

MINOR CHANGE REQUEST FORM

MCR NO. ES-MECH-010.R1-004
(e.g., MCR-ENG-021,R0-001)

The Minor Change Request (MCR) Form is to be used to process Minor, or in some necessary cases, Urgent or Temporary changes to PPPL Lab-wide procedures). The MCR should be used when changes are:

- 1) **minor** and do not warrant further SME review;
- 2) **urgent** and cannot wait the 2-4 week period for further SME review; or
- 3) **temporary**, to revert to original state by a given expiration date (must be within 6 months).

For questions about definitions of “minor,” “urgent,” and “temporary” changes, please review Lab-wide Procedure GEN-001, **Development, Review, and Approval of Lab-wide Documents**.

Person Requesting Change: M. Viola

Phone Ext: 3655

Department Name: Engineering

Document Number: ES-MECH-10

Revision No.: 1

Document Title: Forklifts and Walkies

Reason for change:

Update Attachment 2, “Service Report” form, to include a third requirement check box: “All product recalls and safety improvements have been installed.”

Change description: (Summarize and attach changed pages, with changes clearly indicated)

Added “All product recalls and safety improvements have been installed” as a check box in Attachment 2, “Service Report”

1. Does this change significantly alter the intent or scope of the document? YES: NO: X

2. Does this change significantly impact ES&H? YES: NO: X

If 1 or 2 is YES, explain why the changes should not be submitted as a revision:

3. Place a check mark next to the appropriate type of change request:

- Minor change? X
- Urgent change? (revision must follow within 2 weeks)
- Temporary change?

If “temporary change” is checked, provide expiration date, allowing document to revert to original state (must be within 6 months):

Management System Owner/Designee Approval

Date

Head, PPRM/designee

Date

Release/Effective date of this MCR: 12/3/18

PRINCETON PLASMA PHYSICS LABORATORY	ENGINEERING STANDARD	ES-MECH-010, Rev. 1 Page 1 of 30
Subject:	Effective Date:	Initiated:
Forklifts and Walkies	May 31, 2013	Lift Manager
	Supersedes:	Approved:
	Rev 0	Head, Engineering

MCR ES-MECH-010, R1-004

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1.0 SCOPE/APPLICABILITY

This Engineering Standard covers the requirements for the operation of material handling equipment defined as forklifts and walkies (Powered Industrial Trucks per OSHA) while on the PPPL site, equipment inspection, testing, maintenance, procurement and the training of forklift operators. Only properly trained and qualified operators shall operate forklifts or walkies at PPPL.

2.0 INTRODUCTION

The movement of materials and equipment involves hazards having potential consequences ranging from minor injuries and minor property damage, to fatalities and major property losses. This standard will address the reduction of these hazards to risk levels that are acceptable through the use of defined controls such as proper design, maintenance, and use of mechanical devices; care and common sense; proper training and supervision; and the careful adherence to approved work and safety procedures.

3.0 REFERENCES

ENG-021, Hoisting and Rigging Program

Material Services Branch Policies and Procedures Manual

ESHD 5008 Safety Manual

ANSI B56.1-2012 Low Lift and High Lift Trucks

ANSI B56.10 – 2006 Safety Standard For Manually Propelled High Lift Industrial Trucks

ANSI/NFPA 30 Flammable and Combustible Liquids Code

ANSI/NFPA 58 Liquefied Petroleum Gas Code

ANSI/NFPA 505 Fire Safety Standard for Powered Industrial Trucks

UL 558 Industrial Trucks, Internal Combustion Engine Powered

UL 583 Electric Battery Powered Industrial Trucks

ANSI MH11.4, Forks and Forks Carriers for Powered Industrial Forklift Truck

OSHA 29 CFR 1910 Occupational Safety and Health Standards

OSHA 29 CFR 1926 Safety and Health Regulations for Construction

1926.600 Equipment

1926.601 Motor Vehicles

1926.602 Material Handling Equipment

DOE-STD-1090-2011 DOE Hoisting and Rigging Standard

4.0 DEFINITIONS

Attachment – A device other than the conventional forks or load backrest extension mounted on the elevating mechanism of the forklift for handling the load. Examples are clamps, rotating devices, side shifters, booms, etc.

Backrest – A forklift feature used to keep a load from falling backwards when lifted.

Capacity – The capacity of a forklift equipped with load carriage and forks, or attachments, is the weight at a specified load center that a given forklift can transport in a carry position and stack to the specified elevation of the load engaging means.

Carriage – A support structure for forks or attachments, generally roller mounted, traveling vertically within the mast of a forklift.

Capacity Load Center of Gravity – That point at which the load mass is concentrated which should be in line with the forklift's longitudinal centerline.

Equipment Contact – Individual having physical possession of government personal property items (capital, controlled, other accountable, sensitive, high risk and administratively controlled) charged to their care. Usually reports organizationally or functionally to the custodian.

Equipment Custodian – Individual designated by Division/Department Head or Project Administrator for a particular functional or organizational area of responsibility (usually at section head level or higher). This individual maintains liaison with Material Services Property Management personnel regarding inventories, equipment spot-checks, property loans, intra-lab permanent transfer of property, disposal and other actions/problems regarding equipment within their assigned functional area.

Fleet Coordinator – The Fleet Coordinator is the person in the Material Control Group assigned to maintain DOE required documentation regarding the status of all government owned vehicles at PPPL.

Fork Blades – Horizontal tine like projections, normally suspended from the carriage, for engaging and supporting loads.

Fork Extensions – A forklift attachment that is added to the forklift to increase the fork's effective length for handling oversized uniformly distributed loads.

Fork Height – The vertical distance from the floor to the horizontal load-carrying surface of the forks, measured adjacent to the heel of the forks.

Forklift – A self-loading powered industrial truck, equipped with load carriage and forks for transporting and tiering loads.

Forklift Operator – An authorized individual who meets all of the training requirements through Human Resources, has current training certification and has demonstrated the ability to operate and control a forklift safely.

Hot Tapping – A disallowed unsafe practice of installing or removing an attachment to a piece of equipment while the equipment is running and/or while the hydraulic or electrical systems required are energized.

Load Backrest – A guard used to minimize the load falling towards the mast.

Manually Propelled Industrial Truck – Manually propelled industrial trucks controlled by a walking operator, intended for use on level improved surfaces known as a Walkie hand truck.

Mast – The support member providing the guideways permitting vertical movement of the carriage.

Maximum Fork Height – The fork height attainable in fully raised position when loaded.

Nameplate - The manufacturer's plate attached to the forklift that lists the forklift's capacity, approved modifications and attachments and reach under conditions.

OEM – Original Equipment Manufacturer.

Operator's Daily Check List (ODCL) – The checklist to be used by the operator to inspect the Forklift at the start of every shift and used to log safety and operating issues that arise during the shift. The ODCL signature sheet will be kept on the forklift until full and then be given to the Supervisor for filing.

Operator's Manual – The manual(s) supplied by the manufacturer with operation, inspection, maintenance, repair requirements, and may also include specifications and other information. The manual may only be updated and/or replaced by the Equipment Custodian who will be responsible for the proper distribution of the new manual.

Overhead Guard – an overhead guard is intended to offer protection to the operator from falling objects but not against every possible impact.

Power Plant – Is defined as the power source for the equipment.

Princeton Technical Representative – Individuals designated as PTRs must have successfully completed the following training courses: a. General Employee Training; b. Subcontract Administration for Princeton Technical Representatives; c. Hazard Awareness (JHA training).

Qualified Forklift Inspector - An individual who, by possession of a recognized degree, certificate, or professional standing, or who by extensive knowledge, training, and experience, has successfully

demonstrated an ability to recognize, evaluate and resolve concerns regarding the specific subject matter. This function will normally be performed by a Factory Authorized Service Representative.

Qualified Instructor – An individual with experience, training, or education in Systematic Approach to Training (SAT) Methods and presentation techniques. These individuals are capable of developing training courses and materials, approving training courses and materials developed by other instructors, presenting classroom and On-the-Job instruction, evaluating trainees, and evaluating training programs.

Qualified Person – An individual who, by possession of a recognized degree, certificate, or professional standing, or who by extensive knowledge, training, and experience, has successfully demonstrated an ability to recognize, evaluate and resolve concerns regarding the specific subject matter.

Qualified Subcontractor - One whose qualifications have either been evaluated and accepted by the PPPL Lift Manager or whose parent company qualification program has been evaluated and accepted by the Lift Manager and the individual carries documentation (e.g. card) which shows completion of approved training.

Rated Capacity – For a forklift equipped with load carriage and forks or attachments it is the weight established by the manufacturer at a required load center that a given forklift can transport and stack to a height established by the manufacturer. The rated capacity is found on the nameplate of the forklift.

Subject Matter Expert – An individual with prerequisite background or experience necessary for instructional competency in a specific subject, task, or field of knowledge. Such an individual is qualified by education, training, or experience, and is a recognized expert on a particular subject, task, or system. These individuals are capable of developing training courses and materials, presenting classroom and On-the-Job instruction, and evaluating trainees, within their subject area. The SME for forklifts is the Lift Manager.

Tiering – The process of placing one load on or above another.

Forklift, Electric – A forklift in which the principle energy is transmitted from the power sources to motor(s) in the form of electricity.

Forklift, Internal Combustion – A forklift in which the power source is a gasoline, LP gas or diesel engine.

Truck, Motorized Hand – A truck that is designed to be controlled by a walking operator.

Truck, Pallet – A self loading, low lift truck equipped with wheeled forks of dimensions to go between the top and bottom boards of a double-faced pallet and having wheels capable of lowering into spaces between the bottom boards so as to raise the pallet off of the floor for transporting.

Truck, Powered Industrial – A mobile power propelled forklift used to carry, push, pull lift, stack or tier material.

Unattended Forklift – A forklift is unattended whenever the operator is more than 25 feet away from the forklift, which remains in their view or whenever the operator leaves the forklift and it is not in view. Unattended forklifts must be turned off.

Walkie Hand Truck – A manually propelled industrial truck or forklift, controlled by a walking operator, used for the transport of material. May be counterbalanced and have a mast to allow stacking of material. May have battery-operated motor(s) for movement and raising and lowering load.

5.0 TRAINING

5.1 TRAINING REQUIREMENTS

Note: Basic training requirements are similar for both forklifts and manually propelled walkie hand trucks.

- A. Training shall consist of a combination of documented instruction (e.g., lecture, discussion, interactive computer learning, video, written material), practical training (demonstrations performed by the Instructor and practical exercises performed by the trainee), and evaluation of the operator's performance in the workplace.
- B. Personnel who have not been trained to operate forklifts may operate a forklift for the purposes of training only, and only under the direct supervision of the Instructor. This training should be conducted in an area away from other forklifts, obstacles, and pedestrians.
- C. All operator training and evaluation shall be conducted by persons who have the knowledge, training, and experience to train operators and evaluate their competence. Instructor qualifications will be evaluated and documented by Human Resources per TR-005
- D. The following topics will be covered in the training program where applicable to the operation of the vehicles:
 - i. Operating instructions, warnings, and precautions for the types of vehicle the operator will be authorized to operate;
 - ii. Differences between the vehicle and an automobile and the differences between forklifts in the workplace;
 - iii. Vehicle controls and instrumentation: where they are located, what they do, and how they work;
 - iv. Safety features and interlocks;
 - v. Engine or motor operation;
 - vi. Steering and maneuvering;
 - vii. Visibility (including restrictions due to loading);
 - viii. Fork and attachment adaptation, operation, and use limitations;
 - ix. Vehicle capacity;
 - x. Vehicle stability;
 - xi. Any vehicle inspection and maintenance that the operator will be required to perform including how to fill out the ODCL;
 - xii. Fueling and/or charging and recharging of batteries;
 - xiii. Operating limitations;
 - xiv. Any other operating instructions, warnings, or precautions listed in the operator's manual for the types of vehicle that the employee is being trained to operate.

- xv. Surface conditions where the vehicle will be operated;
 - xvi. Composition of loads to be carried and load stability;
 - xvii. Load manipulation, stacking, and unstacking;
 - xviii. Pedestrian traffic in areas where the vehicle will be operated;
 - xix. Narrow aisles and other restricted places where the vehicle will be operated;
 - xx. Hazardous (classified) locations where the vehicle will be operated;
 - xxi. Tagout procedures per PPPL Procedure ESH-001;
 - xxii. Ramps and other sloped surfaces that could affect the vehicle's stability;
 - xxiii. Closed environments and other areas where insufficient ventilation or poor vehicle maintenance could cause a buildup of carbon monoxide or diesel exhaust;
 - xxiv. Other unique or potentially hazardous environmental conditions in the workplace that could affect safe operation including battery maintenance;
 - xxv. LPG tank handling and safety issues.
- E. Refresher training in relevant topics shall be provided to the operator when:
- i. Every three years, including an evaluation of the operator's performance;
 - ii. The operator has been observed to operate the vehicle in an unsafe manner;
 - iii. The operator has been involved in an accident or near-miss incident;
 - iv. The operator has received an evaluation that reveals that the operator is not operating the forklift safely;
 - v. The operator is assigned to drive a different type of vehicle; or
 - vi. A condition in the workplace changes in a manner that could affect safe operation of the vehicle.
- F. Human Resources shall document that each operator has been trained and evaluated as required by this Chapter. This qualification documentation shall include the name of the operator, the date of the training, the date of the evaluation, and the identity of the person(s) performing the training or evaluation. Each qualified forklift operator will receive a qualification card noting the type of forklift, Electric and/or Internal Combustion, they are qualified to operate.

5.2 TRAINING AND QUALIFICATION

In order to qualify as a forklift operator, the employee must have a valid state driver's license and successfully complete the training. The following requirements must be met:

Forklift Operator

	Forklift Operator	Walkie Hand Truck
Prerequisite	Valid Driver's License	None
Documented Instruction* and Testing	Documented Instruction, Written Test	Documented Instruction, Written, Test
OJT and Practical Test	Yes	Yes
90 Day Follow Up (Initial only)	Yes	No
3 Year Requalification	OJT and Written Test	OJT and Written Test
Minimum Experience	None	None

* (e.g., lecture, discussion, interactive computer learning, video, written material).

Supervisors are responsible to assure that Forklift Operators maintain proficiency in the operation of the Forklifts. Failure to maintain this proficiency will require the Operator to retake the Practical Operations test.

5.3 TRAINING PROCEDURES

5.3.1 Initial Training and Qualification Responsibilities

This section details the training and qualification requirements for Forklift Operators. Qualified personnel or trainees shall be at least 18 years old, be able to read and understand the posted warning labels on the forklift and be able to understand the Instructor.

Responsibility	Action
Candidate's Supervisor or Manager	1. Determine the qualification required (see table in Section 5.2) and requests training and qualification of personnel by contacting Human Resources.
Human Resources	2. Select a qualified instructor to provide classroom training, practical training, and required tests, as applicable. [Courses are approved PPPL courses or outside training approved by Lift Manager.] 3. Schedule training and makes all necessary logistical arrangements for the training. 4. Notify the candidate(s) of scheduled training and arranges for practical training, as necessary, verifies that candidate has a valid driver's license.
Candidate	5. Attend the scheduled training course, or arranges to challenge any required training and tests through Human Resources. 6. Provide lift resume/experience summary, as required, for the qualification sought.
Qualified Instructor	7. Provide the appropriate training and testing. If forklift qualification is requested, the candidate is evaluated on each type of forklift and each type of attachment to be used and the instructor documents the training on a Performance Evaluation Checklist (Section 6.0). Sign evaluation.
Human Resources	8. Prepare and maintain a qualification package for each successful candidate.

5.3.1 Initial Training And Qualification Responsibilities (continued)

- | | |
|-----------------|--|
| Human Resources | <ol style="list-style-type: none"> 9. Prepare a PPPL Qualification Card with the appropriate qualification and expiration date entered on the qualification card PPPL qualifications are valid for a period not to exceed three (3) years from the date of the practical or written test, whichever date is earliest. 10. Sign the PPPL Qualification Card for Forklift Operators. 11. Copy the completed card (both sides) for file, and distributes the card to the individual. 12. Maintain training and qualification records. 13. Monitor due dates and notifies the individual's manager or supervisor of actions needed to maintain or renew qualifications. |
|-----------------|--|

5.3.2 Continuing Training and Qualification Responsibilities

This section outlines the continuing (ongoing) training and qualification requirements for the Forklift Qualifications listed in Training and Qualifications Requirements, Section 5.2.

Responsibility	Action
Human Resources	<ol style="list-style-type: none"> 1. Notify the individual's supervisor or manager of continuing training and qualification requirements that require completion. <p>NOTE: Initial qualifications are issued for an effective period not to exceed three (3) years, unless otherwise specified or revoked, at which time requalification is required. If it is determined at any time that the capabilities of an individual are not in accordance with the qualifications specified for that job, that individual shall be removed from that job. Such removals shall be handled on a case-by-case basis by the PPPL Lift Manager and the applicable supervisor.</p>
Individual's Supervisor and Manager	<ol style="list-style-type: none"> 2. Notify the individual of these continuing training and qualification requirements.

- | | |
|--------------------------|---|
| Human Resources | 3. Arrange for refresher training and required tests for applicable qualifications. |
| | 4. Schedule practical training and make all necessary logistical arrangements for Forklift Operator qualifications. |
| | 5. Notify the individual of scheduled practical training. |
| Individual/
Candidate | 6. Complete refresher training and challenge tests through Human Resources. Note: Written tests must be current in order to renew Forklift Operator Qualification. |
| Qualified
Instructor | 7. Provide the practical training and testing for forklift qualification and documents it on a Performance Evaluation Checklist (Section 6.0). Sign evaluation. |
| Human Resources | 8. Prepare a PPPL Qualification Card with the appropriate qualifications and expiration date entered on the card. PPPL qualifications are valid for a period not to exceed three (3) years from the date of the practical or written test, whichever date is earliest. Sign the PPPL Qualification Card for Forklift Operators. |
| | 9. Copy the completed card (both sides) for file, and distribute the card to the individual. |
| | 10. Maintain training and qualification records. |
| | 11. Monitor due dates and notify the individual's manager or supervisor of actions needed to maintain or renew qualifications. |

5.4 FORKLIFT PERSONNEL QUALIFICATION REQUIREMENTS (RECORDS AND EXAMINATIONS)**A. Qualification Records**

- i. Personnel qualifications shall be documented in an easily auditable format and shall include, as a minimum, the following types of information:
 - a) Records of training completed at PPPL, or elsewhere, such as attendance sheets or computer summaries or certificates.
 - b) Record of training and performance evaluations.

B. Written Examinations

- i. Written examinations with a score of 85% or higher are required to pass any individual examination.
- ii. Written examinations are required for initial qualification and every 3 years thereafter.

C. Performance Evaluations

- i. Performance evaluations are based upon the performance items enumerated in the applicable Performance Evaluation Checklist by a Qualified Instructor.
- ii. No numerical value is assigned to operational evaluations. The candidate's demonstrations are evaluated by the examiner as "satisfactory" or "unsatisfactory" based upon the following criteria:
 - a) The individual exhibits a basic ability in the performance area.
 - b) The individual is capable of correctly performing the action after some clarification by the examiner.
- iii. The job functions demonstrated, the candidate's performance in these demonstrations, and the Instructor's evaluation shall be documented.
- iv. The operational evaluation score for qualification shall be a composite grade of all individual operational evaluations. The composite score for operational evaluations shall be "satisfactory," with no outstanding "unsatisfactory" items (i.e., 100% of demonstrations must be "satisfactory").
- v. Candidates must initially qualify for each type of forklift and/or attachment they operate as stated in 5.3.A.7.

6.0 FORKLIFT/WALKIE OPERATOR PERFORMANCE EVALUATION CHECKLIST

FORKLIFT OPERATOR PERFORMANCE EVALUATION			
Operator's Name _____ Date _____ <div style="text-align: center; font-size: small;">Please Print</div>			
Initial box(es) tested	<input type="checkbox"/> Internal Combustion	<input type="checkbox"/> Electric	<input type="checkbox"/> Walkie
<i>For each statement below, check either S (Satisfactory,) U (Unsatisfactory) or N/A Not Applicable)</i>			
	S	U	N/A
1. Performed Operator's Daily Check List, including Functional Test(s)	_____	_____	
a. Read and understood warning labels on forklift/walkie	_____	_____	
2. Started vehicle properly	_____	_____	_____
a. Operated the clutch properly	_____	_____	_____
b. Controlled inching	_____	_____	_____
c. Maintained proper tilt control	_____	_____	_____
d. Maintained proper lift control	_____	_____	_____
e. Used correct steering technique for machine being used	_____	_____	_____
3. Demonstrated proper maneuvering skills:			
a. Started vehicle smoothly	_____	_____	_____
b. Approached load properly	_____	_____	_____
c. Lifted load properly and squarely	_____	_____	_____
d. Unloaded/placed load properly	_____	_____	_____
e. Traveled with load at proper height	_____	_____	_____
f. Traveled with load tilted against back rest	_____	_____	_____
g. Performed both forward and reverse sharp turns	_____	_____	_____
h. Maintained proper speed	_____	_____	_____
i. Looked in direction of travel	_____	_____	_____
j. Carried forks low	_____	_____	_____
k. Cleared obstacles by safe distance	_____	_____	_____
l. Demonstrated acceptable depth perception	_____	_____	_____
m. Demonstrated acceptable auditory skills	_____	_____	_____

6.0 FORKLIFT/WALKIE OPERATOR PERFORMANCE EVALUATION CHECKLIST
(continued)*For each statement below, check either S (Satisfactory), U (Unsatisfactory), or N/A (Not Applicable)*

	S	U	N/A
4. Drove in reverse properly	_____	_____	_____
5. Parked unloaded vehicle correctly	_____	_____	_____
6. Used proper position of all controls, switches, parking brakes when machine was left unattended	_____	_____	_____
7. Mounted and dismounted properly	_____	_____	_____
8. Inspect and set up forklift battery to be charged	_____	_____	_____
9. Removed forklift battery from charger and set up forklift for operation	_____	_____	_____
10. Replaced LP gas tank properly, verified there were no leaks	_____	_____	_____
11. Refueled gas/diesel forklift properly	_____	_____	_____
12. Attachment _____	_____	_____	_____
13. Attachment _____	_____	_____	_____

Restrictions:**Comments:****Operator's Performance**

S

U

Instructor _____
Please PrintApproved By: _____
Instructor's Signature

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7.0 FORKLIFT/WALKIE OPERATOR'S CHECKLIST OF TRAINING PROVIDED

Operator's Name _____		Date _____
Please Print		
Initial box(es) tested	<input type="checkbox"/> Internal Combustion	<input type="checkbox"/> Electric <input type="checkbox"/> Walkie
To be completed at end of all training		
Training Points	Covered	Not Covered
1. Operating instructions, warnings, and precautions for the types of vehicle the operator will be authorized to operate		
2. Differences between the vehicle and an automobile		
3. Vehicle controls and instrumentation: where they are located, what they do, and how they work		
4. Safety features and interlocks		
5. Engine or motor operation		
6. Steering and maneuvering		
7. Visibility (including restrictions due to loading)		
8. Fork and attachment adaptation, operation, and use limitations		
9. Vehicle capacity		
10. Vehicle stability		
11. Any vehicle inspection that the operator will be required to perform		
12. Fueling and/or charging and recharging of batteries		
13. Operating limitations		
14. Any other operating instructions, warnings, or precautions listed in the operator's manual for the types of vehicle that the employee is being trained to operate		
15. Surface conditions where the vehicle will be operated		
16. Composition of loads to be carried and load stability		
17. Load manipulation, stacking, and unstacking		
18. Pedestrian traffic in areas where the vehicle will be operated		
19. Narrow aisles and other restricted places where the vehicle will be operated		
20. Hazardous (classified) locations where the vehicle will be operated		
21. Ramps and other sloped surfaces that could affect the vehicle's stability		
22. Closed environments and other areas where insufficient ventilation or poor vehicle maintenance could cause a buildup of carbon monoxide or diesel exhaust		
23. Other unique or potentially hazardous environmental conditions in the workplace that could affect safe operation		
<p>I confirm that these items were presented in the training and that I have read the Operator's Manual</p> <p>Operator's Signature _____</p>		

8.0 OPERATIONS

8.1 OPERATING PROCEDURE

Responsibility	Action
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Forklift Operator	<ol style="list-style-type: none"> 1. Identifies proper forklift to be used to handle the load to be moved reviewing size and weight of load. 2. Verify the operator is carrying a current qualification card for operating the forklift and any attachments to be used and valid driver's license. 3. Perform, or verify, a daily inspection of the forklift using the proper Operator's Daily Check List (ODCL) for the forklift to be used following the steps in Section 9 of this Standard including verification that the periodic inspection is current. 4. Perform a functional test on the forklift to be used. 5. Confirm the location for unloading is suitable for the load. 6. Use 3 points of contact at all times while entering or leaving the forklift. 7. Approach the load to be moved cautiously with the forklift. 8. Position forks under the load and lift the load slightly to verify stability and proper forklift performance. 9. Lift load and travel with load safely as described in Sections 8.2, 8.3 and 8.4 of this standard. 10. Position load for unloading in proper location, lower load and withdraw forklift slowly verifying that the load is stable in the location. 11. Submit the full ODCL Signature Sheet to the Equipment Contact.
Equipment Contact	12. Check forklift periodically to assure that completed sign off sheets are turned in. Submits all completed sign off sheets to their supervisor.
Supervisor	13. Signs and sends the ODCL Signature Sheet to the Operations Center for filing.
Operations Center	14. Maintain ODCL records for 3 years.
Supervisor	15. Periodically check that ODCL has been performed at forklift, initial and date ODCL when correct. If forklift is being operated without a current ODCL having been performed. Check with Human Resources for next action.
Princeton Technical Representative	16. Schedule annual inspections that comply with the requirements set forth in Section 9.

8.2 Operations Requirements

A. Forklifts

- i. Forklifts shall not be driven up to anyone standing in front of a bench or other fixed object.
- ii. Only trained and qualified operators carrying a current PPPL Qualification card shall operate a forklift.
- iii. No person shall be allowed to stand or pass under the elevated portion of any forklift, whether empty or loaded.
- iv. No personnel other than the operator shall be allowed to ride any forklift.
- v. Every forklift shall be equipped with an operator controlled horn, whistle, gong or other sound producing device.
- vi. Prior to the operation of any forklift, the operator shall have read the operator's manual for the particular forklift being operated.
- vii. Keep arms and legs from between uprights of the mast or outside the running lines of the forklift.
- viii. When a forklift is left unattended, the load shall be fully lowered, controls shall be neutralized, power shall be shut off, and brakes set. If on an incline, the wheels shall also be blocked.
- ix. If at any time a forklift is found to be in need of repair, defective, or in any way unsafe, the forklift shall be taken out of service and tagged following the procedure listed in ESH-001 until restored to a safe operating condition.
- x. Fuel tanks shall not be filled with the engine running.
- xi. No forklift shall be operated with a leak in the fuel system.
- xii. Fueling and battery charging shall follow the requirements specified in ES-MECH-014, Refueling and Recharging Vehicles and Equipment.
- xiii. Adequate lighting shall be provided at all times. If overhead light is not adequate temporary lighting or vehicle mounted lights may be used.
- xiv. An ODCL inspection per Section 9.1.F of this standard will be performed daily.
- xv. Vehicle must be shutdown and deenergized prior to attaching or removing attachments:
 - a) Park machine safely.
 - b) Remove key.
 - c) Secure any lift mechanism potential energy.
 - d) Chock wheels in both directions.
 - e) "Hot Tapping" is NOT allowed.
 - f) Follow manufacturers' instruction for installing/removing attachment.
 - g) Hydraulic oil pressure relieved from all hydraulic circuits before loosening or removing hydraulic components.
- xvi. Forklifts that are stuck, usually in soft terrain, may be towed out only with the use of a chain connected to a secure tow point.

B. Walkie Hand Trucks (motorized hand trucks)

- i. Never operate with greasy hands.
- ii. Only trained and qualified operators carrying a current PPPL Qualification card shall operate a walkie.
- iii. Foot protection is recommended.
- iv. **Do not** ride on the truck unless the truck has been specifically designed for riding.
- v. Keep feet clear of truck frame while operating.
- vi. No person shall be allowed to stand or pass under the elevated portion of any Walkie hand truck, whether empty or loaded.
- vii. Always keep hands and fingers inside the protected area of the control handle.
- viii. Be cautious when traveling in reverse (load end leading) due to steering characteristics.
- ix. Be careful of drive end swing when turning while operating with load end leading.
- x. Use caution when turning into an aisle. The load wheels tend to cut the corner.
- xi. Never travel at a speed greater than normal walking speed [approximately (3.5 mph)].
- xii. Always place both hands on the control handle when operating with the load end leading.
- xiii. Always operate with one hand on controls, and when possible, walk ahead and to the side of the tongue when traveling forward (load end trailing).
- xiv. Enter elevator or other confined areas with the load end leading.
- xv. Operate on grades with the load end down grade.
- xvi. If the load restricts visibility, or requires the load back rest to retain the load, travel down the grade with the load end up grade, with the operator positioned off to one side.
- xvii. Avoid traveling over openings in the floor.
- xviii. Battery charging shall follow the requirements specified in ES-MECH-014, Refueling and Recharging Vehicles and Equipment.

Note: Forklifts and walkies are not to be used for elevating personnel for any purpose.

8.3 TRAVELLING

- A. A safe distance shall be maintained from the edge of any ramps or platforms.
- B. When loading or unloading from trucks or trailers, brakes shall be set and wheel blocks shall be in place to prevent movement of the truck or trailer. Flooring of trucks and trailers shall be inspected for breaks and weakness prior to driving a forklift onto them.

- C. Ensure sufficient headroom under overhead installations, lights, pipes, and sprinkler systems for the mast and the load.
- D. All traffic regulations shall be observed, including speed limits. A safe distance shall be maintained (approximately three car lengths) from the vehicle ahead.
- E. Slow down and sound horn at cross aisles and other locations where vision is obstructed.
- F. If the load obscures vision, the forklift shall be driven with the load trailing.
- G. When travelling up or down slopes, loaded forklifts shall be driven with the load upgrade, slowly.
- H. When travelling up or down slopes, unloaded forklifts shall be driven with the load engaging means downgrade.
- I. On slopes, the load shall be tilted back, if applicable, and raised only as far as necessary to clear the road surface.
- J. Horseplay and acrobatic operations are not permitted.
- K. Safe driving practices must be followed at all times, including slowing down for wet or slippery floors.
- L. Avoid running over loose objects on the floor or roadway.

8.4 LOADING

- A. Only stable or safely arranged loads shall be handled. Caution shall be exercised when handling off-center loads that cannot be centered.
- B. Only loads within the rated capacity of the equipment shall be handled.
- C. Forks or other load engaging means shall be placed as far as possible under the load. The mast shall be carefully tilted backward to stabilize the load.

8.5 IDENTIFICATION

Every forklift and walkie hand truck shall have attached to it a legibly inscribed, corrosion-resistant nameplate with the model and/or serial number, weight of the forklift or truck with attachments, and the capacity of the forklift or truck with attachments at maximum elevation with load laterally centered. Attachments allowed shall be listed on the forklift or truck along with the capacity of the forklift or truck with the attachment in place. Attachments must be approved by the manufacturer. Attachments shall have a nameplate that lists the mobile equipment on which they may be used.

For forklift trucks purchased after December 1984, each fork arm shall be clearly stamped with its rated capacity in an area readily visible and not subject to wear. For example, the designation "1500 x 24" means 1,500-lb (680-kg) capacity at 24-in. (600 mm) load center.

9.0 INSPECTIONS

9.1 FORKLIFT INSPECTIONS

- A. A complete listing of Operator's Daily Check Lists for all equipment may be found at the follow site:

<https://sites.google.com/a/pppl.gov/equipment-safety-inspection-list/>

These ODCL's are maintained by Material Services.

- B. The Princeton Technical Representative (PTR) shall ensure a scheduled planned maintenance, lubrication, and inspection system shall be followed using the manufacturer's recommendations. At a minimum, an annual inspection shall be performed using the form found for each piece of equipment listed at:

<https://sites.google.com/a/pppl.gov/equipment-safety-inspection-list/>.

More frequent inspections may be required based on the equipment's usage and hour meter as determined by the equipment contact and SME. The Battery Chargers for electric forklifts will be inspected at this time as well.

- C. If an inspection has not been completed within a year of the last inspection, the forklift shall be tagged out-of-service by the PPPL Lift Manager or his designee in accordance with PPPL Procedure ESH-001. The PTR is responsible for scheduling the periodic inspections.
- D. Forklifts shall be inspected when assigned to service by a qualified inspector provided by the subcontractor and at least annually thereafter by a qualified subcontractor. This annual inspection will include a thorough visual Non-Destructive Evaluation (NDE) on visible areas of the forklift tines (forks). If the visual inspection discovers cracks, linear indications, laps, or seams on either fork, the unit shall be tagged out of service until both forks are replaced. An evaluation of engine operation for excess carbon monoxide output will also be performed, and corrective measures taken as needed.
- E. A tag with an inspection date, expiration date, and the inspector's signature shall be attached to the forklift.
- F. Inspections shall be performed according to the manufacturer's recommendations and as a minimum shall meet the requirements of OSHA, 29 CFR 1910, ANSI B56.1.
- G. A visual inspection shall be performed by the operator prior to use, once per shift, using the Operator's Daily Check List (ODCL). If any part is found deteriorated or operation is not as designed, the forklift shall be tagged and taken out of service per PPPL Procedure ESH-001 until it is repaired. Special attention shall be given to the following:
- i. Condition of tires and inflation pressure
 - ii. All Warning and Safety devices
 - iii. Lights

- iv. Battery
- v. Controls

9.1 FORKLIFT INSPECTIONS (continued)

- vi. Lift and tilt systems, load-engaging means, chains, cables, and limit switches
 - vii. Brakes
 - viii. Steering mechanism
 - ix. Fuel system(s)
 - x. LP Cylinders for dents scrapes or gouges.
 - xi. Battery chargers and connections for damaged wires and connectors.
 - xii. Date of last inspection
 - xiii. Additional items or special equipment as specified for the vehicle
 - xiv. If during the inspection of the forklift it is found to be in need of repair or becomes unsafe in any way, it shall be reported to the operator's supervisor immediately and the forklift shall be tagged out, in accordance with PPPL Procedure ESH-001, and not be operated until repaired and restored to a safe operating condition. The Operator's Supervisor will contact the PTR for service.
- H. The daily ODCL shall be maintained in holders installed on each forklift. The ODCL inspector will sign the Signature Sheet at the completion of the inspection if there are no concerns. The Signature Sheet will be given to the forklift Contact's Supervisor when full. The Supervisor will send the Signature Sheet to the Operations Center for record keeping.
- I. ODCL's will be maintained by Material Services, changes may be authorized by the Subject Matter Expert see Attachment 1, Page 1. The inspections required due to changed frequency approved by the SME, will be noted on the ODCL signature Sheet as an inspection of that frequency (monthly).

9.2 FORK INSPECTIONS

Fork inspections will be performed by a qualified subcontractor.

- A. Surface Cracks. The fork shall be thoroughly examined visually for cracks and if considered necessary, subjected to a nondestructive crack detection process, special attention being paid to the heel and welds attaching the mounting components to the fork blank. This inspection for cracks must also include any special mounting mechanisms of the fork blank to the fork carrier including bolt-type mountings and forged upper mounting arrangements for hook or shaft-type carriages. The forks shall not be returned to service if surface cracks are detected.
- B. Straightness of Blade and Shank. The straightness of the upper face of the blade and the front face of the shank shall be checked. If the deviation from straightness exceeds

0.5% of the length of the blade and/or the height of the shank, respectively, the fork shall not be returned to service until it has been repaired in accordance with Section 10 of this Standard.

9.2 FORK INSPECTIONS (continued)

- C. Fork Angle (Upper Face of Blade to Load Face of the Shank). Any fork that has a deviation of greater than 3 degrees from the original specification shall not be returned to service. The rejected fork shall be reset and tested in accordance with Section 10.2.L of this Standard.
- D. Difference in Height of Fork Tips. The difference in height of one set of forks when mounted on the fork carrier shall be checked. If the difference in tip heights exceeds 3% of the length of the blade, the set of forks shall not be returned to service until repaired in accordance with Section 10 of this Standard.
- E. Positioning Lock (When Originally Provided). It shall be confirmed that the positioning lock is in good repair and correct working order. If any fault is found, the fork shall be withdrawn from service until satisfactory repairs have been affected.
- F. Wear
 - i. Fork Blade and Shank. The fork blade and shank shall be thoroughly checked for wear, special attention being paid to the vicinity of the heel. If the thickness is reduced to 90% of the original thickness, the fork shall not be returned to service.
 - ii. Fork Hooks (When Originally Provided). The support face of the top hook and the retaining faces of both hooks shall be checked for wear, crushing, and other local deformations. If these are apparent to such an extent that the clearance between the fork and the fork carrier becomes excessive, the fork shall not be returned to service until repaired in accordance with Section 10 of this Standard.

9.3 WALKIE INSPECTIONS

- A. The PTR shall ensure walkie hand trucks follow a scheduled planned maintenance, lubrication, and inspection system using the manufacturer's recommendations. At a minimum, an annual inspection shall be performed using the form found for each piece of equipment listed at: <https://sites.google.com/a/pppl.gov/equipment-safety-inspection-list/>. More frequent inspections may be required based on the equipment's usage and hour meter as determined by the equipment contact and SME.
- B. If an inspection has not been completed within a year of the last inspection, the walkie shall be tagged out-of-service by the PPPL Lift Manager or his designee in accordance with PPPL Procedure ESH-001. The Equipment Custodian is responsible for scheduling the periodic inspections.

- C. Walkie hand trucks shall be inspected when assigned to service by a qualified inspector provided by the subcontractor and at least annually thereafter by a qualified subcontractor. This annual inspection will include a thorough visual Non-destructive Evaluation (NDE) on visible areas of the fork tines (forks). If the visual inspection discovers cracks, linear indications, laps, or seams on either fork, Material Services will have both forks replaced.
- D. A tag with an inspection date, expiration date, and the inspector's signature shall be attached to the Walkie hand truck.
- E. Inspections shall be performed according to the manufacturer's recommendations and as a minimum shall meet the requirements of OSHA, 29 CFR 1910, ANSI B56.1.
- F. A visual inspection shall be performed by the operator prior to use, once per shift. If any part is found deteriorated or operation is not as designed, the walkie hand truck shall be tagged, in accordance with PPPL Procedure ESH-001, and taken out of service until it is repaired. Special attention shall be given to the following:
 - 1. Condition of tires and inflation pressure
 - 2. All Warning and Safety devices
 - 3. Lights
 - 4. Battery
 - 5. Controls
 - 6. Lift and tilt systems, load-engaging means, chains, cables, and limit switches
 - 7. Brakes
 - 8. Steering mechanism
 - 9. Additional items or special equipment as specified for the vehicle

Note: If during the operation of the walkie hand truck it is found to be in need of repair or becomes unsafe in any way, it shall be reported to the operator's supervisor immediately and the walkie hand truck shall be tagged out, in accordance with PPPL Procedure ESH-001, and not be operated until repaired and restored to a safe operating condition.

- G. The daily ODCL shall be maintained in holders installed on each Walkie hand truck. The ODCL inspector will sign the Signature Sheet at the completion of the inspection if there are no concerns. The Signature Sheet will be given to the ODCL's supervisor when full. The Supervisor will send the Sheet to the Operations Center for record keeping.

9.4 MODIFICATIONS

- A. Modifications to equipment are a rare requirement. (Modifications should not be confused with the use of manufacturer approved and supplied attachments designed to be used with the equipment.)
- B. Equipment shall not be altered so that the relative positions of the various parts are different from what they were when originally received from the manufacturer, nor shall they be altered either by the addition of extra parts not provided by the manufacturer or by the elimination of any parts without manufacturer's written approval.

- C. All requests for modifications should be documented on the form in Attachment 1, Page 2, Request to Alter Equipment. No changes can be made until the manufacturer provides written approval for the modification. A copy of E-mail correspondence documenting requests and manufacturer's approvals may be used as written approval. All requests and manufacturer's approvals must be kept in the equipment's file.
- D. If the manufacturer is unresponsive for more than a year or if the manufacturer no longer exists, alterations to equipment may only be made using the Request to Alter Equipment Form, Attachment 1, Page 2, with the PPPL Subject Matter Expert's approval of the modification and the concurrence of a Professional Engineer (OSHA response 4/11/97, Question 1). All requests and SME/PE approvals must be kept in the equipment's file.
- E. When approved modifications are made, appropriate changes to capacity plates, operation and maintenance manuals, any affected decals and/or tags must reflect any modifications.
- F. After any modifications, the equipment must be inspected by a qualified inspector.

9.5 RECORDS

- A. Inspection reports and records shall be retained in the Material Services Transportation Services master files for the life of the equipment while at PPPL.
- B. Non-destructive examination reports shall be prepared by the contractor and retained by Material Services.

9.6 BATTERY DISPOSAL

- A. Depleted or damaged batteries will be disposed of following PPPL Procedure EWM-001.
- B. Depleted or damaged batteries are not to be sent to vendors for disposal or recycling as a part of a new battery purchase without approval from the Environmental Services Division.

11.0 MAINTENANCE AND REPAIR

Note: These repair and maintenance requirements will apply to both forklifts and walkies.

11.1 PROCEDURE FOR OBTAINING MAINTENANCE AND REPAIR FOR FORKLIFTS

Responsibility	Action
----------------	--------

- | | |
|---------------------|---|
| Equipment Custodian | 1. Know where equipment is at all times and provide equipment for inspection. |
| Fleet Coordinator | 2. Maintain the inspection records for periodic inspection/maintenance. |
| | 3. Maintain due date to inspect equipment on Inspection Status List. If the maintenance or inspection is not completed the equipment shall be CAUTION tagged OUT OF SERVICE until such time as the required actions are completed per PPPL Procedure ESH-001. |
| Lift Manager | 4. Determine if each forklift is to be kept in service. <ul style="list-style-type: none"> a. If forklift is not to be kept in service, request the equipment custodian to CAUTION tag item OUT OF SERVICE per PPPL Procedure ESH-001. |
| Fleet Coordinator | 5. Determine when each forklift inspection/maintenance is due. |
| | 6. Arrange for a qualified forklift inspector or a qualified subcontractor to perform the inspection/maintenance. (Annual PM or repair service) and obtains name of service repairman. |
| | 7. Verifies repairman is qualified on the contract and submits site notification for repairman by name. |
| | 8. Upon arrival, provides repair man with the annual maintenance schedule from https://sites.google.com/a/pppl.gov/equipment-safety-inspection-list/ |
| | 9. Directs repairman to PTR or designated escort (qualified operator). |

11.1 PROCEDURE FOR OBTAINING MAINTENANCE AND REPAIR FOR FORKLIFTS (continued)

Princeton Technical
Representative (PTR)
or designated escort
(Qualified operator)

10. Directs repairman to equipment.
11. Assures that repairman performs ODCL first.
12. Verifies that repairman is using our annual maintenance schedule.
13. Observes that repairman is performing work safely and observing the **MAINTENANCE AND REPAIR PRACTICES listed in 11.2.**
NOTE: repairman must remove battery cable before working in engine compartment
NOTE: tag unit out if unit is to be left unattended during service or the service cannot be completed that day.
14. Verifies that repairman uses OEM parts when needed.

Qualified
Subcontractor

15. Perform required forklift maintenance per the manufacturer's recommendations and periodic inspection as per the forklift Inspection Criteria (Section 9) under observation of PTR or their technically qualified designee (qualified operator).

Note: Prior to the commencement of any service or repair, the forklift shall be turned off with the key removed and in the possession of the repairman. Any potential energy (such as raised forks) shall be blocked or restrained. (Per OSHA response regarding 1910.147 - 9/27/95) Any sources of hydraulic pressure shall be removed or released. If the service or repair requires work in the engine compartment, then the forklift battery cable shall be disconnected (Cable shall be tagged with a Danger Tag if service person leaves or must be away from unit).

16. Record the inspection/maintenance on the appropriate Inspection Report (Section 9.0 through 10.0). Complete Service Report (Attachment 2) while onsite, sign it and give it to the PTR or their technically qualified designee.
17. Perform a final inspection with the ODCL, sign Signature Sheet.

11.1 PROCEDURE FOR OBTAINING MAINTENANCE AND REPAIR FOR FORKLIFTS (continued)

PTR or designated
escort

18. Upon completion of work determine if deficiencies are found.
 - a. If no, sign and submit service report to the Fleet Coordinator, copy to PTR, and affix inspection sticker, showing expiration date to the forklift, and to the attachment if so equipped.
 - b. If yes, sign and submit service report to the Fleet Coordinator, copy to PTR, and apply CAUTION tag OUT OF SERVICE per PPPL Procedure ESH-001.
19. Upon completion of work verifies that repairman performs final ODCL and safety check and assures proper operation of all safety or warning devices.
20. Checks repair documentation and signs service forms.
21. Upon completion of work directs repairman back to fleet coordinator.

Fleet Coordinator

22. Upon receipt of invoice compares invoice to service report and contract to assure it is correct and recommends/approves invoice.
23. Review and file all service reports and update inspection status list.
Note: Maintenance/Inspection Reports are maintained for the life of the forklift.
24. Return to step 2 for each forklift.

Equipment Custodian

25. Schedule a monthly forklift inspection and record inspection on ODCL form, ODCL forms are filed with the Operations Center.
Note: Monthly ODCL's will be maintained for the life of the vehicle.

11.2 MAINTENANCE AND REPAIR PRACTICES

- A. Maintenance shall be performed according to the manufacturer's recommendations and as a minimum shall meet the requirements of OSHA, 29 CFR 1910, ANSI B56.1, ESH-001 (Tagout).
- B. Prior to the commencement of any service or repair, the forklift shall be turned off with the key removed and in the possession of the repairman. Any potential energy (such as raised forks) shall be blocked or restrained. (Per OSHA response regarding 1910.147 - 9/27/95) Any sources of hydraulic pressure shall be removed or released. If the service or repair requires work in the engine compartment, then the forklift battery cable shall be disconnected (Cable shall be tagged with a Danger Tag if service person must be away from unit.)
- C. Hydraulic oil pressure relieved from all hydraulic circuits before loosening or removing hydraulic components.

- D. A scheduled planned maintenance, lubrication and inspection system shall be followed based on the manufacturer's recommendations.
- E. Only trained and authorized personnel shall be permitted to maintain, repair, adjust and inspect forklifts.
- F. Only the manufacturer of the fork or an expert of equal competence shall decide if a fork may be repaired for continued use, and the repairs shall only be carried out by such parties. Such repaired forks must be load tested before return to service.
- G. Unusual maintenance or repairs require consultation with the manufacturer.
- H. All parts requiring replacement shall be replaced only by OEM parts equivalent as to the safety of those used in the original design.
- I. Repaired forklifts shall be inspected using the ODCL and the Service Report prior to being returned to service by qualified inspectors or subcontractors. The Service Report will be signed by the inspector and the PTR and be given to the Fleet Coordinator to be filed in the forklift's file.
- J. Safety switches and functionality shall not be impaired by service technicians.
- K. Fork Repair. Only the manufacturer of the fork or an expert of equal competence shall decide if a fork may be repaired for continued use, and the repairs shall only be carried out by such parties. It is not recommended that surface cracks or wear be repaired by welding. When repairs necessitating resetting are required, the fork shall subsequently be subjected to an appropriate heat treatment, as necessary.
- L. A fork that has undergone repairs other than repair or replacement of the positioning lock and/or the marking, shall only be returned to service after being submitted to, and passing, a load test except that the test load shall correspond to 2.5 times the rated capacity marked on the fork.

12.0 PROCUREMENT

All personnel involved in the procurement of forklifts, related components and forklift services shall be technically qualified and understand the needs and requirements of forklift operation, inspection, maintenance and repair in order to satisfy the requirements of the PPPL Procurement Policies and Procedures Manual and QA-020 Identifying and Dispositioning Suspect Parts.

It is the responsibility of the requisitioner to assure that all relevant extracts, including training and necessary documentation, of this Engineering Standard are on the Requisition, Statement of Work or Specification prior to being submitted for approval. The Lift Manager can assist if necessary.

12.1 FORKLIFTS

Acquisitions for all forklifts and attachments via PPPL requisitions must have the Lift Manager Review check off checked. No forklifts may be purchased without the Lift Manager's approval.

All forklifts purchased must comply with the requirements listed below:

- A. The type of forklift purchased must be appropriate to the application for which it will be used.
- B. All forklifts must have an affixed plate defining the capacity of the vehicle with and without approved attachments including load, reach and grade.
- C. Manufacturer shall supply documentation and instruction manuals regarding operation, maintenance, training, inspections, lubrication, repair, operating and safety concerns for the purchased vehicle.

12.2 ATTACHMENTS

Acquisitions for all forklift and attachments via PPPL requisitions must have the Lift Manager Review check off checked. No attachments may be purchased without the Lift Manager's approval.

All attachments purchased must comply with the requirements listed:

- A. The attachment must be approved by the forklift manufacturer for the forklift it will be mounted on and the manufacturer shall provide a placard for that forklift.
- B. The attachment must have a plate describing the capacity of the attachment.
- C. Manufacturer shall supply documentation and instruction manuals regarding operation, maintenance, training, inspections, lubrication, repair, operating and safety concerns for the purchased attachment.

12.3 WALKIE HAND TRUCKS (MOTORIZED HAND TRUCKS)

The procurement of walkie hand trucks shall follow the same requirements and procedures as those specified for forklifts in Section 11.1 above.

12.4 SERVICE AND REPAIR

- A. Subcontracts for forklift maintenance, repair and inspections prepared by the Subject Matter Expert and approved by the Responsible Engineer per ENG-006. The Princeton Technical Representative, assigned per ENG-006, shall be trained to function in that position and ensure that all requirements regarding training, qualifications, safety and authorization in PPPL Policy P-072 have been met prior to any work being performed.

- B. All Maintenance and repair contracts will require that an inspection of the forklift is performed after the work is completed verifying that all safety equipment functions correctly and that the vehicle is safe to use and working properly.
- C. All repairs must comply with and be performed following the requirements of Section 11.0 of this Standard.

13.0 SUBCONTRACTOR FORKLIFTS

All Purchased Services Contracts that include the need for a forklift to perform the service must meet the following requirements:

- A. The forklift operators must be qualified to operate the forklifts and the subcontractor shall provide proof of the qualification to the Lift Manager.
 - i. The qualification must show that the use of equipment safety interlocks and warning devices were part of the qualification.
- B. The forklift operators shall perform an ODCL inspection every day on the forklifts.
- C. The forklift operators must understand PPPL tagout procedures and shall tagout any equipment that fails the ODCL.
- D. Proof of a current periodic inspection along with the details found in Attachment 3 for each forklift shall be provided to the Lift Manager prior to the equipment coming on site.

Subcontractors must provide their own equipment and not use government equipment. Work activities anticipated to be performed by the subcontractor shall be reviewed by ESH and the Lift Manager, when appropriate. Subcontractors shall provide evidence of qualification and competence in the performance of their duties including the use of powered equipment. Should the use of government equipment become absolutely necessary, that use of equipment will require a liability release covering the use of PPPL equipment to be defined in the subcontract. All vehicles being used for work activities on the PPPL site, regardless of their maximum capable speed, must be equipped with safety belts prior to entrance.

PPPL requires conformance with all applicable OSHA, ANSI and ASME Standards regarding forklifts.

PPPL requires integration of PPPL requirements per Policy P-072 for all subcontracted work.

All equipment operators shall perform an ODCL inspection every day on their equipment.

All equipment operators must understand PPPL tagout procedures and shall tagout any equipment that fails the ODCL.

Proof of a current periodic inspection for each piece of equipment shall be provided to the Lift Manager 3 days prior to the equipment coming on site.

All subcontractor equipment upon arrival must pass the PPPL equipment inspection performed by a qualified operator selected by the Lift Manager using the checklist in Attachment 4.

ATTACHMENTS:

1. ODCL Change Request Form and Equipment Alteration Request Form
2. Service Report
3. Checklist of Requirements for Forklifts Services
4. Subcontractor Equipment Checklist

Request to move inspection item from Daily to Monthly

Equipment Type _____

Manufacturer _____ Model _____

Serial Number(s) _____

Property Number(s) _____

Equipment Contact(s) _____

Equipment Custodian(s) _____

Subject Matter Expert _____

Item to be moved	Reason for move	Frequency of Inspection item is moved to

Requested by: _____ Date _____

Approved by: _____ Date _____

Subject Matter Expert

Comments _____

Distribution: _____, _____, _____,

_____, _____, _____

Request to Alter Equipment

Manufacturer _____ Model _____

Serial Number(s) _____

Property Number(s) _____

Equipment Contact(s) _____

Equipment Custodian(s) _____

Subject Matter Expert _____

Manufacturer's Approval Letter ID _____

Provide detail of changes/modifications requested and reasons:

Requested by: _____ Date _____

Approved by: _____ Date _____

Subject Matter Expert

Approved by: _____ Date _____

Professional Engineer

Comments _____

Distribution: _____, _____, _____

_____, _____, _____

PRINCETON PLASMA PHYSICS LABORATORY	ENGINEERING STANDARD	ES-MECH-010 Rev. 1 Attachment 3
Chapter 5 Procurement		page 1 of 1

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CHECKLIST OF REQUIREMENTS FOR PROCURED FORKLIFT SERVICES

Note: Failure to abide by the suggested advance notice
may result in disallowance of the equipment onsite.

Contract Number: _____
 Work Planning Number: _____
 PPPL Technical Representative: _____
 Subcontractor Contact Person: _____
 Phone: _____ FAX: _____

1 Week in advance

Pre-job onsite discussion (>1 week in advance): _____
 Site survey performed: _____
 Reason for work: _____
 Work Plan Provided: _____
 Special considerations: _____

3 Days in advance

Equipment Make and Model: _____
 Special characteristics, if any: _____

 Owner: _____
 Current Periodic Inspection (copy provided) Date: _____
 Operators: _____
 Certification Dates: _____
 Job Hazard Analysis (JHA) provided: _____
 JHA reviewed by Industrial Hygiene: _____

E-mail to Mike Viola at mviola@pppl.gov

ES-MECH-010 Form
May 2, 2018

MCR-ES-MECH-010,R1-004

Sub-Contractor Equipment Checklist

Project Name: _____ **WO Number:** _____

Equipment Make: _____ **Model:** _____

Operator Name: _____ **Qualification Date:** _____

	Checked & Passed	Checked & NOT Passed	N/A	Comments/Corrective Actions
Annual Inspection Tag				
Operating Manual				
Back-up Alarm				
Installed Safety Features				
Hydraulic Cylinder- Leaks etc.				
Parking Brake System				
Cab Interior/Exterior				
Bucket or Blade				
Tires/Tracks				
Horn				
Steering Mechanism				
Coupling Devices				
Seat Belts				
Operating Controls				
Lights				
Reflectors				
Windshield Wipers				
Defroster/Defogger				
Fire Extinguisher				
Attachments Placard				

NAME: _____

Signature: _____