Fleet Distribution Per Mission

CURRENT AS OF 01 Jan 2009 Total 224
MINUSTAH

- AVERAGE HITS: 52/MONTH
- AVERAGE RESPONSE TIME 2 HRS

2007:
- 2 SAR: CARAVAN DOWN RESCUED ALL PASSANGERS

2008
- TABLE TOP EXERCISE
- 20 SAR Missions
- 1 A/C DOWN IN CARACOL, DRUG SMUGGLER
- MASS CASUALTIES SAR EX.
**AIR OPERATIONS STANDARD OPERATING PROCEDURES’ (SOPs)**

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1 Purpose.
The purpose of this Search and Rescue SOP is to establish procedures for searching a missing aircraft, locating its position, providing aid, assistance and protection to crew and passengers within the MINUSTAH mission area.

2 Authority.
In 1998, two agencies of the United Nations devoted to aeronautical and maritime transportation safety, the International Civil Aviation Organization (ICAO) and the International Maritime Organization (IMO) respectively, came up with the International Aeronautical and Maritime Search and Rescue Manual (IAMSAR Manual). “The primary purpose of the three volumes of the IAMSAR manual is to assist States in meeting their own Search And Rescue (SAR) needs, and the obligations they accepted under the Convention on International Civil Aviation, the International Convention on Maritime Search and Rescue and the International Convention for the Safety of Life at Sea (SOLAS)”-
The search and rescue procedures contained in this document are in accordance with Annex 12 to the Chicago Convention on International Civil Aviation Organization and the Regional Supplementary Procedures on Search and Rescue as contained in ICAO DOC 7030.
1. GENERAL

1.1 Type of exercise
This is training for Search & Rescue (SAR), Mass Casualty (MC). An Incident Commander (IC) and Search and rescue staff will be present for command and control purposes at Log Base, PAP, mission base staff and aircrews will be trained in safe and effective SAR/MC operations in MINUSTAH. This exercise will have a simulated scenario, and is primarily for exercising all Aviation Section’s command and control capabilities with qualified individuals. This training is in direct support of our actual search and rescue, disaster relief, humanitarian services and Joint Operation Center.

1.2 Exercise location
The incident command post (ICP) will be located at Aviation Section in MINUSTAH Log Base. Aviation Section will be the host Section. There will be staging areas at the PAP MINUSTAH RAMP

1.3 Exercise Dates & Times
Table Top: 19 May, 2008
Last Revision: 28 May, 2008
Primary Mission Date (live SAREX): 29 May, 2008

1.5 Mission Symbol & Number
Aviation Section Section: SAR336 = SAR/Casevac Training
SITUATION- Topography
General Information
1.1 INSPECTION DATE AND NAME OF SURVEYOR  24 March 2008
Armin Steubelmuller
1.2 NAME OF LZ      Ganthier
1.3 GEOGRAPHICAL COORDINATES  N 18 32’ 01”
W 072 03’ 38”
1.4 GRID REFERENCE
1.5 ELEVATION (Feet-Meter)  450’
1.6 PURPOSE FOR USE DAY/NIGHT Day
1.7 OPERATIONAL TASK
TACTICAL/REGULAR SCHEDULE
EXTERNAL LOADS   Tactical

[Image of an aerial view and a helicopter with a red circle and label indicating a communication mast]
Evacuation Chain – Detail 1

ICP – Incident Command Post
MIC – Minimum Initial Care
AE – Absolute Emergency

Noria – The “wagon wheel” – help coming & casualties leaving.
FLIGHT AND AIRCRAFT OPERATIONS

CASEVAC/MEDEVAC
The Evacuation Chain

- **CRASH**
  - **ICP**
  - **DEAD**

- **TRIAGE**
  - **MIC**
  - **WAIT**
  - **AE**

- **SHELTERS**
  - **A M P**
  - **SURVIVORS**

- **CORPSES STORAGE**
  - **DEAD**

- **EMC**
  - **LARGE EVACUATION NORIA**
  - **SURVIVORS**

- **SMALL EVACUATION NORIA**
  - **ICU**
  - **WAIT**
  - **RX**
  - **AE**
  - **RE**

- **H SHelters**

- **NORIA**
  - **LARGE EVACUATION NORIA**
  - **SURVIVORS**
  - **DEAD**

- **AMP**
  - **SHELTERS**
  - **SURVIVORS**

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<td>22</td>
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MAXIMUM INTERNAL LOAD 3500 KGS
MAXIMUM EXTERNAL LOAD 3000 KGS
MAXIMUM PASSENGERS 22
CRUISE SPEED 110 KNOTS
ENDURANCE 2.5 HOURS
### BELL - 212
**ARGENTINA AVIATION**

- **MAXIMUM INTERNAL LOAD**: 735 KGS
- **MAXIMUM EXTERNAL LOAD**: 635 KGS
- **MAXIMUM PASSENGERS**: 9
- **CRUISE SPEED**: 90 KNOTS
- **ENDURANCE**: 2.0 HOURS
- **ARMAMENT**: (2) 7.62mm x 750 KEVLAR
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DHC – 7
TRANS CAPITAL (CANADA)

MAXIMUM INTERNAL LOAD: 5000 KGS
MAXIMUM PASSENGERS: 40
CRUISE SPEED: 200 KNOTS
ENDURANCE: 5.0 HOURS
MAXIMUM INTERNAL LOAD: 2500 KGS
MAXIMUM PASSENGERS: 10
CRUISE SPEED: 180 KNOTS
ENDURANCE: 4.5 HOURS
RESTRICTED AREAS

PAP AIRPORT

N18°34' 40'', W 072°16' 22''
N18°34' 40'', W 072°16' 50''
N18°34' 36'', W 072°16' 22''
N18°34' 36'', W 072°16' 50''

Altitude:
From ground level up to 2000 feet AGL
UN SAR Challenges

- Must have manned air assets in the air
- Environments: Topography & Weather
- No real time Information
- Centralize approach
- Crew fatigue
- No synergy strategy approach
- 121.5 MHZ Issues
UA V International
Strategy_CDR Sisson

UA V Altitude Airspeed and Endurance Capabilities

High Altitude Endurance (HAE)
Medium Altitude Endurance (MAE)
Low Altitude Endurance (LAE)

Endurance in Hours
Airspeed
Altitude

Eagle Eye, FireScout, Hunter, Pioneer
Heron 1, Predator A
Heron 2, Predator B
U2
Global Hawk
Recommendations

- UAVs can perform all SAR missions (TCC/Governments/Missions share flight hours)
- Co-locate UAVs to save costs
- Expand UAV analysis to evaluate added value to UN SAR/Disaster relief operations
- UAV operations are real, can be a turn key project controlled by UN: Aerospace Agencies, supporting: Aviation and Movcon.
Summary of BATTLESPACE Flight Services’ Technical Expertise in the Area of UAV Maintenance and Operation

- UAV Operations
- Program Management
- Systems Engineering Analysis
- Mission Support Aerospace Ground Equipment (AGE)
- Systems Design
- Integration Engineering
- Modeling and Prototype Development
- Test and Evaluation
- Integrated Logistic Life-Cycle Engineering Assessments
- System Maintenance
- Quality Assurance and Control
- Logistics
References and Credits

• MINUSTAH Aviation Section
• CDR Mathew J. Sisson
• LCDR Troy Beshears
• Lt. Henry Irrizary
• UAV Engineering Society
• UAV Daran Aviation
• Battlespace Flight Services
ANY QUESTIONS?