

ORGANIZATION: GULFALLOY, INC.  
HOUSTON, TEXAS

REPORT NO.: 99900343/85-01	INSPECTION DATE(S): 5/6-10/85	INSPECTION ON-SITE HOURS: 56
CORRESPONDENCE ADDRESS: Gulfalloy, Inc. ATTN: Mr. P. R. Dalton President 4730 Darien, Post Office Box 52518 Houston, Texas 77052  ORGANIZATIONAL CONTACT: Mr. G. W. Gross, Manager Quality Assurance TELEPHONE NUMBER: (713) 672-7451		
PRINCIPAL PRODUCT: Pipe, fittings, and flanges  NUCLEAR INDUSTRY ACTIVITY: Approximately 17 percent of the 1984 sales.		
ASSIGNED INSPECTOR: <u>J. T. Conway</u> J. T. Conway, Reactive Inspection Section (RIS)		<u>6-4-85</u> Date
OTHER INSPECTOR: E. Trottier, RIS		
APPROVED BY: <u>E. W. Merschoff</u> E. W. Merschoff, Chief, RIS		<u>6/28/85</u> Date
INSPECTION BASES AND SCOPE:  A. <u>BASES</u> : 10 CFR Part 50, Appendix 50 and 10 CFR Part 21.  B. <u>SCOPE</u> : The inspection was made as a result of the receipt of an allegation pertaining to purchasing commercial grade material and supplying it to a licensee as nuclear grade.		
PLANT SITE APPLICABILITY: Allegation - St. Lucie-1 (50-335) and Turkey Point 3 & 4 (50-250/251)		

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A. Nonconformances:

1. Contrary to Criterion V of Appendix B to 10 CFR Part 50, Sections 3.1 and 5.1 of the "Quality Assurance Program Materials Identification and Verification Manual" (QAM), and subsection NCA-3861(b) of Section III of the ASME Code, a review of documentation packages for 20 nuclear orders from Florida Power & Light (FPL) and 2 nuclear orders from Texas Utilities Generating Company (TUGCo) indicated that material on 11 FPL orders and one TUGCo order was purchased by Gulfalloy from the following suppliers/manufacturers who were either surveyed/audited after the purchase order (PO) was placed or who were never surveyed/audited by Gulfalloy:

Customer Order (date)

Supplier/Manufacturer

FP&L Delivery & Work Authorization

39541 (December 6, 1982)

Benko Fitting & Flange (1)  
Cardinal Industrial  
Products (2)  
Tube-Line (1)

38624 (March 19, 1982)

Ametek (1)  
Tube-Line (1)

39666 (January 3, 1983)

Standard Fittings (1)  
Hackey (1)  
National Flange & Fittings  
Benko Fittings & Flange (1)

38625 (March 19, 1982)

Tube-Line (1)

24503C (November 10, 1981)

Gulf Supply (3)

26398W (January 25, 1983)

Cardinal Industries  
Products (4)

28660B (September 3, 1981)

Gulf Supply (3)

17461A (April 1, 1982)

All States Steel (1)  
Gulf Supply (3)

17328 (February 5, 1982)

All States Steel (1)

17387 (March 3, 1982)

All States Steel (1)

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TUGCo PO

CPF 1000 - S

Copperweld Regal Tubing (4)

- (1) Never surveyed/audited by Gulfalloy
  - (2) Surveyed/audited 6 months after PO date
  - (3) Last surveyed/audited in February 1978
  - (4) Surveyed/audited 1 month after PO date
2. Contrary to Criterion V of Appendix B to 10 CFR Part 50 and Section 3.3 of the QAM, there was no documented evidence of a Quality System Certificate (Material) for Nippon Kokan, Kawasaki Steel Corporation and Nippon Benkan who are ASME certificate holders. In 1982, these three manufacturers supplied pipe and fittings to Gulfalloy through Benko Fittings & Flange, a sister company of Gulfalloy. Subsequently, Gulfalloy sent a number of the items to the Turkey Point nuclear facility for orders on PWA 39541 dated December 6, 1982 and DWA 39666 dated January 3, 1983.
3. Contrary to Criterion V of Appendix B to 10 CFR Part 50, Section 2.5 of the QAM and Subsection NCA-3967.4(c) of the ASME Code, a review of documentation packages for 20 "QL-1" POs from FP&L revealed that Gulfalloy certified on Material Test Reports (MTR) or Certificate of Conformances (CC) that the requirements of SQADs 1001 and 1002 applied to the purchased items but the manufacturer's Certified Material Test Report (CMTR) did not document this fact. The affected nuclear orders with improper certifications are as follows:

DWA/PO No.

MTR/CC Date

34648

October 26, 1981

39641

February 3 and 17, 1983  
January 24, 1983

39541

January 26, 27, and 28, 1983  
February 7 and 17, 1983

38617 A

April 13 and 20, 1982

38624 B

April 12 and 20, 1982  
May 4, 1982

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DWA/PO No. (con't)

MTR/CC Date

39666

March 3, 1983  
May 4, 1983  
January 31, 1983

38625

May 13, 1982  
April 22, 1982

21834S

August 11, 1982

21935S

August 11, 1982

27639S

January 5, 1984

17461 A

April 20 and 23, 1982

17328

February 10, 1982

17387

April 20, 1982

4. Contrary to Criterion V of Appendix B to 10 CFR Part 50, Section 5.2.2 of the QAM, and Subsection NCA-3867.4(c) of the ASME Code, it was noted that Gulfalloy PO 22-27-22672 dated July 14, 1984 to Copperweld Regal Tubing (CRT) did not reference the code requirements identified on TUGCo's PO; and Gulfalloy's MTR dated September 23, 1981 certified that the material met the requirements of "ASME Section III, 1974 Edition thru 1974 Winter Addenda, NB-2000 for Class 1 material", but CRT's CMTR dated September 3, 1981 did not document that the material met the code requirements.

B. UNRESOLVED ITEMS:

None

C. STATUS OF PREVIOUS INSPECTION FINDINGS:

1. (Closed) Violation (84-01):

Current copies of 10 CFR Part 21 and Section 206 of the Energy Reorganization Act of 1974 were not posted in a conspicuous place. Appropriate procedures to evaluate deviations or inform the licensee or purchaser of the deviation did not exist.

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Current copies of 10 CFR Part 21 and Section 206 of the Energy Reorganization Act of 1974 were found posted on the main office bulletin board. Quality Assurance Procedure N-10, "Reporting of Defects and Noncompliance", Revision 0 dated October 13, 1984 was also posted. A requirement to check for continued posting of a current copy of 10 CFR 21 and Section 206 has been added as Item F, Section 2 of QA Procedure N-4, "Internal Audit."

2. (Closed) Violation 84-01:

POs placed with Gulfalloy specified 10 CFR Part 21 as an applicable requirement for ASME Code Section III material. However, in ordering the material from manufacturers, Gulfalloy did not "pass on" 10 CFR Part 21 as a requirement.

The inspector reviewed a random sample of 10 POs for material to be supplied by Gulfalloy to nuclear power plants. The POs were placed in late 1983 through 1984. In each case, Gulfalloy's PO to their supplier stated that 10 CFR 21 applied to the material being ordered.

Section 5.8 of Gulfalloy's internal audit procedure also has been revised to assure that 10 CFR 21 is imposed on Gulfalloy's suppliers. This is verified by a random sampling of applicable POs. In addition, Gulfalloy notified all their suppliers (57) by mail on October 10, 1984, that 10 CFR 21 applies to orders that require implementation of their approved Quality Assurance Program. This letter required a positive response that the company was and continues to be in compliance with 10 CFR Part 21 for such nuclear-related orders. As of the date of the inspection, 40 replies had been received.

3. (Closed) Nonconformance (84-01):

A receipt inspection was not performed for 6, 6 in. SA-234 tees.

The customer order file was reviewed to verify that a shipping inspection was performed prior to the parts leaving the Gulfalloy facility. Gulfalloy also committed to expand their normal sample size when reviewing PO files during the following scheduled internal audit (January, 1985); ensure the QA Manager reviews all nuclear-related POs prior to close-out; and conduct training on the applicable section of the Gulfalloy QA Manual.

The inspector verified that the number of PO files reviewed during the internal audit conducted in January - February 1985, was



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doubled over the number reviewed in previous audits. The inspector also verified that a stamp with QA Manager's signature block is now affixed to all nuclear-related POs, and that training in the requirements of QA Manual Section 5, Procurement, was conducted on July 26, 1984.

4. (Closed) Nonconformance (84-01):

Three POs for nuclear-related material did not require a QA program certification statement (supplier's QA program approved by ASME or Gulfalloy).

Gulfalloy reviewed the customer order file for each of these suppliers. Two had ASME certificates in effect at the time the orders were placed; the third supplier's QA program had been previously audited and approved by Gulfalloy. Thus, although it was after the fact, each supplier was shown to be properly qualified to provide the subject material.

5. (Closed) Nonconformance (84-01):

A Nondestructive Examination (NDE) vendor performed NDE services for Gulfalloy in May 1983, without their written practice of training and performance being on file at Gulfalloy. Further, there was no evidence that Gulfalloy had approved the NDE vendor's written practice of providing NDE services.

The inspector verified that Gulfalloy has since audited and approved their NDE supplier's program (Service Report Evaluation dated 9-14-84) and that their written practice (QAP 970900-75, Rev. 5 dated July 9, 1982) is presently on file at Gulfalloy.

6. (Closed) Nonconformance (84-01):

Gulfalloy obtained the services of a pipe coating supplier without surveying or auditing the supplier.

Gulfalloy reconstructed the events surrounding the purchase of the pipe coating service and determined that even though the company shared yard space with Gulfalloy, it remained a subcontracted service. Gulfalloy is thus now fully aware of what constitutes a subcontracted service transaction and the proper administrative control thereof. All nuclear-related material and subcontracted services POs are required to be reviewed and approved by the Gulfalloy Manager of Quality Assurance.

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7. (Open) Nonconformance (84-01):

Gulfalloy Power Sales/Purchasing personnel had not received QA Program indoctrination training between 1980 and 1984.

Gulfalloy committed to perform the required training in July and November, 1984. The inspector noted that the training scheduled for July was accomplished on July 26, 1984. The training scheduled for November 1984 was not accomplished as of the date of this inspection.

8. (Open) Nonconformance (84-01):

The cause and corrective action taken to resolve deficiencies noted in audits conducted in January 1982 and January 1984 was not documented. Also, reaudits were not performed in any of the deficient areas noted in the January 1982 audit.

Gulfalloy committed to document the cause of the deficiencies noted in the audits of January 1982 and January 1984. Also, Gulfalloy committed to reaudit the deficient areas. The inspector noted that the root cause of past audit deficiencies has not yet been determined. It was noted that the format of the Gulfalloy Nonconformance Report (ie, the vehicle for tracking and resolving such deficiencies) does not specifically identify "cause" as a topic of investigation and resolution.

D. OTHER FINDINGS OR COMMENTS:

1. Allegation - In August 1984, the NRC Region II Office of Investigation was made aware of an allegation, which pertained to purchasing commercial grade material and supplying it to FP&L as nuclear grade.

The NRC inspector reviewed 20 procurement documentation packages for nuclear items ordered by FP&L and sent to the Turkey Point (15) and St Lucie (5) nuclear facilities. Documentation packages consisted of written inquiries; FP&L POs, specifications, and Special Quality Assurance Documents (SQAD); Gulfalloy POs and Receiving Inspection Reports; manufacturer's CMTRs plus heat treat charts and nondestructive examination (NDE) reports, where applicable; and Gulfalloy MTRs, CCs, and Delivery Tickets.

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On March 6, 1981, FP&L issued a blanket PO 38497-39056C which authorized Gulfalloy to furnish nuclear safety related items for the Turkey Point nuclear facility. The PO referenced SQADs 1001 and 1002. SQAD 1001 established minimum QA requirements to be satisfied by Gulfalloy, and SQAD 1002 addressed the requirements of POs requiring compliance to 10 CFR Part 21. Specific orders were placed on Delivery and Work Authorizations (DWA) in accordance with the terms and conditions of the blanket PO. Each DWA noted that it was a "Nuclear Safety Related Order QL-1" and referenced SQAD 1001 and SQAD 1002. QL-1 orders for items for St. Lucie were placed on separate POs which also referenced SQAD 1001 and 1002.

The NRC inspector reviewed the following nuclear orders:

<u>No.</u>	<u>DWA/PO (Date)</u>	<u>Item</u>	<u>Manufacturer</u>
1	34648 (9-29-81)	3 - pipe/fittings/ flanges	Damascus Tubular Products Taylor Forge WFI
2	39641 (1-17-83)	8 - pipe/fittings	Sandvik Custom Alloy Camco Fittings Alloy Stainless Products
3	39541 (12-6-82)	28 - pipe/fittings/ flanges/ fasteners	Quanex Nippon Kokan Kawasaki Steel Cardinal Indus- trial Products Capitol Manu- facturing Nippon Benkan WFI Tube-line
4	38617A (3-19-82)	9 - pipe	Quanex U. S. Steel Sandvik
5	79935W (6-29-84)	1 - bar	WFI



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<u>No.</u>	<u>DWA/PO (Date)</u>	<u>Item</u>	<u>Manufacturer</u>
6	38624B (3-19-82)	9 - fittings	Ametex Tube-Line Capitol Manu- facturing
7	39666 (1-3-83)	10 - pipe/ fittings/ flanges	Standard Fittings Hackey National Flange & Fittings Nippon Ber Nippon Kokan Quanex
8	38625 (3-19-82)	25 - fittings/ flanges	WFI Tube-Line Capitol Manu- facturing
9	21834S (7-26-82)	1 - caps	Custom Alloy
10	21935S (8-2-82)	2 - fittings	Camco Fittings
11	22046S (8-18-82)	order was cancelled	
12	24503C (11-10-81)	19 - pipe/ fittings	Tube-Line WFI Tube Turns Standard Fittings
13	26112C (12-17-82)	QL-2 order for flexible hose	
14	26398W (1-25-83)	2 - fasteners	Cardinal Indus- trial Products
15	399140 (11-3-81)	1 - fittings	Camco Fittings
16	28660B (9-3-81)	12 - pipe/ fittings flanges	Sandvik Camco Fittings Taylor Forge ITT Grinnell Hackey
17	27639W (10-15-83)	1 - fasteners	Texas Bolt

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<u>No.</u>	<u>DWA/PO (Date)</u>	<u>Item</u>	<u>Manufacturer</u>
18	17461A (4-1-82)	15 - pipe/ shapes	All States Steel
19	17328 (2-5-82)	3 - plate	All States Steel
20	17387 (3-3-82)	7 - plate/bar/ shapes	All States Steel

It was noted that items for purchase nos. 4 (partial), 5, 6, 9, 10, and 15 were ordered to Section III/Class 2 of the ASME Code. Items on the remaining orders were to the following ASTM specifications: pipe (A312, 53 and 106); fittings (A182, 234, 403, and 105); flanges (A105 and 181); fasteners (A307, 193, and 194); and shapes (A36). The Gulfalloy POs for orders to Section III/Class 2 specified the ASME Code requirements to manufacturers.

The majority of manufacturers were holders of a Quality System Certificate (Materials) or had been audited by Gulfalloy. However, POs were placed with Tube-Line (nos. 3, 6, 8 and 12); Cardinal Industrial Products (nos. 3 and 4), Ametex (no. 6), Standard Fittings (nos. 7 and 12), Hackey (nos. 7 and 16) and National Flange & Fittings (no. 7), and these manufacturers were never audited by Gulfalloy or were audited after the items were ordered (see Nonconformance A.1). Items manufactured by Nippon Kokan (NK), Kawasaki Steel (KS), and Nippon Benkan (NB) on order no. 3; Hackey, NB, and NK on order no. 7; ITT Grinnell and Hackey on order no. 16 were ordered thru Gulf Supply and/or Benko Fittings and Flange, two sister companies of Gulfalloy. Gulf Supply and Benko Fittings and Flange have never been audited or surveyed by Gulfalloy. NK, KS, and NB are ASME certificate holders, but Gulfalloy did not have a copy of a Quality System Certificate (Materials) for each company (see Nonconformance A.2).

Although FP&L imposed CFR Part 21 requirements on all the QL-1 orders, Gulfalloy failed to specify Part 21 requirements on their POs to manufacturers for purchase nos. 1, 2, 3, 4, 6, 7, 8, 9, 12, 15, 16, 17, 18 and 19. Failure to pass on Part 21 requirements to vendors was identified during a previous inspection conducted on July 16-20, 1984 (see Violation A.2, report no. 99900343/84-01). With the exception of the CMTRs from Capitol Manufacturing (order no. 3), WFI (no. 5), Custom Alloy (no. 9), Tube Turns (no. 12), and Camco Fittings (no. 15), CMTRs from the other manufacturers on all the orders did not certify that 10 CFR Part 21 was required

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during the fabrication of the items. However, for all orders Gulfalloy certified on applicable MTRs or CCs that the items were furnished under the requirements of SQAD 1002 (ie, Part 21) (see Nonconformance A.3). The improper certification of MTRs and CCs by Gulfalloy should have been detected by FP&L since Gulfalloy transmitted a copy of all the CMTRs to the licensee.

Based on the results of examining the documents relating to 20 nuclear orders from FP&L from September 1981, through January 1983, it was noted that the items on order 1, 2, 3, 4 (partial), 7, 8, 12, 14, 16, 17, 18, 19, and 20 were purchased as commercial grade and supplied to FP&L as nuclear grade thus substantiating the allegation. There was no documented evidence that Gulfalloy upgraded any material in accordance with the requirements of Subsection NCA-3867.4(e) of Section III of the ASME Code.

2. Control of Purchase Material - The inspector reviewed approximately 52 procurement documentation packages pertaining to nuclear orders from 1975 thru 1985. The customers were TUGCo (4), Baltimore Gas & Electric (3), Stone & Webster (3), Ebasco (8), Bechtel (31) and Pacific Gas & Electric (3). The review was undertaken to assure that applicable regulatory, technical, and QA program requirements are included or referenced in procurement documents, and that nuclear was purchased from approved vendors.

TUGCO - The 4 orders were from July 1981 through March 1982. With the exception of order CPF 1000-S (see Nonconformance A.4), information certified by Gulfalloy on their MTR or CC agreed with the technical data contained in the manufacturer's CMTR. However, it was noted that Gulfalloy's Pos did not specify the requirements of 10 CFR Part 21.

Baltimore Gas & Electric (BGE) - The 3 orders from BGE from November 1979 thru December 1980 were for Section III/Class 1 tubing. Gulfalloy POs were to Teledyne Columbia (TC), who had been audited by Gulfalloy, for direct shipment to Calvert Cliffs nuclear facility. Gulfalloy MTRs agreed with TC CMTRs.

Stone & Webster - All the items for the three purchases in May and July 1981 for Riverbend were ordered by Gulfalloy from certificate holders or vendors approved by Gulfalloy.

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Ebasco - Six orders (October 1981 thru December 1981) were for items for Waterford and 2 orders (April and May 1975) were for St. Lucie No. 1. Gulfalloy POs for 2 of the 6 orders for Waterford referenced Part 21. All the material was ordered from approved vendors.

Bechtel - Thirty-one procurement packages for Palo Verde, Hope Creek and Arkansas Nuclear received between 1980 and 1984 were reviewed. In each case the material was intended for nuclear power plant application with Bechtel acting as agent for the utility. Upon review, it was found that all Gulfalloy suppliers (e.g., Sandvik, Quanex, Capitol Manufacturing, Hawley Forge) were either certificate holders or had been audited and approved by the Gulfalloy QA Department. No irregularities were found with the material requirements of the customers PO and the material certified by Gulfalloy.

Pacific Gas & Electric - The three orders for Diablo Canyon were placed from September 1984 thru March 1985. All of Gulfalloy's POs were in order as well as their MTRs and CCs.



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ITEM NO.	TYPE OF DOCUMENT	DOCUMENT NO.	REV.	DATE	TITLE / SUBJECT
1	QAM		15	2/84	QA PROGRAM MATERIALS IDENTIFICATION & VERIFICATION MANUAL
2	Ro	38497-39056C		3-6-81	Blanket Po from FPLC to Gulfway for Turkey Point
3	OTH	SQAD 1001	3	4-30-81	FPLC's "Quality Requirements for Items Requiring Nuclear Quality Assurance"
4	OTH	SQAD 1002	3	4-30-81	FPLC's "Defects or Non-Compliance Reporting Requirements for Nuclear Related purchases"
5	OTH	SQAD 1005	1	4-30-81	FPLC's "Standard Quality Control Notices"
6	OTH				20 - PROCUREMENT DOCUMENTATION PACKAGES (FPLC)
7	OTH				4 - " " " " (TUGCO)
8	OTH				8 - " " " " (EBASCO)
9	OTH				3 - " " " " (Stone & Webster)
10	OTH				7 - " " " " (Bechtel)
11	QAP	N-10	0	10/10/84	Reporting of Defects and Non Compliance
12	QAP	N-4	0	10/30/84	Internal Audits
13	OTH				198 - Procurement Packages (Bechtel for Arizona Public Service)
14	OTH				1 - " " " (Bechtel for Arkansas Power & Light)
15	OTH				3 - " " " (Bechtel for Pacific Gas & Electric)

TYPE OF DOC:

DWG - DRAWING  
 SPEC - SPECIFICATION  
 PRO - PROCEDURE  
 QAM - QA MANUAL  
 QCD - QC DOCUMENT  
 P.O. - PURCHASE ORDER  
 THH - INTERNAL MEMO

LTR - LETTER  
 OTH - OTHER  
 QAP - QA PROC.



INSPECTOR J. T. CONWAY / E. H. TRILLION

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16	OTH				1- Procurement Package (Bertel for Pub. Service Clock + Gen)
17	OTH				2- " " (Bertel for TUGCo)
18	CTR			Oct 10, 84	10 CFR 21 Compliance Documentation Letter
19	QAP	7909-001-75	5	July 9, 82	Southern Western Lab's Qualification + Certification of NDE Personnel
20	OTH	-	-	9-14-84	Subcontracted Service Report Evaluation (Go Valley of Southern Western)
21	OTH	-	-	10-7-83	" " " "
22	CTR	-	-	10-20-84	Go Valley letter to Charco, Re: Pipe Coating Details
23	OTH	-	-	2/28/85	Audit Report: (Re-audit of Jan '82 and Jan '84 audits)

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 TIRN - INTERNAL MEMO

LTR - LETTER  
 OTH - OTH  
 QAP - QAP