Appendix 1A - CAPPS SOW Dictionary

1st Shift	An 8-hour working period that includes core hours between 9:00 a.m. and 3:00 p.m. Examples include: 7:30 a.m. - 4:00 p.m. / 8:00 a.m. - 4:30 p.m. / 7:00 a.m. - 3:30 p.m.
2nd Shift	An 8-hour work period that begins after the 1st shift core hours.
Acceptance Testing	Tests to determine that a part, component, subsystem, or system is capable of meeting performance requirements prescribed in purchase specifications or other documents specifying what constitutes the adequate performance capability for an item in question.
Access Control Monitor (ACM)	Security personnel who control access to and from facility processing areas.
Aft Flight Deck	That part of the Orbiter cabin on the upper deck where payload controls can be used.
Agency Safety Initiative (ASI)	The ASI is NASA's program to become the nation's leader in the safety and occupational health of the work force and the safety of the products and services NASA provides. Safety plays an integral role in NASA's quest to expand frontiers in aeronautics and space. As NASA moves into the 21st century, NASA has designated safety and health as its highest priority. NASA will not compromise the safety and health of its people and property nor harm the environment. NASA is working to achieve zero mishaps in the NASA workplace, keeping in mind that every employee's safety and health, both on and off the job, is NASA's concern. The ASI is aimed at strengthening NASA's capabilities so that safety permeates every aspect of NASA work and NASA personnel routinely incorporate safety and health principles and practices into their daily decision making processes and lives.
Airlock (Facility)	A room, capable of separate air handling and pressurization without affecting the environmental conditions of the processing area that is used to transfer hardware into and from the processing area.
Anomaly	An unexpected event, hardware damage, a departure from past experience, established procedures or performance, or a deviation of system, subsystem, and/or hardware/software performance outside certified design/performance specification limits.
As-Built Configuration List (ABCL)	A list of the current as built configuration of hardware/software items or systems. Reference Engineering Configuration List (ECL).
Assembly, Checkout, Operations, Maintenance and Configuration (ACOMC)	Technical requirements and specifications levied upon KSC by the ISS Program that are satisfied by a KSC developed WAD or KSC co-developed customer procedure. These technical requirements contain verifiable pass/fail criteria, require close loop tracking, and utilize KSC managed hardware (flight or Support Equipment) to verify 1) element standalone requirements, 2) element-to-element interfaces, and 3) simulated orbiter-to-element interfaces. Reference Operations and Maintenance Requirements And Specifications (OMRS).
Audit	A systematic and independent examination to determine whether activities and related results comply with planned arrangements, whether these arrangements are implemented effectively, and are suitable to achieve objectives.

Appendix 1A - CAPPS SOW Dictionary

Automated Monitoring System (AMS)	A Hewlett Packard (HP)/ Unix based automated RF monitoring system that continuously monitors the RF environment at KSC/ CCAFS and sends daily reports to concerned individuals. Monitoring sites are located at the EML, O&C, Hangar AO, VPF, Pads 39A & B, CCAFS Complex 17B and PHSF.
Backlog	The accumulation of events awaiting resources.
Backlog of Maintenance and Repair (BMAR)	Unfunded facilities maintenance work required to bring facilities and collateral equipment to a condition that meets acceptable facilities maintenance standards.
Bench Stock	Low cost, repetitively used, consumption-type supplies and repair parts, established at or near points of consumption/use to ensure continuous and uninterrupted operations.
Benchmarking	The continuous process of measuring a product, service, or process against the best practices of recognized leaders in the field to achieve superior performance.
Budget	A formal estimate of future revenues, obligations to be incurred, and outlays to be made during a definite period of time and, when determined to be appropriate, upon the basis of accrued expenditures and costs to be incurred.
Calibration	Comparison of a standard or unit of test equipment of unknown accuracy with standard of known accuracy to detect, correlate, report, or eliminate by adjustment any deviation in the accuracy of the unit being compared
Canister	Environmentally controlled transporter for use at the launch site that is similar in size and configuration as the Orbiter cargo bay.
Cargo	The combined flight complement of primary payload components, secondary, tertiary, experiment, and other materials loaded into the Space Shuttle or ELV for launch
Cargo Integration Review (CIR)	Part of STS planning process that results in a cargo manifest, cost per flight, and billing schedule. The review is conducted at JSC approximately one year prior to launch.
Cargo Integration Test Equipment (CITE)	Functional simulation of orbiter avionics and power interfaces to the payload elements in the pre-launch, ascent and on-orbit configurations. Used to protect the shuttle turn around timelines and help maintain the shuttle launch schedules. Setup that can provide testing of both payload-to-payload and cargo-to-Orbiter interfaces.
Certification	The responsible official formal written act that attests to the satisfactory accomplishment of specified activities and authorizes the specified hardware/software, procedures, facilities, and/or personnel for program usage.
Change	Modification requested to reflect an operational characteristic, correct a potentially hazardous condition, meet new operational requirement, improve efficiency, make a system work for a longer duration, or another requirement.
Change Request (CR)	Document used to request a baseline configuration change.
Checkout Systems	Systems specifically designed to assist in testing space flight systems prior to flight. Currently such systems include extensive system software and test oriented application software along with extensive features to capture and process significant amounts of test data.
Closeouts	A mandatory inspection to verify no foreign objects, debris, material, damage, or out of configuration condition exists prior to covering components, tubing, connectors, brackets, etc. to ensure final flight configuration.
Close Call	An unplanned occurrence in which there is no injury/damage but under similar circumstances could have resulted in a reportable mishap.

Appendix 1A - CAPPS SOW Dictionary

Closed Loop Requirement Traceability /Tracking	A cross-reference between OMRS, ACOMC, or any other mission requirements and the implementing Work Authorization Document (WAD) number and step or exception/waiver reference that records completion.
Closeout Photo	Images retained by the use of conventional film or digital electronics and stored or viewed for the express purpose of scientific evaluation and comparison against the original drawings or the as-built configuration of flight systems and payloads.
Commercial Carrier	Pressurized and unpressurized carriers provided by companies engaged in commerce used to transport cargo and payloads to space via the Space Shuttle and Expendable Launch Vehicles.
Commercial Off-the-Shelf (COTS)	A product, such as an item, material, component, subsystem, or system, sold or traded to general public in the course of normal business operations at established catalog or market prices.
Common Schedules Database	An International Space Station Program (ISSP) system for exchange of scheduling information between the ISSP, its implementing contractors and NASA Centers, Payload Developers, and International Partners and Participants.
Compliance	Must be satisfied to meet the contract requirements.
Component	A part or assembly of parts, subassemblies and assemblies, and assemblies mounted together and normally capable of independent operation in a variety of situations.
Component Level Leak Test	A test to determine the sealing surface leakage rate of components installed through the primary structure of pressurized flight elements or between two flight components including feedthroughs, pressure relief valves, hatches and Common Berthing Mechanisms.
Computer Aided Design (CAD)	Computer software that enables creation of drawings that are stored in the computer and that may be printed or displayed on a computer monitor.
Computer Aided Engineering (CAE)	Computer software designed to aid various engineering functions
Condition Assessment	The inspection and documentation of the material condition of facilities and equipment, as measured against the applicable maintenance standards.
Conditioned Cargo	Refrigerated and frozen items to be transported to and from the International Space Station in refrigerators and freezers installed in an MPLM.
Configuration Control	The task of ensuring that each proposed change, waiver, or deviation is properly defined, coordinated, evaluated and dispositioned by the appropriate authority prior to its implementation.
Configuration Management	The task of integrating and accomplishing, in an optimal manner, the four subtasks of configuration identification, configuration control, configuration accounting, and configuration verification.
Contractor	The supplier of the associated products and services to the government under the terms of this contract.
Core Hours	Mandatory hours the contractor must staff (9:00 am – 3:00 pm).
Corrective Action	An action(s) taken to eliminate the root cause of a problem to prevent its recurrence.
Crew Equipment Interface Test (CEIT)	CEIT is scheduled for all Shuttle payloads and ISS elements to provide flight crew members the opportunity for hands on internal and external verification of hardware interfaces, inspection, functional testing of crew interfaces and equipment, and closeout photo documentation. Crewmembers are given the opportunity to perform pre-launch tool and equipment fit checks, to verify access and to do an overall inspection of flight hardware in a near flight configuration.

Appendix 1A - CAPPS SOW Dictionary

Critical Lifts	The raising and lowering operations of special, high dollar items, such as payloads, one-of-a-kind articles, or major equipment items, etc., whose loss would have serious programmatic impact. Critical lifts also include operations with special personnel and equipment safety concerns beyond normal lifting hazards.
Critical System	A system is assessed as critical if loss of overall system function or improper performance of a system function could result in loss of life, loss of vehicle or damage to a vehicle system.
Cross Bay Carrier	A family of carriers that extend from one side of the Shuttle Payload Bay to the other (e.g. Lightweight MPESS Carrier).
Customer (or User)	An organization or individual requiring the services of this contract.
Customer Support Room	A remote location which provides customer access to the necessary real-time networks, phone, data, voice loops, and video to continuously support customer flight hardware and software processing test and checkout objectives and mission operations. (Currently located in the Space Station Processing Facility (SSPF))
Data Accession List	A listing of data and documents produced by the contractor required to perform the contract.
Decable Review	A meeting conducted upon conclusion of a major test milestone to assure all requirements and issues are resolved before deconfiguring test setup.
Deliverable Items Sheet (DIS)	List of hardware and software required to support a test.
Depot	A ground maintenance provider, usually used for repair of an item
Design	The process of defining a new system or modifying a previously defined system in response to new requirements.
Design Change	An approved engineering change incorporated into the end item that modifies, adds to, deletes, or supersedes functions or parts in the end item.
Design Review, Critical	A meeting to assure that the design is in consonance with program and project specifications. Reference NPG 7120.5
Design Review, Preliminary	A meeting at which preliminary designs are reviewed with customers and prime contractors to assure compliance with system and project requirements. Reference NPG 7120.5
Design Services	Engineering, procurement, logistics, safety, and quality expertise needed for the design and development of new or modified systems or equipment
Desktop Computers	Computers designed for primary general use by one employee in one specific location. Such machines typically have one CPU, one or more non-redundant hard disks, a keyboard, mouse, and monitor.
Detailed Test Objectives (DTOs)	Testing objectives used as high-level requirements. KSC NASA uses the DTOs as a basis for developing the more detailed integrated test requirements, which are either called Assembly Checkout, Operations, Maintenance and Configuration (ACOMC) requirements or Operation and Maintenance Requirement System (OMRS) requirements.
Develop	The process of converting initial requirements into a completed product. (Reference Sustaining Engineering)
Deviation	Authorization granted before the fact, to depart from a particular requirement, specification, or related document. (Reference Waiver)
Disposal	The process of transferring NASA excess property to another Federal Agency or donating, selling, abandoning, or destroying surplus property.
Distributed IT Systems	Relatively small and cost effective systems which are usually geographically distributed to be close to their primary user area but which are still often connected to a wide area network to support wider data access.

Appendix 1A - CAPPS SOW Dictionary

Document Release Authorization (DRA)	Formal release of engineering drawings, engineering order (EO), specifications, and other documents into an Engineering Release System (KSC uses KSC Form 21-68 for release into the Payloads Documentation Center)
Drawings	Graphic or tabular data, including drawings as defined in MIL-STD-100A and prepared in accordance with MIL-D-1000, Category D, aperture cards in accordance with MIL-D-9877; graphs, or diagrams, industry standards and industry specifications, on which details are represented with sufficient information to define completely, directly or by reference, the end result in the selection, procurement, and manufacture of the item required.
Electromagnetic Analysis Mobile Platform (EAMP)	A mobile van used for electromagnetic testing, with a shielded enclosure and an aggregate of automated and non-automated test equipment covering a frequency range of 10 Hz to 40 GHz.
Emulate	To reproduce the action of or behave like a different type of computer with the aid of hardware or software designed to affect this.
Engineering Configuration List (ECL)	The ECL is the list of as designed drawings, and specifications required to define the configuration of an item or system. (Reference As-Built Configuration List (ABCL))
Engineering Support Request (ESR)	The document used by all KSC organizations to request design action on all proposed changes to KSC facilities, systems, and equipment design requirements. KSC Form 21-319
Enterprise Computational Services	Information Technology equipment or service that serves a significant portion of the users of the CAPPS contract. Such Enterprise systems are typically mid- to high-capability systems that are centralized and extensively supported by a strong network infrastructure and very capable personnel.
Equipment and Equipment Item	An item of real or personal property in the configuration of a mechanical, electrical, or electronic apparatus or tool, which may perform a function independently or in conjunction with other equipment or components.
Exception	A pre-planned request to deviate from the approved requirement.
Experiment	A collection of equipment (hardware, software, specimens, etc.) and associated processes that are used to achieve specific scientific, technological, or commercial objectives. The scientific research and development components being flown on a particular STS mission. These may be flown within or on a payload or in the mid-deck. Some examples are Mercury Iodide Crystal Growth, materials processing furnaces, human research facility, etc.
Extended Shift	A work period greater than 8 work hours but not exceeding 12 hours in duration.
External Carriers	External Carriers are a family of existing and proposed unpressurized carriers that supply Orbital Replaceable Units (ORU's), critical spares, payloads and logistical hardware on a reflight basis to and from ISS and/or orbit. External Carriers include, but are not limited to carriers such as: SpaceHab Integrated Cargo Carrier (ICC), Space Lab Pallet (SLP), Side Wall Carrier (SWC), Lightweight MPESS Carrier (LMC), EXPRESS Pallet (EXPS), Unpressurized Logistics Carriers (ULC), Multi Purpose Experiment Support Structure (MPESS), GAS bridge assembly, and Vertical Cargo Carrier (VCC).
Extravehicular Activity (EVA)	Activities by crewmembers conducted outside the space vehicle pressure hull or within the cargo bay when the cargo bay doors are open.
Facility	A term used to encompass land, buildings, or other structures, and real property improvements, including utilities and collateral equipment.

Appendix 1A - CAPPS SOW Dictionary

Facility Project	The consolidation of applicable, individual types of construction/modification work, including related collateral equipment, which is required to fully meet all of the operational needs, generally relating to one building/complex.
Facility Systems and Equipment (FS&E)	Building-type equipment and systems, which are normally required to make a facility useful and operable.
Failure	The inability of a system, subsystem, component, or part to perform its specified function within specified limits, under specified conditions, and for a specified duration.
Failure Mode, Effects and Analysis (FMEA)	An analysis to determine an item or systems method and frequency of failure and the resulting effects.
Firmware	Logic retained in non-volatile memory.
Fleet Resource Management	The process of accessing, scheduling, and managing the availability, utilization, and logistical support of Program critical shared or reusable fleet resources required for ISS ground and flight operations.
Flight	That portion of a mission encompassing the period from Launch to Landing, or Launch to Termination, of the active life of a payload or space vehicle. The term Shuttle "Flight" means a single Shuttle round trip (its launch, orbital activity, and return).
Flight Equivalent Unit (FEU)	Hardware utilized to functionally demonstrate or simulate flight hardware operations. Hardware configuration does not necessarily match flight configuration
Government Furnished Equipment (GFE)	Hardware and software Equipment in the possession of, or directly acquired by, the government from suppliers other than the ISS Prime Contractor and subsequently made available to the contractor.
Government Furnished Property (GFP)	Hardware and software in the possession of, or directly acquired by, the government from suppliers and subsequently made available to the contractor.
Ground Support Equipment (GSE)	Ground-based systems, hardware or software functionally designed to support flight hardware launch, servicing, checkout, test, movement, alignment, protection or calibration.
Ground Systems	Consists of the facility, facility systems, checkout systems, ground support equipment and tools and the service operators required to operate the infrastructure (i.e., network monitors, facility schedulers, tape operators, system administrators, etc.).
GSE Project Schedule	Depicts the project milestones including requirements development, design, procurement and augmentation phases and lists the need dates for major items required for operations.
Hands-On	Personnel performing touch labor on flight and ground hardware and GSE in processing in areas such as Utilization/Experiment processing and specialty testing. These are areas where the customer or Principal Investigator is providing unique flight research, design and development projects requiring dedicated personnel.
Hazard	A risk of personnel exposure, injury, or death, or of hardware damage or loss.
Hazardous Facilities	The hazardous processing facilities are the Vertical Processing Facility (VPF), Radioisotope Thermal Generator Facility (RTGF), Payload Hazardous Servicing Facility (PHSF), and Spacecraft Assembly and Encapsulation Facility #2 (SAEF-2). The SSPF, O&C, and the Multi-Payload Processing Facility (MPPF) can support certain, limited hazardous operations including Electro Explosive Devices, gaseous oxygen, and liquid nitrogen, but are currently restricted from handling liquid fuels or solid propellants. The SSPF can support ammonia operations. Occasionally equipment may be stored or fueled at Fuel Storage Area 2 in CCAFS.

Appendix 1A - CAPPS SOW Dictionary

Hazardous Material	Any solid, liquid, or gaseous material which meets the hazard reporting requirements of 29CFR 1910.1200. This includes commodities, which, under foreseeable conditions, are toxic, carcinogenic, cryogenic, explosive, flammable, pyrophoric, water-reactive, corrosive, an oxidizer, a compressed gas, a combustible liquid, or are chemically unstable.
Hazardous Operation (Hazardous Tasks)	Any operation involving activities that could result in exposure, injury, or loss of life to operating personnel and/or damage to systems/equipment.
HVAC Heat Load Shed Plan	Process by which facility heat loads are reduced during failure of utility services or facility systems to provide increased time between the failure and an out-of-specification facility environment.
Hydraset	Trade name for a closed circuit hydraulically operated instrument installed between hook and load that allows precise control of a lifting operation and provides an indication of the applied load.
Information Technology equipment	Any equipment that can be connected to the Internet. This will include but not be limited to: • Desktop computers that have a bus slot, port, external bus connection or other input/output capabilities that could be used to connect to a network. • Peripherals such as printers or external drives connected to a device that could support a connection to a network. • Checkout Systems • Enterprise Computational Systems
Insight	Government personnel monitoring contractor technical task, assembly and test support operations to assure engineering direction/documentation is properly implemented and customer/Principle Investigator requirements are fully met. (Reference Oversight)
Inspection	A method of certification of physical characteristics that determined compliance without the use of special equipment, procedures, test support items, or services. Inspection uses standard methods such as visuals, gauges, etc., to verify compliance with requirements.
Integrated Compatibility Test (ICT)	A prelaunch verification that the on-orbit vehicle systems hardware and software resources can meet maximum operational requirements.
Integrated Systems Test (IST)	An Integrated Systems Test (IST) is an intra-element verification and test across element interfaces using support equipment and flight emulators. ISTs provide verification of element interface continuity and channelization, software-to-software compatibility, hardware/software compatibility and element system functionality.
Integration	A combination of activities and processes to assemble Space Station or payload and Shuttle components, subsystems, and system elements into a desired configuration, and to verify compatibility among them.
Interface	1) A region common to two or more elements, systems, projects, or programs characterized by mutual physical, functional, and procedural properties. 2) The mechanical, electrical, and operational common boundary between two elements of a system.
Interface Verification	Testing of flight hardware interfaces by an acceptable method that confirms that those interfaces are compatible with the affected elements of a payload, the Shuttle or Space Station.

Appendix 1A - CAPPS SOW Dictionary

International Partner/Participant (IP/P)	The International Space Station, as the largest international civil program in history, features unprecedented technical, managerial, and international complexity. Six international partners and participants encompassing sixteen countries are involved in the ISS. Each partner is designing, developing and will be operating separate pieces of hardware, to be integrated on-orbit into a single orbital station. The International Partners/Participants are Russia, Japan, Canada, ESA, Italy and Brazil
Intra-company	(Activity) between various parts of the contractor's parent organization, regardless of whether the contractor is a company, corporation, consortium, LLC, or other entity.
Inventory Management System (IMS)	The system used for tracking assets. The ISS IMS is used to track assets during ground processing and in flight. This system includes bar code readers, bar code labels and JSC database for tracking (reference SSP 50007 Space Station Inventory Management System Bar Code Label Requirements and Specification). The KSC IMS system is a management tool that catalogs items by part and serial number and provides associated performance data.
Key product Characteristics	The features of a material, part or process whose variation has a controlling influence on product fit, service life, or performance, including safety or reliability.
Kitting	The process of pre-staging all required parts and materials for a scheduled task.
Launch on Need (LON)	An ISS Program process wherein preplanned critical spares can be substituted for manifested flight elements at varying points in a mission flow to provide a flexible capability to respond to on-orbit failures.
Launch Site Services	Institutional support services provided to the customer (e.g., facility services, power, gases, cleanliness, labs, airlock door operations, and crane operations) as defined by the cargo/payload customer in mission-unique documentation with the customer being responsible for the payload integration activities.
Launch Site Support Plan (LSSP)	The basic agreement negotiated between NASA and the customer detailing how the customer's payload will be handled at the launch site. The LSSP is Annex 8 to the MIP/PIP/CIP.
Lifting Device	Critical and non-critical equipment used to move, raise, or lower personnel, ground equipment, shipping containers or flight hardware, such as overhead cranes, mobile cranes, hoists, winches, hooks, hydrasets, hoist supported personnel platforms, personnel lifting buckets, and slings.
Long Lead Time Items	Those items which because of their complexity of design, complicated manufacturing processes, or limited production, may cause production or procurement cycles which would preclude timely or adequate delivery, if not ordered in advance of normal provisioning.
Maintainability	The design installation, and operating characteristics of an item that enables it to be retained in or returned to a specified operational condition by expending resources at an acceptable rate using prescribed procedures.
Maintenance	That broad range of activities involved in the day-to-day tasks required to keep or restore hardware, software and equipment in serviceable condition or replaced if economically feasible.
Maintenance Concept	A description of a planned method for accomplishing maintenance. A thought process that relates the maintenance tasks to be performed to the maintenance levels to support the operation of the system or equipment in the planned operational environment.

Appendix 1A - CAPPS SOW Dictionary

Maintenance Plan (MP)	Documentation that itemizes maintenance requirements, resources, and procedures.
Material Review Board	The formal Contractor-Government Board established for the purpose of reviewing, evaluating, and disposing of specific nonconforming supplies or services; and, for assuring the initiation and accomplishment of corrective action.
Material Review Crib (MRC)	A controlled storage area for holding nonconforming articles and materials.
Material Service Center	A storage location of commonly used parts, hardware, equipment, and material near the point of use or consumption.
Memorandum of Understanding (MOU)/ Memorandum of Agreement (MOA)	A signed document between two parties that detail an agreement.
Middeck Payload	Experiment hardware, which is designed to be flown in the middeck area of the Orbiter.
Mishap	An unplanned event which results in personnel fatality, injury, or exposure; damage to or loss of flight hardware, environment, public property; or could result in an unsafe situation or operational mode.
Mission	The performance of a coherent set of investigations or operations in space to achieve program goals. A single mission might require more than one flight, or more than one mission might be accomplished on a single flight.
Mission Integrated Schematics (MIS)	A detailed schematic including connector-to-connector and pin-to-pin connectivity among the flight elements and support equipment involved in under test. The MIS includes electrical and fluid interfaces. The MIS will be developed to track and support each test configuration. The element providers are responsible to provide inputs to this product for their respective flight elements and support equipment. The element providers must also review and concur with this document prior to the start of testing.
Mission Integration Document (MID)	A set of diagrams that pictorially represent how the test configuration will be integrated into the facility. The document contains a facility floor plan that shows the layout of all major flight elements and support equipment, locations for utility services in the facility, grounding information, power cart allocations, and a facility power distribution diagram. The floor plan layout in the MID will be configuration controlled to regulate placement of hardware in the facility. There is a MID developed for each test configuration. The element providers are responsible to provide inputs to this product for their respective flight elements and support equipment. The element providers must also review and concur with this document prior to the start of testing.
Mission Sequence Test (MST)	A ground test which verifies that flight hardware, software and crew can accomplish all mission related activities within a given on-orbit timeline.
Mission Unique Drawing (MUD)	This product defines and controls all Payload to Level 1 facility interfaces including Cargo Integration Test equipment (CITE), Antenna Repeater System, and T-0 System interfaces in the SSPF, O&C, VPF, OPF, MLP, and Pads A&B. In addition the product defines and control all Resupply/Return flight element interfaces with TCMS and GSE and provides end-to-end function paths for planned test configurations for which KSC has primary responsibility. It is used as a test procedure development source and provides a single source troubleshooting guide as well as a single point of reference for any specific mission.
Mobile Launch Platform (MLP)	The structure on which the elements of the Space Shuttle are stacked in the Vehicle Assembly Building and are moved to the launch pad.

Appendix 1A - CAPPS SOW Dictionary

Model	A software based description or conception of a particular system, situation, or process often used for additional calculations, predictions, or further investigations.
Modification	The work required to change, adjust, or modernize and existing facility, system, or item of equipment, so that it can be more effectively adapted or used for its designate purpose or to support new customer requirements.
Modification Package/Kit	Documentation, instructions, parts, and planning information necessary for implementation of a requirement.
Multi-Element Integrated Test (MEIT)	A group of NASA led functional tests of a series of International Space Station (ISS) elements. During these tests the elements will be connected by flight fluid lines and electrical harnesses using ground support equipment jumpers as needed in an on orbit like configuration. The elements will not be structurally mated.
Multi-Purpose Logistics Module (MPLM)	A pressurized module used by the Space Station Program for the transport of cargo to and from the ISS. It is configured to accommodate four rack equivalents in each of four quadrants. In the active configuration, a water loop and pump package is installed to provide heat rejection from up to five refrigerator/freezers. The passive configuration deletes the water loop components to save weight.
Multiuse Mission Support Equipment (MMSE)	Hardware available at the launch site for handling payloads, or common flight hardware used by various payload disciplines.
Network Servers	Computers that connect to a network for the purpose of providing bulk memory, printing functions, web publication, other functions across the network to other computers.
Node Systems Test	The group of tests required for Node powered-on testing at KSC. These test include Initial Power-Up and Checkout, Power Quality, Launch to Activation Heaters, Integrated Systems and O_2 System.
Nonconformance	A condition of any article or material in which one or more characteristics do not conform to requirements. Includes failures, discrepancies, defects, malfunctions and problems.
O_2 System Test	A test to validate cleanliness and pressure drop of O_2 system.
Offline Laboratory Space	Non-processing area physical space that has been specifically constructed and equipped for testing, research, and experimentation.
Off-line maintenance	That maintenance function performed at the intermediate and depot maintenance levels.
On Orbit Constraints Test (OOCT)	A physical verification of an elements interfacing EVA and IVA cable lines, fluid lines/ Intermodule Ventilation (IMV) ducting, which are mated to a corresponding flight element for the first time on-orbit.
Operate	To control hardware, systems, firmware, or software in accordance with approved processes and practices.
Operational Readiness Date	That date when a facility, system, or equipment, is operationally ready and is turned over to the user/operator for operational training and systems familiarization prior to first use in support of flight hardware checkout.
Operations and Maintenance Instruction (OMI)	A formally controlled document defining step-by-step instructions that provide the sequence and method of accomplishing operations and maintenance on end items or any part thereof. These instructions include such tasks as test and checkout, diagnostic inspection, handling, removal and installation, repair-in-place, servicing, calibrating, and cleaning.

Appendix 1A - CAPPS SOW Dictionary

Operations and Maintenance Requirements And Specifications (OMRS)	The single authoritative Space Shuttle Program source for non-drawing organizational level operations, maintenance, data and analysis requirements and specifications (flight vehicle, payload and ground systems) that are necessary to maintain and verify the system element, subsystem, or line replaceable unit (LRU)/maintenance significant item (MSI) operational readiness.
Orbital Replacement Unit (ORU)	Any assembly that can be removed and replaced as a unit from the system on orbit.
Orbiter Processing Facility	One of three processing bays near the Vehicle Assembly Building at KSC in which the Orbiter undergoes postflight inspection, maintenance, and premate checkout prior to payload installation. Payloads are installed horizontally into the orbiter in this facility.
Out-of-family	Processing activities that: • Involve the first-time occurrence of a failure mode • Limit hardware life • Restrict hardware or software use • Affect the performance or reliability of safety or mission success critical hardware functions • Affect hazard control • Result in a weight change in excess of 2 pounds (equivalent weight to orbit) • Affect flight or ground operating procedures that are controlled by the government • Change software or hardware configuration • Allow use of hardware that does not meet performance specifications, exceeds certification limits, or surpasses time, age, or cycle life limits (waivers/exceptions) • Close or defer resolution of an unexplained anomaly • Requires government design element analysis or assistance • Affect critical hardware manufacture or repair processes • Affect interchangeability of like parts

Appendix 1A - CAPPS SOW Dictionary

Oversight	Government personnel partnering/participating in contractor technical task, assembly and test support operations on first time, high risk, unique operation, to assure engineering direction/documentation is properly implemented and customer/Principle Investigator requirements are fully met. Includes providing real-time engineering change approvals for the first time utilization of each type cargo/payload element. Civil service will provide independent verification, validation assessment and approval of selected critical mission analysis, procedures, processes, tests, and acceptance criteria to maximize mission success. Specific areas requiring Government approval are as follows. 1. Cargo/payload to launch vehicle and GSE interface control documents/drawings 2. Decisions/resolutions of action items as determined by NASA-led teams 3. Mission unique hardware/software design, analysis, manufacturing and test 4. Risk management and systems effectiveness plan/approaches 5. Top level test plans, requirements, and success criteria for first time/R&D integrated cargo/payload and ground systems and test that verify the integrated interfaces 6. Launch commit criteria, closeout actions from NASA chaired mission and Flight Readiness Reviews 7. Closeout actions from NASA chaired ground systems design and design certification reviews 8. Cargo/Payload handling procedures and deviations 9. Integrated cargo/payload mates, tests and closeout procedures and deviations on first-time unique R&D missions 10. Launch countdown procedures and deviations that affect cargo/payload integrated assemblies 11. Anomaly resolution 12. Launch Go/No-Go (Reference Insight)
Pallet	An unpressurized platform, designed for installation in the Orbiter cargo bay, for mounting instruments and equipment requiring direct space exposure or can survive direct space exposure.
Partial Payload	A payload that utilizes direct Orbiter avionics interfaces for command and telemetry data processing of its Experiments and Subsystems
Payload	The individual primary, secondary, tertiary, and mission components at a single entity level. For example, the primary payload may be a completed truss element, satellite, logistics module or scientific pallet for which the shuttle is primarily being launched. Secondary, tertiary, and mission component payloads may be getaway special canisters, multipurpose support structure, logistics carrier, middeck experiments, etc.
Payload Bay	The unpressurized mid part of the Orbiter fuselage behind the cabin aft bulkhead where most payloads are carried. Its maximum usable payload envelope is 15 feet (4.6 meters) in diameter and 60 feet (18.3 meters) long. Hinged doors extend the full length of the bay.
Payload Changeout Room (PCR)	An environmentally controlled room at the launch pad for inserting payloads vertically into the Orbiter payload bay.
Payload Customer	The organization responsible for overall design, fabrication, integration and operation of the payload. Assumed to include such people as program managers, payload developers, and principal investigators (See Customer).

Appendix 1A - CAPPS SOW Dictionary

Payload Data Tape (PDT)	The payload program provided product that identifies the Payload's primary on-orbit telemetry configuration and measurement database prior to official Space Shuttle Program release.
Payload Operations Control Center (POCC)	Central area from which payload operations are monitored and controlled. The user, in many instances, will have direct flight command of a payload from this control center.
Payload Processing Facility (PPF)	A building used to assemble, configure and checkout a specific payload in preparation for launch.
Performance-to-Plan	An integrated measurement of technical, cost and schedule performance of a project/program that includes an assessment and identification of variances to the integrated baseline plan, and estimates to completion
Peripherals	Computational support equipment such as printers, monitors, external speakers, cameras, etc., that work with and communicate with a specific computer.
Portable Computing Devices	Devices that incorporate a CPU and which may be routinely moved and used with only a small amount of setup in the new location.
Post Delivery Verification Test	Test to ensure no damage occurred to flight hardware during transportation to the launch site. The testing includes Electrical Power System Test (EPS), Command and Data Handling Test (C&DH), Thermal Control System Test (TCS), Environmental Control and Life Support System Test (ECLSS), Communications and Tracking Test (C&T), and Power Quality Test.
Post Production Support (PPS) Property	Flight and ground support hardware, accountable to the ISS development contractor (NAS15-10000) that resides at KSC. This property is stocked stored and issued through the CAPPS property management system. A listing of the property is in Appendix 7.
Predictive Maintenance	The process of monitoring equipment health through a variety of methods, (e.g., infrared photography, vibration analysis, or spectrometric oil analysis), and performing maintenance based on the results of the monitoring
Preventive Maintenance (PM)	The planned, scheduled periodic inspection, adjustment, cleaning, lubrication, parts replacement, and minor repair of equipment and systems.
Principal Investigator	Research scientist who is in charge of the testing and conduct of an experiment carried by the Space Shuttle or Space Station.
Problem	A nonconformance which is, or is suspected of being, a failure, an unsatisfactory condition, an unexplained anomaly, or an overstress occurring during or subsequent to production acceptance testing or qualification testing.
Problem Reporting and Corrective Action (PRACA)	A management system for identifying, reporting, analyzing for cause, remedying, and preventing recurrence of problems.
Problem Resolution Team (PRT)	A team that is activated when an on-orbit failure or anomaly condition is identified.
Program	An activity involving manpower, material, funding, and scheduling which is necessary to achieve desired goals. (e.g. Shuttle Program, ISS Program)
Program Operating Plan (POP)	A time-phased projection of resource requirements in terms of planned rates of obligations (and in the case of major cost-reimbursement contracts, of planned rates of cost accruals), submitted periodically by field operating elements to officials-in-charge of Program Offices, and by these officials to the NASA Chief Financial Officer (CFO)/Comptroller.
Proofload	The specified force applied in performance of a test that is greater than the rated load in accordance with NSS/GO 1740.9 or equivalent.
Property Accountability	A record of transaction, systematically maintained, which by any given time will disclose item identification, quantity, cost, location, and custodial responsibility of property controlled by an installation or a contractor.

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Qualification Test	A test conducted as a part of the certification program to demonstrate that design and performance requirements can be realized under specified conditions.
Quantity/Distance Site Plan	The written approval, by memorandum or certificate, of the maximum quantity of hazardous material permitted at any locations, and the minimum safety clearance distance necessary on the site.
Reference	Provided for background or information.
Refurbish	The process of inspecting, replacing worn components, applying lubricants and protectorants and cleaning in preparation for reuse.
Reliability Centered Maintenance (RCM)	A strategy that logically incorporates into a maintenance program the proper mix of reactive, preventive, predictive, and other proactive maintenance practices.
Repair	Operations performed on a nonconforming article or material to place it in a usable and acceptable condition; requires additional written procedures and additional operations.
Repair Part	A part needed to return a higher assembly or component to a service or operational condition.
Reradiating Antenna System	The Reradiating Antenna System is a network of antennas distributed throughout KSC, which relay payload command and telemetry signals between processing facilities and remote Payload Operations Control Centers (POCC). The RAS antenna network is comprised of approximately 100 dish antennas, 700 cables, 60 antenna masts, antenna rotating mechanisms, and GN2 purge systems.
Residual Vapor Removal System (RVRS)	A configuration of the SSPF HVAC system that, when activated, allows for the rapid removal of vapors from the high bay and intermediate bay.
Rough Order of Magnitude (ROM)	Estimate based on a general evaluation of the work and materials required to accomplish a loosely defined task
Servicing	The act of supplying fluids and gases to the flight hardware and/or associated GSE.
Shuttle Data Tape (SDT)	The Space Shuttle Program provided product that identifies the Payload's primary on-orbit telemetry configuration and measurement database
Simulate	To imitate the conditions or behavior of a situation or process by means of a model.
Simulator	A mechanical or electrical/electronic equipment item or assembly that emulates flight hardware.
Space Utilization	Control of physical space, including establishing policies and standards, assignments and releases. This includes control of the location within approved sites, as well as assignment of all trailers.
Spares	Those support items that are selected to be repairable or replaceable.
Standard Out	A design agency deliverable product for use in database development, supporting Space Station hardware testing.
Subassembly	Two or more parts, which form a portion of an assembly or a component replaceable as a whole, but having a part or parts which are individually replaceable (e.g., mounting board with mounted parts, etc.).
Subsystem Testing	Any tests that verify a portion of individual systems in a non-integrated fashion.
Support Request	An authorization form, KSC Form 19-15, used to ask for work that does not require design engineering.
Sustaining Engineering (E)	The process of defining, implementing and testing modifications to existing systems.
System	One or more equipment items and their interconnecting elements serving a common purpose.
T-0	Launch Vehicle Liftoff (time-zero).

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Technical Data	Recorded information, regardless of form, used to define, produce, test evaluate, modify, deliver, support, maintain, or operate a configuration item. Technical data may be recorded as: graphic or pictorial delineations in media such as drawings or photographs; text in specifications or related performance or design type documents; in machine forms such as punched cards, magnetic tape, disks, computer memory printouts or computer memory. Examples of technical data include, but are not limited to, engineering drawings and associated lists, specifications, standards, process sheets, manuals, technical reports, catalog item identifications, commercial item descriptions, logic diagrams, flow charts, and minutes of technical reviews and configuration audits. Research and engineering data are included, but financial and administrative data are excluded.
Technical Operating Procedure (TOP)	A written communication that identifies and directs work to be performed and provides the detailed instructions necessary to accomplish a task. Category I TOP: Provides detailed procedures for the operation, maintenance, and verification of ground support systems and equipment. Instructions for assembly and disassembly, checkout, servicing, verification, handling, and transportation of the space vehicle and components including payload systems, subsystems, and experiments during prelaunch, launch, and post-launch operations are also provided. Category II TOP: Provides engineering instructions, authorizes work, establishes work control methods, in order to accommodate special tests or authorize temporary installations, removal, or replacements. Category II procedures shall not be used to change or replace Category I procedures. (Reference Work Authorization Document (WAD))
Test Preparation Sheet (TPS)	A Work Authorization Document (WAD), KSC Form 4-124, used, generally, on a one-time basis to accomplish specific tasks on Payload Elements or Ground Support Equipment (GSE).
Unexplained Anomaly	An anomaly that cannot be repeated (phantom or ghost) or for which a cause cannot be determined.
Update	A revision to incorporate “lessons learned”, corrections or other improvements.
Use	To employ an item of hardware, firmware, or software to perform specific functions or meet identified requirements.
User	An organization or individual requiring the services of a system or item of equipment.
Utility Outage	Stoppage, interruption, or change to normal operational modes of utility support that will affect the systems of facility served.
Utilization Payloads	All ISS Utilization payloads managed out of the JSC Payloads Office (code OZ), ISS and Shuttle middeck payloads, and “partial payloads” experiments flying on Payload Carrier Program hardware such as Spacelab pallets and Multi-Purpose Experiment Support Structure (MPESS) carriers including but not limited to Facility Class Racks, EXPRESS Racks, EXPRESS Pallets, Shuttle and ISS Middecks, Shuttle payloads, and science payloads
Validation	Verification that the equipment/system meets the operational needs of the Operations and Maintenance user. Part of the turnover process from the design agency to the O&M agency.
Vehicle Assembly Building (VAB)	High-bay facility located near the KSC launch pads in which the Shuttle elements are stacked onto the mobile launch platform. It is also used for vertical storage of the external tanks.

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Vendor	An open market or established commercial source to obtain end items.
Verification	A process that determines that the hardware and software systems meet all design, performance, and safety requirements. The certification process includes analysis, test, inspection, demonstration, or a combination thereof.
Verify	Review of recorded data (inspection, test, etc.) for conformance to specifications, drawing requirements, etc.
Visibly Clean	The absence of all particulate and non-particulate visible to the normal, unaided (except corrected vision) eye. Particulate is identified as matter of miniature size with observable length, width, and thickness. Non-particulate is film matter without definite dimension.
Waiver	A written authorization, granted for a one time technical requirement noncompliance granted after the fact, for use or acceptance of an article or to perform an action which does not meet specified requirements. (Reference Deviation)
Witness	To observe a test or process to verify that correct procedures and processes are followed for a specific action.
Work Authorization Document (WAD)	An approved written communication that identifies/directs work to be performed, and provides the detailed instructions necessary for accomplishing a task, and records accomplishment of the task. (Reference Technical Operating Procedure (TOP))
Work Control Center (WCC)	A team of schedulers and analysts that manage the MMCS and MAXIMO system and provide overall coordination and scheduling of facility systems and equipment and mobile heavy equipment activities and support.
Workstation	A computer designed for computationally intensive tasks such as drafting, image processing, or 3D modeling but which is planned to be utilized by one employee. Workstations typically have more than one processor, multiple high speed disk drives supported in a RAID configuration, one or more high resolution monitors, and a number of specialized input/output devices associated with their intended function.