



JOINT CULINARY CENTER OF EXCELLENCE (JCCOE), ARMY CENTER OF EXCELLENCE, SUBSISTENCE OPERATIONS DIRECTORATE (ACES OD)



Facilities and Equipment Division Overview

Always Thinking Army Green!



Warrior Logisticians



Agenda

- Our Mission
- Standard Design Army Dining Facilities, USARC Kitchen and National Guard Armories
- Military Construction Army (MCA) Project Under Construction
- MCA Project Funding FY 11
- MCA Funding Changes
- Defense Supply Center Philadelphia (DSCP) Food Service Equipment Procedure Change
- Food Program Managers role with MCA projects
- Army Public Works New Regulation
- Food Service Equipment
- Conclusion





Mission

- **Manage Military Construction Army (MCA) Funding**
- **Develop Standard Design for Army Dining Facilities, Reserve Center Kitchens and National Guard Armories**
- **Monitor MCA Dining Facilities Projects**
- **Work with DSCP on Food Service Equipment (FSE) Program**
- **Coordinate Food Program Managers role with MCA projects**
- **Provide SME Department of Public Works new regulation**
- **Provide assistance to Army Reserve and National Guard**
- **Provide MAD SME for Facilities and Equipment**
- **Submits required FSE budgets for MCA projects**
- **Review equipment schedule for Army feeding facilities and forward it to the Army Corps of Engineers (COE)**
- **CFREB SME with DSCP & NATICK on new field feeding equipment**





Standard Designs for Army Dining Facilities Active / Reserve / National Guard



Warrior Logisticians



Size & Classification of Dining Facilities Army

Permanent Party

- 251-500 person, 240 seats, 18,000 sq ft
- 501-800 person, 384 seats, 19,500 sq ft
- 801-1300 person, 624 seats, 26,500 sq ft

BT/AIT Training

- 1300 person, 546 seats, 30,500 sq ft
- 2600 person, 1092 seats, 56,000 sq ft

Operational Readiness Training Center

- Small (150-650 persons)
- Large (651- 1000 persons)



Size & Classification of Dining Facilities

Army Reserve

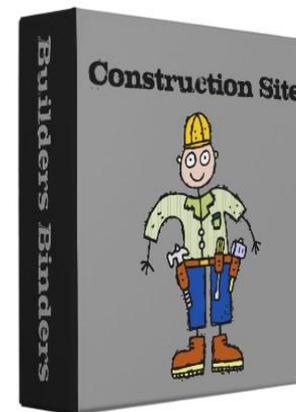
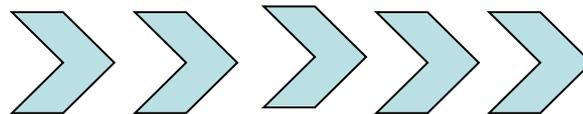
- One size
- Non standard

National Guard

- Larger
- Small
- Non standard



MCA Dining Facility Projects Status





MCA Dining Facility Projects Under Construction

Installation	#	Size	Project Number	Units
Fort Lee, VA	1	1300	69123	DPW Complex
Fort Lewis, WA	1	1300	59555	BCT
Fort Bragg	1	500	65775	Special Forces
Fort Carson, CO	1	1300	69121	47 th BTC Complex
Fort Sill, OK	1	1300	64723	31 st ADA
Fort Sill, OK	1	2600	69264	Star Ship Complex



Funds for Military Construction Army Dining Facility Projects

For FY11

Region	Proj #	Installations	Dining Facility Size	Cost for Equip	Décor	Total
W	69121	Fort Carson	1300	\$450,000.00	\$350,000.00	\$800,000.00
SE	69147	Fort Benning	2600	\$765,000.00	\$450,000.00	\$1,215,000.00
W	64462	Fort Benning	1300	\$450,000.00	\$350,000.00	\$800,000.00
SE	69264	Fort Sill	2600	\$765,000.00	\$450,000.00	\$1,215,000.00
SE	23650	Fort Bragg	1300	\$450,000.00	\$350,000.00	\$800,000.00
SE	69417	Fort Jackson	5200	\$900,000.00	\$877,000.00	\$1,777,000.00
SE	70617	Fort Jackson	2600	\$756,000.00	\$450,000.00	\$1,206,000.00
		Fort Leonard Wood	1300	\$450,000.00	\$350,000.00	\$800,000.00
SE	65876	Fort Bragg	1300	\$450,000.00	\$350,000.00	\$800,000.00
W	59555	Fort Lewis	1300	\$450,000.00	\$350,000.00	\$800,000.00
SE	69150	Fort Benning	1300	\$450,000.00	\$350,000.00	\$800,000.00
Italy		DAL Molin, Italy	1300	\$500,000.00	\$400,000.00	\$900,000.00
SE	68844	Fort Stewart	1300	\$450,000.00	\$350,000.00	\$800,000.00
SE	72322	Fort Benning	1300	\$450,000.00	\$350,000.00	\$800,000.00
					Grand Total	\$13,513,000.00



Major Change for MCA Funds for FY 11

INSTALLATION MAJOR COMMAND (IMCOM) FSE FUNDING:

- IMCOM and JCCoE jointly changed MCA Funding procedures
- FY11 FSE funding will be managed by JCCoE
- FSE will be purchased by ACES OD
- Décor purchase by the Installations or ACES OD



Defense Supply Center Philadelphia (DSCP) Food Service Equipment Procedure Changes

- JCCoE/ACES OD is working with DSCP on FSE delivery program for MCA Projects
- DSCP purchase new FSE
- Install GFGI FSE
- Bulk delivery to installation
- FSE warranty (one year)

WHAT'S
HOT!



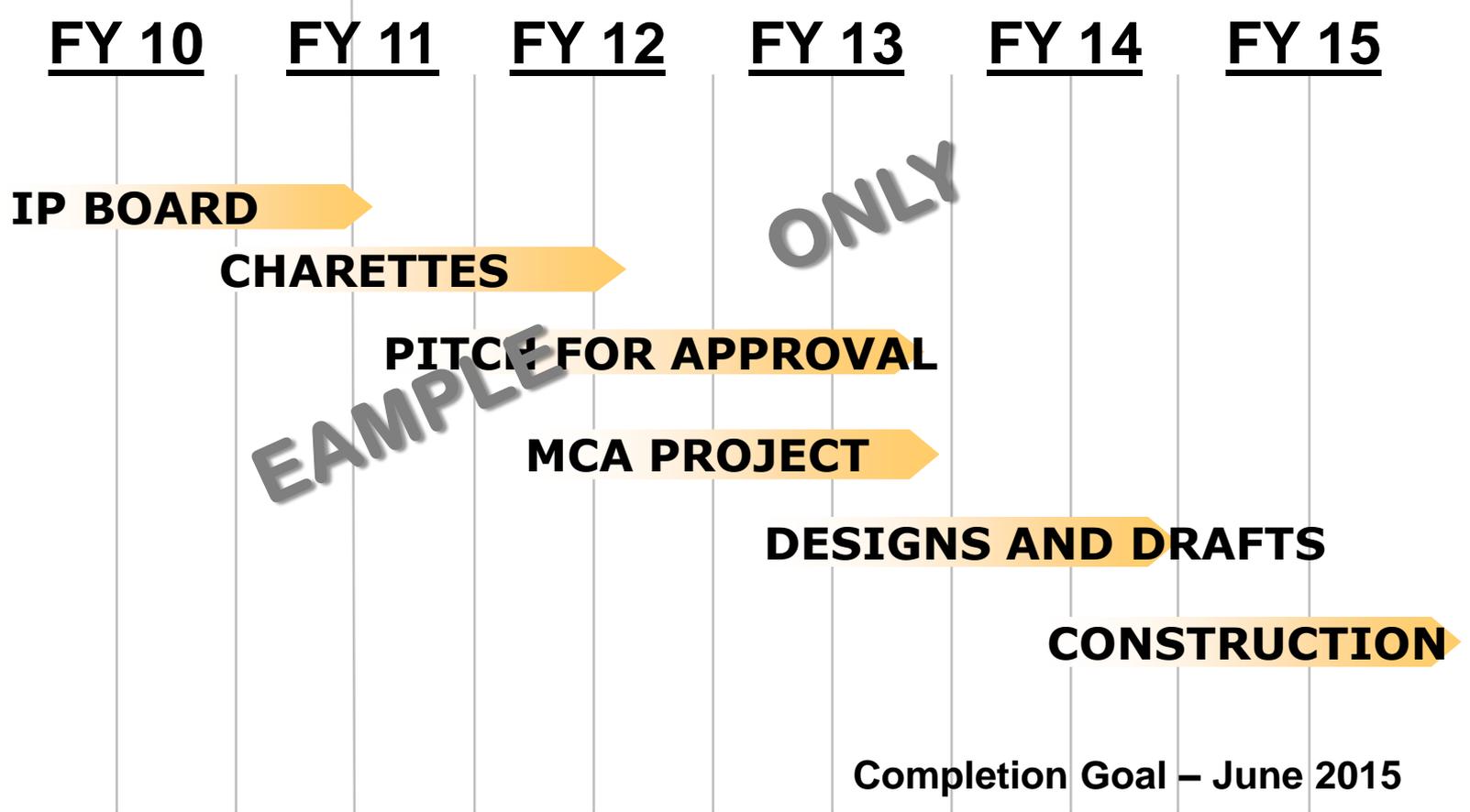
Food Program Manager Role/w MCA Project

- Active in installation planning meeting
- Precipitate in scheduled Charrette
- Be aware of installation feeding strength/unit population
- Know your Master Planner
- Be familiar with design, layout and landscape
- Keep IMCOM informed on all changes/dates
- Beware of equipment cost/furnishing requirement
- Be knowledgeable of vendors and lease FSE measurement
- Know your construction timeline
- Stay in touch with FED ACES OD on project



Food Program Manager Role/w MCA Project Con't

CONSTRUCTION TIMELINE





ARMY PUBLIC WORKS NEW REGULATION

The ARMY ENERGY PROGRAM AR 420-1



US Army Corps
of Engineers®

- Supersedes the following: AR 11-27, AR 210-50, 415-15, 420-10, 420-18, 420-49, 420-70, 420-72, 420-90.
- Management of Army facilities and public works activities
- Military Construction Program (MCA)
- Procedures and Execution
 - Master planning
 - Utilities services
 - Energy management
 - Fire and emergency services



Food Service Field Equipment



Warrior Logisticians
“This is an UNCLASSIFIED information briefing.”



Field Equipment Discussion Topic

- **Modern Burner Unit (MBU) upgrade**
- **Modern Kitchen Trailer (MKT) Reset – Kit**
- **Thermostatic Control**
- **Appliance Burner Types**
- **Containerize Kitchen (CK)**
- **Battlefield Kitchen (BK)**
- **Food Sanitation Center 2 Modification Kit FSC**
- **Melted Sink, Coupler, & Heat Shield**
- **Multi Temperature Refrigerated Container System (MTRCS)**
- **Assault Kitchen (AK)**
- **Self Powered Tray Ration Heater (SPTRH)**



Modern Burner Unit (MBU)



MISSION:
Primary heat source for Cooking Operations
in All Army Field Feeding Equipment





Modern Burner Unit (MBU) Upgrade

Units in possession of MBUs

- NSNs 7310-01-452-8137 (original) LIN – B38672
- NSNs 7310-01-507-9310 (Current) Lin has been canceled
- Lin causing confusion whether or not MBU is authorized
- MBU is now a Secondary item
- No longer separately authorized
- MBU are now components of the platforms below

<u>Platform</u>	<u>LIN</u>	<u># of MBU</u>
Mobile Kitchen Trailer (MKT)	L28351	6
Containerized Kitchen (CK)	C27633	9
Food Sanitation Center (FSC)	S33399	3
Kitchen Company Level Field Feeding (KCLFF)	K28601	3
Modular Field Kitchen (MFK)	F39561	6



Modern Burner Unit (MBU) Upgrade

MBU

<p>FUELING - DO NOT USE GASOLINE For manual fueling -see operating instructions</p> <ol style="list-style-type: none">1. Install MBU in appliance2. Connect 24 Volt DC power cable to front of MBU and press Power button3. Connect fuel hose to front of MBU and fuel supply4. Turn burner control to High setting5. Press Fuel button6. When fuel indicator light is steady green -disconnect hose7. Press Power button	<p style="text-align: center;">OPERATION</p> <ol style="list-style-type: none">1. Press Power button2. Turn burner control to HIGH (Start) position3. Press START button4. When run indicator light is on turn burner control to desired setting5. In case of automatic shut down see operating instructions <p style="text-align: center;">SHUT DOWN</p> <ol style="list-style-type: none">1. Press STOP button2. Press Power button
--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------

➤ Once unit updates MBUs

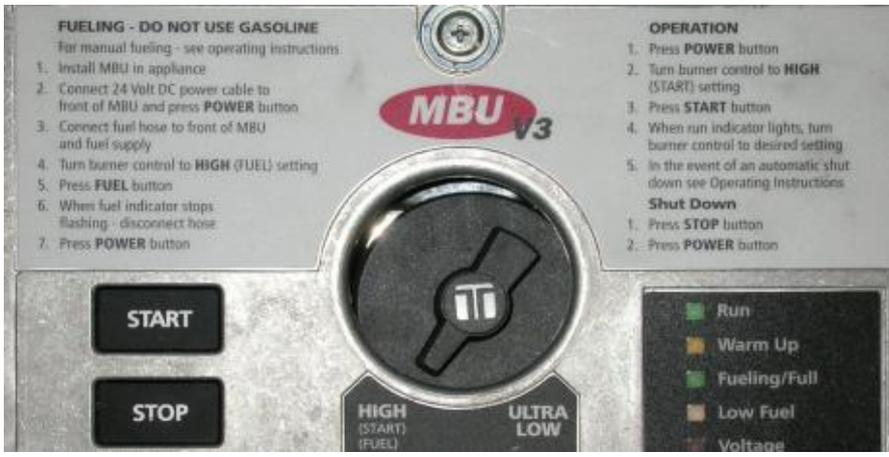
➤ Hand receipts holders must contact their supply or PBO to update hand receipts.

MBU v3

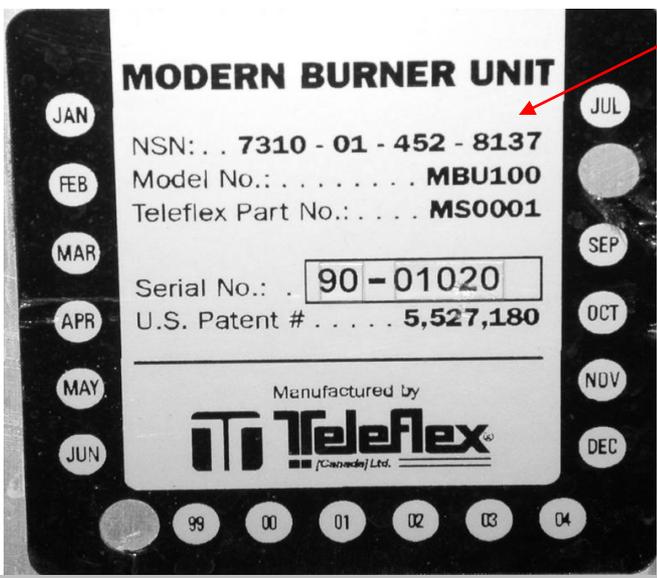
<p>FUELING - DO NOT USE GASOLINE For manual fueling -see operating instructions</p> <ol style="list-style-type: none">1. Install MBU in appliance2. Connect 24 Volt DC power cable to front of MBU and press POWER button3. Connect fuel hose to front of MBU and fuel supply4. Turn burner control to HIGH(FUEL) setting5. Press FUEL button6. When fuel indicator stops flashing - disconnect hose7. Press POWER button	<p style="text-align: center;">OPERATION</p> <ol style="list-style-type: none">1. Press POWER button2. Turn burner control to HIGH (START) setting3. Press START button4. When run indicator lights, turn burner control to desired setting5. In the event of an automatic shut down see Operating Instructions <p style="text-align: center;">SHUT DOWN</p> <ol style="list-style-type: none">1. Press STOP button2. Press POWER button
--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------	--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------



Fuel Delivery Block Upgrade



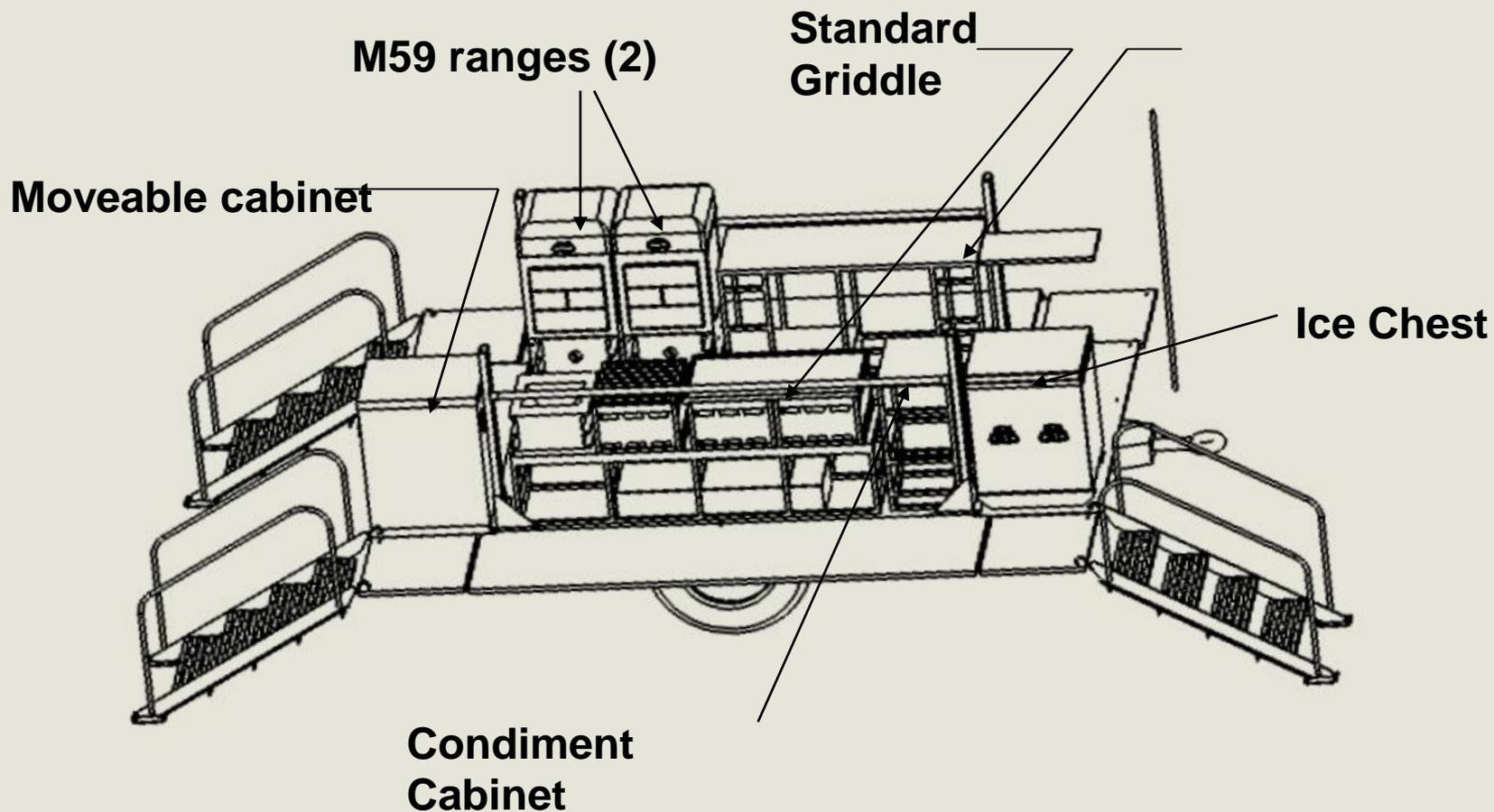
Control panel and data plate decals will be changed to reflect updated MBU



Current NSN

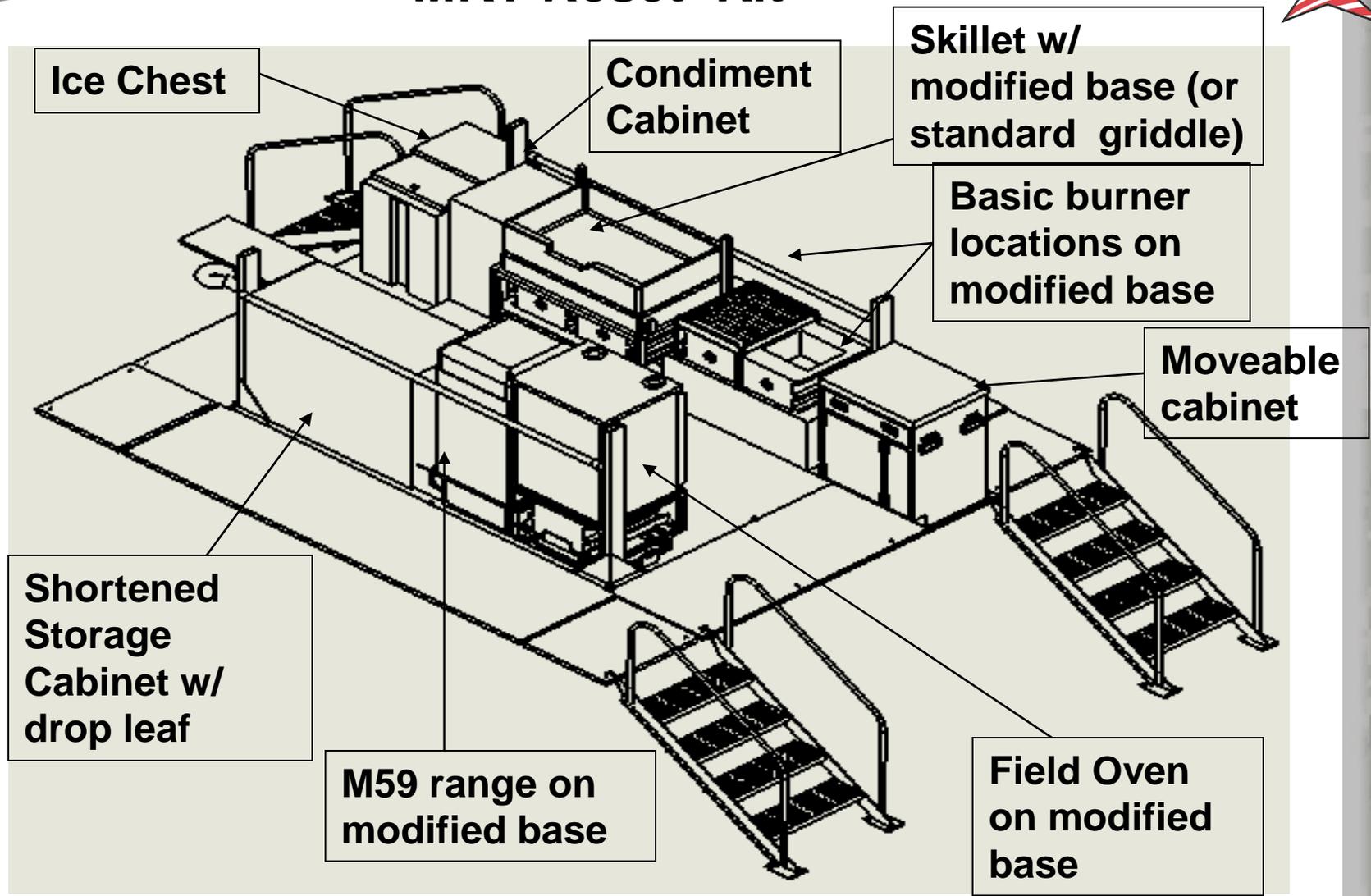


MKT Reset Kit





MKT Reset Kit



CONCEPT 1



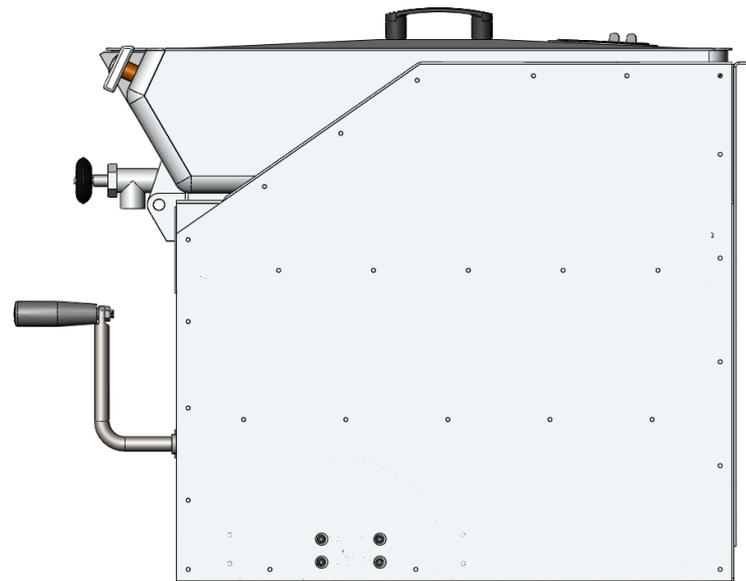
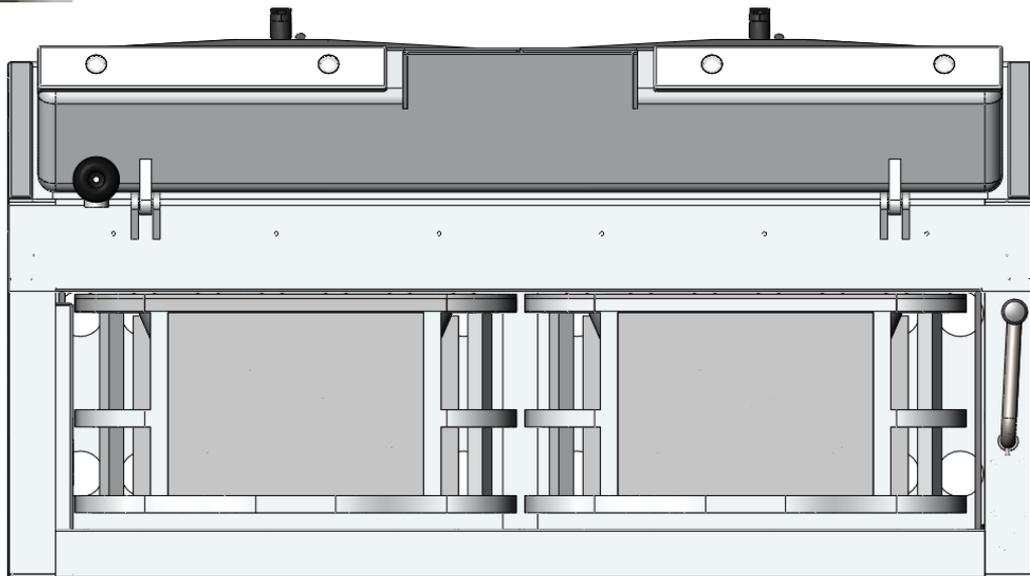
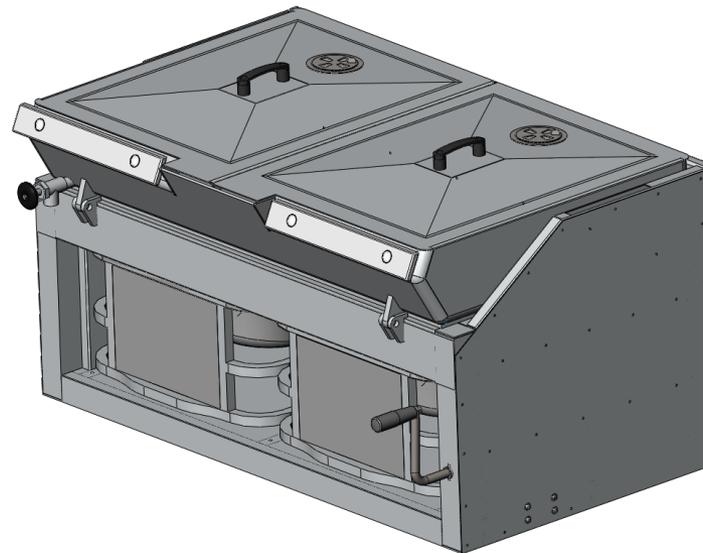
GLOBAL™

DEFENSE ENGINEERING

28712 Glebe Rd. Easton, MD 21601

Phone: 410-820-9140 Fax: 410-822-7846

www.globalgroup.us.com



57309002 RevX, Tilt Skillet Screen Shots
REFERENCE ONLY, MSH, 07-16-09

Warrior Logisticians

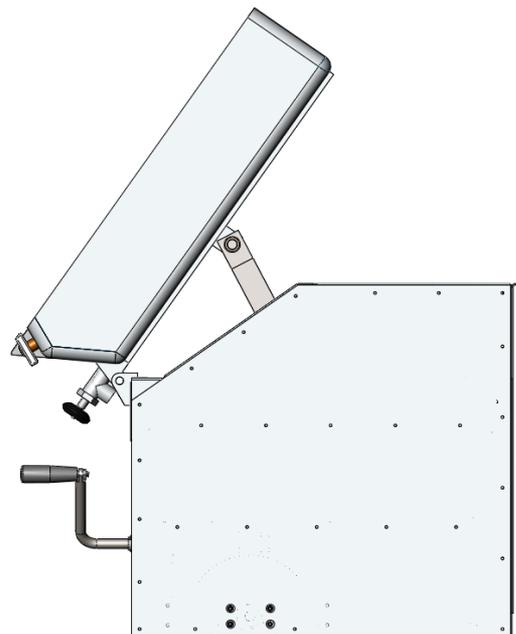
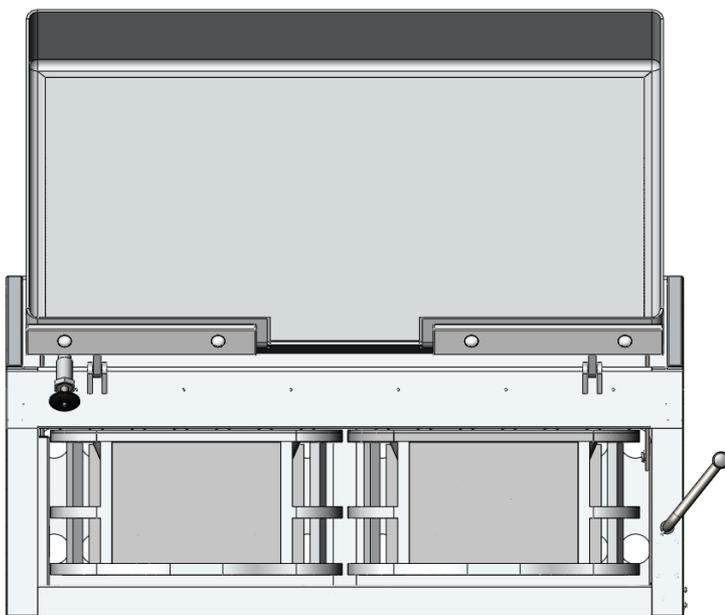


DEFENSE ENGINEERING

28712 Glebe Rd. Easton, MD 21601

Phone: 410-820-9140 Fax: 410-822-7846

www.globalgroup.us.com



57309002 RevX, Tilt Skillet Screen Shots

REFERENCE ONLY, MSH, 07-16-09

Warrior Logisticians



Containerized Kitchen

Purpose:

To improve the working environment and effectiveness of the CK through ECP and the Reset program and align development efforts with the Battlefield Kitchen.

Results/Products:

- Prototype system
- Technical Data
- Test data
- Engineering Change Proposal (ECP)

ROI/Payoff:

- Reduced heat stress for kitchen workers
- Incorporate Sanitation within the CK
- Transition to production through ECP and to the ILSC CK reset effort





Containerized Kitchen, P3I Approach

- **TOSS contract with Global Defense Engineering**
- **Consider future compatibility with BK during development**
- **Develop improved container first**
 - Ventilation and layout
- **Test with currently available appliances for threshold approach**
- **Develop improved appliances for objective approach**
 - MBU component based
 - Closed combustion where appropriate
 - Modular
 - Thermostatically controlled
- **Layout and ventilation can be fielded with currently available appliance (CK, MKT, FSC) if new appliance development is delayed**
- **New appliances can be integrated as they become available**



Thermostatic Control (Prototype)



- Automatically cycles burner on and off to maintain set point temperature.
- Target applications: Sanitation sinks, CK oven & steam table.
- Same control designs for all appliances.
- Planned fielding in 2008



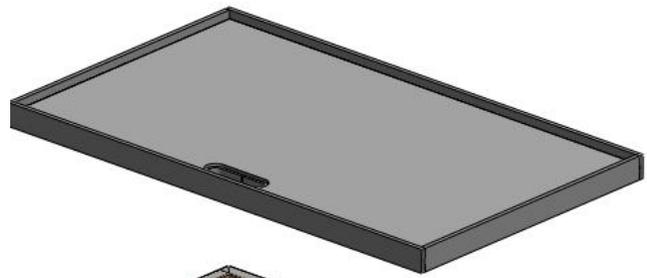
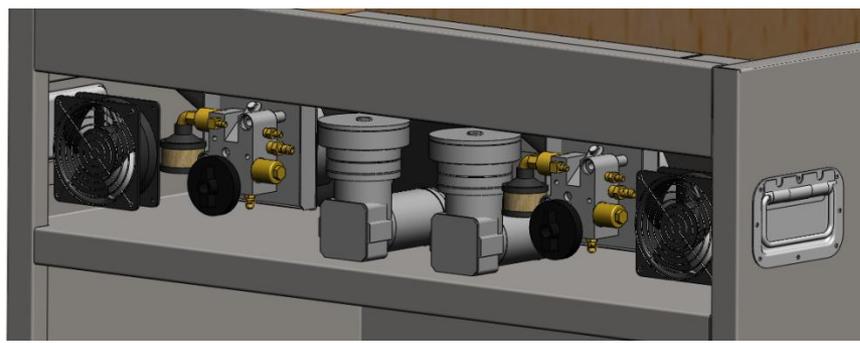
Appliance Burner

Burner Types

- Not using standard MBU
- Utilizing MBU components or COTS parts
 - Possible long development time and cost associated with a new burner configuration
 - Currently only consideration MBU components for expediency
- Multi-burner configurations
 - Standardize widths at 18" increments
 - One, two or three burners
- Burner using direct flame and infrared for heat transfer
- Fuel source not integral with burner – plug into 5 gallon can or other source.
- Burner components accessible from operator front for ease of repair or replacement
- Air cooled design
- Inducted draft design

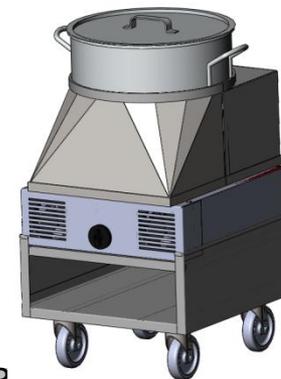
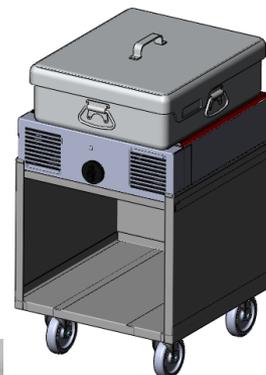
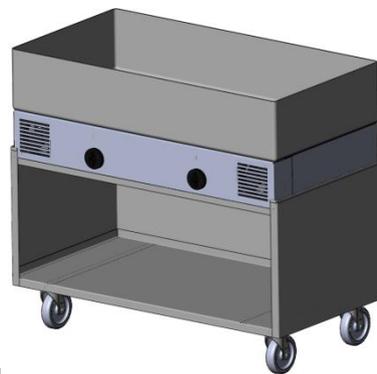
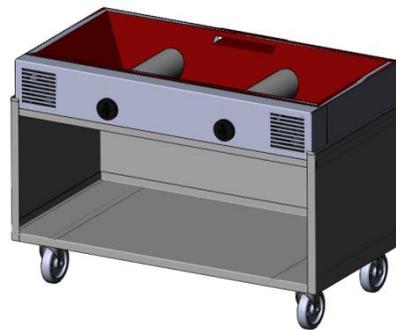
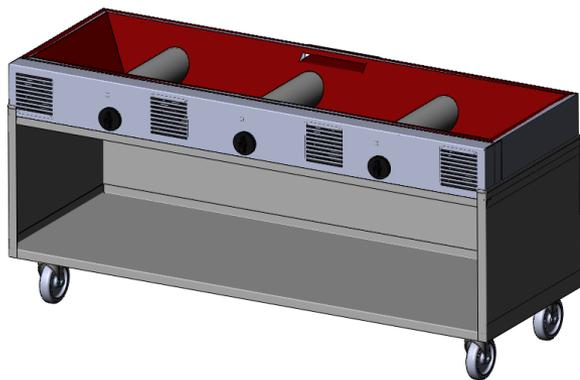


Burner Concept 1





Burner Concept 2 Configurations - Multi-Base Design



30



Containerized Kitchen, P3I Approach

- **Reduced noise**
 - Improved oven, sanitation sinks, and skillet will have closed combustion
- **Reduced heat**
 - Vent hood will be more effective
 - Larger fans
 - Back wall for improved air flow
- **On-board sanitation**
 - FSC system will fit in proposed layout (threshold)
 - Improved sinks will be large and thermostatically controlled (objective)
- **Improved air quality inside kitchen**
 - Vent hood will remove more exhaust (threshold)
 - Improved appliances will vent directly out of kitchen (objective)
- **Simplified electrical system**
 - ECU require complex energy management system
- **Ability to cook and serve simultaneously**
 - Stand alone, heated serving line



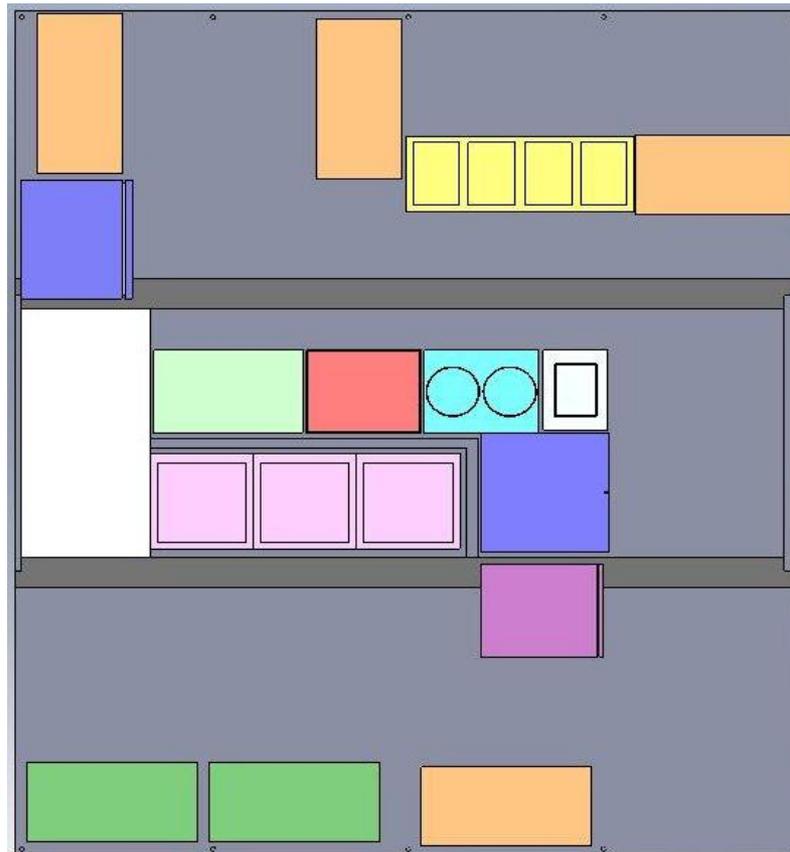
Containerized Kitchen, P3I Layout

Purpose:

To improve the working environment and effectiveness of the CK through ECP and the Reset program and align development efforts with the Battlefield Kitchen.

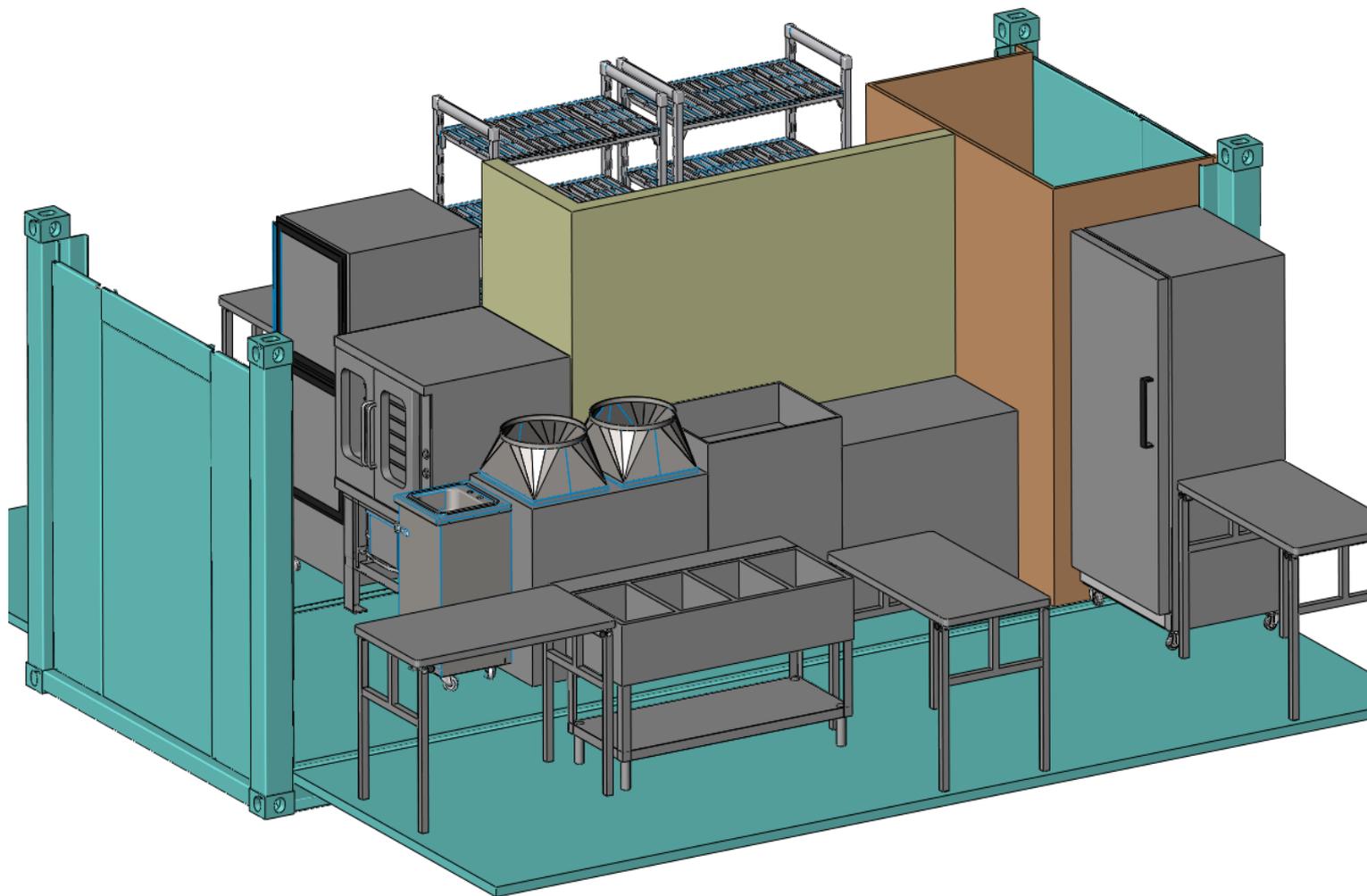
ROI/Payoff:

- Reduced heat stress for kitchen workers
- Incorporate Sanitation within the CK
- Transition to production through ECP and to the ILSC CK reset effort



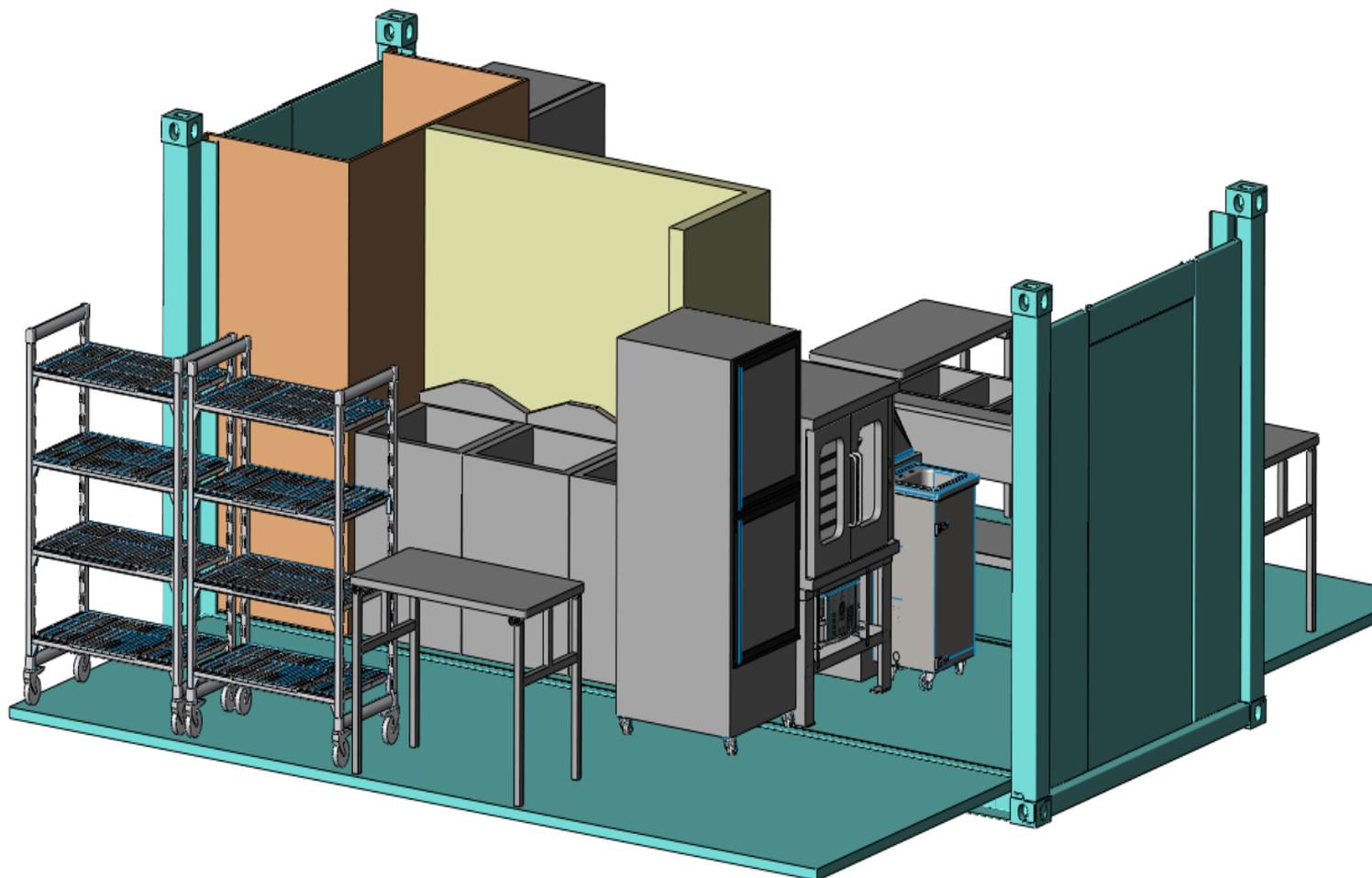


NEED INFORMATION





NEED INFORMATION





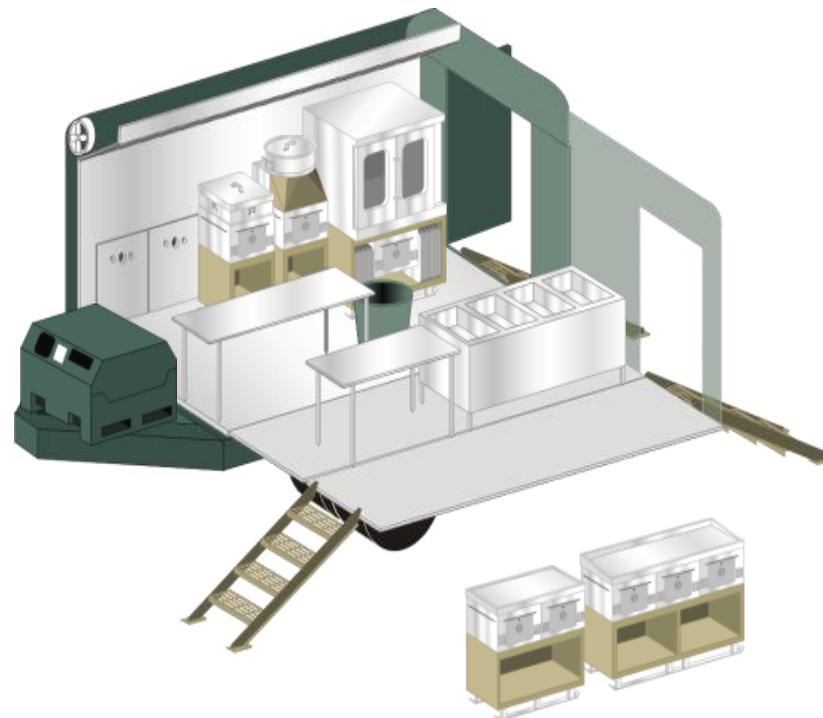
Battlefield Kitchen (BK)

Purpose:

To replace the aging MKT with a modern kitchen that increases mobility, efficiency and reduces personnel requirement

ROI/Payoff:

- More efficient kitchen operations
- Less heat and noise in kitchen
- Appliance compatibility between army field kitchens





Battlefield Kitchen

- **Updated Platform**
 - Improved mobility
- **Reduced noise inside kitchen**
 - Appliances will have closed combustion
 - Pots may still benefit from open flame
- **Improved air quality inside kitchen**
 - Vent hood that will interface directly with appliance intake and exhaust
- **Improved operator and overall efficiency**
 - More efficient layout
 - Easier set-up
 - Thermostatic control for appliances
 - More efficient heat transfer of appliances
 - Faster
 - Lower fuel consumption
- **Hybrid power**
 - Extended generator life



FSC Modification Kits

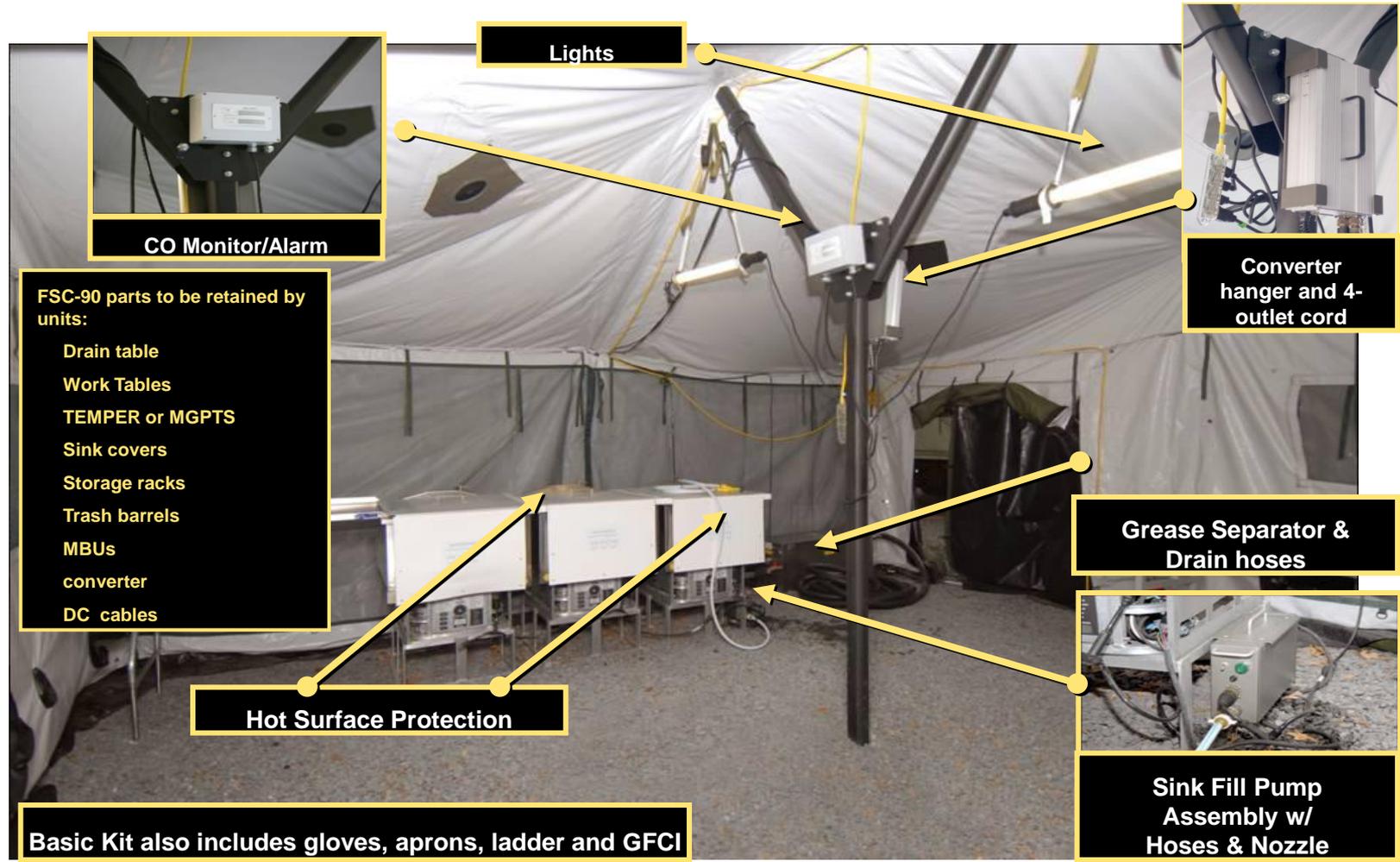
- User priorities based on Nov 07 IPT meeting in their order of importance
 - (1) All FSC-90s to get Basic Kit – see next slide
 - (2) Once all FSC-90s upgraded to FSC-2 standard then add (in order of importance) as funds allow
 - Thermostatic control units (TCU)
 - Gray water reuse pump assembly
 - Sink exhaust assembly

- Global to deliver first production lot of Basic Kits Jul 09

- FUE scheduled Feb 2010
 - Pending publication of MWO and TM change

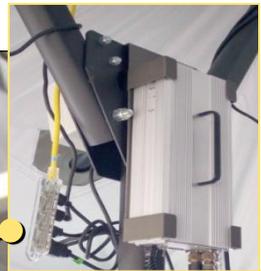


FSC Modification Kits



CO Monitor/Alarm

Lights



Converter hanger and 4-outlet cord

- FSC-90 parts to be retained by units:
- Drain table
 - Work Tables
 - TEMPER or MGPTS
 - Sink covers
 - Storage racks
 - Trash barrels
 - MBUs
 - converter
 - DC cables

Hot Surface Protection

Grease Separator & Drain hoses



Sink Fill Pump Assembly w/ Hoses & Nozzle

Basic Kit also includes gloves, aprons, ladder and GFCI



FSC Melted Sink, Coupler, & Heat Shield



Melted sink front heat shield



Melted warning labels on front of sink



Melted sink coupler



Multi Temperature Refrigerated Container System (MTRCS)

- The MTRCS is a highly mobile multi-temperature, partitioned refrigerated 8'x8'x20' ISO system that provides the capability for simultaneous transport and storage of frozen , chilled and/or semi perishable ration components on a single platform directly to the field kitchen site.
- Provides multi temperature product storage of two individually controlled compartments on the move.
- Feeds 800 personnel for 3 days when utilized with a CROP in order to serve two UGR-A meals per day and one MRE per day
- Fully tested and operational in ambient temperatures ranges from - 25°F to +120°F





Multi Temperature Refrigerated Container System (MTRCS)



MTRCS, HEMTT & CROP on PLS-T



CROP on PLS-T



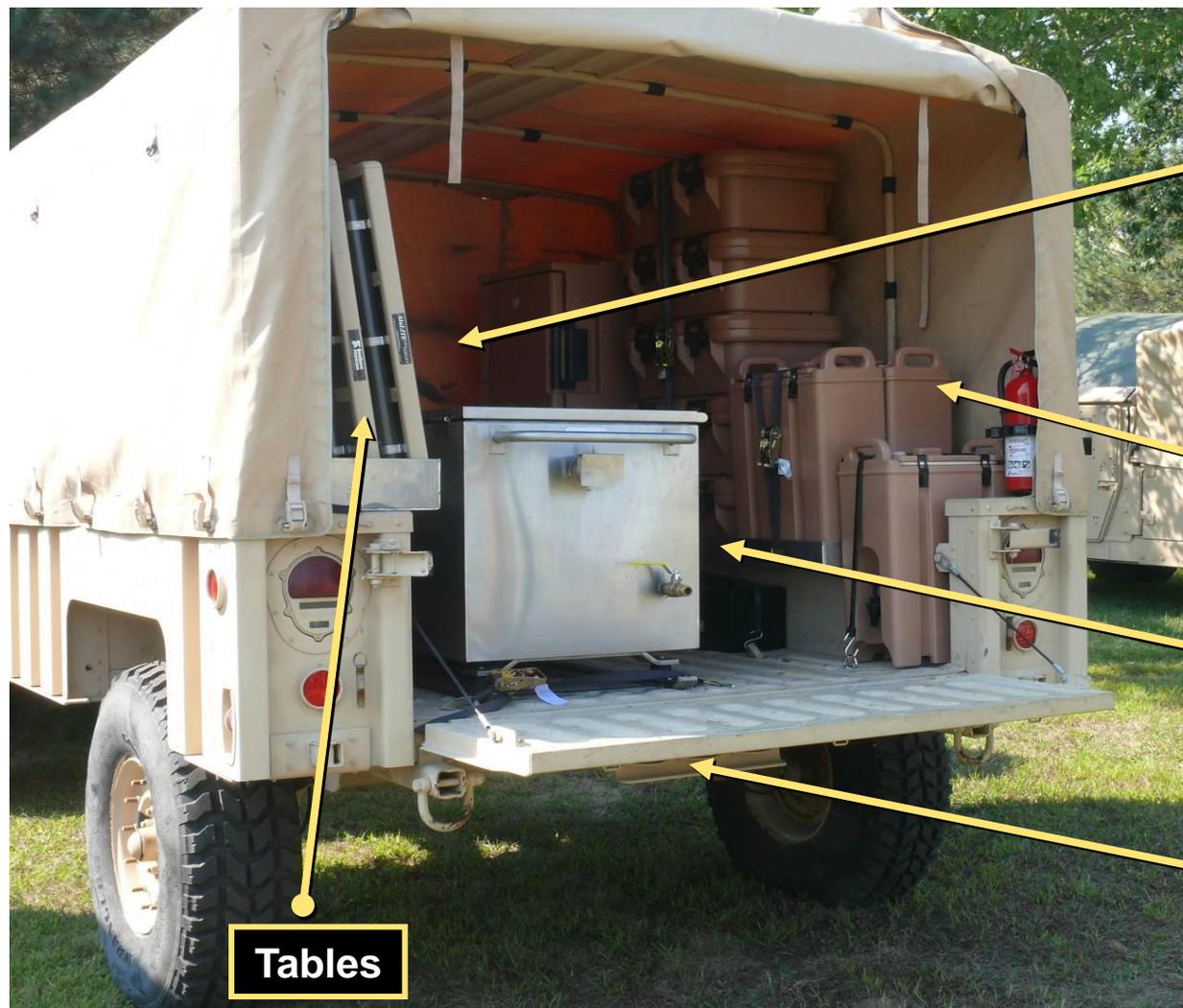
Assault Kitchen (AK)

- Heat-on-the-move based field feeding system designed to replace the KCLFF and meet the nutritional requirements of forward deployed Warfighters
- Feeds 250 UGR-H&S meals at a feeding site within 90 of site arrival
- Feeds 500 meals a day at multiple feeding sites
- Electrical power for operation obtained from HMMWV power system
- Minimal setup time at a remote feeding site
- Components can be removed from vehicle/trailer and utilized statically as situation permits
- LTT configuration compatible with armored and unarmored vehicles





Assault Kitchen (AK)



Tables



Maintenance Kit and Power Inverter

Insulated Food & Beverage Containers

Tray Ration Heater

Light Tactical Trailer



AK Key Systems Components

- Tray Ration Heater
- Power Inverter
- Maintenance Kit
- IFCs and IBCs
- Modern Burner Unit
- Stockpot Cradle
- Ice Chest
- Water Cans
- Tool Kit
- Utensils
- Power Cable
- M-59 w/Accessories





Self-Powered Tray Ration Heater (SPTRH)

Purpose:

Develop a self-powered version of the Tray Ration Heater that produces its own operating electricity from the heat of combustion

ROI/Payoff:

- Reduction in JP8 consumption
- Improved system reliability
- Completed Performance Specification for procurement – FY10

Self-powered Tray Ration Heater



43

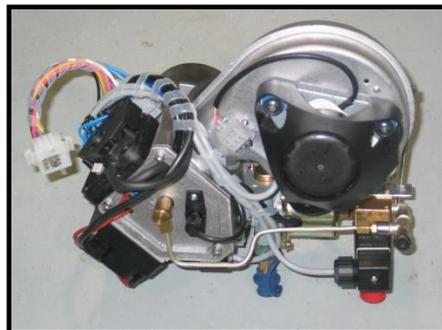
Warrior Logisticians



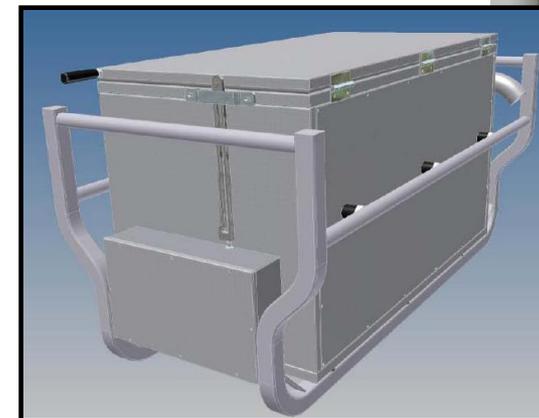
Key STRH Components



Hawkmoor Burner Assembly



Hawkmoor Burner



Battery Side of SPTRH



Thermoelectric on Underside of Tank



Control Panel



Facilities & Equip. Division Contacts

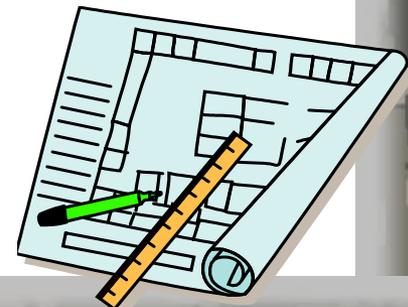
DSN 687-3354 Comm. 804-734-3354

DSN 687-3450 Comm. 804-734-3450

DSN 687-3329 Comm. 804-734-3329

DSN 687-3122 Comm. 804-734-3122

**Please visit our web site @
www.quartermaster.army.mil/aces**



Warrior Logisticians



Visit our Website at

<http://www.quartermaster.army.mil>

Other Links

- QM Schools
- AKO
- LOGNET
- Reimer Library
- USAPA





Questions/Comments?



Warrior Logisticians