Training and Evaluation Outline Report

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14 Apr 2021
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Task Number: 05-PLT-5215

Task Title: Install a Coupled Pipeline

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Destruction Notice: None
Foreign Disclosure: FD1 - This training product has been reviewed by the training developers in coordination with the MSCoE, Ft. Leonard Wood, MO 65473 foreign disclosure officer. This training product can be used to instruct international military students from all approved countries without restrictions.

Supporting Reference(s):

Step Number	Reference ID	Reference Name	Required	Primary	Source Information
	ATP 3-34.40	General Engineering (http://armypubs.army.mil/doctrine/DR_pubs/dr_a/pdf/atp3_34x40.pdf)	Yes	Yes	
	ATP 4-43	Petroleum Supply Operations	Yes	No	
	ATP 5-19	RISK MANAGEMENT, with change 1 dated 8 Sep 2014	Yes	No	
	TM 3-34.70	Plumbing, Pipe Fitting, and Sewerage	Yes	No	

Conditions: The element is directed to install a coupled pipeline along a sector of pipeline trace from the fuel source to the Tactical Petroleum Terminal (TPT) in accordance with plans, specifications and Tactical Standing Operating Procedures (TACSOP). All required tools, specialized pipeline equipment, materials and transportation are available. The sector has been cleared and staked. There is an established pipe staging yard with dedicated loading crew, trucks and trailers. Work site security is provided.

Note: The Commander must still determine at what level of training they would want the element to perform. Crawl, walk or run. This can only be determined after consideration as to the units training level.

The Commander prior to evaluating an element in the conduct of the task must determine if it will be conducted in a Live, Virtual, or Constructive environment, additionally it must also be determined which condition as described below that the element will conduct the task. The selection made for this task is at a trained level of proficiency. The commander must determine which of the environments below will best suit the unit and the proficiency level at which the unit is. When conducting crawl or walk level training units should not increase the intensity until the unit has achieved the standards and then unit trainers should include variables that increase proficiency in all conditions.

Note: The condition statement for this task is written assuming the highest training conditions reflected on the Task Proficiency matrix required for the evaluated unit to receive a "fully trained" (T) rating.

Note: Condition terms definitions:

Dynamic Operational Environment: Three or more operational and two or more mission variables change during the execution of the assessed task. Operational variables and threat Tactics, Techniques, and Procedures (TTPs) for assigned counter-tasks change in response to the execution of Blue Forces (BLUFOR) tasks.

Complex Operational Environment: Changes to four or more operational variables impact the chosen friendly COA/mission. Brigade and higher units require all eight operational variables of Political, Military, Economic, Social, Infrastructure, Information, Physical environment, and Time (PMESII-PT) to be replicated in varying degrees based on the task being trained.

Single threat: Regular, irregular, criminal or terrorist forces are present.

Hybrid threat: Diverse and dynamic combination of regular forces, irregular forces, and/or criminal elements all unified to achieve mutually benefiting effects.

This task should not be trained in MOPP 4.

Standards: The element installs a coupled pipeline according to the plans, specifications and TACSOP. The element will conduct test with air, water , or fuel on the pipeline. Couplings, valves and pumping stations should be capable of withstanding pressures of up to 740 pounds per square inch, are leak proof, aligned, and anchored. Task completion should be no later than the time stablished by the directive.

Note: Leaders are defined as the Platoon Leaders, Platoon Sergeants, Squad Leaders, and Team Leaders.

Live Fire: No

Objective Task Evaluation Criteria Matrix:

Plan and Prepare			Execute						Assess	
Operational Environment		Training Environment (L/V/C)	Leaders Present at Training/Required	Present at Training/Required	External Eval	Performance Measures	Critical Performance Measures	Leader Performance Measures	Evaluator's Observed Task Proficiency Rating	Commander's Assessment
SQD & PLT										
Dynamic (Single Threat)	Day	IAW unit CATS statement.	>=85%	>=80%	Yes	>=91%	All	>=90%	**T**	**T**
			75-84%			80-90%		80-89%	**T-**	**T-**
Static (Single Threat)			65-74%	75-79%	No	65-79%			**P**	**P**
			60-64%	60-74%		51-64%	<All	<=79%	**P-**	**P-**
			<=59%	<=59%		<=50%			**U**	**U**

Remarks: None

Notes: None

Safety Risk: Medium

Task Statements

Cue: None

DANGER

Suspend all handling of the pipeline system when an electrical storm is within a 5-mile radius of your operation, during high winds, or when your commander notifies you.

Leaders have an inherent responsibility to conduct Risk Management to ensure the safety of all Soldiers and promote mission accomplishment.

WARNING

Be very careful when stringing pipe at night. Soldiers could be injured by a moving truck.

Risk management is the Army's primary decision-making process to identify hazards, reduce risk, and prevent both accidental and tactical loss. All Soldiers have the responsibility to learn and understand the risks associated with this task.

CAUTION

Identifying hazards and controlling risks across the full spectrum of Army functions, operations and activities is the responsibility of all Soldiers.

Performance Steps and Measures

NOTE: Assess task proficiency using the task evaluation criteria matrix.

NOTE: Asterisks (*) indicate leader steps; plus signs (+) indicate critical steps.

STEP/MEASURE	GO	NO-GO	N/A
+* 1. The element leader conducts Troop Leading Procedures (TLP).			
a. Conducts preliminary construction planning.			
b. Requests augmentation support if required.			
+* 2. The element leader conducts detailed project planning.			
a. Conducts a reconnaissance of assigned pipeline sector if conditions allow.			
b. Assigns crews and equipment in order to facilitate efficient completion of the project.			
+ 3. The element coordinates with work site security element before beginning work along the pipeline trace.			
+ 4. The element prepares construction staging areas and delivers materials for each designated sector along the pipeline trace.			
+ 5. The element conducts stringing operations.			
+ a. The crew downloads all pipeline components without damaging them as the truck moves along the pipeline trace.			
(1) Does not drop pipeline components from the trucks or trailers.			
(2) Does not drag pipeline components along the ground.			
(3) Leaves pipe end caps in place until the pipe is coupled to avoid contamination.			
b. The crew places pipe sections in line, end to end, with a gasket and coupling at each point where pipe sections meet.			
c. The crew unloads an extra tubing section for every 50-75 pieces.			
+ d. The crew places check valves, gate valves and vents at the specified locations along the trace.			
Note: Valves are normally downloaded right before they are needed in order to avoid them sitting exposed and becoming contaminated with dirt or debris.			
+ e. The crew places elbows and sticks of pipe to account for terrain conditions, directional changes and expansion loops.			
+ 6. The element conducts coupling operations.			
+ a. The pipeline coupling crew inspects the pipe sections, couplings and gaskets for cleanliness and serviceability.			
Note: Keep pipes, valves and vents clean and free from debris during construction. Small quantities of loose material in each pipe length can accumulate in sufficient volume to clog sand traps or strainers located at the pumping stations. Before coupling pipe lengths together, clean any debris from the inside and from the pipe ends. Do not use damaged or corroded pipes.			
+ b. The pipeline coupling crew couples the pipeline.			
(1) Positions and aligns pipes using pipe jacks, lazy board, or wooden blocks placed end to end to afford ease of coupling.			
(2) Places an open, greased coupling under the point where the pipes will meet.			
Note: Turn the coupling upward to prevent exposure to debris.			
(3) Slides a dirt-free, greased gasket onto one pipe end (for one-piece gaskets).			
Note: Do not fold the inside of the gasket flaps (for one-piece gaskets).			
(4) Aligns and joins the ends of both pipe sections together.			
(5) Slides the gasket over the seam where both pipe ends meet (for one-piece gaskets).			
(6) Lifts up the coupling and seats it into the bottom grooves of the pipes.			
(7) Closes the coupling halves together completely.			
(8) Inserts the retaining pin into the closed hinge of the snap-joint coupling by driving it into place.			
Note: A 3 pound ball peen hammer can be used for this step if no fuel is in the pipeline; otherwise, a sparkles brass hammer is required.			
+ 7. The element installs pipeline supports and anchors.			
+ a. Drives in anchors after correct alignment on joints and couplings has been verified.			
+ b. Couples pipeline into receivers and launchers after they have been permanently placed and anchored.			
8. The element retrieves any unused portions of pipe, pipe end caps, and debris and returns them to the pipe staging yard.			
+ 9. The element performs a hydrostatic test of the pipeline.			
a. Manages testing operations with an observer or representative from the responsible quartermaster unit.			
+ b. Monitors safety.			
+ c. Divides the pipeline into test sections, ensuring all facilities are tested.			
+ d. Sets up testing precautions.			
(1) Checks communications.			
(2) Checks the accuracy of gauges.			
(3) Ensures that repair clamps are on hand.			

(4) Coordinates placement of firefighting equipment and crews on site for duration of the test.			
(5) Places a tanker vehicle and drums on standby to drain a section of line.			
(6) Ensures that shovels and materials to dig and line a pit are at the site in case of a spill.			
+ e. Establishes a Prescribed Load List (PLL) for the gaining unit.			
+* 10. The element leader submits status reports to higher Headquarters (HQ) according to the unit SOP.			

Task Performance Summary Block

Training Unit			ITERATION							
_____			1		2		3		4	
Date of Training per Iteration:										
Day or Night Training:			Day / Night		Day / Night		Day / Night		Day / Night	
			#	%	#	%	#	%	#	%
Total Leaders Authorized		% Leaders Present								
Total Soldiers Authorized		% Soldiers Present								
Total Number of Performance Measures		% Performance Measures 'GO'								
Total Number of Critical Performance Measures		% Critical Performance Measures 'GO'								
Live Fire, Total Number of Critical Performance Measures		% Critical Performance Measures 'GO'								
Total Number of Leader Performance Measures		% Leader Performance Measures 'GO'								
MOPP LEVEL										
Evaluated Rating per Iteration T, T-, P, P-, U										

Mission(s) supported: None

MOPP 4: Never

MOPP 4 Statement: None

NVG: Never

NVG Statement: None

Prerequisite Collective Task(s):

Step Number	Task Number	Title	Proponent	Status
	05-CO-5250	Perform Construction Operations	05 - Engineers (Collective)	Approved

Supporting Collective Task(s):

Step Number	Task Number	Title	Proponent	Status
1.	71-PLT-5100	Conduct Troop Leading Procedures	71 - Mission Command (Collective)	Approved
2.	05-CO-5001	Perform Project Management	05 - Engineers (Collective)	Approved
2.	05-PLT-5310	Prepare Pipeline Route Profile	05 - Engineers (Collective)	Approved
3.	05-PLT-3006	Establish Work Site Security for a General Engineering Mission	05 - Engineers (Collective)	Approved
5.	05-PLT-5305	Install Underground Pipeline Crossing Site	05 - Engineers (Collective)	Approved
5.	05-PLT-5306	Install Pipeline Pumping Stations	05 - Engineers (Collective)	Approved
6.	05-PLT-5309	Repair a Pipeline	05 - Engineers (Collective)	Approved
7.	05-PLT-5301	Construct Pipeline Suspension Supports	05 - Engineers (Collective)	Approved
7.	05-PLT-5300	Construct Expedient Coupled Pipeline Supports	05 - Engineers (Collective)	Approved
9.	05-PLT-5308	Test Pipeline System	05 - Engineers (Collective)	Approved
10.	05-CO-0018	Conduct Report Procedures	05 - Engineers (Collective)	Approved

OPFOR Task(s):

Task Number	Title	Status
71-CO-8502	OPFOR Execute an Ambush	Approved
71-CO-8504	OPFOR Execute a Reconnaissance Attack	Approved

Supporting Individual Task(s):

Step Number	Task Number	Title	Proponent	Status
	052-120-5100	Develop Base Camp Master Plan	052 - Engineer (Individual)	Approved
	052-120-5107	Plan the Construction of Utility Systems for Non-Permanent Structures	052 - Engineer (Individual)	Approved
	052-12K-1061	Maintain Plumbing Tools	052 - Engineer (Individual)	Approved
	052-12T-3011	Conduct an Engineer Construction Reconnaissance	052 - Engineer (Individual)	Approved
	052-239-3001	Prepare a Bill of Materials	052 - Engineer (Individual)	Approved
	052-239-3029	Schedule Work	052 - Engineer (Individual)	Approved
	052-239-3030	Read Construction Prints	052 - Engineer (Individual)	Approved
	052-239-3036	Supervise the Installation of Pipelines	052 - Engineer (Individual)	Approved
	052-248-1013	Install a Coupled Pipeline	052 - Engineer (Individual)	Approved
	052-248-1014	Repair a Coupled Pipeline	052 - Engineer (Individual)	Approved
	052-248-1016	Install Components With a Pumping Station	052 - Engineer (Individual)	Approved
	052-248-1021	Identify Plumbing Materials	052 - Engineer (Individual)	Approved
	052-248-1040	Interpret Plumbing Prints and Drawings	052 - Engineer (Individual)	Approved
	052-248-1056	Prepare a Plumbing-Materials Takeoff List	052 - Engineer (Individual)	Approved
	052-248-2003	Emplace a Flexible Hose Line	052 - Engineer (Individual)	Approved

Supporting Drill(s): None

Supported AUTL/UJTL Task(s):

Task ID	Title
ART 4.1.7.2.6	Construct Petroleum Distribution Systems

TADSS

TADSS ID	Title	Product Type	Quantity
No TADSS specified			

Equipment (LIN)

LIN	Nomenclature	Qty
W65884	Tool Kit, Supplement, Pipeline Pump Sta, 4, 6, and 8 Inch	1
MC8063	Tool Kit Supplemental, Pipeline C	1

Materiel Items (NSN)

NSN	LIN	Title	Qty
No materiel items specified			

Environment: Environmental protection is not just the law but the right thing to do. It is a continual process and starts with deliberate planning. Always be alert to ways to protect our environment during training and missions. In doing so, you will contribute to the sustainment of our training resources while protecting people and the environment from harmful effects. Refer to the current Environmental Considerations manual and the current GTA Environmental-related Risk Assessment card. .

Safety: In a training environment, leaders must perform a risk assessment in accordance with current Risk Management Doctrine. Leaders will complete the current Deliberate Risk Assessment Worksheet in accordance with the TRADOC Safety Officer during the planning and completion of each task and sub-task by assessing mission, enemy, terrain and weather, troops and support available-time available and civil considerations, (METT-TC). Note: During MOPP training, leaders must ensure personnel are monitored for potential heat injury. Local policies and procedures must be followed during times of increased heat category in order to avoid heat related injury. Consider the MOPP work/rest cycles and water replacement guidelines IAW current CBRN doctrine.