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SUBJECT: Forwards correct list of approved fastener suppliers/mfg.

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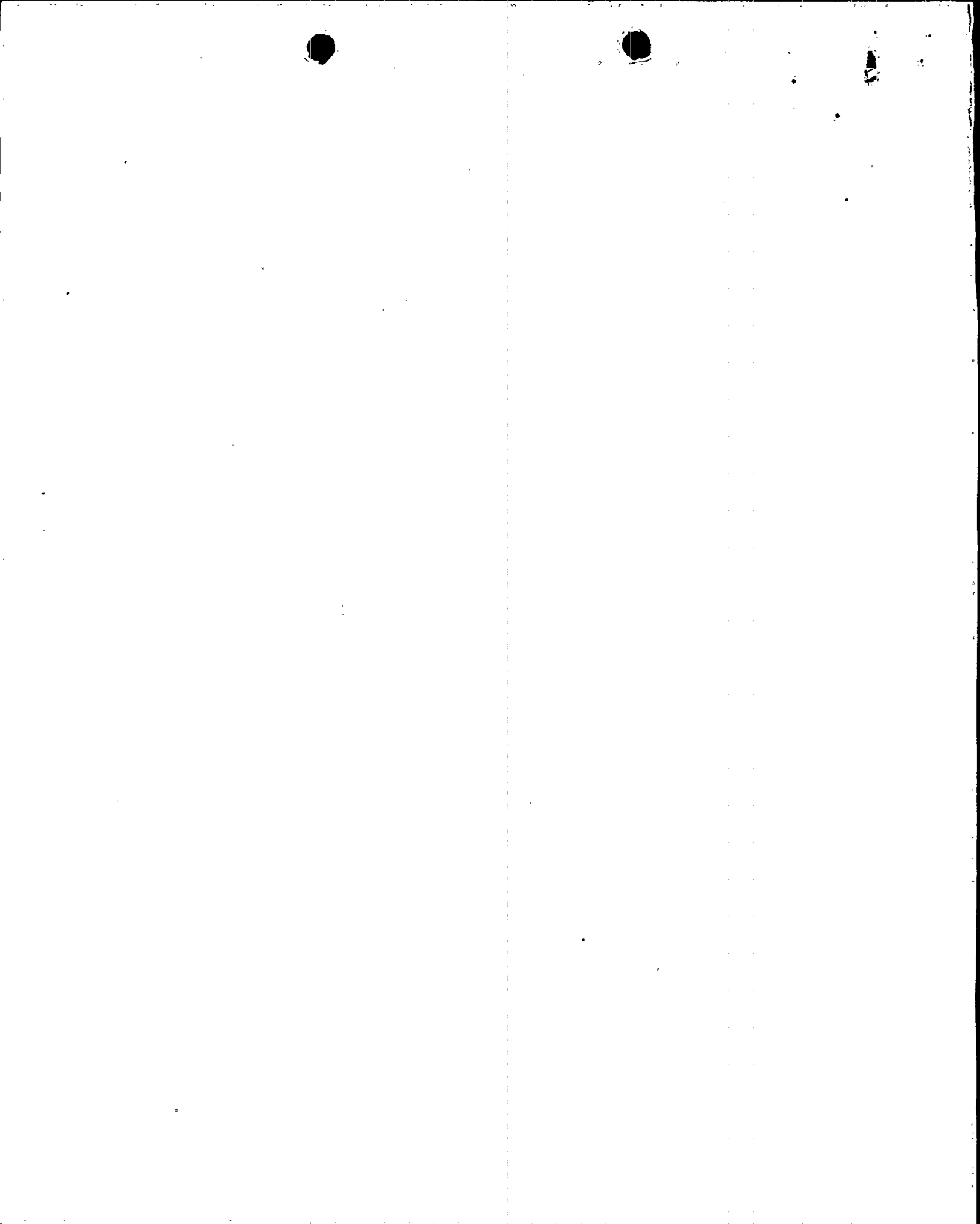
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Arizona Nuclear Power Project

P.O. BOX 52034 • PHOENIX, ARIZONA 85072-2034

March 7, 1988
161-00865-EEVB/JBK

Docket Nos. STN-528/529/530

U. S. Nuclear Regulatory Commission
Document Control Desk
Washington, D. C. 20555

References: (1) Letter from U. S. NRC to ANPP dated December 18, 1987
(2) Letter from ANPP to U. S. NRC (Subject: NRC Bulletin 87-02: Fastener Testing to Determine Conformance with Applicable Material Specifications; 161-00746-EEVB/JBK; dated January 15, 1988).

Dear Sirs:

Subject: Palo Verde Nuclear Generating Station (PVNGS)
ANPP Response to NRC Request for Additional
Information Concerning Bolting Inspections
Conducted December 1-12, 1986 (Revised)
File: 88-055-026; 88-056-026

ANPP's letter, 161-00817-EEVB/JBK, inadvertently transmitted an incorrect list of vendors in response to Reference (1). This letter contains the correct list of Approved fastener suppliers/manufacturers and replaces that part of our February 22 response. All other information provided previously remains unchanged.

Very truly yours,

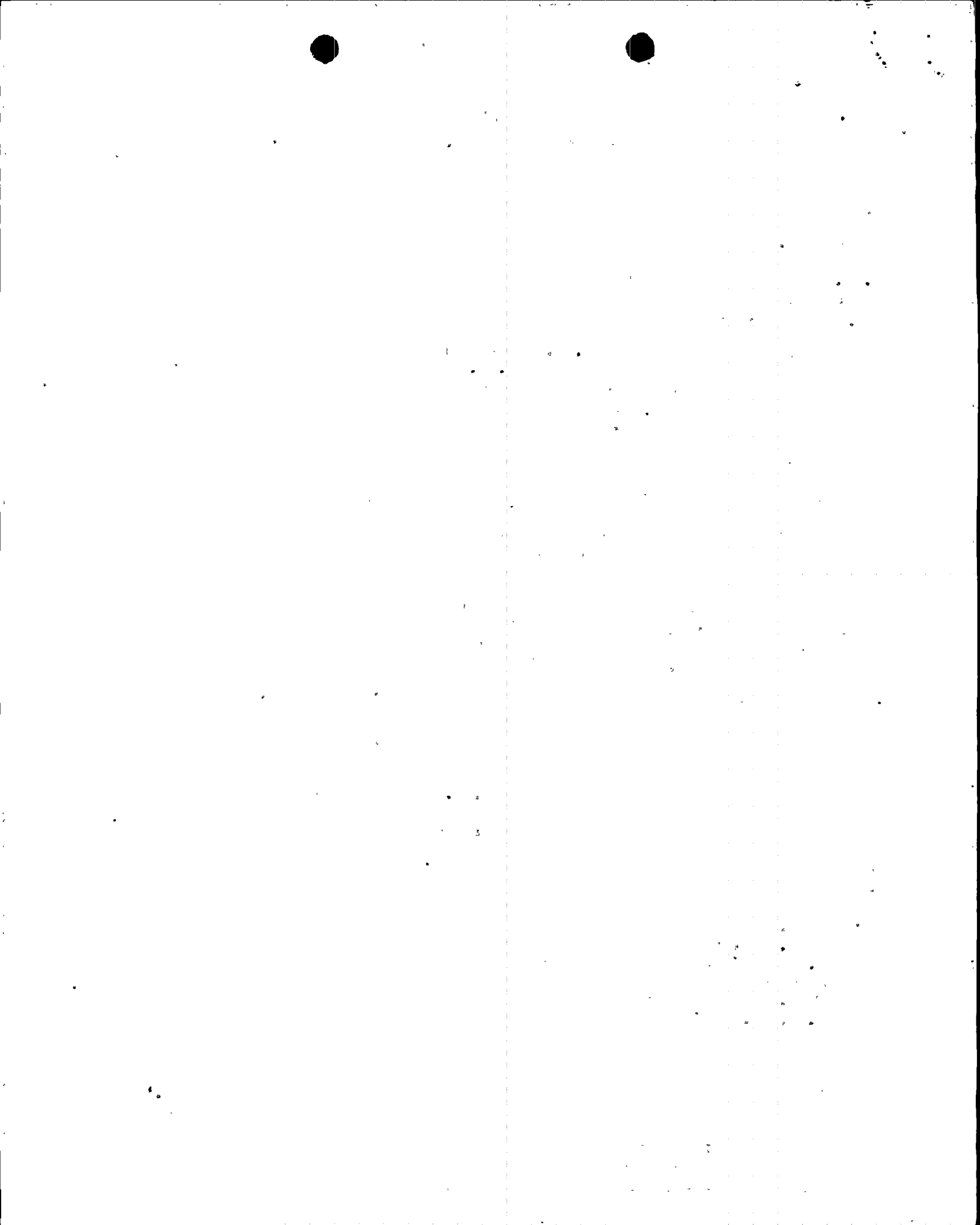
E. E. Van Brunt, Jr.
Executive Vice President
Project Director

EEVB/JBK/cal
Attachment

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D. M. Crutchfield

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ATTACHMENT

NRC QUESTION

- (1) A description of steps that have been or will be taken to address this problem including a description of the intended application for these fasteners.

ANPP RESPONSE

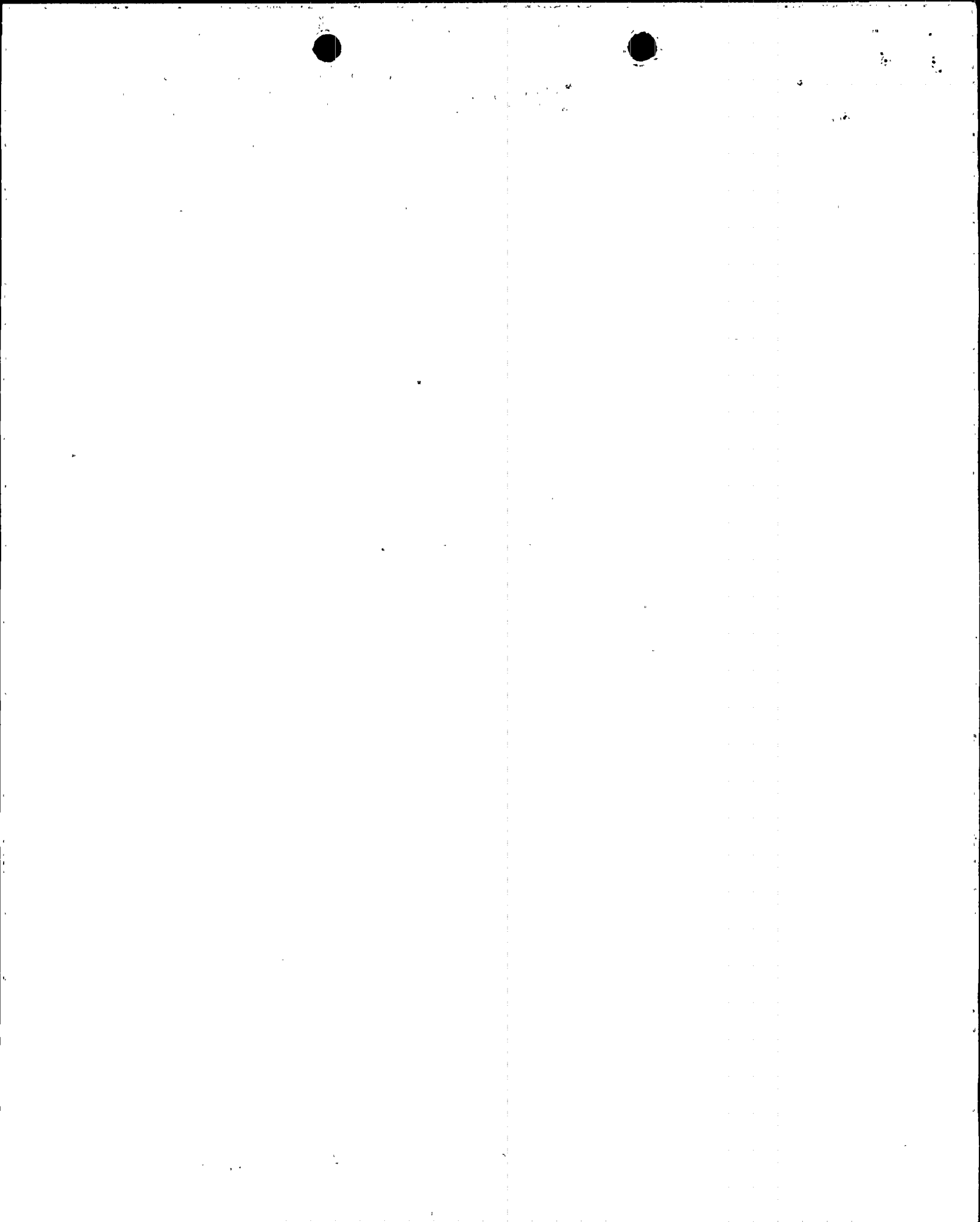
ANPP initiated corrective action to address the material nonconformances identified in the test results.

The subject material was restricted from further issue and was reinspected. The reinspection revealed three nonconformances: (1) Grade 8.2 material was mixed with Grade 8; (2) Grade 5 material was mixed with Grade 8; and (3) not all Grade 8 bolts were identified with manufacturer's markings. An engineering evaluation was performed to address these items and determined Grade 8.2 is an acceptable alternate for Grade 8, except, Grade 8.2 bolts are not for use in applications where the temperature exceeds 500 degrees Fahrenheit. Additionally, the SAE Grade 5 cap screws which were mixed with Grade 8 cap screws and any bolting without manufacturer's markings should not be used.

All subject bolting which was issued from storage was tracked and returned to storage to prevent usage in the plant.

Inspection personnel were trained in the proper bolting receiving inspection techniques to prevent the future issuance from storage of nonconforming bolting material. ANPP revised a department instruction to include 100% marking verification for all bolting material prior to issuance from storage.

1479K/0050K



NRC QUESTION

- (2) A description of steps that have been or will be taken to prevent recurrence:

ANPP RESPONSE

In addition to the actions described in the previous response, ANPP presently controls procurement, receipt, storage and issuance to ensure appropriate use of fasteners.

ANPP has established a consistent methodology for procuring fasteners from vendors to ensure the requirements of 10 CFR 21 are met.

Fasteners are receipt inspected on a sample basis by Quality Control in accordance with ANPP department instructions and the Operations Quality Assurance Criteria Manual. Characteristics inspected during receipt inspection of fasteners typically include markings, size, number of threads per inch, plating, head type, Rockwell hardness, packaging and applicable documentation such as the certified material test report or certificate of conformance.

Storage and issuance from stock of fasteners is controlled in accordance with ANPP procedures. Fasteners are tagged and stored in separate bins in a controlled access warehouse. Only material which has been receipt inspected and tagged with a Quality Control Item Tag by Quality Control can be issued from storage for usage as quality-related material. Additionally, all quality-related fasteners are presently re-verified by Quality Control prior to issuance.

NRC QUESTION

- (3) The dates your corrective actions and preventive measures were or will be completed.

ANPP RESPONSE

All corrective actions previously described have been implemented.

NRC QUESTION

- (4) In addition, please identify the supplier(s)/manufacturer(s) who furnished the five bolts and also the supplier(s)/manufacturer(s) of fasteners who are currently on the APS Approved Vendor List.

ANPP RESPONSE

The test results identified fourteen bolts which were inspected and are designated 6177-1 through 6177-14. Of these bolts, five bolts were identified with problems and are designated 6177-5 through 6177-9. The supplier(s)/manufacturer(s) are cited below:

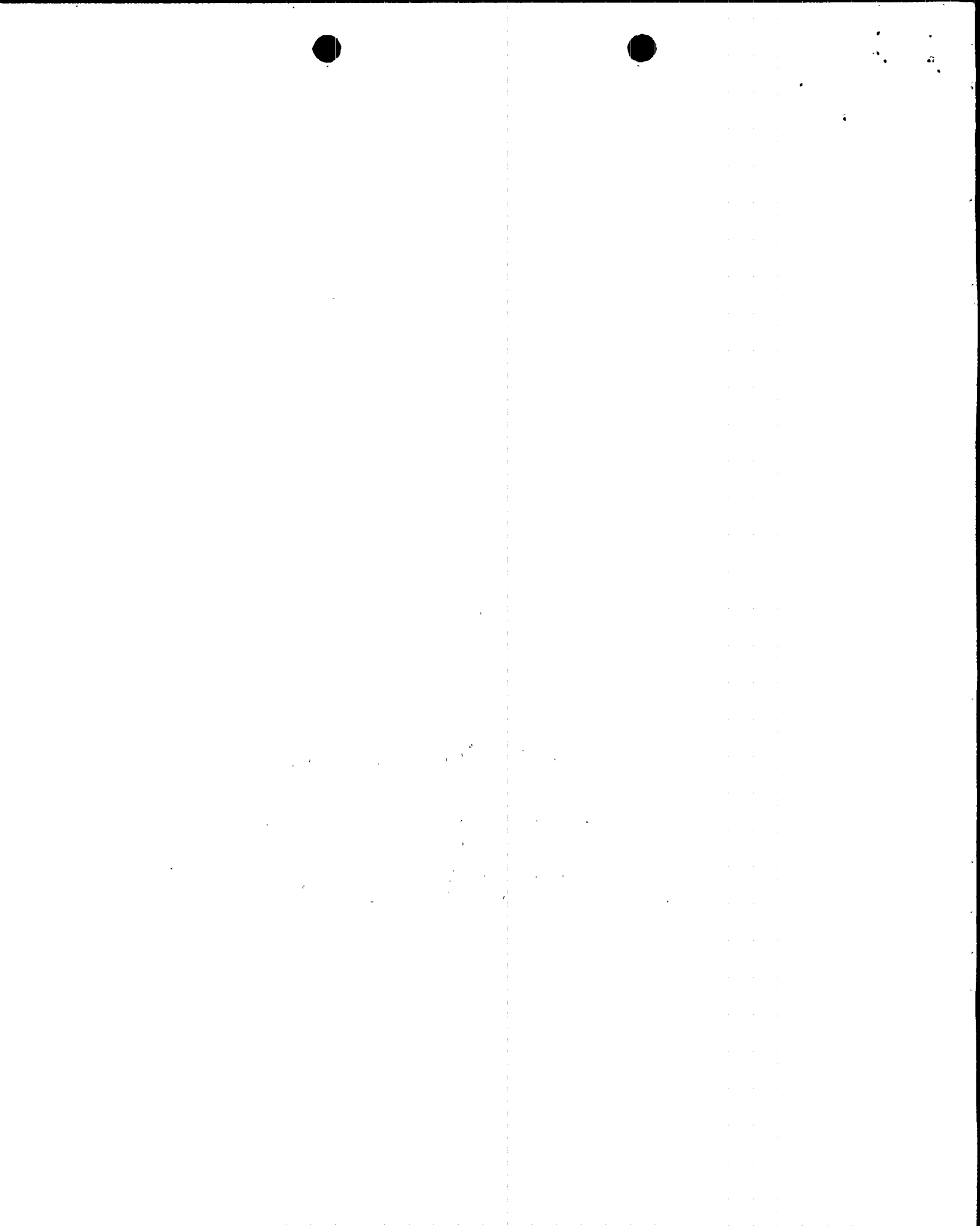
I. D. #	Supplier	Manufacturer
6177-5	Mar-bro	See Note
6177-6	Mar-bro	See Note
6177-7	Mar-bro	See Note
6177-8	Mar-bro	See Note
6177-9	Mar-bro	See Note

NOTE:

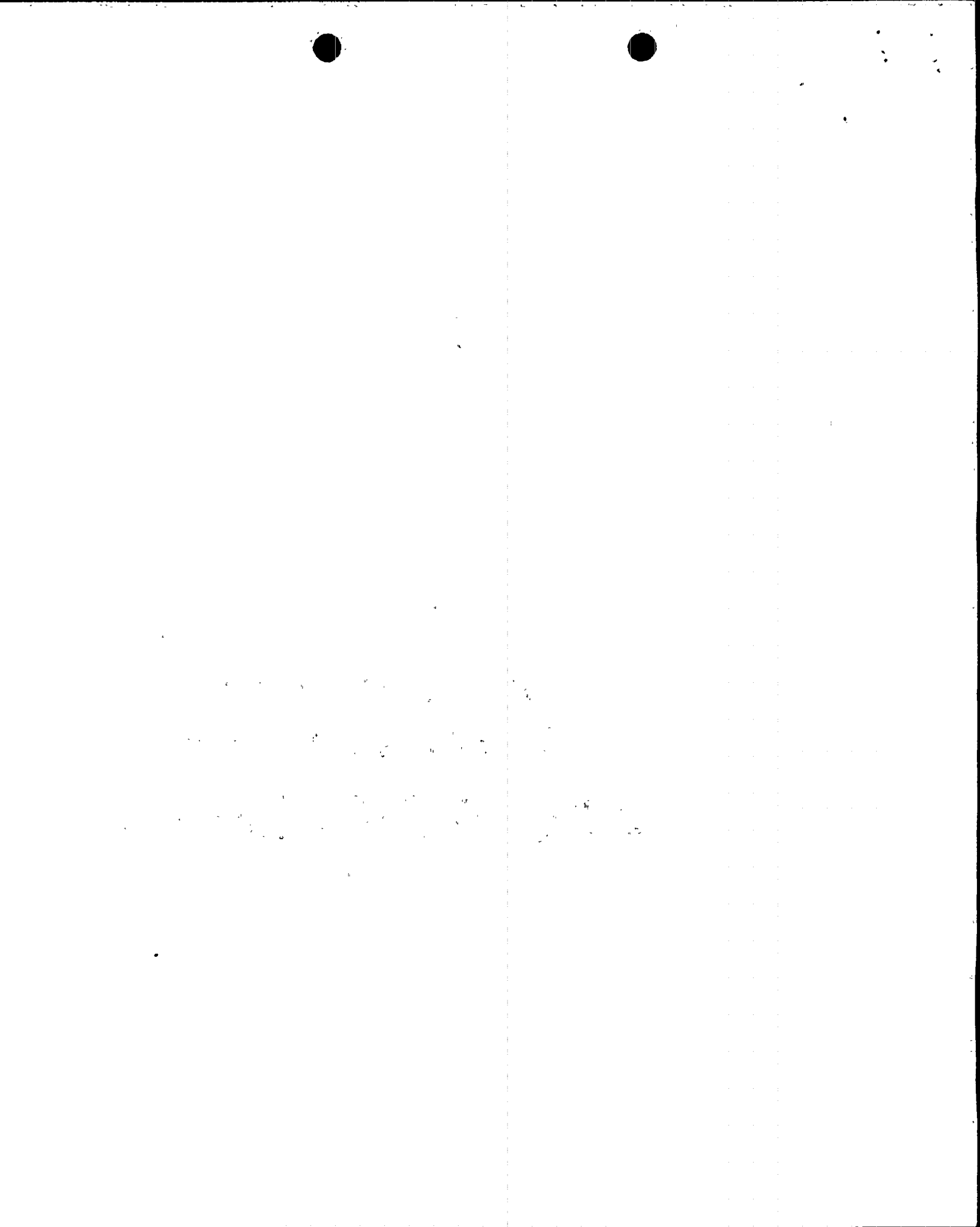
Unmarked, Nippon Fastener, Lake Erie or Kosaka Kogyo. Actual manufacturer's markings were not recorded and/or transmitted to ANPP by the NRC.

The following suppliers/manufacturers of fasteners are currently on the ANPP AVL and are marked with a (1) or (2) to indicate the method the vendor could supply fasteners. Vendors marked with a (1) definitely provide fasteners. Vendors marked with a (2) may provide fastener products as part of a component or as spare parts to a component. Vendors not marked with a (1) or (2) are not expected to supply fastener products.

A&G Engineering (1)
AMP Special
APV Gaulin Inc. (2)
Allied Nut & Bolt Co. Inc. (1)
Allis Chalmers/American Air Filter Div. (2)
Alloy Rods
Amerace Corp.
Amersham Corp.
Analytics Inc.
Anchor Darling Industries Inc. (1)
Anchor Darling Valve Co. (1)
Arizona State University
Arizona Valve and Fitting
Associated Technologies Inc.
Atwood & Morrill Co. (2)
BBC Brown Boveri, Inc. (2)
Basic Engineers Inc. (1)
Battelle Northwest
Bechtel Power Corp.

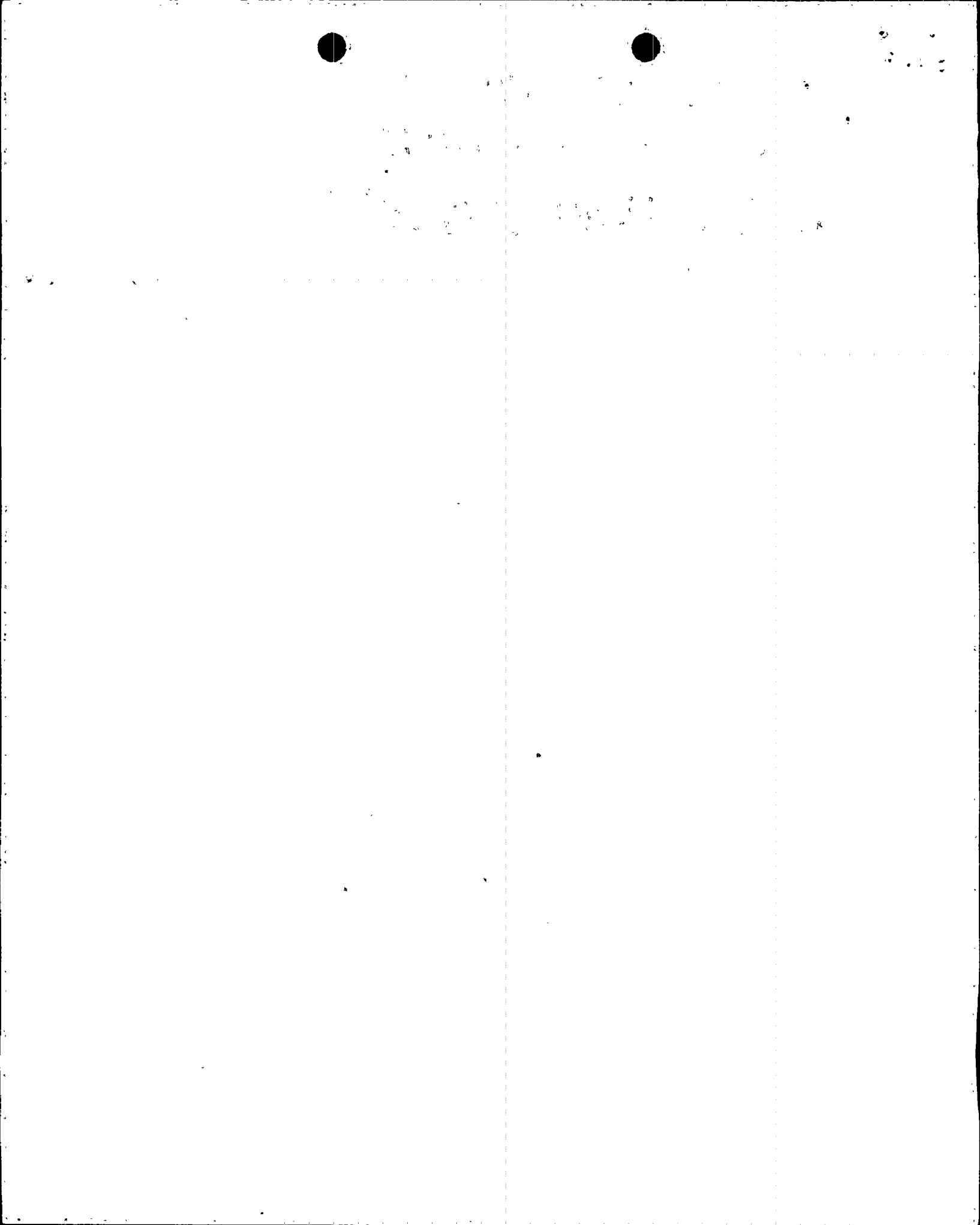


Bechtel Western Power
 Bergen Patterson Pipe Support Corp. (2)
 Bingham International (2)
 Black & Veatch
 Borg Warner (2)
 Brand Industrial Service Inc.
 Brand Rex Co.
 Bruel & Kjaer Instrument Inc.
 Butler Service Group Inc.
 CVI (2)
 Cajon Co.
 Carrier Air Conditioning (2)
 Chem-Nuclear Systems Inc.
 Cimcorp Inc. (2)
 Clarkson Laboratories and Supply Inc.
 Combustion Engineering (2)
 Comsip Customline (2)
 Conam Inspection
 Conax Corporation (2)
 Connector Systems
 Control Components, Inc. (2)
 Control for Environmental Pollution Inc. (CEP)
 Controlotron Corp.
 Crane Packing Co.
 Crawford Fitting Inc.
 Crosby Valve & Gage (2)
 D.H. Instruments Inc.
 Dietrich Standard
 Doble Engineering Co.
 Dragon Valves
 Dresser Industries (2)
 Drillco Devices Ltd. (1)
 Durametallic Corp.
 E. I. Internationales data
 Eagle Picher Ind. Inc.
 Earl M. Jorgensen Co.
 Earth Technology
 Eberline Instrument Corp.
 Ederer, Inc. (2)
 Elgar Corporation (2)
 Ener-Tech Metals
 Enerfab Corp. (2)
 Energy Services Group (2)
 Exide Power System
 Exide Power System Div.
 Farwell & Hendricks Inc. (2)
 Fisher Controls (2)
 Flow Measurement Systems Inc.
 Fluid Components, Inc.
 Flurmanite Trevitest
 Foxboro Co. (2)



G.A. Technologies (2)
 General Electric (2)
 Gilbert-Commonwealth
 Gould Inc.
 Graver Chemical Div.
 Greer Hydraulics Inc. (2)
 Grinnell Corp. (1)
 Henry Pratt Co. (2)
 Henry Vogt Machine Co. (2)
 Honeywell Inc.
 Hub, Inc. (1)
 ITT Barton Co. (2)
 ITT Engineered Valves (2)
 Impell Corp.
 Ingersoll-Rand (2)
 Isotope Products Laboratories
 Isotopic Analysis
 J. C. White Co (2)
 Jamesbury Corp. (2)
 John Fluke Mfg. Co.
 Johnston Pump/General Valve Inc. (2)
 Johnston Stainless Welding Supply Co.
 Joy Manufacturing Co. (2)
 Kaman Instrumentation (2)
 Keeler & Long
 Kerotest Manufacturing Corp. (2)
 Lambert-MacGill-Thomas Inc.
 Limitorque Corp. (2)
 MOVATS Inc.
 MQS Inspection Inc.
 Magnetrol International Inc.
 Martensen Enterprises Inc.
 Masoneilan Div. of Dresser Industries
 Metal Bellows (2)
 Metallurgical Testing Corp. (MTC)
 Metals Eng. & Testing Laboratories (METL)
 NAMCO Controls
 NCS Corp.
 NPS Energy Services Inc.
 NPS Industries Inc. (1)
 NUPRO Co.
 NUS Corp. (E.S.D.)
 NUTECH (2)
 NUTHERM International (2)
 National Bureau of Standards (NBS)
 National Calibration Inc.
 National Space Tech. Lab
 Nuclear Air Filtration Testing Associates, Inc.
 Nuclear Consulting Services
 Pacific Nuclear Systems Inc.
 Pacific Scientific (2)

Pacific Valves (2)
 Paul Munroe Enertech (2)
 Peak Technical Services Inc.
 Posi Seal International Inc. (2)
 Power Conversion Product
 Presray Corp. (2)
 Pressure Vessel Nuclear Steel Inc. (1)
 Preston Corp.
 Pullman Power Products
 Quadrex Corp.
 Quadrex Recycling Center
 Qualified Equipment & Services Inc. (Q.E.S.) (2)
 Quality Controlled Rebuilders (2)
 R.S. Landauer Jr. & Co.
 Raychem Corp. Energy Div.
 Reliance Electric (2)
 Reliance Electric Co. (2)
 Rockbestos Co.
 Rockwell Inter. Corp. (2)
 Rosemount Inc. (2)
 Rotork Controls, Inc. (2)
 Ruskin Manufacturing Co. (2)
 SGS Control Services Inc.
 Sandvik Inc.
 Sargent & Lundy Engineers
 Science Applications Int'l Corp.
 Shortridge Instruments Inc.
 Solid State Controls (2)
 Sonic Systems Int'l
 Spraco Inc.
 Target Rock Corp. (2)
 Techalloy Maryland Inc. Reid-Avery Div.
 Technology for Energy Inc.
 Tektronix Inc.
 Teledyne Columbia
 Teledyne McKay
 Tenera, L.P.
 Texas Bolt (1)
 Thermo Analytical Inc.
 Torque Specialties
 Transamerica Delaval
 U. S. Testing, Inc.
 URS/J.A. Blume & Assoc. Engineers
 Unitech (2)
 United Engineers & Constructors
 Universal Tiefpunktsch-Weiss Material GMBH & Co.
 Valcor Engineering Corp. Inc. (2)
 Victoreen Inc.
 Vitro Corp.
 Volumetrics
 WMW Industries Inc. (2)



Wackenhut Advanced Tech. Corp.
Washington Calibration
Washington Public Power Supply Systems (2)
Webber Gage
Weed Instruments
Western Stress
Western Technology
Westinghouse Electric (2)
Westinghouse Hittman Nuclear Inc. (2)
Westinghouse Nuclear Services Integration Div. (2)
Whitey Co.
Whiting Corp. (2)
Williams Power Corp.
Wyle Laboratories (2)

