APPENDIX . EMERGENCY MANAGEMENT PLAN

**Jack Rabbit II**

**Chlorine Emergency Response Plan**

US Army, Dugway Proving Ground Fire Department and Utah Valley University

POC: Primary: Kelly Wright, WDTC Emergency Manager

Unified Command: Chief Patrick Carnahan and Andy Byrnes

 Jim Pavelka, DPG Installation Emergency Manager

 Phil Krippner, Installation Safety Chief, DPG

1. PROGRAM OVERVIEW:
	1. Dugway Proving Ground (DPG) is conducting chlorine trials for the Department of Homeland Security (DHS) under the program name Jack Rabbit II (JR II). The program will require dissemination of chlorine (Cl2) in varying quantities from one to twenty (1-20) tons utilizing a custom designed propane style tank equipped with four dissemination points either 2.5” or 6” diameter covered with a metal flange.
	2. DPG has contracted with Jacobs Technology (Jacobs) to provide Technical Expertise support for transport and transfer of chlorine. Jacobs will contract for delivery of a 20 ton tanker to DPG main gate, transit through DPG, transfer the Cl2 from delivery tanker to a “nurse” tanker at V-Grid Staging area approximately forty (40) miles distance.
	3. Number of chlorine deliveries will be dependent on amount of trials. Jacobs will contract for deliveries.
	4. Jacobs will contract transport of the nurse tanker to JR II test site and transfer Cl2 from the nurse tanker to the specialized dissemination tank.
	5. Daily transfer from nurse tanker to dissemination tank will occur dependent upon trial execution.
	6. Chlorine dissemination will be performed utilizing explosive bolts on a set flange from various points on the dissemination device.
	7. Explosive bolt operations are defined in the JackRabbit Test Plan.
	8. Staging for alternate Cl2 tankers and dissemination devices will be at V-Grid approximately 12 miles from the dissemination site. Staging area will consist of a 1-20 ton liquid Cl2 hazard at any given time.
	9. Staging of the nurse tanker once moved from V-Grid will be at SL-1 test site, approximately 2 miles from JR II. SL-1 will consist of a 1-15 ton liquid Cl2 hazard at any given time.
2. SCOPE OF OPERATIONS:

Jack Rabbit II testing will occur Aug 2015 – Sep 2016 and include large quantity atmospheric releases of Chlorine. Test support and emergency response will be provided by a variety of agencies and personnel under the direction of the DPG Commander. Emergency response will be a Unified Command with United States Army Garrison (USAG) Fire Department (FD) and Subject Matter Experts from National Fire Academy (NFA), The InterAgency Board (IAB) and Utah Valley University (UVU).

1. OPERATIONAL OBJECTIVES:
	1. Execute program operations while ensuring the life safety of personnel.
	2. Reference USAG All Hazards Plan and WDTC Annex M.
	3. All Personnel operating within the scope of this plan will operate within the Incident Command System (ICS) and be subject to approvals and plans of the same.
2. GENERAL RISK ASSESSMENT:
	1. Cl2 Transport: Jacobs subcontractor will deliver, by highway tank trailer, Cl2 from an off-site transfer facility to the transfer and storage site at DPG, requiring travel west approximately 40 miles through Ditto via both paved and dirt roads. The transportation route from the storage site to the dissemination point will transit along the single lane access road. There is only one transportation route through the installation and it passes within meters of area populated by several hundred occupied residential and office buildings (English Village) and a second complex of several dozen office buildings (Ditto).
	2. Sodium Hydroxide (HNaO) Transport: Jacobs subcontractor will deliver, by highway tank trailer, Cl2 from an off-site transfer facility to the transfer and storage site at DPG V-Grid.
	3. Storage/Staging: Staging for alternate Cl2 tankers and dissemination devices will be at V-Grid approximately 12 miles from the dissemination site. Staging area will consist of a 1-20 ton liquid Cl2 hazard at any given time.

Staging of the nurse tanker once moved from V-Grid will be at SL-1 test site, approximately 2 miles from JR II. SL-1 will consist of a 1-15 ton liquid Cl2 hazard at any given time.

* 1. Cl2 Transfer: Jacobs will contract for trained and certified technical experts to transfer Cl2 from tank trailer to nurse trailer at the staging area and transfer Cl2  to the specialized dissemination tank at the test bed for release in quantities from 1 – 20 tons.
	2. Sodium Hydroxide Transfer: Jacobs will contract for trained and certified technical experts to transfer HNaO.
	3. Cl2 Release: Explosive bolts will be placed into a flanged gasket designed into the dissemination device. Bolts will separate upon detonation and open the flange, allowing liquid Cl2 to be dispersed to the atmosphere.
	4. Post Release Site Clearance: Once Cl2 has cleared from the dissemination site, explosive expert personnel will enter the site and verify the explosive hazard is cleared.
	5. Post Release Reset: Trained and certified technical experts will make entry post-release, after a clear down time renders the atmosphere safe to inspect and reset the dissemination device in preparation of the next release.
	6. Cl2 Scrubbing operations will produce a bleach by-product that will be placed into a tanker and removed from the installation via coordination with Jacobs.
1. MITIGATION PROCEDURES:
	1. WDTC EM will coordinate with JR Test Team to provide awareness training related to the specific hazards of Cl2 and HNaO mandatory for all response personnel.
	2. WDTC EM will coordinate a detailed review of response procedures to all emergency response designated personnel (i.e. entry teams, security/ police, EMS, incident management personnel).
	3. USAG and WDTC EM will conduct exercises prior to initial receipt of Cl2 tanker to rehearse response plans to most likely and most dangerous scenarios.
	4. Tankers will be escorted by DPG designated personnel through the post to the dissemination staging areas in order to provide immediate notification of any incident. Traffic at specific locations or intersections will be halted by DPG authorities while the Cl2 tanker passes.
	5. JackRabbit test team will provide road guards to implement site access restrictions. Only personnel placed on the access roster, with respirators on hand will be allowed access.
	6. JackRabbit test team will conduct hourly monitoring of all chlorine areas when transfer operations are not being performed.
	7. Jacobs will provide an entry team to evaluate and replace dissemination device flange; USAG FD will provide a back- up and rescue team (Hazmat certified) for the entry team conducting Cl2 transfer.
	8. Standby entry and back-up teams will be staged in the cold zone at a safe distance during the actual Cl2 release.
	9. Accountability – All emergency response personnel will be accounted for within ICS and be reported to Test Officer designee.
	10. Emergency decontamination will be provided by Utah National Guard (UTNG).
	11. Gross decontamination will be provided by Utah National Guard (UTNG).
	12. Identify Incident Management team members and review Emergency Response Plans with all potential team members and potential Incident Commanders.
	13. Develop public notification guidance, including instructions for evacuation procedures and shelter in place guidelines (specific to Cl2 hazard).
2. CHLORINE SAFETY:

<http://www.cdc.gov/niosh/ershdb/EmergencyResponseCard_29750024.html>

1. PARTICIPANT REQUIREMENTS:
	1. All participants in the support of emergency operations and test procedures will be trained in the following aspects:
2. Hazards of chlorine and sodium hydroxide;
3. Chemical and physical properties;
4. Signs and symptoms of exposure;
5. Emergency decontamination procedures;
6. First aid for exposures;
7. Notification of EMS provider.
8. Implementation and working within an IMS to include following an IAP under the direction of a supervisor.
9. The care, use and maintenance of PPE specific to the hazard; Demonstrate proficiency of use and emergency procedures.
10. Maintain personal accountability to act within the IAP and stay in direct contact with the assigned supervisor within the IMS. Includes check-in, check-out and assigned briefings.
11. OSHA 1910.120 (q) & App. C authorized a “site specific” training of responders

and participants.

1. REQUIRED PPE:
	1. PPE requirements will be determined by the Incident Management Team and approved by DPG Safety and detailed in the IAP.
		1. Level A – Vapor tight Chemical Protective ensemble with 45 minute SCBA minimum.
		2. Level B – Splash Suits with respirator.
		3. Level C – Tyvek with respirator.
		4. Level D – Hard hat, full face & eye protection, gloves with gauntlets, boots, no exposed skin on legs or arms.
	2. Field Operations PPE will be defined after review of known area contaminants and will require verification by an Entry Control Officer for all personnel who will perform duties on the instrumentation grid.
	3. All operations personnel on the Urban Test Grid will be required to complete gross level decontamination provided by Utah National Guard prior to leaving the site and will receive red bands upon clearance to exit area.
	4. All personnel operating downwind in the Test Array will be required to complete monitoring prior to leaving the site. If decon is required it will be provided by Utah National Guard will receive red bands upon clearance to exit area.
2. OPERATIONAL PERIODS:

All operations are 24 hours with 0900-2100 and 2100-0900 operational periods and associated 0800 and 2000 Operational Briefing/ Transfer of Command for ICP.

Timeline as follows:

* 1. 1830-2330 Transfer to Dissemination Device on Urban Test Grid
	2. 2330-0330 Grid Instrumentation
	3. 0330-0530 Explosive Bolt Placement
	4. 0700 Trials
	5. 0900 Grid clear / Check
	6. 0930-1000 Flange replacement
	7. 1100-1700 Transfer to Mule tank at V-Grid

INCIDENT COMMAND SYSTEM:

This depicts the Installation and Incident Command relationship:



* 1. All Personnel operating within the scope of this plan will operate within the Incident Command System (ICS) and be subject to approvals and plans of the same.
	2. Based on the structure of emergency management and limited resources at DPG, we will enlist Utah Valley University (UVU) for Incident Management expertise for JR II. WDTC Emergency Manager will maintain command and control communications for DPG Commander. Unified Command will be established with USAG Fire Department (FD) and UVU, all external support will be vetted through DPG Installation Commander.
	3. UVU will provide an Incident Commander (IC) and/or other support personnel as needed by the incident onsite during all hazardous operations.
	4. FD will provide two teams for Hazmat Response operations and an Incident Commander for each operational period.
	5. US Army MEDCOM will provide a team for Basic Life Support dedicated to JR II program.
	6. USAG and West Desert Test Center (WDTC) personnel will partner to provide ICS general staff as necessary. List of personnel will be on site in the Incident Command Post (ICP) with a personnel status updated daily in the Incident Action Plan.
1. ORGANIZATIONAL STRUCTURE:

Organization of the Incident Management Team (IMT):

* 1. Installation Commander: Authority over all operations
	2. Unified Command: USAG FD and UVU

Co-located at SL Test Command Site. Responsible for the safe execution of the Incident Action Plan (IAP). Responsible for creation of incident objectives.

* 1. Incident Safety Officer: Appointed by Unified Command

Co-located with Operations Chief at the designated forward operations base (FOB). Partially responsible for the creation of the IAP and advising the IC on matters related to the safety of the operations and personnel.

* 1. Operations Chief: If required by Unified Command

Co-located with the Safety Officer at the designated forward operations base (FOB). Partially responsible for the creation of the IAP and advising the IC on matters related to incident operations and supervision of entry/decon teams.

* 1. Organization of the Response Teams:
		1. Entry: Mixed team of Jacobs subcontractor personnel and Hazmat personnel (2 personnel)
			1. Jacobs: Technical expertise and primary task.
			2. Hazmat responder: Assist entry team, communications, and initiate primary rescue.
			3. Explosive Operators: (2 personnel) Provide a safety sweep of the dissemination device and surrounding area.
		2. Back-Up Team: Hazmat responders. (2 personnel) USAG FD

Hazmat responders: In a state of readiness primarily prepared to perform rescue of entry team.

* + 1. Gross and Emergency Decontamination: UTNG

Provide gross and emergency decon of entry teams at a designated decon area.

* + 1. Medical: (2 personnel) MEDCOM

EMT responders: In a state of readiness prepared to perform basic life support of responders.

These individuals will be responsible for Pre-and Post-Entry medical evaluations and emergency transport of injured or decontaminated personnel. All personnel required to make entry into the exclusion zone during operations to include CI staff and contractors will be required to pass the entry medical evaluation.

1. ACCOUNTABILITY GROUP IDENTIFICATION:

All personnel will be assigned to a group and each group will have an indicated Group Supervisor identified in the IAP.

* 1. Command and Control – DPG & Incident Command and Response
	2. Emergency Response
	3. Test Team
1. COMMUNICATIONS:

All responders will have line of site communications with response personnel. All response teams will be provided with radio communications with designated channels for test operations and response operations as per the IAP. DPG will provide radios and designated channels for use by the responders.

1. MEDICAL OPERATIONS: DPG MEDCOM

Basic Life Support (BLS) treatment and transport capabilities will be located in the cold zone anytime personnel are on the test grid.

Initial landing zone designated as 777. Air evac will be coordinated through IC and EOC.

1. EMERGENCY PROCEDURES:
	1. Evacuation Plan:
		1. Partial evacuation – On-site personnel
			1. Designated rally points are 777 and SL Test 3 dependent upon situation
			2. Test team personnel transportation will be responsibility of the Test Officer. Command and Emergency Response transportation will be responsibility of Unified Command.
			3. Evacuation signal will be audible horn and radio notification with details of rally point and PPE or hazard situation.
		2. Full evacuation – DPG
			1. Existing USAG All Hazards Plan