

MWI 3410.1
REVISION L-3
EFFECTIVE DATE: December 15, 2015
EXPIRATION DATE: April 30, 2021

MARSHALL WORK INSTRUCTION

QD01

PERSONNEL CERTIFICATION PROGRAM

With Change 3 (3/17/21)

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DOCUMENT HISTORY LOG

Status (Baseline/ Revision/ Change/ Revalidation/ Canceled)	Document Revision/ Change	Effective Date	Description
Baseline		5/14/99	Document converted from MSFC-P18.1-C01 to a Directive. Previous history retained in system as part of canceled or superseded ISO Document files.
Revision	A	8/16/99	Changed scope to limit personnel certification to work on flight or flight-associated hardware. Added requirement for disposition of records after retention period. Updated for changes due to reorganization. Clarified in paragraphs 1 and 2 that hazardous operations that do not already require certification must be evaluated by S&MA to determine if personnel certification is required.
Revision	B	11/15/99	Complete rewrite to combine safety and skills certification requirements into one instruction.
Revision	C	9/15/00	Modified paragraph 1 to clarify that the document only applies to certifications issued by MSFC. Added documents referenced in Table 1 to applicable documents list. Updated Table 1 to correct requirement errors. Added definitions for Type A and B on-the-job training (OJT). Modified Table 1 to include the appropriate type of OJT. Deleted PCH lifting operations from Table 1 since these are covered by the lifting equipment certification. Changed certification periods of numerous certifications to match OSHA requirement of three years. Added "Propellant and Explosive Inspection" to Table 1. Deleted Note 3 from Table 1. Added paragraph 6.1.2 to require notification of certification expiration 6 months in advance per MPG 3410.1 (NCRs 311 and 312). Added paragraph 6.1.4 to include certified personnel responsibilities. Included the applicable contents of MWI 3410.2 and 3410.3 in Appendices A and B. Added definitions, applicable documents, and applicable quality records from these MWIs. Modified paragraphs 6.3.2 and 6.4 to remove unnecessary requirements. CERTRAK made accessible to employees eliminating the need for certification cards. Deleted Figures 1 and 2 and included necessary requirements in paragraph 6. Added Level III experience requirements to Appendix A and modified requirement for ASNT Level III as a prerequisite for MSFC Level III. Deleted requirement from B2.1 for examiner to document training organization approval process in an organizational issuance.
Revision	D	7/02/01	Changed "Applicability" paragraph to allow issuance of MSFC skills certifications to S&MA mission services contractor personnel. Added the instructions for accessing CERTRAK in the definition of CERTRAK. Modified paragraph 5.11.1 to clarify documentation for OJT Type A. Deleted last sentence in this paragraph. Modified paragraph 5.11.1 to delete reference to MSFC Form 4083-3 and substitute MSFC Form 4333. Modified paragraph 5.11.1 by deleting colon and adding commas. Added CERTRAK to paragraph 6.1.2 and deleted "through the CA," to clarify the means by which personnel and supervisors are notified when certifications are expiring. Moved paragraph 6.5 to paragraph 7. Item number 9.3, added the MSFC Form numbers 4083 and 4083-1. Deleted 9.6 and renumbered paragraphs. To the Lockout/Tagout specialty we added procedure review records. Deleted second reference to cancelled directive MWI 3410.2A dated August 3, 1999. Section 12, add MWI 3410.1C dated September 15, 2000. Modified certification specialties for: Flagman changes requirements; Changed Laser Operator to > Class 3B; Modified Lifting Equipment Examiner (Proficiency Test Examiner); Modified PCH S&MA Monitor to delete organization code. Added asterisks to certification specialties Propellant and Explosive Inspection and Propellant and Explosive User, also modified the certification period for these categories to 1 year; added new safety certifications for Inert/Asphyxiate Gases and Liquids, Hydrogen Handlers, Oxygen Handlers, and Oxygen Users. Modified note (1) to add date of training must be listed on MSFC Form 4083. Modified note number (3) to state that Lockout/Tagout procedures must be reviewed according to 29 CFR 1910.147. Updated NASA-

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			STD references in the titles of MSFC-STDs listed in the applicable documents. Changed Thermography Testing to Thermal/Infrared Testing and clarified requirement. Clarified the certification requirements for NDE Level III in the definitions and in Appendix A. Combined certification requirements for plated-through hole and surface mount technology soldering in Table B-1.
Revision	E	11/8/2004	<p>Revised per HQ Rules Review.</p> <p>Pg. 4, Para. 2. APPLICABILITY, replace will typically be certified with shall be certified. Replace However, all contractors with Additionally, all contractors. Pg. 6, 5.3 CERTRAK, data base is revised to read one word database Pg. 6, Para. 5.3 CERTRAK, add Civil Service and Contractor...employee certification records. Pg. 6, Para. 5.4, Contractor Certifying Officer, replace issue safety certifications with approve...Pg. 6, Para. 5.5 Employee and Organizational Development Department (EODD) add provides personnel certification education and training to civil service and contractor personnel. Pg. 7, Para. 5.11, OJT Training, delete certified operator who supervised operator for 3 months, and add supervisor..., delete signature of, .should read signature of supervisor and applicant. Pg. 8, change to read not to exceed 12 months. Pg. 9, Para. add 6.1.3.1, Ensure that training assessments are completed for all personnel certification specialties. Renumber paras. 6.1.3.2-6.1.3.4, Pg. Pg. 12, change to read or in a location nearby the operation for which the certification is necessary. Pg. 10, Para. 6.2.1, Safety Certification, delete and certification programs. Also delete obtain formal training, OJT, physical examinations, and written and proficiency examinations as required by Table 1. and add comply with Table 1 certification requirements. Pg. 10, Para. 6.3 Contractor Requirements, delete the, training, to read determine the safety and certification training required. Also delete the to read...define other specialties/operations. Pg. 10, Para. 6.3, Contractor Requirements, delete Contractor programs must satisfy the intent and requirements of this Instruction. Pg. 10, Para. 6.3.2, change to affected employees have training assessments and certifications. Delete receive safety training and certification. Delete issue company certifications or. Pg. 17, delete OSHA 501 from PCH-S&MA Monitor certification specialty. Delete high school graduate requirement for Propellants and Explosives Inspection cert specialty. Revise the cert period for Propellant and Explosive Handler, and Inspection to 2 years. Para. 6.1.4 was revised to Certified personnel, safety representatives, and supervisors who have been granted approval by the CA. CERTRAK. Pg. 14, Lull Boom was added to Forklift class 7 and deleted as a separate certification specialty. NSS GO 1740.9 deleted throughout the document to be replaced with current document NASA-STD-8719.9, Standard for Lifting Devices and Equipment. Pg. 11, note 7.3 added. Pg. 13, Aerial Lift specialty, proficiency test added to recert column. Derrick Crane Operator cert specialty requirements revised to add PCH/Critical. Derrick Crane specialty, bullet added stating PCH Training for PCH Cert. Derrick Crane recert column delete, or documentation...Pg. 13 Forklift Operator cert specialty, revise bullet to add PCH/Critical. Add bullet to add PCH Training for PCH Cert. (AD42) (See Note 1) Pg. 13, Gantry crane specialty, revise bullet to read Type A OJT for PCH/Critical, also add bullet stating PCH Training for PCH Cert. (AD42) (See Note 1), in recert-requirement column delete or documentation of participation...Pg. 12, changed to read Pg. 13, Hydraset Operator specialty, revise to read Type A OJT for PCH/Critical, also add bullet stating PCH Training for PCH Cert. (AD42) (See Note 1), Pg. 18, Mobile Crane cert specialty revise statement to read Type A OJT for PCH/Critical, add bullet stating PCH Training for PCH Cert. (AD42) (See Note 1) Pg. 19 Overhead crane/hoist operator cert specialty, revise requirement bullet to read Type A OJT for PCH/Critical, add a bullet stating PCH Training for PCH Cert. (AD42) (See Note 1). Revise bullet in recert-requirement column to delete or documentation of participation in two noncritical or critical lift operations per year. Pg. 19, Rigger cert specialty, revise first bullet in requirements column to read Accredited Lift Riggers Course, revise 3rd bullet in requirements column to read Type A OJT for PCH/Critical, add a bullet stating PCH Training for PCH cert. (AD42) (See Note 1). In recert/requirements column delete the words...or documentation in two noncritical or critical lift operations per year. Add a bullet, Written Test. Page 20, delete paragraph 5 and 6. Page 4, delete 3.4 MPD 1280.1,</p>

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			<p>“Marshall Management Manual” directive has been cancelled. Pg. 15. Forklift operator must be 18 years old to operate. Written tests have been deleted in Table 1 as requirements. Written tests will be issued in training specific to the certification and administered by instructor if deemed necessary. QS01 was changed throughout document to QD01 due to S&MA Office designated as a Directorate instead of an Office. Changes throughout document per HQ rules review, changed format.</p>
Revision	F	11/02/2005	<p>Major rewrite to clarify certification flow and requirements. The rewrite affected all sections and section numbering. In Appendix A, AD02 and AD42, organization codes were changed to AS60 and AS42 respectively. Certification tables were changed to appendices. Table 1 is now listed as Appendix A. Several certification specialties were deleted from Appendix A. Those specialties deleted were Asbestos Abatement for asbestos/heavy metal, Asbestos Exposure Awareness (Class IV), Asbestos Operations and Maintenance Class III, Commercial Motor Vehicle Operator (>25,000 lbs), Fall Protection, Flagman, Flight Deck Crew, Hazardous Material Handlers (HAZWOPER), Hyperbaric Chamber, Laser Operator >3A, Mobile Sweeper Operator, PCH Move Manager, PCH Truck Driver (>25,000 lbs), Powder Actuated Tool Operator, Propellant and Explosive Inspection, Rescue Personnel, Scaffolds Competent Person, Space Station Element Transportation System (SSETS) ECS Technician, SSETS INCS Technician, and Wind Tunnel Operator. Hazardous Waste Operations and Emergency Response Technician was added to Appendix A. Appendix B was added for specialties that require state and federal training but MSFC certification is not required. These specialties are Asbestos Abatement for asbestos/heavy metal, Asbestos Exposure Awareness, Asbestos Operations and Maintenance, Commercial Motor Vehicle Operator, and Flight Deck Crew. Available Safety, Health, and Environmental (SHE) equivalent numbers were added to NSTC course numbers. Updated “PURPOSE” by adding the following sentence: “For personnel training/qualification which does not require certification, reference MPR 3410.1, Training.”; updated the “APPLICABILITY” section by revising the first sentence as follows: deleted “at MSFC engaged in” added “performing”, deleted Table 1 added Appendix A, deleted S&MA added Safety and Mission Assurance Directorate (S&MA), deleted “critical”, deleted Table 2, added Appendix C, revised sentence to read “for flight and flight-associated hardware.”, and deleted “, or other hardware as identified by the process owner”; In second sentence deleted “that MSFC Safety and Mission Assurance (S&MA) reviews and approves.”; In third sentence added “to include university and grant personnel” deleted “or” added “and”; updated the “APPLICABLE DOCUMENTS” section by performing the following: 1) Deleted MSFC-SPEC-445, “Adhesive Bonding, Process, and Inspection Requirements” because there are no certification training courses or certified instructors available for this process., 2) Deleted MSFC-STD-2907, “Workmanship Standard for Printed Wiring Boards” because this document applies to the manufacture of printed wiring board products and not to electrical process skills (EPS)., 3) Added NAS 410, “National Aerospace Standard (NAS) Certification and Qualification of Nondestructive Test Personnel” because this is the actual standard that applies to the training requirements for MSFC Level I and Level II personnel., added NPR 1441.1 “NASA Record Retention Schedule (NPRS)” and 4) Renumbered the paragraphs in the “APPLICABLE DOCUMENTS” section; updated the “DEFINITIONS” section by performing the following: 1) Revised paragraphs 5.1, 5.3, 5.4, 5.5, 5.6 5.7, 5.9, 5.10, 5.11, 5.11.1, 5.11.2, 5.12, 5.13, 5.14, 5.15, 5.16, 5.21, 5.22, 5.23., 2) Added the definition for “Technical Advisor”, and 3) Renumbered the paragraphs in the “DEFINITIONS” section; Updated the “INSTRUCTIONS” section by revising paragraphs 6.1.1, 6.1.2 ,6.1.3.1, 6.1.3.2, 6.1.3.3, 6.1.3.4, 6.1.3.5, 6.1.3.6, 6.1.4, 6.2.1, 6.2.2, 6.3, 6.3.1, 6.3.3, 6.3.4, 6.3.5; Deleted all notes in Section 7 and replaced with “None;” Updated the “RECORDS” section by revising paragraphs 9. RECORDS, 9.1, 9.2, 9.3, 9.4, 9.5, 9.6, 9.7, 9.8; Revised 12. CANCELLATION to cancel previous MWI 3410.1 version and effective date. Added Lockout/Tagout note for Appendix A. Added Appendix B, added NOTES FOR APPENDIX B; Deleted NOTES FOR APPENDIX A (1), (2), (3), (4); Updated “Appendix C” by deleting the following</p>

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			<p>test methods, document, and processes: “Acoustic Emissions Testing”, “Thermal/Infrared Testing”, “Computed Tomography”, “Adhesive Bonding Application”, “MSFC-STD-445”, and “Wire Wrap”. There are no certification training courses or certified instructors available for the test methods, per the document requirements, or for the two processes listed above; Also, updated the “REQUIREMENTS” column of APPENDIX C; Updated “APPENDIX D” section D.1 titled “PURPOSE” by replacing “NDT” with “Nondestructive Testing/Nondestructive Evaluation (NDT/NDE)”, and by deleting items f, g, and h for “Acoustic Emissions Testing (AE)”, “Thermal/Infrared Testing (TIR)”, and “Computed Thermography (CT)”, respectively; Revised paragraph D1.1 titled “Exceptions” by deleting the last sentence; Revised paragraphs D1.2 and D1.3; Updated section D.2 titled “TRAINING AND EXPERIENCE REQUIREMENTS” by performing the following: 1) Added the following after the first sentence: “All NDT training shall comply with the requirements of NAS 410, NAS Certification and Qualification of Nondestructive Test Personnel, except as noted herein.”, 2) Deleted “1996” from “SNT-TC-1A”, 3) Deleted paragraph A.2.1 titled “Specialist Personnel” in its entirety, 4) Revised paragraphs D.2.2, D.2.4, D.2.5, D.2.6, and D.2.6.1a, and 5) Renumbered all paragraphs in section D.2; Replaced “Table A-1” with “Table D-1” and updated “APPENDIX D-1 by performing the following: 1) Deleted all entries for Examination Methods “AE”, “CT”, “TIR”, 2) Deleted Notes 1-3 of TABLE D-1; Update section D.3 titled “CERTIFICATION” by revising paragraphs D.3.2 and D.3.3; Updated “APPENDIX E” section E.1 titled “PURPOSE” by deleting the following sentence: “These requirements also apply when other program/industry documents are used that require personnel certification.”; Updated paragraph E.1.2.1 by replacing “Table B-1” with “Appendix E-1”; Updated paragraph E.1.2.2 by replacing “examiners” with “technical advisors”; Revised paragraph E.2.1 titled “Training Organization” as follows: “Training shall be obtained from a school approved by a technical advisor and the MSFC Certifying Officer. Other agencies, which may be used for training, shall be subject to review and approval by the technical advisor and MSFC Certifying Officer.”; Updated paragraph E.2.2 titled “Lesson Plans” by replacing “examiner” with “technical advisor”; Revised paragraph E.2.3 titled “Instructor Qualifications” as follows: “Instructors shall be recognized experts in their field. Instructors shall be evaluated to requirements of the EPS documents specified herein, as determined by the MSFC Certifying Officer and technical advisor.”; Updated paragraph E.2.4.1 by performing the following: 1) Replace “Table B-1” with “Appendix E-1”, 2) Replace “examiner” with “technical advisor”, 3) Replace “Certifying Officer” with “MSFC Certifying Officer”, and 4) Delete the words “except printed wiring board, (PWB) inspection” from the last sentence of the paragraph; Add the following after the last sentence of the paragraph “Also, for surface mount technology (MSFC-STD-2904), operator certification shall require additional training on the exact machine used for production at the supervisor’s discretion.”; Updated paragraph E.2.4.2 titled “Examinations” by replacing “examiner” with “instructor”, and by deleting the last sentence of the paragraph; Updated paragraph E.2.4.2b titled “Written Examination” by deleting the last sentence of the paragraph; and revising as follows: “For initial certification, each candidate shall score at least 80 percent on a written exam typically consisting of at least 25 questions.”; Updated paragraph E.2.4.2c titled “Practical Examination” by deleting the words “and PWB inspection” from the first sentence of the paragraph, and revising the last sentence of the paragraph as follows: “As an option to the practical exam, proficiency demonstration can also be accomplished by a supervisor and MSFC Certifying Officer audit of actual work performed provided the audit results are documented and included in the employee’s personnel certification file.”; Updated paragraph E.3.1 by revising the first sentence as follows: “Candidate civil service personnel who meet the above criteria shall be certified by the MSFC Certifying Officer upon the recommendations of their supervisors. Contractor personnel shall...”; Updated “TABLE E-1” by deleting all entries for “Wire wrap” and “PWB Inspection”, and by deleting Note 1 and Note 5 and all superscripts. Also, updated the “RECERT” column of TABLE E-1 by adding “See E3.2.b” for ESD control;</p>
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			<p>Revised paragraph E.3.2 titled "Recertification" as follows: "Training for recertification shall be required at the discretion of individual's supervisor. Recertification shall include a demonstration of proficiency in accordance with E.3.2.1.", a. "Recertification of electrical process skills (EPS) operators and inspectors shall be required every 3 years except for ESD.", b. "ESD recertification shall be required at the discretion of the individual's supervisor based on personnel performance, the use of new technology, or when requirement violations are observed.", c. "When necessary, the MSFC Certifying Officer shall extend or limit the certification period based on recommendations of the individual's supervisor. Extensions may not exceed 6 months.", d. "EPS proficiency examiners/instructors shall be recertified every 2 years except for ESD."; Revised paragraph E.3.2.1 as follows: "Demonstration of proficiency shall be required for recertification. This may be achieved by fabrication/inspection of samples, completion of a refresher training course approved by the technical advisor, or by auditing an individual's actual work performed by the MSFC Certifying Officer and their supervisor. Recertification may also include a written examination." Updated paragraph E.3.2.2 by revising the last sentence as follows: "The method chosen for recertification shall be the responsibility of the individual's supervisor." Deleted paragraph B.3.2.3 in its entirety; Updated paragraph E.3.3.5 by revising as follows: "Job function has changed and new function does not require EPS."</p>
Revision	G	11/02/2006	<p>Complete rewrite to better define the certification process and place one "shall" per paragraph; Added the word "Test" to the document title in paragraph 3.20; On page 24, changed "Skill" to "Skills" for Appendix C; In paragraph D.1.1 titled "Exceptions", changed "electro-mechanical" to "electromechanical". Changed "may" to "can" in paragraph D.2.2.3 (e); Changed "may" to "can" in the second and last sentences of paragraph D.2.6; Revised the second sentence of paragraph E.2.1 as follows: "Other agencies used for training shall be subject to review and approval by the technical advisor and the MSFC Certifying Officer."; Changed "may" to "can" in the third sentence of paragraph E.2.4.2 (c); Changed "may" to "shall" in the last sentence of paragraph E3.2 (c); Changed "may" to "can" in the second and last sentences of paragraph E3.2.1; Deleted an extra "space" in paragraph E3.3.5. Acronym listed added. Section 6.6 revised. Section 6.1.1.3 & 4 deleted. Applicable Document MPR 1800.1, "MSFC Occupational Medicine". 5.11 Training deleted. 6.3.2 and 6.3.8 revised for clarity. 6.3.3.2 and 6.3.7 is revised for clarity. NOTES A.2 added to clarify physical exam not necessary for systems designers who do not have hands-on experience with systems as applicable. A.3 added to clarify certification process when a medical exam is failed. Lockout/Tagout and Radiation physical requirements were deleted. Incident Commander added to HAZWOPER certification specialty.</p>
Revision	H	10/10/2007	<p>Document updated for clarity. Updated the "Purpose" statement, Applicability, and Applicable Documents sections by replacing the MSFC Standards with the associated NASA Standards. Revised the "Acronyms and Definitions" section by adding (CEUs) Continuing Education Units, (CO) Contracting Officer, (ET) Eddy Current Testing, (MT) Magnetic Particle Testing, (NASA) National Aeronautics and Space Administration, (PT) Penetrant Testing, (RT) Radiographic Testing, (SMT) Surface Mount Technology, (UT) Ultrasonic Testing, and renumbered paragraphs. Revised paragraphs 5.2.25, 6.1.5.3, 6.1.6.2, 6.2.1, 6.2.5.1, 6.3.4.1, 6.3.9, 6.3.11, 6.6.1, and 6.7.1.1. Added new paragraph 6.7.3. Changed department title of organization from "SR&QA Policy and Assessment" to "Mission Systems Assurance and Technical Support" in paragraphs 6.1.2.1, 6.1.6.13, 6.1.6.14, and D.4.3.3. Changed the title of Appendix D. Revised Appendices A, and B. Updated Table C-1, and Appendix D in entirety. Appendix E reformatted and paragraphs renumbered. Revised Appendix E in entirety by replacing "certifying officer and MSFC Certifying Officer" with "S&MA Certifying Officer," and in Table E-1 replaced the MSFC Standards with the associated NASA Standards. Revised paragraph E.2.4.4 by replacing MSFC-STD-2904 with NASA-STD-8739.2. Revised paragraph E.2.5.3.2 by adding the phrase "or an equivalent visual acuity record." [Administrative change made on 10/29/07 by Directives Manager at request of OPRD updating time periods in Appendix A, Table A-1, page 27 for Hydrogen</p>

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			System Operator from 3 years to 4 years and page 28 for Liquid Nitrogen System Operator from 2 years to 4 years.]
Revision	I	10/1/2008	Revised 2. Applicability statement to address the applicability of this directive to the Michoud Assembly Facility. Moved Contractor section to 6.1.9 to be under 6.1 Responsibilities. Added additional information in 6.2 to better define actual certification process. Added section 6.11 to identify MAF responsibilities and also throughout MWI where applicable. Reworded some existing statements to include MAF and to be clearer in their meaning. Changed Appendices to Chapters and added Chapters F and G. Revised Acronyms and Definitions, and Records sections. Revised paragraph numbering and tables in Chapters 4 and 5 (originally Appendices D and E, respectively) to comply with new format for document. Added titles of MSFC forms. Revised document to remove references to the NASA MAF Safety Office and the NASA MAF Environmental Office. Added Table of Contents. [On 2/5/09, at the request of the OPRD, an administrative change was made to Table CH1-1 from (SMA-SAFE-NSTC-0315) to (SMA-SAFE-NSTC-0317).]
Revision	J	6/15/2011	Updated for clarity. Revised Table of Contents page numbers. Applicability statement revised for MAF. References deleted and Acronyms moved to Appendix. Revised paragraph 2.3. Revised 3.7 to delete Laser Safety and added Nonionizing Radiation Safety. 6.1.2.5 added for EEOH certification expiration periods listed in Chapters 1 and 6. Added 6.3.4 to describe MAF certifications. Updated 6.5.9.1-6.5.10 for heavy equipment proficiency tests. Revised 6.7.1 CERTRAK password approval process for IdMAX. Added 6.7.3.3 to describe CERTRAK usage to identify and track tasks. Added 6.10 for short term construction and contractor compliance with hazardous operation identification. CH1.1.3 and CH6.1.3 added for contractor proof of hazardous training clarification. Hydraset certification added to Table CH1-1 and Table CH6-1. Klimer Mast Climber certification added to Table CH1-1 and Table CH6-1. Added notes in Table CH1-1 and Table CH6-1. Updated the Table of Contents to include Chapter 8 for Certified Welding Inspectors. Updated the Authority/Applicable Documents section to include the following documents: QD-QA-022 titled "Visual Weld Inspection," American Welding Society (AWS) B5.1 titled "Specification for the Qualification of Welding Inspectors," and AWS QC1 titled "Standard for AWS Certification of Welding Inspectors." Added Chapter 8 for Certified Welding Inspectors (CWIs). Updated Table CH3-1 to include Certified Welding Inspectors, Chapter 8, and the assigned SHE Course Number. Revised Table CH4-4 titled "Vision Requirements" from "Jaeger No. 1 or equivalent, at a distance not less than 14 inches in at least one eye, natural or corrected" to "20/25 (Snellen) at 16 inches +/- 1 inch or equivalent in at least one eye, natural or corrected" for the Near Vision requirement and updated the Color Perception requirement. Revised paragraph CH5.1.2.1 by replacing "MSFC" with "workmanship." Revised paragraph CH5.3.3.1 by adding detailed requirements for "Far Vision," "Near Vision," and "Color Vision." Revised Table CH5-1 titled "EPS Training Requirements" by adding the word "minimum" in front of the word "hours" to the title block. Added a new paragraph CH5.4.6.6 addressing loss of certification due to "Failure to meet the vision requirements of paragraph CH5.3.3." Updated Appendix A to include the following acronyms: (AWS) for American Welding Society, (CAWI) for Certified Associate Welding Inspector, (CWI) for Certified Welding Inspector, (PDH) for Professional Development Hours, and (SCWI) for Senior Certified Welding Inspector. Added Appendix C for forklift specialty.
Change	1	3/30/2012	On 3/30/12, at the request of the OPRD, an administrative change was made to add 6.11.4.1 that clarifies the medical expiration date.
Change	2	11/20/2012	On 11/20/2012, Change 2 affected 3.17, 3.18, and Table CH5-1 which were based on the NASA Headquarters Office of Safety and Mission Assurance (OSMA) adoption of the IPC J-STD-001ES as the replacement document for NASA-STD-8739.2 and NASA-STD-8739.3. The NASA-STD-8739.2 and NASA-STD-8739.3 documents have been cancelled and can no longer be used for future programs and projects. Administrative updates to 2.4, 6.1.2.2, 6.1.2.3, 6.1.3.2, 6.1.4, 6.1.5.1, 6.1.6.16, 6.1.1.17, 6.1.8.1, 6.1.9.10, 6.12.5, CH4.4.3.3, CH5.3.3.4, and CH8.3.4 were based on transference of the OPRD responsibilities

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			from the Mission Assurance and Technical Support Department (QD20) to Safety, Quality & Management Department (QD10) as a result of the MSFC S&MA reorganization. Updated footers to revised MWI template.
Revision	K	12/20/2013	<p>Reformatted per MWI 1410.1 revision. Replaced Center specific organizational names with generic names (Center's Safety Office), (Center's Occupational Health Office), (Center's Environmental Office). Administrative updates changing Safety, Quality & Management Department (QD10) to Safety and Quality Department (QD10) throughout the document as a result of the MSFC S&MA reorganization. Added additional information to the definition of "Technique" for clarity. 2. Applicability revised. 3. Authority revised. 4. Applicable Documents and Forms revised. Revised 5.1.2, 5.1.3.1, 5.2.2, 5.4, 5.5, 5.6, 5.10 for clarity. Deleted 5.1.3.2. Revised 5.1.1, 5.3.1.1, NOTE: for clarity. 5.2.3 NOTE: updated for clarity and moved to 5.2.5 NOTE1. 5.2.4.2 changed to 5.2.5 NOTE 2, deleted shall. 5.2.4.1 changed to 5.2.5. Updated NOTE 1 of paragraph 5.1.4 by changing "Safety Office" to "Industrial Safety and Quality Assurance Branches." Updated paragraph 5.3.1 by changing "listed in" to "identified in". Revised the text for paragraph 5.3.5 and added new paragraphs 5.3.6 thru 5.3.10 for the Skills Certification requirements. Added a new paragraph 5.4.13 for the skills certification requirements. Updated paragraph 5.6.1 by changing "safety representative" to "safety and quality representative." Updated paragraph 5.6.3.1 by adding the words "or quality." Updated paragraph 5.8.3 by adding the following text," which can be in hard copies or electronic formats." at the end of the sentence. Updated paragraph 5.9.2 by changing "Center's Safety Office" to "Center's Safety and Quality Assurance Branches." Added new paragraphs 5.10.8 thru 5.10.8.3 for the skills certification requirements. MPR 1810.1 deleted. CH1-1 Laser, Radiation, Klimber TM Mast Climber, Propellants and Explosive Inspector revised for clarity. CH1-1 Foreign Object Debris certification revised. CH1.1.1, CH1.1.2 training course revised. CH1.1.3 Foreign Object Debris added. CH1.1.9 added. CH1.1.12 revised. CH6-1 Foreign Object Debris certification revised. CH6.1.3 added for Foreign Object Debris. CH6.1.9 added. Appendix A, Center's Environmental Office and Center's Occupational Health Office definition revised. Appendix A second Center's Occupational Health Office deleted. Appendix B acronyms CPR, FMO, LSO, SSWP, and VAB deleted. Appendix B acronyms CFR, STD, RQMTS, T, IdMAX, FAA, HazCom, HMAC, SPCC, PDS, UWS, MSR,MSFOC, and PSO added. Acronym ISO revised. Appendix B NASA deleted. Appendix D requirements removed. Appendix D retention schedule revised. Revised D.1.3 for clarity. Updated paragraph D4.1 by changing "training" to "training and skills certification." Added the following after paragraph D4.1: "NOTE: The certification records of S&MA support contractor personnel are maintained by the Center's assigned safety or quality representatives." Added D.4.2 for clarity. Appendix F referenced in CH1-1. Updated paragraph CH4.2.6 for "NDE Witnesses" by adding new subparagraphs CH4.2.6.1 thru CH4.2.6.6 and new paragraph CH4.2.7. Deleted the word "techniques" from paragraphs CH4.2.2.3 and CH4.6.2.3 b. Updated Table CH4-1 and Table CH4-2 by changing the word from "without Level I experience" to "without prior Level I experience" in the second set of Level II columns of both tables. Revised paragraphs CH4.4.6.3(a) and CH4.4.6.4(a) in their entirety, as well as reformatted these sections. Added the new paragraph CH4.6.8.6 which identifies that points and credits are equivalent. Added new paragraph CH5.2.1.3 addressing Electrostatic Discharge (ESD) Control certification training being available as a SATERN course. Updated paragraph CH5.3.3.2 by deleting the "Far Vision" requirement. Added new paragraph CH5.4.3, and updated the minimum initial certification and recertification training hours required for Soldering and ESD control listed in Table CH5-1. Updated paragraph CH5.4.4.2 by changing "CH5.3.4" to "CH5.4.5." Updated paragraph CH5.4.4.3 by deleting the words "except for ESD." Deleted paragraph CH5.4.3.4 in its entirety and reformatted the remaining paragraph numbers. Updated Appendix A by adding a new definition for "S&MA Contractor Certifying Officer. The contractor employee authorized by the S&MA Directorate to approve safety and skills certifications for S&MA support contractor personnel."</p>

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Change	1	6/3/2014	On 6/3/14, at the request of the OPRD, administrative changes were made to change MWI 6410.1 to MPR 6410.2 and MWI 6430.1 to MPR 6430.1 due to cancellation of the MWIs.
Revision	L	12/15/2015	Total document revised to delete references to skills certifications. Skills certifications will be referenced in new document MWI 3410.5.
Change	1	1/24/2017	On 1/24/17, at the request of the OPRD, an administrative change was made to add the revision letter in the header.
Change	2	2/8/2021	On 2/8/21, at the request of the OPRD and approval of the Center Directives Manager, the Expiration Date of this directive is being extended from December 15, 2020 to March 19, 2021 to allow time for an Agency Tiger Team to complete review of the personnel certification process.
Change	3	3/17/2021	On 3/17/21, at the request of the OPRD, concurrence by QD DCB Member, and approval of the Center Directives Manager, the Expiration Date of this directive is being extended from March 19, 2021 to April 30, 2021 as Agency Tiger Team is still meeting and may implement changes affecting processes in this directive.

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1. PURPOSE

To describe the Personnel Certification Program process and provide instructions to implement the requirements for Safety, Health, and Environmental (SHE) certifications in accordance with NPD 8500.1, NPR 1800.1, NPR 8715.1, NPR 8715.3, and MPR 3410.1.

NOTE: For personnel training/qualification which does not require certification, also reference MPR 3410.1.

2. APPLICABILITY

2.1 This MWI applies to Center personnel, programs, projects, and activities, including contractors and resident agencies to the extent specified in their respective contracts or agreements. (“Contractors,” for purposes of this paragraph, include contractors, grantees, Cooperative Agreement recipients, Space Act Agreement partners, or other agreement parties.)

2.2 This MWI applies to the Michoud Assembly Facility (MAF).

2.3 This MWI applies the following: all mandatory actions (i.e., requirements) are denoted by statements containing the term “shall.” The terms: “may” or “can” denote discretionary privilege or permission, “should” denotes a good practice and is recommended, but not required, “will” denotes expected outcome, and “are/is” denotes descriptive material.

2.4 This MWI applies the following: all document citations are assumed to be the latest version unless otherwise noted.

2.5 Chapters 1, 2, 3, and 4 applies to MSFC and MAF civil service and contractor onsite personnel who perform hazardous operations.

3. AUTHORITY

3.1 NPD 8500.1, “NASA Environmental Management”

3.2 NPR 1800.1, “NASA Occupational Health Program Procedures”

3.3 NPR 8715.1, “NASA Occupational Safety and Health Programs”

3.4 NPR 8715.3, “NASA General Safety Program Requirements”

4. APPLICABLE DOCUMENTS and FORMS

4.1 29 CFR pt 1910, “Occupational Safety and Health Standards”

4.2 29 CFR pt 1926, “Safety and Health Regulations for Construction”

4.3 NPD 1800.2, “NASA Occupational Health Program”

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- 4.4 MPD 1860.2, “Radiation Safety Program”
- 4.5 MPR 1860.1, “MSFC Radiation Safety Procedural Requirements”
- 4.6 MPR 1860. 2, “Nonionizing Radiation Safety”
- 4.7 MPR 3410.1, “Training”
- 4.8 MPR 6410.2, “Identifying, Packaging, Handling, and Moving Program Critical Hardware”
- 4.9 MPR 6430.1, “Lifting Equipment and Operations”
- 4.10 MPR 8715.1, “Marshall Safety, Health and Environmental (SHE) Program”
- 4.11 MWI 1800.1, “MSFC Occupational Medicine”
- 4.12 MWI 1840.1, “Industrial Hygiene Programs”
- 4.13 MWI 8715.2, “Control of Hazardous Energy (Lockout/Tagout) Program”
- 4.14 MWI 8715.10, “Explosives, Propellants, and Pyrotechnics Program”
- 4.15 NRRS 1441.1, “NASA Records Retention Schedules”
- 4.16 NASA-STD-8719.9, “Standard for Lifting Devices and Equipment”
- 4.17 NASA-STD-8719.12, “Safety Standard for Explosives, Propellants, and Pyrotechnics”
- 4.18 MSFC-STD-3598, “Standard for Foreign Object Damage/Foreign Object Debris (FOD) Prevention”
- 4.19 American National Standards Institute (ANSI) Z136.1, “Safe Use of Lasers”
- 4.20 QD-QA-019, “Inspection of Propellant and Explosive Devices”
- 4.21 Alabama Asbestos Contractor Accreditation Act (89-517)
- 4.22 MSFC Form 2805, “Work History Questionnaire (MSFC Medical Center)”
- 4.23 MSFC Form 4083, “Personnel Certification”
- 4.24 MSFC Form 4083-1, “Temporary Safety Certification”
- 4.25 MSFC Form 4083-2, “Annual Personnel Certification Statement”
- 4.26 MSFC Form 4287, “MSFC Lockout/Tagout Procedure”

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4.27 MSFC Form 4333, “Training Requirements Plan”

4.28 MSFC Form 4571, “Powered Industrial Truck Operator (Forklift) Certification Renewal”

4.29 MSFC Form 4571-1, “Proficiency Examination for Forklift Operators”

4.30 MSFC Form 4572, “Aerial Lift Operator Certification Renewal”

4.31 MSFC Form 4572-1, “Proficiency Examination for Boom Supported Aerial Platform Operators”

4.32 MSFC Form 4572-2, “Proficiency Examination for Vehicle Mounted Aerial Work Platform Operators”

5. INSTRUCTIONS

5.1 Certification Process

5.1.1 Employees selected by their supervisors shall attend and successfully complete the training identified in the appropriate Chapters of this MWI that identifies the certification for which the employee has been selected to obtain. (See MPR 8715.1 for more information.)

NOTE 1: Specific jobs and operations have been identified by the Center Safety Office, Center Occupational Health Office, and Center Environmental Office to require a Center certification based on the nature of the work or the hazardous conditions that may be encountered. (See Chapters 1 and 3 of this MWI.)

NOTE 2: At MAF, the process and requirements to obtain a certification is the same process and requirements described in this MWI unless noted otherwise.

NOTE 3: See Appendix A for organizations that serve in the roles of the Center Safety Office, Center Occupational Health Office, and Center Environmental Office at MSFC and MAF.

5.1.2 Employees shall provide the necessary MSFC Forms (MSFC Form 4083, MSFC Form 4083-2, (if applicable), and MSFC Form 4083-1, (if applicable), to their supervisor indicating successful completion of required training.

5.1.3 Employees shall obtain a medical examination for certifications (if applicable) annually.

5.1.3.1 Center Civil Service employees shall obtain the medical examination from the Center Medical Center. (See MPR 8715.1)

NOTE: Contractor employees should obtain medical examinations as specified in their contract. (See MPR 8715.1 for more information.)

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5.1.4 Completed forms needed for a Center certification shall be forwarded to the Center Certifying Officer or designee, as applicable, for approval.

5.1.4.1 For contractors, the employee’s supervisor may delegate signature authority on forms to the employee’s functional lead (e.g. foreman, team lead, crew leader).

5.1.5 Center Certifying Officer(s) and Certification Administrator(s) (CA) shall be identified by the Center Safety Office, Center Occupational Health Office and Center Environmental Office to perform the roles identified in this MWI for the Certifying Officer and CA for their specific certifications.

NOTE 1: The certification forms for a specific certification are provided to the Center Certifying Officer who oversees the specific certifications by the Center CA. The CA processes the specific certifications.

NOTE 2: MSFC and MAF contractors are permitted to have their own Certifying Officers and perform the functions listed in this MWI.

5.1.6 Approved certification requests are forwarded to the Center CA for inclusion to the Certification Tracking database (CERTRAK), as applicable.

5.1.6.1 Disapproved certification requests are provided to the Center CA who processes the specific certification for forwarding to the employee’s supervisor or safety representative.

NOTE: Details or a list of deficiencies why the request for certification is not granted is provided to the employee’s supervisor or safety representative.

5.1.7 Details of any disapproved certification requests shall be reviewed with the employee by the supervisor or safety representative.

NOTE: After employees have resolved the deficiencies, the employee may resubmit the request for certification.

5.2 SHE Certification

5.2.1 Employees performing jobs or operations listed in Chapter 1 and 3 of this MWI shall be identified by their supervisor for a Center SHE certification and obtain the certification prior to performing the operation.

5.2.2 Supervisors of employees who fail the medical exam shall reassign the employee to other duties until the employee can successfully pass the medical exam. (See Chapter 1, CH1.1.10 and Chapter 3, CH3.1.10 of this MWI for additional information.)

5.2.3 Jobs or operations performed by Contractor employees requiring a Center SHE certification in accordance with this MWI shall be maintained and tracked in CERTRAK unless specified otherwise in their contract or agreement.

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5.2.4 A MSFC SHE certification shall be accepted at MAF.

5.2.5 A MAF SHE certification shall be accepted at MSFC.

NOTE 1: A MSFC SHE certification and MAF SHE certification are considered as equivalent for the same type job and operation, so long as the job or operation, is performed in a very similar manner and have the same safe operational requirements.

NOTE 2: In cases where lifting equipment is not similar from one location to the other, the Center Lifting Device and Equipment Manager (LDEM) determines if additional proficiency training or hands-on training is needed before being allowed to operate the equipment.

5.2.6 Acceptance of a SHE certification obtained from another NASA Center for performing a specific job or operation at MSFC or MAF shall be determined on a case-by-case basis. (See Chapter 1 for more information.)

5.3 Proficiency Test

5.3.1 Employees shall demonstrate proficiency (proficiency tests) of the operation where required in Chapter 1 and Chapter 3 of this MWI.

5.3.2 Proficiency tests shall be performed after successful completion of the specified training and completion of any specified Type A or Type B OJT.

5.3.3 The MSFC Form 4083 and Medical Surveillance Report (MSR) shall be fully complete and reviewed by the Center proficiency examiner for the specific certifications prior to the employee performing a proficiency test.

5.3.3.1 When classroom training is not available, the current certification may be extended by the Center Certifying Officer for the specific certification.

NOTE: At MSFC, this extension is obtained by the Center Certifying Officer or designee for the specific certification.

5.3.4 A Center certification shall be required to operate Center-owned lifting equipment.

5.3.5 When a Contractor is required to operate Center-owned lifting equipment, but unable to receive the Center required training for the certification, a temporary or provisional safety certification may be obtained in accordance with section 5.4 of this MWI.

5.3.6 A Center certification shall not be required for contractor-owned and contractor-operated lifting equipment.

5.3.7 Contractors shall be able to provide proof of employee training or qualifications when operating contractor-owned equipment on Center owned property when training has been

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specified by the applicable parts of 29 CFR pt 1910 and 29 CFR pt 1926 for the specific equipment, as requested.

5.3.8 Certifications for the operation of Center-owned lifting equipment shall be issued for a specific type of equipment on which the employee has demonstrated proficiency.

5.3.9 Lifting equipment, including those that lift personnel, shall be identified by one of the following methods, and the equipment type identification recorded on MSFC Form 4083:

5.3.9.1 Overhead cranes (bridge) by method of control (cab, pendant, infrared, or radio). The crane tonnage (T) or a range of T may also be provided (5T-50T, 50T-100T, and 100T-200T) to better define the type of crane which the employee is certified to operate.

5.3.9.2 Forklift by class (Class 1 – Class 7).

5.3.9.3 Aerial lift by type (Boom-Supported, Bucket Truck, or Vertical)

5.3.9.4 Mobile cranes by type (Rough terrain, Truck mounted, Crawler or Caterpillar track)

5.3.9.5 Jib cranes by type (Fixed or Portable, Manual, Electric, or Hydraulic)

5.3.10 A single proficiency examination shall qualify the employee to operate all of the equipment that fall within the same type/method of controls or class listed in 5.3.9 at various locations.

5.3.11 At MSFC and MAF an employee shall not be considered as certified to operate any Center owned lifting equipment until listed in CERTRAK.

5.3.12 If the CERTRAK database is unavailable, the signature of the certifying officer on the MSFC Form 4083 or MSFC Form 4083-1 shall suffice for active certification until the record can be entered.

5.4 Temporary or Provisional Safety Certification

5.4.1 Temporary or provisional safety certifications may be issued to contractors or civil service employees who are unable to attend and successfully complete the identified training for specified periods of time to perform work.

5.4.2 Contractors shall provide evidence that the employee has experience and qualification in the specialty and has received training equivalent to the training required for the Center safety certification.

5.4.3 Contractors shall provide rationale to the Center CA for SHE certifications as to why the employee is unable to attend safety training courses identified for SHE certification.

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5.4.4 Temporary or provisional safety certifications may be issued by the Center CA for safety certifications when the provided rationale justifies the need for the temporary or provisional safety certification.

5.4.5 Temporary safety certifications shall not be issued for more than 12 months.

5.4.6 Temporary safety certifications shall be extended when the identified training course is rescheduled by the NASA Safety Training Center (NSTC) or other external training provider.

5.4.7 Proficiency tests, as applicable, for temporary safety certifications may be issued when training is not available and all other requirements have been satisfied.

5.4.8 Respirator, Self-Contained Breathing Apparatus (SCBA), Radiation, Laser, and Confined Space Entry certifications shall not be extended past the current expiration date, as applicable.

5.5 CERTRAK Access

5.5.1 Certified personnel, safety, health, environmental representatives, and supervisors who have been granted approval through Identity and Access Management Tools (IdMAX) shall be able to access CERTRAK.

5.5.2 Employee certifications may be viewed from the “Safety Tools & Apps” link with an IdMAX password.

NOTE: MSFC “Explornet Homepage”, select the “Working @Marshall” link, select the “Safety, Health & Environmental” link. Under the “Safety” tab on the right side of screen, select “Safety Tools & Apps”, then select “Launch”.

5.5.3 Employee SHE certifications shall be verified by any of the following methods:

5.5.3.1 A printout from CERTRAK maintained by the employee, supervisor, safety, health, environmental representative listing their certification as current.

5.5.3.2 Employee listed in CERTRAK with a current certification.

5.5.3.3 CERTRAK identifies contractor tasks that require some level of qualification and records of these qualifications are kept electronically by the contractor.

5.5.3.4 Organizational issuances utilized for qualifications and evidence of the employee successfully obtaining these qualifications are kept electronically by the organization.

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5.6 Employee Certification

5.6.1 Employees shall not be considered certified for SHE certifications listed in Chapter 1 and 3 of this MWI until listed in CERTRAK.

5.7 On-The-Job Training (OJT)

5.7.1 Type A OJT is for certification specialties that require documentation to demonstrate the applicant's qualifications to perform the task. Documentation includes work history (period of performance, description of equipment or operation), signature of supervisor, and applicant.

5.7.1.1 Type A OJT shall be documented on MSFC Form 4333 for safety certifications only.

5.7.2 Type B OJT is for certifications that require only the signature of the applicant's supervisor. The supervisor's signature provides evidence that enough OJT has been completed to consider the applicant for certification.

5.7.2.1 Type B OJT shall be documented on MSFC Form 4083.

5.8 Construction Contractors

5.8.1 Construction contractors and contractors performing work on the Center for a short term or temporarily shall:

5.8.2 Provide evidence of specific employee training when required by Occupational Safety and Health Administration (OSHA), National Fire Protection Association (NFPA), NASA, or the Center for operations listed in Chapters 1 and 3 of this MWI to the Center Safety Office.

5.8.3 Be exempt from Center SHE certifications unless determined necessary by the Center Safety Office or Center Occupational Health Office.

NOTE: At the present time, a SHE certification is required if the Contractor is expected to operate Center-owned lifting equipment in accordance with this MWI.

5.8.4 Provide any state, local, or federal licenses to the government when determined necessary to perform jobs or operations identified when requested by the Center Safety Office or Center Occupational Health Office.

5.9 Medical Examinations

5.9.1 Medical examinations are required for certain SHE certifications listed in Chapter 1 and 3 of this MWI. The depth, scope, frequency, and criteria for the medical examinations for safety certifications have been established by the Center medical and health officials in accordance with NPR 1800.1.

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5.9.2 Medical examination criteria and pass/fail criteria shall be maintained at the Center Medical Center by the Center Occupational Medicine and Environmental Health Office. (See MPR 8715.1)

5.9.3 Medical examinations shall be performed in accordance with MWI 1800.1.

5.9.4 Medical examinations for SHE certification shall be scheduled annually unless otherwise noted.

5.9.4.1 The medical expiration date will be at 4 weeks past the annual date to allow for rescheduled appointments.

5.9.5 Operations that require a medical examination shall only be performed by employees who have successfully passed the medical examination.

5.9.6 Employees who fail the medical examination shall be assigned to other duties until they are able to successfully pass the medical examination.

5.9.7 Employees shall provide a MSR printout from the SHE Training Assessment Questionnaire when reporting for Part 1 of the medical exam.

5.9.7.1 Employees requiring mandatory medical exams for SHE certifications who do not provide a MSR from the SHE Training Assessment Questionnaire, at the time of the medical exam, will be provided an exam based on the previous year's data, but will not be scheduled for the Part 2 and obtain medical approval until a current MSR is received.

5.9.7.2 Employees who cannot provide a MSR printout shall provide a MSFC Form 4083-2 at Part 1 of the medical exam.

5.10 Revoke/Suspend Safety Certification

5.10.1 A SHE certification may be revoked/suspended for a period of time for the following:

5.10.1.1 Operating equipment or performing an operation in a manner that exhibits the potential to cause harm to themselves or other employees, damage to property, or the environment.

5.10.1.2 Using equipment that does not have current certifications or proof tests, when required, i.e. proof load test.

5.10.1.3 When actions and/or conduct indicate the employee is incompetent to operate the equipment or perform the operation in a safe and healthful manner.

5.10.1.4 Operating equipment or performing an operation where a safety assessment, of the appropriate level, has not been performed by the equipment/operation owner.

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6. CANCELLATION

MWI 3410.1L-2, "Personnel Certification Program," dated December 15, 2015.

Original signed by

Todd A. May
Acting Director

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CHAPTER 1

MSFC SHE CERTIFICATION REQUIREMENTS

CH1.1 SHE Certification Requirements are identified in Table CH1-1 below.

TABLE CH1-1 MSFC SHE CERTIFICATION REQUIREMENTS

CERTIFICATION SPECIALTY [REFERENCE]	REQUIREMENTS	CERTI- FICATION PERIOD	RE-CERTIFICATION REQUIREMENTS
Aerial Lift Operator <ul style="list-style-type: none"> • Boom-Supported • Bucket Truck • Vertical [29 CFR pt 1910.67; 29 CFR pt 1926.453 and NASA-STD-8719.9] (See CH1.1.7.)	<ul style="list-style-type: none"> • Aerial Platform Training (SMA-SAFE-NSTC-0030), Manufacturer's Course or (SHE 509) • Fall Protection (SMA-SAFE-NSTC-0311-AU) or (SHE 113) • Type B OJT • Written and Proficiency Tests • Medical exam 	4 Years	<ul style="list-style-type: none"> • Refresher Training (SMA-SAFE -NSTC-0030) or SHE 509) • Proficiency Test • Medical exam
Confined Space Entry [29 CFR pt 1910.146 and MWI 1840.1]	<ul style="list-style-type: none"> • Confined Space Entry Training (SHE 209A) • Written Test • Medical exam 	1 Year	<ul style="list-style-type: none"> • Refresher Training (SHE 209B) • Medical exam
Cryogen System Operator (See CH1.1.7.)	<ul style="list-style-type: none"> • Cryogenic Safety (SMA-SAFE-NSTC 0313) or (SHE 124) • HazCom (SHE 214) • Type A OJT (40 Hours) • Medical exam 	4 Years	<ul style="list-style-type: none"> • Refresher Training (SMA-SAFE-NSTC 0313) or (SHE 124) • Medical exam
Foreign Object Debris (FOD) (See CH1.1.3.)	<ul style="list-style-type: none"> • SHE 418, Foreign Object Debris Critical Zone Training 	1 Year	<ul style="list-style-type: none"> • SHE 418, Foreign Object Debris Critical Zone Training
Forklift Operator: <ul style="list-style-type: none"> • Class 1: Electric Motor, Sit-Down Rider, Counter-Balanced Trucks (Solid and Pneumatic Tires) • Class 2: Electric Motor Narrow Aisle Trucks (Solid Tires) • Class 3: Electric Motor Hand Trucks or Hand/Rider Trucks (Solid Tires) • Class 4: Internal Combustion Engine Trucks (Solid Tires) • Class 5: Internal Combustion Engine Trucks (Pneumatic Tires) • Class 6: Electric and Internal Combustion Engine Tractors (Solid and Pneumatic Tires) • Class 7: Rough Terrain Forklift Trucks (Extended Boom) Trucks [NASA-STD-8719.9 and MPR 6430.1] (See CH1.1.7. and Appendix E)	<ul style="list-style-type: none"> • Forklift Safety (SMA-SAFE-NSTC 0210) or (SHE 505) • Shall be 18 years old to operate • PCH Training for PCH Certification (SHE 500) if required to move PCH • Written and Proficiency Tests • Type A OJT for PCH/Critical • Type B OJT otherwise • Medical exam • Current certification as a Forklift Operator • Study of Manufacturer's Operator's Manual • Hands-on orientation from certified operator • Medical exam • Proficiency Test 	3 Years	<ul style="list-style-type: none"> • Refresher Training (SMA-SAFE-NSTC-0210) or (SHE 506) • Shall be 18 years old • Medical exam • Proficiency Test • Review Manufacturer's Operator's Manual • Medical exam • Proficiency Test

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TABLE CH1-1 MSFC SHE CERTIFICATION REQUIREMENTS

CERTIFICATION SPECIALTY [REFERENCE]	REQUIREMENTS	CERTI- FICATION PERIOD	RE-CERTIFICATION REQUIREMENTS
Hazardous Waste Operations and Emergency Response (HAZWOPER) Technician [NPR 8715.3]	<ul style="list-style-type: none"> • HAZWOPER (40 Hours) (SHE 303) • Medical exam 	1 Year	<ul style="list-style-type: none"> • HAZWOPER Management Refresher (8 Hours) (SHE 308) • Medical exam
HAZWOPER Incident Commander [NPR 8715.3]	<ul style="list-style-type: none"> • HAZWOPER with an Incident Command Element Training (40 Hours) (SHE 314) • Medical exam 	1 Year	<ul style="list-style-type: none"> • HAZWOPER with an Incident Command Element Training Refresher (8 Hours) (SHE 308) • Medical exam
High Pressure System Operator (> 150 psig) (liquid/vapor/gas) [NPR 8715.3] (See CH1.1.1.)	<ul style="list-style-type: none"> • High Pressure System Operation and Flex Hose Safety (SMA-SAFE-NSTC-0317) • Medical exam 	4 Years	<ul style="list-style-type: none"> • Refresher training (SMA-SAFE-NSTC-0317) • Medical exam
Hydraset Operator [NASA-STD-8719.9]	<ul style="list-style-type: none"> • Manufacturer's course or equivalent • PCH Training for PCH Hydraset Certification (SHE 500) • Type A OJT for PCH/Critical • Type B OJT otherwise • Written and Proficiency Tests • Medical exam 	4 Years	<ul style="list-style-type: none"> • Refresher Training • Proficiency Test • Medical exam
Hydrogen System Operator (See CH1.1.7)	<ul style="list-style-type: none"> • Safety in Hydrogen System Operations (SMA-SAFE-NSTC-0054) • HazCom (SHE 214) • Medical exam • Type A OJT (40 hours) 	4 Years	<ul style="list-style-type: none"> • Refresher Training (SMA-SAFE-NSTC-0054) • Medical exam
KAMAG™ Operator/Flagman (See CH1.1.7.)	<ul style="list-style-type: none"> • KAMAG™ Operation Training Course (SHE 511) • Valid state-issued commercial drivers license (CDL), Class A • Valid Department of Transportation (DOT) Medical Card • Type A OJT for PCH • Type B OJT otherwise • Proficiency Test • Medical exam 	4 Years	<ul style="list-style-type: none"> • Refresher Training (SHE 511) • Proficiency Test • Medical exam • Valid state-issued CDL, Class A • Valid DOT Medical Card
Laser Maintenance Personnel [MPR 1860.2, ANSI Z136.1 and NPR 8715.3]	<ul style="list-style-type: none"> • Laser Safety Course (SHE 216) • Lockout/Tagout (SMA-SAFE-NSTC-0814) or (SHE 128) • Medical exam 	1 Year	<ul style="list-style-type: none"> • Refresher Training (SHE 216) • Medical exam
Laser Operator (> Class 3b or 4) [ANSI Z136.1 and NPR 8715.3]	<ul style="list-style-type: none"> • Laser Safety Course (SHE 216) • Medical exam 	1 Year	<ul style="list-style-type: none"> • Refresher Training (SHE 216) • Medical exam

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TABLE CH1-1 MSFC SHE CERTIFICATION REQUIREMENTS

CERTIFICATION SPECIALTY [REFERENCE]	REQUIREMENTS	CERTI- FICATION PERIOD	RE-CERTIFICATION REQUIREMENTS
Liquid Nitrogen System Operator [NPR 8715.3] (See CH1.1.7.)	<ul style="list-style-type: none"> • Liquid Nitrogen Handlers Course Employees working with less than 250 gallon dewars (SMA-SAFE-NSTC-0314) or (SHE 123) • Cryogenic Safety Employees working with more than 250 gallon dewars (SMA-SAFE-NSTC-0313) or equivalent (SHE 124) • HazCom (SHE 214) • Medical exam • Type A OJT (40 hours) 	4 Years	<ul style="list-style-type: none"> • Refresher training (SMA-SAFE-NSTC-0314) or (SHE 123) • Medical exam
Lockout/Tagout, Authorized Employee [MWI 8715.2 and 29 CFR pt 1910.147]	<ul style="list-style-type: none"> • Lockout/Tagout (SMA-SAFE-NSTC-0814) or (SHE 128) • Written Test 	4 Years	<ul style="list-style-type: none"> • Refresher Training (SHE 128) • Written Test
Mobile Crane Operator – <ul style="list-style-type: none"> • Rough terrain, • Truck mounted, • Crawler or Caterpillar track • Derrick Crane Operator [NASA-STD -8719.9 and MPR 6430.1] (See CH1.1.7.)	<ul style="list-style-type: none"> • Mobile Crane Safety (SMA-SAFE-NSTC-0208) or (SHE 516 for Mobile Crane or SHE 518 for Derrick Crane) • PCH Training for PCH Certification (SHE 500) if required to move PCH • Type A OJT for PCH/Critical • Type B OJT otherwise • Written and Proficiency Tests • Medical exam • Mobile Crane only – CDL required for travel on roadway 	4 Years	<ul style="list-style-type: none"> • Refresher Training (SHE 516 or SHE 518) • Medical exam • Proficiency test • Valid CDL and DOT medical card
Overhead Crane/Hoist Operator – including Portal Crane Operator <ul style="list-style-type: none"> • Cab controlled • Pendant controlled • Infrared controlled • Radio controlled [NASA-STD-8719.9 and MPR 6430.1]	<ul style="list-style-type: none"> • Overhead Cranes and Materials Handling (SMA-SAFE-NSTC-0205) or (SHE 507 for overhead/hoist and Portal Crane) • PCH Training for PCH Certification (SHE 500) If required to move PCH • Type A OJT for PCH/Critical • Type B OJT otherwise • Written and Proficiency Tests • Medical exam 	4 Years	<ul style="list-style-type: none"> • Refresher Training (SMA-SAFE-NSTC-0028) or (SHE 508) • Medical exam • Proficiency Test
Oxygen System Operator (See CH1.1.2 and CH1.1.7.)	<ul style="list-style-type: none"> • Oxygen Systems: Operation and Maintenance (SMA-SAFE-NSTC-0053) or (SHE 131) • HazCom (SHE 214) • Medical exam • Type A OJT (40 Hours) 	4 Years	<ul style="list-style-type: none"> • Refresher training (SMA-SAFE-NSTC-0053) or (SHE 131) • HazCom Refresher (SHE 214) • Medical exam
Program Critical Hardware (PCH) Handler – Employees involved in the actual hands-on PCH move such as hand carry (manual move) and operating lifting and moving equipment. Employees that monitor and are not directly involved the in hands-on operation only need monitor training (SHE 504). [MPR 6410.2]	<ul style="list-style-type: none"> • PCH Training (SHE 500) • Medical exam 	3 Years	<ul style="list-style-type: none"> • Refresher Training (SHE 500) • Medical exam

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TABLE CH1-1 MSFC SHE CERTIFICATION REQUIREMENTS

CERTIFICATION SPECIALTY [REFERENCE]	REQUIREMENTS	CERTI- FICATION PERIOD	RE-CERTIFICATION REQUIREMENTS
Propellant and Explosive Handler/User [NASA-STD-8719.12 and MWI 8715.10]	<ul style="list-style-type: none"> • Basic Explosive Safety (SMA-SAFE-NSTC-0082) or (SHE 111) • Type A OJT (40 Hours) • Medical exam 	3 Years	<ul style="list-style-type: none"> • Refresher training (Refresher Course for Explosive Handlers and Operational Personnel, (SMA-SAFE-NSTC-0009) or (SHE 111) • Medical exam
Propellant and Explosive Inspector	<ul style="list-style-type: none"> • Basic Explosive Safety (SMA-SAFE-NSTC-0082) or (SHE 111) • Proficiency with QD-QA-019 or equivalent • Type A OJT (80 Hours) • Medical exam 	3 Years	<ul style="list-style-type: none"> • Refresher training (Refresher Course for Explosive Handlers and Operational Personnel, (SMA-SAFE-NSTC-0009) or (SHE 111) • Medical exam
Radiation – Personnel designated to wear dosimeters or as directed by the Radiation Safety Officer (RSO) [MPR 1860.1 and MPD 1860.2]	<ul style="list-style-type: none"> • Radiation Safety – Ionizing Radiation Producing Devices (SHE 228) if working with x-ray machines, accelerators, etc. • Radiation Safety-Radioactive Material (SHE 227) if working with radioactive material • (SHE 227 and SHE 228) if working with both 	1 Year	<ul style="list-style-type: none"> • Refresher training (SHE 227 and/or 228)
Respirators (Non-SCBA) – Personnel designated to wear respiratory protection [MWI 1840.1]	<ul style="list-style-type: none"> • Respirator Training (SHE 212) • Medical exam 	1 Year	<ul style="list-style-type: none"> • Refresher training (SHE 212) • Medical exam
Rigger [NASA-STD-8719.9] (See CH1.1.15.)	<ul style="list-style-type: none"> • Material Handling Rigging (SHE 519) (Contact Center Safety Office) • Written and Proficiency Tests • Type A OJT for PCH/Critical • Type B OJT otherwise • Medical exam • PCH Training for PCH Certification (SHE 500) 	4 Years	<ul style="list-style-type: none"> • Refresher training (SHE 519) (Contact Center Safety Office) • Medical exam • Proficiency Test
Self-Contained Breathing Apparatus (SCBA) – Personnel designated to wear self-contained breathing apparatus respiratory [MWI 1840.1]	<ul style="list-style-type: none"> • SCBA Training (SHE 212) • Medical exam 	1 Year	<ul style="list-style-type: none"> • Refresher training (SHE 212) • Medical exam
Welding Safety [NPR 8715.3] (See CH1.1.7)	<ul style="list-style-type: none"> • Welding and Cutting Safety (SMA-SAFE-NSTC-0064) or equivalent (SHE 137) • Medical exam 	4 Years	<ul style="list-style-type: none"> • Refresher training (SMA-SAFE-NSTC-0064 or equivalent) (SHE 137) • Medical exam

CH1.1.1 Employees working with compressed gas cylinders or compressed gas trailers are not required to obtain the High Pressure Systems Operators certification. These employees are expected to successfully complete the appropriate safety awareness training, “Safety of Compressed Gas Trailers” and Compressed Gas Cylinders” (SMA-SAFE-NSTC-0318) or equivalent.

CH1.1.2 High Pressure System Operators, Hydrogen System Operators, and Oxygen System Operators may elect to attend the extended training courses, “High Pressure System Operations

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and Flex Hose Safety”, “Hydrogen Safety”, and “Fire Hazards in Oxygen Systems” (as applicable).

CH1.1.3 SHE 417, FOD Monitor Training is required every two years and tracked by roster. SHE 415, FOD Awareness and SHE 416, SHE FOD Prevention are required every three years and tracked by roster. SHE 415, FOD Awareness may also be tracked by training certificate.

CH1.1.4 Contractors shall provide documentation as proof of training. The documentation may be provided to the Government by one of the following methods: (1) a training certificate that contains the employee’s name, name of training, name of training company, and date training was provided; or (2) a written document that contains rationale why the employee is considered as trained, knowledgeable, experienced, and qualified to perform the task/job on company letterhead, that is signed and dated by a company official or Superintendent.

CH1.1.5 Civil servant and contractor employees from other NASA Centers requesting to perform jobs, operations, or operate equipment requiring a MSFC or MAF certification shall provide proof of an equivalent Center certification and/or training for the type of job, operation or equipment they expect to operate.

CH1.1.5.1 The equivalent Center certification and/or training shall be reviewed by the Center SHE organization responsible for the MSFC or MAF certification for concurrence or non-concurrence and verify that the other NASA Center certification and/or training is equivalent to MSFC’s or MAF’s thereby permitting the employee to perform the job or operation.

CH1.1.5.2 In cases where MSFC equipment is expected to be operated, the Center LDEM shall provide the concurrence or non-concurrence when the request is to operate Center lifting equipment.

CH1.1.5.3 Following concurrence with the other NASA Center’s certification and/or training, a proficiency test may be required as determined by the Center LDEM and Center Safety Office. When required, the proficiency test will be provided by the MSFC Lifting Equipment Examiner.

CH1.1.6 MSFC employees traveling to other NASA Centers and are expected to perform jobs, operations, or operate equipment that require a Center certification at the Center being visited, shall contact the Center Safety Office for assistance.

CH1.1.7 SHE equivalent courses are still in development. Equivalent courses developed by contractors shall be approved by the SHE Training Subcommittee for use by that contractor. Contact the Center Safety Office for information if you are unable to locate a SHE training course listed.

CH1.1.8 When contractors are unable to attend NSTC training on a space available basis or develop their own training, they may obtain equivalent training from an external training provider to be used in lieu of the NSTC training. If equivalent training is obtained from an

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external training provider, the contractor shall provide proof of employee training (copy of training certificate or other method) to the CA (applies to safety certification only).

NOTE: Contact the Center Safety Office prior to obtaining external training to ensure concurrence that the external training will be considered as equivalent training for the certification.

CH1.1.9 The Center LDEM shall provide concurrence or non-concurrence for all training intended for use to train and certify employees to operate Center lifting equipment. This includes any training provided by an external training provider and training developed for use by a contractor/organization located on the Center.

CH1.1.10 Employees who are unable to successfully pass their medical exams, for a certification specialty, are given a provisional 3-month time period whereby their certification is moved to the inactive file. During the 3-month time period, a screening process is performed by the Center Medical Center to determine if the medical condition has been corrected. If the condition has been corrected, the certification shall be moved to the active status. If the condition has not been corrected, the certification is considered inactive. This process is tracked in CERTRAK.

CH1.1.11 Civil service and onsite contractors shall obtain the MSFC SHE certifications appropriate for the activities being performed, that require the MSFC certification listed in Chapter 1 and have the certified employee listed in CERTRAK. If a contractor believes they are currently excluded from this requirement, they are to contact their Center CO to obtain documentation of exclusion from this requirement in their current contract.

CH1.1.12 Contractor Certifying Officers shall provide signatures on the MSFC Form 4083 and MSFC Form 4083-1 when approving safety personnel certifications.

CH1.1.13 All future and renewed contracts for which MPR 3410.1 applies shall include certification requirements. Contact the Center Safety Office if more information is needed.

CH1.1.14 Certifications can expire, be suspended, or be revoked. Certifications shall expire when employment is terminated or when the certification interval has lapsed with no recertification issued.

CH1.1.15 SMA-SAFE-NSTC-0028, "Crane Operations and Rigging Safety Refresher," only provides basic knowledge of rigging techniques. This training is intended for overhead crane certification. SHE 519, "Material Handling Rigging," is standalone training not offered by the NASA Safety Training Center (NSTC). This training has been offered to Center employees to include contractors and taught by an offsite vendor. (Contact the Center Safety Office for more information.)

CH1.1.16 Respiratory Protection certifications are administered by the Center Occupational Health Office certifying officer at the time of training. Supervisors shall sign the MSFC Form 4083, prior to respirator training.

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CH1.1.1.17 Confined Space Entry and Hazardous Waste Operations and Emergency Response certifications are administered by the Center Occupational Health Office certifying officers.

CH1.1.18 Supervisors and team leads shall be given the option to utilize MSFC Forms 4571, 4571-1, and MSFC Forms 4572, 4572-1, 4572-2, in lieu of established training and proficiency requirements to complete certification process. (Contact the Center Safety Office for more information.)

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CHAPTER 2

TRAINING NOT PROVIDED BY MSFC

CH2.1 State, federal, and other provided training requirements are identified in Table CH2-1 below.

TABLE CH2-1 STATE, FEDERAL, AND OTHER TRAINING REQUIREMENTS			
CERTIFICATION SPECIALTY [REFERENCE]	REQUIREMENTS	CERTIFI- CATION PERIOD	RE-CERTIFICATION REQUIREMENTS
Asbestos Abatement for asbestos/heavy metal: • Supervisor • Worker [Alabama Asbestos Contractor Accreditation Act (89-517); 29 CFR pt 1910.1001 and 1926.1101]	<ul style="list-style-type: none"> • State Accredited Training [State Registration, Safe State (1-800-452-5928)] • Supervisor State-Accredited Course • Worker State-Accredited Course • Medical exam 	1 Year	<ul style="list-style-type: none"> • State-Accredited Refresher Course • Medical exam
Asbestos Operations and Maintenance (Class III) [29 CFR pt 1910.1001 and 1926.1101]	<ul style="list-style-type: none"> • State Accredited Training [State Registration, Safe State (1-800-452-5928)] 	1 Year	<ul style="list-style-type: none"> • State-Accredited Refresher Course
Commercial Motor Vehicle Operator • Class A >26,001 lbs • Class B <26,000 lbs • Class C • Hazardous Material endorsement • Tanker endorsement • Hazardous Material/Tanker endorsement • Air Brakes restriction	<ul style="list-style-type: none"> • Valid Department of Transportation (DOT) Medical Card (requires medical examination; valid for 2 years) – Category Ia • Valid state-issued Commercial Driver License (CDL) 	4 Years	<ul style="list-style-type: none"> • Copy of renewed state-issued CDL • Copy of renewed DOT Medical Card
Flight Deck Crew	<ul style="list-style-type: none"> • Appropriate FAA license and certification • Medical exam 	Determined by FAA	<ul style="list-style-type: none"> • FAA requirements • Medical exam
Heavy Equipment Operator (earth-moving equipment) [NPR 8715.3] Mobile Sweeper Operator (See CH2.1.2)	<ul style="list-style-type: none"> • Valid state-issued CDL, Class A or B • Valid DOT Medical Card • Medical exam • Type B OJT 	4 Years	<ul style="list-style-type: none"> • Valid state-issued CDL • Valid DOT Medical Card • Medical exam
Lifting Equipment Examiner: Forklift Mobile Crane Overhead Cranes/Aerial Lifts Rigging KAMAG™, Portal Crane, Derrick Crane Hydraset	<ul style="list-style-type: none"> • Associated Train-the-Trainer Certified Course or equivalent when approved by MSFC Center Safety Office • Supervisor Statement verifying experience/OJT submitted to SMA for review/approval 	3 Years	<ul style="list-style-type: none"> • Associated Train-the-Trainer Recertification Course, or equivalent when approved by Center Safety Office

CH2.1.1 Training specialties in Table CH2-1 are not entered in CERTRAK. (See CH2.1.2)

CH2.1.2 Contractor Safety Representatives shall ensure employees are compliant with State, Federal, and other regulations (as applicable). If a contractor believes they are currently excluded from this requirement, they are to contact their Center CO to obtain documentation of exclusion from this requirement in their current contract.

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CH2.1.3 All future and renewed contracts for which MPR 3410.1, "Training," applies shall include certification requirements. Contact the Center Safety Office if more information is needed.

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CHAPTER 3

MAF SHE CERTIFICATION REQUIREMENTS

CH3.1 SHE Certification Requirements are identified in Table CH3-1 below.

TABLE CH3-1 MAF SHE CERTIFICATION REQUIREMENTS			
CERTIFICATION SPECIALTY [REFERENCE]	REQUIREMENTS	CERTIFICATION PERIOD	RE-CERTIFICATION REQUIREMENTS
Aerial Lift Operator <ul style="list-style-type: none"> • Boom-Supported • Bucket Truck • Vertical [29 CFR pt 1910.67; 29 CFR pt 1926.453 and NASA-STD-8719.9] (See CH3.1.7)	<ul style="list-style-type: none"> • Aerial Platform Training (SMA-SAFE-NSTC-0030), Manufacturer's Course or (SHE 509) • Fall Protection (SMA-SAFE-NSTC-0311-AU) or (SHE 113) • Type B OJT • Written and Proficiency Tests • Medical exam – Category I • Specific training as determined by the Center LDEM, SMA representative located at MAF or designee for each specific type equipment 	4 Years	<ul style="list-style-type: none"> • Refresher Training (SMA-SAFE -NSTC-0030) or SHE 509) • Proficiency Test • Medical exam – Category I
Atmospheric Sampling (See CH3.1.7)	<ul style="list-style-type: none"> • Specific training as determined by the MSFC SMA representative located at MAF or designee 	4 Years	<ul style="list-style-type: none"> • Specific training as determined by the MSFC SMA representative located at MAF or designee
Bloodborne Pathogens Operations (See CH3.1.7)	<ul style="list-style-type: none"> • Bloodborne Pathogens Exposure Control (SHE 204) 	4 Years	<ul style="list-style-type: none"> • Bloodborne Pathogens Exposure Control (SHE 204)
Confined Space Entry [29 CFR pt 1910.146 and MWI 1840.1]	<ul style="list-style-type: none"> • Confined Space Entry Training (SHE 209A) • Written Test • Medical exam – Category IV 	1 Year	<ul style="list-style-type: none"> • Refresher Training (SHE 209B) • Medical exam – Category IV
Cryogen System Operator (See CH3.1.7)	<ul style="list-style-type: none"> • Cryogenic Safety (SMA-SAFE-NSTC 0313) or (SHE 124) • HazCom (SHE 214) • Type A OJT (40 Hours) • Medical exam – Category III 	4 Years	<ul style="list-style-type: none"> • Refresher Training (SMA-SAFE-NSTC 0313) or (SHE 124) • Medical exam – Category III
Foreign Object Debris (FOD) (See CH3.1.3)	<ul style="list-style-type: none"> • SHE 418, FOD Critical Zone Training 	1 Year	<ul style="list-style-type: none"> • SHE 418, FOD Critical Zone Training
Forklift Operator: <ul style="list-style-type: none"> • Class 1: Electric Motor, Sit-Down Rider, Counter-Balanced Trucks (Solid and Pneumatic Tires) • Class 2: Electric Motor Narrow Aisle Trucks (Solid Tires) • Class 3: Electric Motor Hand Trucks or Hand/Rider Trucks (Solid Tires) • Class 4: Internal Combustion Engine Trucks (Solid Tires) • Class 5: Internal Combustion Engine Trucks (Pneumatic Tires) • Class 6: Electric and Internal Combustion Engine Tractors (Solid and Pneumatic Tires) 	<ul style="list-style-type: none"> • Forklift Safety (SMA-SAFE-NSTC 0210) or (SHE 505) • Shall be 18 years old to operate • PCH Training for PCH Certification (SHE 500) if required to move PCH • Written and Proficiency Tests • Type A OJT for PCH/Critical • Type B OJT otherwise • Medical exam – Category I • Specific training as determined by the Center LDEM, SMA representative located at MAF or designee for each specific type equipment 	3 Years	<ul style="list-style-type: none"> • Refresher Training (SMA-SAFE-NSTC 0210) or (SHE 506) • Shall be 18 years old • Medical exam – Category I • Proficiency Test • Current certification as a Forklift Operator

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<ul style="list-style-type: none"> Class 7: Rough Terrain Forklift Trucks (Extended Boom) Trucks <p>[NASA-STD-8719.9 and MPR 6430.1]</p> <p>(See CH3.1.7 and Appendix E)</p>			
<p>Hazardous Waste Operations and Emergency Response (HAZWOPER) Technician</p> <ul style="list-style-type: none"> Hazardous Waste Operations & Emergency Response <p>[NPR 8715.3]</p>	<ul style="list-style-type: none"> HAZWOPER (40 Hours) (SHE 303) Medical exam - Category III 	1 Year	<ul style="list-style-type: none"> HAZWOPER Management Refresher SHE 308 Hazardous Waste Operations & Emergency Response Technician (8 Hr) Medical Exam - Category III
<p>Hazardous Waste Operations</p> <ul style="list-style-type: none"> Hazardous Waste Documentation – HMAC Hazardous Operations Building 159 Hazardous Waste Processor Spill Prevention, Control & Counter measures (SPCC) Industrial Wastewater Treatment Backflow Preventer SPCC Annual Training <p>[NPR 8715.3]</p>	<ul style="list-style-type: none"> Specific training as determined by the Center Operations representative located at MAF for each type operation SHE 307 HAZMAT Transportation SHE 310C Storm Water Training Medical exam - Category III 	As determined by the Center Operations representative located at MAF for each type operation	<ul style="list-style-type: none"> Specific training as determined by the Center Operations representative located at MAF for each type operation Medical exam - Category III
<p>HAZWOPER Incident Commander</p> <p>[NPR 8715.3]</p>	<ul style="list-style-type: none"> HAZWOPER with an Incident Command Element Training (40 Hours) (SHE 314) Medical exam – Category III 	1 Year	<ul style="list-style-type: none"> HAZWOPER with an Incident Command Element Training Refresher (8 Hours) (SHE 308) Medical exam – Category III
<p>High Pressure System Operator (> 150 psig) (liquid/vapor/gas) [NPR 8715.3] (See CH3.1.1.)</p>	<ul style="list-style-type: none"> High Pressure System Operation and Flex Hose Safety (SMA-SAFE-NSTC-0317) Medical exam – Category III 	4 Years	<ul style="list-style-type: none"> Refresher training (SMA-SAFE-NSTC-0317) Medical exam – Category III
<p>Hydraset Operator</p> <p>[NASA-STD-8719.9]</p>	<ul style="list-style-type: none"> Manufacturer’s Course or equivalent PCH Training for PCH Certification (SHE 500) Type A OJT for PCH Type B OJT otherwise Written and Proficiency Tests Medical exam – Category I 	4 Years	<ul style="list-style-type: none"> Refresher Training Proficiency Test Medical exam – Category I
<p>Hydrogen System Operator</p> <p>(See CH3.1.5)</p>	<ul style="list-style-type: none"> Safety in Hydrogen System Operations (SMA-SAFE-NSTC-0054) HazCom (SHE 214) Medical exam – Category III Type A OJT (40 hours) 	4 Years	<ul style="list-style-type: none"> Refresher Training (SMA-SAFE-NSTC-0054) Medical exam – Category III
<p>Laser Maintenance Personnel</p> <p>[ANSI Z136.1 and NPR 8715.3]</p>	<ul style="list-style-type: none"> Laser Safety Course (SHE 216) Lockout/Tagout (SMA-SAFE-NSTC-0814) or (SHE 128) Medical exam – Category V 	1 Year	<ul style="list-style-type: none"> Refresher Training Laser Safety (SHE 216) Lockout/Tagout (SHE 128) Medical exam – Category V

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Laser Operator (> Class 3b or 4) [ANSI Z136.1 and NPR 8715.3]	<ul style="list-style-type: none"> • Laser Safety Course (SHE 216) • Medical exam – Category V 	1 Year	<ul style="list-style-type: none"> • Refresher Training (SHE 216) • Medical exam – Category V
Liquid Nitrogen System Operator [NPR 8715.3] (See CH3.1.7)	<ul style="list-style-type: none"> • Liquid Nitrogen Handlers Course Employees working with less than 250 gallon dewars (SMA-SAFE-NSTC-0314) or (SHE 123) • Cryogenic Safety Employees working with more than 250 gallon dewars (SMA-SAFE-NSTC-0313) or equivalent (SHE 124) • HazCom (SHE 214) • Medical exam – Category III • Type A OJT (40 hours) 	4 Years	<ul style="list-style-type: none"> • Refresher training (SMA-SAFE-NSTC-0314) or (SHE 123) • Medical exam – Category III
Lockout/Tagout, Authorized Employee [MWI 8715.2 and 29 CFR pt 1910.147]	<ul style="list-style-type: none"> • Lockout/Tagout (SMA-SAFE-NSTC-0814) or (SHE 128) • Written Test • Proficiency with MSFC Form 4287 – Part 18 	1 Year	<ul style="list-style-type: none"> • Refresher Training (SHE 128) • Written Test • Proficiency with MSFC Form 4287 – Part 18
Mobile Crane Operator – including <ul style="list-style-type: none"> • Rough terrain, • Truck mounted, • Crawler or Caterpillar track • Industrial [NASA- STD-8719.9 and MPR 6430.1] (See CH3.17)	<ul style="list-style-type: none"> • Mobile Crane Safety (SMA-SAFE-NSTC-0208) or (SHE 516 for Mobile Crane or SHE 518 for Derrick Crane) • PCH Training for PCH Certification (SHE 500) if required to move PCH • Type A OJT for PCH/Critical • Type B OJT otherwise • Written and Proficiency Tests • Medical exam – Category I • Mobile Crane only – CDL required for travel on roadway • Specific training as determined by the Center LDEM, SMA representative located at MAF or designee for each specific type equipment 	4 Years PCH-3Years	<ul style="list-style-type: none"> • Refresher Training (SHE 516 or SHE 518) • Medical exam – Category I • Proficiency test • Valid CDL and DOT medical card
Overhead Crane/Hoist Operator – <ul style="list-style-type: none"> • Cab controlled • Pendant controlled • Infrared controlled • Radio controlled [NASA-STD-8719.9 and MPR 6430.1]	<ul style="list-style-type: none"> • Overhead Cranes and Materials Handling (SMA-SAFE-NSTC-0205) or (SHE 507 for overhead/hoist and Portal Crane) • PCH Training for PCH Certification (SHE 500) If required to move PCH • Type A OJT for PCH/Critical • Type B OJT otherwise • Written and Proficiency Tests • Medical exam – Category I • Specific training as determined by the Center LDEM, SMA representative located at MAF or designee for each specific type equipment 	4 Years PCH-3 Years	<ul style="list-style-type: none"> • Refresher Training (SMA-SAFE-NSTC-0028) or (SHE 508) • Medical exam – Category I • Proficiency Test
Oxygen System Operator (See CH3.1.2 and CH3.1.7)	<ul style="list-style-type: none"> • Oxygen Systems: Operation and Maintenance (SMA-SAFE-NSTC-0053) or (SHE 131) • HazCom (SHE 214) • Medical exam – Category III • Type A OJT (40 Hours) 	4 Years	<ul style="list-style-type: none"> • Refresher training (SMA-SAFE-NSTC-0053) or (SHE 131) • HazCom Refresher (SHE 214) • Medical exam – Category III
PCH Handler – <ul style="list-style-type: none"> • Prime Mover 	<ul style="list-style-type: none"> • PCH Training (SHE 500) • Medical exam – Category I 	3 Years	<ul style="list-style-type: none"> • Refresher Training (SHE 500)

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Employees involved in the actual hands-on PCH move such as hand carry (manual move) and operating lifting and moving equipment. Employees that are not directly involved in the hands-on operation only need monitor training (SHE 504). [MPR 6410.2]	<ul style="list-style-type: none"> • Specific training as determined by the Center LDEM, SMA representative located at MAF or designee for each specific type equipment 		<ul style="list-style-type: none"> • Medical exam – Category I
Propellant and Explosive Handler/User [NASA-STD-8719.12 and MWI 8715.10]	<ul style="list-style-type: none"> • Basic Explosive Safety (SMA-SAFE-NSTC-0010) or (SHE 111) • Type A OJT (40 Hours) • Medical exam – Category III 	3 Years	<ul style="list-style-type: none"> • Refresher training (Refresher Course for Explosive Handlers and Operational Personnel, (SMA-SAFE-NSTC-0010) or (SHE 111) • Medical exam – Category III
Propellant and Explosive Inspector	<ul style="list-style-type: none"> • Basic Explosive Safety (SMA-SAFE-NSTC-0082) or (SHE 111) • Proficiency with QD-QA-019 or equivalent • Type A OJT (80 Hours) • Medical exam – Category III 	3 Years	<ul style="list-style-type: none"> • Refresher training (Refresher Course for Explosive Handlers and Operational Personnel, (SMA-SAFE-NSTC-000010) or (SHE 111) • Medical exam – Category III
Radiation – Personnel designated to wear dosimeters or designated as “authorized user” [MPR 1860.1 and MPD 1860.2]	<ul style="list-style-type: none"> • Radiation – Ionizing Radiation Producing Devices (SHE 228) 	1 Year	<ul style="list-style-type: none"> • Refresher training (SHE 228)
Respirators (Non-SCBA) – <ul style="list-style-type: none"> • Respirator Use • Respirator Use, On Sheet • Dust Respirator Use [MWI 1840.1] 	<ul style="list-style-type: none"> • Respirator Training (SHE 212) • Medical exam – Category IV • Specific training as determined by the MSFC SMA representative located at MAF or designee for each specific type equipment 	1 Year	<ul style="list-style-type: none"> • Refresher training (SHE 212) • Medical exam – Category IV
Rigger [NASA- STD-8719.9] (See CH3.1.15)	<ul style="list-style-type: none"> • Material Handling Rigging (SHE 519) (Contact Center Safety Office) • Written and Proficiency Tests • Type A OJT for PCH/Critical • Type B OJT otherwise • Medical exam – Category I • PCH Training for PCH Certification (SHE 500) 	4 Years PCH-3 Years	<ul style="list-style-type: none"> • Refresher training (Contact Center Safety Office) • Medical exam – Category I • Proficiency Test
Scaffold Builder	<ul style="list-style-type: none"> • Scaffold Builder Training • Written and Proficiency Tests • Medical exam – Category I • Fall Protection (SHE 113) • PPE (SHE 138) 	3 Years	<ul style="list-style-type: none"> • Scaffold Refresher Builder Training • Proficiency Test • Medical Exam – Category I
Scaffold – Competent Person	<ul style="list-style-type: none"> • Scaffold Competent Person • Written Exam • Proficiency Test • Fall Protection (SHE 113) • SHE 138: PPE (SHE 138) 	3 Years	<ul style="list-style-type: none"> • Scaffold Competent Person Refresher • Written Exam • Fall Protection (SHE 113)
Signal Person	<ul style="list-style-type: none"> • Signal Person Training • Written and Proficiency Tests • Type B OJT 	4 Years	<ul style="list-style-type: none"> • Signal Person refresher training • Proficiency Test
(SCBA) Drager (SCBA) [MWI 1840.1]	<ul style="list-style-type: none"> • SCBA Training (SHE 212) • Medical exam – Category IV • Specific training as determined by Center LDEM, SMA representative 	1 Year	<ul style="list-style-type: none"> • Refresher training (SHE 212) • Medical exam – Category IV

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	located at MAF or designee for each specific type equipment		
Tooling Torque Wrench (See CH3.1.7)	<ul style="list-style-type: none"> • Specific training as determined by the SMA representative located at MAF or designee 	4 Years	<ul style="list-style-type: none"> • Specific training as determined by SMA representative located at MAF or designee
Robotic Weld System <ul style="list-style-type: none"> • Robotic Weld Tool • Universal Weld System 1 • Universal Weld System 2 • Process Development System (PDS) 	<ul style="list-style-type: none"> • Universal Weld System Training • SHE 415: FOD • Written Exam • Proficiency • Medical Exam – Category III • Type A OJT (80 hours) • SHE 138: PPE • SHE 137: Welding and Cutting Safety • Basic knowledge of Microsoft Excel 	1 Year	<ul style="list-style-type: none"> • UWS Refresher Training • Written Exam • Proficiency • SHE 137: Welding and Cutting Safety

CH3.1.1 Employees working with compressed gas cylinders or compressed gas trailers are not required to have High Pressure Systems Operators certification. These employees are required to take the appropriate safety awareness training, "Safety of Compressed Gas Trailers and Compressed Gas Cylinders" (SMA-SAFE-NSTC-0318).

CH3.1.2 High Pressure System Operators, Hydrogen System Operators, and Oxygen System Operators can elect to attend the extended training courses, "Safety in High Pressure Systems", "Hydrogen Safety", and "Fire Hazards in Oxygen Systems" (as applicable).

CH3.1.3 SHE 417, FOD Training is required every two years and tracked by roster. SHE 415, FOD Awareness and SHE 416, SHE FOD Prevention are required every three years and tracked by roster. SHE 415, FOD Awareness may also be tracked by training certificate.

CH3.1.4 MAF contractors shall provide evidence of training. This evidence can be provided to the Government by one of the following methods: (1) a training certificate that contains the employee's name, name of training, name of training company, and date training was provided; or (2) a written document that contains rationale why the employee is considered as trained, knowledgeable, experienced, and qualified to perform the job/task on company letterhead that is signed and dated by a company official or Superintendent.

CH3.1.5 Civil servant and contractor employees from other NASA Centers requesting to perform jobs, operations or operate equipment requiring a MAF SHE certification shall provide proof of an equivalent Center certification and/or training for the type of job, operation or equipment they expect to operate..

CH3.1.5.1 The equivalent Center certification and/or training shall be reviewed by the Center SHE organization responsible for the MAF certification for concurrence or non-concurrence and verify that the other NASA Center certification and/or training is equivalent to MAF thereby permitting the employee to perform the job or operation.

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CH3.1.5.2 In cases where MAF equipment is expected to be operated, the Center LDEM shall provide the concurrence or non-concurrence when the request is to operate Center lifting equipment.

CH3.1.5.3 Following concurrence with the other NASA Center certification and/or training, a proficiency test may be required as determined by the Center LDEM and Center Safety Office. When required, the proficiency test will be provided by the MSFC Lifting Equipment Examiner.

CH3.1.6 MSFC employees traveling to other NASA Centers and are expected to perform jobs, operations, or operate equipment that require a Center certification at the Center being visited shall contact the Center Safety Office for assistance.

CH3.1.7 SHE equivalent courses are still in development. Equivalent courses developed by contractors shall be approved by the MSFC SHE Training Subcommittee for use by that contractor. Contact the SMA representative located at MAF or designee if more information is needed.

CH3.1.8 When contractors are unable to attend NSTC training on a space available basis or develop their own training, they can obtain equivalent training from an offsite vendor to be used in lieu of the NSTC training. If equivalent training is provided by an offsite vendor, the contractor shall provide proof of employee training (copy of training certificate or other method) to the CA (applies to safety certification only).

NOTE: Contact the Center Safety Office prior to obtaining external training to ensure concurrence that the external training will be considered as equivalent training for the certification.

CH3.1.9 The Center LDEM shall provide concurrence or non-concurrence for all training intended for use to train and certify employees to operate Center lifting equipment. This includes any training provided by an external training provider and training developed for use by a contractor/organization located on the Center.

CH3.1.10 Employees who fail medical exams for a SHE specialty are given a provisional 3-month time period, whereby their certification is moved to the inactive file. During the 3-month time period, a screening process is performed by the MAF Medical Center to determine if the medical condition has been corrected. If the condition has been corrected, the certification shall be moved to the active status. If the condition has not been corrected, the certification is considered inactive. This process is tracked in CERTRAK.

CH3.1.11 Contractors shall obtain the MAF SHE certification appropriate for the activities being performed that require the MSFC certification listed in Chapter 3 and have the employee listed in CERTRAK. If a contractor believes they are currently excluded from this requirement, they are to contact their Center CO to obtain documentation of exclusion from this requirement in their current contract.

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CH3.1.12 Contractor Certifying Officers shall provide signatures on the MSFC Form 4083 and MSFC Form 4083-1 when approving SHE personnel certifications.

CH3.1.13 All future and renewed contracts for which MPR 3410.1, "Training," applies shall include certification requirements. Contact the SMA representative located at MAF or designee if more information is needed.

CH3.1.14 Certifications can expire, be suspended, or be revoked. Certifications shall expire when employment is terminated or when the certification interval has lapsed with no recertification issued.

CH3.1.15 SMA-SAFE-NSTC-0028, "Crane Operations and Rigging Safety Refresher," only provides basic knowledge of rigging techniques. This training is intended for overhead crane certification. SHE 519, "Material Handling Rigging," is standalone training not offered by the NSTC. SHE 519 training has been offered to MSFC employees to include contractors and taught by an offsite vendor. Employees who need this training should contact the Center's Safety Office.

CH3.1.16 Respiratory Protection certifications are administered by the Center Occupational Health and Center Environmental Office certifying officer at the time of training. Supervisors shall sign the MSFC Form 4083 prior to respirator training.

CH3.1.17 Confined Space Entry and Hazardous Waste Operations and Emergency Response certifications are administered by the Center Occupational Health Office certifying officers.

CH3.1.18 Supervisors and team leads shall be given the option to utilize MSFC Forms 4571, 4571-1, and MSFC Forms 4572, 4572-1, 4572-2, in lieu of established training and proficiency requirements to complete certification process. (Contact Center Safety Office for more information.)

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CHAPTER 4

TRAINING NOT PROVIDED BY MAF

CH4.1 State, Federal, and Other provided training requirements are identified in Table CH4-1 below.

TABLE CH4-1 STATE, FEDERAL, AND OTHER TRAINING REQUIREMENTS			
CERTIFICATION SPECIALTY [REFERENCE]	REQUIREMENTS	CERTIFI- CATION PERIOD	RE-CERTIFICATION REQUIREMENTS
Asbestos Abatement for asbestos/heavy metal: • Supervisor • Worker [Alabama Asbestos Contractor Accreditation Act (89-517) or State of Louisiana equivalent; 29 CFR pt 1910.1001 and 1926.1101]	<ul style="list-style-type: none"> • State Accredited Training [State Registration, Safe State (1-800-452-5928)] • Supervisor State-Accredited Course • Worker State-Accredited Course • Medical exam 	1 Year	<ul style="list-style-type: none"> • State-Accredited Refresher Course • Medical exam
Asbestos Operations and Maintenance (Class III) [29 CFR pt and 1910.1001 and 1926.1101]	<ul style="list-style-type: none"> • State Accredited Training [State Registration, Safe State (1-800-452-5928)] 	1 Year	<ul style="list-style-type: none"> • State-Accredited Refresher Course
Asbestos Operations • On Sheet Activities • Asbestos Glove Bag Tech • Asbestos Full Enclosure • Asbestos Respirator use • Asbestos Contractor/Supervisor • Asbestos Designer [29 CFR pt and 1910.1001 and 1926.1101]	<ul style="list-style-type: none"> • Specific training as determined by the MSFC SMA representative located at MAF or designee for specific type operation • Asbestos Exposure Awareness (Class IV Asbestos Work) (SHE 200) • Asbestos Operations and Maintenance (Class III Asbestos Work) (SHE 201) • Asbestos Operations and Maintenance (Class III Asbestos Work) (SHE 205) • Asbestos Operations and Maintenance (Class II work) (SHE 233) • Asbestos Supervisor Initial Training (SHE 234) • Asbestos Operations and Maintenance (Class II work) (SHE 235) 	As specified by the SMA representative located at MAF or designee	<ul style="list-style-type: none"> • SHE 236 Asbestos Supervisor Refresher
Commercial Motor Vehicle Operator • Class A >26,001 lbs • Class B <26,000 lbs • Class C • Hazardous Material endorsement • Tanker endorsement • Hazardous Material/Tanker endorsement Air Brakes restriction	<ul style="list-style-type: none"> • Valid Department of Transportation (DOT) Medical Card (requires Medical examination; valid for 2 years) – Category Ia • Valid state-issued Commercial Driver License (CDL) 	4 Years	<ul style="list-style-type: none"> • Copy of renewed state-issued CDL • Copy of renewed DOT Medical Card
Flight Deck Crew	<ul style="list-style-type: none"> • Appropriate FAA license and certification • Medical exam 	Determined by FAA	<ul style="list-style-type: none"> • FAA requirements • Medical exam

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Heavy Equipment Operator (earth-moving equipment) [NPR 8715.3] Mobile Sweeper Operator (See CH4.1.2)	<ul style="list-style-type: none"> • Valid state-issued CDL, Class A or B • Valid DOT Medical Card • Medical exam • Type B OJT 	4 Years	<ul style="list-style-type: none"> • Valid state-issued CDL • Valid DOT Medical Card • Medical exam
Lifting Equipment Examiner (Proficiency Test Examiner for the following: Forklift Mobile Crane Overhead Cranes/Aerial Lifts Rigging Signal Person	<ul style="list-style-type: none"> • Associated Train-the-Trainer Certified Course or equivalent when approved by MSFC Center Safety Office • Supervisor Statement verifying experience/OJT submitted to SMA for review/approval 	3 Years	<ul style="list-style-type: none"> • Associated Train-the-Trainer Recertification Course, or equivalent when approved by Center Safety Office
Scaffold Examiner	<ul style="list-style-type: none"> • Associated Train-the-Trainer Certified Course or equivalent when approved by the Center Safety Office. 	5 years	<ul style="list-style-type: none"> • Associated Train-the-Trainer Recertification Course, or equivalent when approved by Center Safety Office

CH4.1.1 Training specialties in Table CH4-1 are not entered in CERTRAK. (See CH4.1.2)

CH4.1.2 Contractor Safety Representatives shall ensure employees are compliant with State, Federal, and other regulations (as applicable). If a contractor believes they are currently excluded from this requirement, they are to contact their MSFC CO to obtain documentation of exclusion from this requirement in their current contract.

CH4.1.3 All future and renewed contracts for which MPR 3410.1, "Training," applies shall include certification requirements. Contact the MSFC SMA representative located at MAF or designee if more information is needed.

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APPENDIX A DEFINITIONS

Center. NASA owned property that has been designated as a NASA Center. In this MWI, the Center is MSFC or MAF.

Center Certifying Officer. The employee designated by the Center Safety Office to approve Center personnel for safety and occupational health and environmental certification.

Center CA. The employee designated by the Center Safety Office with the administrative functions of safety and occupational health and environmental training/certification.

Center Environmental Office. The Center Office/Department/Branch that provides insight, oversight, and coordination of environmental-related issues with internal and external organizations to ensure compliance is maintained with all applicable Federal, State, and Local environmental regulations, NASA and Center environmental requirements and environmental-related Executive Orders in accordance with NPD 8500.1, “NASA Environmental Management.” At MSFC, these functions are performed by the Office of Center Operations/Environmental Engineering and Occupational Health (EEOH)/AS10. At MAF, these functions are performed by the MAF Environmental Lead AS60 and the Manufacturing Support and Facility Operations Contract (MSFOC) Environmental Services who ensure all environmental-related day-to-day functions identified in this MWI for EEOH are performed.

Center Occupational Health Office. The Center Office/Department/Branch that provides insight, oversight and coordination of occupational health-related issues with internal and external organizations to ensure compliance is maintained with all applicable occupational health-related Executive Orders, Federal, State, Local, NASA, and Center regulations in accordance with NPD 1800.2 and NPR 1800.1. At MSFC, these functions are performed by the Office of Center Operations/EEOH/AS10. At MAF, these functions are performed by the MAF Emergency Management/Protective Services Office (PSO) Operations Manager/AS50 and the MSFOC Safety and Health Services who ensure all occupational-health related day-to-day functions identified in this MWI for EEOH are performed.

Center Safety Office. The Center Office/Department/Branch that provides insight, oversight and coordination of safety-related issues with internal and external organizations to ensure compliance is maintained with all applicable safety-related Executive Orders, Federal, State, local, NASA and Center regulations in accordance with NPR 8715.1 and NPR 8715.3. At MSFC, these functions are performed by the SMA Directorate. At MAF these functions are performed by the MAF SMA Manager and the MSFOC Safety and Health Services who ensure all safety-related day-to-day functions identified in this MWI for SMA and the Center Safety Office are performed.

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Certification (Personnel). The act of verifying and documenting that personnel have completed required training, including on-the-job training (OJT), medical requirements (if any), and have demonstrated specified proficiency.

Certifying Officer. The person designated to approve personnel for safety certification specialties and Environmental Engineering and Occupational Health (EEOH) operations.

CERTRAK. The SMA software database for employee certification records used to access personnel certifications electronically and accessed via (IdMAX).

CERTRAK Administrator (CA). The person designated the administrative functions of safety and EEOH training/certification.

CO. A person, appointed in accordance with the Federal Acquisition Regulation (FAR)/NASA FAR Supplement (NFS), with the authority to enter into, administer, change, and/or terminate Government contracts and make related determinations and findings within the limits of their certificates of appointment.

Contractor Certifying Officer. The contractor employee authorized by the SMA Directorate to approve safety and occupational health and environmental certifications for personnel employed on his or her contract.

OJT. Supervised training by a journeyman employee who is skilled and knowledgeable in the task/job of an apprentice employee while they perform a task/job.

Operator. An employee who manually or remotely controls or directs the functioning of a system, process, or operation.

Potentially-Hazardous. Any operation involving material or equipment that has a high potential to result in loss of life, serious injury to personnel, or damage to systems, equipment or facilities.

Proficiency Examiner. The qualified person(s) designated by the SMA Directorate to develop and administer exams necessary to achieve the desired proficiency in a safety specialty.

Provisional Certification (applies to safety specialties only). Certifications issued to candidates for up to 1 year. During this year, applicants exercise the operations requiring a safety certification, but only under the direct supervision of a certified operator thereby receiving the necessary OJT (similar to driving a car under the supervision of a licensed driver). Upon completion of OJT, candidates apply for certification by submitting an MSFC Form 4333, "Training Requirements Plan," or equivalent documentation to the SMA CA.

Qualification. Demonstration of knowledge along with documented training and experience required for personnel to properly perform the duties of a specific job.

Recertification. The process of reconfirming the certification of an individual by training and/or proficiency test at the end of a predetermined period, or when lack of proficiency dictates.

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SMA Contractor Certifying Officer. The contractor employee authorized by the SMA Directorate to approve safety and occupational health and environmental certifications.

Safety Certification Specialties. Specialties that require safety certification (as well as an official record of safety training) which are issued to employees who have completed the required training demonstrating the necessary knowledge and/or proficiency to ensure their ability to complete potentially-hazardous operations in a safe manner.

Safety Training Specialties. Specialties for which authority documents (OSHA, NFPA, NASA, etc.,) require an official record of safety training, but do not require safety certification.

Supervisor. The person assigned supervisory functions for employees performing the job or tasks that require training and/or certification (e.g., organizational line manager, foreman, branch chief, or team lead).

Temporary Certification. Certifications issued to candidates who meet all requirements except formal training, and perform an operation proficiently. Candidates are allowed up to 1 year to complete the required training.

Training and Incentives Office. The MSFC organization that provides personnel certification education and training to civil service and contractor personnel.

Training Coordinator. The person(s) in the Training and Incentives Office designated to provide the administrative functions of training, scheduling, procurement, and documentation.

Training Database. The database managed by the Training and Incentives Office where records of employee (civil servant and contractor) training are retained.

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APPENDIX B ACRONYMS

ANSI - American National Standards Institute

AU - Authorized User

CA - CERTRAK Administrator

CDL - Commercial Driver's License

CERTRAK - Certification Tracking

CFR - Code of Federal Regulations

CO - Contracting Officer

DOT - Department of Transportation

EEOH - Environmental Engineering and Occupational Health Office

FAA - Federal Aviation Administration

FAR - Federal Acquisition Regulation

FOD - Foreign Object Damage/Foreign Object Debris

HAZCOM - Hazard Communication

HAZWOPER - Hazardous Waste Operations

HMAC - Hazardous Material Advisory Council

IdMAX - Identity and Access Management Tools

LDEM - Lifting Device Equipment Manager

MAF - Michoud Assembly Facility

MSFOC - Manufacturing Support and Facility Operation Contractor

MSR - Medical Surveillance Report

NFPA - National Fire Protection Association

NFS - NASA FAR Supplement

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NRRS - NASA Records Retention Schedule

NSTC - NASA Safety Training Center

OJT - On-the-Job Training

OSHA - Occupational Safety and Health Administration

PCH - Program Critical Hardware

PDS - Process System Development

PPE - Personal Protective Equipment

PSO - Protective Services Office

SMA - Safety and Mission Assurance Directorate

SCBA - Self-Contained Breathing Apparatus

SHE - Safety, Health, and Environmental

SPCC - Spill Prevention Control Countermeasures

STD - Standard

T - Tonnage

UWS - Universal Weld System

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**APPENDIX C
VERIFICATION MATRIX**

Section	Brief Description	Verification			Comments
		Inspect	Document	Test	
5.1	Certification Process		x		
5.2	SHE Certification		x		
5.3	Proficiency Test		x		
5.4	Temporary or Provisional Safety Certification		x		
5.5	CERTRAK Access		x		
5.6	Employee Certification		x		
5.7	OJT		x		
5.8	Construction Contractors		x		
5.9	Medical Examinations		x		
5.10	Revoke/Suspend SHE Certifications		x		

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APPENDIX D RECORDS

D.1 The following records are maintained in accordance with NRRS 1441.1, 3/33/C by the SMA CA or MAF CA. “Destroy/delete 5 years after separation of employee or when no longer needed, whichever comes first.”

D.1.1 Evidence of personnel qualifications (e.g., MSFC Form 4333 used for safety specialties only, exam reports, letters from training organizations).

D.1.2 CERTRAK records.

D.1.3 List of civil service and contractor certified personnel.

D.1.4 List of Proficiency Examiners and Certifying Officers.

D.2 OJT records are maintained by the supervisor in accordance with NRRS 3/33/C. “Destroy/delete 5 years after separation of employee, or when no longer needed, whichever comes first.”

D.3 Completed MSFC Form 4083, MSFC Form 4083-1, (MSR) printout, and MSFC Form 4083-2.

NOTE: At MSFC, the MSFC Form 4083-2 is maintained by the Center Safety Office for MSFC. At MAF, the MSFC Form 4083-2 is maintained by the MAF Medical Center.

D.4 Employee training records required for certifications contained in this MWI are maintained in accordance with MPR 3410.1.

D.4.1 Contractors retain training records for their employees. (See MPR 3410.1)

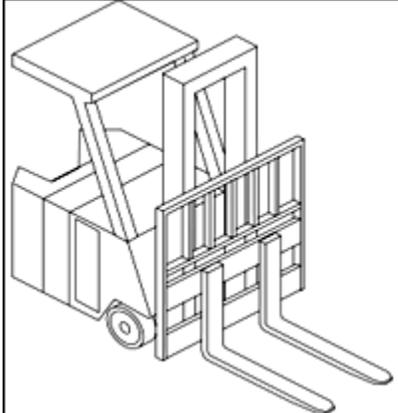
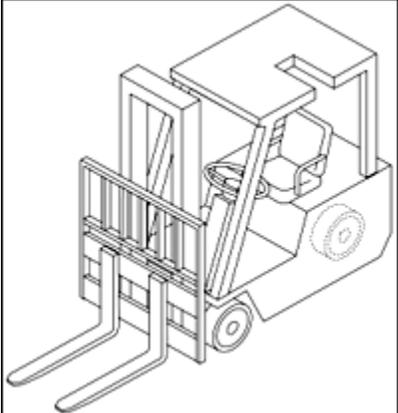
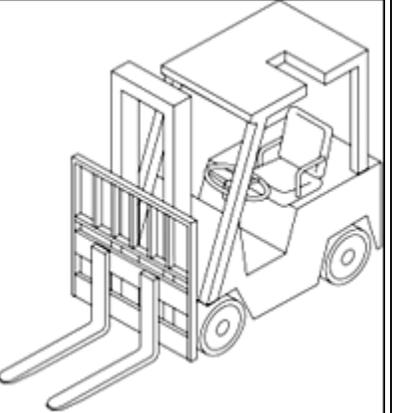
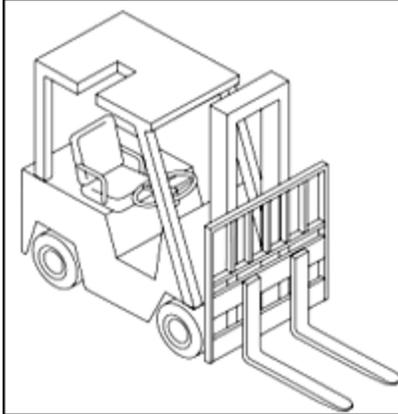
D.4.2 Contractor safety certifications are maintained according to NRRS 3/33/C.

D.4.3 Contractors maintain employees OJT.

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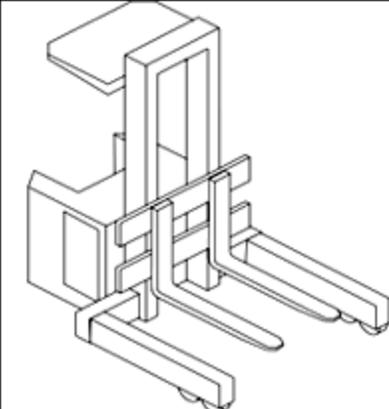
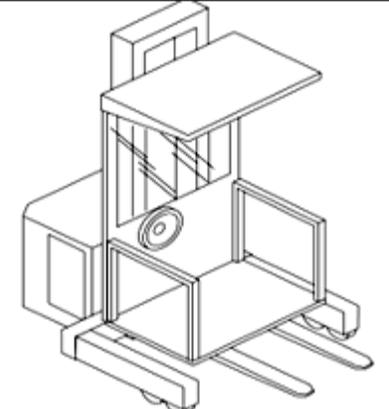
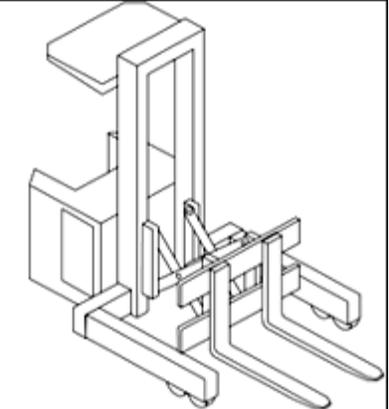
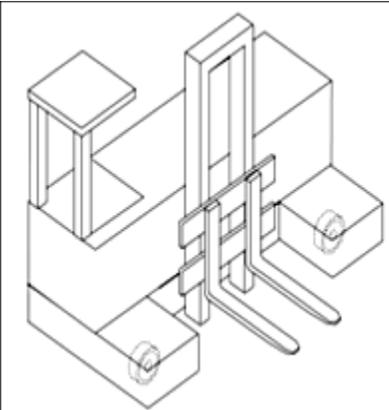
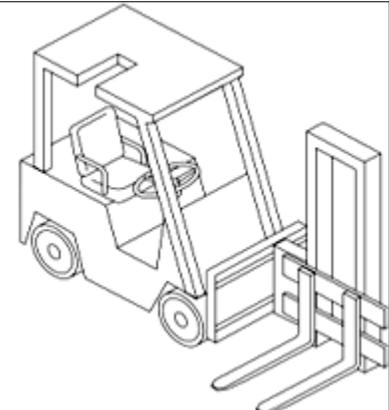
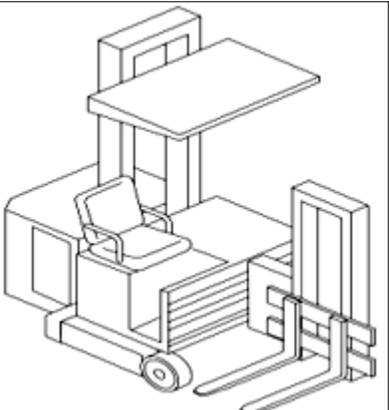
**APPENDIX E
FORKLIFT CLASS AND LIFT CODE**

F.1 Class 1: Electric Motor Rider Truck - Forklifts that are electric-motor rider trucks, either stand-up operator or seated three-wheel units. Rider units are counterbalanced and may have cushion or pneumatic wheels.

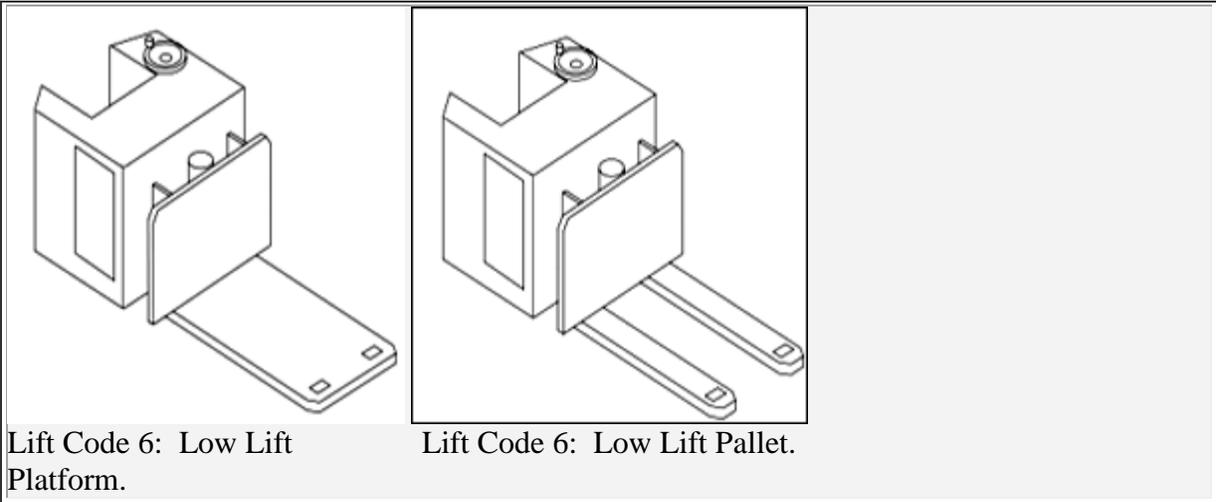
Class I: Electric Motor Rider Trucks		
The following are examples of Class I powered industrial trucks.		
		
Lift Code 1: Counterbalanced Rider Type, Stand Up.	Lift Code 4: Three Wheel Electric Trucks, Sit Down.	Lift Code 5: Counterbalanced Rider, Cushion Tires, Sit Down.
		
Lift Code 6: Counterbalanced Rider, Pneumatic or Either Type Tire, Sit Down.		

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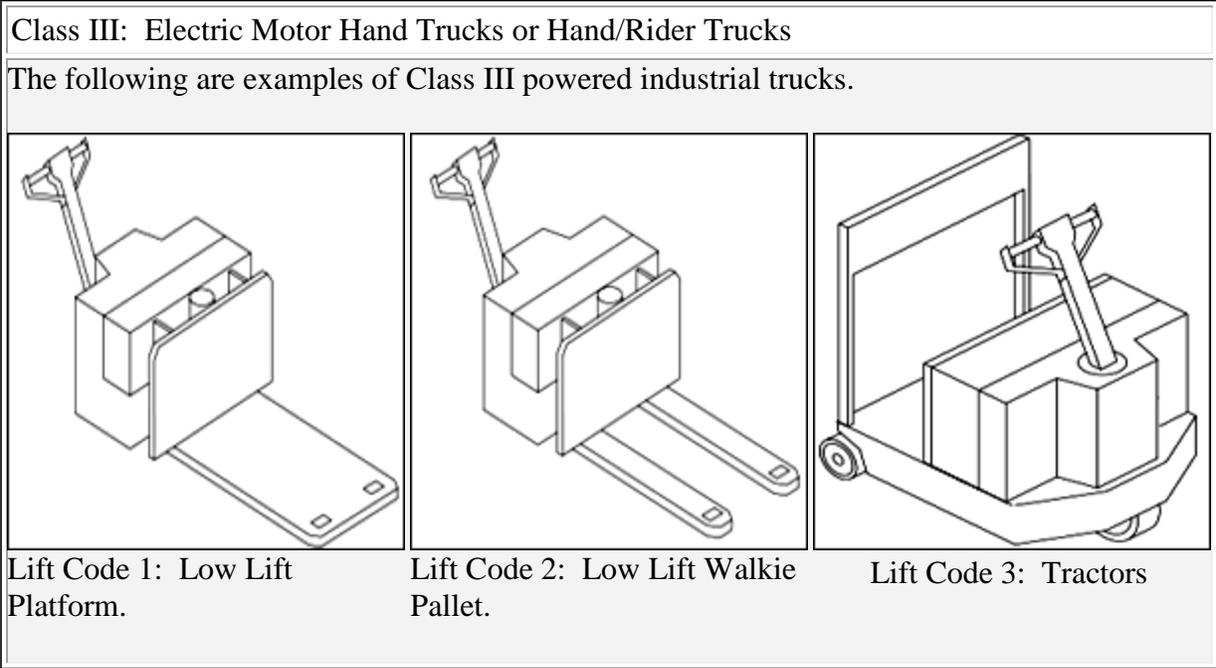
F.2 Class 2: Electric-Motor Narrow-Aisle Trucks - Forklifts are electric-motor trucks for narrow aisle or inventory stock/order picking applications. They may have extra reach or swing-mast functions.

Class II: Electric Motor Narrow Aisle Trucks		
The following are examples of Class II powered industrial trucks.		
		
Lift Code 1: High Lift Straddle.	Lift Code 2: Order Picker.	Lift Code 3: Reach Type Outrigger.
		
Lift Code 4: Side Loaders: Platforms.	Lift Code 4: Side Loaders: High Lift Pallet.	Lift Code 4: Turret Trucks.

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F.3 Class 3: Electric-Motor Hand Trucks - Forklifts are electric-motor trucks, either walk-behind or standing-rider operated. Automated pallet lift-trucks and high lift models are often counterbalanced.



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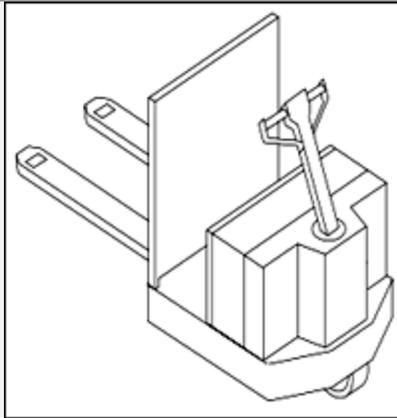
Personnel Certification Program

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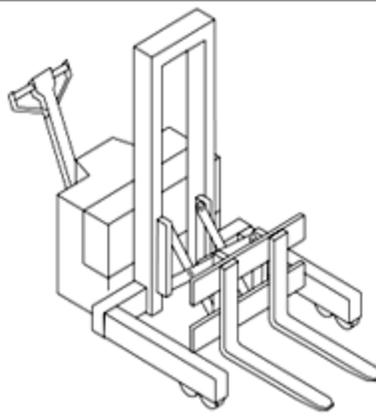
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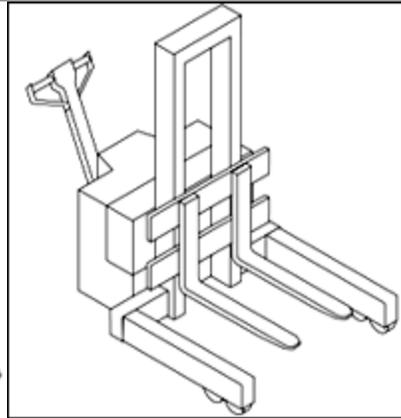
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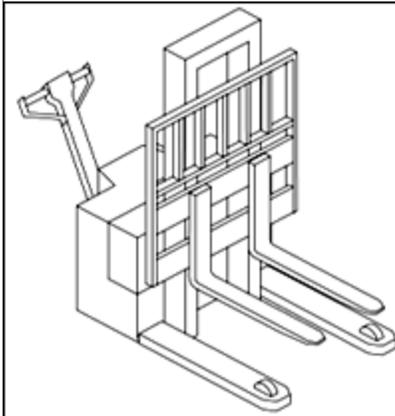
Lift Code 4: Low Lift
Walkie/Center Control.



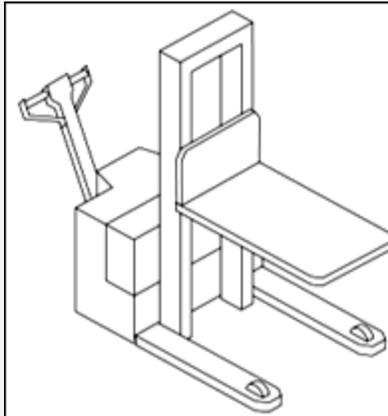
Lift Code 5: Reach Type
Outrigger.



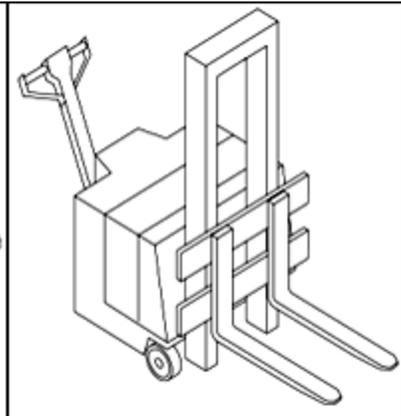
Lift Code 6: High Lift
Straddle.



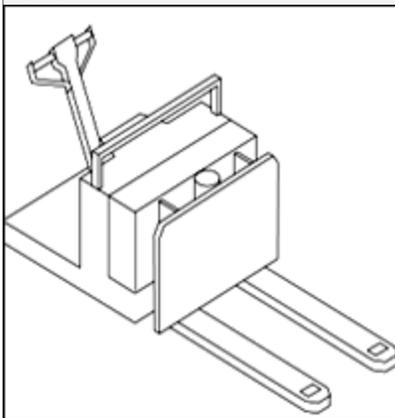
Lift Code 6: Single Face
Pallet.



Lift Code 6: High Lift
Platform.



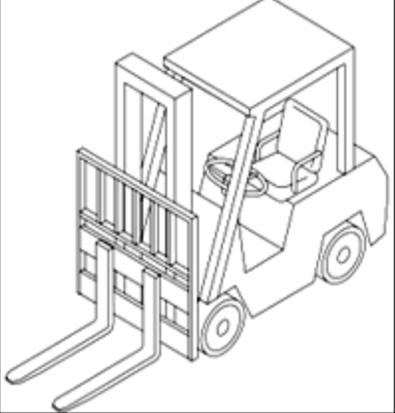
Lift Code 7: High Lift
Counterbalanced.



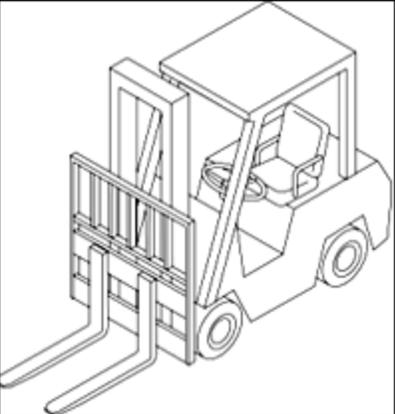
Lift Code 8: Low Lift
Walkie/Rider
Pallet and End Control.

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F.4 Class 4: Internal-Combustion Engine Trucks (Cushion Tires) - Forklifts are rider fork trucks, with cabs and seated controls, internal combustion engines, and solid or “cushion” tires. They are usually counterbalanced.

Class IV: Internal Combustion Engine Trucks (Solid/Cushion Tires)
The following are examples of Class IV powered industrial trucks.

Lift Code 3: Fork, Counterbalanced (Cushion Tire).

F.5 Class 5: Internal-Combustion Engine Trucks - Pneumatic Tires - Forklifts are rider fork trucks, with cabs and seated controls, internal combustion engines, and pneumatic tires. They are typically counterbalanced.

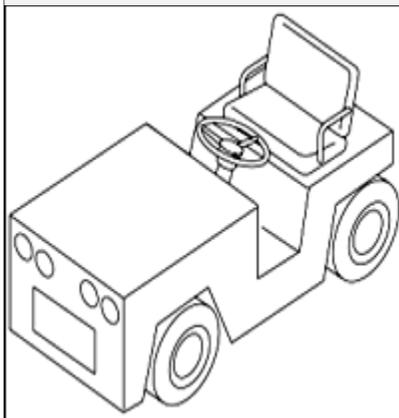
Class V: Internal Combustion Engine Trucks (Pneumatic Tires)
The following are examples of Class V powered industrial trucks.

Lift Code 4: Fork, Counterbalanced (Pneumatic Tire).

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F.6 Class 6: Electric and Internal-Combustion Engine Tow Tractors - Forklifts are sit-down rider, tow tractor lifts. They are supplied with electric or internal combustion engines.

Class VI: Electric and Internal Combustion Engine Tractors

The following are examples of Class VI powered industrial trucks.



Lift Code 1: Sit-Down Rider
(Draw Bar Pull Over 999 lbs.).

F.7 Class 7: Rough-Terrain Forklift Trucks - Forklifts are designed for use on rough terrain. Typical applications include agriculture, logging and construction.

Class VII: Rough Terrain Forklift Trucks

Class VII – Rough terrain forklift is a generic term used to describe forklifts typically intended for use on unimproved natural terrain and disturbed terrain construction sites. However, the term “rough terrain” does not imply that the forklift can be safely operated on every conceivable type of terrain.

There are three basic types of rough terrain forklift:



Vertical mast type.

This is an example of a ruggedly constructed forklift and is designed to be used primarily outdoors.

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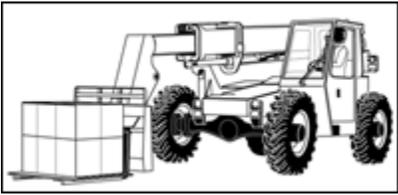
Personnel Certification Program

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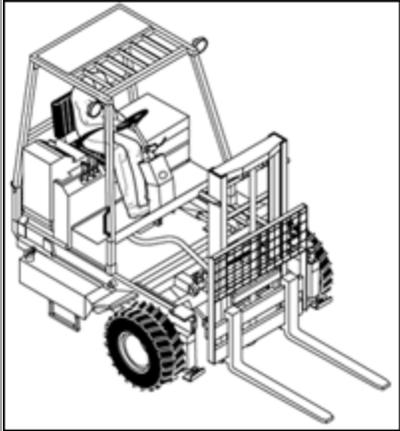
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Variable reach type.

This is an example of a vehicle equipped with a telescoping boom, which enables it to pick and place loads at various distances and lift heights in front of the machine. The ability to reach out in front of the forklift allows the operator flexibility in the placement of a load.



Truck/trailer mounted.