

Babcock & Wilcox

Power Generation Group

P.O. Box 1260, Lynchburg, Va. 24505

Telephone: (804) 384-5111

August 15, 1979

George T. Frampton, Jr., Esq.
Rogovin, Stern and Huger
1730 Rhode Island Ave., N.W.
Washington, D.C. 20036

Dear Mr. Frampton:

Enclosed are the following items:

- 1) Purchase Order file for the TMI-2 PORV
- 2) B&W Analysis of the 3/20/78 SMUD Transient.

Our record indicates that you now have copies of all documents requested in your August 1 letter to George Edgar.

Very truly yours,

David D. Embrey

David D. Embrey
Contracts-Legal
Nuclear Power Generation Div.

DDE:nnc
Enclosures
cc: G. L. Edgar, Esq. w/o Enc.

Rec'd 8/27
need
best be
copied.
Please
Notify
Fred & John
+ Wayne Manning.
GF
DONE
8/27

8001210 552
P

CHANGE ORDER LOG

ORDER NO

TOTAL ORIGINAL COMMITMENT 24,870

| C.O. NR | C.O. DATE | DATE C.O. ACCEPTED | DESCRIPTION | AMOUNT | TOTAL ORDER VALUE |
|---------|-----------|--------------------|---|-----------|-------------------|
| 1 | 11-2-70 | 11-19-70 | incorporate SC-75 to spec CS-5-107 which cancels SC-58 as a requirement of the order | N.C. | |
| 2 | 1-3-72 | 1-3-72 | Release to manufacturer all values | N.C. | |
| 3 | 8-9-72 | | Change set point on Press Safety Values | N.C. | |
| 3A | 8-21-72 | | add cost of up #3 | \$ 600.00 | 25,470 |
| 3 | 7-21-72 | 8-3-72 | SC-218 | N.C. | |
| 4 | 10-13-72 | | SC 223 & Prof. Engrs Cost. | N.C. | |
| 5 | 1-5-73 | | MEASURE WALL TAN. - RETEST | 616 | 16,086 |
| | | | | | |
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11-2-14

* DENOTES CREDIT

THE BABCOCK & WILCOX COMPANY

POWER GENERATION DIVISION

HSS-6/188-9

P. O. Box 1260, Lynchburg, Va.

24505

PURCHASE ORDER

8A30.41
REQUISITION NO. & DATE

E Wilder 110172

DATE

NUMBER

120573

022660LS

Dresser Industries
Industrial Valve & Inst. Corp.
P. O. Box 1430
Alexandria, La. 71301

CHANGE ORDER NO. 5

VENDOR NUMBER

CONTRACT NUMBER

6200006

THE REQUIRED DATE LISTED BELOW IS THE DATE MATERIALS/ITEMS ORDERED ARE REQUIRED AT DESTINATION IN U.S.A.

SHIP TO Attention: Mr. Gary Freet

SHIP VIA

F.O.B.

TERMS OF PAYMENT

| ITEM | QUANTITY | U/M | DESCRIPTION | FOLIO | REQ'D DATE | SHOP | CWT | COMM CODE | NET PRICE PER | U/M | U/M |
|------|---------------|-----|---|--------------|------------|------|-----------|-----------|---------------|-----|--------------|
| | 7 6 5 4 3 2 1 | | | 16 5 4 3 2 1 | MO DA YR | | 5 4 3 2 1 | 5 4 3 2 1 | 6 5 4 3 2 1 | | |
| | | | <u>CHANGE ORDER NO. 5</u> | | | | | | | | |
| | | | This Change Order No. 5 authorizes Dresser Industries to measure and record wall thickness of valves, mark no. RC-VIA and RC-VIB. This is to be done in accordance with B&W letter and sketch dated 10-12-72 and Dresser letter dated 10-25-72. | | | | | | | | |
| | | | This will require disassembly, recording actual measured minimum wall thickness, reassemble and retest each valve. | | | | | | | | \$308.00 ea. |
| | | | Dresser Industries is to forward calculated and actual measured wall thickness to B&W for review prior to a release for shipment of valves. | | | | | | | | |
| | | | Pricing is in accordance with Dresser's quote of 10-26-72. Total cost authorized by this Change Order is - | | | | | | | | \$616.00 |
| | | | Total cost of this purchase order now reads - | | | | | | | | \$26,086.00 |
| | | | This purchase order is changed only as authorized above and no other changes are authorized by this change order. | | | | | | | | |

PLEASE FURNISH THE ITEMS ABOVE TO THE TERMS & CONDITIONS ON BACK HEREOF. ACKNOWLEDGE THIS ORDER PROMPTLY AND STATE DEFINITELY WHEN SHIPMENT WILL BE MADE.

THE BABCOCK & WILCOX COMPANY
POWER GENERATION DIVISION

SALES TAX STATUS EXEMPT NON EXEMPT STATE _____ NO _____

PURCHASE ORDER, CONTRACT, ITEM AND FOLIO NO. MUST BE SHOWN ON ALL PACKAGES INVOICES, PAPERS AND DRAWINGS.

BY _____ AUTHORIZED SIGNATURE

INVOICE IN QUADRUPPLICATE SHOWING OUR PURCHASE ORDER NO., CONTRACT NO., ITEM NO., FOLIO NO., WHETHER PARTIAL OR FINAL BILLING AND MAIL TO THE ACCOUNTS PAYABLE DEPARTMENT AT THE ABOVE ADDRESS.

G. T. Sund, Buyer

c/o # 5

Dresser

PO 02266045

A.S.P.

620,0006

G.W. Street

This change order # 5 authorizes Dresser Ind. to measure & record wall thickness of valves, mark no. RC-VIA & RC-VIB. This is to be done in accordance with B&W letter ^{SKETCH} 10-12-72 & Dresser letter dated 10-25-72.

This will require disassembly, recording actual measured minimum wall thickness, reassembly & retight each valve.

\$ 308,00 ca.

Dresser Ind. is to forward calculated & actual measured minimum wall thickness to B&W for review prior to a release for shipment of valves.

Pricing is in accordance with Dresser's quoted of 10-26-72. Total cost unchanged by this c/o is \$ 616,00, the total cost of this PO now reads \$ 26,086.00.

All other terms and cond of original PO are unchanged

Mell

BUYER'S COPY

THE BABCOCK & WILCOX COMPANY

POWER GENERATION GROUP

P. O. Box 1200, Lynchburg, Va. 24501

ADDRESS

REQUISITIONED BY & DATE

E. Wilder 10/05/72

T
O
Lessor Industries
Industrial Valve & Instrument Corp.
P. O. Box 1430
Alexandria, La. 71301

SHIP TO Attention: Mr. Gary Preet

PURCHASE ORDER

DATE

10/12/72

NUMBER

02200013

CHANGE ORDER NO. 4

VENDOR NUMBER

CONTRACT NUMBER

620-0005

THE REQUIRED DATE LISTED BELOW IS THE DATE MATERIALS/ITEMS ORDERED ARE REQUIRED AT DESTINATION IN U.S.A.

SHIP VIA

F.O.B.

TERMS OF PAYMENT

| ITEM | QUANTITY | U/M | DESCRIPTION | FOLIO | | | REQ'D DATE | | | SHOP | CWT | COMM CODE | | | NET PRICE PER | | | U/M | U/M | | |
|---|----------|-----|---------------------------|-------|---|---|------------|----|----|------|-----|-----------|---|---|---------------|---|---|-----|-----|---|---|
| | | | | 1 | 2 | 3 | MO | DA | YR | | | 1 | 2 | 3 | 1 | 2 | 3 | | | | |
| | 7 | | <u>CHANGE ORDER NO. 4</u> | 16 | 5 | 4 | 3 | 2 | | | 5 | 4 | 3 | 2 | 1 | 6 | 5 | 4 | 3 | 2 | 1 |
| <p>Please make this change a permanent addendum to this purchase order.</p> <p>The attached Specification Change Number (223) is to adjust all records to comply with forging material as furnished.</p> <p>Attached herewith is B&W Professional Engineer Certification and Specifications Package.</p> <p>There is to be no additional charges to B&W with this change. All other terms and conditions are unchanged.</p> | | | | | | | | | | | | | | | | | | | | | |

PLEASE FURNISH THE ITEMS ABOVE TO THE TERMS & CONDITIONS ON BACK HEREOF. ACKNOWLEDGE THIS ORDER PROMPTLY AND STATE DEFINITELY WHEN SHIPMENT WILL BE MADE.

THE BABCOCK & WILCOX COMPANY
POWER GENERATION GROUP

SALES TAX STATUS EXEMPT NON EXEMPT STATE _____ NO _____

PURCHASE ORDER, CONTRACT, ITEM AND FOLIO NO. MUST BE SHOWN ON ALL PACKAGES INVOICES, PAPERS AND DRAWINGS.

BY _____ AUTHORIZED SIGNATURE

INVOICE IN QUADRUPPLICATE SHOWING OUR PURCHASE ORDER NO., CONTRACT NO., ITEM NO., FOLIO NO., WHETHER PARTIAL OR FINAL BILLING AND MAIL TO THE ACCOUNTS PAYABLE DEPARTMENT AT THE ABOVE ADDRESS.

E. W. Wilder

September 5, 1972

Dresser Industries
Industrial Valve & Instrument Corp.
P. O. Box 1430
Alexandria, La. 71301

Attention: Mr. Gary Freet

Re: B&W P.O. 022660LS, 620-0006
Request for quote - minimum
wall thickness

Gentlemen:

It is requested that Dresser determine the required minimum wall thickness and submit quote for measurements of wall thickness for item one (1) on the above purchase order, mark nos. RC-RV1A and RC-RV1B.

Wall thickness measurements are to be made of the pressure boundary material and are to be compared with Dresser's calculated required minimum wall thickness for the measured points.

Release for subject valves is dependent upon receiving the required minimum wall thickness and quote for supplying the actual wall thickness.

Please advise B&W immediately on amount of delay this will create in determining minimum wall thickness and submitting of quote for actual measurements.

This is an inquiry; do not proceed with these items until quoted and advised to proceed with these requirements.

Very truly yours,

BABCOCK & WILCOX COMPANY
Power Generation Division

G. T. Sund, Buyer
Purchasing Department

GTS:bam

Dresser Ind.

New York

Ref: B&W 02260025
620-0006Request for quote
min. wall thickness.

Gentlemen

It is requested that Dresser determine the required minimum wall thickness & submit quote for measurements of wall thickness for item one (1) on the above PO, mark NO RC-RV10 & RC-RV18

TP Wall thickness measurements are to be made of the pressure bearing material & are to be compared with Dresser's calculated required minimum wall thickness for the measured points.

TP Release for subject valves is dependent upon receiving the required minimum wall thickness & quote for supplying the actual wall thickness.

TP Please advise B&W immediately on amount of delay this will create in determining minimum wall thickness & submitting of quote for actual measurements.

TP ~~Examinations should not proceed until~~
This is a invoice, do not proceed with these examinations until quoted & advised to proceed with these requirements.

CF

THE BABCOCK & WILCOX COMPANY

POWER GENERATION DIVISION

P. O. Box 1400, Lynchburg, Va. 24505

ADDRESS

PURCHASE ORDER

DATE
082172

NUMBER
02200013

CHANGE ORDER NO. 3A

VENDOR NUMBER

CONTRACT NO.
6200006

PURCHASE ORDER, CONTRACT, ITEM AND FOLIO NO. MUST BE SHOWN ON ALL PACKAGES, INVOICES, PAPERS AND DRAWINGS.

REQUISITIONED BY & DATE

E. Wilder 7/4/72

Dresser Industries
P. O. Box 1400
Alexandria, La. 71301

Attention: Mr. Gary Frost

SHIP VIA

F.O.B.

TERMS OF PAYMENT

| ITEM | QUANTITY (1)(2)(3)(4)(5) | U/M | DESCRIPTION | FOLIO (1)(2)(3)(4)(5) | MO | DA | YR | SHOP | CWT (1)(2)(3)(4)(5) | COMM CODE (1)(2)(3)(4)(5) | NET PRICE PER U/M (1)(2)(3)(4)(5) | U/M |
|------|-----------------------------|-----|--|--------------------------|----|----|----|------|------------------------|------------------------------|--------------------------------------|-----|
| | | | CHANGE ORDER NO. 3A | | | | | | | | | |
| | | | Please refer to the subject order and note the following change. | | | | | | | | | |
| | | | A) Lilling; only, reset and test two (2) valves, Mark RC-RV1A and RC-RV1B per Change Order No. 3 (7-19-72) | | | | | | | | | |
| | | | The cost for the above change is \$600.00 net in accordance with Dresser acknowledgment dated August 4, 1972. The total value of this order now reads \$25,470.00. | | | | | | | | | |
| | | | All other terms and conditions remain unchanged. | | | | | | | | | |

PLEASE FURNISH THE ITEMS ABOVE TO THE CONDITIONS ON BACK HEREOF.

INVOICE IN QUADRUPPLICATE SHOWING OUR PURCHASE ORDER NO., CONTRACT NO., ITEM NO., FOLIO NO., WHETHER PARTIAL OR FINAL BILLING AND MAIL TO THE ACCOUNTS PAYABLE DEPARTMENT AT THE ABOVE ADDRESS. ACKNOWLEDGE THIS ORDER PROMPTLY AND STATE DEFINITELY WHEN SHIPMENT WILL BE MADE.

SALES TAX STATUS

NON EXEMPT

EXEMPT

STATE _____

NO. _____

THE BABCOCK & WILCOX COMPANY
POWER GENERATION DIVISION

BY _____
AUTHORIZED SIGNATURE

FOR INFORMATION REGARDING THIS ORDER PLEASE COMMUNICATE WITH OUR BUYER

Dresser Ind.
A-landmark

Barry Hunt

RE: ~~Barry~~ Change order 3A
B&W PO 02266025
670-0006

Sentiments

Please refer to the subject order & note the following changes.

A) Billing only, reset & test 2 valves
marks RC-RV 1A & RC-RV 1B per
change # 3 (8-10-72) ~~\$ 600.00~~

The cost for the above change is \$ 600.00 net in accordance with Dresser acknowledgement dated August 4, 1972. The total value of this order now reads, \$ 25,470.00.

All other terms & cond remain unchanged

BW

THE BABCOCK & WILCOX COMPANY
POWER GENERATION GROUP

| | | |
|-------|------------------------------|---------------------------------|
| To | E. WILDER | |
| From | T. SUND, PURCHASING (2367) | BDS 663-5 |
| Cust. | JERSEY CENTRAL POWER & LIGHT | File No. or Ref. NSS-6/188-5 |
| Subj. | CONTRACT #620-0006 | Date 8-16-72 |

This letter to cover one customer and one subject only.

B&W P.O. 022660LS (Dresser)

Have been advised Change #3 to P.O. too late for no charge basis.
Order changed per your 7-24-72 req.

Please send new change order req. to allow payment of \$600.00.
Copy of invoice attached. My understanding is cost to be forwarded
to customer.

GTS:bam

Attachment 8-21-72

orig. req. covers -

not req of plt. design to issue second change order

E. WILDER

T. SUND, PURCHASING

(2367)

JERSEY CENTRAL POWER & LIGHT

NSS-6/188-5

CONTRACT #620-0006

8-16-72

B&W P.O. 022660LS (Dresser)

Have been advised Change #3 to P.O. too late for no charge basis.
Order changed per your 7-24-72 req.

Please send new change order req. to allow payment of \$600.00.
Copy of invoice attached. My understanding is cost to be forwarded
to customer.

GTS:bam

Attachment

THE B. COCK & WILCOX CO PANY

POWER GENERATION DIVISION

P. O. BOX 1430, ALEXANDRIA, LA. 71301

ADDRESS

PURCHASE ORDER

DATE

NUMBER

081078

0200003

CHANGE ORDER NO. 3

VENDOR NUMBER

0200000

PURCHASE ORDER, CONTRACT, ITEM AND FOLIO NO. MUST BE SHOWN ON ALL PACKAGES, INVOICES, PAPERS AND DRAWINGS.

REQUISITIONED BY & DATE

A. Wilder 07/24/78

T
O
Dresser Industries
Industrial Valve & Instrument Corp.
P. O. Box 1430
Alexandria, Louisiana 71301
Attention: Mr. Gary Frest



SHIP VIA

F.O.B.

TERMS OF PAYMENT

| ITEM | QUANTITY | U/M | DESCRIPTION | FOLIO | | | SHOP | CWT | COMM. % | NET PRICE PER U/M | |
|------|--------------|-----|--|-------|----|---|------|-----|---------|-------------------|--------------------|
| | | | | 10 | 15 | 4 | | | | 3 | 2 |
| | 716151413121 | | <u>CHANGE ORDER NO. 3</u> | | | | | | | | |
| | | | You are authorized to change the setpoint on the Pressurizer Safety Valves which are item 1 of the basic purchase order. | | | | | | | | No change in price |
| | | | All other terms and conditions of the order remain the same. | | | | | | | | |
| | | | Seller warrants that the goods to be furnished hereunder comply with the requirements of the Department of Energy and Health Act of 1970 as amended. | | | | | | | | |

PLEASE FURNISH THE ITEMS ABOVE TO THE CONDITIONS ON BACK HEREOF. INVOICE IN QUADRUPPLICATE SHOWING OUR PURCHASE ORDER NO., CONTRACT NO., ITEM NO., FOLIO NO., WHETHER PARTIAL OR FINAL BILLING AND MAIL TO THE ACCOUNTS PAYABLE DEPARTMENT AT THE ABOVE ADDRESS. ACKNOWLEDGE THIS ORDER PROMPTLY AND STATE DEFINITELY WHEN SHIPMENT WILL BE MADE.

SALES TAX STATUS

NON EXEMPT

EXEMPT

STATE _____

NO. _____

THE BABCOCK & WILCOX COMPANY

POWER GENERATION DIVISION

BY _____ AUTHORIZED SIGNATURE

H. W. Wilder, Buyer
FOR INFORMATION REGARDING THIS ORDER
PLEASE COMMUNICATE WITH OUR BUYER

Use P.O. Qum Dresser.

P00266069 #7
Change Notice

You are authorized to change the setpoint
for the Pressure safety valves which are
item 1 of the basic order

NO change in price

all other terms & conditions of the order remain
the same

Table for ads

2 whs

File no/P0

NPG ENGINEERING CHANGE AUTHORIZATION

| | | | |
|---|---|---|--------------------------------------|
| 1 | Applicable DWGs/Specs: 1028/NSS-6/0170 | 2 | B&W Engr. Change No: Spec. Chg. 218 |
| 3 | Supplier: Dresser Industries | 4 | Contract No: 620-0376 |
| 5 | Purchase Order: 022660LS | 6 | Component: Pressurizer Safety Valves |
| 7 | Description of Change (Use attach. if req'd.) | | |

Revise Para. 3.7 to read:

3.7 The valves shall be the spring loaded pop type and set to relieve at 2450 psig \pm 1% and reset at 2325 psig. The valve shall be designed to permit blowdown adjustment of a minimum of 5%. Accurate measurement of blowdown may not be possible due to limited capacity of vendor's test facility; in such case the vendor shall set blowdown adjusting rings for a minimum of 5% based on past experience.

Note: This change is necessary since the customer has added pressurizer safety valve water seals.

| | | | |
|--|---|----|--|
| The Below Listed Items are for B&W Internal Use Only | | 8 | NPGD Proc. No. NPG-0412-03 |
| 9 | To Project Manager: EG Ward | 10 | Other Applicable Contracts: |
| 11 | System: Reactor Coolant | | |
| 12 | File No: NSS-6/8A30.41 Dresser | | |
| 13 | Recommended Standards Change | 14 | Reason For Change: Engrg. Dept. Required Change/ <input type="checkbox"/> Project Manager Request <input type="checkbox"/> Other: Customer Request/ <input checked="" type="checkbox"/> Suggested Improvement/ <input type="checkbox"/> |
| 15 | Does Change Affect PSAR or FSAR? (Refer NPG-0412-02) NO // YES /x | | |

| 16 | Group or Section | Title | Approval Signature | Date | 17 | Action |
|----|--------------------|-----------------|--------------------|---------|----|--------|
| | Originator | Equip. Engr. | <i>E. J. ...</i> | 7-24-72 | | |
| | Aux. Equip. | Lead Sys. Engr. | <i>H. C. ...</i> | 7-25-72 | | |
| | Aux. Equip. | Design Engr. | <i>G. R. ...</i> | 7-25-72 | | |
| | Control Analysis | Unit Mgr. | <i>W. J. ...</i> | 7-25-72 | | |
| | Quality Assurance | Manager | Information | | | |
| | Project Management | Project Manager | <i>J. T. ...</i> | 7/25/72 | | |

NPG ENGINEERING CHANGE AUTHORIZATION

| | | | |
|---|---|---|--------------------------------------|
| 1 | Applicable Dwgs/Specs: 1028/NSS-6/0170 | 2 | B&W Engr. Change No: Spec. Chg. 218 |
| 3 | Supplier: Dresser Industries | 4 | Contract No: 620-0006 |
| 5 | Purchase Order: 022660LS | 6 | Component: Pressurizer Safety Valves |
| 7 | Description of Change (Use attach. if req'd.) | | |

Revise Para. 3.7 to read:

3.7 The valves shall be the spring loaded pop type and set to relieve at 2450 psig \pm 1% and reset at 2325 psig. The valve shall be designed to permit blowdown adjustment of a minimum of 5%. Accurate measurement of blowdown may not be possible due to limited capacity of vendor's test facility; in such case the vendor shall set blowdown adjusting rings for a minimum of 5% based on past experience.

Note: This change is necessary since the customer has added pressurizer safety valve water seals.

| | | | |
|--|--|----|---|
| The Below Listed Items are for B&W Internal Use Only | | 8 | NPGD Proc. No. NPG-0412-03 |
| 9 | To Project Manager: EG Ward | 10 | Other Applicable Contracts: |
| 11 | System: Reactor Coolant | | |
| 12 | File No: NSS-6/8A30.41 Dresser | | |
| 13 | Recommended Standards Change <input type="checkbox"/> | 14 | Reason For Change: Engrg. Dept. Required Change <input type="checkbox"/> / Customer Request <input checked="" type="checkbox"/> / Project Manager Request <input type="checkbox"/> / Suggested Improvement <input type="checkbox"/> / Other: |
| 15 | Does Change Affect PSAR or FSAR? (Refer NPG-0414-02) NO <input type="checkbox"/> / YES <input checked="" type="checkbox"/> | | |

| 16 | Group or Section | Title | Approval Signature | Date | 17 | Action |
|----|--------------------|-----------------|-----------------------|---------|----|--------|
| | Originator | Equip. Engr. | <i>E. Wilson</i> | 7-24-72 | | |
| | Aux. Equip. | Lead Sys. Engr. | <i>H. Crout</i> | 7-25-72 | | |
| | Aux. Equip. | Design Engr. | <i>GRS / JWM</i> | 7-25-72 | | |
| | Control Analysis | Unit Mgr. | <i>W. H. H. J. J.</i> | 7-25-72 | | |
| | Quality Assurance | Manager | Information | | | |
| | Project Management | Project Manager | <i>D. J. Purkey</i> | 7/25/72 | | |

Dresser

July 26, 1972

Dresser Industries
P. O. Box 1430
Alexandria, La. 71301

Attention: Mr. Gary Freet

Re: CHANGE ORDER NO. 3
B&W Purchase Order
022660LS, 620-0006

Gentlemen:

This Change Order No. 3 is your authorization to incorporate the attached B&W Engineering Change Authorization No. SC-218 which is to become a part of B&W Specification 1025/NSS-6/0170.

This change is to be made at no cost to B&W.

All other portions of this purchase order remain unchanged.

Please sign and return the attached acknowledgment and acceptance copy of this Change Order No. 3 as soon as possible.

Very truly yours,

BALCOCK & WILCOX COMPANY
Power Generation Division

Ronald H. Smith
Purchasing Department

RHS:bam

Attachments

ENGR. CHANGE AUTHORIZATION

| | | | |
|---|---|---|--------------------------------------|
| 1 | Applicable Dwg/Specs: 1028/NSS-6/0170 | 2 | B&W Engr. Change No: Spec. Chg. 218 |
| 3 | Supplier: Dresser Industries | 4 | Contract No: 620-0006 |
| 5 | Purchase Order: 022660LS | 6 | Component: Pressurizer Safety Valves |
| 7 | Description of Change (Use attach. if req'd.) | | |

Revise Para. 3.7 to read:

3.7 The valves shall be the spring loaded pop type and set to relieve at 2450 psig \pm 1% and reset at 2325 psig. The valve shall be designed to permit blowdown adjustment of a minimum of 5%. Accurate measurement of blowdown may not be possible due to limited capacity of vendor's test facility; in such case the vendor shall set blowdown adjusting rings for a minimum of 5% based on past experience.

Note: This change is necessary since the customer has added pressurizer safety valve water seals.

Sheet 1 of 1

| | | | | | | |
|---|---|--|---|---------|----|--------|
| The following items are for B&W Internal Use Only | | NPGD Proc. No. NPG-0412-03 | | | | |
| 9 | To: Project Manager, EG Ward | 10 Other Applicable Contracts: | | | | |
| 11 | System: Reactor Coolant | | | | | |
| 12 | File No: NSS-6/8A30.41 Dresser | | | | | |
| 13 | Recommended Standards Change: <input type="checkbox"/> | 14 Reason for Change: <input type="checkbox"/> Engrg. Dept. Required Change/ <input type="checkbox"/> Project Manager Request/ <input type="checkbox"/> Other: | <input checked="" type="checkbox"/> Customer Request/ <input type="checkbox"/> Suggested Improvement | | | |
| 15 | Cost Impact: <input type="checkbox"/> YES / <input type="checkbox"/> NO (Refer NPG-0412-02) | | | | | |
| 16 | Group or Section | Title | Approval Signature | Date | 17 | Action |
| | Originator | Equip. Engr. | <i>William L. J. [Signature]</i> | 7-24-72 | | |
| | Aux. Equip. | Lead Sys. Engr. | <i>[Signature]</i> | 7-25-72 | | |
| | Aux. Equip. | Design Engr. | <i>[Signature]</i> | 7-25-72 | | |
| | Control Analysis | Cost Mgr. | <i>[Signature]</i> | 7-25-72 | | |
| | Quality Assurance | Manager | Information | | | |
| | Project Management | Project Manager | <i>[Signature]</i> | 7/25/72 | | |

R.G. BURNLEY
8A30.41

January 3, 1972

Dresser Industries
Industrial Valve & Instrument Corp.
P. O. Box 1430
Alexandria, Louisiana 71301

Attention: Mr. Gary Freet

Re: CHANGE ORDER NO. 2
B&W Purchase Order
022660LS, 620-0006

Gentlemen:

Please refer to the subject order and note the following change:

- 1) Dresser Industries is released to manufacture all valves on this order. Item 1, two (2) Pressurizer Safety Valves, Mark No. RC-RV1A and RC-RV1B; Item 2, one (1) Electromatic Relief Valve RC-V2.

The above will be at no cost to B&W. Pricing, terms and conditions are unchanged.

Please sign and return the attached acknowledgment and acceptance copy of this Change Order No. 2 by January 18, 1972.

Very truly yours,

BABCOCK & WILCOX COMPANY
Power Generation Division

T. M. Viar, Senior Buyer
Purchasing Department

TMV:bam

Attachment

B&W QUALITY ASSURANCE DATA SHEET

ORIGINAL

| (1) Inspection Points | (2) Acceptance Standard | (3) Documenta- tion | (4) QA Audits by B&W | | (5) Remarks |
|--|--|---------------------------|-------------------------|----------|--|
| | | | Date | B&W Rep. | |
| 1. Material Verif. | ASME III, 1968 issue w/Addenda thru Summer 1969 | R.C. | | | |
| 2. Radiograph | Dresser: RG-19-Rev. 3 B&W NSS-6-01-41-055-00 | Cert. | | | |
| 3. Liquid Penetrant | Dresser: SP-33-Rev. 2 B&W NSS-6-01-41-046-00 | Cert. | | | |
| 4. Ultrasonic | Dresser: SP-32-Rev.1 B&W NSS-6-01-41-045-00 | Cert. | | | |
| 5. Magnetic Particle | Dresser: SP-34-Rev. 4 & SP-35-Rev. 1 B&W NSS-6-01-41-056-00 NSS-6-01-41-057-00 | Cert. | | | |
| 6. Operational Test including Back Pressure Test | B&W Spec. Dresser: OS-197 Rev. 3 B&W NSS-6-01-41-053-02 | Cert. | | | 1028/NSS-6 dtd. 1-7-70 Technical Sp for Pressuri- zer Relief Valves for Nuclear Ser- vice |
| 7. Hydrostatic | B&W Spec. Dresser: OS-197 Rev. 3 & HY-7 Rev. 1 B&W NSS-6-01-41-053-02 & NSS-6-01-41-039-00 | Cert. | | | (Same as above) |
| 8. Cleanliness | Dresser: CL-12-Rev. 1 B&W NSS-6-01-41-060-00 | Cert. | | | |
| 9. Painting | Dresser: OS-164-Rev. 1 B&W NSS-6-01-41-052-00 | Cert. | | | |
| 10. Data Package | | Documents 1 thru 0 | | | |

620-0006

Component Name: Pressurizer Relief Valve Cust.: JCFML Cont.: 660-
 B&W Spec.: 1028/NSS-6 Date: 1-7-70 P.O.: 022660LS Mark No(s): RC-VIA
 Component Code Classification: ASME III
 Supplier: Dresser Ind. Prepared by: M.J. BURNETTE Date: 1-15-70
 Shop Location: Alexandria, La. Revised by: R.G. Bussard Date: 12-10-71
 Drawing: Dresser: CP-1571 Rev. No.: 2 QA Approval: CR Powers Date: 12-10-71
 B&W: 28-41-002-01

B&W QUALITY ASSURANCE DATA SHEET

| (1) Inspection Points | (2) Acceptance Standard | (3) Documenta- tion | (4) QA Audits by B&W | | (5) Remarks |
|--|--|---------------------------|-------------------------|----------|--|
| | | | Date | B&W Rep. | |
| 1. Material Verif. | ASME III, 1968 issue w/Addenda thru Summer 1969 | R.C. | | | |
| 2. Radiograph | Dresser: RG-19-Rev. 3 B&W NSS-6-01-41-055-00 | Cert. | | | |
| 3. Liquid Penetrant | Dresser: SP-33-Rev. 2 B&W NSS-6-01-41-046-00 | Cert. | | | |
| 4. Ultrasonic | Dresser: SP-32-Rev.1 B&W NSS-6-01-41-045-00 | Cert. | | | |
| 5. Magnetic Particle | Dresser: SP-34-Rev. 4 & SP-35-Rev. 1 B&W NSS-6-01-41-056-00 NSS-6-01-41-057-00 | Cert. | | | |
| 6. Operational Test including Back Pressure Test | B&W Spec. Dresser: OS-197 Rev. 3 B&W NSS-6-01-41-053-02 | Cert. | | | 1028/NSS-6 dtd. 1-7-70 Technical Spec for Pressuri- zer Relief Valves for Nuclear Ser- vice |
| 7. Hydrostatic | B&W Spec. Dresser: OS-197 Rev. 3 & HY-7 Rev. 1 B&W NSS-6-01-41-053-02 & NSS-6-01-41-039-00 | Cert. | | | (Same as above) |
| 8. Cleanliness | Dresser: CL-12-Rev. 1 B&W NSS-6-01-41-060-00 | Cert. | | | |
| 9. Painting | Dresser: OS-164-Rev. 1 B&W NSS-6-01-41-052-00 | Cert. | | | |
| 10. Data Package | | Documents 1 thru 0 | | | |

620-0006

Component Name: Pressurizer Relief Valve Cust.: JCP&L Cont.: 660-
 B&W Spec.: 1028/NSS-6 Date: 1-7-70 P.O.: 022660LS Mark No(s): RC-RV1B
 Component Code Classification: ASME III
 Supplier: Dresser Ind. Prepared by: MJ Burdette Date: 1-15-70
 Shop Location: Alexandria, La. Revised by: R.S. Burdette Date: 12-10-71
 Drawing: Dresser: CP-1571 Rev. No.: 2 QA Approval: CR Powers Date: 12-10-71
 B&W: 28-41-002-01

B&W QUALITY ASSURANCE DATA SHEET

| (1) Inspection Points | (2) Acceptance Standard | (3) Documenta- tion | (4) QA Audits by B&W | | (5) Remarks |
|--------------------------|--|---------------------------|-------------------------|----------|---|
| | | | Date | B&W Rep. | |
| 1. Material Verif. | ASME III, 1968 issue w/Addenda thru Summer 1969 | R.C. | | | |
| 2. Radiograph | Dresser: RG-7-Rev. 3 B&W NSS-6-01-41-044-00 | Cert. | | | |
| 3. Liquid Penetrant | Dresser: SP-33-Rev. 2 B&W NSS-6-01-41-046-00 | Cert. | | | |
| 4. Ultrasonic | Dresser: SP-32-Rev. 1 NSS-6-01-41-045-00 | Cert. | | | |
| 5. Operation Test | B&W Spec. Dresser: OS-198-Rev. 1 B&W NSS-6-01-41-061-01 | Cert. | | | CS-3-79/NSS-6 dtd. 1-7-70 Technical Spec for Electric- ally Actuated Relief Valves for Reactor Coolant Sys. Service |
| 6. Hydrostatic | Dresser: OS-198-Rev. 1 B&W NSS-6-01-41-061-01 Dresser: HY-7-Rev. 1 B&W NSS-6-01-41-053-02 | Cert. | | | (Same as above) |
| 7. Cleanliness | Dresser: CL-12-Rev. 1 B&W NSS-6-01-41-060-00 | Cert. | | | |
| 8. Painting | Dresser: OS-164-Rev. 1 B&W NSS-6-01-41-052-00 | Cert. | | | |
| 9. Data Package | | Documents 1 thru 8 | | | |

Component Name: Electromatic Relief Valve Cust.: JCP&L Cont.: 620-0006
 B&W Spec.: CS-3-79/NSS-6 Date: 1-7-70 P.O.: 02266015 Mark No(s): RC-RV2
 Component Code Classification: ASME III
 Supplier: Dresser Ind. Prepared by: M. J. Burnette Date: 1-15-70
 Shop Location: Alexandria, La. Revised by: R. G. Burnette Date: 12-10-71
 Drawing: Dresser: CP-1570 Rev. No.: 2 QA Approval: CR Powers Date: 12-10-71
B&W 28-41-003-01

bc: Accounting I.T. Putney (2)
R.A. Beal T.R. Purnley
R.W. Parsons T.W. Pearson (2)
C.C. Plunkett J.R. Ross (2)
J.A. Samuels L.F. Wilhelm
O.A. NSS-6/188-1
B.B. Cardwell File/Attach
H.H. Stevesn November 3, 1970
W.F. King (7)

F.G. Ward
Dresser Industries
Industrial Valve & Instrument Corp.
P.O. Box 1430
Alexandria, Louisiana 71301

Attention: Mr. Vernon Schroeder

Re: CHANGE ORDER NO. 1
B&W Purchase Order
022660LS, 620-0006

Gentlemen:

This Change Order No. 1 is your authorization to incorporate the attached B&W Engineering Change Authorization No. SC-75 which is to become a part of B&W Specification CS-5-107, dated 6-14-68.

You will note that this SC-75 cancels SC-58 which was incorporated as a part of the above referenced purchase order. This change is to be made at no cost to B&W.

All other portions of this purchase order remain unchanged.

Please sign and return the attached acknowledgment and acceptance copy of this Change Order No. 1 as soon as possible.

Yours very truly,

BABCOCK & WILCOX COMPANY
Power Generation Division

Walker W. Schaffer, Senior Buyer
Purchasing Department

WWS:spa
Attachments

NPGD ENGINEERING CHANGE AUTHORIZATION

| | | | |
|---|--|---|----------------------------------|
| 1 | Applicable INXX/Specs: CS-5-107 dated 6-14-68 | 2 | R&W Engr. Change No: SC-75 |
| 3 | Supplier: Dresser Industries | 4 | Contract No: 620-0006 |
| 5 | Purchase Order: 022660LS | 6 | Component: 28 |
| 7 | Description of Change (Use attach. if req'd.) | 8 | NPGD Procedure No. 1G(15)2-5.2.3 |

This ECA cancels SC-58 on purchase order no. 022660LS. The seismic curves invoked on PO 022660LS by spec. CS-5-107 dtd. 6-14-68 as amended by spec. CS-5-107/NSS-6 dtd. 2-27-69 are correct.

This is revision No. 2 to spec. CS-5-107 dtd 6-14-68

The Below Listed Items are for R&W Internal Use Only

| | | | |
|----|---|---------------------|---|
| 9 | To Project Manager: E. G. Ward | 10 | Other Applicable Contracts: None |
| 11 | System: Reactor Coolant | | |
| 12 | File No: NSS-6/12E2 | | |
| 13 | Recommended Standards Change <input type="checkbox"/> | 14 | Reason For Change: Engrg. Dept. Required Change <input checked="" type="checkbox"/> Project Manager Request <input type="checkbox"/> Other: Customer Request <input type="checkbox"/> Suggested Improvement <input type="checkbox"/> |
| 15 | Does Change Affect PSAR or PSAR? (Refer 1G(15)2-5.9.4 NO <input checked="" type="checkbox"/> YES <input type="checkbox"/> | | |
| 16 | Group or Section | Title | Approval Signature |
| | Originator | Procurement Engr. | <i>E. G. Ward</i> 10-15-70 |
| | Auxiliary Systems | Supervisor | <i>[Signature]</i> 10-13-70 |
| | Fluid Systems | Contract Sys. Engr. | <i>[Signature]</i> 10-11-70 |
| | Plant Performance | Sect. Manager | |
| | Quality Assurance | Manager | Information |
| | Project Management | Project Manager | <i>[Signature]</i> 10-23-70 |

NPGD ENGINEERING CHANGE AUTHORIZATION

| | | | |
|---|---|---|----------------------------------|
| 1 | Applicable ENR/Specs: CS-5-107 dated 6-14-68 | 2 | B&W Engr. Change No: SC-75 |
| 3 | Supplier: Dresser Industries | 4 | Contract No: 620-0006 |
| 5 | Purchase Order: 022660LS | 6 | Component: 28 |
| 7 | Description of Change (Use attach. if req'd.) | 8 | NPGD Procedure No. 1G(15)2-5.2.3 |

This ECA cancels SC-58 on purchase order no. 022660LS. The seismic curves invoked on PO 022660LS by spec. CS-5-107 dtd. 6-14-68 as amended by spec. CS-5-107/NSS-6 dtd. 2-27-69 are correct.

This is revision No. 2 to spec. CS-5-107 dtd 6-14-68

Sheet 1 of 1

The Below Listed Items are for B&W Internal Use Only

| | | | |
|----|---|----|--|
| 9 | To Project Manager: E. G. Ward | 10 | Other Applicable Contracts: |
| 11 | System: Reactor Coolant | | None |
| 12 | File No: NSS-6/12E2 | | |
| 13 | Recommended Standards Change | 14 | Reason For Change: Engrg. Dept. Required Change / <input type="checkbox"/> / Customer Request / <input type="checkbox"/> / Project Manager Request / <input type="checkbox"/> / Suggested Improvement / <input type="checkbox"/> / Other: <input type="checkbox"/> |
| 15 | Does Change Affect PSAR or FSAR? (Refer 1G(15)2-5.9.4 NO / <input checked="" type="checkbox"/> / YES / <input type="checkbox"/> | | |

| 16 | Group or Section | Title | Approval Signature | Date | 17 | Action |
|----|--------------------|---------------------|---------------------|----------|----|---------------------------|
| | Originator | Procurement Engr. | <i>J. H. Bumbay</i> | 10-15-70 | | Procurement <i>J.H.B.</i> |
| | Auxiliary Systems | Supervisor | <i>[Signature]</i> | 12-19-70 | | |
| | Fluid Systems | Contract Sys. Engr. | <i>[Signature]</i> | 12-17-70 | | |
| | Plant Performance | Sect. Manager | | | | |
| | Quality Assurance | Manager | Information | | | |
| | Project Management | Project Manager | <i>[Signature]</i> | 10-28-70 | | |

CHANGE NO. SC-75

THE BABCOCK & WILCOX COMPANY

POWER GENERATION DIVISION

P.O. Box 1260, Lynchburg, Va. 24505

ADDRESS

PURCHASE ORDER

REQUISITIONED BY & DATE

DATE

NUMBER

MC Butz 10/1/70
NSS-6/180

100170

022660LS

Vendor:
Dresser Industries
Industrial Valve & Instrument Corp.
P.O. Box 1430
Alexandria, Louisiana 71301 Attn: C.P. Cox, Jr.
Jersey Central Power & Light Company, Three
Mile Island Unit II, Dauphin County, Pa.

VENDOR NUMBER

CONTACT NUMBER

62000062941

PURCHASE ORDER, CONTRACT, ITEM AND FOLIO NO. MUST BE SHOWN ON ALL PACKAGES, INVOICES, PAPERS AND DRAWINGS

SHIP VIA

F.O.B.

TERMS OF PAYMENT

Truck-Prepay & Add

Alexandria, La.

Net 30 Days

| ITEM | QUANTITY | DESCRIPTION | FOLIO | SHOP | UNIT PRICE | TOTAL | UNIT |
|------|-------------|--|--------------------|------|--|-----------|----------|
| | (161541321) | | 161541321 MO DA YR | | 51413211 | 51413211 | 51413211 |
| 1 | 2ea | Pressurizer Safety Valves, Type 31759A 3"x6" as described by Dresser Quotation QSV-28401, dated June 26, 1970 and Dresser letter dated August 28, 1970. The only exception to this quote is that the valves are to have raised face inlet flanges. | 032671 | | 8732 | 10,000.00 | Each |
| | | Valve description as follows: Special Consolidated Pressurizer Safety Valve with enclosed tungsten steel spring, packed lifting lever, stainless steel forged through seat bushing, inconel "X" thermodisc, stainless steel bellows for maximum variable back pressure of 700 lbs. @ 500°F and auxiliary balancing piston. Inlet Flange - 3" 2500 lb. ASA R.F. Outlet Flange - 6" 600 lb. ASA R.F. Set Pressure - 2500 lb. PSIG Orifice Area - 3.341 sq. in. Capacity - 346,463 lbs/hr saturated steam @ 10% accumulation, 90% rating. | | | | | |
| | | | | bc: | RA. Beal R.W. Parsons C.C. Plunkett JA Samuels Q.A. BB Cardwell HH Stevens WF King (7) EG Ward IT Putney (2) TW Pearson (2) JR Ross (2) LF Wilhelm NSS-6/188 File/Attach | | |
| 2 | 1ea | Consolidated Forged Stainless Steel Electromatic Relief Valve, type 31533VX 2 1/2"x4" as described by Dresser Quotation QSV-28401 dated | 032671 | | 6732 | 4,876.00 | Each |

RC-RV 2A
RC-RV 2B

MAR 12 1971

PLEASE FURNISH THE ITEMS ABOVE TO THE CONDITIONS ON BACK HEREOF.

INVOICE IN QUADRUPPLICATE SHOWING OUR PURCHASE ORDER NO., CONTRACT NO., ITEM NO., FOLIO NO., WHETHER PARTIAL OR FINAL BILLING AND MAIL TO THE ACCOUNTS PAYABLE DEPARTMENT AT THE ABOVE ADDRESS. ACKNOWLEDGE THIS ORDER PROMPTLY AND STATE DEFINITELY WHEN SHIPMENT WILL BE MADE. FAILURE OF ACKNOWLEDGMENT TO THIS ORDER WITHIN TEN (10) DAYS CAN RESULT IN CANCELLATION OF THIS ORDER.

SALES TAX STATUS

NON EXEMPT
 EXEMPT

STATE Pennsylvania

NO. 02-6000 Per

THE BABCOCK & WILCOX COMPANY

POWER GENERATION DIVISION

PCXCWJG6662367506 PB95856206206

THE BABCOCK & WILCOX COMPANY

POWER GENERATION DIVISION

P.O. Box 1260, Lynchburg, Va. 24505

ADDRESS

REQUISITIONED BY & DATE

| PURCHASE ORDER | |
|----------------|----------|
| DATE | NUMBER |
| 100170 | 0226601S |

Dresser Industries

VENDOR NUMBER

CONTRACT NUMBER

-2-

PURCHASE ORDER, CONTRACT, ITEM AND FOLIO NO. MUST BE SHOWN ON ALL PACKAGES, INVOICES, PAPERS AND DRAWINGS.

SHIP VIA

F.O.B.

TERMS OF PAYMENT

| ITEM | QUANTITY | UOM | DESCRIPTION | FOLIO | MO | DA | YR | SHOP | CWT | FORM CODE | NET PRICE PER UOM | UOM |
|------|------------|-----|---|------------|----|----|----|------|----------|-----------|-------------------|-----|
| | 1651413121 | | | 1651413121 | | | | | 51413121 | 51413121 | 6151413121 | |
| 2 | 1ea | | <p>June 26, 1970 and Dresser letter dated August 28, 1970.</p> <p>Valve description as follows:</p> <p>Consolidated forged stainless steel electromatic relief valve, stainless steel trim, ready for connection to electrical controller on 125 VDC operation. Pilot valve to be equipped with bellows:</p> <p>Inlet Flange - 2 1/2" 2500 lb. ASA R.F. Outlet Flange - 4" 600 lb. ASA R.F. Capacity - 118,909 lbs/hr 2300 lb. saturated steam maximum variable back pressure 700 lbs. @ 500° F. Valve Mark No. <u>RC-RV2.</u></p> | | | | | | | | | |

TERMS AND CONDITIONS:

- (1) Terms and Conditions in accordance with B&W Form BD21009 (12-69) and Dresser Industries terms of sale.
- (2) Dresser Industries is authorized to procure necessary materials for these valves, however, no fabrication shall be performed until specifically released by B&W.
- (3) The valves are to be manufactured in accordance with the following specifications:
 - a. B&W Specification CS-3-106/NSS-6 dated 12-17-69 and as amended by B&W Engineering Change Authorization (ECA) SC-04 (attached).

PLEASE FURNISH THE ITEMS ABOVE TO THE CONDITIONS ON BACK HEREOF. INVOICE IN QUADRUPPLICATE SHOWING OUR PURCHASE ORDER NO., CONTRACT NO., ITEM NO., FOLIO NO., WHETHER PARTIAL OR FINAL BILLING AT/D MAIL TO THE ACCOUNTS PAYABLE DEPARTMENT AT THE ABOVE ADDRESS. ACKNOWLEDGE THIS ORDER PROMPTLY AND STATE DEFINITELY WHEN SHIPMENT WILL BE MADE. FAILURE OF ACKNOWLEDGMENT TO THIS ORDER WITHIN TEN (10) DAYS CAN RESULT IN CANCELLATION OF THIS ORDER.

SALES TAX STATUS

NON EXEMPT

EXEMPT

STATE Pennsylvania

NO. 00 0000

THE BABCOCK & WILCOX COMPANY

POWER GENERATION DIVISION

R. Williams Division Purchasing Agent

Per _____

THE BABCOCK & WILCOX COMPANY

POWER GENERATION DIVISION
P.O. Box 1260, Lynchburg, Va. 24505

ADDRESS

REQUISITIONED BY & DATE

|||

PURCHASE ORDER

DATE
100170

NUMBER
022660LS

Dresser Industries

VENDOR NUMBER

CONTRACT NUMBER

-3-

PURCHASE ORDER, CONTRACT, ITEM AND FOLIO NO. MUST BE SHOWN ON ALL PACKAGES, INVOICES, PAPERS AND DRAWINGS

SHIP VIA

F.O.B.

TERMS OF PAYMENT

| ITEM | QUANTITY | U/M | DESCRIPTION | FOLIO | MO | DA | YR | SHOP | CWT | COMM CODE | NET PRICE PER U/M | U/M |
|------|--------------|-----|---|--------------|----|----|----|------|-----------|-----------|-------------------|-----|
| | 161514131211 | | | 161514131211 | | | | | 514131211 | 514131211 | 514131211 | |
| b. | | | B&W Specification CS-5-107 dated 6-14-68 and as amended by B&W ECA SC-58 (attached). | | | | | | | | | |
| c. | | | B&W Specification CS-5-107/NSS-6 dated 2-27-69. | | | | | | | | | |
| d. | | | B&W Specification 1028/NSS-6 dated 1-7-70 and as amended by B&W ECA SC-60 (attached). | | | | | | | | | |
| e. | | | B&W Specification CS-3-79/NSS-6 dated 1-7-70 and as amended by B&W ECA SC-61 (attached). | | | | | | | | | |
| f. | | | B&W Specification CS-5-95 dated 5-29-69. | | | | | | | | | |
| g. | | | B&W Specification CS-5-95/NSS-6 dated 2-27-69. | | | | | | | | | |
| h. | | | B&W Specification 1132/0369 dated 3-19-69. | | | | | | | | | |
| i. | | | Q.A. Data Sheets. | | | | | | | | | |
| (4) | | | All drawings and procedures for these valves as referenced in Dresser GSV-28401 shall be submitted to B&W for approval not later than October 30, 1970. | | | | | | | | | |

PLEASE FURNISH THE ITEMS ABOVE TO THE CONDITIONS ON BACK HEREOF. INVOICE IN QUADRUPPLICATE SHOWING OUR PURCHASE ORDER NO., CONTRACT NO., ITEM NO., FOLIO NO., WHETHER PARTIAL OR FINAL BILLING AND MAIL TO THE ACCOUNTS PAYABLE DEPARTMENT AT THE ABOVE ADDRESS. ACKNOWLEDGE THIS ORDER PROMPTLY AND STATE DEFINITELY WHEN SHIPMENT WILL BE MADE. FAILURE OF ACKNOWLEDGMENT TO THIS ORDER WITHIN TEN (10) DAYS CAN RESULT IN CANCELLATION OF THIS ORDER.

SALES TAX STATUS

NON EXEMPT

EXEMPT

STATE Pa.

NO. 00-11202

THE BABCOCK & WILCOX COMPANY

POWER GENERATION DIVISION

P.C. Williams, Division Purchasing Agent

Per _____

REQUISITION - EQUIPMENT & SERVICES

BABCOCK & WILCOX NPGD

TO: Purchasing Date: 10-2-72 Serial No. NSS-6/188-8

FROM: Contract EDO Proposition Other

| | | | | |
|---|-------------|--------------|---------------|--|
| Contract, EDO or Proposition No. 620-0006 | Comp No. 28 | Group No. 41 | Seq No. 04&05 | <input type="checkbox"/> Normal Cost <input type="checkbox"/> Abnormal Cost |
|---|-------------|--------------|---------------|--|

If Abnormal Cost: Charge No.

Customer: Jersey Central Power & Light Co.

| | | |
|--|--------------------------------------|-------------------------------------|
| Req. for Quotation <input type="checkbox"/> | Mfg Release <input type="checkbox"/> | Attachments Sketch of Valve Body |
| Placement of Order <input type="checkbox"/> | Other <input type="checkbox"/> | |
| Change Order <input checked="" type="checkbox"/> | | |

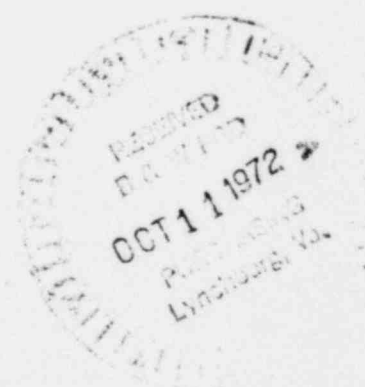
Reference: Dresser Industries
B&W PO No. 022660LS

Please request Dresser Industries to determine the minimum calculated wall thickness measurements (Mark Nos. RC-VIA and RC-VIB) of the nozzle and base as indicated on attached sketch. Inlet and outlet flange wall thickness per Bl6. 5.

The two valves are to have the wall thickness measurements taken at locations as indicated on attached sketch.

The calculated and actual wall thickness measurements are to be sent to B&W for review prior to shipment of the valves.

Note: This request explains location of measurements requested on 8-30-72.



| Distribution | | Approvals | | Date |
|-------------------------------------|---------------|------------|---------------------|---------|
| Originator | E. Wilder | Originator | <i>E. Wilder</i> | 10-3-72 |
| Unit Mgr. | | Mgr. | <i>G. Schneider</i> | 10/4/72 |
| Proj. Mgr | E.G. Ward | Proj. Mgr. | <i>W H C</i> | 10-9-72 |
| NPGD QA | H.F. Dobel | | | |
| Mgr. Contract Admin. (NSS Only) | | | | |
| Mgr. Fuel Contract (NSC Only) | C.C. Plunkett | | | |
| Contract File NSS-6/8A30.41 Dresser | | | | |

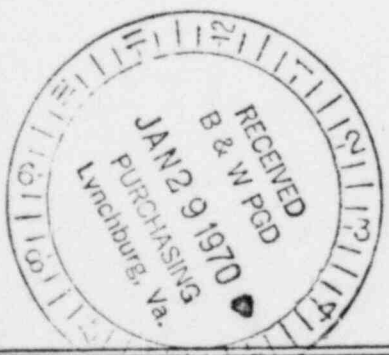
REQUISITION - EQUIPMENT & SERVICES

| | | |
|---|---|---------------------------------------|
| TO. PURCHASING | DATE 1/15/70 | SERIAL NO NSS-6/162 ✓ |
| FROM. PROJECT MANAGER <input checked="" type="checkbox"/> | PROJECT ENGINEER <input type="checkbox"/> | PROPOSITIONS <input type="checkbox"/> |
| B&W SPEC. NO. CS-3-28, CS-3-79 | CONTRACTED OR PROPOSITION NO 620-0006 | COMP. NO. 28 GROUP NO 41 |
| CUSTOMER & PLANT SITE JERSEY CENTRAL POWER & LIGHT CO. THREE MILE ISLAND, PA. | | P/O NO |
| REQUEST FOR QUOTATION <input checked="" type="checkbox"/> | DRAWING APPROVAL <input type="checkbox"/> | ATTACHMENTS See below |
| PLACEMENT OF ORDER <input type="checkbox"/> | MFG RELEASE <input type="checkbox"/> | |
| | SHIPPING RELEASE <input type="checkbox"/> | |

Please obtain quotations from Dresser Industries on the following valves:

| Item | Quantity | Mark No. | Description |
|------|----------|--------------------|--|
| 1 | 2 | RC-RV1A RC-RV1B | Pressurizer Safety Valves, size 3"x 6" in accordance with B&W Specification 1028/NSS-6 dated 1-7-70. Special consolidated pressurizer safety valve, enclosed spring w/packing lifting level, stainless steel forged through seat bushing, inconel x thermdisc, stainless steel bellows for maximum variable back pressure of 700 lbs. at 500°F auxiliary balancing piston. Inlet Flange - 2500 lb. ASA R.F. Outlet Flange - 600 lb. ASA R.F. Set Pressure - 2500 lb. Capacity 345,000 lbs./hr. Min. saturated steam @ 10% accumulation, 90% rating |
| 2 | 1 | RC-RV2 | Electromatic Relief Valve, size 2 1/2" x 4" in accordance with B&W Specification CS-3-79/NSS-6 dated 1-7-70. Consolidated forged stainless steel electromatic relief valve, stainless steel trim catalog No. 1533VX Inlet Flange - 2500 lbs. ASA R.F. Outlet Flange - 600 lbs. ASA R.F. Capacity - 115,000 lbs./hr. ⁻⁰ / ₊₁₀ % 2300 lb. saturated steam, maximum variable back pressure 700 lb. Power for Activator - 125V DC This valve is to be equipped with bellows. |

T-2.15



| DISTRIBUTION | SIGNATURES |
|---|---|
| ORIGINATOR M.J. Burnette | <u>M.J. Burnette</u> 1-22-70 ORIGINATOR DATE |
| SECTION MANAGER B.B. Cardwell | <u>BBC</u> 1/23/70 SECTION MGR / GROUP SUPVR. DATE |
| PROJECT ENGINEER W.A. Cobb | <u>W.A. Cobb</u> 1-26-70 PROJECT ENGINEER DATE |
| PROJECT MANAGER W.B. Beisel | <u>Edward</u> 1-26-70 PROJECT MANAGER DATE |
| COST CONTROL & SCHEDULING C.C. Plunkett | |
| CHIEF ESTIMATOR (NSS) P.H. Grant | |
| ERECTION DEPARTMENT | |
| NPG ERECTION LIAISON | |
| H.F. Dobel | |
| K. Schroeder | |
| NSS-6/8A30.41 Dresser | |

FORM BD-21007
REQUISITION - EQUIPMENT & SERVICES
PAGE 2
JANUARY 15, 1970

These valves shall be fabricated in accordance with the following specifications:

- | | |
|-------------------------------|---------------------------------|
| ✓ 1028/NSS-6 dated 1-7-70 | CS-3-106/NSS-6 dated 12-17-69 ✓ |
| ✓ CS-3-79/NSS-6 dated 1-7-70 | CS-5-107 dated 6-14-68 ✓ |
| ✓ CS-5-95 dated 5-29-68 | CS-5-107/NSS-6 dated 2-27-69 ✓ |
| ✓ CS-5-95/NSS-6 dated 2-27-69 | QC 1132/0369 dated 3-19-69 ✓ |
| | QA Data Sheets (3 sheets) ✓ |

Shipping date to be 3-26-71

These valves shall be painted in accordance with the plasite painting system.
See Rev. Para. 6.7 of CS-3-106/NSS.

Plasite manufacturer:

Wisconsin Protective Coating Corp.
Box 216
Green Bay, Wisconsin 54305

Order to be: GRAY MJB

Please have the vendor verify, by procedure number and issue date, the procedures that will be used in fabrication of the above valves for the following:

- | | |
|-----------------------|---------------------|
| 1. Cleaning | 5. Welding |
| 2. Radiography | 6. Hydrostatic Test |
| 3. Liquid Penetrant | 7. Operational Test |
| 4. Ultrasonic Testing | 8. Painting |

Any procedures to be used on this order which have not previously been approved by B&W must be submitted for approval prior to release for manufacture.

REQUISITION - EQUIPMENT & SERVICES

| | | | |
|---|---|--|---------------------------|
| TO: PURCHASING | DATE: 7/22/70 | SERIAL NO: NSS-6/162-1 | v |
| FROM: PROJECT MANAGER <input type="checkbox"/> | PROJECT ENGINEER <input type="checkbox"/> | PROPOSITIONS <input type="checkbox"/> | |
| B&W SPEC. NO: CS-3-79, 1028/NSS-6 | | CONTRACT EDO OR PROPOSITION NO: 620-0006 | COMP. NO. 28 GROUP NO. 41 |
| CUSTOMER & PLANT SITE: JERSEY CENTRAL POWER & LIGHT CO., THREE MILE ISLAND, PA. | | | P/O NO |
| REQUEST FOR QUOTATION <input checked="" type="checkbox"/> | DRAWING APPROVAL <input type="checkbox"/> | ATTACHMENTS: ECA SC-58 Dated 7-20-70 | |
| PLACEMENT OF ORDER <input type="checkbox"/> | MFG RELEASE <input type="checkbox"/> | ECA SC-60 Dated 7-20-70 | |
| | SHIPPING RELEASE <input type="checkbox"/> | ECA SC-61 Dated 7-20-70 | |

Re: Dresser quote no. QSV-28401 dated 6-26-70

Please submit the attached ECA-SC-60 which amends B&W Spec. 1028/NSS-6/0170 & ECA-SC-61 which amends B&W Spec. CS-3-79/NSS-6/0170 to Dresser Industries for incorporation in the above referenced quote. Please advise cost & delay, if any.

Also submit attached ECA-SC-58 which amends the seismic curves (attachments A-D) to B&W Spec. CS-5-107 dated 6-14-68 to Dresser for incorporation in the above referenced quote.



These ECA's are being issued at the customer's request, see Met Ed/MPR letters dated 4-22-70 & 4-23-70.

| DISTRIBUTION | SIGNATURES |
|---|---|
| ORIGINATOR M.J. Burnette | <u>M.J. Burnette</u> 7-22-70 ORIGINATOR DATE |
| SECTION MANAGER | <u>R. A. Beal</u> 7/24/70 SECTION MGR. / GROUP SUPVR. DATE |
| PROJECT ENGINEER E.G. Ward | <u>J. J. Putney</u> 7-29-70 PROJECT ENGINEER DATE |
| PROJECT MANAGER C.C. Plunkett | <u>E. G. Ward</u> 7-29-70 PROJECT MANAGER DATE |
| COST CONTROL & SCHEDULING C.C. Plunkett | |
| CHIEF ESTIMATOR (NSS) P.H. Grant | |
| ERECTION DEPARTMENT | |
| NPG ERECTION LIAISON H.F. Dobel | |
| NSS-6/8A30.41 Dresser | |

→ **R. A. BEAL** ←

THE BABCOCK & WILCOX COMPANY

NPGD

REQUISITION - EQUIPMENT & SERVICES

| | | | |
|---|---|---------------------------------------|-------------|
| TO. PURCHASING | DATE 9/14/70 | SERIAL NO NSS-6/188 | ✓ |
| FROM. PROJECT MANAGER <input checked="" type="checkbox"/> | PROJECT ENGINEER <input type="checkbox"/> | PROPOSITIONS <input type="checkbox"/> | |
| B&W SPEC. NO | CONTRACT EDO OR PROPOSITION NO 620-0006 | COMP. NO. 28 | GROUP NO 41 |
| CUSTOMER & PLANT SITE | JERSEY CENTRAL - THREE MILE ISLAND, PA. | | P/O NO |
| REQUEST FOR QUOTATION <input type="checkbox"/> | DRAWING APPROVAL <input type="checkbox"/> | ATTACHMENTS See Below | |
| PLACEMENT OF ORDER <input checked="" type="checkbox"/> | MFG. RELEASE <input type="checkbox"/> | | |
| | SHIPPING RELEASE <input type="checkbox"/> | | |

Re: Dresser QSV-28401 dated 6/26/70 as amended by Dresser ltr. dated 8/28/70

Please place an order with Dresser for the Pressurizer Safety Valves and the Pressurizer Electromatic Relief Valve. **(2 REQ'D)**
DRESSER FOR MATERIAL PROCUREMENT, FAB. TO BE HELD UNTIL B&W RELEASE u/r
 The Pressurizer Safety Valve to be in accordance with Item 1 of Dresser quote, except valve inlet to have raised face in lieu of small tongue flange facing. u/r
 Applicable B&W Specifications are listed below.

The Pressurizer Electromatic Relief Valve to be in accordance with Item 2 of Dresser quote. Applicable B&W Specifications are listed below.

B&W Specifications:

1. CS-3-106/NSS-6 dated 12-17-69 as amended by B&W ECA No. SC-04.
2. CS-5-107 dated 6-14-68 as amended by B&W ECA No. SC-58
3. CS-5-107/NSS-6 dated 2-27-69
4. 1028/NSS-6 dated 1-7-70 as amended by B&W ECA No. SC-60
5. CS-3-79/NSS-6 dated 1-7-70 as amended by B&W ECA No. SC-61
6. CS-5-95 dated 5-29-68
7. CS-5-95/NSS-6 dated 2/27/69
8. 72/0369 dated 3-19-69
9. W.A. Data Sheets

Delivery to be March 26, 1971. **IF DRESSER CAN NOT MEET THIS DATE PLEASE REQUEST THAT THEY ADVISE EARLIEST SHIPPING DATE BY RETURN MAIL!**
 Dresser to submit the following procedures for B&W approval:

- | | |
|-----------------------|-------------------------------------|
| 1. Cleaning | 6. Welding |
| 2. Radiography | 7. Hydrostatic & Functional Testing |
| 3. Liquid Penetrant | 8. Painting |
| 4. Ultrasonic Testing | |
| 5. Magnetic Particle | |

RECEIVED

| DISTRIBUTION | SIGNATURES |
|---|--|
| ORIGINATOR W.C. Butt | <u>W.C. Butt</u> 9/14/70 ORIGINATOR DATE |
| SECTION MANAGER | <u>BBC/c.s.</u> 9/21/70 SECTION MGR / GROUP SUPVR. DATE |
| PROJECT ENGINEER I.T. PUTNEY | <u>I.T. Putney</u> 9/23/70 PROJECT ENGINEER DATE |
| PROJECT MANAGER E.G. Ward | <u>W.A. Cobl</u> 9-24-70 PROJECT MANAGER DATE |
| COST CONTROL & SCHEDULING C.C. Plunkett | |
| CHIEF ESTIMATOR (NSS) J.H. Grant | |
| ERECTION DEPARTMENT | |
| NPG ERECTION LIAISON | |
| H.F. Dobel | |
| NSS-6/8A30.41.1 Dresser | |

REQUISITION - EQUIPMENT & SERVICES

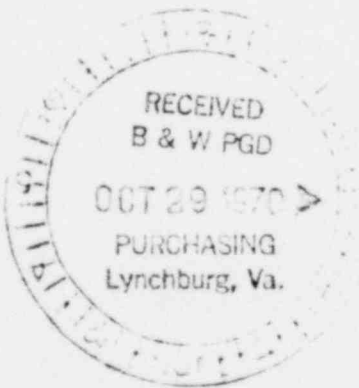
R. A. Beal ←

NPGD

| | | | |
|--|---|---------------------------------------|-------------|
| TO: PURCHASING | DATE 10-15-70 | SERIAL NO NSS-6/188-1 | ✓ |
| FROM: PROJECT MANAGER <input checked="" type="checkbox"/> | PROJECT ENGINEER <input type="checkbox"/> | PROPOSITIONS <input type="checkbox"/> | |
| B&W SPEC. NO. CS-5-107 | CONTRACTED OR PROPOSITION NO 620-0006 | COMP. NO. 28 | GROUP NO 41 |
| CUSTOMER & PLANT SITE Jersey Central Power & Light Co., Three Mile Island, Pa. | | P/O NO 022660LS | |
| REQUEST FOR QUOTATION <input type="checkbox"/> | DRAWING APPROVAL <input type="checkbox"/> | ATTACHMENTS | |
| PLACEMENT OF ORDER <input type="checkbox"/> | MFG RELEASE <input type="checkbox"/> | SC-75 | |
| Change Order <input checked="" type="checkbox"/> | SHIPPING RELEASE <input type="checkbox"/> | | |

RE: Dresser Industries
P.O. 022660LS

Please submit attached ECA-SC-75 which cancels SC-58 under purchase order no. 022660LS to Dresser.



| DISTRIBUTION | SIGNATURES |
|---------------------------------------|---|
| ORIGINATOR T. R. Burnley | <i>T.R. Burnley</i> <i>T.S.B.</i> 10-15-70 ORIGINATOR DATE |
| SECTION MANAGER | |
| PROJECT ENGINEER E. G. Ward | <i>R.A. Beal</i> <i>R.A. Beal</i> 10-19-70 SECTION MGR / GROUP SUPVR. DATE |
| PROJECT MANAGER C. C. Plunkett | |
| COST CONTROL & SCHEDULING P. H. Grant | |
| CHIEF ESTIMATOR (NSS) | |
| ERECTION DEPARTMENT | |
| NPG ERECTION LIAISON | |
| H. F. Dobel | <i>H.F. Dobel</i> 10-29-70 PROJECT ENGINEER DATE |
| NSS-6/8A30.41 Dresser | <i>W.A. Call</i> 10-28-70 PROJECT MANAGER DATE |

R.A. Burnley



BABCOCK & WILCOX

REQUISITION - EQUIPMENT & SERVICES

NPGD

| | | |
|--|---|--------------------------------------|
| TO: PURCHASING | DATE: 12-8-71 | SERIAL NO. NSS-6/188-4 |
| FROM: CONTRACT <input checked="" type="checkbox"/> | EDO <input type="checkbox"/> | PROPOSITION <input type="checkbox"/> |
| CONTRACT, EDO OR PROPOSITION NO. 620-0006 | COMP NO. 28 | GROUP NO. 41 |
| CUSTOMER Jersey Central Power & Light | P/O NO. 022660LS | |
| REQ. FOR QUOTATION <input type="checkbox"/> | MFG RELEASE <input checked="" type="checkbox"/> | ATTACHMENTS |
| PLACEMENT OF ORDER <input type="checkbox"/> | OTHER <input type="checkbox"/> | QA Data Sheets, Rev. 2 |
| CHANGE ORDER <input type="checkbox"/> | | |

Vendor: Dresser Industries

Please release Dresser to manufacture all valves on this order, Mk Nos. RC-V2, RC-RV1A and RC-RV1B.

Valves to be manufactured and tested in accordance with approved drawings and procedures as noted below:

Item 1. Pressurizer Safety Valves, B&W Dwg. 28-41-002-01

Dresser Procedures

B&W No.

| | | |
|-------------------------------|---------------|--------------------|
| Engineering Inst. | OS-197 Rev. 3 | NSS-6-01-41-053-02 |
| Assembly Inst. | AS-24 Rev. 5 | NSS-6-01-41-050-00 |
| Cleaning | CL-12 Rev. 1 | NSS-6-01-41-060-00 |
| Hydrostatic Test | HY-7 Rev. 1 | NSS-6-01-41-039-00 |
| Test Proc. | PT-11 Rev. 3 | NSS-6-01-41-054-00 |
| Paint Procedure | OS-164 Rev. 1 | NSS-6-01-41-052-00 |
| Radiography | RG-19 Rev. 3 | NSS-6-01-41-055-00 |
| Ultrasonic Insp. | SP-32 Rev. 1 | NSS-6-01-41-045-00 |
| Liquid Penetrant | SP-33 Rev. 2 | NSS-6-01-41-046-00 |
| (Dry) Mag. Particle | SP-34 Rev. 4 | NSS-6-01-41-056-00 |
| (Wet) Mag. Particle | SP-35 Rev. 1 | NSS-6-01-41-057-00 |
| Gen'l. Weld Repair | WS-212 Rev. 3 | NSS-6-01-41-058-00 |
| Weld Spec. | WS-90 Rev. 3 | NSS-6-01-41-077-00 |
| Instruction for Steam Testing | PT-18 Rev. 6 | NSS-6-01-41-074-00 |
| Hardsurfacing Alloy Steel | WS-103 Rev. 3 | NSS-6-01-41-049-00 |

| DISTRIBUTION | | APPROVALS | DATE |
|---------------------------------|-------------|---------------------|----------|
| ORIGINATOR | RG Burnley | <i>R.A. Burnley</i> | 12/10/71 |
| SECTION MGR. | K Schroeder | <i>K Schroeder</i> | 12/10/71 |
| PROJECT MGR. | EG Ward | <i>E.G. Ward</i> | 12-15-71 |
| MGR. PROP ESTIMATING | PH Grant | <i>P.H. Grant</i> | 12-15-71 |
| NPGD QA | HF Dobel | <i>H.F. Dobel</i> | 12-15-71 |
| MGR, CC&S | CC Plunkett | <i>W.A. Call</i> | 12-15-71 |
| CONTRACT FILE 8A30.41 - Dresser | | | |

REQUISITION EQUIPMENT & SERVICES (CONT.)

NPGD

CONTRACT 620-0006

DATE 12-8-71

SERIAL NO. NSS-6/188-4

Item 2. Electromatic Relief Valve, B&W Dwg. 28-41-003-01Dresser ProceduresB&W No.

| | | |
|----------------------|---------------|--------------------|
| Order Control Spec. | OS-198 Rev. 1 | NSS-6-01-41-061-01 |
| Radiographic | RG-7 Rev. 3 | NSS-6-01-41-044-00 |
| Ultrasonic | SP-32 Rev. 1 | NSS-6-01-41-045-00 |
| Liquid Penetrant | SP-33 Rev. 2 | NSS-6-01-41-046-00 |
| Welding (Met. Arc) | WS-65 Rev. 2 | NSS-6-01-41-047-00 |
| Welding (Inert Gas) | WS-97 Rev. 2 | NSS-6-01-41-048-00 |
| Hardsurfacing For SS | WS-103 Rev. 3 | NSS-6-01-41-049-00 |
| Assembly Instr. | AS-27 Rev. 0 | NSS-6-01-41-038-00 |
| Cleaning | CL-12 Rev. 1 | NSS-6-01-41-060-00 |
| Hydrotest | HY-7 Rev. 1 | NSS-6-01-41-053-02 |

REQUISITION - EQUIPMENT & SERVICES

BABCOCK & WILCOX NPGD

TO: Purchasing Date: 7-24-72 Serial No. NSS-6/188-5

FROM: Contract EDO Proposition Other

| | | | | |
|---|-------------|--------------|-----------------|--|
| Contract, EDO or Proposition No. 620-0006 | Comp No. 24 | Group No. 41 | Seq No. 004&005 | <input type="checkbox"/> Normal Cost <input type="checkbox"/> Abnormal Cost |
|---|-------------|--------------|-----------------|--|

If normal Cost: Charge No.

Customer: Jersey Central Power & Light Co.

| | | |
|--|--------------------------------------|-------------|
| Req. for Quotation <input type="checkbox"/> | Mfg Release <input type="checkbox"/> | Attachments |
| Placement of Order <input type="checkbox"/> | Other <input type="checkbox"/> | |
| Change Order <input checked="" type="checkbox"/> | | |

Spec. Chg.

Ref: Dresser Industries.
P.O. 022660LS

Please forward approved specification change number (218) to Dresser Industries.

Note: Specification change number (218) changes the setpoint on the Pressurizer Safety Valves.

| Distribution | | Approvals | | Date |
|-------------------------------------|-------------|------------|-----------------------|---------|
| Originator | E Wilder | Originator | <i>E. Wilder</i> | 7-24-72 |
| Unit Mgr. | | Mgr. | <i>Robert J. ...</i> | 7-24-72 |
| Proj. Mgr | EG Ward | Proj. Mgr. | <i>A. J. Plunkett</i> | 7-25-72 |
| NPGD QA | HF Dobel | | | |
| Mgr. Contract Admin. (NSS Only) | | | | |
| Mgr. Fuel Contract (NSC Only) | CC Plunkett | | | |
| Contract File NSS-6/8A30.41 Dresser | | | | |

REQUISITION - EQUIPMENT & SERVICES

BABCOCK & WILCOX NPGD

TO: Purchasing Date: 7-24-72 Serial No. NSS-6/188-5

FROM: Contract EDO Proposition Other

| | | | | |
|---|-------------|--------------|-----------------|--|
| Contract, EDO or Proposition No. 620-0006 | Comp No. 24 | Group No. 41 | Seq No. 004&005 | <input type="checkbox"/> Normal Cost <input type="checkbox"/> Abnormal Cost |
|---|-------------|--------------|-----------------|--|

If Abnormal Cost: Charge No.

Customer: Jersey Central Power & Light Co.

Req. for Quotation Mfg Release
 Placement of Order Other
 Change Order

Attachments
Spec. Chg.

Ref: Dresser Industries.
P.O. 022660LS

Please forward approved specification change number (218) to Dresser Industries.

Note: Specification change number (218) changes the setpoint on the Pressurizer Safety Valves.



| Distribution | | Approvals | | Date |
|-------------------------------------|-------------|------------|---------------------------|---------|
| Originator | E Wilder | Originator | <i>E Wilder</i> | 7-24-72 |
| Unit Mgr. | | Mgr. | <i>Robert [Signature]</i> | 7-24-72 |
| Proj. Mgr | EG Ward | Proj. Mgr. | <i>J. T. Plunkett</i> | 7-25-72 |
| NPGD QA | HF Dobel | | | |
| Mgr. Contract Admin. (NSS Only) | | | | |
| Mgr. Fuel Contract (NSC Only) | CC Plunkett | | | |
| Contract File NSS-6/8A30.41 Dresser | | | | |

Purch



REQUISITION - EQUIPMENT & SERVICES

BABCOCK & WILCOX NPGD

TO: Purchasing Date: 8-30-72 Serial No. NSS-6/188-6

FROM: Contract EDO Proposition Other

| | | | | |
|---|-------------|--------------|---------------|--|
| Contract, EDO or Proposition No. 620-0006 | Comp No. 24 | Group No. 41 | Seq No. 04&05 | <input type="checkbox"/> Normal Cost <input type="checkbox"/> Abnormal Cost |
|---|-------------|--------------|---------------|--|

If Abnormal Cost: Charge No.

Customer: Jersey Central Power and Light Company

| | | |
|--|--------------------------------------|-------------------------|
| Req. for Quotation <input checked="" type="checkbox"/> | Mfg Release <input type="checkbox"/> | Attachments None |
| Placement of Order <input type="checkbox"/> | Other <input type="checkbox"/> | |
| Change Order <input type="checkbox"/> | | |

Reference: Dresser Industries
B&W P.O. 022660LS

Please request Dresser Industries to determine the required minimum wall thickness and submit quote for measurements of wall thickness* for item one (1) on B&W P.O. 022660LS (B&W) mark no's. RC-RVIA & RC-RVIB.

Advise Dresser Industries that a release for shipment of subject valves is dependent upon receiving required minimum wall thickness and quote for supplying the actual wall thickness.

Dresser Industries is to advise B&W immediately on amount of delay this will create in determining minimum wall thickness and submitting of quote for actual measurements.

*** WALL THICKNESS MEASUREMENTS ARE TO BE MADE OF THE PRESSURE BOUNDARY MATERIAL & ARE TO BE COMPARED WITH DRESSER'S CALCULATED REQUIRED MINIMUM WALL THICKNESS FOR THE MEASURED POINTS.**

| Distribution | | Approvals | | Date |
|---------------------------------|-----------------------|------------|-------------------|---------|
| Originator | E Wilder | Originator | <i>E. Wilder</i> | 8-30-72 |
| Unit Mgr. | | Mgr. | <i>Al Burt</i> | |
| Proj. Mgr | EG Ward | Proj. Mgr. | <i>W. A. Gell</i> | 8/31/72 |
| NPGD QA | HF Dobel | | | 9-1-72 |
| Mgr. Contract Admin. (NSS Only) | | | | |
| Mgr. Fuel Contract (NSC Only) | CC Plunkett | | | |
| Contract File | NSS-6/8A30.41 Dresser | | | |

REQUISITION - EQUIPMENT & SERVICES

BABCOCK & WILCOX NPGD

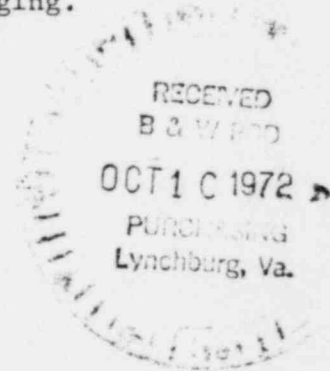
| | | | | | |
|--|--|--------------------------------------|--------------|--|--|
| TO: Purchasing | | Date: 9-5-72 | | Serial No. NSS-6/188-7 | |
| FROM: Contract <input checked="" type="checkbox"/> | | EDO <input type="checkbox"/> | | Proposition <input type="checkbox"/> | |
| Contract, EDO or Proposition No. 620-0006 | | Comp No. 28 | Group No. 41 | Seq No. 004&005 | <input type="checkbox"/> Normal Cost <input type="checkbox"/> Abnormal Cost |
| If Abnormal Cost: Charge No. | | | | | |
| Customer: Jersey Central Power & Light Company | | | | | |
| Req. for Quotation <input type="checkbox"/> | | Mfg Release <input type="checkbox"/> | | Attachments Professional Engineer Certification form & Specification Package. Specification Change Number (223). | |
| Placement of Order <input type="checkbox"/> | | Other <input type="checkbox"/> | | | |
| Change Order <input checked="" type="checkbox"/> | | | | | |

Ref: (1) Dresser Industries
 (2) PO 022660LS
 (3) Letter from Dresser Industries (Gary Freet) to Ron Smith dtd 8-16-72.

Please forward the following information to Dresser Industries per Ref. No. (3).

1. Professional Engineer Certification form and Specification Package.
2. Specification Change Number (223)

NOTE: Specification change number (223) is necessary since the vendor changed materials of base and bonnet from a casting to a forging.



| Distribution | | Approvals | | Date |
|---|----------|------------|---------------------|---------|
| Originator | E Wilder | Originator | <i>E. Wilder</i> | 9-29-72 |
| Unit Mgr. | | Mgr. | <i>H. Burt</i> | |
| Proj. Mgr | EG Ward | Proj. Mgr. | <i>D. Schroeder</i> | 10/6/72 |
| NPGD QA | HF Dobel | | <i>W.A. Call</i> | 10-9-72 |
| Mgr. Contract Admin. (NSS Only) | | | | |
| Mgr. Fuel Contract (NSC Only) CC Plunkett | | | | |
| Contract File NSS-6/8A30.41 Dresser | | | | |

REQUISITION - EQUIPMENT & SERVICES

BABCOCK & WILCOX NPGD

TO: Purchasing Date: 11-1-72 Serial No. NSS-6/188-9

FROM: Contract EDO Proposition Other

| | | | | |
|---|-------------|--------------|-----------------|--|
| Contract, EDO or Proposition No. 620-0006 | Comp No. 28 | Group No. 41 | Seq No. 04 & 05 | <input type="checkbox"/> Normal Cost <input type="checkbox"/> Abnormal Cost |
|---|-------------|--------------|-----------------|--|

If Abnormal Cost: Charge No.

Customer: Jersey Central Power & Light Co.

| | | |
|--|--------------------------------------|---------------------|
| Req. for Quotation <input type="checkbox"/> | Mfg Release <input type="checkbox"/> | Attachments none |
| Placement of Order <input type="checkbox"/> | Other <input type="checkbox"/> | |
| Change Order <input checked="" type="checkbox"/> | | |

RECEIVED
B & W NPGD
DEC 1 3 1972
PURCHASING
Winchburg, Va.

- Reference:
1. B&W PO No. 022660LS
 2. B&W Letter to Dresser Industries dated 10-12-72.
 3. Letter to GT Sund from G Freet (Dresser Industries) dated 10-25-72.

Please authorize Dresser Industries to measure minimum wall thickness of valve mark nos. RC-VIA and RC-VIB per Ref. 2 and Ref. 3.

This will require disassembly, recording actual measured minimum wall thickness per Ref. 2, reassemble, and retest of each valve Mark. No. RC-VIA and RC-VIB.

Dresser Industries is to forward calculated and actual measured minimum wall thickness to B&W for review prior to a release for shipment of subject valves.

Note: This change order is Per P.M. request.

THIS WORK TO BE DONE PER DRESSER'S QUOTE OF 10-26-72

308
total 616

c/o #5

| Distribution | | Approvals | | Date |
|---------------------------------|----------------------------------|------------|---------------------|----------|
| Originator | E. Wilder | Originator | <i>E. Wilder</i> | 11-2-72 |
| Unit Mgr. | | Mgr. | <i>K. Schrodner</i> | 11-3-72 |
| Proj. Mgr. | EG Ward | Proj. Mgr. | <i>W.A. C...</i> | 12-15-72 |
| NPGD QA | HF Dobei C.W. Javocke | | | |
| Mgr. Contract Admin. (NSS Only) | | | | |
| Mgr. Fuel Contract (NSC Only) | CC Plunkett | | | |
| Contract File | NSS-6/8A30.41 Dresser | | | |

THIS CMC. AUTHORIZED BY CUST. TELECON OF 12-15-72 (K. MATT TO WAC)

DRESSER

INDUSTRIAL VALVE & INSTRUMENT DIVISION

ALEXANDRIA, LOUISIANA

August 28, 1970

The Babcock & Wilcox Company
Boiler Division
P. O. Box 1260
Lynchburg, Va. 24505

Attention: Mr. Walter W. Schaffer
Buyer

Subject: B & W Inquiry No. A-116
for Jersey Central Power & Light Co.
Three Mile Island Station
Unit No. 2
Dresser Quotation QSV-23401



CC
W. Cobble
W. Butt
M. Burnette
9/3/70
WA

Dear Mr. Schaffer:

We have received and reviewed your letter of August 4, 1970 and the attachments thereto. The following comments are felt to be in order.

With regard to CS-5-107 dated June 14, 1968, B & W Engineering Change No. SC-58 with attachments A, B, and C, we find that -

Attachment C gives horizontal and vertical accelerations within acceptable ranges for the valves quoted. Please note that during the seismic disturbance the valve may tend to leak or possibly "pop" but should return to normal following the disturbance.

The Specification 1022/NBS-6/0170 and B & W Engineering Change No. SC-60 of July 20, 1970, the assembly of the main valve/pilot valve will be tested (without internal components) under a hydrostatic pressure of 9000 psig. This includes both the inlet and the outlet at the same time.

No other changes were necessary and there will be no modification to the price structure.

Should there be any further questions, or when ordering the materials quoted, please refer to Dresser's quotation QSV-23401.

Sincerely,

Chester P. Cox, Jr.
Customer Service Representative

CPC/jc

bc: M.J. Burnette

August 4, 1970

Dresser Industries
Industrial Valve & Instrument Corp.
P.O. Box 1430
Alexandria, Louisiana 71301

Attention: Mr. Chester Cox, Jr.

Re: B&W Inquiry A-116
Dresser Quote No.
QSV-28401

Dear Chester,

Enclosed you will find copies of B&W Engineering Change Authorization Nos. SC-60 and SC-61, dated July 20, 1970. Engineering Change No. SC-60 amends B&W Specification 1028/NSS-6/0170 and Engineering Change No. SC-61 amends B&W Specification CS-3-79/NSS-6/0170. I am also attaching E.C.A. No. SC-58, Attachments A-C, which amends the seismic curves of B&W Specification 1107.

I am presently in receipt of Dresser Quotation No. QSV-28401, dated June 26, 1970 which was submitted by Dresser in reply to our Inquiry A-116. It is requested that Dresser review these Engineering Change Authorizations, which basically follow the format of the Dresser proposal, and advise me if the incorporation of these changes would in any way affect the above referenced proposal.

If, for any reason, these changes would affect your proposal, it is requested that you submit to me any changes regarding the proposal.

We would appreciate a prompt reply from Dresser regarding this matter.

Yours very truly,

BABCOCK & WILCOX COMPANY
Power Generation Division

Walker W. Schaffer, Senior Buyer
Purchasing Department

WWS:spa
Attachments - as noted

QUOTATION FROM

Telephone 318-445-5381

Telex 058625

Twx 318-445-5324

DRESSER

DRESSER INDUSTRIAL VALVE & INSTRUMENT DIVISION

DRESSER INDUSTRIES, INC.

P. O. BOX 1430

ALEXANDRIA, LOUISIANA 71301

June 26, 1970



TO
The Babcock & Wilcox Co.
Boiler Division
P. O. Box 1260
Lynchburg, Va. 24505
Attn. Mr. Walker W. Schaffer, Buyer

OUR QUOTE NO.

QSV-28401

Please Reference When Ordering

YOUR INQUIRY NO.

DATE OF YOUR INQUIRY

A-116

2-9-70

Gentlemen: We offer the following for your consideration.

| ITEM | Quantity | CAT. NO. | DESCRIPTION | UNIT PRICE |
|------|----------|----------|--|------------|
| | | | <p>Thank you for your inquiry. The following is offered for your consideration and purchase.</p> <p>Subject: B & W Inquiry No. A-116 for Jersey Central Power & Light Co. Three Mile Island Station Unit No. 2</p> <p>Delivery Required by March 26, 1971</p> <p><i>CC</i> <i>E. WARD</i> <i>M. BURNETTE</i> <i>J. SAMUELS</i> <i>6-30-70</i> <i>WA</i></p> <p>Prices do not include (federal, state or local) sales, privilege, use or other similar kinds of taxes. All agreements made contingent upon strikes, fire, accidents or other causes beyond our control. Orders subject to final acceptance at our works sales office.</p> | |

Terms and Conditions (see reverse side)

Shipment estimated _____
after your order is received.

DRESSER

DRESSER INDUSTRIAL VALVE & INSTRUMENT DIVISION

By Chester P. Cox, Jr.
Customer Service Representative
Power Market

| <u>ITEM NO.</u> | <u>QTY</u> | <u>DESCRIPTION</u> | <u>UNIT PRICE</u> | <u>TOTAL PRICE</u> |
|-----------------|------------|----------------------------|-------------------|--------------------|
| 1 | 2 | <u>3" x 6" Type 31759A</u> | \$10,000.00 | \$20,000.00 |

Special Consolidated Pressurizer Safety Valve with Enclosed Tungsten Steel Spring, Packed Lifting Lever Stainless Steel Forged Through Seat Bushing, Inconel "X" Thermodisc, Stainless Steel Bellows for Maximum Variable Back - Pressure of 700# - 500°F, and Auxiliary Balancing Piston, for Use Under ASME Section III.
 Inlet Flange 3" 2500# U.S.A.S., Small Tongue
 Outlet Flange 6" 600# U.S.A.S., R.F.
 Set Pressure 2500 PSIG
 Grifice Area 3.341 Sq. In.
 Capacity 346,463#/hr. saturated steam at 10% Accumulation, 90% Rating using restricted lift of 0.430 inches. (83% of full lift)

Note: Your required capacity is 345,000#/hr. and the valve relieving capacity represents 100.42% of your required capacity.

Major Component Materials are reflected by drawing 214607. Non Destructive Testing will be in accordance with the engineering Instructions to be listed later in this quotation.

Valve Price includes Third Party Inspection.

| | | | | |
|---|---|------------------------------|-------------|-------------|
| 2 | 1 | <u>2½" x 4" Type 31533VX</u> | \$ 4,870.00 | \$ 4,870.00 |
|---|---|------------------------------|-------------|-------------|

Consolidated Forged Stainless Steel Electromatic Relief Valve, Stainless Steel Trim, Ready for Connection to Electrical Controller on 125VDC operation. Pilot Valve to be equipped with Bellows.
 Flanged Inlet 2½" 2500# U.S.A.S., R.F.
 Flanged Outlet 4" 600# U.S.A.S., R.F.
 For Use at 2300 PSIG
 Capacity 118,909#/hr. (103.39% of your required capacity of 115,000#/hr. and within the allowable 10% tolerance.)

Note: The 118,909#/hr. capacity is obtained by restricting the bore of the valve to 1 5/32" to give an effective orifice area of 1.050 sq. in.

Maximum Variable Back Pressure 700#, 500°F
 Closing time of Main Valve Disc Approximately one second.

Major Component Materials are reflected by drawing 214629. Non Destructive Testing will be in accordance with the Engineering Instructions to be listed later in this quotation.

Valve Price does not include Third Party inspection.

GENERAL NOTES:

1. B & W Reference Specifications:

- | | |
|---|--|
| 1028/NSS-6/0170 Dated 1-7-70 | - Specification for Pressurizer Relief Valves for Nuclear Service |
| CS-3-79/NSS-6/0170 Dated 1-7-70 | - Specification for Electrically Actuated Relief Valves for Reactor Coolant System Service |
| CS-3-106/NSS6/1269 Dated 1-7-70 & SC-04 | - General Technical Requirements for all components used in Auxiliary Fluid Systems |
| CS-5-95 Dated 5-29-68 & CS-5-95/NSS-6 Dated 2-27-69 | - General Specification for Cleanliness of Nuclear Reactor Systems and Components |
| CS-5-107 Dated 6-14-68 & CS-5-107/NSS-6 Dated 2-27-69 | - General Specification for Seismic Design Basis |
| 1132/0369 Dated 3-19-69 | - Quality Control Program Specification |

2. Shipment can be made 14 months after receipt of your order, released for fabrication with all drawings and specifications approved, in our Alexandria, Louisiana office.

3. Terms of Sale:

F.O.B. Alexandria, Louisiana
Net 30 Days
Freight Not Allowed

4. Escalation:

Prices set forth are subject to acceptance by purchase order or letter of intent within 60 days from the date of this quotation, and will be firm for all material released for shipment by the dates appearing on the face of this quotation. Shipments made at the buyer's request beyond the dates indicated will be subject to prices in effect at time of shipment.

5. Please note that our Standard Terms of Sale, attached, will apply on any order resulting from this quotation in lieu of the conditions imposed under B & W Forms BD-21009 of 12-69 and BDX 1066-4. Our Standard Warranty will apply for one year from date of initial start up.

Dresser is not in a position to honor back charges for emergency repairs performed by other than Dresser's authorized representatives. Installation and removal charges are to the account of the purchaser, as the Dresser warranty covers the product itself.

6. Comments with regard to 1028/0170 para. 3.7 - Because of the limited capacity of our test boiler we will not be in a position to accurately adjust the blowdown of the valves to 4%; however, the valve itself is designed so as to be adjusted for 4% blowdown.
- para. 3.10 - Valve response time to reach full lift position on opening is directly related to the rate of pressure rise in the vessel. The 3700 series of Safety Valve is certified, under ASME Sec. III, to attain full lift at 3% overpressure. If the system pressure rises as rapidly as 0.5 seconds to 3% overpressure, then the valve will be at full lift correspondingly.
- para. 4.1 and 4.2 - The stainless steel for the wetted parts of the valve will be as reflected in the list to follow later in this quote.
- para. 5.1 - where you have made references to "ASME III & Pump and Valve Code for Class I valve inspection requirements we offer the list which follows. If the non-destructive tests reflected in the list to follow later in this quote are not what you desire, we would appreciate your comments spelling-out your detailed requirements. Unless comments are made to the contrary we will assume that our listing of non-destructive tests is what is required to meet your specifications. You will find that our list, to follow later in the quote, indicates components that we consider as requiring non-destructive tests in order to comply with Sec. III. and the pump and Valve Code for Class I Systems.
- para. 6.0 - In lieu of your "Class B" cleaning we offer our valves cleaned per OS-125 as follows:

CLEANING

Cleaning shall be accomplished in strict accordance with OS-125 except as follows:

No parts or sub-assemblies which have inaccessible areas shall be cleaned with alkaline cleaning agents or trisodium phosphate additives in cleaning solutions. Chlorinated solvents such as trichlorethylene and perchlorethylene shall not be used. Under no circumstances will assembled valves be cleaned with either alkaline or tri-sodium phosphate cleaning agents.

Following final rinse after testing, the valve inlet bore shall be tested by means of wipe testing. The wipe test will be conducted using a clean, dry, white cotton lintfree cloth or swab saturated with acetone or alcohol. The surfaces applicable for this test are the interior of the inlet nozzle and the lower surface of the safety valve disc.

Acceptable results of testing shall be based on no discoloration on the wipe cloth. However, discoloration due to chromium or nickel oxides are not considered cause for rejection. Discoloration on the wipe cloth due to the presence of either of these oxides, will range in color from light tan to black.

Finish cleaned inlet valve surface to be checked using demineralized water and indication papers. PH must be 6.0 to 8.0.

Water used for rinse in Paragraph 2.4 of CL-10 shall have less than 1 ppm halogens and initial conductivity shall not exceed 20 mmhos/cm.

para. 7.1 - In lieu of a hydrostatic shell test we are offering hydrostatic testing of the bushing (nozzle) and a back-pressure proof test.

INLET HYDROSTATIC TESTING

Valve inlet hydrostatic testing shall be accomplished as follows:

Prior to installation of the bushing in the valve body, each valve bushing shall be subjected to a 5 minute hydrostatic test at 3750 psig. Water temperature shall not exceed 120°F. Test media shall be demineralized boiler water. The bushing shall be suitably held in the test fixture to avoid mechanical damage. The top end of the bushing shall be blocked with a hydrostatic plug during the test.

Any leakage thru the bushing wall or permanent deformation shall be cause for rejection of the bushing.

Immediately following hydrostatic testing, each acceptable bushing shall be thoroughly rinsed in demineralized boiler water, then placed in acceptable storage for use against the order.

Results of test shall be retained for record and certification.

BACK PRESSURE PROOF TESTING

Following satisfactory completion of functional testing, each valve shall be subjected to the following back pressure proof testing.

The valve shall be installed on a suitable air test block at the outlet flange.

All other valve body opening shall be carefully tightened. The vent hole in the bonnet shall have a pipe plug loosely installed.

Air shall be admitted into the outlet side of the valve until a pressure of 800 psig is registered in lieu of 1070 psig. This pressure shall be held for not less than five minutes or until checking as follows is completed if a longer time is required.

The valve shall then be brushed or sprayed externally with a non-ionic detergent solution consisting of approximately 10cc detergent/gallon of demineralized water. Care shall be taken to assure complete coverage over entire external surface of the valve body including around the loosely installed bonnet vent plug.

"Bubble" evidence of leakage through the body wall shall be cause for rejection for suitable repair operations. Bubbling around ring pins and body drain shall require further tightening or gasket replacement until leaking has stopped.

Any leakage detected around bonnet vent plug is indicative of a ruptured bellows or other leak into the bonnet chamber. No such leakage shall be permitted.

All test results shall be recorded.

Each valve shall then be thoroughly rinsed externally with demineralized water.

para 7.2 -

ASSEMBLY & FUNCTIONAL TESTING

Assemble Valve per Instructions AS-24.

Following inlet hydrostatic testing and cleaning, the assembled valve shall be installed on the high pressure steam test header. Testing shall be performed as follows:

After 15 minutes minimum warm-up period on the steam test header, each valve shall be tested per Specification PT-11. In each instance, the valve shall pop cleanly and within $\pm 1\%$ of 2500 psig set pressure. Valve to cool with reduced pressure.

No attempt shall be made to accurately adjust the blowdown, since valve capacity is approximately 25 times that of the test facility. However, blowdown shall be adjusted such that the valve closes cleanly after each successive pop.

Seat leakage test will be conducted with 1500 psi saturated steam on the valve inlet with a hydraulic device in accordance with PT-11. Hydraulic device to be loaded so that valve is essentially at 94% of set pressure. A flanged condenser shall then be attached to the outlet flange of the valve and all other openings closed to assure no escape of unmeasured steam. Condensate shall be gathered for 10 minutes or until an accurate measure of seat leakage can be obtained.

Condensate representing seat leakage shall not exceed 2cc/hr./inch of valve seat diameter.

In the event of excessive seat leakage, the valve shall be taken down for disassembly inspection and seat rework prior to retesting as per above.

All test results shall be recorded for each valve.

After hot functional testing verify inlet nozzle cleanliness in accordance with cleaning specifications.

para. 8.2 - Exception is taken to furnishing either a test gag or a hydrostatic test plug. The 31700 series valves has a flanged inlet connection and the valves should be removed from the vessel for the performance of hydrostatic testing of the vessel, with the vessel nozzles "blanked-off for the tests."

This will serve two ends; preserve cleanliness level of the valve, and preclude the possibility of damage to the seating surfaces of the Thermodisc.

para. 8.3 - Inlet gaskets can be furnished, at extra charge, similar to those furnished on previous B & W orders. Briefly, the gaskets were flexitallic gaskets of the spiral-wound design, constructed of 304 stainless steel with Canadian asbestos filler and a carbon steel centering ring.

Also, the inlet studs and nuts, if desired, can be furnished at additional charge. Please advise the materials of construction, and any non-destructive tests required; such as, ultrasonic, liquid penetrant, magnetic particle, charpy impact, etc., so that the additional charges can be developed.

para. 8.4 and 8.5 - The allowable forces and moments that discharge piping may impose and the outlet reactions when the valve is relieving have been furnished on previous contracts.

7. PREPARATION FOR SHIPMENT

Following completion of all phases of cleaning and testing as required by this specification, valve closure shall be made as per provisions of OS-125.

External portions of the valve of non-stainless steel (Bonnet, cap and Lever) shall be painted with plasite paint in accordance with OS-164. The stainless steel valve body will not be painted.

The valves shall then be in individually boxed in boxes having cross skids to permit sling-handling during shipment. Boxes will be tarpaper lined.

8. RECORDS AND CERTIFICATIONS

Records shall be maintained and copies made available for transmittal to customer as follows:

Vendor chemical and physical certifications shall be maintained for each body, bonnet, bushing and disc. Heat identification symbols shall be retained and shall be visible on each finished body and bonnet.

Chemical and physical reports shall be maintained traceable to combined representative heats from which bushings and discs, respectively, are machined. The transfer of heat stamps to finished components is not a requirement.

Records of nominal chemistry and physical properties for all other valve components shall be maintained.

Hydrostatic test records shall be retained.

Records of cleaning must be maintained.

Results of functional testing shall be recorded.

Records of back pressure proof tests shall be maintained.

Certifications and records of nondestructive tests as specified by listing shall be retained for record to be maintained for 10 years as per provisions of ASME Section III.

CERTIFICATION

Certification shall be made to the customer that all provisions of this instruction have been met. Copies of records of this specification shall be used as the basis for such certification.

9. For 31700 Series Valve - (Reference dwg. 214607)

| <u>COMPONENT</u> | <u>MATERIAL</u> | <u>NONDESTRUCTIVE TESTS</u> | | | | | <u>RECORDS</u> | | |
|----------------------|----------------------|-----------------------------|--------------|--------------|--------------|--------------|----------------|----------|----------|
| | | <u>RG-19</u> | <u>SP-32</u> | <u>SP-33</u> | <u>SP-34</u> | <u>SP-35</u> | <u>1</u> | <u>2</u> | <u>3</u> |
| Base | | | | | | | X | X | X |
| Base Casting | ASME SA-351-CF8M | X | | X | | | X | X | X |
| Nozzle | | | | X | | | X | X | X |
| Nozzle Forging | ASME SA-182-F347 | | X | | | | X | X | X |
| Disc | | | | X | | | X | X | X |
| Disc Bar | ASTM A-461-GR.688 | | X | | | | X | X | X |
| Spindle | | | | X | | | X | X | X |
| Spindle Bar | ASME SA-182-F316 | | X | | | | X | X | X |
| Top Spring Washer | (Hard Surface) | | | X | | | X | X | X |
| Washer Bar | ASME SA-105 GR.II | | X | | | | X | X | X |
| Bottom Spring Washer | | | | | X | | X | X | X |
| Washer Bar | ASME SA-105 GR. II | | X | | | | X | X | X |
| Spring | | | | | | X | X | X | X |
| Spring Bar | EHW (Tungsten Steel) | | X | | | | X | X | X |
| Bonnet Assembly | | X | | | X | | X | X | X |
| Bonnet Casting | ASME SA-215-WCB | X | | | X | | X | X | X |
| Bonnet Plug | ASME SA-105 GR.II | | | | X | | X | X | X |
| Compression Screw | | | | X | | | X | X | X |
| Screw Material | ASME SA-164 Alloy A | | X | | | | X | X | X |

Note: Records 1. Certified Chemical & Physical Reports
 2. Records of Non Destructive Tests
 3. Serialization

Material specifications "ASME SA or SB" are equivalent to ASTM Specifications A or B where alloy or grades exist.

B & W has stated to our Mr. C. K. Brewer the valves quoted do not require Charpy Impact testing because the ferritic materials used in the construction of the valves have had the "NDT" temperatures established. As a result, B & W established the hydrostatic test temperatures to be at least 60°F. above "NDT" temperature.

10. The 31700 Series Valves shall be certified and stamped with "NV" symbol as stipulated by ASME Section III - "Nuclear Vessels", Article 9. Representative Approval Certificates for valves previously approved by the National Board of Boiler and Pressure Vessel Inspectors shall be used as the basis for capacity certification.

With regard to the B & W Quality Assurance Data Sheet exception is taken to Paragraphs (c) and (d). As on previous contracts, the same reasons apply. Vary briefly, furnishing code stamp rubbings is impracticable. If necessary we can furnish photographic prints of the code stamps as physically applied to the valves at an additional charge. We are not in a position to furnish the manufacturers data sheets as same have not been made available to us by the ASME. We have all of the necessary data for this purpose and have obtained ASME and National Board acceptance of the 31700 series valves.

11. Comments with regard to CS-3-79 para. 3.4 - The 31533VX will be equipped with a solenoid to accept a remote electrical signal. This is a special solenoid for 125 V.D.C. operation. If the voltage is other than 125 V.D.C., additional charges will be in order.
Para. 4.1 and 4.2 - Materials of construction shall be as reflected by the enclosed drawing 214629.

In lieu of the balance of the requirements of this specification we intend to furnish the valves as below:

CLEANING

Cleaning applicable to this order shall be in accordance with provisions of OS-125 except as follows:

No parts or sub-assemblies which have inaccessible areas shall be cleaned with alkaline cleaning agents or tri-sodium phosphate additives in cleaning solutions. Under no circumstances will assembled valves be cleaned with either alkaline or tri-sodium phosphate cleaning agents.

Final effluent rinse shall be strained through Whatman #42 filter. Maximum retrieved particle size shall not exceed 40 microns.

Final effluent rinse shall not exceed conductivity limit of 20 micromhos/cm.

Surface check of finished part using demineralized water and indicating papers shall show pH of 6.0 to 8.0.

Cleaning as per above is applicable for the level of cleanliness as per AS-22 Assembly Instructions.

ASSEMBLY

Assembly shall be performed in strict accord with AS-22 except that pilot bellows assembly components shall be included in the pilot valve as per Drawing 214629.

HYDROSTATIC TESTING

The fully assembled main valve/pilot valve assembly shall be tested at a pressure of 9,000 psig as per ANSI B16.5. Test shall be conducted for 5 minutes duration. Body wall leakage or deformation shall be cause for rejection.

All Test results shall be recorded.

FUNCTIONAL TESTING

The fully assembled valve shall be transported from the clean room to the high pressure steam test room for functional testing.

The valve shall be installed on the high pressure test header. Steam shall be admitted gradually into the closed valve until pressure is maintained near set pressure. The valve shall be allowed to "warm" for 15 minutes prior to first actuation test.

The valve shall be tested at 200 psig and 2300 psig. Actuation shall be both manual and automatic to assure correct function of the valve. Set pressure of 2300 psig shall be verified for 3 pops, minimum.

The main valve seat shall be tight within 10 cc/hr/inch of seat diameter.

The pilot valve shall be tight within 10 cc/hr/inch of pilot seat diameter. Leakage can be assessed by placing a cold metal rod against the pilot valve discharge. If no condensate is formed, the pilot valve shall be considered acceptable.

All test results shall be recorded for each valve.

PREPARATION FOR SHIPMENT

Following completion of testing valves shall be checked for cleanliness as reflected above and for Series 31700 Valves.

Following completion of testing and final cleanliness verification as per this specification, each valve shall be closed in the manner prescribed by OS-125.

The valve shall not be painted on any exterior surface. Solenoid cover shall be painted on inside and outside surfaces with plasite paint in accordance with OS-164.

Each valve shall be boxed in a manner to accommodate sling handling. Blocking and bracing of valves shall be provided accordingly.

RECORDS AND CERTIFICATIONS

Records shall be maintained as required by ASME for 10 years. Extent of records shall be as follows:

Vendor chemical and physical certifications shall be maintained for the main valve body, the main disc, and the pilot body. Reports shall be maintained traceable from representative heats from which each of the above named components, respectively, are machined. The transfer of heat stamps to finished components is not a requirement.

Hydrostatic test records shall be maintained

records of cleaning shall become a part of the log.

Functional testing results are required records.

Certifications and records of nondestructive test to include radiographs as per Section 3. shall be retained for the record.

Record Availability to Customer

Copies of all records shall be made available for transmittal to the customer upon request.

Certification

Certification shall be made to the customer that all provisions of this instruction have been met. Copies of records per above shall be the basis for the certification.

12. For 31533VX Series Valves (Reference Drawing 214629)

| <u>COMPONENT</u> | <u>MATERIAL</u> | <u>NONDESTRUCTIVE TESTS</u> | | | <u>RECORDS</u> | | |
|--|--------------------|-----------------------------|--------------|--------------|----------------|----------|----------|
| | | <u>RG-7</u> | <u>SP-32</u> | <u>SP-33</u> | <u>1</u> | <u>2</u> | <u>3</u> |
| Lower Main Base | | | | X | X | X | X |
| Lower Main Base Forging | ASTM A-182-GR.F316 | | X | | X | X | X |
| Top Flange Main Base | | | | X | X | X | X |
| Top Flange Main Base Forging | ASTM A182-GR.F316 | | X | | X | X | X |
| Main Disc | | | | X | X | X | X |
| Main Disc Forging | AISI-616 | | X | | X | X | X |
| Pilot Valve Body | | | | X | X | X | X |
| Pilot Valve Body Forging | ASTM-182-GRF316 | | X | | X | X | X |
| Main Base Fabricated Groove Weld Deposit | | X | | | | | X |
| Pilot To Main Base Joint Per WS-97 & WS-65 | | | | X | | | X |
| Fillet Welds Per WS-65 | | | | X | | | X |
| Hard Surfacing Per WS-103 | | | | X | | | X |

Note: Records 1 - Certified Chemical & Physical Reports
 2 - Records of Non Destructive Tests
 3 - Serialization

13. Comments with regard to 1132/0369

In lieu of your specification we are offering the Dresser Specification QCI-6 and Dresser's quality control procedures. As you are aware, our plant, procedures, and personnel are in the process of being qualified under the latest ASME Sec. III and Pump and Valve Code requirements, inclusive of Third Party Inspection under Hartford Steam Boiler. As soon as Dresser has been completely approved, the necessary documentation attesting to our approval will be made available for your review.

14. Please note that the inspection points are for the performance of non-destructive tests in accordance with your specifications and/or to meet code requirements. If you desire these to be mandatory "hold" points for B & W witness, please indicate specifically which tests you desire to witness prior to release for fabrication. Dresser, in co-operation with our material vendors, and in order to maintain promised shipping schedules, will assign a time limit for the mandatory holds. Delays resulting from B & W's authorized representative not appearing for the scheduled inspection will be subject to a monetary penalty of \$100.00 per day per component held in excess of five (5) working days after date of notification to B & W of readiness.
15. The list entitled "Reference Documents" reflects the control documents to which the valves will be built. The specifications and drawings have been furnished previously for other contracts and copies are not included with this quotation. Should additional copies of any of these documents be required, please do not hesitate to let us know.

Reference Documents

A = For 31700 Series Valves, B = For 31533VX Valves

| <u>A</u> | <u>B</u> | <u>SPECIFICATION NUMBER</u> | <u>REVISION NUMBER</u> | <u>SPECIFICATION DESCRIPTION</u> |
|----------|----------|---------------------------------|----------------------------|---|
| X | X | OS-125 | 1 | Nuclear Cleaning Instructions |
| X | X | CL-10 | 1 | Nuclear Cleaning Instructions |
| X | X | SP-32 | 1 | Ultrasonic Examination Specification |
| X | X | SP-33 | 1 | Liquid Penetrant Examination Specification |
| X | | SP-34 | 3 | Dry Magnetic Particle Examination Specification |
| X | | SP-35 | 1 | Wet Magnetic Particle Examination Specification |
| X | | AS-24 | 3 | Assembly Instructions for 31700 Series Valves |
| X | | PT-11 | 4 | Valve Testing Procedure |
| X | | PT-18 | 5 | Valve Testing Procedure |
| X | | RG-19 | 2 | Radiography Procedure Specifications |
| | X | RG-7 | 3 | Weld Radiography Specifications |
| | X | WS-97 | 2 | Welding Procedure Specifications |
| | X | AS-22 | 0 | Assembly Instructions for 31533VX Series Valves |
| | X | WS-103 | 1 | Hard Surfacing Procedure |
| | X | WS-65 | 2 | Welding Procedure |
| X | | 214607 | | 31700 Series Valve Drawing |
| | X | 214629 | | 31533VX Series Valve Drawing |
| X | X | OS-164 | 0 | Painting Specification |

If further service can be given, or when ordering the proffered complement of materials, please refer to Dresser's quotation QSV-28401.

STANDARD TERMS OF SALE

DRESSER INDUSTRIAL VALVE & INSTRUMENT DIVISION — DRESSER INDUSTRIES, INC.

STRATFORD, CONNECTICUT 06497

1. GENERAL

A. Seller's prices are based on these sales terms and (i) this document, together with any additional writings signed by Seller, represents a final, complete and exclusive statement of the agreement between the parties and may not be modified, supplemented, explained or waived by parol evidence, Buyer's purchase order, a course of dealing, Seller's performance or delivery, or in any other way except in writing signed by an authorized representative of Seller's and (ii) these terms are intended to cover all activity of Seller and Buyer hereunder, including sales and use of products, parts and work and all related matters (references to products include parts and references to work include construction, installation and start-up). Any references by Seller to Buyer's specifications and similar requirements are only to describe the products and work covered hereby and no warranties or other terms therein shall have any force or effect. Catalogs, circulars and similar pamphlets of the Seller are issued for general information purposes only and shall not be deemed to modify the provisions hereof.

B. The agreement formed hereby and the language herein shall be construed and enforced under the Uniform Commercial Code as in effect in the State of Connecticut (Stratford, Connecticut being the home office location of Dresser Industrial Valve & Instrument Division of Dresser Industries, Inc.) on the date hereof.

2. TAXES

Any sales, use or other similar type taxes imposed on this sale or on this transaction are not included in the price. Such taxes shall be billed separately to the Buyer. Seller will accept a valid exemption certificate from the Buyer if applicable; however, if an exemption certificate previously accepted is not recognized by the governmental taxing authority involved and the Seller is required to pay the tax covered by such exemption certificate, Buyer agrees to promptly reimburse Seller for the taxes paid.

3. PERFORMANCE, INSPECTION AND ACCEPTANCE

A. Unless Seller specifically assumes installation, construction or start-up responsibility, all products shall be finally inspected and accepted within twenty (20) days after receipt at point of delivery. Products not covered by the foregoing and all work shall be finally inspected and accepted within twenty (20) days after completion of the applicable work by Seller. All claims whatsoever by Buyer (including claims for shortages) excepting only those provided for under the WARRANTY AND LIMITATION OF LIABILITY and PATENTS Clauses hereof must be asserted in writing by Buyer within said twenty (20) day period or they are waived. If this contract involves partial performances, all such claims must be asserted within said twenty (20) day period for each partial performance. There shall be no revocation of acceptance. Rejection may be only for defects substantially impairing the value of products or work and Buyer's remedy for lesser defects shall be those provided for under the WARRANTY AND LIMITATION OF LIABILITY Clause.

B. Seller shall not be responsible for nonperformance or delays in performance occasioned by any causes beyond Seller's reasonable control, including, but not limited to, labor difficulties, delays of vendors or carriers, fires, governmental actions and material shortages. Any delays so occasioned shall effect a corresponding extension of Seller's performance dates which are, in any event, understood to be approximate. In no event shall Buyer be entitled to incidental or consequential damages for late performance or a failure to perform.

C. If Buyer wrongfully rejects or revokes acceptance of items tendered under this agreement, or fails to make a payment due on or before delivery, or repudiates this agreement, Seller shall have a right to recover as damages the price as stated herein. Upon recovery of the price, the items involved shall become the property of the Buyer.

4. TITLE AND RISK OF LOSS

Full risk of loss (including transportation delays and losses) shall pass to the Buyer upon delivery of products to the f.o.b. point. However, Seller retains title, for security purposes only, to all products until paid for in full in cash and Seller may, at Seller's option, repossess the same, upon Buyer's default in payment hereunder, and charge Buyer with any deficiency.

5. WARRANTY AND LIMITATION OF LIABILITY

A. Seller warrants that its products and parts, when shipped, and its work (including installation, construction and start-up), when performed, will meet all applicable specifications and other specific product and work requirements (including those of performance), if any, of this agreement, will be of good quality and will be free from defects in material and workmanship. All claims for defective products or parts under this warranty must be made in writing immediately upon discovery and, in any event, within one (1) year from shipment of the applicable item unless Seller specifically assumes installation, construction or start-up responsibility. All claims for defective products or parts when Seller specifically assumes installation, construction or start-up responsibility, and all claims for defective work must be made in writing immediately upon discovery and, in any event, within one (1) year from completion of the applicable work by Seller, provided, however, all claims for defective products and parts must be made in writing no later than eighteen (18) months after shipment. Defective items must be held for Seller's inspection and returned to the original f.o.b. point upon request. THE FOREGOING IS EXPRESSLY IN LIEU OF ALL OTHER WARRANTIES WHATSOEVER, EXPRESS, IMPLIED AND STATUTORY, INCLUDING WITHOUT LIMITATION, THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS.

B. Upon Buyer's submission of a claim as provided above and its substantiation, Seller shall at its option either (i) repair or replace its product, part or work at the original f.o.b. point of delivery or (ii) refund an equitable portion of the purchase price.

C. The foregoing is Seller's only obligation and Buyer's only remedy for breach of warranty, and except for gross negligence, willful misconduct, and remedies permitted under the PERFORMANCE, INSPECTION AND ACCEPTANCE and the PATENTS Clauses hereof, the foregoing is Buyer's only remedy hereunder by way of breach of contract, tort or otherwise. In no event shall Buyer be entitled to incidental or consequential damages. Any action for breach of this agreement must be commenced within two (2) years after the cause of action has accrued.

6. PATENTS

Seller agrees to assume the defense of any suit for infringement of any United States patents brought against Buyer to the extent such suit charges infringement of an apparatus or product claim by Seller's product in and of itself, provided (i) said product is built entirely to Seller's design, (ii) Buyer notifies Seller in writing of the filing of such suit within ten (10) days after the service of process thereof, and (iii) Seller is given complete control of the defense of such suit, including the right to defend, settle and make changes in the product for the purpose of avoiding infringement. Seller assumes no responsibility for charges of infringement of any process or method claims, unless infringement of such claims is the result of following specific instructions furnished by Seller.

7. SPECIAL TOOLING

Notwithstanding any tool, die or pattern charges or amortization in connection, herewith, all special tooling and related items shall be and remain the property of Seller.

TERMS AND CONDITIONS

- TERMS Consolidated Safety Relief (1900 Series) - 1% 10 days, net 30 days.
 All other Consolidated - Net 30 days.
 Hancock - 2% 10 days, net 30 days.
 Hancock - 1500# - 4500# Design - Net 30 days.

PRICE

ESCALATION: "Prices set forth are subject to acceptance by purchase order or letter of intent within 60 days from date of proposal. Shipments made at buyer's request beyond six months from date of order will be invoiced at seller's prices current at time of shipment."

SHIPMENTS: All orders shall specify method of shipment - whether freight, truck, express, or parcel post; in the absence of instruction, shipments will be made at the company's discretion. If postoffice and shipping point addresses differ, both should be given. All parcel post shipments will be insured unless otherwise specified. Where items on one order must be shipped from different points, each shipment takes a separate freight rate based on its individual weight and classification.

F. O. B. TERMS: I. Consolidated

A. Safety and Relief Valves

- (1) Bronze - F.O.B. Alexandria, Louisiana full freight allowed via lowest rate route within Continental United States, excluding Alaska and Hawaii on shipments weighing 100# or more when ordered for shipment to a single destination at one time. (Catalog #14).
- (2) All other Safety and Relief Valves - F.O.B. Alexandria, Louisiana. Freight not allowed (Catalog 15A. 17A and 18).
- (3) All Safety and Relief Valve Parts - F.O.B. Alexandria, Louisiana. Freight not allowed. (Catalog 15A. 17A and 18).
- (4) Navy Valves (Bronze and Steel) & Parts - F.O.B. - Alexandria, Louisiana. Freight not allowed.

B. Safety Relief Valves and Parts

- (1) F.O.B. Alexandria, Louisiana with full freight allowed via lowest rate route to destinations having commercial transportation facilities within Continental United States, excluding Alaska and Hawaii, or to nearest port of exit from the United States. (Catalog 1900A).
- (2) Obsolete design Safety Relief Valve parts (1600 Series) F.O.B. Alexandria, Louisiana. Freight not allowed.

II. Hancock & Alloy

- A. Forged, Cast Steel and Alloy Valves - F.O.B. Alexandria, Louisiana with freight allowed to destination within Continental United States excluding Alaska and Hawaii, or to nearest port of exit from the United States, via lowest rate route, on single purchase orders totaling 300# or more when ordered for shipment to a single destination at one time.
- B. Bronze Valves - F.O.B. Alexandria, Louisiana, with freight allowed to destination within Continental United States excluding Alaska and Hawaii, or to nearest port of exit from the United States, via lowest rate route, on single purchase orders totaling 200# or more when ordered for shipment to a single destination at one time.
- C. All Hancock Bronze, Steel and Alloy Valve Parts - F.O.B. Alexandria, Louisiana. Freight not allowed.

DELIVERY: Delivery shown is from receipt of order in Alexandria, Louisiana Sales Office cleared for production, i.e. accompanied by complete specifications and drawing approval, if drawings are required for approval, to enable entry and processing of your order. All deliveries quoted are subject to prior sale.

THE BABCOCK & WILCOX COMPANY

INQUIRY

BOILER DIVISION

BID DUE DATE
0318701

P. O. Box 1260, Lynchburg, Virginia 24505

INQUIRY
NUMBER DATE
A-116 020970

REQUISITIONED BY & DATE
MJB 012270
NSS-6/162

P. O. NO. CONTRACT NO.
620-0006-28-41

Dresser Industries
Industrial Valve & Instrument Corp.
P.O. Box 1430
Alexandria, Louisiana 71301

Attention: Mr. Chester Cox, Jr.

| SUMMARY OF QUOTATION | | |
|----------------------|---|---|
| 1 | 2 | 3 |
| | | |

| ITEM | QUANTITY | U/M | DESCRIPTION | FOLIO | REQ'D DATE | SHOP |
|---|---------------|-----|---|-------------|------------|------|
| | 7 8 5 4 3 2 1 | | | 6 5 4 3 2 1 | MO DA YE | |
| | | | Please quote by March 18, 1970 on the following: | | | |
| 1 | 2ea | | Pressurizer Safety Valves 3" x 6". | | | |
| 2 | 1ea | | Electromatic Relief Valve 2½" x 4" equipped with bellows. | | | |
| <p>The valves are to be manufactured in accordance with the following specifications:</p> <p>CS-3-106/NSS-6 dated 12-17-69 and as amended by B&W Engineering Change No. SC-04 (attached).</p> <p>CS-5-107 dated 6-14-68</p> <p>CS-5-107/NSS-6 dated 2-27-69</p> <p>1028/NSS-6 dated 1-7-70</p> <p>CS-3-79/NSS-6 dated 1-7-70</p> <p>CS-5-95 dated 5-29-68</p> <p>CS-5-95/NSS-6 dated 2-27-69</p> <p>1132/0369 dated 3-19-69</p> <p>Q.A. Data Sheets</p> <p>The color of paint to be used on these valves shall be grey and the valves shall be painted in accordance with Paragraph 6.7 of B&W Spec. CS-3-106/NSS-6 and as amended by B&W Engineering Change No. SC-04.</p> <p><u>TERMS AND CONDITIONS:</u></p> <p>(1) Terms and Conditions in accordance with B&W Form BD21009 (12-69).</p> <p>(2) Delivery required March 26, 1971.</p> | | | | | | |

WE RESERVE THE RIGHT TO REJECT ANY OR ALL BIDS, AND TO AWARD THE ORDER TO OTHER THAN THE LOW BIDDER.

THE BABCOCK & WILCOX COMPANY

BOILER DIVISION

P. C. WILLIAMS Division Purchasing Agent

bc: P.C. Williams (w/attach.) M.J. Burnette
J.C. Quinn (w/attach.) E.G. Ward
J.A. Samuels File/Attach

Per _____
Walker W. Schaffer, Buyer

THIS IS AN INQUIRY - NOT AN ORDER

WWS:spa

THE B & W COCK & WILCOX COMPANY

POWER GENERATION DIVISION

NSS-6/188-9

P. O. Box 1260, Lynchburg, Va. 24505

PURCHASE ORDER

8A30.41
REQUISITIONED BY & DATE

E Wilder 110172

DATE

NUMBER

120573

022660LS

Dresser Industries
 Industrial Valve & Inst. Corp.
 P. O. Box 1430
 Alexandria, La. 71301

RECEIVED
 B & W PGD
 FEB 22 1973
 PURCHASING
 Lynchburg, Va.

CHANGE ORDER NO. 5

VENDOR NUMBER

CONTRACT NUMBER

6200006

THE REQUIRED DATE LISTED BELOW IS THE
 DATE MATERIALS ITEMS ORDERED ARE
 REQUIRED AT DESTINATION IN U.S.A.

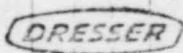
SHIP TO

Attention: Mr. Gary Freet

SHIP VIA

F.O.B.

TERMS OF PAYMENT

| ITEM | QUANTITY | U/M | DESCRIPTION | FOLIO | REV. DATE | SHOP | CWT | COMM CODE | NET PRICE PER U/M | U/M | |
|------|---------------|-----|--|--------------|-----------|------|-----------|-----------|-------------------|-----|--------------|
| | 7 6 5 4 3 2 1 | | | 16 5 4 3 2 1 | MO DA YR | | 5 4 3 2 1 | 5 4 3 2 1 | 6 5 4 3 2 1 | | |
| | | | <u>CHANGE ORDER NO. 5</u> | | | | | | | | |
| | | | This Change Order No. 5 authorizes Dresser Industries to measure and record wall thickness of valves, mark no. RC-VIA and RC-VIB. This is to be done in accordance with B&W letter and sketch dated 10-12-72, and Dresser letter dated 10-25-72. | | | | | | | | |
| | | | This will require disassembly, recording actual measured minimum wall thickness, reassemble and retest each valve. | | | | | | | | \$308.00 ea. |
| | | | Dresser Industries is to forward calculated and actual measured wall thickness to B&W for review prior to a release for shipment of valves. | | | | | | | | |
| | | | Pricing is in accordance with Dresser's quote of 10-26-72. Total cost authorized by this Change Order is - | | | | | | | | \$616.00 |
| | | | Total cost of this purchase order now reads - | | | | | | | | \$26,086.00 |
| | | | This purchase order is changed only as authorized above and no other changes are authorized by this change order. | | | | | | | | |
| | | |  INDUSTRIAL VALVE & INSTRUMENT DIVISION <small>GENERAL MANUFACTURING DIVISION OF THE B&W COMPANY</small> P. O. BOX 1430 ALEXANDRIA, LOUISIANA 71301 | | | | | | | | |

ACKNOWLEDGMENT
 RETURN TO
 STATING PRICE

T-24

ACKNOWLEDGED BY

Shipment Will Be Made By _____ DATE _____

Vendor _____

Per G. W. Freet

2/20/73

THE B & W COCK & WILCOX COMPANY

POWER GENERATION GROUP

P. O. Box 1260, Lynchburg, Va. 24501

ADDRESS

PURCHASE ORDER

REQUISITIONED BY & DATE

E. Wilder 090572

DATE

101272

NUMBER

022660LS

I Dresser Industries
O Industrial Valve & Instrument Corp.
 P. O. Box 1430
 Alexandria, La. 71301

CHANGE ORDER NO. 4

VENDOR NUMBER

CONTRACT NUMBER

62040006

THE REQUIRED DATE LISTED BELOW IS THE DATE MATERIALS/ITEMS ORDERED ARE REQUIRED AT DESTINATION IN U.S.A.

SHIP TO Attention: Mr. Gary Freet

SHIP VIA

F.O.B.

TERMS OF PAYMENT

| ITEM | QUANTITY | U/M | DESCRIPTION | FOLIO | REQ. DATE | SHOP | CWT | COMM CODE | NET PRICE PER | U/M |
|---|---------------|-----|--------------------|--------------|-----------|------|-----------|-----------|---------------|-----|
| | 7 6 5 4 3 2 1 | | | 16 5 4 3 2 1 | MO DA YR | | 5 4 3 2 1 | 5 4 3 2 1 | 6 5 4 3 2 1 | |
| | | | CHANGE ORDER NO. 4 | | | | | | | |
| <p>Please make this change a permanent addendum to this purchase order.</p> <p>The attached Specification Change Number (223) is to adjust all records to comply with forging material as furnished.</p> <p>Attached herewith is B&W Professional Engineer Certification and Specifications Package.</p> <p>There is to be no additional charges to B&W with this change. All other terms and conditions are unchanged.</p> | | | | | | | | | | |

ACKNOWLEDGMENT
RETURN AT ONCE
STATING PRICE AND DELIVERY

DRESSER
 INDUSTRIAL VALVE & INSTRUMENT DIVISION
 P. O. BOX 1430
 ALEXANDRIA, LOUISIANA 71301

ACKNOWLEDGED BY

Shipment Will Be Made By _____ DATE _____

Vendor _____

Per G. W. Freet
 10/18/72

THE COCK & WILCOX COMPANY

POWER GENERATION DIVISION

P. O. Box 1260, Lynchburg, Va. 24505

ADDRESS

PURCHASE ORDER

REQUISITIONED BY & DATE
E. Wilder 072472

DATE
082172

NUMBER
022660LS

CHANGE ORDER NO. 3A

Dresser Industries
P. O. Box 1430
Alexandria, La. 71301

VENDOR
NUMBER

CONTRACT
NUMBER
6200006

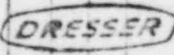
PURCHASE ORDER, CONTRACT, ITEM AND
FOLIO NO. MUST BE SHOWN ON ALL
PACKAGES, INVOICES, PAPERS AND
DRAWINGS.

Attention: Mr. Gary Freet

SHIP VIA

F.O.B.

TERMS OF PAYMENT

| ITEM | QUANTITY | U/M | DESCRIPTION | FOLIO | REV'D DATE | SHOP | CWT | COMM CODE | NET PRICE PER U/M | U/M | |
|------|---------------|-----|---|--------------|------------|------|-----------|-----------|-------------------|-----|--|
| | 7161514131211 | | | 161514131211 | MO DA YR | | 514131211 | 514131211 | 61514131211 | | |
| | | | CHANGE ORDER NO. 3A | | | | | | | | |
| | | | Please refer to the subject order and note the following change. | | | | | | | | |
| | | | A) Billing only, reset and test two (2) valves, Mark RC-RV1A and RC-RV1B per Change Order No. 3 (8-10-72) | | | | | | | | |
| | | | The cost for the above change is \$600.00 net in accordance with Dresser acknowledgment dated August 4, 1972. The total value of this order now reads \$25,470.00. | | | | | | | | |
| | | | All other terms and conditions remain unchanged. | | | | | | | | |
| | | |  INDUSTRIAL VALVE & INSTRUMENT DIVISION <small>FORMELY MANNING, MULLER & COMPANY A DIVISION OF THE DRESSER INDUSTRIES</small> P. O. BOX 1430 ALEXANDRIA, LOUISIANA 71301 | | | | | | | | |

ACKNOWLEDGED
RETURN AT ONCE
STATING PRICE AND DELIVERY

ACKNOWLEDGED BY

Shipment Will Be Made By _____ DATE _____

Vendor Dresser

Per G. Zent

8/29/72

Shall warrant that the goods to be furnished hereunder conform with the requirements of the Occupational Safety and Health Act of 1970 as amended.

Babcock & Wilcox

Power Generation Division

P.O. Box 1260, Lynchburg, Va. 24505

Telephone: (703) 384-5111

July 26, 1972

ACCEPTED

By G. W. Freet
Title Cont. Supv. Rep. Nuclear
Date 8-3-72

Dresser Industries
P. O. Box 1430
Alexandria, La. 71301

Attention: Mr. Gary Freet

Re: CHANGE ORDER NO. 3
B&W Purchase Order
022660LS, 620-0006

Gentlemen:

This Change Order No. 3 is your authorization to incorporate the attached B&W Engineering Change Authorization No. SC-218 which is to become a part of B&W Specification 1028/NSS-6/0170.

This change is to be made at no cost to B&W. *See wire of 8/3/72 \$300.00 Per Valve.*

All other portions of this purchase order remain unchanged.

Please sign and return the attached acknowledgment and acceptance copy of this Change Order No. 3 as soon as possible.

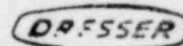
Very truly yours,

BABCOCK & WILCOX COMPANY
Power Generation Division

Ronald H. Smith
Purchasing Department

RHS:bam

Attachments



INDUSTRIAL VALVE & INSTRUMENT DIVISION

PROPERTY OF DRESSER INDUSTRIES COMPANY

P. O. BOX 1430

ALEXANDRIA, LOUISIANA 71301

"Nuclear"

Babcock & Wilcox

Power Generation Division

P.O. Box 1260, Lynchburg, Va. 24505

Telephone: (703) 384-5111

January 3, 1972

G. Freet

Title _____
Date 1/7/72

Dresser Industries
Industrial Valve & Instrument Corp.
P. O. Box 1430
Alexandria, Louisiana 71301

Attention: Mr. Gary Freet

Re: CHANGE ORDER NO. 2
B&W Purchase Order
022660LS, 620-0006

F

Gentlemen:

Please refer to the subject order and note the following change:

- 1) Dresser Industries is released to manufacture all valves on this order. Item 1, two (2) Pressurizer Safety Valves, Mark No. RC-RV1A and RC-RV1B; Item 2, one (1) Electromatic Relief Valve RC-V2.

The above will be at no cost to B&W. Pricing, terms and conditions are unchanged.

Please sign and return the attached acknowledgment and acceptance copy of this Change Order No. 2 by January 18, 1972.

Very truly yours,

BABCOCK & WILCOX COMPANY
Power Generation Division

T. M. Viar, Senior Buyer
Purchasing Department

TMV:bam

Attachment

Babcock & Wilcox

Power Generation Division

P.O. Box 1260, Lynchburg, Va. 24505

Telephone: (703) 384-5111

November 3, 1970

Dresser Industries
Industrial Valve & Instrument Corp.
P.O. Box 1430
Alexandria, Louisiana 71301

ACCEPTED
By V.O. Schroeder
To Customer Service Dept.
Date 11-18-70

Attention: Mr. Vernon Schroeder

Re: CHANGE ORDER NO. 1
B&W Purchase Order
022660LS, 620-0006

Gentlemen:

This Change Order No. 1 is your authorization to incorporate the attached B&W Engineering Change Authorization No. SC-75 which is to become a part of B&W Specification CS-5-107, dated 6-14-68.

You will note that this SC-75 cancels SC-58 which was incorporated as a part of the above referenced purchase order. This change is to be made at no cost to B&W.

All other portions of this purchase order remain unchanged.

Please sign and return the attached acknowledgment and acceptance copy of this Change Order No. 1 as soon as possible.

Yours very truly,

BARCOCK & WILCOX COMPANY
Power Generation Division

Walker W. Schaffer, Senior Buyer
Purchasing Department

WWS:spa
Attachments

THE BA COCK & WILCOX CO PANY

POWER GENERATION DIVISION

P.O. Box 1260, Lynchburg, Va. 24505

ADDRESS

PURCHASE ORDER

REQUISITIONED BY & DATE

WC Butt 10/14/70
HSS-5/188

DRESSER NO. 35-10832-0

DATE
100170

NUMBER
022660LS

I
O Dresser Industries
Industrial Valve & Instrument Corp.
P.O. Box 1430

VENDOR
NUMBER

CONTRACT
NUMBER

62000062841

Alexandria, Louisiana 71301 Attn: C.P. Cox, Jr.
Jersey Central Power & Light Company, Three
Mile Island Unit II, Dauphin County, Pa.

PURCHASE ORDER, CONTRACT, ITEM AND
FOLIO NO. MUST BE SHOWN ON ALL
PACKAGES, INVOICES, PAPERS AND
DRAWINGS.

SHIP VIA

F.O.B.

TERMS OF PAYMENT

Truck-Prepay & Add

Alexandria, La.

Net 30 Days

| ITEM | QUANTITY | U/M | DESCRIPTION | FOLIO | MO | DA | YR | SHOP | CWT | COMM CODE | NET PRICE PER U/M | U/M |
|------|---------------|-----|---|--------------|----|----|----|------|-----------|-----------|-------------------|------|
| | 7161514131211 | | | 161514131211 | | | | | 514131211 | 514131211 | 61514131211 | |
| 1 | 2ea | | Pressurizer Safety Valves, Type 31759A 3"x6" as des- cribed by Dresser Quotation QSV-28401, dated June 26, 1970 and Dresser letter dated August 28, 1970. The only exception to this quote is that the valves are to have raised face inlet flanges. Valve description as follows: Special Consolidated Press- urizer Safety Valve with enclosed tungsten steel spring, packed lifting lever, stainless steel forged through seat bushing, inconel "X" thermodisc, stainless steel bellows for maximum variable back pressure of 700 lbs. @ 500 P and auxiliary balancing piston. Inlet Flange - 3" 2500 lb. ASA R.F. Outlet Flange - 6" 600 lb. ASA R.F. Set Pressure - 2500 lb. PSIG Orifice Area - 3.341 sq. in. Capacity - 346,463 lbs/hr saturated steam @ 10% accumulation, 90% rating. | 032671 | | | | | 8732 | | 10,000.00 | Each |
| 2 | 1ea | | Consolidated Forged Stain- less Steel Electromatic Relief Valve, Type 31533VX 2½"x4" as described by Dresser Quotation QSV-28401 dated | 032671 | | | | | 8732 | | 4,870.00 | Each |

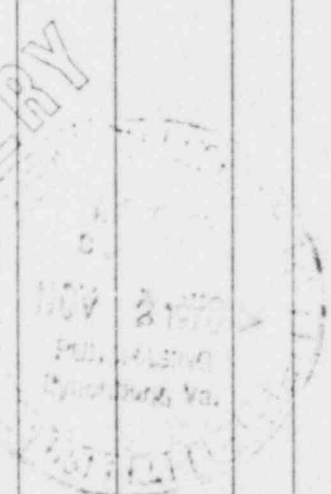
We Acknowledge Receipt of and Accept this Purchase Order and its Terms and Conditions.

Shipment Will Be Made By Will Advise

DATE

Vendor Dresser

Per V.O. Schroeder



THE B&W COCK & WILCOX CO PANY

POWER GENERATION DIVISION

P.O. Box 1260, Lynchburg, Va. 24505

ADDRESS

PURCHASE ORDER

REQUISITIONED BY & DATE

DATE

NUMBER

100170

022660LS

Dresser Industries

VENDOR NUMBER

CONTRACT NUMBER

-2-

PURCHASE ORDER, CONTRACT, ITEM AND FOLIO NO. MUST BE SHOWN ON ALL PACKAGES, INVOICES, PAPERS AND DRAWINGS.

SHIP VIA

F.O.B.

TERMS OF PAYMENT

| ITEM | QUANTITY | UOM | DESCRIPTION | FOLIO | REQ'D DATE | SHOP | CWT | COMM CODE | NET PRICE PER U/M | U.M. |
|--|-------------|-----|---|--------------|------------|------|-----------|-----------|-------------------|------|
| | 71514131211 | | | 161514131211 | MO DA YR | | 514131211 | 514131211 | 61514131211 | |
| 2 | 1ea | | <p>June 26, 1970 and Dresser letter dated August 28, 1970.</p> <p>Valve description as follows:</p> <p>Consolidated forged stainless steel electromatic relief valve, stainless steel trim, ready for connection to electrical controller on 125 VDC operation. Pilot valve to be equipped with bellows:</p> <p>Inlet Flange - 2 1/2" 2500 lb. ASA R.F. Outlet Flange - 4" 600 lb. ASA R.F. Capacity - 118,909 lbs/hr 2300 lb. saturated steam maximum variable back pressure 700 lbs. @ 500 F. Valve Mark No. RC-RV2.</p> | | | | | | | |
| <p>TERMS AND CONDITIONS:</p> <p>(1) Terms and Conditions in accordance with B&W Form BD21009 (12-69) and Dresser Industries terms of sale.</p> <p>(2) Dresser Industries is authorized to procure necessary materials for these valves; however, no fabrication shall be performed until specifically released by B&W.</p> <p>(3) The valves are to be manufactured in accordance with the following specifications:</p> <p>a. B&W Specification CS-3-106/NSS-6 dated 12-17-69 and as amended by B&W Engineering Change Authorization (ECA) SC-04 (attached).</p> | | | | | | | | | | |

We Acknowledge Receipt of and Accept this Purchase Order and its Terms and Conditions.

Shipment Will Be Made By _____ DATE _____

Vendor _____

Per _____

THE B&W COCK & WILCOX CO PANY

POWER GENERATION DIVISION
P.O. Box 1260, Lynchburg, Va. 24505

ADDRESS

REQUISITIONED BY & DATE

PURCHASE ORDER

DATE

NUMBER

100170

022660LS

Dresser Industries

VENDOR NUMBER

CONTRACT NUMBER

-3-

PURCHASE ORDER, CONTRACT, ITEM AND FOLIO NO. MUST BE SHOWN ON ALL PACKAGES, INVOICES, PAPERS AND DRAWINGS.

SHIP VIA

F.O.B.

TERMS OF PAYMENT

| ITEM | QUANTITY | U.M. | DESCRIPTION | FOLIO | MO | DA | YR | SHOP | CWT | COMM CODE | NET PRICE PER U/M | U.M. |
|------|---------------|------|--|--------------|----|----|----|------|-----------|-----------|-------------------|------|
| | 7(6151413121) | | | [6151413121] | | | | | 5(413121) | 5(413121) | 6(51413121) | |
| | | | b. B&W Specification CS-5-107 dated 6-14-68 and as amended by B&W ECA SC-58 (attached). | | | | | | | | | |
| | | | c. B&W Specification CS-5-107/NSS-6 dated 2-27-69. | | | | | | | | | |
| | | | d. B&W Specification 1028/NSS-6 dated 1-7-70 and as amended by B&W ECA SC-60 (attached). | | | | | | | | | |
| | | | e. B&W Specification CS-3-79/NSS-6 dated 1-7-70 and as amended by B&W ECA SC-61 (attached). | | | | | | | | | |
| | | | f. B&W Specification CS-5-95 dated 5-29-68. | | | | | | | | | |
| | | | g. B&W Specification CS-5-95/NSS-6 dated 2-27-69. | | | | | | | | | |
| | | | h. B&W Specification 1132/0369 dated 3-19-69. | | | | | | | | | |
| | | | i. Q.A. Data Sheets. | | | | | | | | | |
| | | | (4) All drawings and procedures for these valves as referenced in Dresser QSV-28401 shall be submitted to B&W for approval <u>not later than October 30, 1970.</u> | | | | | | | | | |

ACCEPTED FOR DELIVERY
STATING PRICE AND DELIVERY

We Acknowledge Receipt of and Accept this Purchase Order and its Terms and Conditions.

Shipment Will Be Made By _____ DATE _____

Vendor _____

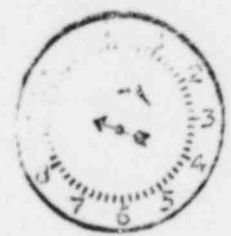
Per _____

File

Calvin



3471



*cc: M.B.F. Reid
MAR 1 1977*

WUI 0099442 1138 03/01+
BABWILCOX LURG
00
2
OCC AUTO RETRY

2
OCC AUTO RETRY
5+
BABWILCOX LURG
BABCOCK & WILCOX 3-1-77 #18
MR DOUG CARMICHAEL
LYNCHBURG VA

REURPHONE. MET ED. 3-MILE ISLAND STA.
OUR SERVPCE

2094

BABCOCK & WILCOX 3-1-77 #18
MR DOUG CARMICHAEL
LYNCHBURG VA

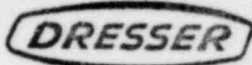
REURPHONE. MET ED. 3-MILE ISLAND STA.

OUR SERVICEMAN WILL INSTALL BUSHING IN 31533VX ELECTROMATIC
RELIEF VALVE WEEK OF MARCH 21, 1977.

JACK E COX
DRESSER INDUST VALVE AND INST DIV

*nss-6
022660*

*held by
site OP 3/20/77*



DRESSER INDUSTRIAL VALVE & INSTRUMENT DIVISION

DRESSER INDUSTRIES, INC.
P. O. BOX 1430
ALEXANDRIA, LOUISIANA 71301

January 18, 1973

Babcock & Wilcos Company
Power Generation Division
P. O. Box 1260
Lynchburg, Va. 24505

RECEIVED
B & W FGD
JAN 22 1973
PURCHASING
Lynchburg, Va.

Attention: Mr. T. Sund, Buyer

Subject: B & W P.O. 022660LS
Dresser 35-10832-0
Jersey Central Power & Light
Invoice No. 55166 Dated. 7/31/72

Gentlemen:

In response to our phone conversation of today, I am sending a copy of Original Invoices for the above job. Please see if you can obtain payment for Dresser against these valves. The Data Package is being reviewed by your Mr. E. Williams, and has been accepted by Hartford Steam Boiler.

Dresser feels that payment should be made and that the last purchase order change is a new contract and Dresser will get payment for additional \$616.00 after Minimum Wall requirements are met.

I would appreciate all that you can do to insure payment.

Sincerely,

G. W. Freet
Customer Service Representative

GWF/jm

1-14

M*
BABWILCOX LURG

DRESSER ALX A

3 72PM



BABCOCK & WILCOX CO
ATTN MR RON SMITH

BABCOCK & WILCOX CO 8-3-72 #9
ATTN MR RON SMITH
LYNCHBURG VA

SUBJECT: B & W P O 022660LS, 620-0006
CHANGE ORDER NO 3 7-26-72
DRESSER 35-10832-0

RON,
THIS IS TO CONFIRM THAT THERE IS A COST OF \$300.00 PER VALVE TO
RESET AND TEST AND RECLEAN AND PAINT, PLUS 3RD PARTY INSP.
I WILL PROCEED ON THIS BASIS, AND RETURN YOUR ACKNOWLEDGEMENT
COPY MARKED WITH PRICE TO RESET. IF YOU HAVE ANY QUESTIONS,
PLEASE CALL.

GARY FREET
DRESSER INDUSTRIAL VALVE AND INSTRUMENT DIVISION

001 1-2 111 20

CC
W. Cobb
T. Burnley
ppa 10-2-70

B&W @GD LY

\STRATFORD CONN 14 10-1

BABCOCK & WILCOX CO

W W SCHAFFER LYNCHBURG VA

REUR PURCHASE ORDER 022660 LS OUR 35-10832-0

WE HAVE INFORMED FACTORY THAT ORDER IS RELEASED FOR MATERIAL
PROCUREMENT BUT NOT FABRICATION AND THAT REQUESTED DOCUMENT
PACKAGE SHOULD BE IN YOUR HANDS BY 10-20-70 AT THE LATEST.

WE CAN SHIP THE VALVES COVERED BY ORDER BY 8-15-71 IF OKAY TO
BEGIN FABRICATION IS RECEIVED BY 11-20-70.

J J BRENNAN DRESSER IVI DIV

OCT 11 1970

B&W PGD LY

\STRATFORD CONN 9 10-1

BABCOCK & WILCOX CO

W W SCHAFFER LYNCHBURG VA

REUR INQ A116 OUR QUOTATION QSV-28401 *JERSEY CENTRAL*

ACCEPTANCE DATE IS EXTENDED UNTIL 10-30-70

PRICES QUOTED ARE FIRM

J J BRENNAN DRESSER IVI DIV

CC
W. Cobb
W. Butt
T. Burnley

APPROVED

PDS-21023-2 (4-70)

SPEC. CHANGE

NPGD ENGINEERING CHANGE AUTHORIZATION

| | | | |
|---|--|---|-----------------------------------|
| 1 | Applicable Drawings/Specs: CS-3-79/NSS-6/0170 | 2 | B&W Engr. Change No: SC-61 |
| 3 | Supplier: | 4 | Contract No: 620-0006 |
| 5 | Purchase Order: | 6 | Component: 28 |
| 7 | Description of Change (Use attach. if req'd.) | 8 | NPGD Procedure No. 1G(15)2-2d |

DATE: 7-20-70

Revise Para. 3.1 to read

3.1 All valves shall be manufacturer's standard, or better, for service in the conditions stated on the attached data sheet. The valve design shall meet the requirements of USAS B16.5.

Add Para. 3.7

3.7 All welders and welding procedures shall be qualified in accordance with ASME Boiler and Pressure Vessel Code, Section IX.

Revise Para. 4.1 to read

4.1 Materials used for construction of the valves shall be in accordance with Table I.

Revise Para. 5.1 to read

5.1 Records and non-destructive testing of valve materials shall be in accordance with Table I.

Revise Para. 6.1 to read

6.1 The assembly of the main valve/pilot valve shall be tested (without internal components) under a hydrostatic pressure of 9000 psig. Test shall be conducted for 5 minutes duration. Body wall leakage or deformation shall be cause for rejection.

Revise Para. 6.3 to read

6.3 The valve shall be installed on the high pressure test header. Steam shall be admitted gradually into the closed valve until pressure is maintained near set pressure. The

Sheet 1 of 3

| | | | |
|--|---|------|--|
| The Below Listed Items are for B&W Internal Use Only | | | |
| 9 | To Project Manager: E. G. Ward | 10 | Other Applicable Contracts: |
| 11 | System: 28 | None | |
| 12 | File No: 12E2/CS-3-79 | | |
| 13 | Recommended Standards Change / NO / | 14 | Reason For Change: Engrg. Dept. Required Change / Project Manager Request / Other: / Customer Request / Suggested Improvement: / X |
| 15 | Does this change affect safety or reliability? (refer 1G(15)2-5.3.4) NO / X / YES / / | | |

| 16 | Group or Section | Title | Approval Signature | Date | 17 | Action |
|----|--------------------|-----------------------------|--------------------|---------|----|------------------|
| | Originator | Comp. Engr. | <i>E. G. Ward</i> | 7/20/70 | | Spec. Rev. Proc. |
| | Aux. Systems | Supervisor | <i>E. G. Ward</i> | 7/20/70 | | |
| | Fluid Systems | Sect. Mgr. / <i>1st Sup</i> | <i>E. G. Ward</i> | 7/20/70 | | |
| | Aux. Systems | Contract Engr. | <i>E. G. Ward</i> | 7/20/70 | | |
| | <i>Performance</i> | <i>Section Manager</i> | <i>E. G. Ward</i> | 7-22-70 | | |
| | Quality Assurance | Manager | Information | | | |
| | Project Management | Project Manager | <i>E. G. Ward</i> | 7-20-70 | | |

CHANGE NO. SC-61

valve shall be allowed to "warm" for 15 minutes prior to first actuation tests.

The valve shall be tested at 200 psig and 2300 psig. Actuation shall be both manual and automatic to assure correct function of the valve. Set pressure of 2300 psig shall be verified for 3 pops, minimum.

The main valve seat shall be tight within 10 cc/hr/inch of seat diameter.

The pilot valve shall be tight within 10 cc/hr/inch of pilot seat diameter. Leakage can be assessed by placing a cold metal rod against the pilot valve discharge. If no condensate is formed, the pilot valve shall be considered acceptable.

Revise Para. 7.2 to read

7.2 Cleanliness requirements of the valves shall be in accordance with specifications 1.1 and 1.2, Appendix A. The vendor shall submit cleaning procedure for B&W approval.

Revise Para. 2.2 of Appendix A to reflect 1968 issue of USAS B16.5.

TABLE I
MATERIALS, NON-DESTRUCTIVE TESTING AND RECORDS

| <u>COMPONENT</u> | <u>MATERIAL</u> | <u>NONDESTRUCTIVE TESTS</u> ^(a) | | | <u>RECORDS</u> | | |
|--|--------------------|--|-----------|-----------|----------------|----------|----------|
| | | <u>RT</u> | <u>UT</u> | <u>LP</u> | <u>1</u> | <u>2</u> | <u>3</u> |
| Lower Main Base | | | | X | X | X | X |
| Lower Main Base Forging | ASTM A-182-GR.F316 | | X | | X | X | X |
| Top Flange Main Base | | | | X | X | X | X |
| Top Flange Main Base Forging | ASTM A182-GR.F316 | | X | | X | X | X |
| Main Disc | | | | X | X | X | X |
| Main Disc Forging | AISI-616 | | X | | X | X | X |
| Pilot Valve Body | | | | X | X | X | X |
| Pilot Valve Body Forging | ASTM-182-GRF316 | | X | | X | X | X |
| Main Base Fabricated Groove Weld Deposit | | X | | | | | X |
| Pilot To Main Base Joint | | | | X | | | X |
| Fillet Welds | | | | X | | | X |
| Hard Surfacing | | | | X | | | X |

Note: Records 1 - Certified Chemical & Physical Reports
2 - Records of Non Destructive Tests
3 - Serialization

(a) Non-Destructive Tests to be in accordance with ASME Section III and Pump & Valve Code Class I.

RT - Radiography
UT - Ultrasonic Test
LP - Liquid Penetrant Test

BABCOCK & WILCOX
POWER GENERATION DIVISION
NUCLEAR POWER GENERATION DEPARTMENT

SPECIFICATION

CS-3-79 / MSS-6 / 0170
SERIAL/JOB/DATE

FOR

ELECTRICALLY ACTUATED RELIEF VALVES

FOR

REACTOR COOLANT SYSTEM SERVICE

CONTRACT NO. 620-0006
CUSTOMER JERSEY CENTRAL POWER & LIGHT CO.
PLANT THREE MILE ISLAND STATION - UNIT NO. 2

PREPARED BY *M. J. Bennett*

DATE 1-16-70

REVIEWED BY *G. Schneider*

DATE 1/16/70

APPROVED BY *[Signature]*

DATE 1/16/70

APPROVED BY *[Signature]*

DATE 1/16/70

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| 2.0 | Reference Documents | 1 |
| 3.0 | General Requirements | 1 |
| 4.0 | Material Requirements | 1 |
| 5.0 | Inspection Requirements | 2 |
| 6.0 | Testing Requirements | 2 |
| 7.0 | Assembly, Cleaning, Packaging, and Shipping Requirements | 2 |
| 8.0 | Proposal Data Required | 3 |
| 9.0 | Contract Data Required | 3 |
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TECHNICAL SPECIFICATIONS FOR
ELECTRICALLY ACTUATED RELIEF VALVES

1.0 SCOPE OF THE SPECIFICATION

This specification delineates the requirements of electrically actuated Pilot Operated relief valves and covers the furnishing and delivery of such valves that are described in detail on the Equipment Specification Sheets.

2.0 REFERENCE DOCUMENTS

2.1 The valves are to be designed, fabricated, inspected and tested in accordance with the applicable sections of the codes and standards listed in Appendix A, as well as with the special requirements stated in succeeding sections of this specification.

3.0 GENERAL REQUIREMENTS

- 3.1 All valves shall be manufacturer's standard, or better, for service conditions stated on the attached data sheet.
- 3.2 Design of valves and their appurtenances shall include the seismic forces in accordance with Class I requirements of CS-5-107.
- 3.3 The valves shall be flanged and the flange specifications described in the code (USAS B16.5) shall be followed. Flange facing will be specified in the contract stage.
- 3.4 The valves shall be furnished with the necessary accessories required for satisfactory operation in response to a remote electrical signal.
- 3.5 Discharge of valves to have drain provisions to avoid collection of condensate.
- 3.6 The valve shall not act on loss of electrical power and shall fail closed on loss of air.

4.0 MATERIAL REQUIREMENTS

- 4.1 Stainless steel, austenitic type 304 or 316 or equivalent shall be used for the wetted surfaces of the valves. Materials shall meet appropriate ASTM specifications or other recognized industrial standards.
- 4.2 The Vendor shall propose trim materials (stem, nozzle, seat, and disk) meeting the requirements of the service and which will be free from galling, corrosion, and freezing.

5.0 INSPECTION REQUIREMENTS

- 5.1 The appended valve data sheets give a classification for each item. The inspection requirements for each classification are as follows:

Class I

Each item classified as Class I shall meet the requirements of Section A of ASME Code for Pumps and Valves for Nuclear Power.

Class II

Each item classified as Class II shall meet the requirements of Section B of ASME Code for Pumps & Valves for Nuclear Power.

Class III

Each item classified as Class III shall meet the requirements of Section C of ASME Code for Pumps & Valves for Nuclear Power.

6.0 TESTING REQUIREMENTS

- 6.1 All valves shall be given hydrostatic shell pressure tests as required in the latest edition of the code (USAS B16.5). Valves shall show no leakage or permanent deformation at any point.
- 6.2 Demineralized water shall be used as the hydrotest media. The chloride content of this water shall not exceed 1 ppm.
- 6.3 All valves shall be given set pressure tests. Each valve shall lift three successive times within $\pm 1\%$ of the set pressure. The valve shall exhibit blowdown within 2% of the maximum set pressure at each lift. The valve shall be permitted to cool at least five minutes between each lift. The valve shall reseal after each lift and leakage shall not exceed 2 cc of saturated steam per hour per inch of seat diameter measured at not less than 90% of set pressure. The valves shall be dried and sealed following this test.
- 6.4 Disassembly of the valves after the seal test and/or relief pressure setting shall be cause for retest.

7.0 ASSEMBLY, CLEANING, PACKAGING, AND SHIPPING REQUIREMENTS

- 7.1 Marking of valves shall be in accordance with standards requirements of MSS SP-25.
- 7.2 Cleanliness Requirements of the valves shall be in accordance with reference specification 1.1, Appendix A.

8.0 PROPOSAL DATA REQUIRED

- 8.1 Vendor shall specify the trim materials as stipulated in Paragraph 4.2 above.
- 8.2 Vendor shall describe the valve test stand and testing procedure to be used to accomplish testing described in Section 6.0 above.
- 8.3 Vendor shall describe the flange to be supplied and shall recommend suitable gaskets for the service.

9.0 CONTRACT DATA REQUIRED

- 9.1 Prior to release of the Vendor for shipment, the Vendor shall notify B&W in adequate time of dates of the testing required by Section 6. In addition, certified test results shall be submitted for approval.

BABCOCK & WILCOX

POWER GENERATION DIVISION
NUCLEAR POWER GENERATION DEPARTMENT

APPENDIX A

SPECIFICATION NO. CS-3-79/NSS-6
SERIAL/ISSUE DATE

CONTRACT NO. 620-0006

REFERENCE DOCUMENTS FOR
ELECTRICALLY ACTUATED RELIEF VALVES

| <u>1.0 REFERENCE B&W SPECIFICATIONS</u> | <u>ISSUE DATE</u> |
|--|-------------------|
| 1.1 B&W Specification No. CS-5-95, "General Specification for Cleanliness of Nuclear Reactor Systems and Components" | <u>5/29/69</u> |
| 1.2 B&W Specification No. CS-5-95/NSS-6 | <u>2/27/69</u> |
| 1.3 B&W Specification No. CS-3-106/NSS-6, "General Technical Specification for All Components Used in Auxiliary Fluid Systems" | <u>12/17/69</u> |
| 1.4 B&W Specification No. 1132/0369, "Nuclear Quality Program Requirements Specification" | <u>3/19/69</u> |
| 1.5 B&W Specification No. CS-5-107, "Standard Specification for Seismic Design Basis for Auxiliary Equipment" | <u>6/14/68</u> |
| 1.6 B&W Specification No. CS-5-107/NSS-6 | <u>2/27/69</u> |
| <u>2.0 REFERENCE INDUSTRY STANDARDS</u> | |
| 2.1 ASME Code for Pumps and Valves for Nuclear Power | <u>Nov. 1968</u> |
| 2.2 USA Standard, B16.5, "Steel Pipe Flanges and Flanged Fittings" | <u>1961</u> |
| 2.3 Manufacturer's Standardization Society of the Valves and Fittings Industry, Standard Practice SP-25 Marking of Valves | <u>1964</u> |

DATE 1-7-70

PREP'D BY M. J. Burnett

APPV'D BY M. C. Burt

* INDICATES REVISION FROM PREVIOUS ISSUE

Δ INDICATES DELETION FROM PREVIOUS ISSUE

BABCOCK & WILCOX

POWER GENERATION DIVISION
NUCLEAR POWER GENERATION DEPARTMENT

APPENDIX B

SPECIFICATION NO. CS-3-79/NSS-6
SERIAL/ISSUE DATE

CONTRACT NO. 620-0006

VALVE TABULATION SHEET

Item: Electromatic Relief Valve

Mark No.: _____

Quantity: _____

Design Conditions: 2500 PSIG 670 °F

Size: 2 1/2" x 4" Inlet Flange 2 1/2" 2500 lb. Outlet Flange 4" 600 lb.
ASA R.F. ASA R.F.

Service Conditions:

| | |
|---------------------------|-------------------------------------|
| a) Fluid | <u>Saturated Steam</u> |
| b) Capacity | <u>115,000 lbs/hr</u> + 10% - 0% |
| c) Set Pressure | <u>2300 lbs.</u> |
| d) Variable Back Pressure | <u>700 lbs.</u> |
| e) Constant Back Pressure | <u>700 lbs.</u> |
| f) Set Pressure Tolerance | <u>+ 1%</u> <u>-</u> |

Applicable Code: ASME Pump & Valve Code Class I

Cleanliness Class B per B&W Spec. CS-5-95 dtd. 5-29-69

Seismic Class I per B&W Spec. CS-5-107 dtd. 6-14-68

Control Signal: 125 V.D.C.

Supplementary Information
Essentiality Level I per 1132/0369

DATE 1-7-70 PREP'D BY M. J. Barrett APPV'D BY J. C. Barrett

SPECIFICATION

1028 / NSS-6 / 0170
SERIAL/JOB/DATE

FOR

Pressurizer Relief Valves

For

Nuclear Service

CONTRACT NO. 620-0006

CUSTOMER Jersey Central Power & Light Co.

PLANT Three Mile Island Station - Unit No. 2

PREPARED BY M. J. Brunette

DATE 1-16-70

REVIEWED BY A. J. ...

DATE 1/16/70

APPROVED BY P. J. ...

DATE 1/16/70

APPROVED BY W. J. ...

DATE 1/16/70

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1.0 SCOPE

This specification delineates the requirements of pressurizer relief valves in a nuclear steam supply system.

2.0 REFERENCE DOCUMENTS

The valves are to be designed, fabricated, inspected and tested in accordance with the applicable sections of the codes, standards and specifications referenced in Appendix A, as well as with the special requirements stated in succeeding sections of this specification.

3.0 GENERAL REQUIREMENTS

- 3.1 All valves shall be manufacturer's standard, or better, for service in the respective design temperature and pressure, and as stipulated in ASME Code Sec. III, and shall be certified by National Board of Boiler and Pressure Vessel Inspectors in accordance with ASME Code Section III, Art. 9.
- 3.2 Pressurizer Relief Valves furnished in accordance with this Specification shall have a Design Life of forty (40) years. Component parts that require replacement to achieve this design life shall be readily accessible for replacement. The valve must be capable of being stroked a minimum of 50 cycles without failure. Seat leakage due to damage to the seating surfaces does not constitute a valve failure.
- 3.3 Design of valves and their appurtenances shall include consideration of seismic forces in accordance with Class I requirements of B&W Specification CS-5-107.
- 3.4 The valves shall be flanged and the flange specifications described in USAS B16.5 shall be followed. Flange facing will be specified in the contract stage.
- 3.5 The valves shall have a trip lever, or the equivalent, external to the valve.
- 3.6 The valves shall have an inlet design temperature-pressure rating of 670 F - 2500 psig - as specified in USAS B16.5. Downstream portion of valve to be designed to 500 F - 700 psig.
- 3.7 The valves shall be the spring loaded pop type and set to relieve at 2500 psig \pm 1% and shall meet blowdown requirements of 2-4% of the set pressure.
- 3.8 The valves shall be designed for a variable back pressure of 700 psig maximum. The valves shall be bellows sealed and equipped with supplementary balanced piston. The bellows shall be of the balanced design.

- 3.9 The valves shall have a certified flow capacity of no less than 345,000 pounds per hour of saturated steam.
- 3.10 Valve time to full open shall not exceed 0.5 seconds after reaching set pressure.
- 3.11 All welders and welding procedures shall be qualified in accordance with ASME Boiler and Pressure Vessel Code, Section IX.
- 3.12 The Vendor shall state the relationship & effect of variable back pressure to reseating pressure.
- 3.13 A gag or hydrostatic test plug shall be supplied & design so that the valve spindle will not be distorted or damaged when valve is gagged & subjected to hydrostatic test pressure.
- 3.14 Valve shall meet the requirements of Q.A. Level I in accordance with B&W Specification 1132/0369.

4.0 MATERIAL REQUIREMENTS

- 4.1 Stainless steel, austenitic type 304 or 316 or equivalent, shall be used for the wetted surfaces of the valves, whether the valve is seated or discharging. Material shall meet appropriate ASTM specifications or other recognized industrial standards.
- 4.2 The Vendor shall propose trim materials (stem, nozzle, seat, and disk) meeting the requirements of the service and which will be free from galling and freezing. Specifications of the fluid in contact with the valves is presented in Appendix B.
- 4.3 Nitriding treatments on any surface exposed to the working fluid is prohibited.
- 4.4 Chrome plating on any surface exposed to the working fluid is prohibited.

5.0 INSPECTION REQUIREMENTS

- 5.1 Every valve shall have tests performed which shall meet the requirements for Class I valves of the ASME Code for pumps & valves for Nuclear Power.
- 5.2 Vendor's procedures for the tests in section 5.1 are subject to B&W approval prior to release for manufacture, unless prior approval has been received.

6.0 CLEANLINESS REQUIREMENTS

The valves shall meet the Class B Cleanliness requirements in accordance with the specification referenced in Para. 1.3, Appendix A.

7.0 TESTING REQUIREMENTS

- 7.1 All valves shall be given hydrostatic shell pressure tests as required in the latest edition of USAS B16.5. Valves shall show no leakage or permanent deformation at any point.

7.2 Each valve shall be given a hot performance test using saturated steam at 2500 psig. The tests will be as follows:
All valves shall be set to relieve at 2500 psig pressure. Each valve shall lift three successive times within + 1% of the set pressure. The valve shall be set for a blowdown within 2-4% of the set pressure. The valve shall be permitted to cool at least five minutes between each lift. The valve shall reseal after each lift and leakage shall not exceed 2 cubic centimeters per hour per inch of seat diameter measured at not less than 90% of set pressure. The valves shall be sealed following this test.

7.3 Demineralized water shall be used as the hydrotest media. The maximum chloride content of this water shall be 1 ppm.

7.4 Disassembly of the valves after hydrotest across the seat and stem and/or relief pressure setting shall be cause for retest.

7.5 The bellows shall be proof tested at 1070 psig using air on the outlet side of the valve. This pressure shall be held for a minimum of five minutes. Any leakage shall be cause for rejection.

8.0 PROPOSAL DATA REQUIRED

8.1 Vendor shall supply a minimum of one (1) reproducible copy of the outline drawing showing overall dimensions, clearance required to remove valve internals from the body, and weight of the valve assembly. Vendor shall also supply an assembly drawing complete with bill of materials and identification of each part including material.

8.2 Vendor shall describe the gag or hydrostatic test plug proposed and shall illustrate its use with a sketch.

8.3 Vendor shall recommend suitable gaskets for the service.

8.4 Vendor shall supply the allowable forces and moments that discharge piping may impose.

8.5 Vendor shall supply valve reactions when the valve is in the relieving mode.

BABCOCK & WILCOX

POWER GENERATION DIVISION
 NUCLEAR POWER GENERATION DEPARTMENT

APPENDIX A

SPECIFICATION NO. 1028/NSS-6
 SERIAL/ISSUE DATE

CONTRACT NO. 620-0006

DATA SHEET FOR
REFERENCE DOCUMENTS, PRESSURIZER, RELIEF VALVES

| | <u>ISSUE DATE</u> |
|--|--------------------|
| <u>1.0 REFERENCE B&W SPECIFICATIONS</u> | |
| 1.1 B&W General Specification for Seismic Design Basis for Auxiliary Equipment, No. CS-5-107 | <u>6-14-68</u> |
| 1.2 B&W Specification for Seismic Design Basis, No. CS-5-107/NSS-6 | <u>2-27-69</u> |
| 1.3 B&W Specification No. CS-5-95, "General Specification for Cleanliness of Nuclear Reactor Systems and Components" | <u>5-29-68</u> |
| 1.4 B&W Specification for Cleanliness, No. CS-5-95/NSS-6 | <u>2-27-69</u> |
| 1.5 B&W Specification 1106/NSS-6 General Requirements for Auxiliary Fluid System Components | <u>12-17-69</u> |
| 1.6 B&W Specification No. 1132/0369, Quality Control Program | <u>3-13-69</u> |
| <u>2.0 REFERENCE INDUSTRY SPECIFICATIONS</u> | |
| 2.1 USAS B 16.5, "Steel Pipe Flanges and Flanged Fittings" | <u>1961</u> |
| 2.2 ASME Boiler and Pressure Vessel Code | <u>1968</u> |
| 2.2.1 Section III | |
| 2.2.2. Section IX | |
| 2.2.3. Addenda | <u>Summer 1969</u> |
| 2.3 ASTM Standard A 388, Recommended Practices for Ultrasonic Testing and Inspection of Heavy Steel Forgings" | <u>1967</u> |
| 2.4 ASTM Standard E 114, "Recommended Practice for Testing By The Reflection Method Using Pulsed Longitudinal Waves Induced by Direct Contact" | <u>1963</u> |
| 2.5 ASTM Standard E 165, "Liquid Penetrant Inspection" | <u>1965</u> |
| 2.6 ASTM Standard E 71, "Reference Radiograph for Steel Castings" 1964 | <u>1964</u> |

DATE 1-7-70

PREP'D BY W. J. Burnett

APPV'D BY A. L. East

+ INDICATES REVISION FROM PREVIOUS ISSUE
 Δ INDICATES DELETION FROM PREVIOUS ISSUE

BADCOCK & WILCOX

POWER GENERATION DIVISION
 NUCLEAR POWER GENERATION DEPARTMENT

APPENDIX B

SPECIFICATION NO. 1028/HSS-6
 SERIAL/ISSUE DATE

CONTRACT NO. 520-0006

DATA SHEET FOR
 REACTOR COOLANT QUALITY

| <u>Parameter</u> | <u>Value</u> |
|--|--------------|
| Total Solids, Max. (excluding H_3BO_3 and LiOH), ppm | 1.0 |
| H_3BO_3 , Max., ppm | 13,000 |
| LiOH, ppm | 1.5-5.8 |
| pH at 77 F | 4.8-8.5 |
| pH at 560 F | 6.8-7.8 |
| Cl (Max.), ppm | 0.1 |
| H_2 , Std. cc/l H_2O | 15-40 |
| Hydrazine as N_2H_2 (required during shutdown), ppm | 0.1-1.0 |

DATE 1-7-70

PREP'D BY M. J. Bennett

APPV'D BY G. L. Burt

+ INDICATES REVISION FROM PREVIOUS ISSUE

Δ INDICATES DELETION FROM PREVIOUS ISSUE

NPG ENGINEERING CHANGE AUTHORIZATION

| | | | |
|---|---|---|--------------------------------------|
| 1 | Applicable Dwgs/Specs: 1028/NSS-6/0170 | 2 | B&W Engr. Change No: Spec. Chg. 223 |
| 3 | Supplier: Dresser Industries | 4 | Contract No: 620-0006 |
| 5 | Purchase Order: 022660LS | 6 | Component: Pressurizer Safety Valves |
| 7 | Description of Change (Use attach. if req'd.) | | |

Revise Para. 4.1 to read:

4.1 Materials used for construction of the valves shall be in accordance with Table I Revision I.

Revise Para. 5.1 to read:

5.1 Records and non-destructive testing of valve materials shall be in accordance with Table I Revision I.

Note: This change is necessary since the vendor changed materials of Base and Bonnet from a casting to a forging.

Note: This is the third specification change to 1028/NSS-6/0170 and it revises Paragraph 4.1 and 5.1 in Specification Change No. 60.

Sheet 1 of 2

The Below Listed Items are for B&W Internal Use Only || 0 || NPGD Proc. No. NPG-0412-03

| | | | | | | |
|----|---|-----------------|---|---------|----|--------|
| 9 | To Project Manager: EG Ward | 10 | Other Applicable Contracts: | | | |
| 11 | System: Reactor Coolant | | | | | |
| 12 | File No: NSS-6/8A30.41 Dresser | | | | | |
| 13 | Recommended Standards Change / | 14 | Reason For Change: Engrg. Dept. Required Change / Project Manager Request / Other: Customer Request / x Suggested Improvement / | | | |
| 15 | Does Change Affect PSAR or FSAR: (Refer NPG-0414-02) NO / / YES <input checked="" type="checkbox"/> | | | | | |
| 16 | Group or Section | Title | Approval Signature | Date | 17 | Action |
| | Originator | Equip. Engr. | <i>[Signature]</i> | 9-6-72 | | |
| | Aux. Equip. | Lead Sys. Engr. | <i>[Signature]</i> | 9-11-72 | | |
| | Aux. Equip. | Design Engr. | <i>[Signature]</i> | | | |
| | | | | | | |
| | | | | | | |
| | Quality Assurance | Manager | Information | | | |
| | Project Management | Project Manager | <i>[Signature]</i> | 9-28-72 | | |

TABLE I

MATERIALS, NON-DESTRUCTIVE TESTS AND RECORDS

| COMPONENT | MATERIAL | NONDESTRUCTIVE TESTS (a) | | | | | RECORDS | | |
|----------------------|----------------------|--------------------------|----|----|-------------|-------------|----------|----------|----------|
| | | RT | UT | LP | MT (Dry) | MT (Wet) | <u>1</u> | <u>2</u> | <u>3</u> |
| Base | | | | | | | x | x | x |
| Base Forging | ASME SA-182-F316 | | x | x | | | x | x | x |
| Nozzle | | | | | x | | x | x | x |
| Nozzle Forging | ASME SA-182-F347 | | x | | | | x | x | x |
| Disc | | | | | x | | x | x | x |
| Disc Bar | ASTM A-461-GR.688 | | x | | | | x | x | x |
| Spindle | | | | | x | | x | x | x |
| Spindle Bar | ASME SA-182-F316 | | x | | | | x | x | x |
| Top Spring Washer | (Hard Surface) | | | | x | | x | x | x |
| Washer Bar | ASME SA-105 GR.II | | x | | | | x | x | x |
| Bottom Spring Washer | | | | | x | | x | x | x |
| Washer Bar | ASME SA-105 GR.II | | x | | | | x | x | x |
| Spring | | | | | | x | x | x | x |
| Spring Bar | EHW (Tungsten Steel) | | x | | | | x | x | x |
| Bonnet Assembly | | | | | x | x | x | x | x |
| Bonnet Forging | ASTM A-105 GR.II | | x | | | | x | x | x |
| Bonnet Plug | ASME SA-105 GR.II | | | | x | | x | x | x |
| Compression Screw | | | | | x | | x | x | x |
| Screw Material | ASME SA-164 Alloy A | | x | | | | x | x | x |

NOTE: Records 1. Certified Chemical & Physical Reports
 2. Records of Non Destructive Tests
 3. Serialization

Material specifications "ASME SA or SB" are equivalent to ASTM Specification A or B where alloy or grades exist.

(a) Non-Destructive Tests to be in accordance with ASME Section III & Pump & Valve Code Class I

RT-Radiography
 UT-Ultrasonic Test
 LP-Liquid Penetrant
 MT-Magnetic Particle Test

APPROVED
SPEC. CHANGE

PSAR/FSAR CHANGE

PDS-21023-5 (4-72)

NPG ENGINEERING CHANGE AUTHORIZATION

| | | | |
|---|---|---|--------------------------------------|
| 1 | Applicable Dwgs/Specs: 1028/NSS-6/0170 | 2 | B&W Engr. Change No: Spec. Chg. 218 |
| 3 | Supplier: Dresser Industries | 4 | Contract No: 620-0006 |
| 5 | Purchase Order: 022660LS | 6 | Component: Pressurizer Safety Valves |
| 7 | Description of Change (Use attach. if req'd.) | | |

Rev'se Para. 3.7 to read:

3.7 The valves shall be the spring loaded pop type and set to relieve at 2450 psig \pm 1% and reset at 2325 psig. The valve shall be designed to permit blowdown adjustment of a minimum of 5%. Accurate measurement of blowdown may not be possible due to limited capacity of vendor's test facility; in such case the vendor shall set blowdown adjusting rings for a minimum of 5% based on past experience.

Note: This change is necessary since the customer has added pressurizer safety valve water seals.

Sheet 1 of 1

| | | | | | |
|--|--|--------------------------------|---|--|--|
| The Below Listed Items are for B&W Internal Use Only | | | | NPGD Proc. No. NPG-0412-03 | |
| 9 | To Project Manager: EG Ward | 10 Other Applicable Contracts: | | | |
| 11 | System: Reactor Coolant | | | | |
| 12 | File No: NSS-6/8A30.41 Dresser | | | | |
| 13 | Recommended Standards Change / <input type="checkbox"/> | 14 Reason For Change: | Engrg. Dept. Required Change / <input type="checkbox"/> | Customer Request / <input checked="" type="checkbox"/> | Suggested Improvement / <input type="checkbox"/> |
| 15 | Does Change Affect PSAR or FSAR? (Refer NPG-0414-02) NO / <input type="checkbox"/> YES / <input checked="" type="checkbox"/> | | | | |
| 16 | Group or Section | Title | Approval Signature | Date | 17 Action |
| | Originator | Equip. Engr. | <i>E. Wilson</i> | 7-24-72 | |
| | Aux. Equip. | Lead Sys. Engr. | | | |
| | Aux. Equip. | Design Engr. | | | |
| | | | | | |
| | | | | | |
| | Quality Assurance | Manager | Information | | |
| | Project Management | Project Manager | <i>A. T. ...</i> | 7/25/72 | |

PSAR/FSAR CHANGE

B&W ENGR. CHANGE NO. Spec. Chg. 218

NPGD ENGINEERING CHANGE AUTHORIZATION

SPEC. CHANGE

| | | | |
|---|--|---|-----------------------------------|
| 1 | Applicable XXXXX /Specs: 1028/NSS-6/0170 | 2 | B&W Engr. Change No: SC-60 |
| 3 | Supplier: | 4 | Contract No: 620-0006 |
| 5 | Purchase Order: | 6 | Component: 28 |
| 7 | Description of Change (Use attach. if req'd.) | 8 | NPGD Procedure No. 1G(15)2-2d |

DATE: 7-20-70

Revise Para. 31. to read:

3.1 The valves shall be designed, manufactured, and certified in accordance with ASME Section III. Marking, stamping and reports shall be in accordance with ASME Section III Article 8. The valve shall be automatic spring-loaded safety valves in accordance with ASME Section III Article 9.

Revise Para. 3.7 to read:

3.7 The valves shall be the spring loaded pop type and set to relieve at 2500 PSIG +1%. The valve shall be designed to permit blowdown adjustment of 2-4%. Accurate measurement of blowdown may not be possible due to limited capacity of vendor's test facility, in such case vendor shall set blowdown adjusting rings for 2-4% based on past experience.

Revise Para. 3.10 to read:

3.10 Valve response time to reach full lift position shall be equal to a system pressure rise as rapid as 0.5 sec. to 3% overpressure.

Delete Para. 3.13

Revise Para. 4.1 to read:

4.1 Materials used for construction of the valves shall be in accordance with Table I.

| | | | |
|--|--|----|--|
| The Below Listed Items are for B&W Internal Use Only | | | |
| 9 | To Project Manager: E.G. Ward | 10 | Other Applicable Contracts: |
| 11 | System: 28 | | |
| 12 | File No: 12E2/1028 | | |
| 13 | Recommended Standards Change / <u>NO</u> / | 14 | Reason For Change: Engrg. Dept. Required Change / <u> </u> / Customer Request / <u>x</u> / Project Manager Request / <u> </u> / Suggested Improvement / <u> </u> / Other: <u> </u> |
| 15 | Does Change Affect P&ID or Flow? (Refer 1G(15)2-5.9.4) NO / <u>x</u> / YES / <u> </u> | | |

| 16 | Group or Section | Title | Approval Signature | Date | 17 | Action |
|----|--------------------|------------------------------------|--------------------|---------|------------------|--------|
| | Originator | Comp. Engineer | <i>[Signature]</i> | 7/20/70 | Spec. Rev. Proc. | |
| | Aux. Systems | Supervisor | <i>[Signature]</i> | 7/20/70 | | |
| | Aux. Systems | Contract Engr. | <i>[Signature]</i> | 7/20/70 | | |
| | Fluid Sys. | Sect. Manager / <i>[Signature]</i> | <i>[Signature]</i> | 7/20/70 | | |
| | <i>Performance</i> | <i>Section Mgr</i> | <i>[Signature]</i> | 7/20/70 | | |
| | Quality Assurance | Manager | Information | | | |
| | Project Management | Project Manager | <i>[Signature]</i> | 7-20-70 | | |

7. Description of Change (con't)

Revise Para. 5.1 to read:

5.1 Records and non-destructive testing of valve materials shall be in accordance with Table I.

Revise Para. 6.0 to read:

6.0 The valves shall meet the Class B cleanliness requirements in accordance with the specifications referenced in Paragraphs 1.3 and 1.4, Appendix A. The vendor shall submit cleaning procedure for B&W approval.

Revise Para. 7.1 to read:

7.1 Pressure Testing

7.1.1 Inlet Testing

Valve inlet hydrostatic testing shall be accomplished as follows:

Prior to installation of the bushing in the valve body, each valve bushing shall be subjected to a 5 minute hydrostatic test at 9000 psig. Water temperature shall not exceed 120°F. Test media shall be demineralized water. The bushing shall be suitably held in the test fixture to avoid mechanical damage. The top end of the bushing shall be blocked with a hydrostatic plug during the test.

Any leakage thru the bushing wall or permanent deformation shall be cause for rejection of the bushing.

Immediately following hydrostatic testing, each acceptable bushing shall be thoroughly rinsed in demineralized water, then placed in acceptable storage.

7.1.2 Outlet Testing

Following satisfactory completion of functional testing, each valve shall be subjected to the following back pressure proof testing.

The valve shall be installed on a suitable air test block at the outlet flange.

All other valve body opening shall be carefully tightened. The vent hole in the bonnet shall have a pipe plug loosely installed.

Air shall be admitted into the outlet side of the valve until a pressure of 800 psig is registered. This pressure shall be held for not less than five minutes or until checking as follows is completed if a longer time is required.

7. Description of Change (con't)

7.1 Pressure Testing (con't)

7.1.2 Outlet Testing (con't)

The valve shall then be brushed or sprayed externally with a non-ionic detergent solution consisting of approximately 10 cc detergent/gallon of demineralized water. Care shall be taken to assure complete coverage over entire external surface of the valve body including around the loosely installed bonnet vent plug.

"Bubble" evidence of leakage through the body wall shall be cause for rejection for suitable repair operations. Bubbling around ring pins and body drain shall require further tightening or gasket replacement until leaking has stopped.

Any leakage detected around bonnet vent plug is indicative of a ruptured bellows or other leak into the bonnet chamber. No such leakage shall be permitted.

Each valve shall then be thoroughly rinsed externally with demineralized water.

Revise Para. 7.2 to read:

7.2 Functional Testing

Following inlet hydrostatic testing and cleaning, the assembled valve shall be installed on the high pressure steam test header. Testing shall be performed as follows:

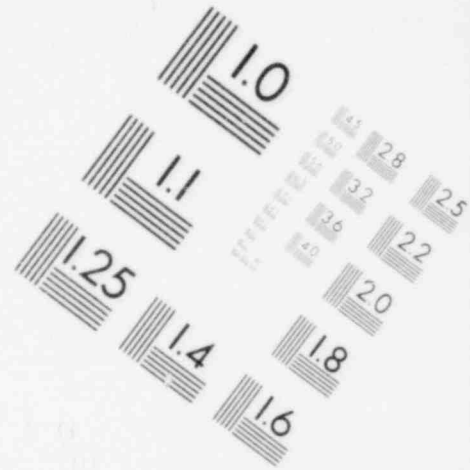
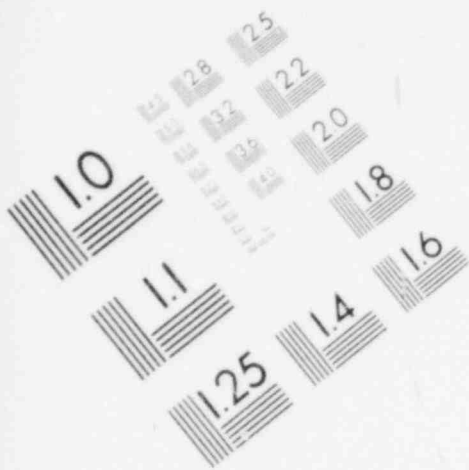
After 15 minutes minimum warm-up period on the steam test header, each valves shall be tested for set pressure. In each instance, the valve shall pop cleanly and within $\pm 1\%$ of 2500 psig set pressure. Valve to cool with reduced pressure.

Blowdown shall be adjusted such that the valve closes cleanly after each successive pop.

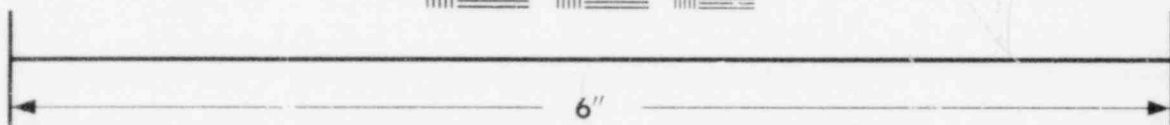
Seat leakage test will be conducted with 1500 psi saturated steam on the valve inlet with a hydraulic device. Hydraulic device to be loaded so that valve is essentially at 94% of set pressure. A flanged condenser shall then be attached to the outlet flange of the valve and all other openings closed to assure no escape of unmeasured steam. Condensate shall be gathered for 10 minutes or until an accurate measure of seat leakage can be obtained.

Condensate representing seat leakage shall not exceed 2cc/hr./inch of valve seat diameter.

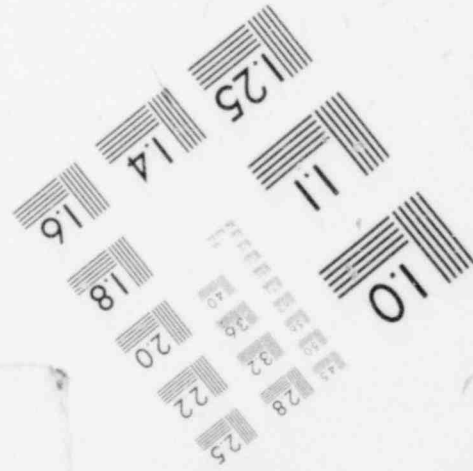
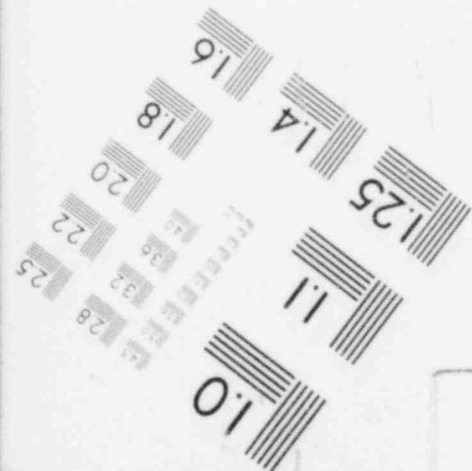
In the event of excessive seat leakage, the valve shall be taken down for disassembly inspection and seat reworked prior to retesting as per above.



**IMAGE EVALUATION
TEST TARGET (MT-3)**



MICROCOPY RESOLUTION TEST CHART



7. Description of Change (con't)

Delete Para. 7.5

Revise Para. 2.1 of Appendix A to reflect 1968 issue of USAS B16.5.

TABLE I

MATERIALS, NON-DESTRUCTIVE TESTS AND RECORDS

| COMPONENT | MATERIAL | NONDESTRUCTIVE TESTS (a) | | | | | RECORDS | | |
|----------------------|----------------------|--------------------------|----|----|-------------|-------------|----------|----------|----------|
| | | RT | UT | LP | MT (Dry) | MT (Wet) | <u>1</u> | <u>2</u> | <u>3</u> |
| Base | | | | | | | X | X | X |
| Base Casting | ASME SA-351-CF8M | X | | X | | | X | X | X |
| Nozzle | | | | X | | | X | X | X |
| Nozzle Forging | ASME SA-182-F347 | | X | | | | X | X | X |
| Disc | | | | X | | | X | X | X |
| Disc Bar | ASTM A-461-GR.688 | | X | | | | X | X | X |
| Spindle | | | | X | | | X | X | X |
| Spindle Bar | ASME SA-182-F316 | | X | | | | X | X | X |
| Top Spring Washer | (Hard Surface) | | | X | | | X | X | X |
| Washer Bar | ASME SA-105 GR.II | | X | | | | X | X | X |
| Bottom Spring Washer | | | | | X | | X | X | X |
| Washer Bar | ASME SA-105 GR.II | | X | | | | X | X | X |
| Spring | | | | | | X | X | X | X |
| Spring Bar | EHW (Tungsten Steel) | | X | | | | X | X | X |
| Bonnet Assembly | | X | | | X | | X | X | X |
| Bonnet Casting | ASME SA-216-WCB | X | | | X | | X | X | X |
| Bonnet Plug | ASME SA-105 GR.II | | | | X | | X | X | X |
| Compression Screw | | | | X | | | X | X | X |
| Screw Material | ASME SA-164 Alloy A | | X | | | | X | X | X |

NOTE: Records 1. Certified Chemical & Physical Reports
 2. Records of Non Destructive Tests
 3. Serialization

Material specifications "ASME SA or SB" are equivalent to ASTM Specification A or B where alloy or grades exist.

(a) Non-Destructive Tests to be in accordance with ASME Section III & Pump & Valve Code Class I

- RT-Radiography
- UT-Ultrasonic Test
- LP- Liquid Penetrant
- MT-Magnetic Particle Test

THE BARCOCK & WILCOX COMPANY
DOMESTIC WIRE MESSAGE

Use for messages to any point in continental U. S., Canada and Mexico.

To Dresser Industries
Alexandria, La.
Attention: G. W. Freet

318 445 5324

GO 6058-2

Cust. or Subj.

File No.

RE: B&W P.O. 022660LS, Your 35-10832-0

Release to ship two (2) valves RC-RV1A, B. Advise full shipping info.

Do not type beyond this line.

Do not type beyond this line.

GTS/Bam

From G. T. Sund, Buyer

Date 3/26/73

Do not type below this line.

GTS:bam

THE BABCOCK & WILCOX COMPANY
POWER GENERATION GROUP

To | J. F. STINNETT - PURCHASING

From | J. E. REID, PROJECT AIDE - EXT. 2555

BDS 663-5

Cust. | JCP&L, TMI-2

File No. P.D. 022660
or Ref. NSS-6, 8A30.41

Subj. | SITE SERVICE - DRESSER VALVE

Date | 2/21/77

This letter to cover one customer and one subject only.

Please arrange to have a Dresser service engineer come to the TMI-2 site to modify the Electromatic Relief Valve RC-RV2. New bushing type bearings are to be installed per FC-122.

31-53103

When you have completed the arrangement with Dresser, inform us at least three days in advance so that site clearance and labor assistance can be set up by Fred Skrzypiec at the site.

Ed Reid
J. E. Reid

JER:EWH

CC: F. A. Skrzypiec, TMI Site
L. R. Pletke
J. L. Wilsher

Doorb - PLS handle
pls valve under warranty?
shipped 1/21/77 2/21/77
P.O. - over cost of Harris?
when?

Jack

Service engineer going to site on another puller - will install new bushing at new cost reference Dresser T-17 of 11/9/76

CPE 2/11/77

*Rescheduled to 4/77
Per J. C. X/D-11111*

CD 9/11/77

Larry Wiltsher

APPLICABLE TO 3 - 13

384 640 22.6

DRESSER ALX F
BAEWICK LUK
ALIN JEWELL, PURCHASING DEPT
RE TOUR BY ZHONARIP'S RE OCT 19, 1976

11-2-76 WCB

OUR AS-04 FIELD ENGINEERING INSTRUCTION
THE PROBLEM ENCOUNTERED WITH THE ELECTRO-PNEUMATIC VALVE WAS NOT DUE TO
VALVE DEFECTS. UNFORTUNATELY A DRESSER SERVICEMAN WILL MAKE A MIS-
IDENTIFICATION TO THE VALVES IN SERVICE AS OUTLINED IN FIELD ENGINEERING
INSTRUCTION AS-04. IT IS REQUESTED THAT B AND W PROVIDE A LIST OF
SCHEDULED OUTAGE OF THE UNITS WHERE THIS VALVE IS INSTALLED SO SERVICEMAN
CAN MAKE THE CHANGE.

JACK E. COX
PRODUCT MANAGER
CONSOLIDATED SAFETY VALVE
DRESSER INDUSTRIAL VALVE AND INSTRUMENT DIV
BAEWICK LUK
DRESSER ALX F

three Mr. Isom
Ray Adams
Norm Riche

NOV 2 - 76



292-08

+ ISOLATION VALVE
LIMIT SW CHANGE

BURLEY WIRING DIAG
APPLICABLE
FOR FM

Close on ground limit SW

Phone *town square*
City _____

SPECIFICATION

CS-3-79 / ISS-6 / 0170
SERIAL/JOB/DATE

FOR

ELECTRICALLY ACTUATED RELIEF VALVES

FOR

REACTOR COOLANT SYSTEM SERVICE

CONTRACT NO. 620-0006

CUSTOMER JERSEY CENTRAL POWER & LIGHT CO.

PLANT THREE MILE ISLAND STATION - UNIT NO. 2

PREPARED BY M. J. Bennett

DATE 1-16-70

REVIEWED BY E. Schroeder

DATE 1/16/70

APPROVED BY [Signature]

DATE 1/16/70

APPROVED BY [Signature]

DATE 1/16/70

SPECIFICATION

1028 / NSS-6 / 0170
SERIAL / JOB / DATE

FUR

Pressurizer Relief Valves

For

Nuclear Service

CONTRACT NO. 620-0006

CUSTOMER Jersey Central Power & Light Co.

PLANT Three Mile Island Station - Unit No. 2

PREPARED BY M. J. Binette

DATE 1-16-70

REVIEWED BY G. J. Chiodo

DATE 1/16/70

APPROVED BY [Signature]

DATE 1/16/70

APPROVED BY [Signature]

DATE 1/16/70

GENERAL SPECIFICATION
FOR
SEISMIC DESIGN BASIS

THE BABCOCK & WILCOX COMPANY
POWER GENERATION DIVISION
NUCLEAR POWER GENERATION DEPARTMENT
LYNCHBURG, VIRGINIA

PREPARED BY: *M. B. H. W. [Signature]*
REVIEWED BY: *J. M. Taylor*
APPROVED BY: *H. F. [Signature]*
APPROVED BY: *A. H. [Signature]*

GENERAL SPECIFICATION

FOR

SEISMIC DESIGN BASIS

CONTRACT 620-0006

JERSEY GENERAL POWER & LIGHT

THREE MILE ISLAND STATION - UNIT NO. 2

BABCOCK & WILCOX

NUCLEAR POWER GENERATION DEPARTMENT

POWER GENERATION DIVISION

LYNCHBURG, VIRGINIA

PREPARED BY: W. G. Bell 3-15-69

REVIEWED BY: [Signature]

APPROVED BY: [Signature]

APPROVED BY: [Signature]

GENERAL SPECIFICATION

FOR

CLEANLINESS OF NUCLEAR REACTOR

SYSTEMS AND COMPONENTS

CONTRACT 620-0006

JERSEY CENTRAL POWER & LIGHT

THREE MILE ISLAND STATION - UNIT NO. 2

DABCOCK & WILCOX

NUCLEAR POWER GENERATION DEPARTMENT

POWER GENERATION DIVISION

LYNCHBURG, VIRGINIA

PREPARED BY: W. A. Call 3-25-64
REVIEWED BY: ~~F. L. [unclear] / R. [unclear]~~
APPROVED BY: J. N. [unclear]
APPROVED BY: A. H. [unclear] / [unclear]

QUALITY CONTROL PROGRAM SPECIFICATION

FOR

METROPOLITAN EDISON COMPANY

THREE MILE ISLAND UNIT NO. 1

AND

JERSEY CENTRAL POWER AND LIGHT COMPANY

THREE MILE ISLAND UNIT NO. 2

THE BABCOCK & WILCOX COMPANY

POWER GENERATION DIVISION

NUCLEAR POWER GENERATION DEPARTMENT

LYNCHBURG, VIRGINIA

SPECIFICATION

CS-3-106 / NSG 6 / 1269
SERIAL / JOB / DATE

FOR

GENERAL TECHNICAL REQUIREMENTS

FOR ALL COMPONENTS USED

IN AUXILIARY FLUID SYSTEMS

CONTRACT NO. 620-0006

CUSTOMER Jersey Central Power & Light Co.

PLANT Three Mile Island Station - Unit No. 2

PREPARED BY M. J. Brunette

DATE 1-7-70

REVIEWED BY [Signature]

DATE 1-7-70

APPROVED BY [Signature]

DATE 1-9-70

APPROVED BY J. H. Taylor, CCF

DATE 1/8/70

35108320

OUR ORDER NUMBER

SOLD TO
HABCOCK & WILCOX CO.
POWER GENERATION DIVISION
P.O. BOX 1260
LYNCHBURG, VA. 24505

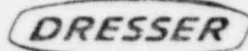
| | | |
|-----------|--------|------|
| ACCT. NO. | DEST. | PAGE |
| 105902 | 41.000 | 1 |
| DATE | | |
| 2/25/72 | | |
| MO. | DAY | YR. |

DUPLICATE INVOICE

2

THIS INVOICE IS FOR VALVE PRODUCTS

| PLEASE REMIT TO NEAREST POINT | | |
|---------------------------------------|--|---|
| P.O. BOX 91370 CHICAGO, ILL. 60690 | P.O. BOX 2902 CHURCH STREET STATION NEW YORK, N.Y. 10008 | P.O. BOX 54622 TERMINAL ANNEX LOS ANGELES, CAL. 90054 |



DRESSER INDUSTRIAL VALVE & INSTRUMENT DIVISION

DRESSER INDUSTRIES, INC.
 ALEXANDRIA, LOUISIANA 71301

SHIP TO
FERSEY CENTRAL POWER & LIGHT
THREE MILE ISLAND
UNIT 2
FALMOUTH, PA.

Handwritten: T-2, 30192

| DO NOT SHIP BEFORE | | | DATE SHIPPED | | | WEIGHT | | | INVOICE DATE | | | INVOICE NO. | | |
|--------------------|-----|-----|--------------|-----|-----|--------|--|--|--------------|-----|-----|-------------|--|--|
| MO. | DAY | YR. | MO. | DAY | YR. | 350 | | | MO. | DAY | YR. | 42266 | | |
| | | | 2 | 25 | 72 | | | | 2 | 25 | 72 | | | |

NUMBER OF PIECES: 1 BOX

MARKINGS

FERSEY CENTRAL POWER & LIGHT CO.
THREE MILE ISLAND STATION, UNIT 2
P.O. 022660-LS CONTRACT 620-0006

| | |
|---|-----------------|
| CUSTOMER'S ORDER NUMBER 022660-LS 620 0006 | DATE 9/14/70 |
|---|-----------------|

ROUTING (BEST WAY UNLESS OTHERWISE SPECIFIED)

F.O.B. ALEXANDRIA, LA.

REDBALL

| | | | |
|-------------------|-------|---------------------------------|-------------------------------|
| ORDER STATUS 4 | CLASS | FREIGHT INSTRUCTIONS P/P F/A | TERMS NET 30 DAYS INV DATE |
|-------------------|-------|---------------------------------|-------------------------------|

| ITEM NO. | COMM. CLASS | SIZE | CATALOG NUMBER/VALVE TYPE | | DESCRIPTION | ADJ. BING/CAP. BASE/H.R. PLUM. | SET PRESS. PSIG. | TEMP. °F. | QUANTITY ORDERED | QUANTITY SHIPPED | UNIT PRICE | DISCOUNT | | | NET AMOUNT |
|----------|-------------|-------|--|---|-------------|--------------------------------|------------------|-----------|------------------|------------------|------------|---------------|-----------|---|------------|
| | | | SERIAL NUMBER | S | | | | | | | | SPRING NUMBER | CAP. CODE | % | |
| 3 | 60MA | 2 1/2 | SCHED DATE 2/18/72 31533VX-30/25/X2-1-XPY4-0519P BN-04233 | S | | | | | 1 | 1 | 4,870.00 | | | | 4,870.00 |
| | | | VC9300BB 0001 | | | | | | | | | | | | |
| | | | CUST/1 2 BENT SIZE 1 5/16 VOLTAGE 125V. D.C. TEMP. SAT. QC CODE 5 TAG-RC-RV2 | | | | | | | | | | | | |
| | | | | | | | | | | | TOTAL | | | | 4,870.00 |
| | | | | | | | | | | | | | | | .00 |
| | | | | | | | | | | | | | | | 27.27 |
| | | | | | | | | | | | | | | | 4,897.27 |

Stamp:
 Vend. Code
 Comm. Code 8732
 Disc. Amt.
 Add. & Ext. OK
 MAR 08 1972
 Due Date 3-30-72
 Approved
 Tax
 Chg 620-0006-54-85

TAX NON-APPLICABLE
 FREIGHT PREPAID & CHARGED
 + PAY THIS AMOUNT

SELLER REPRESENTS THAT WITH RESPECT TO THE PRODUCTION OF THE ARTICLES AND/OR THE PERFORMANCE OF THE SERVICES COVERED BY THIS INVOICE, IT HAS FULLY COMPLIED WITH THE FAIR LABOR STANDARDS ACT OF 1938 AS AMENDED. THESE GOODS ARE PACKED IN THE BEST POSSIBLE MANNER. WE ARE NOT RESPONSIBLE FOR BREAKAGE DURING TRANSIT. BEFORE ANY MATERIAL IS RETURNED FOR CREDIT, WRITTEN PERMISSION FOR ITS RETURN MUST BE SECURED FROM US. ALL CLAIMS FOR ALLOWANCES MUST BE MADE WITHIN TEN DAYS FROM DATE OF INVOICE. ALL PRICES SUBJECT TO CHANGE WITHOUT NOTICE. ALL AGREEMENTS MADE CONTINGENT UPON STRIKES, FIRE ACCIDENTS OR CAUSES BEYOND OUR CONTROL.

OUR ORDER NUMBER

SOLD TO

HANDLER & WILCOX CO.
P.O. BOX 1270
LYNCHBURG, VA. 24502

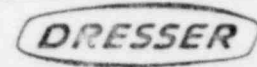
| | | |
|-----------|---------|------|
| ACCT. NO. | DEST. | PAGE |
| 100-02 | VA. 100 | 2 |
| DATE | | |
| MO. | DAY | YR. |
| 1 | 11 | 73 |

DUPLICATE INVOICE

2

THIS INVOICE IS FOR VALVE PRODUCTS

| | | |
|---------------------------------------|--|---|
| PLEASE REMIT TO NEAREST POINT | | |
| P.O. BOX 91370 CHICAGO, ILL. 60690 | P.O. BOX 2002 CHURCH STREET STATION NEW YORK, N.Y. 10008 | P.O. BOX 54622 TERMINAL ANNEX LOS ANGELES, CAL. 90054 |



DRESSER INDUSTRIAL VALVE & INSTRUMENT DIVISION

DRESSER INDUSTRIES, INC.
ALEXANDRIA, LOUISIANA 71301

SALES ORDER

SHIP TO

HANDLER & WILCOX CO.
P.O. BOX 1270
LYNCHBURG, VA. 24502

MARKINGS

NEW JERSEY CENTRAL POWER & LIGHT

| | | | | |
|--------------------|--------------|--------|--------------|-------------|
| DO NOT SHIP BEFORE | DATE SHIPPED | WEIGHT | INVOICE DATE | INVOICE NO. |
| MO. DAY YR. | MO. DAY YR. | | MO. DAY YR. | |
| | 11 11 73 | | 11 11 73 | |

NUMBER OF PIECES

| | |
|-------------------------|----------|
| CUSTOMER'S ORDER NUMBER | DATE |
| 100-02 | 11/11/73 |

| | | | | | |
|---|------------------------|--------------|-------|----------------------|--------------|
| ROUTING (BEST WAY UNLESS OTHERWISE SPECIFIED) | F.O.B. ALEXANDRIA, LA. | ORDER STATUS | CLASS | FREIGHT INSTRUCTIONS | TERMS |
| CALL TO ORDER FOR SERVICE | | | | | 1 TO 10 DAYS |

| ITEM NO. | COMM. CLASS | SIZE | CATALOG NUMBER/VALVE TYPE | | | DESCRIPTION | ADJ. RING/CAP. BASE/H.S. PLUG | SET PRESS. PSIG | TEMP °F | QUANTITY ORDERED | QUANTITY SHIPPED | UNIT PRICE | DISCOUNT | | | NET AMOUNT |
|----------|-------------|------|---------------------------|-----|---------------|-----------------------|-------------------------------|-----------------|---------|------------------|------------------|------------|-----------|---|---|------------|
| | | | SERIAL NUMBER | S/C | SPRING NUMBER | | | | | | | | CAP. CODE | % | % | |
| 1 | 604V | | 15-2094 | | 15-2097-2 | PLASONE M.O.N. W.H.L. | | | | 1 | 1 | 110.00 | | | | 110.00 |
| | | | | | | | | | | | | | | | | 110.00 |

APP'D:
DATE: 11/11/73

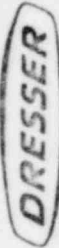
SELLER REPRESENTS THAT WITH RESPECT TO THE PRODUCTION OF THE ARTICLES AND/OR THE PERFORMANCE OF THE SERVICES COVERED BY THIS INVOICE, IT HAS FULLY COMPLIED WITH THE FAIR LABOR STANDARDS ACT OF 1938, AS AMENDED. THESE GOODS ARE PACKED IN THE BEST POSSIBLE MANNER. WE ARE NOT RESPONSIBLE FOR DAMAGE DURING TRANSIT. BEFORE ANY MATERIAL IS RETURNED FOR CREDIT, WRITTEN PERMISSION FOR ITS RETURN MUST BE SECURED FROM US. ALL CLAIMS FOR ALLOWANCES MUST BE MADE WITHIN TEN DAYS FROM DATE OF INVOICE. ALL PRICES SUBJECT TO CHANGE WITHOUT NOTICE. ALL AGREEMENTS MADE CONTINGENT UPON STRIKES, FIRE, ACCIDENTS OR CAUSES BEYOND OUR CONTROL.

DUPLICATE INVOICE

THIS INVOICE IS FOR VALVE PRODUCTS

| | | |
|-----------|-------|------|
| ACCT. NO. | DEST. | PAGE |
| 10000 | 10000 | 1 |
| DATE | MO. | DAY |
| 11/11 | 11 | 11 |
| MO. | DAY | YE. |
| 11 | 11 | 11 |

PLEASE REMIT TO NEAREST POINT
 P.O. BOX 91370 CHICAGO, ILL. 60690
 P.O. BOX 14822 TERMINAL ANNEX LOS ANGELES, CAL. 90084



DRESSER INDUSTRIAL VALVE & INSTRUMENT DIVISION
 DRESSER INDUSTRIES, INC.
 ALEXANDRIA, LOUISIANA 71301

| | | | | |
|--------------------|--------------|--------|--------------|-------------|
| DO NOT SHIP BEFORE | DATE SHIPPED | WEIGHT | INVOICE DATE | INVOICE NO. |
| NO. | MO. DAY YE. | | NO. DAY YE. | |
| | 11 11 11 | 0 | 11 11 11 | 710000 |

OUR ORDER NUMBER
 0126513 6 85

SALES QUOTE
 HARRISON & HILCOX CO.
 P.O. BOX 1400
 LYNDENBURG, VA. 24505

MARKINGS
 HARRISON-JENSEN GENERAL PURPOSE 6 11011

CUSTOMER'S ORDER NUMBER: 0126513 6 85
 DATE: 11/11/11
 F.O.B. ALEXANDRIA, LA

| ITEM NO. | COMM. CLASS | SIZE | SERIAL NUMBER | CATALOG NUMBER / VALVE TYPE | DESCRIPTION | CAP. CODE | TEMP. °F | | QUANTITY ORDERED | QUANTITY SHIPPED | UNIT PRICE | DISCOUNT | | NET AMOUNT |
|----------|-------------|------|---------------|-----------------------------|-------------------------|-----------|-----------------|---------------|------------------|------------------|------------|----------|---|------------|
| | | | | | | | SET PRESS. PSIG | COLD DMF. SET | | | | % | % | |
| | | | | | GENERAL PURPOSE 6 11011 | | | | | | | | | |

SELLER REPRESENTS THAT WITH RESPECT TO THE PRODUCTION OF THE ARTICLES AND/OR THE PERFORMANCE OF THE SERVICES COVERED BY THIS INVOICE, IT HAS FULLY COMPLIED WITH THE LABOR STANDARDS SET OR TO BE AS AMENDED. THESE GOODS ARE PACKED IN THE BEST POSSIBLE MANNER WE ARE NOT RESPONSIBLE FOR DAMAGE DURING TRANSPORT. BEFORE ANY MATERIAL IS RETURNED FOR CREDIT, WRITTEN PERMISSION FOR ITS RETURN MUST BE SECURED FROM US. ALL CLAIMS FOR ALLOWANCES MUST BE MADE WITHIN TEN DAYS FROM DATE OF INVOICE. ALL PRICES SUBJECT TO CHANGE WITHOUT NOTICE. ALL AGREEMENTS MADE CONTINGENT UPON RECEIPT OF THIS INVOICE. FORM NO. 11-11-11

39108320

OUR ORDER NUMBER

SOLD TO

BARCOCK & WILCOX CO.
POWER GENERATION DIVISION
P.O. BOX 1260
LYNCHBURG, VA. 24505

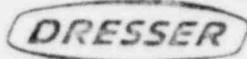
| | | |
|-----------|--------|------|
| ACCT. NO. | DEST. | PAGE |
| 103902 | 41.000 | 2 |
| DATE | | |
| 7/31/72 | | |
| MO. | DAY | YR. |

DUPLICATE INVOICE

2

THIS INVOICE IS FOR VALVE PRODUCTS

| | | |
|---------------------------------------|--|---|
| PLEASE REMIT TO NEAREST POINT | | |
| P.O. BOX 91370 CHICAGO, ILL. 60690 | P.O. BOX 2902 CHURCH STREET STATION NEW YORK, N.Y. 10008 | P.O. BOX 34822 TERMINAL ANNEX LOS ANGELES, CAL. 90034 |



DRESSER INDUSTRIAL VALVE & INSTRUMENT DIVISION

DRESSER INDUSTRIES, INC.
ALEXANDRIA, LOUISIANA 71301

SHIP TO

JERSEY CENTRAL POWER & LIGHT
THREE HILE ISLAND
UNIT 2
FALMOUTH, PA.

MARKINGS

JERSEY CENTRAL POWER & LIGHT CO.
THREE HILE ISLAND STATION, UNIT 2
P.O. BOX 022660-LS CONTRACT 620-0006

| | | | | |
|--------------------|--------------|--------|--------------|-------------|
| DO NOT SHIP BEFORE | DATE SHIPPED | WEIGHT | INVOICE DATE | INVOICE NO. |
| MO. DAY YR. | MO. DAY YR. | | MO. DAY YR. | |
| | 7/31/72 | 0 | 7/31/72 | 59166 |

NUMBER PRICES

| | |
|-------------------------|---------|
| CUSTOMER'S ORDER NUMBER | DATE |
| 022660-LS 620 0006 | 7/14/72 |
| MO. DAY YR. | |

ROUTING (BEST WAY UNLESS OTHERWISE SPECIFIED)

F.O.B. ALEXANDRIA, LA.

ORDER STATUS

FREIGHT INSTRUCTIONS

TERMS

FILLING ONLY FINAL

PPD FNA

NET 30 DAYS INV DATE

| ITEM NO. | COMM. CLASS | SIZE | CATALOG NUMBER/VALVE TYPE | | DESCRIPTION | ADJ. RING/CAP | SET PRESS | TEMP °F | QUANTITY ORDERED | QUANTITY SHIPPED | UNIT PRICE | DISCOUNT | | | NET AMOUNT |
|---------------------------|-------------|-------------|---------------------------|-----|-------------|---------------|-----------|---------------------|------------------|------------------|------------|---------------|---------------|---|------------|
| | | | SERIAL NUMBER | S/C | | SPRING NUMBER | CAP. CODE | CAPACITY #/HR STEAM | | | | COLD DIFF SET | BACK PRESSURE | % | |
| | | 1 1/2 ACC. | | | | | | | | | | | | | |
| | | CUSTOMER | | | | | | | | | | | | | |
| | | TEMP. SAT. | | | | | | | | | | | | | |
| | | DC CODE 5 | | | | | | | | | | | | | |
| | | TAG-RV-RV1B | | | | | | | | | | | | | |
| TAX NON-APPLICABLE | | | | | | | | | | | TOTAL | | 20,000.00 | | |
| FREIGHT PREPAID & CHARGED | | | | | | | | | | | | | .00 | | |
| PAY THIS AMOUNT | | | | | | | | | | | | | 20,000.00 | | |

APP'D. *[Signature]*
DATE 11-13-73

SELLER REPRESENTS THAT, WITH RESPECT TO THE PRODUCTION OF THE ARTICLES AND/OR THE PERFORMANCE OF THE SERVICES COVERED BY THIS INVOICE, IT HAS FULLY COMPLIED WITH THE FAIR LABOR STANDARDS ACT OF 1938 AS AMENDED. THESE GOODS ARE PACKED IN THE BEST POSSIBLE MANNER. WE ARE NOT RESPONSIBLE FOR BREAKAGE DURING TRANSIT. BEFORE ANY MATERIAL IS RETURNED FOR CREDIT, WRITTEN PERMISSION FOR ITS RETURN MUST BE SECURED FROM US. ALL CLAIMS FOR ALLOWANCES MUST BE MADE WITHIN TEN DAYS FROM DATE OF INVOICE. ALL PRICES SUBJECT TO CHANGE WITHOUT NOTICE. ALL AGREEMENTS MADE CONTINGENT UPON STRIKE'S END. FORM NO. 23-302

35108320

OUR ORDER
NUMBERS
O
L
D
T
OBARCOCK & WILCOX CO.
POWER GENERATION DIVISION
P.O. BOX 1260
LYNCHBURG, VA. 24505

| | | |
|-----------|--------|------|
| ACCT. NO. | DEST. | PAGE |
| 105902 | 41.000 | 1 |
| DATE | | |
| 7/31/72 | | |
| MO. | DAY | YR. |

DUPLICATE INVOICE

2

THIS INVOICE IS FOR VALVE PRODUCTS

| | | |
|---------------------------------------|--|---|
| PLEASE REMIT TO NEAREST POINT | | |
| P.O. BOX 91370 CHICAGO, ILL. 60690 | P.O. BOX 2902 CHURCH STREET STATION NEW YORK, N.Y. 10008 | P.O. BOX 54522 TERMINAL ANNEX LOS ANGELES, CAL. 90054 |

DRESSER

DRESSER INDUSTRIAL VALVE & INSTRUMENT DIVISION

DRESSER INDUSTRIES, INC.
ALEXANDRIA, LOUISIANA 71301S
H
I
P
T
OJERSEY CENTRAL POWER & LIGHT
THREE MILE ISLAND
UNIT 2
FALMOUTH, PA.

MARKINGS

JERSEY CENTRAL POWER & LIGHT CO.
THREE MILE ISLAND STATION, UNIT 2
OUR P.O. 022660-LS CONTRACT 620-0006

| | | |
|--------------------|-----|-----|
| DO NOT SHIP BEFORE | | |
| MO. | DAY | YR. |
| | | |

| | | | |
|--------------|-----|-----|--------|
| DATE SHIPPED | | | WEIGHT |
| MO. | DAY | YR. | |
| 7 | 31 | 72 | 0 |

| | | | |
|--------------|-----|-----|-------------|
| INVOICE DATE | | | INVOICE NO. |
| MO. | DAY | YR. | |
| 7 | 31 | 72 | 55166 |

NUMBER
PIECES

CUSTOMER'S ORDER NUMBER

022660-LS 620 0006

DATE

9/14/72

ROUTING - BEST WAY UNLESS OTHERWISE SPECIFIED:

F.O.B. ALEXANDRIA, LA.

ORDER STATUS

C R C I S P E H CLASS

FREIGHT INSTRUCTIONS

PPD FNA

TERMS

NET 30 DAYS INV DATE

BILLING ONLY FINAL

| ITEM NO. | COMM. CLASS | SIZE | CATALOG NUMBER/VALVE TYPE | | DESCRIPTION | ADJ. RING/CAP. BASE/H.S. PLUG | SET PRESS. PSIG | TEMP °F | QUANTITY ORDERED | QUANTITY SHIPPED | UNIT PRICE | DISCOUNT | | | NET AMOUNT |
|----------|-------------|------|--|-----|-------------|-------------------------------|-----------------|---------|------------------|------------------|------------|---------------|-----------|---|------------|
| | | | SERIAL NUMBER | S C | | | | | | | | SPRING NUMBER | CAP. CODE | % | |
| 1 | 60CA | 3 | SCHED DATE 6/05/72 31759A-1-X2-XFC2-05197 BN-04231 | S | 0733EU | 346463 | 2500 | | 1 | | 110,000.00 | | | | 10,000.00 |
| | | | FOR ACC COST/11 TENT. SAT. CC CODE 5 TAG-RC-NV1A | | | | | | | | | | | | |
| 2 | 60CA | 3 | SCHED DATE 6/05/72 31759A-1-X2-XFC2-05197 BN-04232 | S | 0733EU | 346463 | 2500 | | 1 | | 110,000.00 | | | | 10,000.00 |

CONTINUED

SELLER REPRESENTS THAT WITH RESPECT TO THE PRODUCTION OF THE ARTICLES AND/OR THE PERFORMANCE OF THE SERVICES COVERED BY THIS INVOICE, IT HAS FULLY COMPLIED WITH THE FAIR LABOR STANDARDS ACT OF 1938, AS AMENDED. THESE GOODS ARE PACKED IN THE BEST POSSIBLE MANNER. WE ARE NOT RESPONSIBLE FOR BREAKAGE DURING TRANSIT. BEFORE ANY MATERIAL IS RETURNED FOR CREDIT, WRITTEN PERMISSION FOR ITS RETURN MUST BE SECURED FROM US. ALL CLAIMS FOR ALLOWANCES MUST BE MADE WITHIN TEN DAYS FROM DATE OF INVOICE. ALL PRICES SUBJECT TO CHANGE WITHOUT NOTICE. ALL AGREEMENTS MADE CONTINGENT UPON STRIKES. FE FORM NO. 23-307

FDS-21020-2 (5/72)

Babcock & Wilcox - NPGD
Shipping Notification - NSS Equipment

Vendor: DRESSER
Order No.: 02266015
Contract No.: NSS 6

| Order Item No. | Quantity Shipped | Description | Mark No. |
|----------------|------------------|---------------------|------------|
| 1 | 2 | PZ R. SAFETY VALVES | RC-RVIA, B |
| | | | |
| | | | |
| | | | |
| | | | |
| | | | |

| Shipping Information | |
|-------------------------|------------------|
| Sch. Ship. Date | 3-16-73 |
| Actual Ship. Date | 3-26-73 |
| Shipment Complete | YES |
| Ship. Wt. Total | 2340# |
| No. Packages | 2 BOXES |
| Shipper | DRESSER |
| Point of Origin | ALEXANDRIA, LA. |
| Shipment Method | TRUCK |
| Bill of Lading No. | - |
| Pro. Number | - |
| Trailer or Rail Car No. | - |
| Carrier & Routing | M'LEAN TRUCKING. |

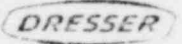
B&W Inspection Release

Signature: Charles Ward Title: _____
Date: 3/26/73

Distribution

Project Manager - E.G. WARD
Construction Co. - Job Site
Construction Co. - Copley
Reactor Contracts
Finance and Accounting
Cognizant Engr. E. WILDER
Quality Assurance
Inspection
Procurement Co-ordinator

Buyer: WJ Lund
Date: 3-26-73 | WJ Lund



DRESSER INDUSTRIAL VALVE & INSTRUMENT DIVISION

TEL: (318) 445-5381

DRESSER INDUSTRIES, INC.
P. O. BOX 1130
ALEXANDRIA, LOUISIANA 71301

TWX (318) 445-5324

TELEX: 0586423

CABLE: DIVID

ACCOUNT NO.
105702

W. W. R. TEXAS CO.
P. O. BOX 1002
LYNCHBURG, VA. 24502



DATE
11/16/72

TERM
1/30

PAGE 1

| DATE | DESCRIPTION | AMOUNT |
|---------------------|----------------------------|---------------------|
| 11/17/72 | ... | 2,426.00 |
| 11/17/72 | ... | 2,140.00 |
| 11/17/72 | N/A 20545.00 1995.00 | 99.75 |
| 11/17/72 ① | N/A 213.30 <u>1,996.00</u> | 21,900.00 |

① We have not received these invoices.

ET

| ----- DAYS PAST DUE ----- | | | |
|---------------------------|---------|-----------|-----------|
| 1 - 30 | 31 - 60 | 61 - 90 | OVER 90 |
| | | 19,900.25 | 4,567.80 |
| TOTAL AMOUNT DUE | | | 24,468.05 |

35108321

OUR ORDER
NUMBERS
O
L
D
T
OHABCOCK & WILCOX CO.
P.O. BOX 1260
LYNCHBURG, VA. 24505

| | | |
|-----------|--------|------|
| ACCT. NO. | DEST. | PAGE |
| 105902 | 41.000 | 1 |
| DATE | | |
| 8/10/72 | | |
| MO. | DAY | YR. |

DUPLICATE INVOICE

2

THIS INVOICE IS FOR VALVE PRODUCTS

| | | |
|---------------------------------------|--|---|
| PLEASE REMIT TO NEAREST POINT | | |
| P.O. BOX 91370 CHICAGO, ILL. 60690 | P.O. BOX 2902 CHURCH STREET STATION NEW YORK, N.Y. 10008 | P.O. BOX 54622 TERMINAL ANNEX LOS ANGELES, CAL. 90054 |

DRESSER

DRESSER INDUSTRIAL VALVE & INSTRUMENT DIVISION

DRESSER INDUSTRIES, INC.
ALEXANDRIA, LOUISIANA 71301S
H
I
P
T
OJERSEY CENTRAL POWER & LIGHT
THREE MILE ISLAND
UNIT 2
FALMOUTH, PA.

MARKINGS

B & W P.O. 022660LS-CONTRACT 620-0006

| | | | | |
|--------------------|--------------|--------|--------------|-------------|
| DO NOT SHIP BEFORE | DATE SHIPPED | WEIGHT | INVOICE DATE | INVOICE NO. |
| MO. DAY YR. | MO. DAY YR. | | MO. DAY YR. | |
| | 8/10/72 | 0 | 8/10/72 | 55636 |

NUMBER
PIECES

0

| | |
|-------------------------|-------------|
| CUSTOMER'S ORDER NUMBER | DATE |
| 022660LS 620-0006 | 7/26/72 |
| MO. DAY YR. | MO. DAY YR. |

ROUTING (BEST WAY UNLESS OTHERWISE SPECIFIED)

F.O.B. ALEXANDRIA, LA.

ORDER STATUS

CLASS

FREIGHT INSTRUCTIONS

TERMS

BILLING ONLY

OTHER

| ITEM NO. | COMM. CLASS | SIZE | CATALOG NUMBER/VALVE TYPE | | DESCRIPTION | ADJ. RING/CAP. | SET PRESS. | TEMP °F | QUANTITY ORDERED | QUANTITY SHIPPED | UNIT PRICE | DISCOUNT | | | NET AMOUNT |
|----------|-------------|------|---------------------------|------|--|----------------|----------------------|----------------|------------------|------------------|-----------------|----------|--|--------|------------|
| | | | BASE/H S. PLUG | PSIG | | | % | % | | | | % | | | |
| | | | SERIAL NUMBER | S C | SPRING NUMBER | CAP. CODE | CAPACITY #/HR. STEAM | COLD DIFF. SET | BACK PRESSURE | | | | | | |
| 1 | 65VA | | BILLING ONLY | | FOR RESET & TEST OF 2 VALVES ON 35-10632-0 AND INSPECTION | | | | | 1 | 1 | 600.00 | | | 600.00 |
| | | | | | CUST-B & W TAG RC-RVIA G 18 JOB JERSEY CENTRAL POWER & LIGHT | | | | | | | | | | |
| | | | | | | | | | | | TOTAL | | | 600.00 | |
| | | | | | | | | | | | PAY THIS AMOUNT | 0.00% | | 600.00 | |
| | | | | | | | | | | | | | | 600.00 | |

SELLER REPRESENTS THAT WITH RESPECT TO THE PRODUCTION OF THE ARTICLES AND/OR THE PERFORMANCE OF THE SERVICES COVERED BY THIS INVOICE, IT HAS FULLY COMPLIED WITH THE FAIR LABOR STANDARDS ACT OF 1938, AS AMENDED. THESE GOODS ARE PACKED IN THE BEST POSSIBLE MANNER. WE ARE NOT RESPONSIBLE FOR DAMAGE DURING TRANSIT. BEFORE ANY MATERIAL IS RETURNED FOR CREDIT, WRITTEN PERMISSION FOR ITS RETURN MUST BE SECURED FROM US. ALL CLAIMS FOR ALLOWANCES MUST BE MADE WITHIN TEN DAYS FROM DATE OF INVOICE. ALL PRICES SUBJECT TO CHANGE WITHOUT NOTICE. ALL AGREEMENTS MADE CONTINGENT UPON TERMS OF ACCIDENTS OR CAUSES BEYOND OUR CONTROL.

9/15/72

35108321

OUR ORDER
NUMBERS
O
L
D
T
OBABCOCK & WILCOX CO.
P.O. BOX 1260
LYNCHBURG, VA. 24505

| | | |
|-----------|--------|------|
| ACCT. NO. | DEST. | PAGE |
| 105902 | 41.000 | 1 |
| DATE | | |
| 8/04/72 | | |
| MO. | DAY | YR. |

CUSTOMER'S ACKNOWLEDGEMENT

O R D E R

12

S
H
I
P
T
OJERSEY CENTRAL POWER & LIGHT
THREE MILE ISLAND
UNIT 2
FALMOUTH, PA.**DRESSER**

DRESSER INDUSTRIAL VALVE & INSTRUMENT DIVISION

DRESSER INDUSTRIES, INC.
ALEXANDRIA, LOUISIANA 71301

MARKINGS

B G W P.O. 02266CLS-CONTRACT 620-0006

| | | |
|--------------------|-----|-----|
| DO NOT SHIP BEFORE | | |
| MO. | DAY | YR. |
| | | |

NUMBER
PIECES

EC 00

| | | | | | | |
|-------------------------|-------------|-------------|---|---|-------|----------------------|
| CUSTOMER'S ORDER NUMBER | DATE | SCHED. DATE | X | R | TRADE | DISTRIBUTION CREDITS |
| 02266CLS 620-0006 | 7/26/72 | 8/11/72 | 4 | 3 | 1003 | |
| MO. DAY YR. | MO. DAY YR. | MO. DAY YR. | | | | |

ROUTING: (BEST WAY UNLESS OTHERWISE SPECIFIED)

F.O.B. ALEXANDRIA, LA.

CR C ORDER STATUS

2 S P E H

CLASS

FREIGHT INSTRUCTIONS

TERMS

OTHER

| ITEM NO. | COMM. CLASS | SIZE | CATALOG NUMBER / VALVE TYPE | | DESCRIPTION | ADJ. RING/CAP. BASE NO. 7100 | SET PRESS. PSIG | TEMP °F | QUANTITY ORDERED | QUANTITY SHIPPED | UNIT PRICE | DISCOUNT | | | NET AMOUNT |
|----------|-------------|------|-----------------------------|-----|---|------------------------------|-----------------|---------|------------------|------------------|------------|---------------|-----------|---|------------|
| | | | SERIAL NUMBER | S C | | | | | | | | SPRING NUMBER | CAP. CODE | % | |
| 1 | 65VA | | | | BILLING ONLY FOR RESET & TEST OF 2 VALVES ON 35-10832-0 AND INSPECTION COST-B & W TAG RC-RVIA & 1B JOB JERSEY CENTRAL POWER & LIGHT TAX NON-APPLICABLE | | | | 1 | | 600.00 | | | | 600.00 |
| | | | | | | | | | | | TOTAL | | | | 600.00 |

IMPORTANT: WE THANK YOU FOR YOUR ORDER, IT HAS BEEN ENTERED EXPRESSLY SUBJECT TO AND CONDITIONED ON THE UNDERSTANDING THAT OUR TERMS AS STATED ON THE FRONT AND REVERSE SIDES HEREOF, AND NO OTHER, APPLY TO THIS SALE. PLEASE CONTACT US IMMEDIATELY IF YOU HAVE ANY QUESTIONS. IF WE DO NOT HEAR FROM YOU, WE WILL PROCEED WITH PERFORMANCE AND SHIPMENT ON THE ASSUMPTION THIS IS AGREEABLE.

FORM NO. 25 505

35108320

OUR ORDER NUMBER

S
O
L
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T
O

BABCOCK & WILCOX CO.
POWER GENERATION DIVISION
P.O. BOX 1260
LYNCHBURG, VA. 24505

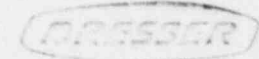
| | | |
|-----------|--------|------|
| ACCT. NO. | DEST. | PAGE |
| 105902 | 41.000 | 1 |
| DATE | | |
| 10/30/70 | | |
| MO. | DAY | YR. |

CUSTOMER'S ACKNOWLEDGEMENT
ORDER

12

S
H
I
P
T
O

LATER



DRESSER INDUSTRIAL VALVE & INSTRUMENT DIVISION
DRESSER INDUSTRIES, INC.
ALEXANDRIA, LOUISIANA 71301

MARKINGS

| | | |
|--------------------|-----|-----|
| DO NOT SHIP BEFORE | | |
| MO. | DAY | YR. |
| | | |

JERSEY CENTRAL POWER & LIGHT CO.
E MILE ISLAND STATION, UNIT 2
P.O. 022660-LS CONTRACT 620-0006

DISTRIBUTION CREDITS 1003.00

022660-LS 620 0006

| | | | | | |
|-------------------------|-------------|-------------|---|---|---|
| CUSTOMER'S ORDER NUMBER | DATE | SCHED. DATE | X | R | T |
| 022660-LS 620 0006 | 9/14/70 | 8/27/71 | | | |
| MO. DAY YR. | MO. DAY YR. | MO. DAY YR. | | | |

NUMBER OF PIECES

ROUTING (BEST WAY UNLESS OTHERWISE SPECIFIED)

F.O.B. ALEXANDRIA, LA.

| | | | | | | | | | |
|--------------|---|---|---|---|---|---|---|-------|--|
| ORDER STATUS | | | | | | | | | |
| C | R | C | L | S | P | E | H | CLASS | |
| | | | | | | | | 4 | |

FREIGHT INSTRUCTIONS

TERMS

TRK-NO PART-SDR TO SALES

1 PPD FNA 03 NET 30

| ITEM NO. | COMM. CLASS | SIZE | CATALOG NUMBER/VALVE TYPE | | DESCRIPTION | ADJ. RING/CAP. BASE/H.S. PLUG | SET PRESS. PSIG | TEMP °F | QUANTITY ORDERED | QUANTITY SHIPPED | UNIT PRICE | DISCOUNT | | | NET AMOUNT |
|----------|-------------|------|--|-----|-------------|-------------------------------|-----------------|---------|------------------|------------------|------------|---------------|-----------|---|------------|
| | | | SERIAL NUMBER | S/C | | | | | | | | SPRING NUMBER | CAP. CODE | % | |
| 1 | 60AS | 3 | 9164102 31759A-1-X2-XFC2-0S197 BN-04231 | S | 0733E | 346463 | 2500 | | 1 | | 10,000.00 | | | | 10,000.00 |
| | | | CUST/I 1 TEMP. SAT. CC CODE 5 TAG-RC-RVIA | | | | | | | | | | | | |
| 2 | 60AS | 3 | 9164102 31759A-1-X2-XFC2-0S197 BN-04232 | S | 0733E | 346463 | 2500 | | 1 | | 10,000.00 | | | | 10,000.00 |
| | | | CUST/I 1 TEMP. SAT. | | | | | | | | | | | | |

CONTINUED

IMPORTANT: WE THANK YOU FOR YOUR ORDER. IT HAS BEEN ENTERED EXPRESSLY SUBJECT TO AND CONDITIONED ON THE UNDERSTANDING THAT OUR TERMS AS STATED ON THE FRONT AND REVERSE SIDES HEREOF, AND NO OTHER, APPLY TO THIS SALE. PLEASE CONTACT US IMMEDIATELY IF YOU HAVE ANY QUESTIONS. IF WE DO NOT HEAR FROM YOU, WE WILL PROCEED WITH PERFORMANCE AND SHIPMENT ON THE ASSUMPTION THIS IS AGREEABLE.

35108320
OUR ORDER
NUMBER

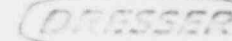
SOLD TO
BABCOCK & WILCOX CO.
POWER GENERATION DIVISION
P.O. BOX 1260
LYNCHBURG, VA. 24505

| | | |
|-----------|--------|------|
| ACCT. NO. | DEST. | PAGE |
| 105902 | 41.000 | 2 |
| DATE | | |
| 10/30/70 | | |
| MO. | DAY | YR. |

CUSTOMER'S ACKNOWLEDGEMENT
ORDER

12

SHIP TO
LATER



DRESSER INDUSTRIAL VALVE & INSTRUMENT DIVISION
DRESSER INDUSTRIES, INC.
ALEXANDRIA, LOUISIANA 71301

MARKINGS

JERSEY CENTRAL POWER & LIGHT CO.
E MILE ISLAND STATION, UNIT 2
P.O. 022660-LS CONTRACT 620-0006

| | | |
|--------------------|-----|-----|
| DO NOT SHIP BEFORE | | |
| MO. | DAY | YR. |
| | | |

DISTRIBUTION CREDITS 1003.00

| | | | | | | |
|-------------------------|---------|-------------|---|---|-----|------------------|
| CUSTOMER'S ORDER NUMBER | DATE | SCHED. DATE | X | R | T | NUMBER OF PIECES |
| 022660-LS 620 0006 | 9/14/70 | 8/27/71 | | | 0 0 | |

| | | | | | | |
|---|--|------------------------|--------------|-------|----------------------|-----------|
| ROUTING (BEST WAY UNLESS OTHERWISE SPECIFIED) | | F.O.B. ALEXANDRIA, LA. | ORDER STATUS | CLASS | FREIGHT INSTRUCTIONS | TERMS |
| TRK-NO PART-SOR TO SALES | | | 4 | | 1 PPD FNA | 03 NET 30 |

| ITEM NO. | COMM. CLASS | SIZE | CATALOG NUMBER/VALVE TYPE | | DESCRIPTION | ADJ. RING/CAP. BASE/H.S. PLUG | SET PRESS. PSIG | TEMP °F | QUANTITY ORDERED | QUANTITY SHIPPED | UNIT PRICE | DISCOUNT | | | NET AMOUNT |
|--------------------|-------------|------------|---|-----|-------------|-------------------------------|-----------------|---------|------------------|------------------|------------|---------------|-----------|---------------------|------------|
| | | | SERIAL NUMBER | S/C | | | | | | | | SPRING NUMBER | CAP. CODE | CAPACITY G/HR STEAM | |
| | | | | | | | | | | | | | | | |
| 3 | | 60LL 2 1/2 | 31533VX-30/25/X2-1-XY4-0S198 BN-04233 | S | | | 2300 | | 1 | | 4,870.00 | | | | 4,870.00 |
| | | | 0001 SOLENOID | | | | | | | | | | | | |
| | | | CUST/I 2 VOLTAGE 125V. D.C. TEMP. SAT. | | | | | | | | | | | | |
| | | | QC CODE 5 TAG-RC-RV2 | | | | | | | | | | | | |
| TAX NON-APPLICABLE | | | | | | | | | | | | | | | |
| TOTAL | | | | | | | | | | | | | | 24,870.00 | |

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35108320

OUR ORDER
NUMBERS
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D
T
OBABCOCK & WILCOX CO.
POWER GENERATION DIVISION
P.O. BOX 1260
LYNCHBURG, VA. 24505

| | | |
|-----------|--------|------|
| ACCT. NO. | DEST. | PAGE |
| 105902 | 41.000 | 3 |
| DATE | | |
| 10/30/70 | | |
| MO. | DAY | YR. |

CUSTOMER'S ACKNOWLEDGEMENT

ORDER

12

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LATER

DRESSER

DRESSER INDUSTRIAL VALVE & INSTRUMENT DIVISION

DRESSER INDUSTRIES, INC.

ALEXANDRIA, LOUISIANA 71301

MARKINGS

JERSEY CENTRAL POWER & LIGHT CO.
3 MILE ISLAND STATION, UNIT 2
P.O. 022660-LS CONTRACT 620-0006

| | | |
|--------------------|-----|-----|
| DO NOT SHIP BEFORE | | |
| MO. | DAY | YR. |

DISTRIBUTION
CREDITS 1003.00

| | | | | | | |
|-------------------------|---------|-------------|-----|-----|-----|------------------|
| CUSTOMER'S ORDER NUMBER | DATE | SCHED. DATE | X | R | T | NUMBER OF PIECES |
| 022660-LS 620 0006 | 9/14/70 | 8/27/71 | | 0 | 0 | |
| MO. | DAY | YR. | MO. | DAY | YR. | |

ROUTING (BEST WAY UNLESS OTHERWISE SPECIFIED)

F.O.B. ALEXANDRIA, LA.

ORDER STATUS

CLASS

FREIGHT INSTRUCTIONS

TERMS

TRK-NO PART-SDR TO SALES

4

1 PPD FNA

03

NET 30

| ITEM NO. | COMM. CLASS | SIZE | CATALOG NUMBER/VALVE TYPE | | DESCRIPTION | ADJ. RING/CAP. BASE/H.S. PLUG | SET PRESS. PSIG | TEMP °F | QUANTITY ORDERED | QUANTITY SHIPPED | UNIT PRICE | DISCOUNT | | | NET AMOUNT |
|--|-------------|------|---------------------------|-----|-------------|-------------------------------|-----------------|---------|------------------|------------------|------------|---------------|-----------|---|------------|
| | | | SERIAL NUMBER | S C | | | | | | | | SPRING NUMBER | CAP. CODE | % | |
| P & IC NOTE - THIS ORDER RELEASED ONLY FOR PURCHASE OF RAW MATERIALS, DO NOT FABRICATE UNTIL RELEASED. | | | | | | | | | | | | | | | |

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