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Description of document: International Space Station (ISS) Depressurization Initial Response Procedure, 2016

Requested date: 12-September-2017

Released date: 12-December-2017

Posted date: 23-April-2018

Source of document: FOIA Request  
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National Aeronautics and Space Administration

**Lyndon B. Johnson Space Center**  
2101 NASA Parkway  
Houston, Texas 77058-3696



December 12, 2017

Reply to attn. of: AD911/JSC FOIA Office

**REF: 18-JSC-F-00028**

Thank you for your Freedom of Information Act (FOIA) request dated September 12, 2017, and received in our office on October 11, 2017. Your request was assigned FOIA Case Number 18-JSC-F-00028 and was for:

I request a copy of the International Space Station protocol for addressing punctures of the ISS by micrometeorites, orbital debris or other objects.

I also request a copy of the International Space Station safety protocol for addressing solar storms, solar radiation storms, solar flares, and geomagnetic storm activity.

We are withholding 4 pages in part pursuant to FOIA Exemption 5 U.S.C. § 552 (b)(4), trade secrets and commercial or financial information obtained from a person and privileged or confidential.

You have the right under 14 CFR §1206.700 to appeal this determination within 90 days from the date of this letter. Your appeal must be in writing and should be addressed to:

Administrator  
NASA Headquarters  
Executive Secretariat  
MS 9R17  
Washington, DC 20546  
ATTN: FOIA Appeals

The appeal should be marked "Appeal under the Freedom of Information Act" both on the envelope and the face of the letter. A copy of your initial request must be enclosed along with a copy of the adverse determination and any other correspondence with the FOIA office. In order

to expedite the appellate process and ensure full consideration of your appeal, your appeal should contain a brief statement of the reasons you believe this initial decision to be in error.

For your information, the Office of Government Information Services (OGIS) offers mediation services to resolve disputes between FOIA requesters and Federal agencies. The contact information for OGIS is as follows: Office of Government Information Services, National Archives and Records Administration, Room 2510, 8601 Adelphi Road, College Park, Maryland 20740-6001 or [ogis@nara.gov](mailto:ogis@nara.gov).

Fees for processing this request are less than \$50.00 and are not being charged in accordance with 14 CFR §1206.504(f). In accordance with § 1206.804 (c), after consultation with our office of legal counsel, I am the official responsible for the denial of your request. If I can be of further assistance, please contact me at [Jessica.A.Cordero@nasa.gov](mailto:Jessica.A.Cordero@nasa.gov) or 281-483-8252. As an alternative, you may contact Mrs. Miriam Brown-Lam, Principal Agency FOIA Officer and Chief FOIA Public Liaison at (202) 358-0718.

Sincerely,

  
Jessica Cordero  
JSC FOIA Officer

Enclosure

## 1.3 ISS DEPRESS INITIAL RESPONSE

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Entry condition: Upon  $\Delta P/\Delta T$ , ATM PRESS or OTHER alarm, crew observes pressure drop, or **On MCC GO**

Alarm GMT: \_\_\_\_\_

P[MB]: \_\_\_\_\_

GMT: \_\_\_\_\_

1. DEPRESSURIZATION ALARM INITIATION

If dP/dT and no alarm  
 ↓ **Manual Alarm  $\Delta P/\Delta t$**

2. TERMINATION OF GAS INTRODUCTION

**(b) (4)**

3. EMERGENCY RS COMMUNICATIONS SETUP

Comm Panel 2	Lines 2, 3
Comm Panel 3	Line 1

MCC-H/ MCC-M Perform 9.1 EMERGENCY MULTI-ELEMENT COMMUNICATIONS SETUP.

4. TRANSLATION TO RESPECTIVE MRM MODULE

Each Soyuz crew gather **(b) (4)** and retreat to the MRM where their respective Soyuz is docked.

5. MODULE PREPARATION AND RESERVE TIME DETERMINATION

Each Soyuz crew

**(b) (4)**  
**(b) (4)**

**Complete T.res determination.**

P **(b) (4)** \_\_\_\_\_

GMT : \_\_\_\_\_

Time for 1<sub>MM</sub> drop: \_\_\_\_\_ sec  
 (t.1<sub>MM</sub> =  $(\Delta t/\Delta P)$ )

T.res: \_\_\_\_\_ min

GMT: \_\_\_\_\_

FOR KNOWN LEAK LOCATION	
Confirm crew accountability. If T.res < 10 minutes, evacuate to known safe haven. If T.res > 10 minutes, isolate the leaking volume per following:	
<b>(b) (4)</b>	<u>1.10 SOYUZ PREPARATION FOR UNMANNED UNDOCKING</u> , p. 1-121E
<b>(b) (4)</b>	<b>(b) (4)</b>
RS Locations:	<u>1.5 ISOLATION FOR KNOWN RS LEAK LOCATION</u> , p. 1-27E.
Progress:	<b>(b) (4)</b>
USOS:	<u>1.6 USOS VOLUME ISOLATION FOR KNOWN LEAK LOCATION</u> , p. 1-101E.

## 1.3 ISS DEPRESS INITIAL RESPONSE

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6. SOYUZ+MRM COMBINED LEAK CHECK (Performed in parallel by each Soyuz)  
 Close (but do not latch) (b) (4) Hatch using 'tap' technique.

<p>If Hatch does not self seal / <math>\Delta P \geq 2</math> mmHg</p> <p>(b) (4)</p> <p><b>Leak in Soyuz + MRM</b></p> <p>Report results to other Soyuz crew via RSA2.</p> <p>Continue.</p>	<p>If Hatch self-seals / <math>\Delta P &lt; 2</math> mmHg</p> <p>(b) (4)</p> <p><b>Soyuz + MRM not leaking</b></p> <p>Report results to other Soyuz crew via RSA2.</p> <p><b>If other Soyuz crew reports their volume leaking</b>              Wait until leak check is completed per steps 7 and 8 (monitor RSA1).</p> <p><b>If both Soyuz crews report volumes not leaking</b>              Go to <a href="#">1.4 ISS LEAK PINPOINT</a>, p. 1-17E.</p>
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7. SOYUZ LEAK CHECK

Soyuz crew in leaking volume, ingress Soyuz (b) (4)

(b) (4)

(b) (4)

(b) (4)

(b) (4)

(b) (4)

Close (but do not latch) (b) (4) Hatch using 'tap' technique.

<p>If Hatch does not self-seal / <math>\Delta P \geq 2</math> mmHg</p> <p><b>Leak in Soyuz.</b></p> <p><b>Immediately, open (b) (4) Hatch.</b></p> <p>Continue.</p>	<p>If Hatch self-seals / <math>\Delta P &lt; 2</math> mmHg</p> <p><b>Close (b) (4) Hatch.</b></p> <p>Report to remaining crew:  <b>Leak in MRM; go to step 10, p. 1-16E.</b></p> <p>(b) (4)</p>
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### 8. (b) (4) LEAK CHECK (Soyuz Leaking)

All Soyuz crew ingress (b) (4)

(b) (4)

(b) (4)

Close (but do not latch) (b) (4) Hatch using 'tap' technique.

If Hatch self-seals / $\Delta P < 2$ mmHg	If Hatch does not self seal / $\Delta P \geq 2$ mmHg
(b) (4)	(b) (4)
Open (b) (4) Hatch.	Open (b) (4) Hatch.
(b) (4)	Report to MCC.
Report to remaining ISS crew.	(b) (4)
(b) (4) all crew continue to step 9.	

### 9. RESPONSE TO SOYUZ (b) (4) LEAK

Leaking Soyuz crew,

If time available, in Soyuz:

(b) (4)

Stow in ISS.

(b) (4)

Remaining ISS crew:

Assist donning of (b) (4) suits, as required.

Confirm leaking Soyuz crew (b) (4) Hatch closed.

(b) (4)

(b) (4)

(b) (4)

Report to MCC. >>

## 1.3 ISS DEPRESS INITIAL RESPONSE

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10. LEAKING MRM ISOLATION (Performed by remaining ISS crew)

√All crew members of the other Soyuz are in Soyuz and (b) (4) Hatch is closed

Close (b) (4) Hatch (if Hatch closure is unsuccessful, leave it unrestrained to allow for remote closing).

MRM1 is leaking	MRM2 is leaking
<p>(b) (4)</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>Report to MCC. &gt;&gt;</p>	<p>(b) (4)</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>[REDACTED]</p> <p>Report to MCC. &gt;&gt;</p>