

SECTION 6 – TECHNOLOGY SAFETY DATA SHEET

TECHNOLOGY SAFETY DATA SHEET MEGA-TECH SERVICES, INC. Blade Plunging Cutter (BPC-4)TM

SECTION 1: TECHNOLOGY IDENTITY	
<p>Manufacturer's Name and Address:</p> <p>Mega-Tech Services, Inc. 2804 Woodley Court James Town, NC 27282</p>	<p>Emergency Contact:</p> <p>Jon Stouky 888-522-5185</p>
	<p>Information Contact:</p> <p>Jon Stouky 888-522-5185</p>
	<p>Date Prepared:</p> <p style="text-align: center;">February 2001</p>
<p>Other Names:</p> <p>BPC-4 Portable Piston-Operated Hydraulic Tool</p>	<p>Signature of Preparer:</p> <p>Operating Engineers National Hazmat Program 1293 Airport Road, Beaver, WV 25813</p> <p>phone: 304-253-8674 fax: 304-253-7758</p> <p>Under cooperative agreement DE-FC21-MC32260</p>

SECTION 2: PROCESS DESCRIPTION

The Mega-Tech Blade Plunging Cutter (BPC-4)TM is a high-pressure, hydraulically operated cutting system with spreaders and cutters that allow for rapid crimping, cutting, and shearing steel pipes and other structural shapes. The BPC-4 required a minimal radial clearance of 2-inches and has a 2-foot stand off distance. The BPC-4 cycles in a total of 22 seconds. The blade automatically disengages from the work on the return portion of the cycle.

Blade plunging cutter design and performance data:

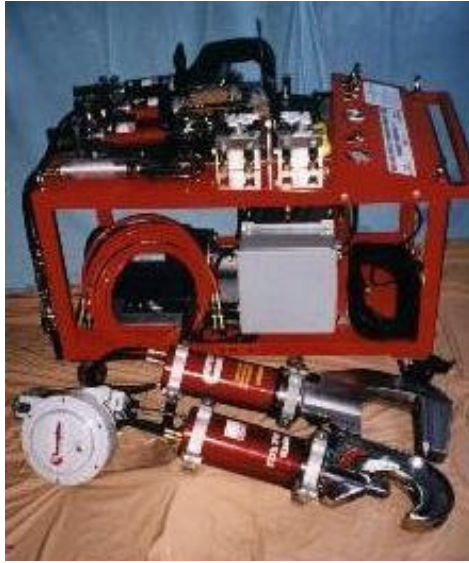
- Weight (in pounds) – 28
- Length (in inches) – 28
- Lateral Clearance required (in inches) – 2.5
- Opening Capacity (in inches) – 4.5
- Shear point pressure (in 1,000 pounds) – 300
- Cycle Time (in seconds) – 20
- Design operating life (in 1,000 cycles) – 250

The unit's pump and hoses are rated at 10,000 PSIG while nominal operating pressure is 5,000 to 6,500 PSIG. The pump and fluid is controlled by a patented demand-type valve which uses minimal pressure to move the tool piston. If the tool stalls, an internal relief valve opens to relieve the pressure. The HPU-12 connects to the tools by two small diameter hoses, one supply and one return, which have low-leakage check valves installed.

Hydraulics power unit and cart design and performance data:

- Power Unit
- Size (in inches) – 20.5H X 16W X 16L
- Capacity (in gallons) – 7
- Weight (in pounds) – 150
- Power requirements – 440 VAC/20 AMPS
- Speed (RPM) – 3,450 to 3,600
- Pressure rating (PSIG) – 6,500

SECTION 3: PROCESS Photos



Blade Plunging Cutter (BPC-4)TM and Hydraulic Power Cart (HPU-12).



Piece of metal being cut by BPC-4.

SECTION 4: CONTAMINANTS AND MEDIA

Dust generation does not appear to be a concern with the BPC-4. Consideration does need to be given to the metal being cut and contamination in the area where the BPC-4 is being used for D&D activities. An air sampling plan will need to be developed as appropriate for the site where the BPC-4 is used.

SECTION 5: ASSOCIATED SAFETY HAZARDS

Probability of Occurrence of Hazard:

- 1 Hazard may be present but not expected over background level
- 2 Some level of hazard above background level known to be present
- 3 High hazard potential
- 4 Potential for imminent danger to life and health

A. ELECTRICAL (LOCKOUT/TAGOUT) RISK RATING: 3

The UPH-12 is powered by a 440 or 220 V three-phase power supply. Electrical shock could occur if proper precautions, such as grounding are not taken. It does have ground straps and covered connectors. Proper lockout/tagout procedures need to be followed when conducting maintenance and repair on the HPU-12 and/or the BPC-4.

B. FIRE AND EXPLOSION RISK RATING: 1

Technology does not pose this hazard in and of itself but could not be used in an explosive environment due to potential sparking and because it is not intrinsically safe.

C. CONFINED SPACE ENTRY RISK RATING: 1

Not part of this technology unless the specific location where the system is being used is a confined space. In this case, confined space procedures would need to be followed.

D. MECHANICAL HAZARDS RISK RATING: 4

Assembling and adjusting the BPC-4 may pose pinch points. Severe pinch points at the point where the blades come together during a cut. In addition, a partial sheared piece of metal could cause pinch points.

E. PRESSURE HAZARDS RISK RATING: 4

When the shear stops during operation hydraulic pressure was noted to increase 400 PSI above the PSI rating of the hoses (hoses rated at 5,000 PSI). During difficult cuts pressure can be adjusted to 2,500 PSI above the hose rating. Hydraulic hoses that are used must be rated for a PSI above the maximum potential pressures. Hydraulic hoses can become dangerous struck by hazards if released when under pressure, therefore, all hydraulic hoses and connections must be inspected before use.

F. TRIPPING AND FALLING RISK RATING: 3

Electrical lines and hydraulic hoses present tripping hazards. In addition, hydraulic fluid leaks or spills could cause walking surfaces to become slippery.

G. LADDERS AND PLATFORM RISK RATING: N/A

Not part of this technology.

SECTION 5: ASSOCIATED SAFETY HAZARDS (CONTINUED)	
H. MOVING VEHICLE	RISK RATING: N/A
Not part of this technology.	
I. BURIED UTILITIES, DRUMS, AND TANKS	RISK RATING: N/A
Not part of this technology.	
J. PROTRUCING OBJECTS	RISK RATING: N/A
Not part of this technology.	
K. GAS CYLINDERS	RISK RATING: N/A
Not part of this technology.	
L. TRENCHING AND EXCAVATIONS	RISK RATING: N/A
Not part of this technology.	
M. OVERHEAD LIFTS	RISK RATING: N/A
Not part of this technology.	
N. OVERHEAD HAZARDS	RISK RATING: 3
May be part of this technology if the piece being cut is overhead. At a minimum, anyone working in the area should be wearing a hard hat. It needs to be assured that all workers in the area are aware of the overhead work being done and avoid the area when possible.	

SECTION 6: ASSOCIATED HEALTH HAZARDS	
Probability of Occurrence of Hazard:	
5	Hazard may be present but not expected over background level
6	Some level of hazard above background level known to be present
7	High hazard potential
8	Potential for imminent danger to life and health
A. INHALATION HAZARD	RISK RATING: 2
Technology does not appear to produce dust during operation. Consideration needs to be given to the metal being cut. Contaminants that may be present in the area will be identified from the site characterization.	
B. SKIN ABSORPTION	RISK RATING: 2
This would be dependent on the contaminants at the site and would be identified by the site characterization. Consideration needs to be given to the hydraulic fluid.	
C. HEAT STRESS	RISK RATING: 1-4
Ambient conditions, work rates, and PPE levels must be considered.	
D. NOISE	RISK RATING: 1
The technology does not appear to present a noise hazard.	
E. NON-IONIZING RADIATION	RISK RATING: N/A
Not part of this technology.	
F. IONIZING RADIATION	RISK RATING: N/A
Not part of this technology.	
G. COLD STRESS	RISK RATING: 1-4
Technology does not produce a hazard but ambient conditions need to be considered.	

SECTION 6: ASSOCIATED HEALTH HAZARDS (CONTINUED)	
H. ERGONOMIC HAZARDS	RISK RATING: 3
In order to manipulate the BPC-4 to cut high and low objects, the worker is exposed to ergonomic stressors, such as stooping, bending, twisting, kneeling, and lifting, while supporting the weight of the BPC-4.	
I. OTHER	RISK RATING: N/A
None noted at this time.	

SECTION 7: PHASE ANALYSIS	
A. CONSTRUCTION/START-UP	
The set-up/start-up phase presents several hazards including pinch points, laceration hazards, slips/trips/falls, struck by, electrical hazards, hazards from hydraulic fluids, and muscular/back injury.	
B. OPERATION	
The operation phase presents several hazards including exposure to contaminant, muscular/back injury, pinch points, laceration hazards, slips/trips/falls, electrical hazards, ergonomic stressors, and hazards from hydraulic fluids.	
C. MAINTENANCE	
The maintenance phase presents several hazards including pinch points, laceration hazards, slips/trips/falls, muscular/back injury, exposure to contaminants, electrical hazards, hazards from hydraulic fluids, and accidental activation of moving parts.	
D. DECOMMISSIONING	
The decommissioning phase presents several hazards including exposure to contaminants, pinch points, laceration hazards, slips/trips/falls, electrical hazards, hazards from hydraulic fluids, and muscular/back injury.	

SECTION 8: HEALTH AND SAFETY PLAN REQUIRED ELEMENTS	
A. AIR MONITORING	
Dust does not appear to be a concern during operation of the BPC-4. Monitoring may need to be conducted for the metal the pieces are made of and the contaminants in the area where the D&D activities take place. This will be determined by the site characterization prior to the initiation of the D&D project.	

**SECTION 8: HEALTH AND SAFETY PLAN REQUIRED ELEMENTS
(CONTINUED)**

B. WORKER TRAINING

Training that may apply in this case may include but not be limited to:

- HAZWOPER
- HAZCOM
- Respiratory Protection
- Personal Protective Equipment
- Electrical Safety
- Lockout/Tagout
- Ergonomics (proper lifting, bending, stooping, kneeling, and static postures)
- Heat stress (learning to recognize signs and symptoms)
- CPR/First Aid/Emergency Response
- Bloodborne Pathogens
- Working with hydraulic systems
- Construction Safety (OSHA 500) and/or General Industry Safety (OSHA 501)

C. EMERGENCY RESPONSE

Emergency response planning for a site needs to assure adequate coverage for hazards described in the TSDS. Having at least one person per shift trained in CPR and first aid is recommended.

D. MEDIAL SURVEILLANCE

Evaluation of personnel's general health with emphasis on the cardiovascular and respiratory system and back. In addition, medical surveillance as required by OSHA standards must be conducted.

SECTION 9: COMMENTS AND SPECIAL CONSIDERATIONS

Only personnel who have been adequately trained in the operation of this technology should be permitted to operate and/or work the equipment.