

PS 8264.02 PRODUCT DESIGN CONTROL



Program Statement

OPI: FPI
NUMBER: 8264.02
DATE: 6/25/2001
SUBJECT: Product Design Control

1. **PURPOSE AND SCOPE.** To establish procedures for managing the design integrity associated with all products Federal Prison Industries (FPI) manufactures. This is accomplished by controlling the engineering drawings and specifications, the primary means by which the engineering function conveys its ideas and requirements to other entities both within and outside the organization.

FPI manufactures products in compliance with military, commercial, contractor, customer, and internally-generated designs, specifications, and standards.

All new product development within FPI must be in accord with this PS and the Program Statement on Product Development.

2. **SUMMARY OF CHANGES.** References to SYMIX production software have been changed to reflect the new **Millennium** software. References to Program Management have been changed to reflect the new Business Unit organizational structure. References to the Quality Assurance Program Statement have been updated to reflect the most recent Quality Program Manual.

3. **PROGRAM OBJECTIVES.** The expected results of this program are:

- a. Unauthorized design modifications will be prevented.
- b. Design integrity for all FPI products, particularly those manufactured at multiple locations will be maintained.
- c. A single, consistent method for changing product designs will be utilized.

d. One central repository for the documents which define FPI products will be defined.

4. DIRECTIVES AFFECTED

a. Directives Rescinded

PS 8264.01 Product Design Control (3/6/98)
OM 044-00 (8264) Product Design Control (10/5/00)

b. Directives Referenced

PS 8053.02 Engineering Bulletin, FPI (2/28/97)
PS 8260.02 Product Development - FPI (3/6/98)
PS 8340.07 Quality Program Manual (1/14/00)

5. STANDARDS REFERENCED

a. American Society of Mechanical Engineers (ASME)

Y14.24M Types and Applications of Engineering Drawings
Y14.34M Parts Lists, Data Lists, and Index Lists
Y14.35M Revision of Engineering Drawings and Associated Documents

b. Military Standards

MIL-STD-100 Engineering Drawing Practices

6. DEFINITIONS

a. The acronyms and abbreviations used in this PS are defined as follows:

C DCN - Document Change Notice
C DCR - Document Change Request

b. **Contract.** A mutually binding legal relationship obligating the seller to furnish the supplies or services (including construction) and the buyer to pay for them

c. **Contracting Activity.** That Government activity having a legal agreement or order with an individual, partnership, company, association or other entity for the design, development, manufacture, maintenance, modification, or supply of items or services.

d. **Contractor.** An individual, partnership, company, corporation, or other service having a contract with the procuring activity for the design, development, manufacture, maintenance, modification, or supply of items under the terms of a contract.

e. **Copy.** Any reproduction or duplication, in any media, of an original.

f. **Current Design Activity.** An activity (Government or contractor) currently having responsibility for designing an item and preparing drawings and associated documents.

g. **Customer-Generated Design.** A product design initiated by a customer. The product design's control rests with the customer as does the responsibility for maintaining the engineering documents.

h. **Design Activity.** An activity having responsibility for the design of an item. The activity may be a Government, commercial, or nonprofit organization. (ASME Y14.24M)

i. **Document.** Applies to the specifications, drawings, lists, standards, reports, and printed, typewritten, or other information, relating to the design, procurement, manufacture, test, or acceptance inspection of items or services.

j. **Drawing (Engineering).** An engineering document or digital data file(s) that discloses (directly or by reference), by means of graphic or textual presentations, or combinations of both, an item's physical and functional requirements. In combination with other engineering documents, they provide the information necessary to manufacture an item.

k. **Drawing Format.** The arrangement and organization of information within a drawing. This includes such features as the size and arrangement of blocks, notes, lists, revision information, and the use of optional or supplemental blocks.

l. **Drawing List.** A dated item-by-item record of drawings comprising a product or series of products, including the most current revisions.

m. **Engineering Data.** Engineering documents such as drawings, associated lists, accompanying documents, manufacturer specifications and standards, or other information prepared by a design activity and relating to the design, manufacture, procurement, test, or inspection of items.

n. **Item.** A non-specific term used to denote any unit or product including materials, parts, assemblies, and accessories.

o. **Manufacturer.** An individual, company, corporation, firm, or Government activity, or component thereof, who:

- C Controls the production of an item, or
- C Produces an item from crude or fabricated materials, or
- C Assembles material or components, with or without modification, into more complex items.

p. **Millennium.** A computerized Enterprise Resource Planning system FPI uses to plan, manage, and control its manufacturing and business operations. Also, the electronic database which stores information for all items FPI manufactures.

q. **Original.** The design activity's full size reproducible drawing or digital data file(s) on which is kept the revision record recognized as official.

r. **Product.** An item manufactured from crude or fabricated materials or assembled from material or components with or without modification.

s. **Requesting Official.** An individual who requests a procurement or contracting action to conduct product design or development.

t. **Revision.** A record of change or modification to a product design reflected in its drawings and/or specifications.

u. **Schedule of Products.** A record of all products offered by the manufacturer, i.e., FPI.

7. **RESPONSIBILITIES.** The Product Support Center (PSC) is the primary design activity for FPI (except for customer-generated designs).

The design for a particular product or series of products may be delegated to a factory or contractor with the joint approval of the Manager, PSC, and the appropriate General Manager.

If this option is exercised, the delegated design activity must fulfill all responsibilities set forth in the Program Statement on Product Development.

Control of the design still remains with the PSC, as does the responsibility for maintaining the drawings.

The requesting official is responsible for requiring the contractor to provide all drawings and other engineering data to the PSC after design approval but before adding the product(s) to the FPI Schedule of Products. The drawings the contractor provides must contain all information necessary to manufacture, inspect, and test the product(s).

a. The **Manager, PSC** must:

- C Manage and control documents related to the design of FPI-manufactured products.
- C Exercise approval authority for product design documents for FPI-manufactured products.
- C Maintain all engineering drawings and specifications for FPI-manufactured products.

b. Each **Product Support Manager** at the PSC must:

- C Manage and control documents related to the design of products in their respective product areas.
- C Approve product design documents for their respective product areas.
- C Maintain engineering drawings and specifications for products manufactured by their respective product areas.
- C Provide copies of the latest approved specifications and standards to field locations, product support staff, business unit staff, and contractors, as necessary, for products manufactured by their respective product areas.

c. Each **General Manager** must:

- C Ensure that all requests for new product design/development or major product redesign are forwarded to the Manager, PSC.

- C Ensure that contractors who provide designs for FPI products provide engineering data to the PSC. This is to occur after design approval but before adding the product(s) to the FPI Schedule of Products.

The drawings the contractor provides must contain all information necessary to manufacture, inspect, and test the product(s). For items the contractor specifies as proprietary, the contractor must provide drawings and specifications necessary and sufficient for inspecting and testing these items.

- C Ensure that contractors are prohibited from changing a product design without the express written approval of the Manager, PSC.

d. Each **Associate Warden (Industries)/Superintendent of Industries** must:

- C Ensure that all products manufactured at his or her location are manufactured to the latest approved designs, specifications, and standards.
- C Establish an internal document control system for all drawings, specifications, work/assembly instructions, and special process instructions, inspection instructions, test procedures, and quality manuals and policies in accord with the Quality Program Manual.
- C Provide original or revised drawings of locally developed or contractor developed products manufactured at his or her location that have not been previously submitted to the PSC. When drawings do not exist for these products, provide sample(s) of the product(s) sufficient for the PSC Drafting Department to create original drawings.
- C Submit all DCRs to the PSC Drafting Department.

e. The **Factory Manager** at each field location must:

- C Maintain control of all drawings, specifications, work/assembly instructions, and special process instructions.
- C Ensure that all product drawings, specifications, and standards being used to manufacture all products are the most current approved revision.

- f. The **Quality Manager** at each field location must:
- C Maintain control of inspection instructions, test procedures, and quality manuals and policies.
 - C Monitor inspections to ensure that only the latest approved drawings, specifications, and standards are being used to inspect the manufacture of all products.
 - C Perform a periodic audit of the local document control system using the guidelines specified in the Quality Program Manual, Section 17.
 - C Require correction and prevention of any findings noted during an audit.
- g. The **PSC Drafting Department** must:
- C Provide copies of the latest approved drawings and drawing lists to field locations, product support staff, business unit staff, and contractors, as necessary.
 - C Maintain original drawings for products currently manufactured by FPI.
 - C Maintain archival records of drawings for products formerly manufactured by FPI. Archival records must be maintained for not less than five years.

8. DESIGN STANDARDS

- a. **Drawing Standard.** MIL-STD-100E (1991), inclusive of Notices 1 and 2 (1992), are to govern FPI's engineering drawing practices.
- b. **Digital Hardware Standard.** An Intel Pentium-based personal computer is the recommended hardware for performing computer-aided design and drafting within FPI.
- c. **Digital Software Standard.** AutoCAD, an AutoDesk software product, is the only approved product for performing computer-aided design and drafting within FPI.

9. DRAWING CONTROLS

a. **Drawing Numbering Scheme.** The Drafting Department at the PSC is to issue drawing numbers for new products FPI manufactures. Drawing numbers are to consist of a three-character alphanumeric prefix designating the product line. This prefix will be followed by a two-digit number indicating the fiscal year during which the drawing number was assigned. These will be followed by a three-digit sequential number.

b. **Document Control System.** Each field location must establish an internal document control system in accord with the Quality Program Manual. This system must ensure that the products manufactured at that location meet the latest approved designs, specifications, and standards.

When new production orders are released in the **Millennium** system, the Factory Manager must ensure that the drawings, specifications, and standards being used to manufacture the item match the current "Revision" code for that item. If not, the Factory Manager must request the latest approved documentation from the PSC.

c. **Existing Products.** The Drafting Department at the PSC must maintain current drawings for existing FPI products. Original drawings at all field locations are to be forwarded to the PSC for maintenance.

Copies may be maintained only at field locations. This does not apply to customer-generated products for which the customer maintains control of the product design and the responsibility for maintaining the engineering documents.

9. **DESIGN CHANGES.** No change to any FPI-manufactured product may be made without the PSC's written approval in the form of an approved DCN or Engineering Bulletin.

- A DCR must be submitted to the PSC to change an existing product design.

These may involve changes to any document related to the product's design, including engineering drawings, bills of material, and item specifications.

The PSC is to:

- log each request,
- assign it a tracking number, and
- then forward it to the applicable product support group for review and disposition.

Upon completing the document revisions, the PSC must create either a DCN or an Engineering Bulletin explaining the design change(s). The DCN or Engineering Bulletin must accompany copies of the document(s) to all applicable field locations and product support groups.

/s/

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Director