

HOUSTON LIGHTING AND POWER COMPANY
 SOUTH TEXAS PROJECT ELECTRIC GENERATING STATION

Department Procedure

Safety Related (Q)

Alternative Valve Packing and Live-Load Valve Packing	OPMP02-ZG-0011 Rev. 7 (General) Page 1 of 26
PROCEDURE USE CONTROL: IN HAND	Effective Date: 08/29/94

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PREPARER	TECHNICAL	COGNIZANT DEPT

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This procedure, when completed, SHALL be retained per the Work Control Document.

1.0 Purpose and Scope

- 1.1 This procedure provides methods and instructions for installation and documentation of alternative valve packing designs using dieformed graphite rings and live-load type bolting configurations where required.
- 1.2 This procedure provides instructions for examining packing related valve components, as required to meet the acceptance criteria for graphite packing.
- 1.3 This procedure applies to safety-related and non-safety related valves within the scope of Specification 5L749TS1018 which qualify as candidates for installation of an alternative valve packing design and/or live-load/static load type bolting configuration. Candidates for these types of installation include the following:
 - 1.3.1 Any valve determined by engineering or maintenance to be a "chronic leaker".
 - 1.3.2 Valves with valve stem orientation not in the vertical position that MAY impose side-loading forces on valve packing.
 - 1.3.3 Valves located in high radiation areas or other areas inaccessible during plant operations.
 - 1.3.4 Continuously modulating control valves.
 - 1.3.5 Valves which MAY significantly impact the safe and efficient operation or reliability of the plant as a result of packing leakage.

2.0 Definitions

- 2.1 **ALTERNATE PACKING:** Term used to define an approved alternative packing type/configuration from that originally designated by the valve manufacturer. This term encompasses designs that use both live and static load methods of gland follower tensioning.
- 2.2 **ALTERNATE PACKING COORDINATOR:** Term used to define a person or persons within mechanical planning that are subject matter experts and that coordinate vendor contact, resolve data discrepancies and verify the accuracy of existing engineering documentation against "AS FOUND" (field) dimensions during final review.

- 2.3 **CONSOLIDATION:** The act of applying designated torque to the packing gland follower bolts, cycling the valve three times, then retorquing. This sequence is repeated three times or until no further relaxation of torque takes place. (SPR 940582)
- 2.4 **PLANT CHANGE FORM (PCF):** A document used for changes to the configuration of an item/component and/or a change to design documents. The PCF MAY be used to process Non-conformances, Beneficial Changes, Design Document Changes and Replacement Equivalent Changes.
- 2.5 **TIGHTEN:** Term used in an approved procedure, instruction, vendor manual or drawing which indicates, unless specifically defined otherwise, that a fastener be adequately secured based on the craft's skill and experience.
- 2.6 **WORK CONTROL DOCUMENT (WCD):** Any authorizing document described in the Work Process Program such as a Service Request or Preventive Maintenance activity.

3.0 Responsibilities

- 3.1 The performer SHALL record all discrepancies found (during the performance of this procedure) between the PCF/Engineering Document and actual valve condition/dimensions observed in the field. All observations SHALL be recorded in the appropriate spaces provided or in the Remarks section, as applicable.
- 3.2 WHEN a step begins or ends with the word "Record", THEN the Performer SHALL enter the required data into the corresponding blank of the OPMP02-ZG-0011 Data Record Sheet. IF a conditional step is not required, THEN N/A SHALL be entered.
- 3.3 Any step, except "Reviewed By", requiring Valve Packing Coordinator action MAY be done by Cognizant Supervisor.
- 3.4 System engineering, maintenance or work control MAY designate a valve as an alternative packing candidate.
- 3.5 A service request SHALL be generated by the requesting department.

3.6 IF the valve has never been alternately packed before, THEN:

- 3.6.1 Maintenance SHALL obtain initial measurements for the specific service request (using a separate package, just for measurement purposes). A copy of the Data/M&TE sheets (from the rover) SHALL be forwarded to planning for the generation of a journeyman worksheet and work instructions using the specific service request for that valve.
- 3.6.2 Work control (mechanical planner) SHALL fax the data sheet to the vendor for the generation of a journeyman worksheet or (when the vendor is available onsite), use the data sheet to generate a journeyman worksheet.
- 3.6.3 Work control (mechanical planner) SHALL initiate a PCF using the journeyman worksheet and forward it to the TSE.
- 3.6.4 The TSE SHALL process the PCF and return it to the mechanical planner.
- 3.6.5 Work control (mechanical planner) SHALL process parts and work instructions in accordance with OPGP03-ZA-0090, (Work Process Program) and forward the work document to maintenance for work.
- 3.6.6 Maintenance SHALL verify measurements and install alternative style packing in accordance with applicable steps of this procedure. IF any dimensional differences other than the packing box depth are found to be out of specified tolerances, THEN the PCF SHALL be returned to Planning/TSE for revision.
- a. Differences in depth of stuffing box and/or plugged leakoff lines do not require "in process" revision of the PCF and MAY be incorporated into the (revised) PCF during the alternate packing coordinator (end) review.
- 3.6.7 Upon completion, maintenance SHALL route the work document to planning for the alternate packing coordinator review.
- 3.6.8 Work control (mechanical planner) SHALL review the PCF "AS FOUND" measurements obtained by maintenance and document any required corrections. These corrections SHALL be forwarded to the vendor for revision of the journeyman worksheet (or processed onsite when possible).

- 3.6.9 Work control (mechanical planner) SHALL attach the corrected data sheet to the PCF and forward the PCF to the TSE for revision, if required.
- 3.6.10 Work control (mechanical planner) SHALL (when revised PCF is received from the TSE), ensure that the procedure signoffs are correct and complete and sign the alternate valve coordinator review. A copy of the PCF and procedure signoff sheets will be forwarded to the person (or persons) designated as the alternate packing coordinator(s) for incorporation into records/database (when available).
- 3.7 IF the valve has been alternately packed using any packing vendor other than Chesterton, THEN the valve SHALL be processed as if it had never been alternately packed.
- 3.8 IF the valve has been alternately packed using Chesterton products, THEN work control (mechanical planner) SHALL attempt to verify the accuracy of the existing PCF using historical data, make corrections/revisions necessary to the PCF and process the work documents using those steps of section three (above) as applicable, to each situation.

4.0 Prerequisites

NOTE

The word (Record) indicates a data entry on the data sheet of this procedure.

- 4.1 Work Package has been approved.
- 4.2 A working copy of the approved PCF (or other Engineering Document) with the vendors journeyman work sheet describing the packing design to be installed, SHALL be included in the work package..

4.3 Obtain the following tools/materials as required to perform the task specified on the WCD.

- 2 foot length of wire or string
- Packing extractor
- Packing picks
- Approved metal marker
- Emery cloth, (Grades 60, 90, 120, F)
- Inspection mirror
- Approved wipes
- Plastic bags
- 8 inch diagonal cutters
- Flashlight
- Valve tamping tool and/or phenolic pusher
- Approved cleaning fluid
- Gloves, cotton or latex (handling graphite packing)
- Crows foot for packing gland stud nuts
- Approved thread sealant
- 6 inch inside caliper
- 6 inch outside caliper
- 6 inch steel ruler
- 6 inch depth gauge
- Feeler gauges (0.0005 to 0.03 inch)
- Approved packing penetrant/lubricant (packing removal)
- Composite splitter tool (composite packing rings)
- Valve warning sign, (Warning, this valve equipped with Chesterton valve sealing system, DO NOT adjust, contact maintenance supervision).

- 4.4 Obtain the test equipment necessary to perform the task specified on the WCD. M&TE SHALL have accuracy equal to or better than the following:
- Torque wrench with 4% accuracy
 - Calipers ± 0.001 " accuracy
 - Outside micrometers ± 0.001 " accuracy
 - Dial indicator ± 0.001 " accuracy
 - Torque wrench with 4% accuracy (calibrated to crows foot)
- 4.5 Record the M&TE description (including instrument range), STPEGS I.D. NO. and calibration due date in table on data sheet. (SPR 931481)
- 4.5.1 IF this is the first time the valve has been alternately packed, THEN the following is only required for the initial (first) installation of alternate packing.
- a. The packing coordinator or planner WILL record any M&TE equipment used by offsite vendor to obtain the initial valve measurements. (Record)
- 4.6 Obtain working copies of the procedures needed to perform those tasks specified in the WCDs.
- 4.7 WCD has been released by Work Start Authority.
- 5.0 Precautions and Notes
- 5.1 Care SHOULD be taken during all stages of disassembly to note any obvious indications of damage, abnormal wear, or malfunctioning for reference during later formal inspection.
- 5.2 Steps in this procedure need not be performed sequentially and MAY be repeated, as required, by the Cognizant Supervisor except for subsection 6.7 (repacking valve under pressure). WHEN performed, THEN steps listed under subsection 6.7 SHALL be performed sequentially.
- 5.3 This procedure SHALL be performed in accordance with conditions or Plant Operating Modes as specified on the WCD.

- 5.4 To ensure accountability and traceability of parts during maintenance, parts SHALL be labeled, tagged, or placed in labeled or marked containers at time of disassembly.
- 5.5 Additional work instructions for support craft will be addressed in the implementing Work Control Document.
- 5.6 Personnel performing this procedure SHALL record their name in the matrix following the remarks section.

6.0 Procedure

6.1 Preparation

- 6.1.1 Record WCD number.
- 6.1.2 Record Unit number.
- 6.1.3 Record valve tag number.
- 6.1.4 Record valve manufacturer.
- 6.1.5 Contact the control room and determine if the work start authority (WSA)/Plant Conditions will allow stroking of the valve as required to correctly consolidate the packing, prior to returning to service. (SPR 940582) Record on data sheet.
- 6.1.6 IF the WSA will not allow the valve to be stroked, THEN notify the WSA that a caution tag SHALL be required for the valve and that the valve SHOULD not be stroked or the package/PMT closed out until mechanical maintenance has the opportunity to stroke, torque and consolidate the packing. (SPR 940582)

6.2 Valve packing removal and packing gland inspection:

NOTE

Ensure that the configuration of the live-load assembly is not changed during handling and installation.

- 6.2.1 IF possible, THEN backseat valve to limit entry of foreign materials into valve body and to aid valve stem inspection.

- 6.2.2 Remove packing gland nuts.
- 6.2.3 IF possible, THEN remove packing gland and packing follower, IF you cannot remove packing gland and packing follower, THEN slide packing gland and packing follower up and secure, as required to allow access for packing removal.
- 6.2.4 IF necessary, THEN soak old packing with approved packing penetrant/lubricant.

CAUTION

Packing removal requires care so that scoring of valve stem or stuffing box does not occur.

- 6.2.5 Remove old packing from stuffing box and discard.
- 6.2.6 Raise or remove lantern ring.
- 6.2.7 Ensure removal of all residual packing material from stuffing box.
- 6.2.8 IF possible, THEN clean the following items using approved solvent, ensure the removal of any corrosion:
- a. Packing gland follower studs.
 - b. Packing gland follower stud nuts.
 - c. Stuffing box and packing follower.
- 6.2.9 Ensure packing gland nuts can freely thread onto packing gland studs. Clean threads, as required.
- 6.2.10 Inspect lip of stuffing box for burrs, nicks or sharp edges.
- Smooth or deburr, as required.
- 6.2.11 Ensure packing gland follower nose will fit smoothly into stuffing box.

6.3 Valve stem and stuffing box inspection:

- 6.3.1 Perform and record the following "AS FOUND" valve measurements: (SPR 931482)

NOTE

Steps "a" and "b" SHALL be taken using M&TE equipment. Steps "c" and "d" MAY be taken using a scale or ruler.

- a. Record "AS FOUND" stuffing box I.D. ..
- b. Record "AS FOUND" valve stem O.D.
- c. Record "AS FOUND" stuffing box depth.
- d. Record "AS FOUND" distance from top of stuffing box to top of leakoff port, if present.

- 6.3.2 Inspect bottom of stuffing box for angle. Record results.

- a. IF valve has a beveled stuffing box bottom, THEN take one of the following actions. IF none are appropriate, THEN contact the TSE for resolution. Record any actions taken.

NOTE

Angle in bottom of stuffing box MAY be compensated by:

- o Using an inactive lantern ring on the bottom
- o Beveling the bottom of the carbon bushing to the approximate angle in the bottom of the stuffing box.
- o Using existing (manufacturer installed) stem guide or spacer.
- o Installing an extra braided (wiper) ring below the carbon bushing.
(Note, this MAY require that the thickness of the extra ring be subtracted from the carbon bushing length.)

- 6.3.3 Inspect stem and stuffing box. Record results.

NOTE

Valve stem and stuffing box wall SHOULD be smooth and free of any series of pits, cuts, scratches or nicks in a line that could possibly act as a leak path.

- 6.3.4 IF imperfections exist, THEN remove using emery or crocus cloth.
- a. IF imperfections cannot be removed, or IF stem condition is otherwise questionable, THEN contact supervisor for evaluation.
- 6.3.5 IF stem appears bent, THEN determine stem runout, runout SHALL NOT exceed the following criteria:

Stem Diameter	Runout
1/8 inch to 1-1/2 inch	0.005 TIR
1-9/16 inch to 3 inch	0.010 TIR
3-1/16 inch to 8 inch	0.025 TIR

- a. Record the stem runout:
- 6.3.6 IF valve is designed with a washer and/or spacer(s) in stuffing box, THEN ensure the following prior to repacking:
- a. Washer and/or spacer(s) are placed in the bottom of stuffing box.
- b. IF a bushing is replacing the washer and/or spacer(s), THEN discard the washer and/or spacer(s).
- 6.3.7 IF valve stem is repaired/replaced or maintenance is performed on stuffing box, THEN perform the following "AS LEFT" measurements:
- a. Record valve stem O.D.
- b. Record stuffing box I.D.
- c. Record stuffing box depth.

6.4 Valve packing size, quantity and configuration

- 6.4.1 Verify that the replacement packing obtained is correct for the valve by comparing the "AS FOUND" stem O.D. and the "AS FOUND" stuffing box I.D. to the packing size obtained. This is to be verified using the packing size listed on the packing label. The dimensions must be within the following tolerances:
- a. Packing I.D. to stem O.D. + 0.005 inch - 0.000 inch.
 - b. Packing O.D. to stuffing box I.D. + 0.000 inch - 0.010 inch.
 - c. IF packing is incorrect/out of tolerance, THEN contact planning or TSE for evaluation/revision of PCF/engineering document and journeyman work sheet.
- 6.4.2 The quantity of packing rings used SHALL conform with the valve packing data sheet.

CAUTION

A carbon spacer or lantern ring SHALL always be positioned in front of any capped or plugged, leak-off port. IF packing is allowed to come into contact with a plugged/capped leakoff port, THEN it will extrude and the packing will fail.

- 6.4.3 Valves which have plugged leak-off connections and lantern rings SHALL be repacked as follows:
- a. Inspect lantern ring.
 - b. The lantern ring MAY be utilized to take up part or all of the excess packing gland space in lieu of or in addition to a carbon spacer, as required.

NOTE

Height of the split carbon sleeve SHALL be at least 1.5 times the thickness of a single ring of packing before compression.

- 6.4.4 Split carbon sleeve height SHALL be determined by utilizing the formula on the data sheet. Record data.

- 6.4.5 Holes SHOULD be drilled and tapped in the face of the carbon spacer and/or lantern ring (if used) to facilitate later removal. Tap size SHOULD be determined by the size of the cross section of the face.

CROSS SECTION	TAP SIZE	TAP DRILL	DEPTH
UP TO 1/8 INCH	4 - 40	# 43	1/4 INCH
3/16 INCH to 5/16 INCH	6 - 32	# 36	1/4 INCH
3/8 INCH AND UP	10 - 32	# 32	3/8 INCH

6.5 Valve packing installation ..

- 6.5.1 Ensure stuffing box is clean and free of debris.
- 6.5.2 IF necessary, THEN lubricate valve stem with approved anti-seize lubricant, do NOT apply anti-seize N-5000 to stuffing box area of stem.
- 6.5.3 IF stuffing box depth exceeds packing ring set(s) total height, THEN install a cut-to-size split carbon sleeve.
- 6.5.4 Verify that split carbon sleeve and/or lantern ring, are fully seated and straight in the gland.

NOTE

- Composite rings MAY require breaking in two pieces only, using composite splitter tool.
- WHEN installing die-formed graphite packing rings with single cut joints, ensure rings are not spread apart causing splits to develop, (refer to Addendum 1).

- 6.5.5 IF installing packing rings with double cut joints, THEN ensure that each half is matched properly with it's associated half.
- 6.5.6 Install first packing ring in accordance with packing configuration and fully seat, using a valve tamping tool.
- 6.5.7 Install remaining specified packing rings in accordance with the packing configuration, one at a time, ensuring that cut joints between adjacent rings are 90 degrees apart.

- 6.5.8 Install the lantern ring as follows:
- a. Ensure that only the appropriate style of wiper/end ring (i.e. braided graphite, composite, hardened, or as recommended by the PCF/engineering document and journeyman work sheet) are installed directly above and below lantern ring.
 - b. All packing rings below an active lantern ring SHALL be consolidated to 100 percent of the torque required by the PCF/engineering document and the journeyman work sheet, prior to installation of the lantern ring and the remainder of the packing. (SPR 940582)
- 6.5.9 Ensure the last packing ring is installed with the top ring flush with or just below top of stuffing box. IF required, THEN packing MAY be consolidated to allow installation of the last packing ring.
- 6.6 Packing gland and live-load installation
- 6.6.1 IF necessary, THEN lubricate packing gland, gland follower contact surfaces, packing gland studs and packing gland surface contacting stuffing box, with approved anti-seize lubricant. Do NOT apply anti-seize N-5000 to stuffing box area of stem.
- 6.6.2 IF applicable, THEN place packing gland and follower in contact with top packing ring, ensuring packing gland nose enters stuffing box with no interference.

NOTE

Spring configurations shown are provided as TYPICAL and are not intended to be all inclusive, (refer to Addendum 2).

- 6.6.3 IF valve is to be live-loaded, THEN perform the following:
- a. Lightly coat live-load assembly contact areas with approved anti-seize lubricant, as necessary.

NOTE

Ensure that the configuration of the live-load assembly is not changed during handling and installation.

- b. Install specified stacked live-loading arrangement on packing gland studs, (refer to Addendum 2).

- c. Verify the Belleville washer stack is not cocked or misaligned.
 - d. Ensure the gland bolt length is sufficient to permit full thread engagement of the gland bolt nut at final torque value.
 - e. Ensure the gland bolt threaded section is sufficient to permit tightening the gland nut.
- 6.6.4 Install packing gland stud nuts finger tight.
- 6.6.5 Ensure packing gland and packing gland follower are properly centered and level around valve stem.

CAUTION

Care SHALL be taken to ensure even tightening of packing gland stud nuts to prevent binding packing gland in stuffing box. All packing SHALL be within stuffing box and under packing gland.

- 6.6.6 Alternately torque packing gland stud nuts evenly, as specified on the PCF/engineering document and journeyman work sheet ensuring that the follower does not become cocked in the gland. (Record torque on data sheet)
- 6.6.7 IF packing gland and packing follower are not level and properly centered after torquing, THEN loosen packing gland stud nuts and determine cause before proceeding.
- 6.6.8 IF belleville washers become misaligned, THEN they SHALL be brought back into alignment.

NOTE

All alternately packed valves SHALL be stroked to obtain proper consolidation. IF plant configuration does not allow stroking, THEN operations SHALL hang a CAUTION tag on the valve restricting operation until stroking/consolidation is allowed. Motor and air operated valves MAY be retorqued during the closing stroke of the valve. Retorquing during the closing stroke, speeds up and enhances packing consolidation and generally reduces the number of strokes required to consolidate rings. IF this method is to be used, THEN ensure that the torquing operation will not interfere with any moving parts of the valve. (SPR 940582)

- 6.6.9 WHEN the required torque is initially obtained, THEN coordinate with operations, as required to cycle valve OPEN and CLOSED three times, stopping the final stroke when fully CLOSED (or as close to CLOSED as plant configuration will allow). IF belleville washers become misaligned, THEN they SHALL be brought back into alignment.
- 6.6.10 Repeat steps 6.6.7 through 6.6.10, as necessary/applicable, until no further consolidation of the packing/relaxation of torque.
- a. Ensure live-load installation does not interfere with valve operation.
- 6.6.11 IF valve has been alternately packed, THEN install a pre-printed warning sign that states "WARNING, this valve is equipped with Chesterton valve sealing system. DO NOT adjust, contact maintenance".

6.7 Repacking valve under pressure:

CAUTION

Packing a valve under pressure is NOT advisable; however it MAY be performed by performing subsection 6.7 of this procedure.

NOTE

The following steps, 6.7.1 through 6.7.13 SHALL be performed in sequence while packing a valve under pressure on backseat.

CAUTION

Personal protective clothing SHALL be worn when attempting this type of packing. Face shield, and gloves are a minimum. Due to temperature, pressure, and type of fluid in line, personal protective clothing SHALL be evaluated prior to starting job.

- 6.7.1 Ensure valve has a backseat.
- 6.7.2 The cognizant Supervisor SHALL, and personnel performing task SHOULD, accompany operations to valve to verify that it is positioned on backseat.
- 6.7.3 Request plant operations to backseat valve and verify valve is positioned on backseat. Record MVP on data sheet.
- 6.7.4 Visually observe valve for any signs of leakage around packing gland area that would indicate backseat sealing failure.
 - a. Report any signs of leakage to Supervisor before proceeding.

CAUTION

DO NOT remove any fasteners in step 6.7.5.

- 6.7.5 Using extreme caution, slowly loosen packing gland fasteners evenly, and observe for any signs of movement or leakage from around packing. DO NOT remove fasteners.
- 6.7.6 Ensure valve backseat is not leaking, prior to removing packing gland fasteners.
- a. Remove packing gland fasteners.

CAUTION

Packing SHALL be removed cautiously, one ring at a time, being observant of any changes during removal that MAY indicate backseat failure.

- 6.7.7 Raise gland and remove packing, or as many rings as is determined necessary.
- 6.7.8 IF only a portion of the packing can be removed/replaced, THEN a new service request SHALL be generated by the Supervisor for total packing replacement when plant conditions allow. Record MVP on data sheet.
- 6.7.9 Install appropriate type and size of packing, in accordance with applicable PCF/engineering document and journeyman work sheet.

NOTE

Packing SHOULD be installed following steps 6.6.1 through 6.6.11 (as applicable) as closely as safe work practice will allow.

- 6.7.10 Install packing gland fasteners.

- 6.7.11 Alternately torque packing gland fasteners evenly. Record on data sheet.
- 6.7.12 WHEN the required torque is initially obtained, THEN request plant operations to slowly release valve off backseat and observe for any signs of packing leakage.
- 6.7.13 Coordinate with operations, as required, to cycle valve OPEN and CLOSED three times, stopping the final stroke when fully CLOSED (or as close to closed as plant configuration will allow). IF belleville washers become misaligned, THEN they SHALL be brought back into alignment.

NOTE

Motor and air operated valves MAY be retorqued during the CLOSING stroke of the valve. Retorquing during the CLOSING stroke, speeds up and enhances packing consolidation and generally reduces the number of strokes required to consolidate rings. IF this method is to be used, THEN ensure that the torquing operation will not interfere with any moving parts.

- 6.7.14 Repeat steps 6.7.11 through 6.7.13, as necessary, until no further consolidation of the packing/relaxation of torque.
- 6.7.15 Complete remaining signoffs on OPMP02-ZG-0011 data sheet, as required.
- 6.8 Restoration and documentation
 - 6.8.1 Record any additional comments in remarks section of procedure.
 - 6.8.2 Return documentation to Supervisor.
- 6.9 Remarks: _____

7.0 Acceptance Criteria

- 7.1 Packing is considered acceptable if conditions specified with the procedure at the affected step are met.
- 7.2 Recommended torque, where specified, is correct on gland stud nuts.

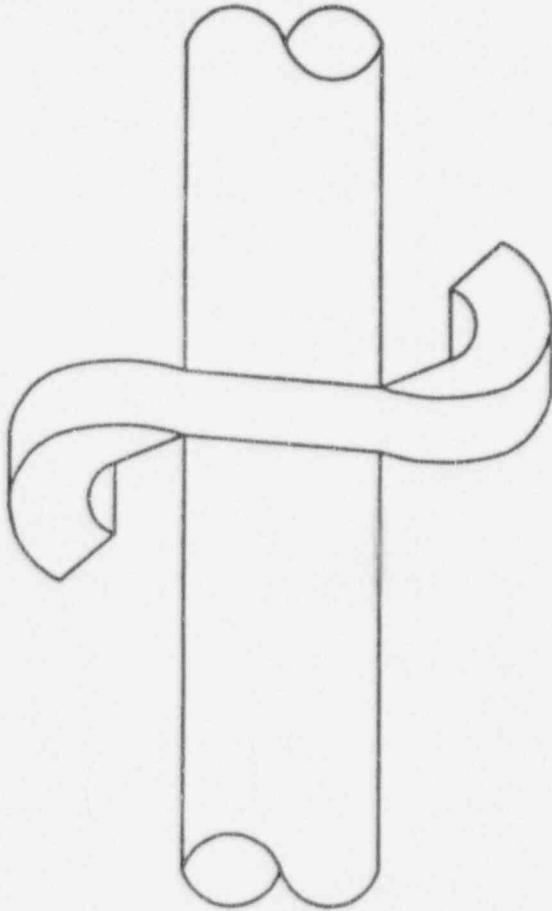
8.0 References

- 8.1 Electric Power Research Institute Project 2233-3, EPRI NP-5697, Final Report, May, 1988
- 8.2 Specification 5L749TS1018, Alternative Valve Packing and Live-Load Design ..
- 8.3 SPR 920370, Measurements Taken Without Calibrated Measuring Instrument
- 8.4 SPR 931481 (Documentation of M&TE used for Measurements)
- 8.5 SPR 931482 (Measurement of Packing O.D.)
- 8.6 SPR 932079 (Valve Data Sheet Signing)
- 8.7 SPR 940582 (Excessive Vendor Packing Leakage)

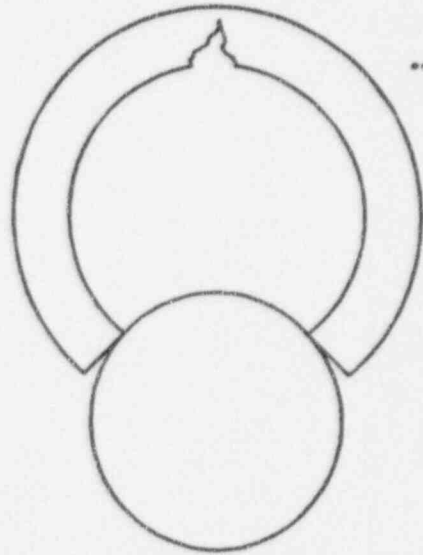
9.0 Support Documents

Addendum 1 (Die-Formed Packing Ring Installation)
Addendum 2 (Live-Load Disc Spring Arrangements)
Data Sheet (Form -1)

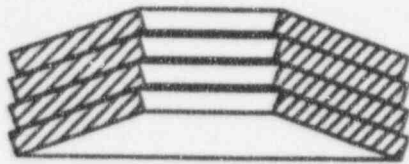
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Addendum 1	Die Formed Packing Ring Installation (Page 1 of 1)



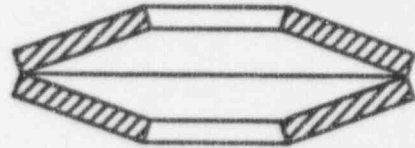
CORRECT



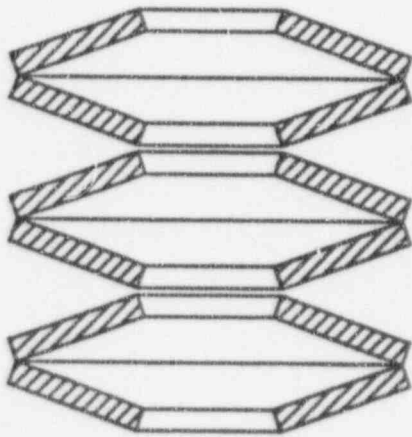
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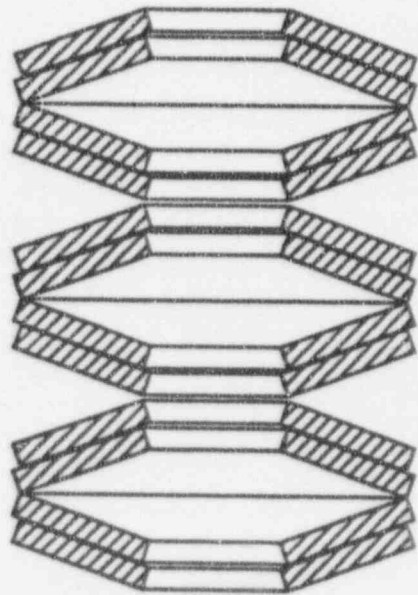
4 IN PARRALLEL



2 IN SERIES



6 IN SERIES



2 IN PARRALLEL
6 IN SERIES

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c. "AS FOUND" stuffing box depth
(To nearest 1/16 inch): _____ inch.

Performer

d. "AS FOUND" distance from top of stuffing box to top
of leakoff port, if present (To nearest 1/16 inch): _____ inch.

Performer

6.3.2 Results of inspection for bevel in bottom of stuffing box/actions taken:

6.3.3 Results of inspection of stem and stuffing box:

6.3.5.a. Stem runout: _____ inch.

STPEGS I.D. Number _____
Performer

6.3.7 "AS LEFT" measurements:

a. Valve stem O.D.: (To 3 decimal places) _____ inch.

STPEGS I.D. Number _____
Performer

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Remarks: _____

Performer(s)		
Name (Print)	Signature	Initials

Reviewed By: _____ Date: _____
Alternative Valve Packing Coordinator

Reviewed By: _____ Date: _____
Supervisor