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**PRECIOUS METALS RECOVERY PROGRAM
(PMRP)**

COMPLIANCE WITH THIS PUBLICATION IS MANDATORY

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This instruction establishes procedures and provides instructions for operating the Precious Metals Recovery Program (PMRP). It is developed according to AFMAN 23-110V6. It applies to all organizations on Patrick Air Force Base (AFB) and Cape Canaveral Air Force Station (AFS) that generate precious metals-bearing scrap or by-products.

SUMMARY OF REVISIONS

This document is substantially revised and must be completely reviewed.

This revision changes review requirements to once every 24 months (paragraph 3.4.); changes turn-in procedures utilizing AF Form 2005 and corrects turn-in procedures (paragraph 9.); and makes the Base Precious Metals Monitor responsible for processing documentation and delivering precious metals to DRMO (paragraph 9.4.). A bar (|) indicates revision from previous edition.

1. Objective. The 45th Space Wing (45 SW) PMRP ensures that precious metals, defined by the program as silver, gold and the platinum family are recovered, safeguarded and properly processed through Defense Reutilization and Marketing Office (DRMO) channels according to all federal, state, local and Air Force precious metals and hazardous waste publications. In addition, the program directs the maximum use of Department of Defense (DoD) refined precious metals as GFM for new procurements. Conservation, recovery and reuse of precious metals are consistent with DoD, Air Force, AFSPC and 45 SW policies for economical use of limited natural resources. **Attachment 1** is a list of the metals covered by the PMRP according to all federal, state, local hazardous waste regulations and Air Force precious metals publications.

2. Responsibilities.

2.1. The 45 SW Commander (45 SW/CC). Appoints the primary and alternate PMRP monitors, who are responsible for the management of the program and act as the focal point for all matters concerning the PRMP.

3. The 45 SW PMRP Monitor will:

- 3.1. Participate in all Defense Reutilization and Marketing Service (DRMS) surveys of base precious metals recovery activities.
- 3.2. Distribute PMRP reports, surveys and related correspondence dealing with precious metals recovery and processing to affected organizations with an information copy to Industrial Security (45 SFS/SFR).
- 3.3. Monitor General Accounting Office (GAO), Air Force Inspector General and Air Force Audit Agency PMRP reports and ensure that applicable corrective action is timely and responsive.
- 3.4. Schedule and perform reviews and surveys at least once every 24 months of operations, documentation, and adherence to overall program requirements.
- 3.5. Maintain a list of Patrick AFB and Cape Canaveral AFS unit and organization PMRP monitors, the location of generating organizations and the types of recovery equipment and precious metals generated.
- 3.6. Provide Environmental Planning (45 CES/CEV) current listings of Patrick AFB and Cape Canaveral AFS unit and organization PMRP monitors and the location of generating organizations and the types of recovery equipment and precious metals generated.
- 3.7. Serve as the turn-in point for all precious metals from all units and organizations (excluding FM account).

4. Chiefs of 45 SW Staff Activities, 45 SW Groups Commanders, and Commanders of Tenant Units. These officials will appoint, in writing, primary and alternate unit and organization PMRP monitors and send the original letter (include names, grades, office symbols, telephone numbers and duty locations of the PMRP monitors) to LOGOPS/LGSM with information copies to the designated monitors. Large units and organizations may designate unit precious metal expeditors to facilitate collection, processing and turn-in of precious metals scrap. If there is a process involved with precious metals recovery that generates hazardous waste, Chiefs will ensure that PMRP monitors, who manage or handle this waste, receive training in accordance with 40 Code of Federal Regulation (CFR), Part 265.

5. Medical Activities. Medical activities use the internal procedures in AFMAN 23-110V6, Chapter 4 and the following:

- 5.1. Silver recovery cartridge issue, turn-in and electrolysis equipment requirements are not required to be coordinated by the 45 SW PMRP Monitor. Medical activities can go directly to DRMS for assistance.
- 5.2. All precious metals coded items managed by the medical supply (FM) account is excluded from these procedures. The medical unit's PMRP monitor is responsible for the auditable documents and transactions for FM account item residue.

6. Unit and Organization PMRP Monitors. Unit and organization PMRP monitors, their alternates and designated expeditors are the only individuals authorized to process, move and turn in recovered precious metals and precious metals-bearing scrap. The monitors will:

- 6.1. Develop internal procedures (such as operating instructions) for the collection, safeguarding and turn-in of precious metal by-products. A copy of these procedures will be provided to the 45 SW PMRP Monitor LOGOPS/LGSM. **Attachment 2** is a list of precious metals indicator codes (PMIC).
- 6.2. Conduct the unit and organization PMRP self-inspection program according to 45 SWI 90-201, *Commander's Self-Inspection Program*, and other appropriate command directives.
- 6.3. Maintain a copy of this instruction in precious metals folder.
- 6.4. Ensure recovered precious metals-bearing scrap is safeguarded before turn-in.
- 6.5. Ensure compliance with all applicable federal, state, and local regulations and Air Force publications and directives.
- 6.6. Ensure containers are provided in convenient locations for collection of precious metals-bearing scrap.
- 6.7. Ensure precious metals generated within the organization are delivered to the 45 SW PMRP Monitor.
- 6.8. Maintain documentation on precious metals collection and turn-in.
- 6.9. Participate in unit and organization surveys with the 45 SW PMRP Monitor.
- 6.10. Ensure 45 SFS/SFR is provided information concerning protection of high cash value resources as prescribed in AFI 31-101, *The Air Force Installation Security Program*.
- 6.11. Ensure all personnel who manage or handle hazardous waste receive training according to 40 CFR, Part 265. Identify to 45 CES/CEV those personnel who manage or handle hazardous waste generated from silver recovery processes.

7. Defense Reutilization and Marketing Service (DRMS) will:

- 7.1. Assist in providing silver recovery equipment and supplies. DRMS POC: Laura Green, DRMS Battle Creek MI Com (616) 961-7071 or DSN 932-7071.
- 7.2. Resolve technical difficulties with silver recovery equipment and supplies.

8. Environmental Planning, 45 CES/CEV. Provide technical support to ensure compliance with all applicable federal, state, and local environmental regulations and DoD and Air Force requirements. Technical support will include initial inspections, follow-up, process review, and waste characterization.

9. Turn-in Procedures:

- 9.1. The generating activity prepares AF Form 2005, **Issue/Turn-In Request**, in three copies.
- 9.2. Ensure NSN (national stock number) or appropriate scrap code and organization/shop code (634PM) are annotated on turn-in document.
- 9.3. Generating activity delivers the AF Form 2005 in 3 copies and precious metal-bearing scrap, waste, or refined precious metals to the 45 SW PRMP Monitor. Precious metals waste (spent hypo

solution) must remain at the generating site until DRMO at Cape Canaveral AFS removes them as hazardous waste. The 45 SW PMRP Monitor and Base Supply receiving inchecker will acknowledge receipt of material. Receiving inchecker returns copy 2 to generating activity and forwards copy 1 to Document Control. Copy 3 will be used for input processing; all turn-ins will be processed through the computer for accountability purposes. The 45 SW PRMP Monitor should ensure the paperwork for precious metals hazardous waste is given priority to ensure compliance with hazardous waste regulations. DD Form 1348-1A in 4 copies will accompany material to DRMO.

9.4. The 45 SW PMRP Monitor processes the documentation and provides transportation of the material to DRMO at Cape Canaveral AFS.

9.5. Base Supply storage of precious metals residue is not authorized; however, residue materials may be secured temporarily in Base Supply until moved to DRMO.

10. Recovery from Hypo Solution. The unit or organization PMRP monitors using silver recovery cartridge equipment will:

10.1. Obtain silver recovery cartridges and supplies from DRMS Battle Creek MI.

10.2. Maintain a file of silver recovery cartridge transactions to include date cartridge was received from DRMO, serial number, turn-in date, weight and condition of cartridge at turn-in. File turn-in receipts (DD Form 1348-1A) and AF Form 2005 as backup documentation.

10.3. Use unit of issue pound (lb), include the weight of the container, and enter the cartridge serial number in card columns 67-80 on the turn-in document.

10.4. Ensure expended cartridges are safeguarded prior to removal by DRMO.

10.5. Spent hypo solution must be labeled and managed as a hazardous waste. Store spent hypo solution in plastic or fiberglass containers during all periods of equipment downtime. If storage becomes a problem, contact 45 SW PMRP Monitor for disposition instructions. Spent hypo solution should be disposed through DRMO at Cape Canaveral AFS as hazardous waste (see para [9.3.](#)).

10.6. Ensure cartridges are filled with water prior to installation to reduce channeling effect of the filler solution.

10.7. Replace cartridges every six months or when 180-200 gallons of fixer have been passed through them. Use litmus paper (Silver Est. Test Papers, LITMUS, PN 196-5466, 1-Bk, NSN 6760-00-033-4342) to determine if the cartridge should be replaced.

10.8. Appoint, in writing, an individual not involved in the PMRP to witness the cartridge removal and to certify the weight. Both the harvester and the witness should individually weigh the harvested cartridge since merely observing the weighing process could result in certifying an incorrect weight.

10.9. If needed, obtain technical advice from DRMS concerning operation of silver recovery cartridge equipment.

11. Electrolytic Silver Recovery Units. The unit or organization PMRP monitor or designated representative using electrolytic silver recovery units will:

11.1. Operate electrolytic equipment according to the manufacturer's instructions.

11.2. Witness all silver harvesting operations.

11.3. Use command assigned stock number 9660L0000010 and unit of issue Troy ounce.

11.4. Ensure harvested silver is secured until turn-in to DRMO.

11.5. Keep a file of harvesting actions to include date harvested, personnel present and date turned in to DRMO at Cape Canaveral AFS.

11.6. Appoint, in writing, an individual not involved in the PMRP to witness the harvesting of the silver flake and to certify the weight. Both the harvester and the witness should individually weigh the harvested silver since merely observing the weighing process could result in certifying an incorrect weight.

11.7. Obtain technical advice on operation of electrolytic recovery equipment from DRMS or the 45 SW PMRP Monitor.

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Vice Commander

Attachment 1

METALS COVERED BY THE DOD PRECIOUS METALS RECOVERY PROGRAM

Table A1.1. Metals Covered by the DoD Precious Metals Recovery Program.

METAL	EXAMPLE ITEMS
Gold	Semiconductors, diodes, rectifiers, and transistors
Silver	Photographic and x-ray film, photo processing solution (hypo), desalting kits, silver-lined bearings and bushings, and electrical contacts
Platinum	Telescopic and microscopic crosshairs, electrical fuses, and slide resistant wire
Platinum Family	
Osmium	Alloy for phonograph needles, fountain pen points, and bearings
Palladium	Telephone relay contact points, ignition contact points, and electrical outlets
Iridium	Telegraphic contact points, watch bearing, penpoints, and scientific instruments
Ruthenium	Some electrodes and contacts
Rhodium	Thermocouple wires and some military insignia

Attachment 2

PRECIOUS METALS INDICATOR CODES (PMIC)

Table A2.1. Precious Metals Indicator Codes (PMIC).

Code	Type of Precious Metal (PM)
A	Item does not contain precious metal
C	Presence or absence of PM varies between items of production for the same item of supply
G	Item contains gold
P	Item contains platinum family metals
S	Item contains silver
U	Precious metal type is unknown
V	Precious metals type varies between manufacturers