

United States
Nuclear Regulatory Commission



Report of Investigation

S-W CONTROLS:

SUSPECTED MISREPRESENTATION OF REPLACEMENT VALVE PARTS

Office of Investigations

Reported by OI: RIV

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Title: S-W CONTROLS, INC.:

SUSPECTED MISREPRESENTATION OF REPLACEMENT VALVE PARTS

Licensee:

S-W Controls
35980 Industrial Road
Livonia, MI 48150

Docket No.: 99901140

Case No.: 4-88-028


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WARNING

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SYNOPSIS

In November 1988, the Nuclear Regulatory Commission (NRC) requested an investigation of S-W Controls, Inc. (S-W), Livonia, Michigan, to determine if company officials knowingly and intentionally provided substandard and/or counterfeit parts to the nuclear industry. A 10 CFR, Part 21 report was filed by Consumers Power Company (CP), Palisades Nuclear Plant (Palisades), which alleged that parts found in internal Masoneilan-Dresser (M-D) valves had not been manufactured by M-D facilities but had been manufactured by Control Valve Specialists, Inc. (CVS) and Cor-Val. The nongenuine M-D parts were purchased through S-W, an authorized M-D representative.

The Office of Investigations (OI) investigation determined that S-W knowingly sold secondary source replacement valve parts to Palisades. However, these parts were all for commercial grade items only and none were purchased by CP for use in safety related systems. The parts were subsequently dedicated for use in safety related systems by CP without adequate assurance that the parts would perform as required in these systems. The secondary source industry was found to be a widespread one but one which does not constitute an illegal activity. OI determined that, since secondary sourcing is common, the utilities must accept responsibility for the adequacy of the parts which they purchase both from secondary sources and original equipment manufacturer representatives.

No information was uncovered during the investigation to indicate that S-W intentionally attempted to mislead Palisades into believing secondary source parts were genuine M-D parts. Neither the parts nor the manila tags attached to them were labelled with the M-D name, logo, or trademark. The references on S-W's invoices to a M-D part number i.e., 30246C-000-163, Masoneilan Seat Ring, was an inadvertent error on the part of the clerk who input the orders to the computer.

The investigation determined that two distributors were purchasing secondary source parts with unusual requests on their purchase orders. The requests included a "do not etch" request and a request to sandblast the edges of seat rings to simulate investment casting. Although these parts were not sold to nuclear power plants, the requests appear to have been made in an effort to mislead the end user as to the source of the valve replacement parts. Consequently, this practice is being referred to the Federal Trade Commission for whatever action it deems warranted.

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ACCOUNTABILITY

The following portions of this Report of Investigation (Case No. 4-88-028) will not be included in the material placed in the PDR. They consist of pages 2 through 26.

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10 CFR, Part 50, Appendix B

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DETAILS OF INVESTIGATION

Purpose of Investigation

This investigation was initiated to determine whether company officials at S-W Controls, Inc. (S-W), formerly Sample-Webtrol, Livonia, Michigan, knowingly provided counterfeit and/or substandard Masoneilan-Dresser (M-D) parts to the nuclear industry and/or represented the parts to be safety related parts.

Background

On October 21, 1988, a 10 CFR, Part 21 report was filed with the Nuclear Regulatory Commission (NRC) by Consumers Power Company (CP), Palisades Nuclear Plant (Palisades), regarding M-D valve parts' deficiencies (Exhibit 1). Palisades had found internal replacement parts in M-D valves which were not manufactured by M-D. The Part 21 report alleged that parts dedicated for use in basic components were found to have been manufactured by Control Valve Specialists, Inc. (CVS) and Cor-Val, both located in Houma, Louisiana, and might not meet M-D specifications. The Part 21 report stated that 12 purchase orders for 63 pieces were identified as procured from 1983 to 1988 as M-D parts, but were found to not be genuine M-D parts. These nongenuine M-D parts were all purchased through S-W, an authorized M-D representative.

On November 18, 1988, a letter was forwarded by M-D to NRC's Office of Nuclear Reactor Regulation (Exhibit 2). In this letter, William T. ALLEN, quality manager for M-D North American operations, identified the valve parts located at Palisades as counterfeit and manufactured by unauthorized sources. ALLEN further alleged that the parts were not manufactured to M-D standards and had a potential to malfunction. ALLEN identified counterfeit parts located at Palisades as: plug stems, stem to plug anti-rotation pins, and seat rings. He additionally stated that there was a potential for other counterfeit parts to be located at Palisades such as valve plugs, bushings, cages, and packing box components. ALLEN further alleged that the counterfeit parts were supplied to Palisades by an authorized M-D representative in violation of M-D policy.

On November 22, 1988, OI received a verbal request for investigation from the NRC Vendor Branch regarding allegedly counterfeit valve parts sold to Palisades by S-W. This was followed by a written request for investigation by the Executive Director for Operations dated December 27, 1988 (Exhibit 3).

Interview with Robert H. MOATE, President, and Robert C. MOATE, Vice President, CVS

The MOATES were interviewed by NRC Investigator Virginia Van Cleave, NRC Vendor Branch Inspector Joseph PETROSINO, and Sonalysts, Inc. consultant, Terrence TINKEL, on November 29, 1988, at CVS's office in Houma, Louisiana (Exhibit 4). When PETROSINO asked to review CVS's records, R. H. MOATE stated that these records were confidential and he would not allow NRC access to them simply on a verbal request.

R. H. MOATE stated that in approximately June 1973, CVS received authorization from M-D to manufacture replacement valve trim parts. Since that time, according to CVS's president, the company had also manufactured replacement parts for other manufacturers including Fisher, Copes-Vulcan, Valtek, and Hammel Dahl. In addition to manufacturing replacement valve parts, CVS repaired and refurbished valves for their customers who were primarily in the petrochemical industry. R. H. MOATE stated that in 1981, M-D terminated its agreement with CVS for the manufacture of replacement valve trim parts. Although R. H. MOATE stated that he returned the original drawings to M-D, he said the termination of this agreement did not prohibit CVS from manufacturing replacements for M-D valve parts and they continued to do so. According to R. H. MOATE, S-W was a CVS customer for replacement M-D valve parts prior to and subsequent to 1981. R. H. MOATE said CVS supplied solely commercial grade parts and had never knowingly supplied any valve parts for nuclear safety related applications. CVS's president recalled only one small order for valve parts supplied to a nuclear facility - a sale of commercial grade valve parts to Louisiana Power & Light's (LP&L) Waterford 3 plant in approximately 1981. R. H. MOATE stated that since many CVS customers were distributors, it was possible that the distributors sold CVS parts to nuclear plants. He asserted he had no way of knowing the final destination of all CVS parts sold by his company.

R. H. MOATE stated that CVS's customers usually ordered parts by identifying the name brand manufacturer's part number. CVS manufactured the requested part in accordance with the drawing which was applicable to that specific part number. R. H. MOATE said that it was his understanding that if a technical change was made which required a drawing change the associated part number was also changed.

R. H. MOATE refused to provide copies of sales invoices or other documentation relating to CVS sales to S-W. He referred the investigator to S-W for these records.

Interview with William F. SAMPLE, President, S-W

SAMPLE was interviewed by Investigator Van Cleave, PETROSINO, and TINKEL on December 1, 1988, at his office in Livonia, Michigan (Exhibit 5). According to SAMPLE, S-W served as the authorized representative for M-D valves in parts of Michigan and Ohio which included two CP nuclear plants - Palisades and Big Rock Point. SAMPLE stated that S-W also acted as a distributor, which was an independent business involved in purchasing and reselling parts to customers. As an authorized M-D representative, S-W was not allowed to sell valve competitor's product lines, but they could do so while acting as a distributor, according to SAMPLE.

S-W had filled past orders from nuclear power plants by either purchasing from M-D, the original equipment manufacturer, or from a secondary source manufacturer, such as CVS or Cor-Val. Purchase orders identified as safety related or those requiring certification and documentation such as a Certificate of Compliance (C of C) or a Certified Material Test Report (CMTR) were processed by initiating a purchase order to M-D. No secondary source manufacturers were utilized to fill nuclear safety related orders or orders which required any type of certification documentation. SAMPLE stated that orders from CP which were for commercial grade items and did not request any

type of certification were filled either by M-D or by a secondary source manufacturer such as CVS or Cor-Val. SAMPLE stated that parts purchased from CVS and Cor-Val were never dropshipped to the nuclear plant. Cor-Val or CVS shipped the items to S-W where they were repacked and shipped to CP along with a S-W packing list.

According to SAMPLE, he began purchasing replacement parts from CVS in the early 1970's when CVS was authorized by M-D to manufacture and supply M-D replacement valve trim parts. SAMPLE stated that at that time, M-D told S-W to obtain commercial grade replacement parts from CVS for M-D valve parts. Although M-D terminated its agreement with CVS in approximately 1981, SAMPLE stated that S-W continued to purchase replacement valve parts from CVS and Cor-Val. SAMPLE reiterated that all parts purchased from CVS or Cor-Val were commercial grade and were used to fill purchase orders from CP which did not request any type of certification documentation.

SAMPLE stated that he was unaware if CP realized they were receiving secondary source replacement parts for M-D valves. SAMPLE said that although S-W did not represent the parts as being manufactured by M-D, neither did they identify them as manufactured by a secondary source. SAMPLE stated that one could probably not visually distinguish differences in parts manufactured by M-D and those manufactured by a secondary source manufacturer. However, SAMPLE stated that M-D supplied parts were packaged and labeled with a part number and the M-D name and trademark, whereas parts purchased from secondary source manufacturers were simply marked with the M-D part number on a plain shipping tag. He stated these parts were not marked M-D or identified in any way as M-D parts. The NRC representatives were provided with examples of M-D and secondary source valve parts and found none of the secondary source parts were tagged with a name brand manufacturer's name or trademark.

SAMPLE stated that he had reviewed S-W's records and found that 77 orders from CP were processed by M-D, 10 by CVS, and 2 by Cor-Val. SAMPLE stated that all secondary source manufacturers utilized the same name brand part number in order to identify the part. The sales invoices prepared by S-W, the final copy of which was the packing list, reflected the secondary source replacement parts to be a M-D part number i.e., 302460-000-163, Masoneilan Seat Ring. SAMPLE stated that he believed the invoice reflected M-D because in the summer of 1983, S-W switched to a computer billing system. At that time, it was his belief the clerks input the part number and the computer matched the part number with the name brand manufacturer. As a result, according to SAMPLE, since secondary source manufacturers utilized the identical part number, the brand name M-D was printed by the computer.

Interview with Linda SICARD, Clerk, S-W

SICARD was interviewed by Investigator Van Cleave on December 1, 1988, at her office in Livonia, Michigan (Exhibit 6). SICARD stated she was the clerk who input invoice information into the computer utilizing the handwritten orders taken by S-W's inside sales representatives. She stated that she input part numbers into the computer. If the computer did not automatically print the name brand manufacturer, she said she added the manufacturer's name "so CP would know that they were getting a M-D part." SICARD denied knowledge of secondary source purchases and said she did not realize that the parts referenced on the invoices were not always M-D parts. SICARD alleged she

thought she was providing her customers with the name of the manufacturer of the part which they were receiving. She said she would have never intentionally listed a manufacturer's name on an invoice had she known it was not the company which was supplying the parts that were being purchased.

Review of S-W Records

Investigator Van Cleave reviewed purchase orders from CP to S-W; invoices from S-W to M-D, CVS, and Cor-Val; and invoices from Cor-Val and CVS back to S-W (Exhibit 7). The only secondary source manufacturer purchases were for those purchase orders that were not identified as safety related and did not request any type of certification documentation (Exhibit 8). When any certification documentation was requested on the purchase order from CP, S-W purchased the items from M-D. Many of the purchase orders from CP simply referenced a part number and did not specify M-D. Purchase orders from S-W to CVS and Cor-Val sometimes specified M-D and other times simply listed the part number (Exhibit 9). However, invoices from Cor-Val and CVS simply named the part number and cost and did not imply that the parts being supplied were M-D parts (Exhibit 10). The invoices from S-W to CP listed the parts as a M-D part number i.e., 302460-000-163, Masoneilan Seat Ring (Exhibit 11). These were computer generated invoices, the final copy of which was utilized as a packing slip and sent to the nuclear plant along with the referenced parts.

Interview with Robert J. CAMERON, Senior Attorney, Dresser Industries

CAMERON was interviewed by Investigator Van Cleave on January 6, 1989, at his office in Dallas, Texas (Exhibit 12). CAMERON stated that he was a senior attorney for Dresser Industries and represented M-D which was purchased by Dresser Industries approximately 3 years ago. CAMERON stated that M-D currently utilized no authorized M-D parts manufacturers. However, from the early 1970's until approximately 1981, M-D had authorized CVS to manufacture parts for M-D. CAMERON stated that M-D employees in Avon, Massachusetts, were unable to locate the original M-D - CVS contract and consequently they were unaware of its specific terms.

CAMERON stated that although M-D did not like the secondary source manufacturing of its parts, he did not believe it constituted an illegal activity as long as the secondary source manufacturers did not utilize the M-D name or trademark or represent to the public that the parts were genuine M-D parts. CAMERON stated that even if the valve replacement parts had been patented at one time, it was his belief that M-D had no patent protection in this area and there was no patent infringement. He stated he had been told by ALLEN that the parts in question located at Palisades were not marked with the M-D name or trademark. Consequently, CAMERON stated he did not believe there was any violation of criminal or civil law. CAMERON admitted that M-D had utilized the term "counterfeit" in correspondence to the NRC. CAMERON said he believed this to be a misnomer and he did not believe the parts were counterfeit in the legal sense of the word.

CAMERON stated he did not believe S-W violated the contract they held with M-D. He provided Investigator Van Cleave with a blank copy of the type of sales representation contracts utilized by M-D (Exhibit 13). These contracts authorized companies to act as sales representatives or as distributors. CAMERON stated that a distributor could not be legally prohibited from selling

competitive products due to a possible violation of the United States antitrust laws. CAMERON admitted that many M-D representatives, including S-W, sold other product lines. CAMERON further asserted that to the best of his knowledge the secondary source use of the name brand M-D part number was not a violation of law. He stated the part number was not protected by patent, trademark, or by anything else under U. S. law. He said the part number was simply a way of identifying the item in question and could be utilized by other companies although it might be misleading at times to do so. CAMERON further admitted that the secondary source industry was widespread and Dresser even occasionally purchased secondary source parts. Although CAMERON asserted that he did not believe there was a violation of criminal or civil law, he said he was still concerned that there might be a potential safety problem because the parts purchased from CVS and Cor-Val might not meet M-D drawing specifications.

INVESTIGATOR'S NOTE: On December 22, 1988, CP filed a second 10 CFR, Part 21 report with the NRC (Exhibit 14). This report stated that 6 of 97 valve pins examined by CP were found to be non-conforming in that they had undersized expanded diameters. Five of these six nonconforming pins were supplied by M-D's Houston, Texas, facility and the remaining item was supplied by H. H. BARNUM, a previously authorized M-D representative. In addition to the valve pins, 7 of 51 seat rings inspected were found to be nonconforming regarding manufacturing tolerances. The manufacturer of five of these seat rings had not been identified. The two remaining seat rings, which were purchased in 1978, were manufactured by CVS, which at that time was an authorized M-D manufacturer.

Interview with Daniel BOURGEOIS, Production Manager, M-D

BOURGEOIS was interviewed by Investigator Van Cleave on January 26, 1989, at his office in Houston, Texas (Exhibit 15). BOURGEOIS stated that the M-D Houston facility supplied commercial grade valve parts to customers and manufacturer representatives, but all orders for nuclear grade items were processed and filled by M-D's Avon, Massachusetts facility. BOURGEOIS stated that the valve pins referenced in the Part 21 report filed by CP in December 1988 could have been manufactured by M-D in Avon, Massachusetts, or could have been a buy out from an authorized manufacturer. BOURGEOIS stated that without the purchase order number or service order number, he could not trace the origin of the five valve pins in question.

BOURGEOIS accessed M-D's vendor data base to determine if M-D utilized CVS or Cor-Val as an authorized manufacturer of valve parts. Although Cor-Val was not listed on M-D's vendor history data base, the records indicated that M-D's Avon, Massachusetts, facility had placed seven orders with CVS over approximately the last year and a half. These purchases were for carbon tipped parts utilized primarily in the mining industry, which M-D representatives stated M-D was not equipped to manufacture.

INVESTIGATOR'S NOTE: Investigator Van Cleave later provided BOURGEOIS with the CP purchase order number, approximate date of receipt, and part number of the five nonconforming valve pins. On February 7, 1989, BOURGEOIS telephoned Investigator Van Cleave and told her he was unable to locate a sale to CP or to S-W in May or June 1987 of the specific part number provided to him.

Interview with John BUECHLER, Material Management (Procurement)
Superintendent, Palisades

BUECHLER was interviewed by telephone by Investigator Van Cleave on February 2, 1989 (Exhibit 16). He stated that he was the contact point and responsible party concerning corrective action by CP as a result of the substitute M-D parts received at Palisades. According to BUECHLER, approximately 12 shipments of valve internal parts which CP had believed were manufactured by M-D were actually manufactured by CVS or Cor-Val. BUECHLER explained that CVS had been an authorized manufacturer of replacement valve trim parts for M-D from approximately 1973 until 1981. However, BUECHLER claimed that the part which was initially brought to Consumers Power's attention as not having been manufactured by M-D was for a valve which had been designed approximately 5 years ago. Consequently, the part could not have been manufactured by CVS while the company was authorized to manufacture M-D parts. BUECHLER admitted the purchase order for this part was not for safety related items.

BUECHLER stated that as a result of the discovery of nongenuine M-D parts, CP performed a 100 percent inspection of all M-D parts on hand at Palisades. As a result of this inspection, CP filed a second Part 21 report with the NRC on December 22, 1988. Palisades inspection disclosed that 6 of 97 pins and 7 of 51 seat rings inspected were found to be nonconforming regarding manufacturing tolerances. BUECHLER stated that in his opinion, the valve pins nonconformance was not significant. According to BUECHLER, the pins were purchased by Palisades as commercial grade but were inspected at Palisades and put on the shelf as safety related items. Five of the seat rings were purchased as commercial grade items and never upgraded to safety related. The remaining two were purchased and placed on the shelf as safety related items. The seat rings were purchased from 1976 to 1979. According to BUECHLER, Palisades had not been able to determine the manufacturer of five of these rings. Two were found to have been manufactured by CVS, which was an authorized M-D manufacturer during that time period. BUECHLER stated that they tested all seat rings for leakage, but the leakage found was not any worse whether the parts were manufactured by M-D, CVS, or anyone else. In BUECHLER's opinion, the discrepancies found were not serious and could not be attributed to a specific manufacturer.

BUECHLER stated that purchase orders were requisitioned from CP's corporate office in Jackson, Michigan. The items were shipped directly to Palisades but the invoices were sent to Jackson for payment after Palisades inspection and acceptance of the parts. BUECHLER stated he believed that CP had not asked for commercial grade C or Cs because a decision was made that it was not necessary to obtain them.

BUECHLER stated that approximately 63 parts on hand at Palisades were found to have been manufactured by CVS or Cor-Val. According to BUECHLER, neither the

parts themselves nor the manila tags attached to them had the name M-D or M-D's logo or trademark printed or stamped on them. The parts had manila tags attached to them on which was handwritten a generic part number. BUECHLER said the parts were so small that even the genuine M-D parts usually were not stamped with the M-D name, logo, or trademark.

Reinterview with SAMPLE

SAMPLE was briefly reinterviewed by Investigator Van Cleave by telephone on February 6, 1989 (Exhibit 17). SAMPLE said that although S-W never dropshipped items purchased from an outside vendor when S-W was acting as a distributor, items purchased from M-D were dropshipped. SAMPLE stated that the handwritten purchase order by S-W noted the invoice was dropshipped to Jackson, Michigan, because that was a different address from where the parts were shipped. SAMPLE further stated that the handwritten notation on S-W's purchase orders to CVS and Cor-Val which occasionally appeared stating "Consumers Power," was added only on S-W's copy of the purchase order for their records.

Meeting with [REDACTED] FBI Agent

On February 2, 1989, Investigator Van Cleave met with FBI Special Agent [REDACTED] regarding S-W (Exhibit 18a). According to [REDACTED] an Assistant United States Attorney (AUSA) in Michigan read an article in the newspaper which identified parts provided by S-W to the nuclear industry as counterfeit. He telephoned the local FBI office and requested that the FBI investigate the matter. [REDACTED] was unfamiliar with this subject matter and Investigator Van Cleave provided her with answers to her questions regarding the potential FBI investigation.

On February 8, 1989, [REDACTED] telephoned Investigator Van Cleave and stated that she had spoken by telephone with the Michigan case agent who said he believed the case would not be pursued (Exhibit 18b). She stated that the AUSA, after being apprised of the actual situation, did not believe prosecution was possible simply on the basis of the use of the same part number which he believed was probably not illegal. According to [REDACTED], the FBI intended to close the case on S-W without further action.

NRC Information Notice Number 88-97 and Supplement 1

On December 16, 1988, the NRC published an Information Notice 88-77 regarding secondary source valve replacement parts for M-D valves (Exhibit 19). The Information Notice advised that addressees should review their policy for acceptance of valve replacement parts, particularly those purchased for safety related systems, and contact the appropriate manufacturers or distributors to confirm authenticity of any questionable parts.

On April 29, 1989, supplement 1 to Information Notice 88-77 was issued by the NRC (Exhibit 20). In this supplement the NRC concluded that potentially substandard valve replacement parts could enter nuclear sites either directly from secondary source manufacturers or from distribution centers of original equipment manufacturers. The licensee in question ordered parts for safety related applications as commercial grade and failed to verify that the parts would perform their required function. The authorized distributor procured the parts from both the original equipment manufacturer and secondary sources

without ensuring that the parts were equivalent. Additionally, the original equipment manufacturer purchased parts from subcontractors and did not verify that the parts would fulfill their function.

Review of NRC Vendor Program Branch Inspection Report Number 99900094/88-01

This inspection report was prepared by PETROSINO at the conclusion of an inspection of M-D, Avon, Massachusetts, on December 12-16, 1988 (Exhibit 21). During the course of the inspection, PETROSINO was told that CVS was licensed by and contracted to M-D from approximately September 1, 1975 until September 14, 1980, as an authorized manufacturer and supplier of M-D products. M-D representatives stated that they terminated all business relations with CVS in approximately 1980 and requested the return of all M-D drawings. M-D stated that CVS did not return all M-D drawings as requested. It was noted by PETROSINO that M-D continued to routinely procure components from CVS after the 1980 contract termination date and was currently procuring carbide tipped valve plugs from CVS.

The inspection report stated that the M-D midwest regional sales manager said that CVS was not authorized to manufacture and sell valve parts to the nuclear power industry. He further alleged that M-D sales representatives were not authorized to buy replacement valve parts from CVS for the nuclear power industry, although M-D was unable to locate a copy of its agreement with CVS. The M-D sales manager admitted that occasionally M-D gave tacit approval to its sales representatives to purchase replacement valve parts from secondary sources when M-D was unable to provide the parts within the timeframe required by the customer.

M-D representatives indicated that in order for a secondary source to have the capability of correctly producing a commercial grade part for a M-D valve in a nuclear application, three items were required: 1) sufficient technical information such as detailed drawings and design tolerances; 2) supplemental requirements applicable to the original nuclear valve order; and 3) a quality program equal to or better than that utilized by M-D. Additionally, M-D claimed that some secondary source manufacturers might be using reversed engineered drawings which could lead to differences, particularly for dimensional tolerances.

PETROSINO reviewed M-D's standard contract signed by its industrial sales representatives. This contract did not specifically outline a method to be used when processing a nuclear power plant order. M-D's QA manager stated that all sales representatives were instructed to pass all orders from nuclear power plants to M-D's Avon facility to determine if the part was nuclear or commercial grade. He provided two M-D memos, one dated May 8, 1986, and one dated August 15, 1988, which stated in part that all inquiries and orders for nuclear related parts were to be directed to Avon. However, PETROSINO stated that the midwest sales manager admitted that it was possible that an experienced M-D sales representative might feel capable of determining if a part ordered by a nuclear plant was for a safety-related system. Should he determine such a part was not for a safety-related system, he might fill such an order from his on-hand stock which could contain nonauthorized substitute replacement parts. As a result, according to the midwest sales manager, whether a nuclear plant received an authentic M-D part or a secondary source part was partially dependent on the individual M-D sales representative's

handling of the specific order. PETROSINO determined that the M-D - sales representative contract did not in itself preclude the M-D representative from dealing with competitors or secondary source suppliers. PETROSINO concluded that it was possible for an NRC licensee to receive nongenuine M-D parts from an authorized M-D sales representative. He further concluded that the responsibility for assuring the adequacy of purchased material and its conformance to the procurement documents rested with the NRC licensee.

Review of NRC Vendor Program Branch Inspection Report Number 99901137/89-01

This inspection report was written by PETROSINO at the conclusion of his and TINKEL's inspection of CVS conducted May 31 to June 1, 1989 (Exhibit 22). R. H. MOATE did not allow the inspectors to review his general accounts, receivable records or his customer list and only provided them with records regarding any specific customer about whom they asked him. The NRC inspectors provided R. H. MOATE with the names of approximately six material suppliers and all utilities licensed by the NRC. R. H. MOATE stated that two of the material suppliers and two of the utilities were CVS customers. The Purchase Orders (POs) relating to NRC licensed plants were for commercial grade products and did not mention safety related or nuclear requirements.

During the inspector's review of orders from Process Valve and Equipment Company (PV&E), Chagrin Falls, Ohio, a request was noted on several different documents in 17 PO packages where seat rings were ordered. This request was for CVS to machine the ears, sandblast to simulate investment type castings, and polish the surfaces of the seat rings. R. H. MOATE and R. C. MOATE stated that the sandblasting was for cosmetic purposes only, irrelevant, and not intended to indicate anything of significance. However, PETROSINO noted that the sandblast effect on the bottom of the seat rings indicated that the seat ring was a machined investment casting rather than a fully machined seat ring using bar stock material. During an October 1988 meeting of M-D and NRC personnel, M-D personnel stated that the sandblasted surface on seat rings was an attempt to simulate an investment cast machined seat ring of the type typically produced by M-D. The inspector noted in the inspection report that PV&E's request for sandblasting the seat rings appeared to be an attempt to simulate genuine investment cast M-D valve seat ring replacements to the end users.

Review of NRC Vendor Program Branch Inspection Report Number 99901139/89-01

An inspection of Gemoco, a division of Sequa Engineered Services, Houma, Louisiana, was conducted by PETROSINO and TINKEL on June 6-9, 1989 (Exhibit 23). The inspection was conducted as a follow-up to the inspection of M-D during which Gemoco was identified as a company that advertised replacement parts for M-D valves. During the inspection of Gemoco, representatives of the company stated that Gemoco vibro-etched each valve trim component that it manufactured with "GEM" or "GEMOCO" and the associated part number. However, Gemoco representatives stated that this procedure was not followed in cases where the customers required no etching or permanent marking or parts they were purchasing or in cases where the part was too small to etch.

During the inspection, PETROSINO noted that several internal Gemoco finish work order forms from Capital Westward Systems (CWS), San Jacinto, California,

and from PV&E stated "do not etch." Gemoco representatives told PETROSINO that these two companies specifically requested that their ordered parts not be identified with Gemoco markings. The inspector identified eight CVS PO packages and two PV&E PO packages that contained this request. For the PV&E orders the components were actually ordered from Gemoco through Midwest Valve Parts Company (MVP). The sales manager for Gemoco stated he was unaware of any technical reason for requesting that the Gemoco name not be etched on Gemoco parts. He theorized that PV&E and CVS might want to represent Gemoco parts as original equipment manufacturer parts to their customers.

Interview with Robert L. CARPENTER, President, PV&E

CARPENTER was interviewed by Investigator Van Cleave and PETROSINO on June 20 & 21, 1989, at his office in Chagrin Falls, Ohio (Exhibit 24). He stated that PV&E was no longer affiliated with M-D as an authorized representative and consequently did not provide safety related components and parts to the nuclear industry. They continued to sell parts and components to the fossil fuel industry and commercial grade parts to two nuclear plants - Davis Besse and Perry. He stated that PV&E sells secondary source parts as replacements parts for original manufacturer parts. He stated that if a nuclear plant should order a "Q" part, PV&E would purchase the part only from the name brand manufacturer.

CARPENTER said that PV&E requested Gemoco not to etch parts which PV&E ordered from them simply to prevent PV&E's customers from identifying the origin of the parts and ordering directly from Gemoco. CARPENTER stated that he was uncertain why PV&E requested CVS to round off the seat rings and sandblast certain surfaces on items purchased from CVS. However, he believed that most of these orders went to Standard Oil, which wanted their parts to look like the original parts. He said that PV&E did not intentionally attempt to deceive its customers regarding the origin of the seat rings but admitted his customers were probably unaware of the manufacturer of the valve trim components.

Review of PV&E Customer Records

Investigator Van Cleave and PETROSINO reviewed records for all utilities and numerous additional PO packages regarding sales by PV&E (Exhibit 25). They reviewed each of the 17 PV&E PO packages identified during previous inspections at CVS and Gemoco to contain unusual requests. This review determined that in all 17 cases, with one exception, the parts were not supplied to utilities. The majority of the parts were sold to Standard Oil Production Company. The one exception, PO #40254, was for parts shipped to Cleveland Electric's Avon Lake fossil plant facility. It was noted by the investigator that this PO specifically stated that Cleveland Electric would not accept substitutions for M-D valve trim. Regardless of this requirement on the PO, PV&E provided Cleveland Electric with CVS manufactured seat rings which were sandblasted to simulate M-D seat rings.

Although PV&E supplied some of its customers with CVS seat rings manufactured from bar stock that were modified to resemble investment cast type seat rings and with unetched Gemoco parts, no examples were identified where PV&E supplied these type parts to any NRC licensed facility.

Interview with Paul CLARK, President, MVP

CLARK was interviewed by Investigator Van Cleave and PETROSINO on June 22, 1989, at his office in Chesterland, Ohio (Exhibit 26). CLARK stated that MVP was an authorized manufacturer's representative for Gemoco. He said their territory extended from the New York/Pennsylvania line to Wyoming and Colorado with the exception of Illinois and Wisconsin. He said that MVP sold few parts to nuclear plants and had not sold any parts relating to a safety system. He said that any parts sold to a nuclear plant were commercial grade.

Review of MVP Customer Records

Investigator Van Cleave and PETROSINO reviewed customer PO records for all utilities with a nuclear plant within MVP's sales region (Exhibit 27). They also reviewed copies of PV&E orders to MVP that requested no etching on its procured parts, as noted during a previous NRC inspection at Gemoco. During this review, it was noted that MVP provided safety related Fisher Controls and M-D valves and valve parts to the DC Cook Nuclear Plant in 1986 and 1987. These safety related parts were supplied when MVP was an authorized sales representative for certain original equipment manufacturers. No deviations were noted regarding these safety related POs.

The review of the PV&E orders failed to identify any additional POs with the "do not etch" request. The two subject POs revealed the notation "do not etch" on the interoffice orders. NRC representatives identified that the valve trim components on these two POs were shipped to nonlicensees. The review of records at MVP failed to identify any sales of secondary source parts or components to the nuclear industry.

Review of NRC Vendor Program Branch Inspection Report Number 99901145/89-01

PETROSINO conducted an inspection of CWS as a follow-up to the previously referenced inspection of Gemoco conducted on June 6-9, 1989 (Exhibit 28). The inspection of Gemoco identified sales of valve trim components and/or parts to CWS where CWS mandated no etching or permanent markings on parts they were purchasing. Although the CWS POs did not specifically require this, the internal Gemoco finish work order forms stated "do not etch." PETROSINO was told by Gemoco officials that CWS specifically requested that their ordered parts not be identified with Gemoco markings.

Officials at CWS stated that the company conducted business with only two NRC licensees - Arizona Public Services Company (APS) and Southern California Edison (SCE). NRC inspectors reviewed approximately 260 safety and nonsafety related PO packages regarding SCE and APS orders. Also reviewed were CWS POs to Gemoco from 1985 to the present. The review of CWS POs to Gemoco identified two orders that were sent to San Onofre Nuclear Generating Station (SONGS) and numerous orders that went to SCE fossil power plant facilities. The majority of the Gemoco secondary source parts were sold to commercial nonutility customers.

PETROSINO's review of the SCE and APS document files indicated that CWS procured all parts and/or components that they supplied to Palo Verde and SONGS from the original equipment manufacturer or its official representative with the exception of two nonsafety related orders for M-D valve trim parts that were supplied to SONGS. PETROSINO verified with SCE personnel that the parts associated with these POs were utilized in a nonsafety related system. PETROSINO concluded that although CWS ordered Gemoco secondary source parts and components from Gemoco with the request "do not etch," CWS supplied nuclear facilities with original equipment manufacturer parts and components for both safety and nonsafety related orders with the exception of the nonsafety orders referenced above.

Agent's Analysis

This investigation revealed extensive purchases and sales within a secondary source supply market. These secondary source suppliers provide replacement parts for original equipment manufacturer parts and components, usually at a considerably lower price than similar replacement parts could be purchased from the original equipment manufacturer. Investigator Van Cleave noted that the mark-up by the intermediary company such as CVS or PV&E was approximately 10 percent for M-D parts; approximately 30 percent for Gemoco parts purchased through MVP; and as much as 100 percent for parts purchased from CVS. Consequently, there is a financial incentive for the supply houses to utilize secondary source materials and/or parts. Further, there appears to be no prohibition in the use of such secondary source parts or components.

It is an industry accepted practice to utilize the original equipment manufacturer's part number for simplicity's sake regardless of the source of the part. M-D's own attorney admitted that he did not believe this constituted an illegal practice. The AUSA in Michigan, through the FBI, also stated he did not believe this was an illegal practice.

Willfulness/Intent

- A. A 10 CFR, Part 21 report was filed with the NRC by CP, Palisades, alleging that parts dedicated for use in basic components were not manufactured by M-D facilities, were manufactured by CVS and Cor-Val, and might not meet M-D's specifications (Exhibit 1).
- B. R. H. MOATE stated that he sold CVS secondary source parts to distributors, was unaware of the final destination for these parts, but had never knowingly sold parts to a nuclear facility for use in a safety related system (Exhibit 4).
- C. The invoices prepared by CVS to S-W did not refer to the parts sold to S-W as M-D parts. The parts were referenced with solely a part number, although the part number was the original equipment manufacturer's part number (Exhibit 10).
- D. SAMPLE stated that he had not sold any secondary source parts to a nuclear facility to fill any safety related orders or any orders requiring any type of certification documentation. He admitted he substituted CVS and Cor-Val parts for M-D parts to fill orders from CP which were for commercial grade items (Exhibit 5).

- E. Sales invoices prepared by S-W reflected the secondary source replacement parts to be a M-D part number i.e., 302460-000-163, Masoneilan Seat Ring. SAMPLE claimed this was due to a computer billing system that matched a part number with a name brand manufacturer. None of the secondary source parts themselves were marked with the M-D name or trademark. SAMPLE denied intentionally attempting to mislead the utility into believing it had received M-D parts (Exhibits 5 and 11).
- F. SICARD admitted that she input part numbers into the computer and added the manufacturer's name so customers would know the name brand of the part that they were receiving. She denied knowledge of secondary source purchases and said she would never have intentionally listed a manufacturer's name on S-W's invoices had she been aware this was not the company which was supplying the parts being purchased (Exhibit 6).
- G. A review of S-W's records disclosed that all secondary source parts sold to Consumer's Power were related to those POs which were not identified as safety related and did not request any certification documents. Additionally, many of the purchase orders from Consumer's Power simply referenced a part number and did not specifically order a M-D part (Exhibits 7, 8, 9, 10, and 11).
- H. CAMERON stated that although M-D did not like the secondary source manufacturing of its parts, the practice did not constitute an illegal activity as long as the secondary source manufacturer did not utilize the M-D name or trademark or represent to the public that the parts it was supplying were genuine M-D parts. It was his belief that M-D had no patent protection in this area and there was no patent infringement. He admitted that the parts in question at CP were not marked with the M-D name or trademark. Although M-D had characterized these parts as counterfeit in written communication to the NRC, this was a misnomer and the parts were not counterfeit in the legal sense of the word. He said that he did not believe there were any violations of criminal or civil law in this specific case. He further stated that he did not believe the part number was protected by patent, trademark, or any U.S. law. He said he believed the part number could be utilized by other companies although it might be misleading at times to do so (Exhibits 12 and 2).
- I. BOURGEOIS stated that the valve pins provided by his company and referenced in a Part 21 report filed by CP in December 1988 could have been manufactured by M-D or by a M-D authorized manufacturer. He admitted that M-D purchased carbon tipped parts utilized in the mining industry from CVS since M-D was not equipped to manufacture these parts (Exhibit 15).
- J. BUECHLER stated that following the discovery of nongenuine M-D parts at CP, they performed a 100 percent inspection of all M-D parts on hand at Palisades. This inspection revealed certain non-conforming conditions in some pins and seat rings. BUECHLER stated in his opinion the valve pin's nonconformance was not significant. He further alleged that leakage found during tests of seat rings were not any worse whether the seat rings were manufactured by M-D, CVS, or anyone else. BUECHLER admitted that pins and seat rings were purchased by Palisades as commercial grade

but were dedicated in many instances to be used in safety related systems after the parts were received at Palisades. BUECHLER stated that neither the secondary source parts themselves nor the manila tags attached to them had the name M-D or M-D's trademark or logo printed or stamped on them. The nongenuine M-D parts had manila tags attached to them on which was handwritten a generic part number (Exhibit 16).

- K. Investigator Van Cleave was notified by the FBI that the AUSA in Michigan did not believe prosecution was possible simply on the basis of the use of the same part number which he believed was not illegal. The FBI intended to close the case on S-W with no action warranted (Exhibit 18).
- L. NRC Information Notice 88-97 and Supplement 1 stated that CP ordered parts for safety related applications as commercial grade and failed to verify that the parts ordered would perform their required function. S-W procured parts from both the original equipment manufacturer and secondary sources without ensuring that the parts were equivalent (Exhibits 19 and 20).
- M. NRC inspection report 99900094/88-01 stated that M-D continued to routinely procure components from CVS and was currently procuring carbide tip valve plugs from CVS. The M-D sales manager admitted that occasionally M-D allowed its sales representatives to purchase replacement valve parts from secondary sources. M-D representatives further admitted that it was possible one of their authorized sales representatives might fill an order for a part for a nonsafety related system from his onhand stock which could contain nonauthorized substitute replacement parts. The M-D sales representative contract does not preclude a M-D representative from dealing with competitors or secondary source suppliers (Exhibit 21).
- N. An inspection conducted at CVS revealed that PV&E placed 17 orders for seat rings in which they requested that CVS machine the ears, sandblast to simulate investment type castings, and polish the surfaces of the seat rings. Although the MOATES asserted that this was not intended to indicate anything of significance, the request for sandblasting the seat rings appeared to be an attempt to simulate genuine investment cast M-D valve seat ring replacements to the end users (Exhibit 22).
- O. An inspection of Gemoco revealed that two companies, PV&E and CWS, requested that Gemoco not etch or permanently mark its name on parts which they were purchasing. Gemoco's usual procedure was to vibroetch each part with "Gem" or "Gemoco" and the associated part number. The sales manager for Gemoco admitted these two companies might want to represent Gemoco parts as original equipment manufacturer parts to their customers (Exhibit 23).
- P. CARPENTER stated his company did not sell parts and components for safety related systems to the nuclear industry. He asserted that PV&E requested Gemoco not to etch parts simply to prevent PV&E's customers from identifying the origin of the parts and ordering directly from Gemoco. He theorized that PV&E requested CVS to round off seat rings and to sandblast certain surfaces on items purchased from them because these parts were for Standard Oil which wanted the parts to look like the

original parts. He denied intentionally attempting to deceive his customers regarding the origin of seat rings but admitted that his customers would probably be unaware of the manufacturer of the valve trim components (Exhibit 24).

- Q. A review of records at PV&E determined that all but one of the orders with unusual requests made to CVS and Gemoco were sold to non-utility customers. The one exception was shipped to a fossil plant facility for Cleveland Electric. Although PV&E supplied some of its customers with CVS seat rings manufactured from bar stock, modified to resemble investment cast type seat rings, and with unetched Gemoco parts, PV&E did not supply any of these type parts to any NRC licensed facility (Exhibit 25).
- R. CLARK stated he had not sold any parts relating to a safety system for a nuclear plant since approximately 1987 when MVP was the authorized representative for several original equipment manufacturers (Exhibit 26).
- S. A review of MVP customer records indicated that the two purchase orders from PV&E with the notation "do not etch," were shipped to DuPont and Sachs. Records at MVP failed to disclose any sales of any secondary source parts or components to the nuclear industry (Exhibit 27).
- T. An inspection of CWS revealed that although the company purchased secondary source parts from Gemoco and requested that Gemoco not etch these parts with their name or part number, none of these secondary source parts were sold to a nuclear plant for a safety related system. In fact, CWS only had two POs for commercial grade items sold to a nuclear power plant (Exhibit 28).

Conclusion

S-W intentionally sold secondary source valve parts to Palisades. However, these parts were all for commercial grade items which were in some instances dedicated at Palisades for use in safety related systems without Palisades providing adequate verification that the parts would fulfill their functions in safety related systems. No information was uncovered during the investigation to indicate that S-W intentionally attempted to mislead Palisades into believing secondary source parts were genuine M-D parts. Neither the parts nor the manila tags attached to them were labelled with the M-D name, logo, or trademark. The references on S-W's invoices to a M-D part number i.e., 302460-000-163, Masoneilan Seat Ring, was an inadvertent error on the part of the clerk who input the orders to the computer.

Although the use of original equipment manufacturer part numbers is misleading, it is not an illegal practice. The use of secondary sources is prevalent throughout the country in many industries. Consequently, the nuclear power plant must accept responsibility for ensuring that the parts which they order and receive are adequate for the use for which they are intended.

SUPPLEMENTAL INFORMATION

Several companies, such as CWS and PV&E, requested changes on their procured valve parts from secondary sources. These included the request to not etch the Gemoco name on Gemoco parts and the request to sandblast the ears to simulate casting. These requests may be an effort to make it appear to the end user that the parts are genuine M-D parts. Although these parts do not appear to have been sold to any NRC regulated utility, the practice seemed questionable to the investigator.

On June 26, 1989, Investigator Van Cleave informally contacted the Federal Trade Commission (FTC) in Dallas, Texas. She spoke with Investigator Clarie BLACKMAN in an effort to determine whether or not this type of practice might be considered illegal by the FTC. Investigator BLACKMAN stated that in her opinion it could be considered illegal under deceptive trade practices provisions if the companies were providing these secondary source parts under false pretenses. She forwarded a copy of the FTC's Act to Investigator Van Cleave and referred her to Section 5 of this act. Investigator BLACKMAN told the NRC investigator that she would be interested to see the completed NRC report and perhaps schedule an interview between herself, Investigator Van Cleave, and an FTC attorney to determine whether the FTC might want to pursue an investigation of PV&E and/or CWS under their regulations.

LIST OF EXHIBITS

<u>Exhibit No.</u>	<u>Description</u>
1	Consumers Power Company 10 CFR, Part 21 Report, dated October 21, 1988.
2	Letter from Masoneilan-Dresser to NRC, dated November 18, 1988.
3	Executive Director for Operations Request for Investigation, dated December 27, 1989.
4	Report of Interview with R. H. MOATE and R. C. MOATE, dated November 29, 1988.
5	Report of Interview with SAMPLE, dated December 1, 1988.
6	Report of Interview with SICARD, dated December 1, 1988.
7	S-W Records Review.
8	Purchase Orders from Consumers Power to S-W.
9	Purchase Orders from S-W to CVS and Cor-Val.
10	Invoices from Cor-Val and YS.
11	Invoices from S-W to Consumers Power.
12	Report of Interview with CAMERON, dated January 6, 1989.
13	Generic Masoneilan-Sales Representative Contract.
14	Consumers Power Company 10 CFR, Part 21 Report, dated December 22, 1988.
15	Report of Interview with BOURGEOIS, dated January 26, 1989.
16	Report of Interview with BUECHLER, dated February 2, 1989.
17	Memo of Conversation with SAMPLE, dated February 6, 1989, and February 8, 1989.
18	Memos of Conversation with [REDACTED], dated February 2, 1989. 172
19	NRC Information Notice Number 88-97.
20	NRC Information Notice Number 88-97, Supplement 1.
21	NRC Vendor Program Branch Inspection Report Number 99900094/88-01.

- 22 NRC Vendor Program Branch Inspection Report
Number 99901137/89-01.
- 23 NRC Vendor Program Branch Inspection Report
Number 99901139/89-01.
- 24 Report of Interview with CARPENTER, dated June 20 & 21, 1989.
- 25 Review of PY&E Customer Records.
- 26 Report of Interview with CLARK, dated June 22, 1989.
- 27 Review of MYP Customer Records.
- 28 NRC Vendor Program Branch Inspection Report
Number 99901145/89-01.