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**NASA KENNEDY SPACE CENTER
SOYUZ RECOVERY OPERATIONS PLAN
(CONTINENTAL U.S. ONLY)**

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This document is INCOMPLETE and still under development

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DRAFT

TABLE OF CONTENTS

<u>SEC/PAR</u>	<u>TITLE</u>	<u>PAGE</u>
I	INTRODUCTION	
1.1	Purpose	7
1.2	Scope	7
1.3	Authority	8
1.4	Functional Teams	8
1.4.1	Recovery Management Team (RMT)	8
1.4.2	Rapid Response Team (RRT)	9
1.4.3	Soyuz Recovery Team (SRT)	9
II	ORGANIZATIONAL RESPONSIBILITIES	
2.1	NASA/KSC	11
2.1.1	Management	11
2.1.2	Soyuz Recovery Manager	11
5.5.2	Soyuz Off-Site Operations Manager	11
2.1.4	Engineering	12
2.1.5	Quality	12
2.1.6	Safety and Environmental Protection	12
2.1.7	Security and Protective Services	12
2.1.8	Transportation	
2.2	Payload Ground Operations Contractor	13
2.2.1	Management	13
2.2.2	Operations	13
2.2.3	Engineering	13
2.2.4	Quality	13
2.2.5	Safety / Health / Environmental	13
2.2.6	Logistics/Transportation	14
2.3	RSC-Energia	17
2.3.1	Management	17
2.3.2	Engineering	17
2.3.3	Documentation	17
2.3.4	Material	17

DRAFT

TABLE OF CONTENTS (Continued)

<u>SEC/PAR</u>	<u>TITLE</u>	<u>PAGE</u>
III	PERSONNEL REQUIREMENTS	18
3.1	Introduction	18
3.2	Badging	18
3.3	Training Requirements	18
3.4	Drivers Licenses	18
3.5	Medical Requirements for Remote Assignment	18
IV	SOYUZ RECOVERY OPERATIONS	19
4.1	Introduction	19
4.2	Open & Limited Access Landings	19
4.2.1	Deintegration Operations	19
4.2.2	Special Requirements	19
4.2.3	Operational Hazards	19
V	SECURITY	20
5.1	Annex, KSC Soyuz Recovery Operations Plan	20
5.2	Purpose	20
5.3	Objective	20
5.4	Scope and Applicability	20
5.5	Responsibilities	20
5.6	Procedural Requirements	22
	a. Physical Security	22
	b. Security Escort Requirement	23
	c. Impound Area	23
	d. Infraction Reporting	24
	e. Training/Awareness	24

DRAFT

**TABLE OF CONTENTS
(Continued)**

SEC/PAR	TITLE	PAGE
Attachment "A"	Shipping Container Manifest "A"	A-1
Attachment "B"	Shipping Container Manifest "B"	B-1
Attachment "C"	Soyuz Recovery Team Deployment Schedule	C-1
Attachment "D"	Boeing Soyuz Recovery Team Deployment	D-1

DRAFT

LIST OF ACRONYMS AND ABBREVIATIONS

CONUS	Continental United States (excludes Alaska and Hawaii)
DDMS	Department of Defense Manned Spaceflight Support
GSE	Ground Support Equipment
KSC	Kennedy Space Center
MCC-H	Mission Control Center - Houston
NASA	National Aeronautics and Space Administration
OMI	Operations and Maintenance Instruction
PGOC	Payload Ground Operations Contractor
PPD	Payload Projects Directorate
RMT	Recovery Management Team
RRT	Rapid Response Team
RSA	Russia Space Agency
RSC-E	Rocket & Space Corporation – Energia
SFOC	Space Flight Operations Contractor
SHEA	Safety Health & Environmental Affairs
SOOM	Soyuz Off-Site Operations Manager
SRM	Soyuz Recovery Manager
SRT	Soyuz Recovery Team
TBD	To Be Determined
TPS	Test Preparation Sheet
U.S.	United States
USAF	United States Air Force

DRAFT

SECTION I

INTRODUCTION

1.1 PURPOSE

A Soyuz emergency landing in the United State of America has a low probability but it is possible that the vehicle may not be able to stay in orbit and thus should perform an emergency landing in order to save the life of the crew (or crewmember). An early descent, landing in the United State of America, and the vehicle recovery should be considered a joint responsibility.

This plan is developed as a source of information for Russia Space Agency, RSC-Energia, and NASA Centers personnel. This document serves to familiarize support personnel in the basic requirements for deployment, operational scenarios, and discipline responsibilities in support of activities for the Soyuz Recovery Team (SRT).

1.2 SCOPE

This document provides guidelines for SRT operations performed by NASA-KSC and associated contractors. Details of responsibilities, operational scenarios, support equipment, and services required to prepare the Soyuz vehicle for return to Russia, are also located herein.

The Soyuz Recovery Team Operations Plan will be developed and will be maintained throughout the life of the International Space Station program. The plan will be reviewed for currency on an annual basis or whenever changes occur that affect the plan.

The Air Force, NASA or other governmental agency will be the first to arrive on the scene to assist the crew members in getting to the nearest hospital. Local law enforcement will secure the area from the general public.

Safing and deservicing of the Soyuz capsule will be performed by the RSC-Energia Soyuz Recovery Team.

This effort only addresses a CONUS landing.

The Russian team will arrive at an airport near the landing site within two days after the landing of the Soyuz capsule. The two day delay allows the Russians to obtain VISAs, a transport aircraft, gather their GSE and fly to the U.S.

The transportation method for Russian recovery team arrival and Soyuz vehicle return involves the use of a Russian IL-76 aircraft that will travel from Russia to a regional airport near the landing site with all of the personnel and equipment necessary to process the vehicle. This method will require time: to assemble the team; for diplomatic over flight and landing clearances, for customs, for NASA representative to meet the aircraft with an interpreter and for finally

DRAFT

unloading the equipment and processing the vehicle. The Soyuz vehicle will be loaded on the Russian aircraft with the associated processing and transportation equipment and flown back to Russia.

1.3 AUTHORITY

Changes and revisions are controlled by BOEING-KSC, Operations Engineering, as the office of primary responsibility. Revisions or changes will be issued as required.

1.4 FUNCTIONAL TEAMS

1.4.1 RECOVERY MANAGEMENT TEAM (RMT)

The purpose of the RMT is to serve as a single point of contact between the Soyuz landing site and KSC. The RMT has established and documented how KSC will manage its responsibilities in the recovery of a Soyuz vehicle from an off-site location after a Soyuz landing,

1.4.2 RAPID RESPONSE TEAM (RRT)

The RRT shall consist of personnel under the direction of the KSC NASA representative who will evaluate the condition of the Soyuz vehicle, establish landing site security, and determine any additional requirements to prepare the Soyuz vehicle for return transportation to Russia. The RRT will modify existing contingency planning to accommodate the realities of the Soyuz configuration and landing site facilities.

The NASA-KSC Soyuz Recovery Team Deployment schedule is contained in attachment "C".

The Boeing Soyuz Recovery Team deployment roster is contained in attachment "D"

Nationwide pagers will be issued to all team members and their back-ups for the purpose of maintaining immediate contact and reducing response time.

Cell phones will be issued to the following Boeing team members: Soyuz Off-Site Recovery Manager, Transportation Manager, Logistics Mission Rep, Security Rep, Mechanical/Handling Rep, and Safety Rep. Additional cell phones will be dispatched with the team upon deployment.

Satellite telephones will be obtained on an as need basis. This would occur only if the landing site location prohibits the use of typical cell phones.

A motor home may be rented and used by the team if the Soyuz lands in a remote area, far from required resources.

A list of facilities (and maps of the areas) near each landing site such as airports, hotels, car rentals, equipment rentals, etc., will be developed to aid the expediting the travel process and team deployment.

DRAFT

1.4.3 SOYUZ RECOVERY TEAM (SRT)

The objective of the SRT is to support RSC-Energia in transportation of the RSC-E Soyuz processing equipment from the airport to the Soyuz landing site, support Soyuz vehicle processing , and preparing the Soyuz vehicle for transport to the closest airport that can accommodate the Russian IL-76 transport aircraft.

The Recovery Team will work 12 hour days (daylight hours only), however, security personnel will work 24 hour days (2 twelve hour shifts) to maintain security of the controlled area and vehicle.

1.4.4 RECOVERY MANAGEMENT TEAM

Recovery Management Team action center at KSC will be staffed 24 hour / 7 days a week, as required.

DRAFT

SECTION II

ORGANIZATIONAL RESPONSIBILITIES

2.1 NASA/KSC

The NASA Soyuz Recovery Team is comprised of NASA payload support personnel, and NASA & PGOC/KSC technical personnel.

2.1.1 MANAGEMENT

The NASA/ISS Payload Processing Directorate has the overall responsibility for Soyuz recovery ground operations.

A NASA representative and interpreter will meet the Russian aircraft at its port of entry into the United States and accompany that aircraft to an airport closest to the landing site.

A NASA Headquarters representative and State Department representative will be available at the airport, landing site, or via telephone, to assist the Boeing transportation representative on transportation issues.

2.1.2 SOYUZ RECOVERY MANAGER (SRM)

The NASA Soyuz Recovery Manager supervises the operation/actions of the SRT with respect to all recovery operations.

2.1.3 SOYUZ OFF-SITE OPERATIONS MANAGER (SOOM)

The NASA Soyuz Off-Site Operations Manager directs the operations of the RRT and SRT with respect to Soyuz recovery support at the landing site. The manager serves as a single point of contact between the landing site, the Mission Control Center – Houston, and the KSC Soyuz RMT.

A NASA provided Russian interpreter will be available at the landing site during the vehicle processing.

2.1.4 ENGINEERING

NASA engineering personnel will provide technical support for joint lifting operations.

2.1.5 QUALITY

DRAFT

NASA Quality Assurance personnel will be at the landing site to support critical lifts.

2.1.6 SAFETY AND ENVIRONMENTAL PROTECTION

NASA Safety and Environmental Protection personnel will be at the landing site. NASA Safety will be responsible for providing concurrence and/or approval of waiver/variance conditions and act as monitor during critical operations.

2.1.7 PROTECTIVE SERVICES

NASA Protective Services has the overall responsibility for providing security for the Soyuz vehicle and related equipment/facilities. Additionally, this function acts as the oversight for PGO and JBOSC security functions.

KSC Security Specialist (NASA/Boeing/SGS) and Public Information Specialist (PIO) are members of the RRT and will be dispatched to the landing site as soon as possible, following the notification of the Soyuz landing.

Team badges and car passes will be generated and maintained by Boeing Security. These items will be part of a kit deployed with the “A” team and will be distributed at the destination airport or landing site.

2.1.8 LOGISTICS AND TRANSPORTATION

The NASA Logistics and Transportation function maintains the overall responsibility for the transportation of flight elements, ground support equipment acquisition, and materials in support of contingency landing activities. Management of clearances, bonds, and shipments are accommodated by this NASA activity, as well as advising of RSC-Energia personnel in related efforts, as required.

2.2 PAYLOAD GROUND OPERATIONS CONTRACTOR (PGOC)

2.2.1 MANAGEMENT

The PGOC management is responsible for providing guidance and resources to support SRT operations.

2.2.2 OPERATIONS

PGOC Operations personnel will support Soyuz task sequencing, scheduling, and directing of support to the Russia Recovery Team at the off-site landing operations. This includes resource allocation, RSC-Energia support, management interface, and overall resource management.

DRAFT

The KSC Soyuz Recovery “A” Team (Security and PIO) will be deployed and arrive within 12 hours after landing. KSC Soyuz Recovery “B” Team (Handling/Logistics/Transportation/Safety) will be deployed when needed to support the recovery timeline at the landing site.

NASA or other governmental agencies will notify affected state’s emergency management organizations with hazard information on Soyuz to be rolled down to local authorities.

2.2.3 ENGINEERING

Technical support, procedure development, and task direction efforts will be accomplished by PGOE Engineering Personnel. Engineering will assist in the identification of requirements, documentation of constraints, and supporting operation risk assessment.

2.2.4 SAFETY / HEALTH / ENVIRONMENTAL

All potential hazards to personnel and the environment will be evaluated and controlled either through engineering practices or procedure during the planning phase. Procedures will also include requirements for compliance with federal state, and local safety, health, and environmental regulations, and will be approved by the BOEING PGOE SHEA Office. Variations in State and Local regulations may have to be addressed real-time. A Boeing safety, health and environmental protection representative will be on-site to serve as a focal point for all real-time issues regarding protection of personnel and the environment, and to ensure compliance with federal, state, and local regulations. NASA Safety will approve all waivers, deviations and exceptions.

The spacecraft altimeter is an ionizing radiation source that will require safing. The estimated hazard distance for the source prior to safing is 40 feet (12 m). A KSC Health Physicist will be on-site to evaluate and recommend control measures for all radiation hazards. Personnel working in the radiation hazard area will require training and personal dosimetry.

Any hazardous and controlled waste generated will be considered to be owned by NASA. Disposal will be performed using resources closest to the landing site, with NASA approval.

Material Safety Data Sheets for all hazardous commodities on the spacecraft will be provided by Energia. Additionally, MSDSs for all hazardous materials transported to the site by the team will be provided by Boeing. A list of these commodities and their MSDSs will be kept in a master file, and entered into the Boeing Corporate MSDS database.

Process Waste Questionnaires will be completed and kept on file for all waste to be generated.

Explosives are an EPA reactive waste. Residual explosives will be removed by the RSC-Energia team. The explosives disposal is tbd. Emergency permits will be worked real-time with local authorities.

DRAFT

Spacecraft hazards identified in JSC 34052, Soyuz TM –16 Landing Observation Report will be addressed in the plan. Hazards identified at a later date may require plan revision.

2.2.5 LOGISTICS / TRANSPORTATION

PGOC logistics personnel will render the tracking of flight elements, ground support equipment, and associated materials. Primary interfaces are PGOC Operations, Engineering, and NASA logistics/transportation activities. Logistics personnel may be required to provide procurement support during SRT off-site operations. Procurement training will be provided before remote assignment.

Team travel and GSE transportation to the landing site will be performed utilizing commercial transportation.

All GSE required for handling of the Soyuz capsule will be provided by Russia.

OSHA standards and manufacturers published specifications will be used to determine suitability of hardware. Since the Soyuz spacecraft is considered “spent flight hardware” after landing and deservicing, KSC requirements for equipment proof loads do not apply at the landing site or airport.

Radios, batteries and chargers are being purchased for communications at the landing site.

Rapid Response Team Kits (contents and storage location need to be identified), hardhats, and other PPE for personnel needs will be included.

Transportation will develop a package of information concerning Department Of Transportation rules and regulations for states containing landing sites and major airports that may accommodate a Russia IL-76.

Soyuz import / export issues currently exist concerning the shipment / return of the Soyuz capsule to RSC-Energia. KSC is working to obtain commodity jurisdiction. Proper licenses will be obtained following the resolution of this situation.

All cranes, flatbed trucks and other heavy equipment required to lift, load and transport this spacecraft will be rented at the nearest available facility. A certified mobile crane and operator will be obtained from a provider located near the landing site. All rented equipment will have valid proofloads and certifications, as required.

KSC Soyuz Recovery Team will provide transportation of the Russian hardware and personnel between (to/from) the airport and the landing site.

DRAFT

2.3 RSA & RSC-ENERGIA (SOYUZ OWNER)

2.3.1 MANAGEMENT

RSC-Energia management responsibilities for vehicle processing operations include the identification and allocation of resources, supporting personnel, applicable documentation of procedures, and adherence to applicable regulations. In addition, RSC-Energia management will ensure proper coordination of tasks with the appropriate NASA/PGOC Operations personnel as well as the timely identification of requirements to support SRT off-site landing operations.

2.3.2 ENGINEERING

{ tbd }

2.3.3 DOCUMENTATION

RSC-Energia procedures/documentation to support vehicle processing will be provided upon request.

2.3.4 MATERIAL

RSC-Energia will provide all unique support equipment that is necessary to process the Soyuz vehicle.

DRAFT

SECTION III

PERSONNEL REQUIREMENTS

3.1 INTRODUCTION

Personnel supporting SRT off-site landing operations are required to be appropriately trained and suitable for deployment. This section denotes requirements for personnel fitness to support remote assignment.

3.2 BADGING

Personnel requiring access to the Soyuz landing site perimeter operational areas are required to have a Kennedy Space Center badge and SRT overlay badge in their possession at all times. In addition, the use of access lists and establishment of controlled areas will be in force to accommodate certain operations and/or system security concerns.

3.3 TRAINING REQUIREMENTS

Personnel training requirements vary for each organization (NASA/PGOC/RSC-Energia) and tasks to be performed. KSC training requirements will serve as a baseline for personnel to perform a specific operation at the landing site. Variations in local regulatory requirements in each landing zone will be examined to determine if the KSC requirements fulfill the intent of local regulations. Differences identified will be accounted for during procedure development. Training requirements for KSC personnel will include as a minimum, Radiation Awareness and Soyuz Familiarization.

3.4 DRIVERS LICENSES

Some landing site locations require a U.S. Government Drivers License to operate a government owned vehicle (CONUS) on a flight line. Persons who are authorized/designated to operate government vehicles must have a valid state driver's license. The necessary KSC forms may be obtained from NASA Transportation Support, TA-E1, at (321) 867-3420. The SRT will utilize drivers from the local government installation rather than obtain the required U.S. Government driver's license.

3.5 MEDICAL REQUIREMENTS FOR REMOTE ASSIGNMENT

Personnel selected to support SRT off-site operations will be medically certified per KMI 1810.1, NASA KSC Occupational Medicine Program. The minimum medical surveillance required is a Class A physical (Denoted as Heavy Equipment medical certification).

DRAFT

SECTION IV

SOYUZ RECOVERY OPERATIONS

4.1 INTRODUCTION

This section outlines basic recovery operational scenarios the Soyuz vehicle.

4.2 OPEN AND LIMITED ACCESS LANDINGS

The Soyuz landing site will be evaluated by the RRT, SRT and RSC-Energia. Operational changes to scheduled activities will be made realtime to accommodate for environmental and geographical conditions.

4.3 RUSSIAN TEAM ARRIVAL SUPPORT

{ TBD }

4.4 RUSSIAN TEAM DEPARTURE SUPPORT

{ TBD }

4.5 LANDING SITE OPERATIONS

{ TBD }

4.6 OPERATIONAL HAZARDS

Hazards which may be encountered during Contingency Landing Site operations include those normally associated with aircraft/spacecraft processing (i.e. ionizing radiation, active electronic and fluid systems, solid and liquid propellents, and pyrotechnics), critical and suspended loads, and those hazards identified in the applicable Payload Hazards List for that mission.

DRAFT

SECTION V

SOYUZ SECURITY OPERATIONS

5.1 PURPOSE

This annex promulgates policy, procedures and guidelines for security measures to be taken in the event of a Soyuz Recovery Operation. These policies and standards conform to the KHB 610.1B, "KSC Security Handbook" and KHB 1710.2 "Reporting and Investigation of Mishap" and may be used in multiple situations.

5.2 OBJECTIVE

To insure maximum uniformity and effectiveness in the application of in-depth security measures in the event of an Soyuz Recovery in the United States.

5.3 SCOPE AND APPLICABILITY

This annex amplifies the basic Soyuz Recovery Operations Plan. The provision of this annex applies to all KSC/NASA organizational elements, KSC employees, associated contractors and other NASA organizations or U.S. Government agencies. Addressees should implement the security procedures, measures, and standards set forth herein, as well as applicable directives of higher authority on those matters not covered by this annex.

5.4 RESPONSIBILITIES

The following organizational representatives are responsible for the functions listed. Although not all inclusive and subject to real-time changes that may occur during the Soyuz recovery operations, those items listed represent the major function responsibilities.

5.4.1 NASA Protective Services Office Representative:

Establish overall physical, personnel, information, and convoy security policy and requirements for the SRO .

Provide oversight at SRO site to insure implementation of security policy and requirements.

Coordinate with local, state, and federal agencies to identify security requirements, request support, and conduct investigations as necessary.

DRAFT

Coordinate with the NASA Public Affairs representative to develop requirements for media access.

Coordinate with NASA Safety representative for identifying initial security perimeters and hazardous operations requirements.

Obtain and brief threat information pertinent to SRO activities and personnel.

5.4.2 PGO Security Representative

Provide security support at the SRO site from initial deployment through Soyuz capsule turn over.

Develop, integrate, and update the security requirements for the SROP and other related documentation based on policy and guidance provided by the NASA PSO representative.

Implement the physical, personnel, information, and convoy security requirements contained in the SROP.

Attend daily operations meetings and coordinate security requirements as necessary. Initiate incident reports when required.

Develop and provide security briefings to SRO personnel.

Identify and procure SRO security equipment and coordinate shipment of security equipment to SRO site.

5.4.3 JBOSC Security Operations

Provide interior physical security and access control of the SRO area.

Initiate incident reports and investigations as necessary.

Develop security post orders.

Coordinate with NASA PSO representative and PGO security representative for identification of daily security requirements.

Attend daily operations meetings and coordinate security requirements as necessary.

5.5 PROCEDURAL REQUIREMENTS

5.5.1 Physical Security

Specific Physical Security requirements for a Recovery Operation Area (ROA) (i.e., impact area,

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offload area, or impound area) will vary upon size of area, terrain, threat, sensitivity of capsule, location constraints, and specific management requirements. However, in any case, upon arrival of the NASA PSO Security Representative, an assessment of the situation will be conducted and implementation of physical security measures for the ROA will begin. The following security measures will be coordinated and implemented by the PGO Security Representative.

Utilize available security assets (JBOSC Security Support or designated security elements) to establish a security/safety perimeter for the ROA. The ROA will consist of two perimeters. An outer perimeter will be established to provide a security buffer for the internal operations area and keep all non-essential personnel from entering the ROA. An inner perimeter will be established for hands-on operations and will enable access for essential personnel and equipment. Utilization of barricades, barriers, or temporary fencing will be utilized to delineate the interior ROA and provide for identification of entry control points for authorized personnel and equipment.. The establishment of the ROA perimeters will be coordinated with the NASA/KSC Safety representative.

Establish points of entry into the ROA, which will be clearly identified and controlled by security assets. Coordinate with on-site recovery operation management and develop an Entry Access List (EAL) for positive access control. In addition, identify who is authorized to make changes to the EAL.

Identify additional security measures which are designed to prevent, detect, and confront potential or acts of unauthorized access, collection effort, malicious damage, theft, pilferage of operational elements/property/debris, and other acts that would be harmful to recovery operations.

Establish procedures for unusual or crank telephone calls be forwarded to NASA/KSC Security for action.

Develop and coordinate security procedures for hazardous operations within the ROA. Identify all aspects of the operations, which are sensitive or classified and implement appropriate procedures to safeguard such.

Identify specific security measures for the movement and protection of specific Soyuz components.

Develop visitor control procedures by categories and types of visitors. Identify point of contact for authorization, means of verification of visitor, and specific log-in procedures.

5.5.2 Security Escort Requirement:

Coordination with the ROA management along with local, state, and federal agencies will be conducted to establish specific security requirements during transportation phase. Areas of consideration in developing security requirements will be operations and safety requirements, mode of transportation, sensitivity of the capsule, threat, route of transportation, and

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geographical environment. When the requirements have been clearly established, the PGOC Security Representative will coordinate convoy security operations and provide necessary training for transporting the Soyuz capsule. Security and escort procedures will remain in effect until the turn over of the Soyuz capsule has been completed.

5.5.3 Impound Area:

ROA management will coordinate with the NASA PSO representative for the identification of impound locations and security requirements.

Security Measures: PGOC Security representative will implement security procedures and requirements for impound locations and coordinate with operations and security support personnel. Areas of consideration in these procedures will encompass:

- Perimeter/Clear Zone
- Badging for Access
- Development and coordination of entry access list
- Post Instructions

5.5.4 Infraction Reporting:

Incident reports will be completed to document security violations. Additional investigations will be conducted as necessary and appropriate liaison with local, county, state, and federal law enforcement agencies will be maintained to insure effective response and support if needed.

Initiators of IR's may be PGOC, JBOSC, or NASA PSO security representatives.

All personnel should be informed to report any potential, suspected, or actual known infraction/violation to one of the on-site security representatives following for corrective action:

1. Investigation: The JBOSC investigative section, when tasked to conduct an investigation, will report their findings in a formal report to NASA/KSC Security. During the conduct of their investigation, any noted operational deficiencies or threats to the ROA will be reported immediately by the most expeditious means available.
2. Corrective Action: All recommended action, as the results of infraction / violation investigation, shall be reviewed by NASA PSO Security representative and ROA management for impacts to security operations and corrective measures

5.5.5 Training/Awareness:

The PGOC Security Representative will brief ROA operational personnel on security requirements and concerns. Training will include pre-deployment briefings and on-site briefings as necessary.

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**ATTACHMENT “A”
SHIPPING CONTAINER MANIFEST CONTAINER “A”**

DESCRIPTION	QTY	U/I
Pants, Insect Protective	12	each
Jacket, Insect Protective	12	each
Jacket, Wet Weather	12	each
Overalls, Wet Weather, Size LG	12	each
Hood, Rain	12	each
Ponco	12	each
Jacket, Cold Weather	12	each
Gloves, Men's	12	pair
Insect Repellant	12	cans
Flashlight, Mag, D-Cell	12	each
Helmet, Safety (Hard Hats & Straps)	12	each
Spectacles, Industrial	12	each
Lens, Replacement	12	each
Lens, Replacement	12	each
Surgical Gloves	1	bx
Sharpes Containers	1	ea
Biomedical Hazardous Waste Bags	1	bx
Hazardous Waste Container (fluids 5 gal)	1	ea
Cell phones Nationwide	6	ea
Beepers Nationwide	6	ea
Common Hand tools	1	set
Plastic Bags assorted	1	bx
Lumiloy	1	roll
3/8 manila rope 2 rolls	2	roll
parachute cord 2 rolls	2	roll
Fuel cans Ship empty	4	ea
straps/ratchets	20	assy
Dewalt kits 2 kits with charger and spare batteries	2	kt
PoP Packagings	10	ea
Dunnage	15	ea
Bottled water	20	gl
Wheel chalks 2 sets	2	set
Bungie cords Assorted sizes	30	ea
First aid kits	3	ea
Wide load banners	2	ea
Binder cushions	10	ea
Johnson bars	2	ea
Gunk	3	can
shop rags	6	bundle
fix a flat tire repair kit	3	ea
fold down cart	1	ea
duct tape	5	roll
satchels large	3	ea
100 ft extension cord	4	ea
sledge hammer	1	ea
Metal banding equipment	1	kit

DRAFT

ATTACHMENT "B"

SHIPPING CONTAINER MANIFEST CONTAINER "B"

Security Equipment

DESCRIPTION	QTY	U/I
Stantions	150	ea
Sandbags	300	ea
Rope	3500	ft
Restricted Area Signs	150	es
Computer Laptop	2	es
Printer (Battery)	1	ea
portable Radios	20	ea
Battery Charger Multiple	1	ea
Cold weather gear	4	sets
wet weather gear	4	sets
Traffic Cones	50	ea
Binoculars	4	ea
Black & Yellow Caution Do Not Enter Tape	10	roll
Flashlights and Batteries	6	ea
High power spotlights	2	ea
Vehicle under carriage mirror w/flashlight attachment	2	ea
Hazardous Badges for operations		
Administration supplies		
Metal Detector	2	ea
shovels	4	ea
cell phones	3	ea
Spare Batteries	4	ea
Boots	3	pair
light banks	4	ea

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ATTACHMENT “C”
Soyuz Recovery Team Deployment Schedule

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ATTACHMENT “D”

Boeing Soyuz Recovery Team Deployment Locations

Discipline

Boeing Soyuz Recovery Manager
 Boeing Soyuz Off-Site Operations Manager
 Boeing Fluids / Mechanical / Handling Coordination
 Boeing Mechanical Handling
 Boeing Program Office
 Boeing Safety
 Boeing Industrial Hygiene / Environmental / Radiation
 Boeing Transportation
 Boeing Transportation
 Boeing Material Specialists
 Boeing Logistics
 Boeing Logistics Mission Rep
 Boeing Security
 Boeing Security
 Boeing Technician Support
 Boeing Technicians

KSC	Airport	Landing Site
1		
		1A
1		
		1B
1		
		1A
1		
1		
	1A	
	2B	1A
1		
		1A
		1A
		1A
1		
		2B

Personnel at each location

A = 1st team deployed

B = 2nd team deployed

Total Boeing Travel Required

7 3 9

12