

ART 4.5.2.6 Construct Petroleum Distribution Systems

Provide construction, major rehabilitation, and major repair of water and petroleum pipelines and tank farms. ART 4.1.7.2.6 includes all design, new construction, and modification of existing pipelines and tank farms to meet military traffic needs. This task will always include environmental considerations.
(FM 5-482) (USAES)

NO.	Scale	Measure
01	Yes/No	An inability for building and maintaining pipelines and tank farms within the time the construction directive specifies did not degrade or delay unit operations.
02	Yes/No	Size of storage tanks or tank farm was adequate for anticipated demand.
03	Yes/No	Unit constructed the system per plans and specifications.
04	Yes/No	The system was operational and leak proof.
05	Yes/No	Buried pipes were below frost line and deep enough that vehicle movement did not damage system.
06	Yes/No	Environmental regulations or considerations observed during construction or repair of petroleum distribution systems.
07	Yes/No	Environmental considerations planning and procedures were present and being followed.
08	Time	To respond to reportable tasks.
09	Time	To reconnoiter to evaluate the site for suitability and conditions, identify construction problems and possible courses of action, and update or revise the engineer estimate.
10	Time	To prepare engineer construction estimate that determines the effort needed to meet the requirements, assign operational and construction responsibilities, and determine additional personnel and equipment requirements.
11	Time	To prepare construction directive for the pipeline or tank

		farm and issue it to the construction unit. This directive states the exact assignment, project location, and start and completion times; specifies additional personnel, equipment, and materials available; prioritizes the entire project; and specifies type and frequency of construction reports, time needed for special procurement, and coordination instructions with user agency.
12	Time	To coordinate for and receive engineer assets to perform task.
13	Time	To monitor construction and perform quality assurance inspections.
14	Time	To perform location survey to establish permanent benchmarks for vertical control and well-marked points for horizontal control.
15	Time	To perform construction layout survey.
16	Time	To perform earthwork estimation that calculates the earthwork volume or quantity, determines final grade balancing of cuts and fills, and determines most economical haul of materials.
17	Time	To excavate trenches per construction or repair plans.
18	Time	To lay pipe, make connections, install valves, and perform pressure tests.
19	Time	To conduct backfill and tamping operations.
20	Time	To construct pipeline supports and bracing for locations where the pipeline must be above ground.
21	Time	To construct pipeline suspension bridges for locations where the pipeline must be above ground.
22	Time	To install pipeline pumping stations.
23	Time	To ensure water distribution system functions properly.
24	Time	To install storage tanks or liquid storage facilities.
25	Time	To install underwater pipeline.
26	Percent	Of difference between planned and actual requirements for water and petroleum pipelines and tank farms in an area of operations (AO).

27	Percent	Of planned construction or repair program completed.
28	Number	Of pipelines constructed, expanded, or rehabilitated in the AO.
29	Number	Of tank farms constructed or rehabilitated in AO.
30	Number	Of kilometers of pipelines and tank farms in the AO required to support unit operations.
31	Number	Of pipelines and tank farms and associated support facilities in the AO damaged by enemy fire or natural disaster.
32	Number	Of meters of pipeline constructed, improved, or repaired in the AO within a given time.
33	Number	Of liters or metric tons of water or bulk petroleum products currently stored in tank farms in the AO.
34	Number	Of instances in which troop movement or sustaining operations were prevented due to lack of water or bulk petroleum products.
35	Number	Of liters or metric tons of supplies transported per day by pipelines in the AO.
36	Number	Of pipeline, tank, or pumping station inspections performed per month in the AO.
37	Number	Of casualties because of accidents during the construction, repair, or maintenance of pipelines and tank farms.
38	Number	Of incidents that result in the release of hazardous material because of accidents or spills resulting from combat actions.
39	Number	Of liters or metric tons of hazardous material released.
40	Number	Of water wells drilled in the AO.
41	Number	Of leaks per day.

Supporting Collective Tasks:

Task No.	Title	Proponent	Echelon
05-2-5310	Prepare Pipeline Route Profile	05 - Engineers (Collective)	Company
05-3-	Construct Expedient Coupled Pipeline	05 -	Platoon

5300	Supports	Engineers (Collective)	
05-3-5301	Construct Pipeline Suspension Supports	05 - Engineers (Collective)	Platoon
05-3-5302	Excavate a Pipeline Trench	05 - Engineers (Collective)	Platoon
05-3-5303	Perform Pipe Stringing Operations	05 - Engineers (Collective)	Platoon
05-3-5304	Perform Pipeline Coupling Operations	05 - Engineers (Collective)	Platoon
05-3-5305	Install Underground Pipeline	05 - Engineers (Collective)	Platoon
05-3-5306	Install Pipeline Pumping Stations	05 - Engineers (Collective)	Platoon
05-3-5307	Install Liquid Storage Facilities	05 - Engineers (Collective)	Platoon
05-3-5308	Test Pipeline System	05 - Engineers (Collective)	Platoon
05-3-5309	Repair a Pipeline	05 - Engineers (Collective)	Platoon