

Muscat South Runway 08R/26L Activation **Dual Runway (single Mode)** ATC Readiness and Operational Procedures

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Importance of New Runway

Increased airport capacity and reduced delays

Improved traffic flow and efficiency

Enhanced safety margins



Proactive Planning

Internal and external Meetings
with all stakeholders

Comprehensive risk assessment

Detailed gap analysis to identify
training needs



External Meetings

1 Airlines

Ensure airlines understand how the new runway will affect turnaround times, Aircraft performance limits, Crew training

2 Airport Operations

Ensure smooth ground operations, Support systems (lighting, signage, markings, taxiways), Fire and rescue coverage and response plan

3 Regulation

Ensure all procedures and runway operations comply with national and international aviation regulations

Internal Meetings

Approach Unit

Coordination of
Arrival/Departur
e Flows,
Maintain safe
separation
standards,
coordination
shifting time
with Tower unit

Airspace Unit

Design and
validate new
arrival/departure
routes (STARs,
SIDs) that
accommodate
dual/new
runway
operations

Compliance team

Ensure all
procedures and
runway
operations
comply with
national and
international
aviation
regulations



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Kick-Off Meeting

SEP 2023

Initiated coordination with all stakeholders

Stakeholder Engagement Complete

OCT 2023

Completed discussions with airlines, ops, ATC units

Gap Analysis Completed

NOV 2023

Identified needs in procedures, equipment, and training



Risk Assessment Finalized

FEB 2024

Addressed safety and operational risks with mitigation plans

Transition Plan Developed

FEB 2024

Phased shift plan between old and new runway operations



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SOP Finalized

FEB 2024

**Standard Operating Procedures
approved and circulated**

Training Started

MAR 2024

**Classroom training and
Simulation for controllers began**

**OJT (On-the-Job
Training)**

APR 2024

**Real-time training on live system
for remaining controllers**

**Runway Operationally
Activated**

MAY 2024

**Full operations on new runway
successfully commenced**

**Operational
Monitoring**

JUN 2024

**Close monitor for new runway
Usage / different Shifting time**



Coordination with Key Stakeholders

- Conducted meetings with:
 - Airport Operations
 - Airline Operators
 - Approach Unit
 - Safety and Compliance Teams
- ☐ Ensured alignment and shared objectives



Stakeholder
Engagement

Gap Analysis and Needs Identification

- **Evaluated existing infrastructure and procedures**
- **Identified capability gaps:**
 - Equipment readiness
 - Procedural alignment
 - Staffing and resource allocation



Gap Analysis

Comprehensive Risk Assessment

- **Identified operational and safety risks**
- **Mitigation strategies developed for:**
 - Runway incursion
 - Communication issues
 - Traffic sequencing challenges



Risk Assessment

Development of Transition Plan

- Created detailed timeline for operational shift
- Coordinated phasing of old and new runway use
- Maintained safety and efficiency during transition



Transition Planning

Controller Training & Skill Enhancement

- **Designed specific training modules for:**
 - New runway procedures
 - Runway configuration and layout
 - Emergency and contingency scenarios



Training Plan

Standard Operating Procedures (SOPs)

- **Drafted and approved new SOPs for:**
- Runway usage protocol
 - Handover procedures between runways
 - Coordination with approach and ground units



SOP Development

On-the-Job Training (OJT)

- **Practical hands-on training provided**
- **Ensured familiarity with:**
 - **Runway operations**
 - **Real-time coordination**
 - **Traffic management at full capacity**



Operational Training

Launch of Operations on New Runway

- All systems and staff validated
- Smooth transition to operational status
- Ongoing monitoring and post-launch evaluation



Live Operations

Transition Planning

Transition Plan Development

1
Designed step-by-step roadmap for moving operations
Included contingency and fallback procedures
Timeline-based transition with safety assurance

Standard Operating Procedures

2
New Runway operations
Shifting between old and new runways
Emergency procedures

Training Plan

3
Designed a phased training program
Covered both theoretical and practical aspects

Practical Training



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Theoretical Training



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Targeted Personnel for Training

1

Tower Control

✓ **22**
Controllers

- 1- New Runway Procedures**
- 2- On job training**
- 3- Standard Operation procedure**

2

Approach Control

20 Controllers

Coordination Procedures

Runway Usage Updates

Operational
Readiness & Go-
Live Day



Results & Outcomes



Post-Activation Actions for New Runway Operations



Operational Monitoring

- ❖ Closely monitor runway usage, air traffic flow, and controller workload.
- ❖ Use tools like radar playback, safety nets, and data reports to assess real-time operations.
- ❖ Identify any bottlenecks, inefficiencies, or unexpected issues.

Post-Implementation Review



Conduct a formal review meeting with all stakeholders

- ❖ ATC (Tower, Approach, Airspace)
- ❖ Airport Operations
- ❖ Airlines
- ❖ AGL Engineering & Maintenance
- ❖ Discuss lessons learned, what went well, and what needs improvement.
- ❖ Document and track action items for follow-up
- ❖ Operational reports to Regulation

Safety & Compliance Check



Perform a safety performance review

- ❖ Review incident reports, such as going around (to get reason)
- ❖ Confirm that all risk mitigations are functioning as intended
- ❖ Conduct compliance audits to ensure procedures align with regulations.

Timing divided into four operational time

**Operational time
1**

Started

from 12:00 UTC
until 17:00 UTC

for 8 days



Timing divided into four operational time

Operational time 1

Started

from 12:00 UTC
until 17:00 UTC

for 8 days

Operational time 2

Started

from 20:00 UTC
until 01:00 UTC

for 8 days



Timing divided into four operational time

Operational time 1

Started

from 12:00 UTC
until 17:00 UTC

for 8 days

Operational time 2

Started

from 20:00 UTC
until 01:00 UTC

for 8 days

Operational time 3

Started

from 04:00 UTC
until 09:00 UTC

for 8 days



Timing divided into four operational time



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until 01:00 UTC

for 8 days

Operational time 3

Started

from 04:00 UTC
until 09:00 UTC

for 8 days

Operational time 4

Started

from 06:00 UTC
until 11:00 UTC

for 8 days



Benefits of Dual Runway Operations

Continuity During
Maintenance or
Emergencies



Benefits of Dual Runway Operations

One runway
can remain
operational
while the
other is
closed for
maintenance
or inspection

Ensures
continued
safe
operation if
one runway
is closed due
to an
incident



Benefits of Dual Runway Operations

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Ensures
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Prevents
airport
closures and
minimizes
delays



Benefits of Dual Runway Operations

One runway can remain operational while the other is closed for maintenance or inspection

Ensures continued safe operation if one runway is closed due to an incident

Prevents airport closures and minimizes delays

Ability to alternate runways for noise distribution





شكراً

Thank You