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INTRODUCTION

This document provides a framework and list of guidelines for the MDRS. These were initiated during the Second Crew Rotation

It is designed to support the Mars Society's field operations priorities in order of decreasing importance: *Safety, Simulation, Science and Comfort*.

Based on the concept of current real space flight – “Flight Rules”, it provides guidelines for the establishment of a growing and evolving operational paradigm designed to simulate and ultimately provide the necessary lessons which will lead to those operations that would support actual missions to Mars.

These guidelines are further designed to provide a constructive and conservative approach to operations; Yet, the users of such guidelines are free to interpret, adopt and even remove them if such action does not deter from mission (both real-time and simulated) safety and success.

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MDRS Operations

Crew Commander

The Crew Commander (CDR) has the authority to organize and operate MDRS crew resources as necessary according to their individual leadership style.

When possible, the CDR should gather crew input and encourage discussion, however ultimately the CDR is responsible for setting the priorities for the activities at MDRS, and as such all crew members should follow his instructions and directives.

Executive Officer (also know as 2IC in other countries military services)

If not already appointed by the Head of Mission Support, the Crew Commander shall assign an Executive Officer (XO) who shall be the MDRS mission second in command (2IC), and as necessary, may assign other positions/responsibilities to all crewmembers in order to support safety and simulation requirements.

The Executive Officer will be responsible for guiding crews based on mission goals and will act as Acting CDR if necessary.

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MDRS HAB Operations

Adherence To Placarded Instructions

All crewmembers shall observe and follow all placarded instructions pertaining to MDRS operations and equipment.

Crewmember Responsibilities

Familiarization

All crewmembers shall upon inhabiting the MDRS HAB, familiarize themselves with all safety operations and equipment locations.

Cleanliness

All crewmembers are responsible for maintaining the general cleanliness of the HAB (immediate cleaning up after oneself is highly recommended especially in the following areas: kitchen, toilet, shower and laboratory areas).

Safety

All crewmembers shall be responsible for maintaining the highest level of safety during all operations. Any unsafe conditions must be reported to the commander and corrected immediately.

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EVA Operations

EVA Commander

The Crew CDR will assign an EVA CDR before each EVA excursion.

All EVA crewmembers shall comply with the instructions and directions of the EVA CDR.

EVA PLANNING

EVA Planning Sessions - Mandatory

Each EVA that is to occur outside the local walking vicinity, that incorporates the use of an ATV, shall have at a minimum, one EVA Planning session with all crewmembers present.

Pre-EVA Review Of Operations & Equipment

All crewmembers shall review the operations of, and be familiar with all equipment that shall be used during a given EVA prior to executing the EVA (including ATV operations, radios, GPS, etc.).

EVA Safety

Voice contact with the HAB (HABCOM) shall be done on a regular basis as determined by the Crew CDR (hourly checks are recommended).

No EVA crewmember shall proceed on foot or by vehicle, out of line of sight of at least one other EVA crewmember (buddy - system).

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ENVIROMENTAL IMPACT

All ATV EVAs shall minimize their environmental impact by following preexisting ground tracks. No ATVs shall be operated in open unmarked terrain (As requested by the Bureau of Land Management).

EVA crews may stop/park and walk to any site deemed safe by the EVA CDR. All crewmembers shall attempt to minimize all environmental impact to terrain being traversed.

EVA crews performing pedestrian sorties shall attempt to minimize all actions that deteriorate or negatively impact the terrain and environment.

All ATV EVAs conducted off of the main dirt roads shall be conducted in single file, in order to minimize environmental impact, following the point crewmember as designated by the EVA CDR.

ATV EVA Safety Protocols

While conducting ATV EVAs, a safe distance shall be maintained between vehicles. Sufficient distance must be maintained to avoid collisions if the ATV ahead should stop suddenly.

While driving single file, it is the responsibility of each crewmember to maintain visual contact at all times with the person immediately following them (e.g., using the wrist band reflectors)

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APPENDICES

Appendix A: Change Log

The Change Log is a vital part of a living document. It is a record of all the changes and additions made to this document. When crews or individuals make changes, they should outline them there in Appendix A inserting them at the start of the section just below this section title.

Version 2.0 - Invited Academic Contribution – 25 Jan 2005

Summary: Reformatted into Version 2.0 : Revision author: Hugh S. Gregory, Spaceflight Historian, hgregory3a@aol.com, from SpaceBase™ – The Astronomy and Space Sciences Educational Information Service, Vancouver, Canada

Invited by Tony Muscatello to review all Mars Society MDRS manuals and documents currently available for downloading by Society members, Directors, Mission Support Staff, Advisors, MDRS Crews, volunteers and interested members of the general public for the purpose of bringing the formatting in line with a common layout and presentation.

- The reformatting of this document accomplished Without Any Deletions of the original Version 1 text.
- Adjusted left side and right side margins down to 0.5" to increase the amount of data per page.
- Made white space adjustments to improve readability of the printed version (should anyone decide to do so). This created a number of "This Space Intentionally Blank" areas through out the document to act as "expansion joints" to allow future changes by authorized Mars Society Medical Director and Advisors to be inserted without disturbing the page numbering (hopefully for a little while).
- Implemented internal hyperlinks in the Table of Contents and Tested all of same.
- Added Appendix A: Changes Log and inserted this text.
- Finally... updated the Table of Contents so page numbering is accurate after reformatting.

Version 1.0 - Initial Document - February 22, 2002

Original document created by Donald C. Barker, M.D.R.S. Crew 2 when the contents of this documents were put into practice.

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