

Functional Job Description Tankerman

Reports To: Captain/ Pilot/ Wheelman

Department: Vessel

Positions Reporting to this Position: None

Date: July 24, 2003

I. General Job Responsibilities

The Tankerman is responsible for the safe, efficient, reliable, and environmentally compliant operation of assigned area. Employee's key responsibilities include, but are not limited to, the following:

1. The primary function on the Tankerman is to prepare the barges that are assigned to his boat for safe and complete loading and discharging of oil, refined, and petrochemical barges.
2. The Tankerman must be able to make certain that any and all federal and state required documents that must accompany the barges are on board and in proper order.
3. The Tankerman must be able to communicate with dock personnel and ensure that each person participating in the transfer of the product understands what the product is and how it should be transferred and protected.
4. The Tankerman must be able to participate in the maintenance of the boat and barges, and help with the training of newly hired employees aspiring to become Tankerman.
5. The Tankerman must be able to handle lines and rigging during tow building, locking, and docking activities.
6. The Tankerman must be able to work a rotating six hours on and six hours off watch schedule, and occasionally work different hours not to exceed sixteen consecutive hours without rest.
7. The Tankerman must be able to work on the boat with a schedule based on a ratio of 2 to 1 (i.e. 20 days on, 10 days off or 28 days on, 14 days off).
8. The Tankerman must be able to wear a negative or positive respirator, PVC foul weather gear, rubber gloves and boots to protect himself from harmful cargo contact.
9. The Tankerman must be able to wear a 5-minute escape pack, or a negative pressure respirator, or a supplied airline respirator.
10. The Tankerman must be able to drive to and from hub cities.
11. The Tankerman must be able to perform all duties necessary to navigate locks.
12. A Tankerman must be able to adhere to all company policies, United States Coast Guard and environmental regulations.

II. Education and License Requirements

Employee must:

01. Have a high school diploma or GED
02. Possess a valid, current Merchant Mariners Document with a Tankerman's endorsement for Grade B liquid cargos and under (46 CFR 12.20 et seq.) and a current and valid driver's license. The Tankerman endorsement applies to vessel's Tankerman exclusively engaged in petroleum or chemical transportation.
03. Be able to pass certification requirements of 46 CFR Part 197 Subpart C – Benzene. This applies to vessel Tankerman exclusively engaged in petroleum and/ or chemical transportation.

III. Learning and Training Requirements

Employee must be able to:

01. Comprehend essential information related to:
 - a. Spill containment and cleanup
 - b. MSDS sheets and emergency action information.
 - c. Video training information addressing safety.
 - d. Safety meetings.
 - e. Benzene training.

02. Assist in training new personnel

IV. Safety/ Rescue Requirements

Employee must be able to:

01. Ensure safe, working conditions and orderliness of the vessel.
02. Maintain safe, sanitary living and working conditions.
03. Follow all company safety rules and environmental regulations.
04. Wear safety equipment as required, including: gloves, steel toes boots, goggles, rubber boots, slicker suits, respirator, five (5) minute escape pack or negative pressure respirator or supplied airline respirator.
05. Assist in safety and rescue operations in emergency situations.
06. Assist in emergency firefighting, use firefighting equipment and spill containment equipment.
07. Enter and exit hatches/ doorways quickly in case of emergencies.
08. Physically pull or assist in pulling a 200-300lb man from the water.

V. Minimum Job Qualifications:

Employee must be able to:

01. Tolerate long hours during transfers.
02. Read and write.
03. Communicate with co-workers, Captains, Pilots, Wheelman, Dispatchers, Port Engineers, Coast Guard Inspectors, and others.
04. Remain calm during challenging situations.
05. Posses a valid driver's license for operation of any of the company's vehicles.
06. Make good decisions.
07. Be dependable, conscientious, and show imitative.
08. Pay attention to detail.
09. Be willing to adhere to orders, rules, and regulations.
10. Work as a team player – i.e., work with others and understand customer/ supplier wants and needs.
11. Be stable under pressure and withstand the stress associated with the job, including discomfort, unpredictable weather, and potentially hazardous situations.
12. Work aboard the vessel for prolonged periods according to work schedule for the vessel, for example: 30 days on and 15 days off or 14 on and 7 off.
13. Willing to work, as operations require, including days.
14. Live in close quarters for long periods of time and is able to work away from home for long periods of time.

15. Be drug and alcohol free while on company property during course and scope of company business.
16. Be physically fit to perform all essential physical demands of this job safely.

VI. Minimum Physical Demand Requirements for Safe Job Performance:

Physical demands described in this functional job description have been validated by an on-site job analysis involving direct measurements by an independent ergonomic consulting firm. The physical demands measured objectively by job analysis have been determined to be representative of the essential job functions that must be met by an employee to successfully and safely perform the essential duties of this job. Although specific components of job demands are listed in detail in this document, the following is a synopsis of key physical demand requirements determined from a detailed job analysis:

VI. Minimum Physical Demand Requirements for Safe Job Performance Cont...:

- 01. Communication:** Employee must be able to write in English, read in English, calculate, have estimation skills, possess good verbal presentation and be able to communicate using the radio, speaker, or electronic communication by using the English language.
- 02. Posture/ Flexibility:** Employee must be able to tolerate repetitive and prolonged postures involving standing, sitting, twisting, squatting, kneeling, stooping and reaching to full range from above the head to the deck. Employee must have the ability to move extremities and spine through full physiological range of motion that will permit the employee to work in a variety of postures involving postures allowing reaching with hands from deck level to overhead level. Flexing and twisting of the trunk and other awkward postures are frequently required while tying up vessels, moving rope or cable and repairing equipment as needed.
- 03. Flexibility:** Employee must have sufficient flexibility of the extremities and trunk and be able to safely bend the trunk at the waist, stretch, twist, squat, kneel, stoop, crouch, and reach to full range from above the head to the deck. Must be able to extend both arms fully, throughout a normal range of motion both in a horizontal and vertical plane. An essential part of a Tankerman's job is to handle lines (throw and catch lines, included). Complete range of motion is also required in order to perform Engine room maintenance responsibilities, which includes reaching over one's head.
- 04. Dexterity:** Employee must have good dexterity and frequently use one and two hands throughout the work period for grasping, and using hand tools and performing activities involving the fingers to perform tasks requiring good dexterity such as tightening nuts and bolts (singly and simultaneously with other hand) while often applying high forces.
- 05. Balance/ Coordination:** Employee must have good balance and coordination in order to safely walk over catwalks, enter/ exit hatches, and over uneven and/or slippery surfaces. Must be able to climb ladders, stairwells and pushknees. Employee must be able to step with a step length of 2-ft. in the horizontal direction and 2-ft. in the vertical direction. Different docks, owned by individuals other than Blessey Marine Services, have various combinations of barge drafts and river stages which make it necessary to step across, up, down, or over an obstacle in order to gain access to the dock from the barge or from the barge to the boat or from the boat to the dock. Must also be able to safely walk and carry tools and line while crossing pipes, ledges, sills, catwalks, and/ or climbing ladders and pushknees.

VI. Minimum Physical Demand Requirements for Safe Job Performance Cont...

06. Cardiorespiratory Demand: Employee must have sufficient cardiorespiratory fitness to walk 3-4 miles per day. A vessel generally has a tow that is 600 to 1100 ft. in length. A Tankerman must have sufficient cardiorespiratory fitness to perform tinkering operation, which is estimated to be 3-4 miles per day, A Tankerman must have sufficient cardiorespiratory fitness to perform heavy physical labor involving lifting, carrying, pushing and pulling various materials and tools, climbing ladders, stairwells, and pushknees while working in climate weather with temperatures that may vary from extreme cold to extreme hot. Must be able to work in hot weather while wearing required PPE while performing any task above (i.e. respirators, goggles, etc.). Lifting and carrying hoses from one vessel to another involving stairs or pushknees is an example of a work activity requiring good cardiorespiratory fitness. Tankermans must have sufficient pulmonary function to be able to pass a pulmonary function test of at least 85%.

07. Material Handling – Minimum Essential Demands: Employee must be able to demonstrate that he/she has sufficient strength, flexibility, and cardiorespiratory fitness to perform the following material handling tasks in order to meet the minimum essential material handling demands of the job:

- Lift at least **80 lbs.** from floor to knuckles level on a daily basis.
- Lift at least **80 lbs.** from floor to waist level on a daily basis.
- Lift at least **65 lbs.** from floor to shoulder level on a daily basis.
- Lift at least **25 lbs.** from floor to crown level on a daily basis.
- Lift and carry at least **65 lbs.** with two hands at shoulder level up and down ten steps for a minimum distance of **20 feet** on a level surface.
- Lift and carry at least **80 lbs.** with two hands at waist level for a minimum distance of **20 feet** on a level surface.

Frequency of material handling will vary considerably depending on operational conditions. The physical demands for certain jobs may actually exceed those listed above in certain situations. However, the employee is expected to seek assistance if material handling requirements exceed those listed above or if the job demand cannot be performed safely.

08. Estimated Frequency of Material Handling Tasks Based On Weight Ranges:

A. Lifting (W=Weight; F=Force)

	O	F	C	N
Up to 10 lbs.			√	
11-25 lbs.			√	
26-50 lbs.		√		
51-100 lbs.		√		
>100 lbs.				√

B. Carrying

	O	F	C	N
Up to 10 lbs.			√	
11-25 lbs.		√		
26-50 lbs.		√		
51-100 lbs.		√		
>100 lbs.				√

C. Pushing/Pulling

	O	F	C	N
Up to 10 lbs.			√	
11-25 lbs.		√		
26-50 lbs.		√		
51-100 lbs.		√		
>100 lbs.	√			

Frequency of material handling will vary considerably depending on operational conditions. The physical demands for certain jobs may actually exceed those listed above in certain situations. However, the employee is expected to seek assistance if a job demand cannot be performed safely.

VII. General Physical Activities:

Activity:	O	F	C	N	Activity:	O	F	C	N
01. Standing			√		14. Climbing Ladders 2' to 12'		√		
02. Walking			√		15. Climbing Stairs 2' to 12'		√		
03. Sitting	√				16. Balancing			√	
04. Stooping		√			17. Manual Dexterity			√	
05. Kneeling		√			18. Writing			√	
06. Squatting	√				19. Sense of Touch			√	
07. Body Twisting			√		20. Sense of Smell*			√	
08. Crawling	√				21. Hearing*-Speech Range/ Verbal commands/both ears/> 10ft. distance/ noise levels			√	
09. Reaching, High, Low Level			√		22. Vision-Normal Light			√	
10. Lifting		√			23. Vision adequate for minimum or very dim light			√	
11. Carrying		√			24. Depth Perception			√	
12. Pushing		√			25. Reading*			√	
13. Pulling		√			26. Speaking Clearly*			√	

* Additional Notes:

Climbing: The Tankerman must be able to climb a 90-degree vertical ladder forty to fifty feet. This is necessary as different docks have various means by which to gain access to the barges that are docked at their facilities. This is especially true when the river stages are at a low stage.

Grip Force: The Tankerman must have a minimum grip force of sixty pounds (60 lbs).

Hearing: The Tankerman must possess hearing abilities that are sufficient to meet the requirements for obtaining a Merchant Mariners Document.

Speech: The Tankerman must be able to verbally communicate in the English language both in delivery and the ability to be understood. The deckhand must be able to use hand held radios to communicate with the barges and/ or boats.

Reading: The Tankerman must be able to read the written English language.

Writing: The Tankerman must be able to write legibly in English.

Smell: The Tankerman must have a sense of smell sufficient enough to be able to detect the presence of potentially dangerous chemical vapors.

Vision: The Tankerman must have color vision eyesight sufficient to pass the Ishihara eye test and as required to obtain a Merchant Mariners Document. This requires an uncorrected vision of at least 20/200 in each eye correctable to 20/40 in each eye.

Key:

O-Occasionally, less than 33% of the work time
 F – Frequently, 34%-66% of the work time
 C – Constantly, 67% -100% of the work time
 N – Not a significant part of the job

VIII. Environmental Requirements

The work environment characteristics described here are representative of those that the employee encounters while performing the essential functions of this job. A Tankerman must be able to endure a harsh environment affected by extremes in temperature, rain, ice, sleet, wind, and wave action.

	O	F	C	N
01. Extreme Cold – Below 30F	√			
02. Extreme Heat-Above 100F		√		
03. Dryness	√			
04. Wetness		√		
05. Humidity – Above 90%		√		
06. Noise – Over 85 Decibels TWA Ear Protection Required		√		
07. Respirator – Breathing Apparatus	√			
08. Confines Spaces	√			
09. Elevated Heights		√		
10. Working Around/ with People			√	
11. Working Alone	√			

Key:

O-Occasionally, less than 33% of the work time
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IX. Airborne Contaminants & Chemicals in Work Environment

Dust, diesel, gasoline, solvent, lubricant, fumes, vapors, gases, particulates, chemical toxins

X. Validated Material Handling Measurements:

A. Lifting

Lifting Method	Weight (w) Force (F) in LBS.	Frequency	Description Materials/ Tool/ Procedure
Two hands floor to shoulder	65 lb.	Daily	Ratchet
Two hands floor to shoulders	75 lbs.	Daily	Cables/ hoses (e.g., a partially full crossover hose that would require a lift of at least 60-75 lbs.)
Two hands floor to waist	80 lbs	Daily	Reducer
Two-person lift from floor to waist	80 lbs per person	Daily	Wire Rope (160 lbs) Hose (160 lbs)
Two hands floor to shoulders	36 lbs	Daily	1" wire hoola-hoop
One or two hands from waist to over head	15-20 lbs	Emergency Basis	Throwing a life ring
One-handed lift	55 lbs	Daily	5 gallon bucket of chemicals
Two handed lift from floor to shoulders	30 lbs	Daily	Groceries
One handed lift overhead	25 lbs.	Daily	Grinder/ chipping hammer

B. Carrying

Method	Weight Carried	Coupling	Min. Distance	Frequency	Material/ Tool
Two person two handed carry	80 lbs per person	Fair	54'	Daily	160 lb wire rope 160 lb hose
Two handed carry	80 lbs		54'	Daily	Reducer
Two handed carry	70 lbs	Fair	54'	Daily	Cables
Two handed carry level and up/down stairs	65 lbs	Fair	40' -100'	Daily	Ratchet (if the lead coupling on a tow was the break, a Tankerman may be required to carry a ratchet the length of the barge in order to repair the coupling.)
One handed carry	55 lbs	Good	50'	Daily	5 gallon bucket of chemical
One person two handed carry	36 lbs	Fair	Distances in excess of 330'	Daily	1" wire hoola-hoop
One or two handed carry	30 lbs	Fair	50'	Daily	Grinder/ chipping hammer
One handed carry	25 lbs	Good	50'	Daily	Grinder/ chipping hammer

X. Validated Material Handling Measurements Cont...:

C. Pushing/ Pulling

Push Force (lbs)	Pull Force (lbs)	Frequency	Distance (Ft.)	Hand Position	Material/ Tool
80-140 lbs	80-140 lbs	Daily	N/A	Varies	Turning valves-small diameter, large diameter while reaching (2 hands required)
N/A	140-170 lbs	Daily	N/A	Varies	Turning, winching equipment, various diameters (2 hands used) to tighten cables

Above random sampling is not inclusive of all possible weights and forces. Physical demands may at times exceed those identified in this report. Employees are required to adhere to all safety guidelines established by Blessey Marine Services and seek assistance to perform any task, which they may feel exceeds their safe capacities to perform. Information derived from this analysis is utilized to help insure the safety of all employees.

XI. Physical Demand Level (PDL) Description:

Frequency	SED	SED Light	Light	Light-Medium	Medium	Medium-Heavy	Heavy	Very Heavy
O – Occasional or Seldom up to 30%	10 lbs	15 lbs	20 lbs	35 lbs	50 lbs	75 lbs	100 lbs	Over 100 lbs
F – Frequent/ Intermittent 30-50%	-----	7 lbs	10 lbs	17 lbs	25 lbs	37 lbs	50 lbs	Over 50 lbs
C – Constant continuous 50% +	----	----	----	5 lbs	10 lbs	15 lbs	20 lbs	Over 20 lbs.
	Sit	Sit/ Stand	Stand/ Walk	Stand/ Walk	Stand/ Walk	Stand/ Walk	Stand/ Walk	Stand/ Walk

XII. Physical Demand Level Classification:

Employees identified in this document must be able to perform **heavy** physical labor as classified by the United States Department of Labor when assisting in performing duties of a Tankerman. The Captain/ Wheelman is primarily responsible for maneuvering the vessel and typically works in the Pilothouse during all operations when underway. Employees must be able to climb four flights of stairs from the engine room to the wheelhouse. There are no specific lifting requirements when performing the actual duties of the Captain/ Wheelman other than be able to handle fire gear and perhaps, assisting with loading of groceries. Heavier physical duties occur when the Captain/ Wheelman assists in duties of the Tankerman such as clearing ratchets when certain conditions dictate. Physical demands involve lifting, carrying, pushing, and pulling.

XIII. Entergy Expenditure:

Employee must have an aerobic capacity sufficient to safely expend 5.6 to 7.5 METS on occasion to perform the essential functions of this job. This energy expenditure is consistent with a PDL classification of **heavy** as classified by the United States Department of Labor.

PDL:	HEART RATE:	ENERGY EXPENDITURE:
SEDENTARY	70-80	1.5-2.1 METS
LIGHT	81-90	2.2-3.5 METS
MEDIUM	91-110	3.6-5.5 METS
HEAVY	111-130	5.6-7.5 METS
VERY HEAVY	+130	+7.5 METS

METS-Job demands can be expressed in METS, or metabolic equivalents, related to a person's resting oxygen usage, and compared to the worker's performance on a comparable aerobic capacity test.

XIV. Validated Materials Handled and Weights (Lbs):

Material weights and handling forces have been accurately measured and determined to be representative of the type of materials and forces required to perform the essential duties of work performed by employees identified in this document. The primary physical demands observed and measured during this analysis included lifting, carrying, pushing and pulling.

No.	Description	Weight (W)/ Force (F) Lbs.
1	Reducer	80 lbs.
2	Wire rope (2 person lift)	160 lbs (80 lbs. per person – 2 person lift & carry)
3	Hose	160 lbs (80 lbs. per person – 2 person lift & carry)
4	Ratchet	65 lbs
5	5 gallon bucket of chemical	55 lbs
6	1" wire hoola-hoop	36 lbs
7	Groceries, basic rigging, supplies, hoses	30 lbs
8	Grinder, chipping hammer	25 lbs.
9	Life ring	15-20 lbs
10	Various hand tools	1-15 lbs

XV. Guidelines for Physical Demand Validation (PDV) Analysis:

Physical demand validation analysis was performed based on guidelines established by the U.S. Department of Labor (USDL) and the Occupational Safety and Health Administration (OSHA). Validation of physical demands of job tasks is required for developing an accurate and valid functional job description as required by guidelines consistent with the Americans With Disabilities Act (ADA) and EEOC regulations for fair hiring practices. Findings derived from this physical demand validation (PDV) represent typical physical demand requirements of the job tasks analyzed.

XVI. Methods of PDV Analysis:

1. Personal interview, questionnaires, and on-site direct observation of job activities.
2. Measurements of material handling forces using push-pull dynamometers and weight scales.
3. Measurements of material dimensions, distances, heights, reaches using tape measures.
4. Digital photography.

Physical demand validation analysis performed by Industrial Safety & Rehabilitation (ISR) Institute, Inc., 1516 River Oaks Dr. West, Harahan, LA 70123 under the direction of Dr. Richard W. Bunch, Certified Ergonomic Specialist.

Date of Physical Demand Validation: July 21, 2003

For Employee:

By my signature below I acknowledge that I have read and understood the essential requirements and qualifications required for this job as outlined in this document. I understand by my signature below that I am testifying, to the best of my knowledge, that I currently possess the physical and mental capacities to perform all essential job functions of this job safely as described in this Blessey functional job description for Master/ Relief Captain/ Pilot. I further understand that I am not officially considered for hire until I pass a drug screen. Upon passing the drug screen, I understand that I will be offered a conditional hire.

As a conditional hire, and prior to final job placement, I understand that I must demonstrate the abilities to pass a physical examination and demonstrate physical and functional abilities to safely perform the essential tasks of this job. I acknowledge that I understand and accept that Blessey Marine Services reserves the right to withdraw this conditional job offer if I fail to pass any of these tests that are designed to ensure my safety and the safety of others. I further understand that intentional false representations of my abilities, qualifications, or medical history provided prior to or after conditional offer is given, can result in the withdrawal of a job offer or termination of employment if hired.

Employee's Printed Name

Employee's Signature

Date