

MPG 4500.1

BASELINE

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# **MARSHALL PROCEDURES AND GUIDELINES**

**TD01**

## **MANAGEMENT OF PROPELLANTS AND PRESSURANTS**

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TD01		
<b>Management of Propellants and Pressurants</b>	MPG 4500.1	<b>Revision: Baseline</b>
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**DOCUMENT HISTORY LOG**

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Baseline		5/17/00	This document is being rewritten from MMI 4000.4 to an MPG.

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## PREFACE

### **P.1 PURPOSE**

To identify responsibilities and establish uniform operating procedures for the management of propellants and pressurants used by Marshall Space Flight Center (MSFC) programs, other Government Agencies, and respective contractors. Propellants and pressurants used by MSFC programs and projects (including contractor usage) shall be furnished by the supplier identified in the Agencywide contract, except in cases where small quantities and/or other extenuating circumstances justify individual commercial procurement.

### **P.2 APPLICABILITY**

This Directive is applicable to all organizational elements of MSFC and MSFC contractors.

### **P.3 AUTHORITY**

NPG 5100.4, "Federal Acquisition Regulation Supplement (NASA/FAR Supplement)," Part 1808, Sections 1808.002-71, 1808.002-73, and Part 1817, Subpart 1817.70

### **P.4 APPLICABLE DOCUMENTS**

NPG 1441.1, "NASA Records Retention Schedules"

### **P.5 REFERENCES**

- a. MWI 8715.10, "Explosives, Propellant, and Pyrotechnics Program"
- b. Letter from M/Associate Administrator for Space Flight, subject: Consumables Management, dated March 5, 1985
- c. KDP-P-1765, "Procurement of Propellants, Pressurants, Special Fluids, and Government Furnished Material (GFM) at KSC/CCAS"
- d. KDP-P-1766, "Propellants, Pressurants, Special Fluids & Other Government Furnished Material (GFM) Support for NASA Programs at KSC/CCAS"
- e. KDP-P-1784, "Forecasting Propellants, Pressurants, Special Fluids & Government Furnished Material (GFM) for NASA Programs at KSC/CCAS"

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**P.6 CANCELLATION**

MMI 4000.4 dated October 3, 1977, and Changes 1-3 thereto

Original Signed by  
Sidney P. Saucier for

A. G. Stephenson  
Director

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## DOCUMENT CONTENT

### 1. DEFINITIONS

1.1 Contracting Officer. Procurement contact responsible for issuing delivery orders and maintaining proper contractual agreements with supplier.

1.2 Contracting Officer's Technical Representative (COTR). Person responsible for assisting the contracting officer in technical aspects of the contract.

1.3 Delivery Request. An order placed by a specific user or using site for product to be delivered on a scheduled date by the appropriate supplier.

1.4 Forecast of Requirements. Best estimate of the quantity needed for each product.

1.5 Propellants and Pressurants. All cryogenic and non-cryogenic fluid products such as liquid or gaseous oxygen, hydrogen, helium, and nitrogen, and RP-1 that are used to support combustion for propulsion, pressurize propulsion systems, purge systems, simulate high-vacuum space conditions, or create inert atmospheres.

1.6 Receiving Document. An appropriate form that officially documents delivery and receipt of materials (DD Form 250, or other appropriate form).

1.7 Supplier. A contractor selected by KSC/MSFC for propellant and pressurant services.

1.8 User. MSFC programs, projects, test facilities, and other organizational elements having a need for propellants and pressurants, including other NASA Centers and other Government agencies.

1.9 Using site. Location where propellants and pressurants are to be physically delivered (including contractors).

### 2. RESPONSIBILITIES

2.1 To ensure that an adequate supply of pressurants and propellants is readily available to meet current and future program requirements, NASA has established KSC as the central procurement organization.

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2.2 Within MSFC, the Facilities Engineering Department (FED) has primary management responsibility for all activities performed by the propellants and pressurants contractor. The Spaceport Services, Mechanical/Civil Design Branch (TA-D2-B), and its Technical Representative at KSC have primary responsibility for managing the Agencywide contracts for each commodity. MSFC will have its own delivery order with each commodity, and the MSFC Contracting Officer and Technical Representative will be responsible for the procurement of these commodities.

2.3 The Facilities Engineering Department (FED) will:

2.3.1 Receive and consolidate the 3-year forecasts of propellants and pressurants requirements from all users annually.

2.3.2 As appropriate, receive specific delivery orders on a regular basis from individual users. Orders may be placed on any day of the week, if necessary, to the supplier for an overall delivery order for the following week denoting the quantity required at each location and the date to be delivered. The Propellant Services Work Control Center places most orders on Friday. A facsimile is sent to confirm the hydrogen orders per the supplier's request. The FED will provide this delivery order to the supplier in writing by facsimile transmission. This procedure for placing delivery orders may vary depending upon the contract and specific circumstances and arrangements.

2.3.3 Receive and consolidate the monthly estimates of propellant and pressurant requirements from each user. Based on these estimates, FED will generate monthly production orders and provide these to the respective suppliers of propellants and pressurants through contractual channels.

2.3.4 Provide overall management for propellants and pressurants contractor.

2.3.4.1 Publish MSFC consolidated 3-year forecasts for propellants and pressurants required by MSFC programs and projects. These forecasts shall be based on inputs from each user and shall be updated annually the first of February. Copies shall be provided to the COTR to be forwarded to NASA Headquarters and KSC as the official MSFC forecast of propellant and pressurant requirements. The FED will provide information copies to other concerned organizations as appropriate.

2.4 The Contracting Officer's Technical Representative (COTR) will:

2.4.1 Provide overall management for the nationwide acquisition

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of propellants and pressurants for MSFC, NASA contractors, and certain other Government Agencies requiring propellants and pressurants.

2.4.2 Conduct long-range planning to ensure the availability of propellants and pressurants for all current and other NASA programs within the foreseeable future.

2.4.3 Initiate appropriate procurement/funding actions commensurate with monthly production orders and process through established channels.

2.4.4 Maintain this Directive by revising it or making changes as necessary.

2.4.5 Interface with NASA Headquarters, other NASA Centers, other Government Agencies, and MSFC users to ensure product availability and to resolve day-to-day problems.

2.4.6 Review the monthly inputs from each using site reflecting the product quantities received, correlate these quantities with the current forecasts, and investigate any significant deviating trends. In conjunction with the respective user, make any necessary adjustments in the forecast and coordinate such changes with the customer, NASA Headquarters, and others as appropriate.

2.4.7 On a sampling basis, review the vouchers and correlate with the inputs from the user sites. Take appropriate actions to reconcile, on an exception basis, any problems or discrepancies that are found.

2.4.8 Review the monthly inputs from each using site that reflect their estimates of quantities required for the next month, and compare the quantities required with the funding available considering the latest financial status report and an estimate of all outstanding commitments. If sufficient funding is not available, notify the respective user and the Accounting Operations Office to take appropriate actions. This estimate of outstanding commitments shall be based on the monthly inputs from each, using site-conveying quantities received and quantities needed every month. The COTR will consolidate the estimates from each using site of quantities required for the next month and provide to the supplier for their planning to ensure availability of the products.

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2.5 The User (MSFC, Other NASA Centers, and Other Government Agencies) will:

2.5.1 Generate a 3-year forecast of propellants and pressurants requirements annually and provide to the FED and the COTR.

2.5.2 Provide appropriate funding authority in cooperation with the COTR.

2.5.3 Manage local inventories of pressurant and propellant commensurate with scheduled needs and forecasted requirements in such a manner as to minimize any undue impact on the supplier and the overall activity.

2.6 The MSFC Accounting Operations Office will:

2.6.1 Receive funding authority for propellants and pressurants from each of the various users and process through routine channels. On reimbursable orders from other Government Agencies, obtain resources authorization from NASA Headquarters and process the receipt and acceptance of the order in accordance with applicable regulations.

2.6.2 Issue Resources Authorization Directives (Form 2525) to officially provide the MSFC Accounting Operations Office the authority to withdraw and use funds furnished by each propellants and pressurants user.

2.6.3 Establish and maintain a carrier account to finance propellants and pressurants requirements, and charge benefitting projects based on their respective usage as delineated in the Monthly Cost Breakdown Sheet generated by the COTR.

2.6.4 Process Automated Procurement Request System (APRS) as requested through established channels and ensure availability of, and cite, appropriate funds.

2.6.5 Perform accounting functions as appropriate for propellants and pressurants transactions.

2.6.6 Process propellants and pressurant supplier's invoices for payment as certified by the Contracting Officer.

2.6.7 Issue monthly bills (Standard Form 1080) to other Government Agencies for propellants and pressurant delivered on a reimbursable basis.

2.6.8 Process collections from reimbursable customer(s) upon receipt of authority.

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2.6.9 Issue financial reports of the propellants and pressurant carrier account.

2.7 The Procurement Office will:

2.7.1 Provide total procurement support for the propellants and pressurants requirements as requested.

2.7.2 Issue monthly estimates (delivery orders) of propellants and pressurants requirements officially to the suppliers prior to the first of each month or as prescribed by the individual contracts. These delivery orders are to be based on consolidated estimates provided by the COTR.

### 3. PROCEDURE

The following general procedures describe implementation of this Directive for propellants and pressurants.

3.1 A 3-year forecast of propellant and pressurant requirements shall be generated by each potential user. These individual forecasts will be consolidated and published by the FED to provide the basis for long-range planning.

3.2 Each user shall initiate appropriate procurement and funding actions based on the above forecast. The Procurement Office shall, in turn, issue a respective purchase request. Concurrently, the COTR shall interface with the suppliers to ensure that the necessary propellants and pressurants can be provided in the quantity and on the schedule required by MSFC.

3.3 Actual orders and deliveries of propellants and pressurants shall be effected by direct interfacing between the using site and the respective supplier. The pressurants and propellants contractor is authorized to place orders and receive the products. By the 20<sup>th</sup> of each month, the pressurants and propellants contractor shall submit an estimate of quantities needed for the following month to be used for detailed planning purposes. The FED (P&P Contractor) will forward the logistics report to the COTR for processing.

3.4 Suppliers will submit vouchers to the MSFC Accounting Operations Office for reimbursement for products delivered based on a certification statement by the COTR. On a monthly basis, the MSFC Accounting Operations Office will issue a financial status for each propellant and pressurant account.

3.5 The COTR shall be the focal point for overall management,  
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long-range planning, problem resolution, etc., through utilization of inputs from the above activities, such as:

3.5.1 3-year forecast of requirements;

3.5.2 The financial status report;

3.5.3 The record of product quantities received; and

3.5.4 The monthly estimates of quantities required.

3.6 Each user shall estimate the amount of product needed for an agreed upon period of time and provide this information to the COTR.

3.7 The COTR ensures that adequate funding is on the delivery order to cover charges incurred by all users.

3.8 The Contracting Officer creates a delivery order to cover an agreed upon period of time. The quantity of product and the funding for such quantity are specified on the delivery order.

3.9 Each user shall place orders for actual delivery on an as-needed basis through the FED. The delivery order shall be placed only by the authorized individual and shall cite the specific quantity, date for the delivery, and the contract to which it is to be charged.

3.10 The FED shall consolidate the above estimates from all users and generate a total estimate of requirements. This overall estimate (production order) shall be provided to the respective supplier through contractual channels and the COTR. The MSFC Accounting Operations Office shall ensure that appropriate funds are available in the carrier account to cover these production orders prior to their release to the suppliers.

3.11 The supplier shall deliver the product to the predetermined location as stated in the delivery order. They are to provide documentation showing all pertinent information such as: type of product, quantity, delivery date, etc. They shall then bill MSFC through the Accounting Operations Office.

3.12 The FED (P&P Contractor) shall receive the deliveries and verify the quantity delivered. They shall then distribute the product to the users.

3.13 The MSFC Accounting Operations Office shall process bills from the suppliers and forward the request for payment to the contracting officer. The contracting officer shall determine

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(with assistance from the COTR) that all factors necessary to approve payment are in order.

3.14 Upon approval by the CO/COTR, the MSFC Accounting Operations Office shall process payment to the respective propellant and pressurant suppliers, accomplish routine accounting and other related activities, and publish a financial status report.

3.15 The Appendix is a flow chart that depicts the overall ordering and funding process for obtaining propellants and pressurants.

#### 4. RECORDS

Files for forecasting the usage of propellants and pressurants are covered in NPG 1441.1, Schedule 4/13, and should be described as "Allocation Files - Propellants and Pressurants Records." The retention period is "Destroy when 5 years old." As COTR, the copies of procurements, contracts, billings, and other elements are covered under NPG 1441.1, Schedule 5/1F, and should be described as "All Other Offices/Copies - Propellants and Pressurants Records." The retention period is "Destroy upon termination, completion of contract, or when no longer needed, whichever is sooner."

#### 5. FLOW DIAGRAM

See following page.

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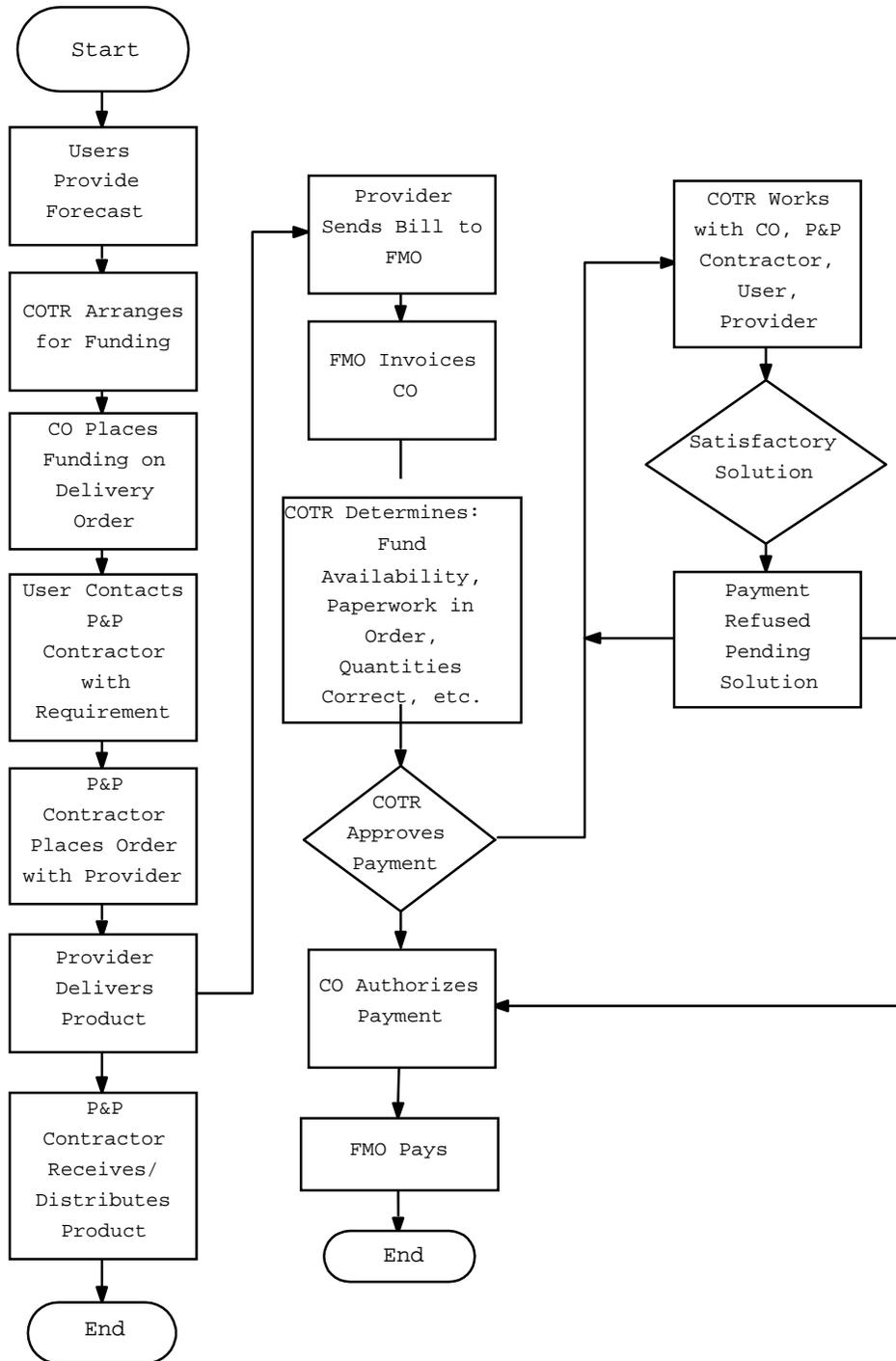
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## APPENDIX

### FORMS

The following items will be used in the management of propellants and pressurants resources:

1. DD Form 250 (Material Inspection and Receiving Report). Form used by receiving activities as evidence of receipt of product directly from a commercial producer's plant or storage.
2. MSFC APRS (Automated Procurement Request System). A form normally used within MSFC to initiate procurement and/or funding actions. MSFC Form 55 may be utilized as appropriate.
3. NASA Form 558 (Material Requirements Report). Form used the Facilities Engineering Department (AD20) to consolidate and develop propellant and pressurant requirements to be submitted to NASA Headquarters.
4. NASA Form 1057 (Forecast of Propellant Requirements). This form is used by propellant and pressurant using activities for submitting requirements to the MSFC FED.
5. Standard Form 1080 (Voucher for Transfers Between Appropriations and/or Funds). Form used to submit billing from one government agency to cover their respective requirements.
6. NASA Form 506A (Resources Authority Warrant). Form executed and provided to MSFC by other NASA users of propellants and pressurants citing funds to cover their respective requirements.
7. MSFC Form 2525 (Request for Reprogramming Action). Form utilized within MSFC by propellants and pressurants users to cite funding authority.
8. MSFC Form 1575 (Certification of Performance). Form used to certify the supplier's invoices for payment.
9. Monthly Cost Breakdown Sheet. Data sheet used to apportion costs to the respective benefiting program/project.
10. MSFC Form 203 (Resources Authorization Directive). Form used to establish resources authority for propellants and pressurants.
11. DD Form 1149 (Requisition and Invoice/Shipping Document). Form used by other Government Agencies to request propellants and pressurants on a reimbursable basis. Other appropriate documents may be used in lieu of this form.

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