

DEPARTMENT OF THE ARMY
U.S. Army Corps of Engineers
Washington, D.C. 20314-1000

CEEC-EG

Regulation
No. 715-1-13

20 October 1988

Procurement
PROCUREMENT OF DIAMOND DRILL BITS AND REAMING SHELLS

1. Purpose. This regulation prescribes procedures for operation of the program for central procurement of diamond drill bits and reaming shells required for hired labor operations of the Corps of Engineers.

2. Applicability. This regulation is applicable to all HQUSACE/OCE elements and field operating activities (FOA) having civil works and military construction responsibilities.

3. Definitions. For the purpose of this regulation, the terms listed below have the meanings indicated.

a. New Diamonds - Stones which have not been used previously.

b. Salvage Diamonds - Stones which have been recovered from used bits or reaming shells.

c. New Bits or Reaming Shells - New items which contain only new diamonds.

d. Reset Bits or Reaming Shells - New items which contain only Government furnished salvage diamonds or both salvage and new diamonds.

4. General.

a. Responsibility for the overall operation of the program for centralized procurement of diamond bits and reaming shells has been assigned to the Division Commander, Southwestern Division (SWD), Dallas, Texas. Responsibility for technical control of the program, including design, inspection warehousing and salvage operations has been assigned by the Division Commander to the Director, SWD Laboratory. Administrative support, including procurement, billing and disbursing is furnished by the District Commander, Fort Worth, Texas, 76102- 0300.

b. A stock account, under the Fort Worth District Revolving Fund, has been established at the SWD Laboratory to supply, immediately upon request, the normal drill bit and reaming shell requirements of the districts. This stock, consisting of both new and reset items, includes the most popular sizes, types and designs currently in use as described in the Diamond Core Drill Manufacturers' Association standards (DCDMA). Items of special design

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or non-standard types and sizes, and unusually large orders, will be supplied by the SWD Laboratory upon request, following special procurement.

c. Direct correspondence between the ordering districts and any of the offices referred to in subparagraph a., above, is authorized.

d. Requests of other Federal agencies for items available from this stock may be supplied, on a reimbursable basis, provided that stock levels are not reduced below civil works and military project needs.

5. Ordering.

a. Requirements may be requested from SWD Laboratory on a format similar to the one illustrated in Appendix A. As indicated on the format, orders will be submitted direct to the laboratory in single copy only. Other acceptable forms include Department of Army, DA Form 2544, Department of Defense, DD Form 1155, and DD Form 1149. Purchase orders from other agencies are acceptable.

b. All entries on the requests must be completed in order that the SWD Laboratory can adequately identify and furnish the required items. In the event the requesting office does not know the best suited stone size, quantity, or matrix hardness, these items may be omitted on the format with a statement inserted describing the type of rock or other material in which drilling is to be performed. The SWD Laboratory will supply items which are considered to be suitable.

c. Orders for non-standard bits or shells must be submitted well in advance of the anticipated time of need since most non-standard items will be manufactured after receipt of the request.

d. In the event that emergency requirements develop, such that time will not permit the placement of orders in the manner prescribed above, orders may be placed by telephone call to the SWD Laboratory. Telephone orders should be confirmed by written orders submitted at the earliest practicable date.

6. Account Procedures. Procedures for billing and accounting for the transfer of used, new, reset bits and reaming shells are detailed in Appendix B.

7. Disposition of Used Bits and Reaming Shells.

a. It is good practice to employ drilling procedures which will assure that diamond loss from overuse or misuse does not unduly decrease diamond salvage. When the rate of cutting shows a marked decrease, it is more economical to change to a new bit and recover high salvage from the used bit than to continue low production drilling and increase the danger that the diamonds will be stripped from the bit. Diamonds are the most expensive component of a bit. As an indication of the importance

of conserving the diamonds in a bit, it is pointed out that the cost of a typical new NX bit is divided approximately as follows: Diamonds - 70%, Setting Charge - 29%, and Blank - 1%. The cost of reset bits is directly related to the quantity of usable diamonds salvaged from worn bits. (Note: There is no salvage from thinwall paving bits, impregnated bits, casing shoes, reaming shells and discards. These bits should be used to refusal.

b. In minimizing the overall cost of drilling operations, it is necessary that drill bits and reaming shells be returned to the SWD Laboratory for salvage operations as they become unusable or ineffective. Prompt return of used bits and reaming shells for salvage will result in lower unit costs through greater use of salvaged diamonds and will be returned to the SWD Laboratory. Shipping charges will be prepaid and accompanied by a transfer document, ENG Form 3061, Property Disposition Voucher, in duplicate. An additional copy of ENG Form 3061 will be forwarded to the SWD Laboratory by mail as an advance notice of the shipment. When the shipment is received by the SWD Laboratory, an advance copy of the Property Disposition Voucher will be returned to the shipping office annotated to indicate receipt. Diamonds will be salvaged from the used bits and the salvage will be appraised. The appraised value, less recovery cost, will be indicated on ENG Form 3061 which accompanied the used bits, and one copy will be submitted to the originating office, usually within 60 days of receipt of the shipment.

8. Shipment of New or Reset Drill Bits and Reaming Shells. When new or reset drill bits and reaming shells are furnished to Corps of Engineers offices by the SWD Laboratory, the cost of shipment will be chargeable to the requesting office. It is necessary that the order indicate the appropriation chargeable and address of the disbursing officer for use where a Government bill of lading is used. Shipments will be accompanied by a transfer document, ENG Form 3061, in duplicate. One signed copy will be returned to the SWD Laboratory.

9. Excess Drill Bits and Reaming Shells. If a field office accumulates new or reset bits and/or shells in numbers greater than foreseeable needs, it may return those considered excess, transportation charges prepaid, to the SWD Laboratory for credit. If the returned item is suitable for placing in stock, credit will equal the current replacement value for that time. If the item is of obsolete design or a special design for which there is no demand, credit will consist only of the value of the diamonds which these tools contain less a charge for cutout service.

10. Performance Data. The SWD Laboratory will request complete, detailed and accurate field performance data on specific bits used on selected projects to assist in the evaluation of new bits, as they are developed. On such occasions, arrangements will be made for submittal of the required field data.

11. Standardization. As indicated above, provision has been made for supplying non-standard sizes of drill bits and reaming shells. The furnishing of such sizes requires a longer procurement time which may result in program delays. It is suggested that when new or replacement

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equipment is procured, the specifications will provide for the furnishing of barrels, casings and drill rods standardized by the DCDMA. This will speed delivery of diamond tools and will reduce design, procurement, and warehousing expenses.

12. Design and Quality Control.

a. The Division Commander, Southwestern Division, is responsible for the design of drill bits and reaming shells for use by the Corps of Engineers military and civil works activities. It is expected that as performance data are accumulated, better bits can be produced through improved design.

b. The division commander will provide whatever control is necessary to insure the fabrication of drill bits and reaming shells meet the requirements established in the procurement specifications. These controls may include, but are not restricted to, inspection of the contractor's plant, inspection of contractor-owned diamonds, laboratory tests on new or reset bits to test and/or verify workmanship, waterways, size, dimensions, threads, matrix hardness, and evaluation of diamonds cut out of new or reset bits.

FOR THE COMMANDER:



PAT M. STEVENS IV
Colonel, Corps of Engineers
Chief of Staff

2 Appendixes
APP A - Request for Diamond Core
Drill Bits & Related Items
APP B - Accounting Instructions

SAMPLE FORM LETTER

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REQUISITION NUMBER _____

SUBJECT: Request for Diamond Core Drill Bits and Related Items

TO: Director
Southwestern Division Laboratory
US Army Engineer Division, Southwestern
4815 Cass Street
Dallas, Texas 75235

FROM (Installation and Symbol):

1. Furnish Items as Follows:	<u>BITS</u>	<u>REAMING SHELLS</u>	<u>CASING SHOES</u>
a. Quantity:	_____	_____	_____
b. Size (letter designation or dimensions):	_____	_____	_____
c. Diamond grade:	_____	_____	_____
d. Diamond size:	_____	_____	_____
e. Matrix hardness (Rockwell C):	_____	_____	_____

2. Description:

BITS

- a. Wall: Straight or Tapered
- b. Discharge: Internal or Bottom
- c. Waterways: (Number)
- d. Crown: Full
 Semi-round
 Flat
 Step, with _____ steps

REAMING SHELLS

- a. Ring
- b. Insert

CASING SHOES

(Special requirements, if any)

3. Equipment with which items in 1. above are to be used:

TYPE OF BARREL:

- Single
- Double ; Rigid or Swivel Type
- Triple
- Manufacturer's Name _____
- Manufacturer's Model or Make _____

4. Appropriation Number _____ Date Needed _____

5. Funds Obligated - SIGNATURE, (Finance and Accounting Branch) _____

6. Shipping Address - _____

 (NAME AND TITLE (Type or Print)) (SIGNATURE) (DATE)

NOTE: Use separate sheet for each size of equipment ordered.
 Use Reverse side for ordering other items.
 Use reverse side for continuation of equipment.

SAMPLE FORM LETTER

OTHER EQUIPMENT

Please provide complete information:

DRILL RODS:

CORE BARRELS:

CASING (PVC, STAINLESS STEEL, CARBON STEEL, ALUMINUM):

ROCK BITS:

OTHER (SAW BALDES, WHEEL, SUBS, WELL SCREENS, ETC.):

APPENDIX B

ACCOUNTING INSTRUCTIONS

1. This appendix provides accounting instructions for the subject program. The instructions pertaining specifically to operations performed within the Southwestern Division Office are primarily for the guidance of that office and for the Fort Worth District which performs the accounting for the Southwestern Division Office. Included also are additional accounting instructions (consistent with ER 37-2-10) covering entries applicable to districts receiving or returning bits and shells from (or to) the SWD Laboratory.

2. The Fort Worth District will maintain all necessary accounts in the Revolving Fund to reflect the operations of the Division Commander, Southwestern Division, in connection with this program. These accounts will be essentially warehouse-type accounts.

3. Billing for bits and shells will be made upon shipment. Prompt reimbursement to the Fort Worth District is required in order to maintain an adequate cash balance in the Revolving Fund. It is not anticipated that advance billing will be necessary if all districts make prompt payments.

4. Used bits being returned to the SWD Laboratory will be itemized on ENG Form 3061 but without the value being shown thereon and without accounting entries being made in the accounts of the shipping or receiving office. The SWD Laboratory will return one copy of ENG Form 3061 to the shipping district. After the diamonds have been recovered and graded, a letter will be written to the shipping district/agency notifying them of the referenced ENG Form 3061 and the dollar amount of credit issued.

5. Sample pro forma entries follow:

(1) Procurement (commercial) by Fort Worth District

Dr:	315.1 Warehouse Stock	10,000
	(cost a/c 480.-)	

Cr:	341. Accounts Payable	10,000
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To cover purchases from outside sources. Stock records will be maintained for appropriate classification. Regular inventory procedures will be used to average out prices for various purchase (inventory gains and losses).

(2) Administrative Expense

Dr.	415 Operating Expenses	500
	(cost a/c 425.-)	

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Cr: 345 Accrued Leave	435	
(cost a/c 493.2)		
341. Accounts Payable	50	
415 Operating Expenses	15	
(Cost a/c 441,Ofc space)		
(Cost a/c 460, FWD Admn. Support)		

To include warehouse operating expenses and other administrative costs such as preparation of specifications, inspections for quality control, office space and FWD administration support.

(3) Issue of stocks from SWD Laboratory to districts and/or other agencies

Dr: 313 Accounts Receivable	5,500	
Cr: 401 Sales (other districts)		5,500
(Cost a/c 426.-)		
	also	
Dr: 414 Cost of Goods Sold	5,000	
(Cost a/c 426.-)		
Cr: 315.1 Warehouse Stock		5,000
(Cost a/c 480.-)		

To record sales of items with book cost of \$5,000 to requesting district. This entry gives recognition to the application of 10% (for example, to book cost to cover burden for administrative expenses).

(4) Receipt of Shipment by Requesting District

Dr: 415 Operating Expenses	5,500	
(Cost a/c 449.-)		
Cr: 341 Accounts Payable		5,500

To record receipt of material. The charge portion of this entry could reflect charge to 315.1 Warehouse Stock (cost a/c 480.-) if the items are to be held temporarily in stock or to account 476.- if the items are to be capitalized as component parts.

(5) Recovery of Used Diamonds (SWD Laboratory)

Dr: 415 Operating Expenses	400	
(Cost a/c 427.-)		
Cr: 345 Accrued Leave		400
(Cost a/c 427.-)		

This entry gives recognition to the cost of the salvaged loose diamonds placed in stock for subsequent issue to suppliers for resetting in new bits.