aircraft, vehicles, and other equipment.
The person responsible for security is responsible for ensuring that the approved activities always comply with the aviation authorities' requirements for safety and for compliance with the airport's security program.
Everyone who works at an airport is obliged to familiarize themselves with and comply with the applicable local and national regulations, public order, and traffic regulations, as well as other regulations concerning persons and the use and behaviour of vehicles at the airport.

A person who has a need to drive out into a manoeuvring area must have undergone mandatory training. The training includes use of the radio and the airport's local regulations.

Vehicles to be used on the manoeuvring area must be clearly marked and equipped with a UHF/VHF radio and transponder.

If there is no operational need to drive in the manoeuvring area, and do not have authorization or have not undergone the mandatory training, the Follow Me service shall be used.

8.1 Coordination with the security agencies

Avinor has regular contact with the police and national authorities for the exchange of security-critical information. Avinor also participates in the aviation security council and has regular reporting from the national cyber security centre, which contributes to up-to-date and up-to-date knowledge of prevailing security threats to which the airport operator is exposed.

8.2 Prevention of unauthorized entry

Unauthorized traffic in the aerodrome movement area is prevented by training and the use of ID cards. Inspections of rights are carried out regularly at the airport.

9 INSPECTION OF THE AERODROME MOVEMENT AREA

The movement area and adjacent areas are regularly controlled and inspected to ensure that the airport can meet and fulfil the requirements and obligations set by the CAA Norway in the certificate. This includes control and inspection of the movement area (manoeuvring and aircraft parking areas) as well as the adjacent areas (safety areas along runways and taxiways). The person conducting the inspection is responsible for ensuring that the airport's instructions are followed. Personnel performing these tasks should have the necessary competence and sufficient knowledge of Oslo Airport instructions, procedures, routines, and environmental strategy, as well as possess the required licenses and permits.
All runways, taxiways, and aircraft parking areas should be routinely inspected at least three times a day, year-round. During the inspection, the following should be ensured:

- Immediate removal of foreign object debris (FOD) from the movement area.
- The runway surface is intact without any breaks, damaged joints, or similar issues.
- Correct and visible markings.
- Proper functioning of night markings (lighting systems).
- Aircraft signs and windsocks are in good condition and highly visible.
- No conditions on the safety areas that hinder or pose a danger to air traffic.
- Temporary installations or equipment related to construction activities do not hinder or pose a danger to air traffic.

- All inspections and checks are logged.
- Friction measurements and runway reporting are subject to separate procedures and instructions. Some information can be found in the Snow plan for Oslo Airport, and further information can be obtained upon request.

At Oslo Airport, the Airfield Inspection Management System (AIM) is used for reporting and logging inspections on the airside. The system consists of two main components:

- AIM Mobile, used during the inspection to record identified issues.
- AIM Dashboard, used by system owners, system administrators, superusers, operational planners, and APOC to have an overview of the airside status, enabling prioritization of necessary actions/corrections.

9.1 Communication with the air traffic service

Prior to inspecting runways, the Airport Operations personnel request authorization from ATC. Communication is maintained during the inspections. All monitoring vehicles are equipped with radios to enable necessary communications between the inspectors and the ATC.
When needed the Airfield Operations may contact the ATC Watch Manager by telephone, to advise of the areas to be inspected and discuss any operational restrictions.

9.2 Inspection checklists, logbook, and record-keeping; and

The execution of inspections and the documentation of results are specified in Avinor's Facility Management (FDV) tool. The FDV tool contains minimum requirements for the number of inspections to be conducted. Additional inspections may be carried out if the risk profile warrants it. Any findings are followed up in Avinor's FDV tool and/or deviation and incident management tool.
In general, findings, inspections, and incidents are published, logged, and archived through various means, including:

- SNOWTAM Reporting with supporting tools
- Foreign Object Debris (FOD) Reporting
- Registration and reporting of bird and wildlife
- The FDV system
- Handling of pilot reports
- Deviation management
- Crisis management

9.3 Inspection intervals and results

The Airfield Services conduct inspections that are either frequency-based or event-driven according to requirements. Frequency-based inspections may require monitoring the condition development of, for example, the runway surface. Frequency-based inspections are routine inspections that should be conducted with daily to semi-annual frequency. Event-driven inspections are, for example, one-time inspections carried out in connection with the traffic of large aircraft or because of incidents/accidents. The execution of these inspections and any findings are documented and reported.

Planned regular inspections are conducted daily and weekly.

The movement area is inspected at least twice daily. The inspection aims to identify findings that may affect flight safety, with a primary focus on:

- Foreign Object Debris (FOD)
- Visual aids
- Birds and Wildlife
- General surface condition of the movement area

- Technical installations/reflective surfaces
- Fences and Gates

Weekly inspections focus on the movement area and adjacent areas within the visibility range of the airport, aiming to identify findings that may affect flight safety. The inspections cover the following areas:

- Airports adjacent lighting systems
- Asphalt, runway surface, and markings
- Drainage systems

Additional inspections are conducted as needed, including in relation to:

- Weather conditions
- Infrastructure faults or deficiencies
- Biodiversity, birds, and wildlife
- Inspections of runways are carried out after departures of aircraft with code E A340 and B747.

  For code F aircraft, runway inspections are conducted both after departures and landings.

The following activities are performed by the Airfield Services and reported:

- NOTAM Control and Reporting
- SNOWTAM Reporting with supporting tools
- Foreign Object Debris (FOD) control
- Registration and reporting of birds and wildlife
- Facility Management (FDV) system control
- Handling of pilot reports
- Deviation management
- Crisis management

10 INSPECTION AND MAINTENANCE OF VISUAL AND NON-VISUAL AIDS

10.1 Inspection checklists, logbook, and record keeping

Implementation of the inspections is documented in Avinor’s maintenance control system.

10.2 Inspection intervals and times; reporting results and follow-up actions

Specification of the implementation of inspections and their results are documented in Avinor’s maintenance control system. The maintenance control system contains minimum requirements for the number of inspections carried out. More inspections can be carried out if the risk situation warrants it. Any findings are followed up in Avinor’s maintenance control system and/or deviation and incident tool.

11 OPERATIONS AND MAINTENANCE OF AERODROME EQUIPMENT

Operations and maintenance of aerodrome equipment is carried out in accordance with the maintenance program for each area and is documented in Avinor’s maintenance and control system.

12 MAINTENANCE OF THE MOVEMENT AREA

12.1 Maintenance

Construction, maintenance, surveys, and repair work is carried out on the Movement Area (all areas used for the movement of aircraft including runways, taxiways, and aprons and associated grass areas) and other external airside areas by day and night.

Control of the movement area is described as a task in Avinor's maintenance control system and is carried out in accordance with frequencies and instructions described by all the personnel and airport department involved.

Avinor shall inspect the surfaces of all parts of the movement area regularly to assess their condition as part of a preventive and corrective maintenance program. A runway with a fixed surface must have such a surface that a good braking effect is achieved when the surface is wet. Inspection of the runway surface's grooves and/or texture is carried out to confirm the condition of the grooves/texture according to Avinor and authorities' requirements and function. (Texture is only measured where there is none grooved or where the grooves prove not to meet the requirements)

In addition, the Airport Pavement Management System (APMS) is used for an overall central overview of the condition of the movement area.

Refer also to point 9.3.

12.2 Overload operations

The airport manager can permit traffic with aircraft that have an ACN value up to 10% greater than the PCN of the airport surface on the manoeuvring area, provided that the number of movements with such aircraft does not exceeds 5% of the total number of movements on an annual basis.
If an application is received for traffic with aircraft that exceeds the airport PCN with more than 10%, the application is forwarded to the Avinor Headquarter, via apoc.aom@avinor.no

The same applies to applications which result in the number of movements with too heavy aircraft exceeds 5% of the total number of movements on an annual basis.
If the airport manager allows traffic with aircraft that have an ACN value greater than the airport PCN, the local air traffic services unit must be informed of where the aircraft is going routed and placed.

13 AERODROME WORK

Working within the airport area entails special safety challenges when it comes to coordination between traffic, temporary obstacles, etc. Such work must therefore be planned, coordinated, and carried out in a controlled manner. The safety at the airport depends on close cooperation between Avinor and other parties.

13.1 Coordination, planning and carrying out construction and maintenance work

Major construction and maintenance work at the airport is typically planned and developed as a project, with the airport operator as the project owner who approves the work. Minor maintenance work is carried out continuously under a standing working permit.

The size and complexity of planned work are coordinated and addressed through established forums and communication channels to ensure quality assurance and implementation.

All work must be assessed for potential risks, and all mitigating measures must be signed off and confirmed as implemented before the work can commence. All work is carried out in accordance with Avinor's risk management regime.

For approval of major works that may affect certifications, the regulatory authority is involved.

Major construction and maintenance work planned for Q2 and Q3 must be reported in Q1. Based on these reports, a Period Plan is created (typically valid from April 15 to September 15) that indicates which works may affect operational activities and airport capacity. Normally such work is published in an Aeronautical Information Circular (AIC).

Work that may affect the airport's capacity is discussed in weekly and daily coordination meetings. All stakeholders involved in construction and maintenance work are required to report their own work and provide a self-assessment of the operational impact it may have on the airport's capacity.

Procedures for closures, access to areas, inspections, handovers of work areas, etc., are either established as general routines or described in operational information.

13.2 WORK PERMIT

Avinor Oslo airport distinguishes between three types of working permits:

13.2.1 Standing Work Permit

An annual permit allowing employees in an Avinor unit to perform minor maintenance work on a larger area according to pre-agreed premises and current procedures. The area must be handed over to operations, and the work must be relocatable on 15 minutes notice.

13.2.2 One-time Work Permit

A one-time permit allowing an Avinor employee/unit or an external contractor to perform a defined type of work at a defined location within a specified time period according to pre-agreed premises and current procedures. One-time work permits are issued for the following types of work: major maintenance work, such as the replacement of broken manhole covers, minor surface repairs or other damages etc.

13.2.3 Emergency Works Permit

A permit issued on short notice to perform a defined type of work at a specified location within a limited time period according to pre-agreed premises and current procedures. An emergency repair is defined as unplanned work with short notice and duration necessary to ensure the safe and stable operation of the airport and associated flight operations. Examples of emergency repairs include troubleshooting ground faults on high voltage rings, deactivation of runway lights or navigation systems that do not follow control commands, repair of damaged infrastructure, etc.

13.3 Communication with air traffic service

All work that may affect the air traffic service's ability to provide optimal traffic management is planned. The air traffic service participates in established meeting forums to make operational assessments of the work.

During ongoing work, the relevant personnel communicate with the air traffic service through the normal communication channels (telephone, radio, email) that are established and documented at the airport.

14 APRON MANAGEMENT

The purpose of this is to ensure that all personnel involved in activities interfacing with the apron have a basic understanding of the definition and extent of the apron at Oslo airport.

Definition of APRON:

APRON is by EASA defined as an area intended to accommodate aircraft for the purpose of loading or unloading passengers, mail, or cargo, refueling, parking, or maintenance; including any apron taxiways and aircraft stand taxiways that are not part of the manoeuvring area.

The following are also defined as apron:

- De-icing platforms
- GA apron, air sports activity, and commercial activity (GA apron for air sports activity will not be part of AMS but is still an apron)
- Engine test facilities
- In front of hangars – maintenance hangars, etc.
- Taxiways temporarily used for aircraft storage
- Helicopter aprons
- Aprons dedicated to SAR operations
- Aprons used by the Armed Forces (will not be part of AMS regulations but are still considered aprons)

Other relevant definitions for a comprehensive understanding:

Manoeuvring area is defined as that part of an airport to be used for the take-off, landing, and taxiing of aircraft, excluding the apron.

Movement area means that part of an airport to be used for the take-off, landing, and taxiing of aircraft, consisting of the manoeuvring area and aprons.

Aircraft stand is defined as a designated area on an apron intended to be used for parking an aircraft.

14.1 Transfer of responsibility between air traffic services unit and the apron management unit

At Oslo Airport Apron Management Section has been established to handle operations on the de-icing pads during winter and summer.

The Apron Management Section area of responsibility is currently limited to the de-icing pads, but further development of Apron Management will define the responsibilities on other apron areas.

The transfer of responsibility on apron areas is basically handled as follows:

Aircrafts are assigned bays on the deice pads during winter and summer by APRON. During summer deice pads may be used for remote holding for aircrafts with CTOT.
Transfer the responsibility from Air Traffic Services (ATS) to Apron Management is when an aircraft is not in conflict with other aircraft or vehicles.

At the General Aviation (GA) area, a marshaller shall be used for aircraft parking, and the transfer of responsibility from ATC to the handling agent from ATS is done when the pilot has reported marshaller in sight.

14.2 Allocation of aircraft parking positions

Apron Management is responsible for the service of bay and stand allocation at apron areas. Aircraft stands are continuously allocated in a safe and efficient way, with the goal of no or minimal holding time at manoeuvring area.

The main passenger terminal has three main sectors (Domestic, Schengen and International), with some flexible areas. It is a common goal that the capacity of the aircraft stands at the terminal are used before remote stands. Passengers will be transported by bus to/from the correct sector of the terminal when a remote stand is used.

No stands are dedicated for specific aircrafts/airlines.

The criteria for stand and bay allocation are the size categories of the aircraft (A-F) and the infrastructure of the airport.
In general, the procedure for designing aircraft parking positions at Oslo Airport involves defining a fleet mix that determines which types of aircraft can use each parking position. Based on the fleet mix, simulations (using AviPlan) are conducted to determine which aircraft types are allowed at each individual parking position.

Aircraft types that are not permitted to use a specific parking position are excluded from the tools used by Apron Management Section for planning and allocating parking positions.

The allocated parking position for each flight is electronically transmitted to Air Traffic Services (ATS), who then communicate the relevant parking position to the pilot.

The parking arrangements at Oslo Airport are described in AIP Norway ENGM AD 2.8, ENGM AD 2.20, item 4, and the relevant charts in ENGM AD 2.24.

14.3 Engine start and aircraft push-back

Engine start and push-back procedures is described in AIP Norway AD 2.20 ENGM item 7 and 8.

14.4 Marshalling and ‘follow-me’ service

“Aircraft marshalling”

- Marshalling is mandatory:
  - For code D, E, F aircraft on deice bays.
  - At all aircraft stands not equipped with docking system including the cargo stands, GA (General Aviation) South and GA central apron.
  - At apron GA South, which is an open apron with no aircraft stand markings, the pilot shall report “marshaller in sight” before ATC transfer the aircraft to the handling agent.

“Follow Me” Service
Airfield Operations vehicles may be used for guiding aircraft to their bay or stand. The vehicles are equipped with two-way UHF radios for communications with ATC and signs, visible at day/night, reading “Stop” and “Follow Me.” The vehicle is driven at a steady speed for aircraft to follow.
There are specific procedures for aircraft category E and F, as referred to in point 28.

15 APRON SAFETY MANAGEMENT

Aircraft should always use the minimum engine power during startup and while on the apron. Additionally, aircraft that need to perform an x-bleed start must inform the TWR so that alternative pushback procedures can be used to minimize the risk of blast.

Upon arrival at the aircraft stand, the main engines should be shut down as quickly as possible.

Ongoing expansion or maintenance work of significant scale on the apron or in the immediate vicinity may require the closure or restricted access to certain areas. These areas

should be marked during the day with barriers and caution tape, and at night, red obstruction lights should be placed along the outer boundaries of the area.
Aircraft should avoid using excessive engine thrust near work areas.

If an aircraft needs to perform an abnormal manoeuvre outside the parking area, the pilot should carefully assess the situation, taking into consideration the potential effects of jet and propeller blast. ATC shall be informed and in case of doubt, assistance from a follow-me vehicle should be requested.

The aircraft's anti-collision lights shall be activated before the engine starts.
Upon arrival, the aircraft's anti-collision lights should remain on until at the aircraft brakes are set and the engines is shut down.

During taxiing, the aircraft's navigation lights, anti-collision lights, taxi lights should be illuminated.

During towing or taxiing between aircraft stands under conditions where the tower does not have visual contact with the towed/taxiing aircraft, or during darkness, the driver of the tow tractor/aircraft should inform the tower of the aircraft type. This is due to the maximum wingspan restrictions that apply to each taxiway.

15.1 Protection from jet blasts and downwash

Local procedures and AIP description provide information and guidance to flight and ground crews regarding the hazards associated with aircraft blast and fumes. These procedures aim to reduce the risk of damage to buildings, aircraft, equipment, and injury to staff and passengers on the aircraft movement area.

When airports make changes or develop new procedures for startup and taxiing, the hazards related to jet blast are assessed based on local evaluations, considering experiences from other airports and international regulations.

To mitigate the effects of downwash from the Final Approach and Take-off Area (FATO), air traffic control (ATC) applies wake turbulence separation between departing helicopters from the FATO and fixed-wing aircraft taking off or landing from RWY19R/01L.

15.2 Enforcement of safety precautions during aircraft refuelling operations

The aircraft operator is generally responsible for ensuring that the GHSP who is contracted follow the general and local procedures. Main moments described below:

- It is the responsibility of the aircraft operator (in the case of refuelling companies) to set a satisfactory operational standard for ex. safety on the apron, around refuelling operations. These should as one minimum satisfy the regulatory framework conditions and content of this procedure
- All GHSP who operate on the apron must comply with this procedure, and they safety distances described in connection with the refuelling operation
- Personnel working on the apron/aircraft stands represent 1st line preparedness and must be trained in the use of fire extinguishers and to notify in the event of an incident.

Fuelling Safety Zones
Fuelling Safety Zones (FSZ) are defined as an area of at least 3 m (10 ft) in all directions from the centre point of all fuel vent points, refuelling points, fuel hydrants, fuel hoses and fuel vehicles.

Within Fuelling Safety Zones (FSZ) all personnel must ensure that:

- Heat, hot surfaces, sparks, open flames and other sources of ignition do not occur

- No smoking
- Do not use hand-held, non-explosive safe devices, such as mobile phones, earphones, headset
- FSZ only enters if necessary to carry out the work in question
- Do not allow vehicle engines to run unnecessarily on the apron
- Do not allow any passengers to come near the FSZ
- Avoids the use of motorized equipment in FSZ
- Do not park any equipment in FSZ
- Makes sure that fuel hoses are protected, and that equipment is placed at least 1 meter away from fuel hoses on the aircraft stand, which are connected between fuel and aircraft.
- There is a clear escape route for tankers with personnel.
- Do not place equipment in such a way that this prevents an evacuation route for refuelling
- For hydrant dispensers, it is also recommended to maintain a clear escape route, but this is not considered mandatory, given the lower inherent risk of a hydrant dispenser (without large quantities of aviation fuel on board) and the fact that a hydrant dispenser is typically not driven away in case of an emergency.

Measures in case of accidental spillage and fire
The fuel operator must be specially trained to handle spillage and have equipment available for this purpose. In case of incident:

- Activate the emergency shut-off valve, where this has been established
- Notify:
  - APOC
  - Fire & Rescue at the airport
  - Stop all activity in the immediate vicinity.

Fuelling with passengers on board shall, as a minimum, follow and be compliant with Oslo Airport regulations:

- It is the responsibility of the airline operators to set a satisfactory operational standard for fuelling with passengers on board.
- Fuelling company is responsible for ensuring that operational procedures are in place for carrying out safe refuelling, in line with this procedure, and that the service is performed by competent personnel.
- All aircraft operators (AO), aircraft service providers (ASP) and fuelling companies at Oslo Airport must, in their own management system, establish operational procedures that are in accordance with this procedure.
- Refuelling Avgas (aviation fuel), or a fuel with a low octane number (Avgas 100LL / UL91), or a mixture of these fuel types, shall NOT take place with pax on board.

Hot refuelling
Hot refuelling can take place if it is described in the aircraft operator's operations manual. Hot refuelling with passengers is not permitted except for SAR or similar services.
Direct communication between pilot in command and Fire Rescue is required when this type of refuelling is in progress. Communications takes place on VHF radio, frequency 121.560.

15.3 FOD prevention

The FOD prevention program aims to coordinate the efforts of all actors at the airport to prevent unwanted objects or foreign objects that could damage aircraft, personnel, infrastructure or disrupt operations and create risks for operations. The FOD program applies to the whole airport.

In short, all FOD that is discovered must be removed by all means available and remains reported.

Oslo Airport has its own FOD program where everyone who provides services on the airside must be involved in design and implementation. It is the Airport Manager's (OSMM) responsibility to ensure that everyone is familiar with and actively participates in the program.

Training, inspections, and maintenance will be key elements to avoid FOD and ensure that FOD is detected and removed. It will be important that there is a high focus on the area, through a focus on FOD in meetings, notices, and information.
The implementation of effective FOD work depends on a holistic and coordinated approach effort from all employees and users of the airport. To ensure a common understanding of input factors, all actors at the airport are involved in the design of the program, which follows four implementation steps: Plan – Execute – Analyse – Improve.

- FOD boxes are set up at each stand, and these boxes are clearly visible and marked with the letters "FOD."
- The FOD boxes are emptied regularly.
- The apron service also responds if there are reports of FOD in the area.
- The manoeuvring area is inspected for FOD each time an inspection of lights, runway surface conditions, etc. is conducted.

15.4 Monitoring of safety routines

Airport Patrol is a service responsible for inspecting and controlling the airport's red zone (CP) to maintain maximum safety and reduce the risk of accidents and incidents between personnel/vehicles and aircraft.

Airport Patrol also provides guidance to all personnel present in the red zone, including airport staff, regarding their behaviour and conduct.

15.5 Escorting passengers

At Oslo Airport, the airline/ground handling company responsible for the flight, including bus operators or other operators (Person with Reduced Mobility (PRM), Very Important Person (VIP) etc.), are responsible for ensuring the safe movement of passengers on the apron.

Crew and ground handling personnel are trained in the specific hazards that may arise on the apron, and they are trained to intervene and report any irregularities. Oslo Airport conducts spot checks to ensure compliance with procedures and regulations.

To ensure passenger safety, crew and ground handling personnel should particularly focus on:

- Following established procedures and regulations.
- Maintaining situational awareness and being alert to potential hazards.
- Communicating effectively with each other and with other stakeholders.
- Adhering to safety protocols and using personal protective equipment as required.
- Reporting any safety concerns or incidents promptly.
- Participating in ongoing training and staying updated on relevant safety information.

By prioritizing these aspects, the airport aims to maintain a safe environment for passengers during their time on the apron.

- Inform passengers about passenger guidance and the smoking ban before boarding/de-boarding starts.
- Observe activity at neighbouring gates and refrain from starting or, if necessary, interrupt boarding/de-boarding if there is a risk of jet blast.

- Ensure that boarding/de-boarding via the apron does not cause disruption or delays for other flights or activities at neighbouring aircraft stands.
- Implement necessary measures, such as de-icing, before passengers are released onto the apron.,
- Always monitor passengers when they are on the apron.
- During deboarding from the aircraft to a bus using mobile stairs, crew/ground handling personnel should accompany and monitor passengers, ensuring that the bus driver has taken responsibility for the passengers.

If passengers are guided by personnel standing on the stairs at the rear of the aircraft, double barrier tapes should be used from the rear stairs to the gate service stairs for physical guidance of passengers.

In case barrier tapes are unavailable or not in use, the rear stairs cannot be used without apron personnel present. If passengers are guided by personnel on the apron, at a minimum, single-sided marking tapes should be used from the rear stairs to the wingtip of the aircraft for physical guidance of passengers.

During deboarding from the bus to the aircraft (boarding from the bus), the bus driver should ensure that responsibility for the passengers is taken over by gate/Ground handler/crew personnel. The bus driver should not leave the passengers on the apron out of sight without confirming that responsibility for the passengers has been assumed by gate/Ground handler/crew personnel.

16 CONTROL OF VEHICLES IN THE MOVEMENT AREA

At Oslo Airport, training, and authorization of personnel for access and presence on the operational area are conducted in an efficient and qualitative manner to minimize the risk of accidents and unwanted incidents. Everyone who needs access to the airside must have an approved access permit.

If one needs an entry permit for the airport, there is a specific application process for this. Description and instructions on how to apply for ID cards, visitor cards, and entry permits can be found on the website ID-kort - Avinor

The training includes all activities necessary to perform work on the airside in accordance with traffic regulations, as well as obtaining or renewing the vehicle permit on the access card.

All personnel who will operate vehicles on the airport's airside must complete the Airport Security Course, which is an e-learning course. The course should be completed and concluded with a test for personnel who will operate vehicles on OSL's airside. Before an ID card with a vehicle permit can be issued, the "Local Traffic Course" must be completed. The Local Airside driving Course are divided into two parts:

- A specific course for those who will drive in areas that are not part of the manoeuvring area.
- For those who will operate on the manoeuvring area (taxiways/runways)

Both courses are conducted by approved superusers and involve practical training. Superusers are personnel appointed by the airport who have undergone specific training to be able to authorize drivers.

Once a driver has completed the necessary courses and practical training, authorization is granted for the specific area they will operate in. The ID card indicates the areas for which the individual is authorized to access and operate in.

The ID card indicates the areas where an individual is authorized to access and move within.

- Access to the operational area **excluding** the manoeuvring area:
  - Information about the operational area is provided by an approved Superuser.
  - Completion and passing of the e-learning course "Airport Security."
  - Authorized access is indicated by a blue car symbol on the ID card.

- Access to the manoeuvring area:
  - Personnel must be authorized for access to the rest of the operational area.
  - Completion and passing of the e-learning course "Communication during access to the manoeuvring area."
  - Theoretical information and practical training on the manoeuvring area conducted under the supervision of a Superuser.
  - Authorized access is indicated by a red car symbol on the ID card.

General rules for vehicles at the airport are as follows:

- The vehicle's markings should be visible.
- The vehicle should be checked before use, including ensuring that warning lights are functioning properly.
- The entry permit should be displayed (preferably on the windshield).
- Parking is only allowed within designated areas.
- The minimum distance to the airport fence is 3 meters.
- Speed limits are regulated by signs. General rules are indicated in a table:

	Apron	Manoeuvring area	Internal roads
Vehicles	15 km/t	30 km/t	20-70 km/t
Trolly train	15 km/t	15 km/t	15 km/t

Note: Emergency vehicles responding to emergencies, snow sweepers and inspection vehicles on the manoeuvring area are exempt from the above speed regulations. Dispensation from speed regulations on the manoeuvring area may be granted for certain vehicles.

Priority and caution must be exercised in relation to aircraft, passengers, and emergency vehicles. General traffic rules apply but always give way to aircraft and personnel.

Requirements for transponder and radio:
All vehicles operating on the manoeuvring area shall be equipped with a transponder that provides a specified call sign. The exception is vehicles in an established group, where the first vehicle should be equipped with a transponder. Vehicles with individual assignments on the manoeuvring area must have a transponder.

Vehicles without a transponder that have assignments on the manoeuvring area must be guided by a vehicle with a transponder from Airport Patrol.

17 BIRD AND WILDLIFE MANAGEMENT

Bird control is given high priority, along with barriers and security checks at Oslo Airport. The airport aims to have effective bird control measures in place, accompanied by proper documentation, and to be proactive in exploring new methods of control.

The overarching goal of the department is to prevent incidents resulting in personal injury caused by bird-aircraft collisions. Efforts are made to reduce the risk of incidents leading to damage to aircraft caused by bird collisions.

Airport operators in the Maintenance section responsible for bird/animal control must have passed a hunting exam, held a valid hunting license, and received training in the use of firearms and relevant regulations. All training is documented in the competence portal.

Personnel involved in bird scaring activities must have completed Avinor' s bird/flight course and receive practical training on the tools used. All training is documented in the competence portal.

18 OBSTACLE CONTROL

18.1 Control and reporting obstacles

Building Restriction Areas (BRA) are areas around airports and navigation facilities where buildings and structures could interfere with the signal between aircraft and ground navigation systems. In these areas, there may be restrictions on the placement and height of buildings. If there is a desire to build within a BRA, the plans must be submitted for consultation to Avinor, which will assess whether the construction could interfere with the aircraft signals. Information on this can be found under "Building Restrictions - Avinor" on the Avinor website.

Control of obstacle clearance for runways: Inspections and checks are carried out for both runways to ensure obstacle clearance. The obstacle clearance plans are established as follows for each runway:

- Side slopes starting 140 m from the runway centreline on each side with a gradient of 1:7 (14.3%).
- Approach surfaces starting 60 m outside the threshold with a gradient of 1:50 (2%). The width is 140 m on each side of the runway centreline with a width extension of 15%.

Inspections of the obstacle clearance plans are conducted semi-annually, preferably in spring and autumn, but at least once during the growth period.

Notification of cranes

Notification of cranes applies to anyone using cranes or lifting objects in the vertical plane within a radius of 5 km. This is measured from the centreline of the airport runways, and the approval process includes:

- Radio technical assessments regarding the use of transmitter/receiver equipment, instrument landing systems (ILS and DVOR/DME), and ground surveillance (surface radar and multiliterate).
- Obstacle analysis in relation to obstacle surfaces specified in CS-ADR-DSN Chapter H of Regulation (EU) No. 139/2014.
- PANS-OPS calculations in relation to the flight procedures published in the AIP.
- Assessment of whether the crane affects low visibility operations (LVP).
- Assessment of visibility conditions from the control tower, including the use of work lights.
- Assessment of whether a risk analysis (ADRM) should be conducted.

Notification is done electronically by those who have access to the system or via a form on the Avinor website under "For våre naboer - Avinor" ("For our neighbours" – available only in Norwegian).

18.2 Monitoring of risk on the aerodrome and its surroundings

Avinor is responsible for monitoring birds and wildlife outside the airport area. The monitoring area is dynamic and based on risk. Regular inspections and risk assessments are conducted.

Avinor safeguards its interests in external spatial plans by providing professional advice to the initiator in the early planning phase and exercising objection authority during the planning

process. This is done based on the airport's design certificate, master plan, restriction plan, and building restriction map.

When Avinor receives a notification from an external initiator, such as a municipality, state, or private entity, the initiative is assessed against the adopted plans, design certificate, and building restriction area map for air navigation instruments. If the notified measure affects the airport's design certificate, Avinor considers whether to apply to the Norwegian Civil Aviation Authority for changes or dispensation to accommodate the desires of the initiator.

When vegetation control reveals the need to remove vegetation on land that does not belong to Avinor, Avinor is responsible for obtaining authorization from the landowner to carry out the vegetation removal.

Human activities, such as use of construction cranes, are considered as obstacles and are addressed in point 18.1.

19 CRISIS MANAGEMENT

19.1 Crisis management plan dealing with emergencies at the aerodrome or in its surroundings

Notification at Oslo Airport is mainly carried out through APOC in accordance with *IN02387 Crisis Management - Local Emergency Response Plan - Avinor Oslo Airport*. This emergency plan is available on the external database.

Local crisis management is described in different instructions and procedures.
For detailed information contact asup@avinor.no or aom@avinor.no.

19.2 Tests for aerodrome facilities and equipment to be used in emergencies

Testing of the airport's emergency equipment is conducted by Avinor personnel and is described in relevant procedures.

Equipment:

- Daily, during each shift change, a functional check is performed to ensure that fire trucks are operational and have the correct equipment. Personal protective equipment is checked simultaneously.
- Weekly, checks are carried out on emergency vehicles, breathing apparatus equipment, and to ensure that foam and powder supplies comply with regulations and that extinguishing properties are not compromised.
- Monthly, the foam truck with pumping system, including hoses, is test-driven, and an extended check of emergency vehicles is conducted.
- Quarterly, pressure checks are performed on nitrogen cylinders and powder extinguishers.
- Semi-annually, a functional check of the crash tent with equipment is conducted.
- Annually, additional tests and inspections of all necessary emergency equipment are carried out, such as pressure testing of fire hoses, inspection of fall protection equipment, UMS mobile alerting, etc.

Communications:

- The airport's crash alarm is tested every day at 12:00 local time.
- Every Saturday, a weekly test of radio communication is conducted on VHF 121.560 MHz and UHF CH 5, with APOC monitoring UHF channel 5.

19.3 Exercises to test emergency plans

The airport conducts exercises in accordance with the requirements of EU Regulation No. 139/2014 (ADR.OPS. B.005) on exercise activities:

1. Full-scale aerodrome emergency exercise: This exercise should be conducted at least every other year and include all relevant parties at the airport, as well as relevant stakeholders. The local police authority should be invited to conduct and/or participate in the exercise. The exercise should be a full-scale exercise. The exercise should be debriefed with participation from all participating parties.

2. Partial emergency exercises: In the year when the "Full-Scale aerodrome emergency exercise" is not conducted, a "Partial emergency exercise" should be held. The exercise should be conducted as a practical exercise and should, at a minimum, practice improvement points identified in the Full-Scale aerodrome emergency exercise, other conducted exercises, or real incidents.

3. Tabletop exercises and/or document control: Tabletop exercises or document control should be conducted regularly, no less than once a year. The exercise or control should ensure understanding of roles in emergency preparedness and crisis management, and that documentation describing emergency preparedness and crisis management plans is up-to-date, relevant, and known to personnel at the unit. The exercises in this point are exempt from the requirement for planning and evaluation documentation but should be recorded as completed in the annual schedule as a minimum. The exercise should ensure updated documents and notification lists.

In addition, a service test is conducted every autumn on the de-icing platforms to test de-icing routines and procedures, including an emergency component.
Testing of contingency equipment for ATC and Apron Management is done annually.

20 RESCUE AND FIREFIGHTING

Emergency Category
Ref AIP Norway ENGM AD 2-6 Rescue and fighting services and the Avinor AIS portal Operational hours

There are a minimum of 11 fire and rescue personnel on duty 24/7. There are 3 airport service officers and 1 emergency response leader at the western fire station, operating 1 command vehicle and 3 aircraft rescue and firefighting vehicles. They are on standby at Runway 01L/19R. At the east fire station, there are 3 aircraft rescue and firefighting vehicles and 1 command vehicle, operated by 3 airport service officers and 1 duty manager. They are on standby at Runway 01R/19L. Additionally, there is 1 domestic fire engine stationed at the east fire station, on standby for the terminal and nearby buildings, manned by 3-4 fire and rescue personnel.
The emergency force consists of a total of 52 personnel, with 6 aircraft rescue and firefighting vehicles on standby, 2 aircraft rescue and firefighting vehicles in reserve, two command vehicles, and one domestic fire engine.

Staffing Fire and Rescue Category 9 – Runway 01L/19R		
Position/Role	**Function**	**Number**
Deputy Shift Supervisor	Lead Emergency Response	1
Airport Service Officer	Aircraft Rescue and Firefighting Vehicle	3
		4

Staffing Fire and Rescue Category 9 – Runway 01R/19L		
Position/Role	**Function**	**Number**
Shift Supervisor	Lead Emergency Response	1

Airport Service Officer	Aircraft Rescue and Firefighting Vehicle	3
		4

Staffing Fire and Rescue Category 9 - Total Personnel Fire readiness Runways and buildings		
Position/Role	**Function**	**Number**
Shift Supervisor	Lead Emergency Response	1
Deputy Shift Supervisor	Lead Emergency Response Runway 01L/19R	2
Smoke Diving Team Leader		2
Airport Service Officer	Aircraft Rescue and Firefighting Vehicle / Smoke Divers	6
		11

Emergency Response Vehicles

Vehicle	Panther 1	Panther 2	Panther 3	Domestic Fire Vehicle 4
Water Tank(l)	12500	12500	12500	4000
Foam Tank (l)	1500	1500	1500	200
Powder (kg)	220	220	0	
Pump Capacity (l/min)	4750	4750	4750	
Drainage Capacity (l/min)				

21 REMOVAL OF DISABLED AIRCRAFT

Avinor has not procured its own equipment for the removal of crashed aircraft, but there is specialized recovery equipment and trained personnel at Oslo Airport. Aircraft operators must possess information about where and how to get necessary equipment to remove unserviceable or non-airworthy aircraft from the movement area.

The airport director/manager shall ensure that any aircraft accident/object that obstructs air traffic is secured to the best of their ability to: Prevent loss of material assets and preserve evidence for the State Accident Investigation Board for Transport (SHK) and the police.

The airport director/manager shall consult with the State Accident Investigation Board and the police before removing any aircraft accident/object that obstructs air traffic. If the State Accident Investigation Board or the police request the removal of the aircraft accident/object, Avinor shall provide assistance.

The airport director/manager shall establish contact with the owner of the aircraft accident/object that obstructs air traffic as soon as possible and request that the owner, in consultation with Avinor, initiate the removal of the object(s) within a specified deadline. It must be made clear that if the aircraft is not moved within the deadline, Avinor will arrange for its removal at the owner's expense and risk. For unidentified aircraft, the aircraft registry in the respective country may provide information, or the State Accident Investigation Board may assist with such information.

If the owner does not arrange for the removal of the object, the airport director/manager must contact the Group Legal Counsel in the Corporate Staff at the Head Office for clarification on the procedure regarding the owner and, if applicable, the insurance company.

Prior to removing the object, a risk assessment must be conducted. Important focus areas will include unloading cargo and draining fuel. The object(s) must be secured and stabilized to the extent possible. Risk must be continuously evaluated.

Operators who regularly operate at the airport should be encouraged, directly or through their agent, to establish their own plans for the removal of their objects. Avinor will assist in such cases.

22 SAFE HANDLING AND STORAGE OF FUEL AND DANGEROUS GOODS

22.1 Equipment, storage areas, delivery, dispensing, handling, and safety measures

The local regulations describe the handling of jet fuel at Oslo Airport in compliance with conditions in the discharge permit from the Norwegian Environment Agency and geographical boundaries as such that the activity should not entail a risk of contamination of the external environment.

Refuelling is an activity with a risk of contamination from aviation fuel to the surrounding environment, and the activity requires both strict requirements for equipment and execution and a safeguard against possible spillage do not lead to discharge with rain or melt water. It is an overall goal to reduce the number of incidents and emissions with regards to jet fuel or other types of oils.

It is the operator's responsibility to report faults on the aircraft to the airline.
OSL will be able to charge separately for:

- clean-up after spills
- increased preparedness in case of exemption from the rules, or similar.

Aircraft must always be in such good technical condition that, if possible, the possibility of technical failure so that emissions of aviation fuel or other types of oil are reduced as much as possible.

When fuelling at the GA/RGA area, there is a restriction on the size of the aircraft and areas where fuelling is allowed. Ref AIP Norway ENGM AD2 2-8. Wide bodies and other aircraft too large for these areas referred from GA/RGA to other pads.

Dispensers and tankers must be in such good technical condition that, if possible, they have eliminated the possibility of technical failure so that emissions of aviation fuel or other types of oils are reduced. The vehicles must be equipped with collection containers, as well as absorbents.

In the event of a spill or release of aviation fuel, the release area must be contained, and people and machines kept away.
In the event of spills/discharges APOC must be notified on phone:
+47 64813800 or
+47 64812911

Avinor must ensure that the handling of dangerous goods at Oslo Airport is handled in a proper manner.
Dangerous goods must be stored in a suitable place, the place must be marked, and it must appear on a map which areas may contain dangerous goods.

The airport has designated suitable areas for parking aircraft with dangerous goods when it is suspected that the transport involves an increased risk for other installations at the airport, for example leakage on containers.

Dangerous goods:

- Explosives
- Gases
- Flammable liquids
- Flammable solids
- Oxidizing substances
- Toxic and infectious substances
- Radioactive substances
- Ethical substances
- Various dangerous goods (substances and objects which pose a danger during transport which are not covered by the other classes, for example a life raft).

Dangerous goods are marked with a four-digit UN number, which indicates which dangerous substance or type of material is being transported.

Aircraft carrying dangerous goods where there is a suspicion of emissions must, if possible, be parked in a suitable location.
Avinor emergency crews will block off the area and ensure that no one enters the area without the necessary protective equipment. If justified, efforts should be made to limit emissions and seal them possible leaks. In the event of events that require special expertise, the handling of the incident must be left to the local fire brigade.

Charts showing buildings or outdoor areas where dangerous goods may be stored, as well as where aircraft with dangerous goods can be parked in the event of a risk of release are available in Avinor' s mapping system (*Avinorkart*, chart layer movement area chart).
Also, ref AIP Norway ENGM AD 2 Aerodrome Chart.

22.2 Control of fuel

The airport manager/airport director must check that the fuel supplier involved in storage, labelling and distribution of fuel for aircraft can document their controls of delivered / stored fuel. Personnel in charge of fuelling and storage must have documented training.

- Check that those in charge of storing and filling fuel on aircraft have procedures for maintenance and storage so that the fuel does not deteriorate.
- Installation and equipment for fuel must be marked in such a way that it is clear which type of fuel is stored / used.
- Regular samples of the fuel must be taken when filling and storing.
- Personnel who will oversee storing / filling fuel must hold necessary competence in relation to storing and filling fuel and otherwise handling of fuel at the airport.
- The annual deviation report from the fuel supplier is registered in Avinor' s deviation system.

Control and handling of aviation fuel is described in *PR00138 Apron Management Services – Kontroll av flydrivstoff* (available upon request).

23 LOW VISIBILITY OPERATIONS

Low Visibility Procedures (LVP), preparation phase, are initiated by ATC, normally when Runway Visual Range (RVR) is less than 1000 M or ceiling is less than 300 FT.
ATC notify APOC which in turn inform all relevant parties that LVP is initiated. This implies that access to the manoeuvring area will be reduced, only essential work on the manoeuvring area is allowed, possible air traffic regulations initiated etc.

At all essential areas and entry gates APOC will activate yellow flashing lights to indicate that the airport Low Visibility Procedures are in force.
When all parties are informed, all activities on the manoeuvring area are confirmed reduced, all instrument and lights is confirmed operational for aircraft Low Visibility Operations (LVO), the airport is ready to allow Low Visibility Operations.

If the visibility/ceiling drop further, Low Visibility Operations phase will be in use when RVR is less than 550 M or ceiling less than 200 FT and/or take-off operations take place in RVR less than 400 M.

Localiser (LOC) assisted Take-Off (TKOF) is available on RWY 01L, 01R, 19L and 19R when RVR is more than 75 M, and Instrument Landing System Category (ILS CAT) III is operational, subject to the distance between and amount of landing traffic.

During visibility condition when RVR < 400 M, available RWY entries/exits are limited to:

RWY	01L	01R	19L	19R
RWY entry	A1, A2, A4, A5, C1	B1, B2	B6, B7, B8, B9	A5, A6, A7, A9, C3, C1
RWY exit	A5, A6, A7, A9, C1, C3	B6, B7, B8, B9	B1, B2, B3, B4, B5	A5, A4, A2, A1, C3, C1
RWY crossing Points	C3 to A7 and vice versa. C2 to A6 and vice versa.	Not applicable	Not applicable	C3 to A7 and vice versa. C2 to A6 and vice versa.

Taxiway lights on other RWY entries/exits will be switched off.

In visibility condition 3, when RVR < 400 M selected stop bars are operated at intermediate holding positions.

Category II/III holding points at all RWY entries are equipped with internally illuminated signs, runway guard lights and red stop bars. Aircraft are to stop and hold
short of an illuminated stop bar until the stop bar is switched off and clearance to continue is received by radiotelephony (RTF) from ATC.

Runway Visual Range (RVR) indicators are available on both runways. These consist of sensors located in the RWY touch down zone, mid zone and end zone. Information from those is used to assess the introduction of the short-term procedure. In addition, an RVR sensor has been installed on the taxiway Papa, which is used as an additional visibility indicator on the Victor and Papa taxiways. Pilots will receive RVR via Automatic Terminal Information Service (ATIS) or on request from ATC.

24 WINTER OPERATIONS

Detailed information on winter operations is described in the airport’s Snow Plan, which is available here: avinor.no/engm.
AIP Norway ENGM AD 2.20, section 11 provides an overview of the airport's winter operations.

25 ADVERSE WEATHER CONDITIONS

The airport collaborates with air traffic services and other relevant stakeholders operating at the airport to minimize the risk during adverse weather conditions such as strong winds, heavy rain, and thunderstorms.

Runway and taxiways demanding winter conditions
The definition at airports of "demanding winter conditions" is when the airport's capacity for snow removal is not sufficient to remove contamination (snow or ice) and affects acceptable operating criteria are exceeded. Such conditions could be amounts of snow over 30 cm in 24 hours a day, snow intensity over 4 cm dry snow/ 2.5 cm wet snow per hour, freezing rain, breakage on critical machinery and equipment or absence of staff. When especially demanding winter conditions is expected, experienced, or forecasted and is assumed to have a serious impact on airport capacity, measures must be taken to avoid closing the airport. The measures are one of the detailed solutions on challenges described in Avinor Emergency Management and Crisis Management procedures. It is an aim to establish a common understanding when such a situation occurs, the conclusion may be that predefining priorities can be omitted from the standard snow clearing plans and describe how the actors are to cooperate to achieve optimal operation capacity and surface conditions.

Thunderstorms and Lightning
Note: There is an ongoing work to implement more details in order to cover all relevant risks and aspects for personnel and the airports operation.

The basic instructions consist of:

- Alert: Lightning activity is detected at a distance greater than 8 km (5 miles) from the operation.
- Stop: Lightning activity is detected within 5 km (3 miles) from the operation.
- All clear: Lightning activity has moved more than 5 km (3 miles) away from the operation.
- Actions taken in relation to this are to prepare for a potential stoppage by:
  - Avoiding non-essential activities in the affected areas and ensuring that personnel using or planning to use headphones are informed of the alert.
  - Fuel operations can continue, but the proximity to thunderstorms/lightning should be continuously monitored.
  - Avoiding the use of highly conductive equipment.

Should there be a need to stop operations, the following measures can be implemented:

- Stop refuelling and disconnect the hoses from the aircraft. Fuel hoses should not be left attached to the aircraft during thunderstorms/lightning.
- Suspend the use of headsets.
- Stop all activity on the apron/ramp.
- Personnel should seek shelter inside buildings or vehicles with metal bodies. No one should seek shelter under any part of the aircraft, jet bridges, near light poles, fences, or under trees.
- Aircraft can arrive at the aircraft stand, but the aircraft doors should remain closed, and ground services should be suspended.

Winter or slippery conditions on the apron

The airport operator is responsible for ensuring satisfactory friction on the apron. During special meteorological conditions, typically in winter, the apron service may need to prioritize tasks, and conditions may vary. If stakeholders on the apron consider the conditions to be insufficient for maintaining a satisfactory safety level, the GRF Inspector/APOC/Operations

Center should be contacted to assess the need for suspension. The Tower, Apron, GRF Inspector, Duty Manager, and GHSP have the authority to suspend operations on the aircraft operating surfaces if they deem the conditions to be abnormally slippery.

When an area is suspended, the GRF Inspector shall verify if any actions are required and reopen the area for operations when the conditions are deemed safe enough. The GRF Inspector and Duty Manager determine the duration of the suspension or closure. The difference between suspension and closure is as follows:

• **Suspension**: An area or parts of the airport will temporarily not be available for flight operations until the operational surfaces have been inspected, and any necessary measures have been taken to improve friction.

• **Closure**: Areas that are closed for an extended period, requiring the use of barriers and notifications (NOTAM, ATIS, and the Community App).

When deemed necessary for extra attention on aircraft operating surfaces, the following measures can be ordered:

- Increased Snow removing: Ordering additional Snow removing to remove snow, ice, or other obstacles from aircraft operating surfaces.
- Sanding: Ordering sanding to improve friction on aircraft operating surfaces. This may involve the use of sand, or other materials.
- Ice removing: Ordering ice removing to remove ice or hard-packed snow from aircraft operating surfaces. This may be necessary when Snow removing alone is not sufficient.
- Sweeping: Ordering sweeping to remove loose debris or other waste from aircraft operating surfaces. This can help maintain a clean and safe surface.

It is important to contact APOC to order these measures and ensure that aircraft operating surfaces maintain an adequate level of safety.

All relevant parties should ensure that rolling equipment has tires with sufficient grip at all times. The speed of rolling equipment should always be adjusted to the prevailing conditions. Equipment on the apron (e.g., chocks, cones, generators, stands, etc.) should be placed in predetermined locations to ensure efficient and safe winter maintenance operations.

Wind

Strong wind poses a significant risk of damage, and the following minimum precautions on the apron should be considered by relevant personnel:

- Secure the aircraft by installing multiple chocks and removing all equipment around the aircraft.
- Exercise extreme caution when opening or closing the aircraft doors.
- Ensure that the handbrake is activated on parked GSE (Ground Service Equipment).
- Activate the handbrake and consider additional securing, if necessary, on all non-motorized ramp equipment.

The airport cooperates with the air traffic service and other relevant actors operating at the aerodrome to minimize the risk of adverse weather conditions such as strong wind, heavy rain, and thunderstorms. This also includes criteria for a closed runway.

26 NIGHT OPERATIONS

Operational procedures for departure and landing at night
The Regulations on Forskrift om støyforebygging for Oslo Lufthavn, Gardermoen, Akershus“/*Noise Prevention for Oslo Airport, Gardermoen, Akershus*” are the rules imposed

by the CAA for the airport. Provisions from the regulations can be found in a summarized version in AIP Norway ENGM AD 2.21.

Aerodrome lightning
Refer to point: 6.3.

Floodlights
The parking area shall be illuminated to prevent parked aircraft from being damaged by other aircraft or vehicles driving onto them. When aircraft are parked in areas without approved floodlights, they should be secured with red marker lights. Marker lights are portable red, omnidirectional lights used to mark and secure parked aircraft in the dark. The lights should be heavy enough to prevent them from being moved by wind or jet blast. During handling, the area should be illuminated with portable floodlights. Vehicle headlights can be used if available.

27 PROTECTION OF NAVIGATIONAL AIDS

Instrument Landing System (ILS) Critical Area
The critical area for the ILS is defined by markers and signs. Entry into these areas must be coordinated in advance with APOC if it is planned work. If the entry is affecting the radio signals, procedures is in place to turn off the transmitters. Before entry, permission must be obtained from ATC via radio.

Aerodrome Works
Permits are required to ensure proper coordination and safeguarding of any activity in these areas and before works start.

Airside Driving
Specific rules apply for drivers required to operate on the manoeuvring area. The Localiser and Glide path aerials have protected safeguarded areas around them to provide integrity of the signals and are free from objects, these areas are known as the ILS Critical Areas. Anything entering these areas will have an adverse effect on the signals projected by the aerials, entry by personnel and/or vehicles is strictly prohibited.
Even if the runway is only being used for departures or is closed – the ILS Critical Areas must not be entered without obtaining permission from ATC.

Winter maintenance
When removing snow around navigation equipment, special considerations are taken. The snow removal procedures specify how and what is to be done in such cases. E.g., to ensure that navigational aids are controlled before operational use is allowed.

Radar
To avoid the radar system generates unnecessary warning and alerts if aircraft transponders need to be tested, specific local procedures are established.

Instrument Landing System (ILS) Critical Area
The critical area for the ILS is defined by markers and signs. Entry into these areas must be coordinated in advance with APOC if it is planned work. If the entry is affecting the radio-signals, procedures are in place to turn off the transmitters. Before entry, permission must be obtained from the ATC via radio.

Aerodrome Works
Permits are required to ensure proper coordination and safeguarding of any activity in these areas, before works start.

Airside Driving

Specific rules apply for those drivers required to operate on the manoeuvring area. The Localiser and Glide path aerials have protected safeguarded areas around them to provide integrity of the signals and are free from objects, these areas are known as the ILS Critical Areas. Anything entering these areas will have an adverse effect on the signals projected by the aerials, entry by personnel and/or vehicles is strictly prohibited.
Even if the runway is only being used for departures or is closed – the ILS Critical Areas must not be entered without obtaining permission from ATC.

Winter Maintenance
When removing snow around navigation equipment, special considerations are taken. The snow removal procedures specify how and what to be done in such cases. It also ensures that navigational aids are checked by qualified personnel before operational use is allowed.

Radar
To avoid the radar-system generating unnecessary warnings and alerts if aircraft transponders must be tested, specific procedures are established.

28 OPERATION OF AIRCRAFT WITH HIGHER CODE LETTER

The airport has implemented specific procedures to ensure that traffic with aircraft larger than the certification basis is handled in a controlled and safe manner.

Rules for traffic with large aircraft are described in AIP Norway ENGM AD 2.20, section 3, ENGM AD 2.23, section 4, and in chart ENGM AD 2 Aerodrome Ground Movement Chart - Code F.

The Aerodrome Ground Movement Chart Code F indicates the applicable limitations during taxiing.

If engine testing is required for Code F aircraft, the airport has implemented specific procedures, since the engine test area is not designed for code F aircraft.

During entry and exit from de-icing pads and taxiing from any start positions a Follow Me vehicle will be supplemented with an inspection vehicle behind the aircraft to monitor safety distances and alert the Follow Me vehicle if there is a risk of collision between the aircraft and obstacles.

29 PREVENTION OF FIRE

Fire and Explosion Hazard
Smoking is prohibited airside, in vehicles, and in aircraft. The use of open flames and smoke-producing tools should be carried out by certified personnel and must be pre-approved by APOC. The placement or storage of flammable, explosive, corrosive, toxic, or other hazardous substances is not allowed airside or in passenger and public areas without consent from Avinor. Such substances should be stored and secured in accordance with applicable legislation.

Notification in case of fire
A fire is reported by triggering the nearest fire alarm, as indicated on the traffic map, or by contacting APOC. If unable to reach APOC, emergency services (110) should be notified.

All work that has an impact on fire safety, such as hot work and disconnections on the fire alarm system, must be carried out in a safe manner and in accordance with applicable laws and regulations. This includes hot work on OSL's buildings and disconnections on the fire alarm system. It also includes outdoor hot work within the aircraft movement area and 50 meters outside the movement area and applies to anyone performing hot work or work that has an impact on fire safety at Oslo Airport. It is mandatory to report to APOC Fire and Emergency Preparedness before starting the work.

The Fire Prevention Manager can grant exemptions for matters that are not regulated by other provisions at the airport. The Fire Prevention Manager provides training to construction managers who are required to follow internal instructions.

OSL reserves the right to limit the disconnection of the fire alarm system if there are circumstances that warrant it. This may include disconnection in adjacent areas, reduced emergency preparedness, large number of people, disconnection of sprinklers, compromised compartmentation walls, etc.

In addition, random inspections of fire and rescue operations will be conducted to ensure compliance with hot work procedures. If conditions are not in accordance with the requirements, hot work may be halted until the conditions are rectified.

Hot work should only be performed by personnel with a valid certificate for this type of work.

Hot work refers to work that involves the use of machinery and equipment that generates sparks and/or heat, which can lead to fire. Hot work includes the use of open flames, hot air equipment, welding, cutting, and/or grinding equipment.
All hot work should be planned in a manner that ensures safe execution. The need for a fire watch should be assessed based on a Job Safety Analysis. The fire watch's task is to monitor the work and should be present during the work, breaks, and at least one hour after the work is completed. The fire watch should have a valid certificate for performing hot work (refer to the learning portal). In cases where the risk is assessed to be low, the person performing the work may also act as the fire watch.
The person performing hot work must have valid training and certifications. Hot work should not be conducted within the safety zone of 20 meters from aircraft.

During hot work, IN03402 – HMS – Farlig arbeid – Arbeid med konsekvenser for brannsikkerheten/ *HSE - Hazardous work - Work with implications for fire safety* and SS01713 HMS – Farlig arbeid – Arbeider med konsekvenser for brannsikkerheten sjekkliste/ *HSE - Hazardous work - Work with implications for fire safety checklist* (available upon request) must be followed.

30 COMMUNICATIONS ON AIRSIDE

Communication on the airside is conducted in accordance with Avinor's general guidelines, and radio phraseology follows SERA and ICAO regulations.

The frequencies used for communication with pilots are described in AIP Norway ENGM AD 2.18.

ATC's communication with vehicles is done via UHF on dedicated channels based on the area the vehicle is operating in.

The setup for areas where UHF is used is as follows:

- UHF CH 1 - Used in the GND West area
- UHF CH 2 - Used in the GND East area
- UHF CH 3 - Used in TWR West (RWY 19R/01L) and FATO
- UHF CH 4 - Used in TWR East (RWY 01R/19L)

The ATC sectors are indicated on AIP Norway ENGM AD 2, Aerodrome Ground Movement Chart.

The language used by ATC when communicating with pilots is English unless the pilot requests to use Norwegian. For ground personnel, the language between them and ATC is Norwegian.

To enhance situational awareness when vehicles are on TWR's UHF frequencies, they are connected to the tower's VHF frequencies. This means that both pilots and drivers can hear each other's transmissions, even if both English and Norwegian are used.

At Oslo Airport, a dedicated VHF frequency has been established for direct communication between Fire and Rescue services and pilots in emergency situations.

In situations where radio communication between ATC and pilots/ground personnel fails, several measures can be taken:

- Signalling with lights from the control tower in accordance with ICAO/SERA regulations.
- Flashing runway/taxiway lights to indicate that vehicles should leave the manoeuvring area.
- In driver training, raise awareness of procedures for handling radio failures and how to notify ATC.
- Use mobile phones for notification/communication.

Important operational information is communicated through ATIS, NOTAM, AIP, internal operational information documents such as NOTAW (Notice to Air Workers), Operational Information and Bulletins, personal briefings, and through Avinor' s Community APP.

31 AIRCRAFT TOWING

Navigation with aircraft in the airport's manoeuvring area takes place either by the aircraft taxiing under its own engine power or being towed. Since aircraft have varying wingspans and lengths, the requirements are, when moving in the manoeuvring area, that navigation lights and/or anti-collision lights must be on to limit the risk of collision.

At Oslo Airport all tow tractors, operating on the manoeuvring area, shall be equipped with transponder and UHF radio for communicating with ATC.

Aircraft illuminated by towing tractor

After acceptance from the Norwegian Civil Aviation Authority, towing without navigation lights, in the dark, can be carried out provided that:

- Towing must be carried out as Towbar less (TBL) towing with approved equipment.
- No passengers must be on board the aircraft.
- The towing tractor must have additional strap lights that flash and are visible under the fuselage.
- The towing tractor must have xenon lights that illuminate the fuselage and wing tips.
- Such operations are not permitted when low-vision procedures have been introduced.
- Permission for towing must be obtained from the ATC on UHF and contain information that the aircraft is equipped with a towing tractor.
- These conditions only apply to the areas included in the clearance from the ATC.

Towing of aircraft without lights
In situations where it is technically not possible to turn on navigation lights or illuminate them with a tow tractor, the aircraft must be followed behind by a vehicle ("Follow Behind"), with warning lights, to indicate the aircraft's physical extent.

32 HANDOVER OF OPERATIONAL INFORMATION

Avinor has established and implemented detailed procedures to ensure the effective handover of operational activities and the provision of operational information to personnel and organizations operating at the aerodrome. These procedures are designed to comply with the requirements set forth in Regulation (EU) No 139/2014, ADR.OPS. B.003 The key elements of Avinor's procedures include:

1. **Shift Change and Task Handover**:
   - The handover between shifts is done via personal briefing. All activities experienced during a shift are noted in shift logs and used in the handover process.
   - The procedures cover the change of a shift within the same function, such as between Rescue and Fire Fighting Services (RFFS) personnel.
   - They also address the handover of tasks to another person within the same shift and the transfer of activities between different functions, such as from maintenance to operations.

2. **Incomplete Planned Activities**:
   - The procedures address situations where a planned activity, such as light maintenance, is not completed at the time of a planned shift change.
   - They also cover any other non-regular activities that may be in place during a shift change.
3. **Preparation of Personnel**:
   - The procedures ensure that both outgoing and incoming personnel are adequately prepared for the handover.
   - This includes providing all necessary operational information related to their tasks.

4. **Effective Communication**:
   - The briefing process is designed to allow effective two-way communication between outgoing and incoming personnel.
   - All task-relevant information necessary for the incoming personnel is provided both verbally and in writing.
   - For posts that are not continually manned or aerodromes with interrupted working hours, the briefing may be provided in writing, with provisions for additional information to be communicated as needed.

5. **Briefing of Drivers and Operational Personnel**:

- The briefing for drivers and other operational personnel operating on the manoeuvring area includes, at a minimum:
    - Information on the runway(s) in use.
    - Details of any significant work areas.
    - Conditions of stop bars, if applicable, that may be inoperable making a taxiway unusable for runway entry or crossing.
    - Information on whether low-visibility procedures are in force.

6. **Provision of Operational Information to Other Organizations**:
    - Avinor ensures that changes in operating conditions at the aerodrome, which may affect all personnel operating on the movement area, are communicated to other organizations operating or providing services at the aerodrome.
    - This information is provided without delay and in a manner prearranged with the other organizations to ensure it reaches its destination.
    - Such information may include changes in operating conditions on the apron (e.g., due to works or occurrences) or on the manoeuvring area, or other facilities of the aerodrome.

7. **Coordination Meetings**:
    - Other relevant information may/will be discussed and agreed upon in the normal weekly and daily coordination meetings.
    - The Airport Operations Center (APOC) has a normal conference with all the relevant operational parties at least once a day, and if found necessary, initiated more often.

By implementing these procedures, Avinor ensures that all new incoming personnel are provided with the necessary operational information related to their tasks, and that organizations operating or providing services at the aerodrome are informed of any aerodrome-related operational information that may affect their personnel's tasks. This structured approach helps maintain safety and efficiency in aerodrome operations.