



# Crisis Management Team Mission Day Instructions

## Overview

The environment of Space Station Alpha is constantly being monitored for quality, comfort, and safety. It is critical that there is always a sense of balance among all components of the environment. Any sudden change in one area, no matter how small, will certainly impact other areas in the station as well.

The role of the Crisis Management Team is to identify areas of concern and to prioritize any action items.

To do their job effectively, the Crisis Management Team should be able to answer the following questions:

1. What are the optimal levels of power to keep the station functioning?
2. Where can power be cut if need be?
3. How do the decisions the Radiation and Life Support Teams make affect each other?
4. What resources are available in each of the space station's modules?

## Mission Day Materials

- White board or chalkboard that the whole class can see. Pens and eraser.
- Computer to receive power readings/battery levels.
- One copy of the Radiation and Life Support reference guides.
- Crisis Management reference guide.
- Diagram of the space station.
- Seven blank report forms on colored paper to deliver to the Communications Team.

## Job Assignments

The following tasks must be completed during the mission. Next to each task, assign a team member.

Team Member Assigned to This Task	Task
_____	<b>Team Leader</b> <ul style="list-style-type: none"> <li>• Understands all team concerns during a crisis.</li> <li>• Asks questions of other team members to identify which team (radiation or life support) has areas of concern and how important those concerns are.</li> <li>• Ranks the concerns of the Life Support and Radiation Teams.</li> <li>• Reports information to Mission Control verbally or through the chat window.</li> <li>• Updates the mission status board</li> </ul>
_____	<b>Runner/Power Specialist</b> <ul style="list-style-type: none"> <li>• Monitors the real-time data for station power levels.</li> <li>• Helps the Crisis Management Team to make decisions regarding power concerns.</li> </ul>
_____	<b>Life Support Team Representative</b> <ul style="list-style-type: none"> <li>• Collects Life Support Team report forms and delivers them to the Communications Team.</li> <li>• Lets the Crisis Management Team know all the concerns of the Life Support Team.</li> <li>• Develops options and recommendations to handle any problems.</li> </ul>
_____	<b>Radiation Team Representative</b> <ul style="list-style-type: none"> <li>• Collects Radiation Team report forms and delivers them to the Communications Team.</li> <li>• Lets the Crisis Management Team know all the concerns of the Radiation Team.</li> <li>• Develops options and recommendations to handle any problems.</li> </ul>

## Flow of Communication

### 1. Get team reports.

Team representatives get report forms from their teams (radiation and life support), read them, and ask their teams any questions. Check that all boxes are completed. Make sure that the priority number is circled on the top.

### 2. Carry report forms to the Communications Team.

When the representative brings the form to the Communications Team, the representative should be sure that the report receives the attention it deserves. Any priority 1 messages need to be shown immediately to the Communications Officer. After turning in the report, place a check next to the correct place on the checklist that the Data Officer will have.

### 3. Prioritize any actions.

The team leader will update the mission status board based on information from the team representatives. The entire team should discuss the concerns and issues and determine priorities.

### 4. Repeat.

Once ranking is completed, team representatives return to their respective teams for the next reading, while the Crisis Management Team leader completes the report form and delivers it to the Communications Team.

## Keep Communications Moving!

The team representatives are constantly moving from the Life Support and Radiation Teams to the Crisis Management Team and back again. They are also responsible for addressing emergencies with the Life Support and Radiation Teams and generating solutions during the course of the mission. It is also important that they keep their teams aware of what is occurring with the other teams and in other areas of the space station.

## Instructions for the Mission Status Board

Use a dry erase board or chalkboard so that it can be constantly changed and updated. Locate the board in a central place so that all teams can see it.

### Step 1: Update with any new information.

The team leader will update the mission status board as necessary, using the information from the Life Support and Radiation Team representatives. Try to abbreviate where you can to save time and space. Each team may have multiple concerns and possibly more than one crisis occurring simultaneously. Do not erase a concern until the crisis has been solved or if the data indicates that there is no longer any emergency.

### Step 2: Prioritize the concerns or issues.

All Crisis Management Team members should work together to decide on which concerns should receive the highest preference. Rank the top three concerns, with number 1 being the most urgent or life-threatening concern.

## Instructions for the Space Station Diagram

Your team will have a diagram of the space station that can either be hung on the wall or be located on the table for the Crisis Management Team. **Your team is responsible for knowing what resources are located in what modules in case they need to be used to solve a crisis.**



### **Important Information About Power Concerns**

Every 90 minutes the space station orbits Earth, passing into and out of the sun's direct light. The solar arrays and batteries work together to provide constant power to life support equipment and invaluable scientific experiments. The PV arrays convert solar energy into electricity for about 60 minutes of every orbit. They also recharge the nickel-hydrogen batteries. While in Earth's shadow for the remaining 30 minutes of the orbit, the batteries use about 35 percent of their available power. Any interruption in the charging process could leave the station without enough electricity during this "eclipse" period.

As a member of the Crisis Management Team, you will be responsible for monitoring the power of the space station, determining the power load on the systems and making recommendations to Mission Control. **Battery power levels necessary for life support should not fall below 50 percent capacity while the station is in Earth's shadow.**

You will get real-time data about space station power that will allow you to address power concerns. The **solar array efficiency** indicates the power load from the solar arrays and the **level of the battery reserves** indicates energy stored in the station's batteries. Both should be monitored to make sure the space station has the power to accomplish the recommendations made by the Life Support and Radiation Teams.