Field Logistics

Roddenberry Disaster Response Team
Operations Handbook

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Introduction

In mid-November 2013, roughly ten days after Super Typhoon Haiyan devastated the Central Philippines, **The Roddenberry Foundation** funded the deployment of a **Disaster Response Team (DRT)** for a 10 day targeted mission to identify gaps in addressing the needs of victims and to provide guidance in the use of new technologies and processes for disaster relief. In addition, the team was tasked with establishing a place for such new capabilities in the design of future response plans.

The success of that mission prompted The Roddenberry Foundation to support a one year pilot project in early 2014, creating The Roddenberry Disaster Response Team to provide the following integrated services:

- **Water Distribution**: Water sourced from within the disaster zone and purified on site to provide clean water for drinking, cooking and medical care.

- **Rapid Telecommunications Damage Assessment**: The deployment of teams trained in the evaluation and reporting of damage to communications infrastructure.

The Foundation's implementing partner, Seattle-based **Infinitum Humanitarian Systems (IHS),** has extensive experience working in war-torn, post-conflict areas and low-resource communities in Latin America, Africa and Asia. IHS will work closely with **InSTEDD**, a TED Prize NGO that develops open source technology tools to serve vulnerable populations.

This handbook is designed to serve as a reference for every member of The Roddenberry DRT. Each of us brings particular areas of expertise to the effort, but it is our combined range of skills—spanning everything from internal water, power and communications tools to deployment preparedness, financial accounting and radio protocols—that will serve as our common foundation.

This handbook is a living document. The content is dynamic and references will be updated and added as needed.

Eric Rasmussen MD, MDM, FACP

Food, Water, Shelter, Medical

The criteria for deployment includes the need for the disaster site to be logistically manageable and physically safe. That said, it *is* a disaster zone.

To keep ourselves from becoming a liability to the other teams:

- **Water** will be carried in modest amounts (five gallons). We will each have a personal quart or more *at all times*. We will also each have **Puralytics Solar Bags** and, of course, large scale clean water processing is integral to our mission.

- **Food** will come in compact forms: meal bars, jerky, FishPeople entrees, dried fruit, nuts, etc. Boiling water will be logistically difficult, so popular backpacking options such as Mountain House and Backpacker's Pantry are *not* recommended. Also, athough we may be offered MREs by local military, Humanitarian Daily Rations by UN agencies and home cooked meals by local survivors, we cannot rely on these options. We will dine in hotels and restaurants in staging areas—always remember to get receipts!

- **Shelter** will be tents when we are not under a roof. Men will share tents (2 per). Women will have individual tents. A man may bring his own tent if he prefers not to share, though should be prepared to lose it during the trip through damage. It is *not* a reimbursable expense.

- **Medical care** is a constant concern, though fortunately rarely an issue. Many problems can be avoided by simple techniques such as hand washing, foot care and wearing reflective clothing. Prompt attention splinters, blisters, scrapes and strains can prevent a small trauma from becoming a medical crisis.

Power

We cannot complete our mission without reliable sources of energy. Generators will be left behind in the disaster zone to continue to supply power to water purification systems.

Our default will be a two kW multi-fuel generator. Two of the best are the Honda EU2000i and the Yamaha EF2000iS (manual), which are used all over the world for emergency and remote power. Each is lightweight, reliable, quiet, efficient and adequate to any task we need to perform within the camp.

The Puralytics Shield System draws about 570 watts during water purification. The generators produce 2000 watts, so there will be more than enough left over for laptops, area LED lighting and recharging cellphones and tablets.

In many countries, including the US, generators are illegal for air transport, so purchasing near the disaster site may be necessary. Fuel provisioning can be difficult, so will also be testing out alternative sources—solar, microhydro, fuel cell, wind and long-term batteries (mostly metal-air)—during training and on deployments. We welcome new ideas!

Communications: Overview

The Disaster Response Team will begin its work by assembling at one or more staging areas outside of disaster zone to discuss the situation with other organizations who have been working the area and review **UNDAC** assessments and grid testing data. This information will help shape a deployment-specific comms plan, which will include capabilities to facilitate communications among local organizations. It will also inform our selection of a base camp location.

The ability to communicate is mission critical. Communications capabilities take many forms and fulfill a variety roles, including:

- Communication between team members
- Team logistics coordination with support elements
- Access to external support resources such as water purification systems
- Coordination with other deployed organizations including the UN, US DoD and NetHope
- Communication with local organizations
- Access to social media for situational awareness and public communications
- Personal welfare reporting:
Blue-force tracking and emergency notification

The team should plan on being fully independent of host nation infrastructure for at least the first 72 hours and potentially for the entire deployment. Our secondary mission, of course, is to perform **Rapid Telecommunications Assessements**.

Communications: Equipment / Connectivity

• Handheld Radios

Team members operating away from base camp will be issued a Motorola **GP380 analog radio**. These radios are the UN standard and are also used by partner NGOs such as **NetHope** members. Using a standard radio will ensure the ability to operate seamlessly on internal, UN or other NGO radio channels. Team members must perform a radio check before departing from base camp. Groups should travel with at least two radios and one spare charged battery. Ideally, every team member will be assigned a personal radio. The **UN's Emergency Telecom Cluster** staff, which is typically from the World Food Program, can reprogram the GP380 radios to support UN channels.The UN is currently evaluating digital radios. Specs will be adjusted as the UN makes decisions in this area.

• Blue-Force Tracking

All groups operating in the field should have at least one DeLorme **InReach** or **InReach SE** with them. The InReach is a compact satellite-based communication device that requires line of sight to the sky, but does not require any directional pointing. It only works outdoors, but it functions globally and is able to sync with handheld Apple and Android devices to provide two-way text messaging capabilities over satellite to both email and phone text message (SMS) users. The enterprise version of the service plan enables web access to a console map display showing the location of all deployed devices. The devices also have an emergency button that can send an immediate alert to either the enterprise console or to a global search and rescue coordination center. Once activated, a monitoring center receives continuous location tracking information on the user.

Based upon risk assessments by the team leader, instructions may be given that InReach devices must be attached to team members' bodies at all times in the event they must quickly flee without backpacks or other gear.

InReach can be used for both routine team communications (e.g., notification of arrival, requests for resources, meeting alerts) and emergency alerts.

• Cell Service

International roaming charges can be expensive. If cellular networks are operational and you wish to use roaming on your personal cell phone, you will *not* be reimbursed *unless* you have approval from Eric or Alex. We recommend that you include an unlocked GSM phone in your personal deployment kit so that a local SIM can be purchased and installed. Not all GSM phones support all global frequency bands, so we also recommend that you look for a phone that can accommodate as many GSM frequency bands as possible.

• WiFi

Since smart phones also support WiFi, we will try to provide a WiFi hotspot at base camp. However, it is required that phones have auto-update features turned off before they can be used over base camp hotspots. The same holds true for personal laptops or tablets. Bandwidth is limited and can be costly. Audio and video streaming not required for the mission is strictly prohibited without permission.

• Satcom - BGAN

Whenever possible, the team will deploy with an **Inmarsat** or **Thuraya BGAN** IP device. These devices are extremely portable—they fit in a backpack—and provide between 300kbps and 500kbps of peak bandwidth. They are suitable for basic email or other text communications upon arrival in-country and also for use by mobile teams since they can be set up in minutes on the hood of a vehicle. They are not suitable for media-rich content: service providers charge by volume of data transferred. They should only be used only for essential low-bandwidth content. Make sure all auto-update and software download functions are turned off. If it appears that your inbox has an email with a large attachment, please stop any inbox synchronization and switch to a webmail interface without offline sync.

• Satcom - VSAT

VSAT terminals are larger than BGANs, but can provide anywhere from 500kbps to 20Mbps of bandwidth. When possible, we will try to obtain access to bandwidth on a VSAT terminal. This may mean deploying our own VSAT (either procured before departure, en route or from a local provider), but ideally it will involve sharing resources with other organizations operating at the same location. Many of

the use restrictions necessary when operating on BGAN systems can be relaxed when operating on a VSAT as it supports more users, provides more bandwidth,and does not incur volume utilization charges.

• Local Service Providers

Ideally, neither BGANs nor VSATs will be necessary and we will be to access internet connectivity from a local service provider. This both minimizes the costs to our organization and supports the very people we are there to help. If requested and mission priorities permit it, we may lend our expertise to local service providers as well.

• Applications

There are many great apps and other communications software tools available. We are not seeking to be on the bleeding edge, but rather looking for stability, consistency, reliability, familiarity and ubiquity. At this time, **Skype** is the optimal choice for ubiquitous chat, voice and video communication. That does not mean it is the best software or most efficient choice, but simply that it is the best option when balancing bandwidth use, compatible devices and the deployed user-base within the humanitarian sector. In their support for the humanitarian sector, Skype has released a low-bandwidth version of its software. Team members are asked to create Skype accounts and install the software on all devices with which they plan to deploy. There is no restriction on installing additional software such as **VSee** to communicate with other stakeholders, however there may be bandwidth restrictions so please check with Eric or Alex before using.

Team members are also asked to download the DeLorme Earthmate app (**iOS** / **Android**) on mobile devices prior to deployment to avoid having to download it in the field. Be sure to download relevant offline maps.

Team members are asked to monitor email while deployed in order to obtain updates from the team and from partner humanitarian organizations. It is important to have access to email in a bandwidth-challenged environment (e.g., a webmail interface) as well as the ability to shut off the auto-download for email attachments.

• Information Security

Team members are responsible for installing adequate firewalls, intrusion protection and anti-virus software on all personal mobile devices. Please make sure any software updates are current. We will likely be operating on a shared network and one infected or compromised device can impact everyone and possibly even the mission. If your device becomes a problem, you may be asked not to connect it to the network at all.

We may deploy to locations where public knowledge of the precise location of our team could compromise safety. Such information can be inadvertently be published through location tags in photographs and geolocation information on social media posts. You may be asked to disable these features. It is extremely important that you understand how such features work on your devices and apps before deployment. But don't worry—we will teach you what you need to know.

When using a device over an open WiFi hotspot, it is good practice to use a **VPN** of some kind, whether through your company or via a commercial provider such as **WiTopia**. Although use of VPN software is not required when deployed, given the ease at which information can be stolen, it is the smart thing to do. If you need help, we can teach you how to use a VPN on your own devices.

Media Crucible

Disaster zones are news. It is impossible to avoid the media, nor should we try. But it is critical to remember that the media's job and our job are not the same. Their job is to report a story. Ours it to provide disaster relief. They may be friendly but they are not our friends. That is not their role.

Most reporters are hard-working and ethical, but not all of them. They are like the rest of us that way. Their motivations can range from doing their best to cover a fast-moving complex story in ways that will resonate with readers / listeners/viewers to attempting to rack up bylines to impress an editor or sensationalizing events to improve webpage stats and advertising revenue.

Reporters are smart and savvy: Their job is to gather information however they can, which includes flattery. Don't let down your guard. If you are uncomfortable with a line of questioning, direct the reporter to Eric or Alex. Just because a reporter asks you a question does not mean you have to answer it.

The reporting process is messy. Things can and do go haywire in editing, so it is really important to make sure reporters have thorough and complete information.

Again, when in doubt, send the reporter to Eric or Alex!

In 2015, we hope to schedule a special workshop called a Media Crucible that focuses on how to be interviewed. We will meet a set of professional print and broadcast journalists who will advise us on presentation: how to dress, walk, talk, sit, look, answer, ask questions and start and end an interview. There will be practice interviews and practice scenarios. We will learn how to redirect questions with answers more relevant to what we want people to know, how to deflect an aggressive interrogation politely and some of the clever strategies reporters use to obtain information.