

BID FORM

CITY STATE
 DATE: , 20

Lafayette Consolidated Government
 705 W. University Avenue
 P. O. Box 4017-C
 Lafayette, Louisiana 70502

Gentlemen:

The undersigned, having familiarized himself with the attached contract documents, which are as follows: Notice to Bidders, Instructions to Bidders, Specifications, Bid Form, and Affidavit, all of which contract documents are made a part hereof, hereby proposes, in compliance with said contract documents, to furnish freight prepaid, FOB Lafayette, the following, complete as herein specified at the following prices:

**LOUIS "DOC" BONIN ELECTRIC GENERATING STATION
 UNIT 3 BOILER ROTHEMUHLE AIR HEATER BASKET PURCHASE**

<u>Item</u>	<u>Description</u>	<u>Qty</u>	<u>Unit Price</u>	<u>Extended</u>
1	Replacement Cost for the Rothemuhle Air Heater Basket Manufacturer <input type="text" value="Balcke-Durr Rothemuhle"/> Model _____	1	\$ <input type="text" value="594.15"/>	\$ <input type="text" value="305,989.00"/>
2	Shipping Costs for Rothemuhle Air Heater Basket		\$ <input type="text" value="67.61"/>	\$ <input type="text" value="34,822.00"/>
	TOTAL BID PRICE			\$ <input type="text" value="340,811.00"/>

Bidder agrees to supply all materials within 20 weeks after receiving purchase order. Required delivery is 20 weeks ARO.

Preference is hereby given to materials, supplies and provisions, produced, manufactured or grown in Louisiana, quality being equal to articles offered by competitors outside of the state.

Do you claim this preference? _____ YES NO

Specify location within Louisiana where this product is manufactured, produced or grown. _____

Are the following required submittals attached as per the technical specifications:

Reference List

YES NO

Design details for the Unit 3 Rothemuhle Air Heater Baskets for Owner's Review. Details shall include engineering data, materials for construction, air heater basket measurements, number baskets, applicable test data and all associated parts and materials furnished for the installation.

YES NO

The bidder declares that he understands the rights reserved by the Owner in the letting and awarding of the Contract and the method specified for the preparation of the bid.

Bidders must complete the following vendor information in order for bid to be considered and evaluated and how it must be shown on the purchase order or contract agreement (if award is made to your company.)

COMPANY NAME: DATE:

INDIVIDUAL: *ANTONIO J. DOVALE* SIGNATURE: *[Handwritten Signature]*
PRESIDENT

TITLE: PHONE NUMBER:

MAILING ADDRESS:

CITY/STATE/ZIP:

REMITTANCE ADDRESS:

CITY/STATE/ZIP:

FAX NUMBER:

PLEASE SUBMIT ONLY THE BID FORM AND BID SECURITY AS YOUR BID!

ALTERNATE BIDS WILL NOT BE READ OR CONSIDERED FOR AWARD UNLESS SO CALLED FOR IN THE BIDDING DOCUMENTS.

THE AMERICAN INSTITUTE OF ARCHITECTS

AIA Document A310 Bid Bond

KNOW ALL MEN BY THESE PRESENTS, THAT WE Siemens Energy, Inc.
4400 Alafaya Trail, Orlando, FL 32826

as Principal, hereinafter called the Principal, and Federal Insurance Company
15 Mountain View Road, Warren, NJ 07059

a corporation duly organized under the laws of the State of IN
as Surety, hereinafter called the Surety, are held and firmly bound unto Lafayette Consolidated Government
705 W University Ave., PO Box 4017C, Lafayette, LA 70502

as Obligee, hereinafter called the Obligee, in the sum of Five Percent of Amount Bid
Dollars (\$ 5%),
for the payment of which sum well and truly to be made, the said Principal and the said Surety, bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, the Principal has submitted a bid for Material Supply of Airheater Baskets

NOW, THEREFORE, if the Obligee shall accept the bid of the Principal and the Principal shall enter into a Contract with the Obligee in accordance with the terms of such bid, and give such bond or bonds as may be specified in the bidding or Contract Documents with good and sufficient surety for the faithful performance of such Contract and for the prompt payment of labor and materials furnished in the prosecution thereof, or in the event of the failure of the Principal to enter such Contract and give such bond or bonds, if the Principal shall pay to the Obligee the difference not to exceed the penalty hereof between the amount specified in said bid and such larger amount for which the Obligee may in good faith contract with another party to perform the Work covered by said bid, then this obligation shall be null and void, otherwise to remain in full force and effect.

Signed and sealed this 31st day of August, 2010

Karen Hains
(Witness)

Siemens Energy, Inc.
(Principal) (Seal)
By: Jay Heron VICE PRESIDENT
(Title)

Wanda Caban
Wanda Caban (Witness)



Federal Insurance Company
(Surety) (Seal)
By: Stacy Rivera
Attorney-in-Fact (Title)



**Chubb
Surety**

**POWER
OF
ATTORNEY**

**Federal Insurance Company
Vigilant Insurance Company
Pacific Indemnity Company**

**Attn: Surety Department
15 Mountain View Road
Warren, NJ 07059**

Know All by These Presents, That **FEDERAL INSURANCE COMPANY**, an Indiana corporation, **VIGILANT INSURANCE COMPANY**, a New York corporation, and **PACIFIC INDEMNITY COMPANY**, a Wisconsin corporation, do each hereby constitute and appoint

Stacy Rivera

as their true and lawful Attorney-in-Fact to execute under such designation in their names and to affix their corporate seals to and deliver for and on their behalf as surety thereon or otherwise, the following Surety Bond:

Surety Bond Number : Bid Bond
Obligee : Lafayette Consolidated Government

And the execution of such bond or obligation by such Attorney-in-Fact in the Company's name and on its behalf as surety thereon or otherwise, under its corporate seal, in pursuance of the authority hereby conferred shall, upon delivery thereof, be valid and binding upon the Company.

In Witness Whereof, said **FEDERAL INSURANCE COMPANY**, **VIGILANT INSURANCE COMPANY**, and **PACIFIC INDEMNITY COMPANY** have each executed and attested these presents and affixed their corporate seals on this 20th day of November, 2008.

Kenneth C. Wendel

Kenneth C. Wendel, Assistant Secretary

Richard A. Ciullo

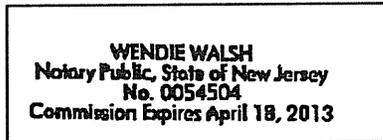
Richard A. Ciullo, Vice President

STATE OF NEW JERSEY
County of Somerset

ss.

On this 20th day of November, 2008, before me, a Notary Public of New Jersey, personally came Kenneth C. Wendel, to me known to be Assistant Secretary of **FEDERAL INSURANCE COMPANY**, **VIGILANT INSURANCE COMPANY**, and **PACIFIC INDEMNITY COMPANY**, the companies which executed the foregoing Power of Attorney, and the said Kenneth C. Wendel, being by me duly sworn, did depose and say that he is Assistant Secretary of **FEDERAL INSURANCE COMPANY**, **VIGILANT INSURANCE COMPANY**, and **PACIFIC INDEMNITY COMPANY** and knows the corporate seals thereof, that the seals affixed to the foregoing Power of Attorney are such corporate seals and were thereto affixed by authority of the By-Laws of said Companies; and that he signed said Power of Attorney as Assistant Secretary of said Companies by like authority; and that he is acquainted with Richard A. Ciullo, and knows him to be Vice President of said Companies; and that the signature of Richard A. Ciullo, subscribed to said Power of Attorney is in the genuine handwriting of Richard A. Ciullo, and was thereto subscribed by authority of said By-Laws and in deponent's presence.

Notarial
Seal



Wendie Walsh

Notary

Public

CERTIFICATION

Extract from the By-Laws of **FEDERAL INSURANCE COMPANY**, **VIGILANT INSURANCE COMPANY**, and **PACIFIC INDEMNITY COMPANY**:

"All powers of attorney for and on behalf of the Company may and shall be executed in the name and on behalf of the Company, either by the Chairman or the President or a Vice President or an Assistant Vice President, jointly with the Secretary or an Assistant Secretary, under their respective designations. The signature of such officers may be engraved, printed or lithographed. The signature of each of the following officers: Chairman, President, any Vice President, any Assistant Vice President, any Secretary, any Assistant Secretary and the seal of the Company may be affixed by facsimile to any power of attorney or to any certificate relating thereto appointing Assistant Secretaries or Attorneys-in-Fact for purposes only of executing and attesting bonds and undertakings and other writings obligatory in the nature thereof, and any such power of attorney or certificate bearing such facsimile signature or facsimile seal shall be valid and binding upon the Company and any such power so executed and certified by such facsimile signature and facsimile seal shall be valid and binding upon the Company with respect to any bond or undertaking to which it is attached."

I, Kenneth C. Wendel, Assistant Secretary of **FEDERAL INSURANCE COMPANY**, **VIGILANT INSURANCE COMPANY**, and **PACIFIC INDEMNITY COMPANY** (the "Companies") do hereby certify that

- (i) the foregoing extract of the By-Laws of the Companies is true and correct,
- (ii) the Companies are duly licensed and authorized to transact surety business in all 50 of the United States of America and the District of Columbia and are authorized by the U.S. Treasury Department; further, Federal and Vigilant are licensed in Puerto Rico and the U.S. Virgin Islands, and Federal is licensed in American Samoa, Guam, and each of the Provinces of Canada except Prince Edward Island; and
- (iii) the foregoing Power of Attorney is true, correct and in full force and effect.

Given under my hand and seals of said Companies at Warren, NJ this 31st day of August, 2010



Kenneth C. Wendel

Kenneth C. Wendel, Assistant Secretary

IN THE EVENT YOU WISH TO NOTIFY US OF A CLAIM, VERIFY THE AUTHENTICITY OF THIS BOND OR NOTIFY US OF ANY OTHER MATTER, PLEASE CONTACT US AT ADDRESS LISTED ABOVE, OR BY Telephone (908) 903- 3493 Fax (908) 903- 3656 e-mail: surety@chubb.com

FEDERAL INSURANCE COMPANY

STATEMENT OF ASSETS, LIABILITIES AND SURPLUS TO POLICYHOLDERS

Statutory Basis

DECEMBER 31, 2009

(in thousands of dollars)

<u>ASSETS</u>		<u>LIABILITIES AND SURPLUS TO POLICYHOLDERS</u>	
Cash and Short Term Investments.....	\$ 257,630	Outstanding Losses and Loss Expenses.....	\$ 11,900,150
United States Government, State and Municipal Bonds.....	11,077,454	Unearned Premiums.....	3,345,760
Other Bonds.....	4,042,056	Reinsurance Premiums Payable.....	322,875
Stocks.....	778,949	Provision for Reinsurance.....	79,993
Other Invested Assets.....	1,758,696	Other Liabilities.....	717,789
TOTAL INVESTMENTS.....	<u>17,914,785</u>	TOTAL LIABILITIES.....	<u>16,366,567</u>
Investments in Affiliates:		Special Surplus Funds.....	176,031
Chubb Investment Holdings, Inc.....	2,881,003	Capital Stock.....	20,980
Pacific Indemnity Company.....	2,200,172	Paid-In Surplus.....	3,106,809
Chubb Insurance Investment Holdings Ltd..	1,539,334	Unassigned Funds.....	11,017,701
Executive Risk Indemnity Inc.....	1,078,688		
CC Canada Holdings Ltd.....	607,555	SURPLUS TO POLICYHOLDERS.....	<u>14,321,521</u>
Great Northern Insurance Company.....	453,227		
Chubb European Investment Holdings SLP.	271,092		
Chubb Insurance Company of Australia...	255,177		
Vigilant Insurance Company.....	176,625		
Other Affiliates.....	349,088		
Premiums Receivable.....	1,458,416	TOTAL LIABILITIES AND SURPLUS TO POLICYHOLDERS.....	<u>\$ 30,688,088</u>
Other Assets.....	<u>1,502,926</u>		
TOTAL ADMITTED ASSETS.....	<u>\$ 30,688,088</u>		

Investments are valued in accordance with requirements of the National Association of Insurance Commissioners.
Investments valued at \$448,814,488 are deposited with government authorities as required by law.

State, County & City of New York, — ss:

Yvonne Baker, Assistant Secretary _____ of the Federal Insurance Company

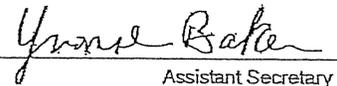
being duly sworn, deposes and says that the foregoing Statement of Assets, Liabilities and Surplus to Policyholders of said Federal Insurance Company on December 31, 2009 is true and correct and is a true abstract of the Annual Statement of said Company as filed with the Secretary of the Treasury of the United States for the 12 months ending December 31, 2009.

Subscribed and sworn to before me
this



Notary Public

DOROTHY M. BAKER
Notary Public, State of New York
No. 31-4904994
Qualified in New York County
Commission Expires Sept. 14, 2013



Assistant Secretary

August 30, 2010

Telephone: 973-829-2937
Fax: 973-410-4600
Website: www.willis.com
E-mail: Marisol.mojica@willis.com

Siemens Energy, Inc.
4400 Alafaya Trail
Orlando, FL 32826
Re: Bid Bond
Bid Date: August 31, 2010
Lafayette Consolidated Government
Material Supply of Airheater Baskets

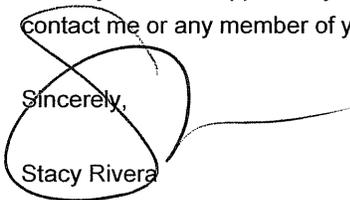
As you requested, we are pleased to provide the attached bid bond documents per your instructions. This bond was issued based upon the information we received from your office.

Please note the bond must be signed by an authorized representative of your company and if applicable, sealed with the corporate seal. We urge you to check all bond documents, including signatures, dates, amounts, job description, Power of Attorney and any other attachments to avoid the possibility of having a low bid rejected. Additionally, please verify that the bid bond form attached is the form required by the specifications.

The Surety authorized this bid bond based upon the general terms and conditions of your surety agreement and /or any special conditions specific to this bond that were previously communicated to your Company.

The Bid Bond authorization is based upon your original estimate. If the bid exceeds this estimate by 10% or more, the bond must be reauthorized by the surety. Please contact us for additional authority.

Thank you for the opportunity to service your surety needs. Should you have any questions, please do not hesitate to contact me or any member of your Willis surety team.

Sincerely,

Stacy Rivera

Your Bid Results are very important. Please forward them to us as soon as the job bids.

Were you Low? Yes No

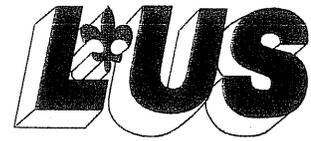
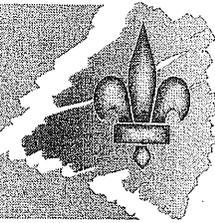
1st Bidder & Amount Bid _____

2nd Bidder & Amount Bid _____

3rd Bidder & Amount Bid _____

Your bid (if not listed above) _____

LAFAYETTE
CONSOLIDATED
GOVERNMENT



LAFAYETTE UTILITIES SYSTEM
POWER PRODUCTION
1120 WALKER ROAD
LAFAYETTE, LA 70506
(337) 291-5772

AUGUST 27, 2010

CONTRACT #720-10-033

LOUIS "DOC" BONIN ELECTRIC GENERATING STATION
UNIT 3 BOILER ROTHEMUHLE AIR HEATER BASKET PURCHASE

ADDENDUM NO. 1

Bidders:

This addendum is to inform you of the following:

The bid date for this project has been rescheduled from Tuesday, August 31, 2010 to 10:00 a.m. on Wednesday, September 8, 2010. Please review Articles 1, 3, and 16 of the Instructions to Bidders regarding submission of bids.

BIDDER SHALL SIGN AND ATTACH THIS ADDENDUM TO HIS ORIGINAL BID.

Signature

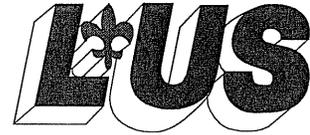
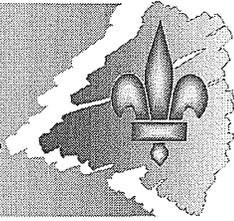
Siemens Energy, Inc.

Company

September 7, 2010

Date

LAFAYETTE
CONSOLIDATED
GOVERNMENT



LAFAYETTE UTILITIES SYSTEM
POWER PRODUCTION
1120 WALKER ROAD
LAFAYETTE, LA 70506
(337) 291-5772

SEPTEMBER 1, 2010

CONTRACT #720-10-033

LOUIS "DOC" BONIN ELECTRIC GENERATING STATION
UNIT 3 BOILER ROTHEMUHLE AIR HEATER BASKET PURCHASE

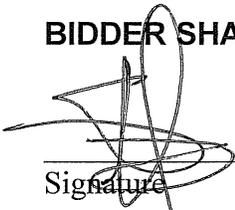
ADDENDUM NO. 2

Bidders:

This addendum is to inform you of the following:

- Delete: Section 5.0 – Mechanical Requirements Rev 0
Insert: Section 5.0 – Mechanical Requirements Rev 1 (Attached)
Technical information for the air heater baskets has been revised. Please review carefully and submit your bid accordingly.
- Bidders submitting electronic bids should review all criteria, including bid security deadlines. A bid security received after the prescribed deadline will cause your bid to be disqualified.

BIDDER SHALL SIGN AND ATTACH THIS ADDENDUM TO HIS ORIGINAL BID.



Signature

Siemens Energy, Inc.

Company

September 7, 2010

Date

SIEMENS

September 07, 2010

Lafayette Consolidated Government
ATTN: Dabne Dover
Purchasing & Property
P.O. Box 4017-C
Lafayette, LA 70502

Subject: Lafayette Consolidated Government Louis "Doc" Bonin Station Sealed Bid #720-10-033
SIEMENS QUOTATION NO. 4066
MATERIAL SUPPLY OF ROTHEMUHLE AIR HEATER BASKETS

Dear Dabne Dover,

Siemens Energy, Inc. ("SIEMENS") is pleased to offer Lafayette Consolidated Government ("Louis "Doc" Bonin Station") with this quote for the material supply of Rothemuhle Air Heater Baskets.

Siemens is able to fabricate and deliver the air heater baskets for the Rothemuhle Air Heaters upon receipt of an acceptable purchase order via ocean freight to meet the current schedule outlined in the bid specification.

Scope of Work

SIEMENS will provide the Louis "Doc" Bonin Station with the basket material Delivered Duties Paid in approx. 20 weeks after receipt of an acceptable purchase order.

The following is a breakdown of the baskets requested:

Item #	Quantity	Description	Sale Cost (US \$)
1	257	Heating Elements – Hot End Layer (According to Drawing No. 131278 D.0) Material: DC01 Sheet Thickness approx.: 0.5 mm Sheet Depth approx.: 890mm Profile: H8	\$181,028
2	258	Heating Elements – Cold End Layer (According to Drawing No. 131278 D.0) Material: S235JRW (Equal to Corten) Sheet Thickness approx.: 1.2 mm Sheet Depth approx.: 305mm Profile: KH11	\$159,783

Price

The price for this offer is based on a US Dollar exchange rate of 1.00 € **per 1.2675 US\$**. Our quoted price amount will increase or decrease in proportion to the fall or rise of the US\$-rate as against the €-rate.

SIEMENS

Terms and Conditions

Siemens takes exception to the terms in the bid specification RFB-010 submitted by Lafayette Utilities and proposes the following services detailed herein are offered at the price(s) and exclusively on the terms and conditions set forth in this offer, including those set forth in Siemens Selling Policy 1270 dated October 1, 2008 attached to this proposal.

Terms of Payment

Payment is due and payable net within thirty (30) days from the date of the invoice. Payment Schedule for scope of supply outlined herein is per the following;

1. 40% - Upon Award of Contract
2. 60% - Upon Receipt at site

Proprietary Information

This document contains information proprietary to SIEMENS. Lafayette Consolidated Government acceptance of it is an acknowledgement of a confidential relationship between Lafayette Consolidated Government and SIEMENS with respect to this offer including but not limited to, any pricing, economic information, drawings, plans, schedules, procedures or other data contained herein or in any exhibits, attachments or appendices thereto.

If this Proposal results in a Contract between SIEMENS and Lafayette Consolidated Government may retain the Proposal for its use in connection with the equipment covered by the Contract and, for that purpose only. If this Proposal does not result in a contract, Lafayette Consolidated Government shall return the original and all duplicate copies of the Proposal to SIEMENS, upon the termination of its expiration or upon SIEMENS' request.

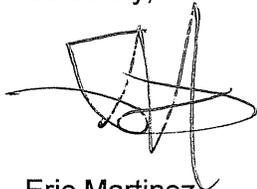
Offer Validity

This offer is valid for thirty (30) days from the date of this letter unless otherwise extended, modified, or withdrawn in writing by SIEMENS and limits acceptance to the terms set forth herein.

This offer and its attachments constitute the entire SIEMENS offer.

While SIEMENS believes this offer is very competitive and comprehensive, SIEMENS welcomes the opportunity to discuss any questions that you may have regarding this offer.

Sincerely,



Eric Martinez
Marketing Representative
Environmental Systems & Services
Siemens Energy, Inc.
Office: (407) 736-6027
Cell: (407) 968-7077
Fax: (407) 736-6027

(For Sales in the U.S.A.
Excluding the State of Louisiana)

October 1, 2008
Supersedes Selling Policy 1270,
pages 1-8, dated July 15, 2008

**These Terms and Conditions
Govern the Sale of Equipment,
Shop Repair and Modernization
and Technical Services for
Power Generation Equipment**

The terms and conditions set forth in the Siemens quotation and in this Selling Policy 1270 are the terms and conditions governing the Siemens offer. Each offer is valid for 60 days from the date of the offer unless extended, modified or withdrawn in writing by Siemens. The return of a purchase order or any other reasonable manner of acceptance communicated to Siemens during such validity period will be sufficient to form an Agreement on the terms and conditions of the Siemens offer including the terms and conditions of this Selling Policy 1270.

1. Definitions

Whenever used in this document with initial capitalization, the following definitions shall be applicable:

- A. "Agreement" or "Contract" shall mean the Siemens quotation, this Selling Policy 1270 and Purchaser's purchase order (excluding any preprinted terms and conditions on said purchase order and in any attachment or attachments to said purchase order) or other document evidencing acceptance of the Siemens offer as set forth in the quotation; or an integrated agreement signed by Siemens and Purchaser; for Equipment, Shop Repair and Modernization, and Technical Services, or one or more of them.
- B. "Equipment" shall mean equipment, components, parts, materials and Software provided by Siemens pursuant to the Agreement.
- C. "Purchaser" shall mean the entity purchasing Equipment, Shop Repair and Modernization, and Technical Services, or one or more of them, as well as any other owners of the power generation facility where the Equipment or Purchaser's Material will be situated.
- D. "Purchaser's Material" shall mean equipment, materials, components and items of any kind owned by Purchaser for which Siemens is to provide Technical Services under the Agreement or on which Siemens is to perform Shop Repair and Modernization under the Agreement, or both of them.
- E. "Shop Repair and Modernization" shall mean work performed by Siemens on Purchaser's Material at a Siemens manufacturing plant, a Siemens service facility or a suitable facility selected by Siemens.
- F. "Siemens" shall mean Siemens Energy, Inc. (f/k/a Siemens Power Generation, Inc.) or an affiliated company and their subsidiaries, successors and assigns.
- G. "Site" shall mean the Purchaser's facility where the Equipment or Purchaser's Material will be situated.
- H. "Software" shall mean instructions in machine readable form, other than source code, and associated documentation delivered by Siemens to Purchaser in chip, disc and/or tape format.
- I. "Supplier" shall mean any subcontractor or supplier of any tier who supplies goods and services to Siemens in connection with the obligations of Siemens under the Agreement.
- J. "Technical Services" shall mean (i) inspections, technical evaluation of inspections, technical analysis of materials and technical recommendations related to Shop Repair and Modernization, (ii) technical information provided by Siemens including data interpretation and reports, (iii) advice and consultation given to Purchaser's personnel at Purchaser's facility or at a Siemens facility by a Siemens engineer or technician or (iv) advice and guidance given to Purchaser by the Siemens field engineer(s) regarding methods and procedures for installation of Equipment or Purchaser's Material and for periodic maintenance and calibration of Equipment or Purchaser's Material when the scope of work under the Agreement specifically provides for such services.
- K. "Third Party Parts" shall mean parts, components, equipment or materials provided by Purchaser or that exist in the Purchaser's Material which were not manufactured or supplied by Siemens or which were originally supplied by Siemens and subsequently repaired, serviced or otherwise altered by any party not affiliated with Siemens.
- L. "Hazardous Material" shall mean any material listed in the "Hazardous Material Table" set forth in 49 CFR 172.101 as amended.

2. Scope

Siemens will furnish to Purchaser Equipment, Shop Repair and Modernization, or Technical Services, as specified in and pursuant to the Agreement.

3. Price Policy

Siemens' minimum order value for any Equipment is \$300. Should the price for Equipment requested by Purchaser be below this \$300 minimum order value, an additional fee will be applied to increase the total order value to \$300.

Unless otherwise stated in the offer, the price does not include disassembly and reassembly of Equipment at the Site.

Prices for certain Equipment may be based on Siemens' standard prepackaged quantities for such Equipment. Should Purchaser request a quantity other than the standard prepackaged quantity established by Siemens for such Equipment, an additional fee will be applied to cover the costs of any special handling, unpackaging and repackaging of the Equipment by Siemens.

Prices are firm for (i) Equipment with a scheduled shipment date of sixty (60) weeks or less from the date of the Agreement and (ii) Shop Repair and Modernization, and Technical Services which are scheduled to be performed within sixty (60) weeks from the date of the Agreement.

For (i) Equipment with a scheduled shipment date in excess of sixty (60) weeks and (ii) Shop Repair and Modernization, and Technical Services scheduled to be completed beyond sixty (60) weeks from the date of the Agreement, the prices are subject to adjustment upward or downward for changes in labor and material indexes. This adjustment shall be determined in accordance with Price Adjustment Policy 1270-1.

4. Terms of Payment

- A. For Agreements covering Equipment or Shop Repair and Modernization, or both of them, with a total price of \$100,000 or less, the terms of payment are net thirty (30) days from date of invoice. The invoice will be issued on the date of shipment.

Where partial shipments are made, pro rata invoices will be issued on the date of each partial shipment.

B. For Agreements covering Equipment or Shop Repair and Modernization, or both of them, with a total price in excess of \$100,000, the terms of payment are as set forth below:

- (1) twenty percent (20%) of the total price (as adjusted in accordance with the provisions of Price Adjustment Policy 1270-1 when adjustment is applicable) will be invoiced upon the effective date of the Agreement, and
- (2) progressive payments beginning at the start of work in the amount of seventy-five percent (75%) of the total price (as adjusted in accordance with the provisions of Price Adjustment Policy 1270-1 when adjustment is applicable) will be invoiced in equal monthly installments commencing thirty (30) days after issuance of the twenty percent (20%) invoice detailed in (1) above and extending to the first day of the month which includes the day of scheduled shipment, and
- (3) five percent (5%) of the price of each item (as adjusted in accordance with the provisions of Price Adjustment Policy 1270-1 when adjustment is applicable) will be invoiced upon shipment of that item.
- (4) Payment of each invoice is to be made within thirty (30) days of its date.
- (5) If the price of any portion of the work covered by the Agreement is revised in accordance with the provisions set forth herein, then invoicing will be made according to the terms set forth above by determining the accumulated percentage of the price due times the revised price and subtracting the sum of the payments previously made.
- (6) If shipment (from the manufacturing plant or repair facility where the work is performed) of an item is delayed for causes which are within the reasonable control of Siemens, then issuance of the invoice covering the final five percent (5%) payment detailed in (3) above will be deferred for twice the number of months by which shipment of that item is delayed. Furthermore, where applicable, Purchaser will be excused from the duty to pay any net price increase on the final five percent (5%) payment of the delayed item resulting from the operation of the provisions of Price Adjustment Policy 1270-1 during the period of, and arising solely from, such delay in shipment of said item by Siemens

THE REMEDIES OF PURCHASER SET FORTH ABOVE FOR DELAY IN SHIPMENT CAUSED BY SIEMENS

ARE EXCLUSIVE AND NO OTHER REMEDIES OF ANY KIND WHATSOEVER SHALL APPLY. Deferral in issuance of the final five percent (5%) invoice and (where applicable) forgiveness of certain net price increases as provided above shall constitute complete fulfillment of all liabilities of Siemens to Purchaser for delay in shipment whether based in contract, tort (including negligence and strict liability), or otherwise.

- C. For Agreements covering Technical Services, terms of payment are net within thirty (30) days from date of invoice. Invoices will be issued on the fifteenth (15th) day of each month covering the Technical Services performed in the previous month.
- D. In any instance where Purchaser is unable to return components to Siemens for fitting or for coordination with other assemblies by the specific date agreed to in the Agreement, Siemens reserves the right to invoice Purchaser for work performed to date and either ship the components to Purchaser in their existing state or hold the components in storage at Purchaser's risk and expense. That portion of the work which is to be performed by Siemens at a later date will be performed as a Purchaser requested change under Article 19 - Changes.
- E. If shipments are delayed by Purchaser, then affected payments shall become due based on the date Siemens is prepared to make shipment.
- F. Any past due amounts shall, without prejudice to the right of Siemens to payment when due, bear interest at a floating rate equivalent to one-twelfth (1/12) of the per annum prime rate charged by JP Morgan Chase Bank, New York, New York, U.S.A., as such prime rate is published on the first banking day following the date payment is due, plus an additional one-half of one percent (0.5%), payable each month or portion thereof that payment is delayed. If payments are not made when due, then Siemens may, upon fifteen (15) days written notice and at its option, suspend all further work hereunder. Resumption of work thereafter is contingent upon correction of the payments deficiency. The schedule for the resumed work will be established by Siemens based on its then current work load and the availability of other resources. All Siemens expenses associated with any such suspension shall be for the account of Purchaser.
- G. If there exists a good faith dispute over the amounts to be paid and provided that Purchaser has notified Siemens in writing that such dispute exists, then Purchaser shall pay the undisputed amount. Thereafter, the disputed portion may be held in abeyance until resolution of the matter with that portion, together with the interest charge specified in F above, due thirty

specified in F above, due thirty (30) days after said resolution.

5. Delivery, Title and Risk of Loss or Damage

Delivery of each component of Equipment shall be made when said component is placed Free On Board carrier at the manufacturing plant. Subject to the provisions of the immediately following paragraph, legal and equitable title and risk of loss or damage to each such component of the Equipment shall pass from Siemens to Purchaser upon Delivery.

Title to and right of possession of any Software licensed hereunder, without legal process, shall remain with Siemens or its licensor, except that Purchaser shall have the right of possession and use of the Software provided hereunder for the terms of the corresponding license provided herein, so long as no breach of this Agreement has been made by Purchaser and all payments due to Siemens have been paid. Nothing in this agreement shall be construed as giving Purchaser any right to sell, assign, lease or in any other manner transfer or encumber Siemens' or its licensor's ownership of the Software, or as limiting Siemens or its licensor from using and licensing the Software to any third party.

Purchaser's Material sent to Siemens for Shop Repair and Modernization or Purchaser's Material or Equipment being returned pursuant to the provisions of the Warranty or Patents Articles of the Agreement will be delivered by Purchaser at its expense to the repair or manufacturing plant designated by Siemens where the work is to be performed. Title to such Equipment or Purchaser's Material will remain at all times with Purchaser. Risk of loss or damage to such Equipment or Purchaser's Material will transfer to Siemens upon its arrival on board the carrier at the repair or manufacturing plant and will transfer back to Purchaser upon its delivery to the carrier at the repair or manufacturing plant after the work is performed. Delivery of Purchaser's Material shall be made when the item is placed Free On Board carrier at the repair or manufacturing plant after the work is performed. When repair work is performed by Siemens at the Site, title and risk of loss or damage to the Equipment, to Purchaser's Material and to other property shall remain at all times with Purchaser.

6. Transportation

A. Transportation and Storage

When items of Equipment are ready for shipment or Shop Repair and Modernization is completed on Purchaser's Material, Siemens will (i) in the absence of shipping instructions, inform Purchaser of pending shipment and Purchaser will thereafter promptly give shipping instructions to Siemens; (ii) determine the method of transportation and the routing of the shipment and; (iii) ship the Equipment or Purchaser's Material freight prepaid and included in the price by Normal Carriage:

- (1) to Purchaser's designated destination when shipped by highway transport, or
- (2) to the rail siding nearest Purchaser's designated destination when shipped by rail transport.

In the event that Purchaser fails to provide Siemens with timely shipping instructions, Siemens will ship the Equipment or Purchaser's Material by Normal Carriage to Purchaser or to a suitable storage location selected by Siemens.

If the Equipment or Purchaser's Material is to be placed into storage in accordance with the above, then delivery of the Equipment or Purchaser's Material shall be deemed to have occurred for all purposes hereunder at the time the Equipment or Purchaser's Material is placed on the carrier for shipment to the storage location. If it is to be stored in the facility where manufactured, or where Shop Repair and Modernization is performed, then delivery shall be deemed to have occurred when the Equipment or Purchaser's Material (i) is placed Free On Board the common carrier for shipment to the storage location or (ii) is placed into the storage location when stored in a Siemens manufacturing facility.

In the event of storage pursuant to the preceding paragraph, all expenses thereby incurred by Siemens, such as preparation for and placement into storage, handling, freight, storage, inspection, preservation, taxes and insurance, shall be payable by Purchaser upon submission of an invoice(s) prepared by Siemens. When conditions permit and upon payment to Siemens of any additional amounts due hereunder, Purchaser shall arrange, at its expense, for removing the Equipment or Purchaser's Material from storage.

B. Normal Carriage

Most Equipment and Purchaser's Material can be shipped by highway transport. Siemens shall make every reasonable effort to ship by highway transport unless rail transport is requested by Purchaser. Normal Carriage means carriage either by highway transport (provided this does not necessitate use of specialized riggers trailers) or by rail transport, on normal routing from the repair facility or factory to (i) Purchaser's designated destination when shipped by highway transport, (ii) the rail siding nearest Purchaser's designated destination when shipped by rail transport or (iii) the port of export selected by Siemens in the forty-eight (48) continental United States if Purchaser's designated destination is outside the United States or is in Alaska or Hawaii.

C. Special Transportation and Services

Purchaser agrees to pay or to reimburse any transportation charges in excess of regular charges for Normal Carriage, in-

cluding, but not limited to, excess charges for special routing, special trains, specialized riggers trailers, lighterage, barging and air transport.

Purchaser also agrees to pay or to reimburse any cost incurred or charge resulting from special services performed in connection with the transportation of the Equipment or Purchaser's Material, including, but not limited to, the construction and repair of transportation and handling facilities, bridges and roadways, of whatever kind and wherever located.

7. Warranty

A. Equipment Warranty and Exclusive Remedy (excluding Software)

Siemens warrants that the Equipment (excluding Software) furnished to Purchaser, including any part repaired or replaced by Siemens during the Equipment Warranty Period, will be free of defects in workmanship and materials until one (1) year from the date of shipment of the original Equipment (excluding Software) to Purchaser (the "Equipment Warranty Period").

If during the Equipment Warranty Period Siemens is promptly notified in writing that the Equipment (excluding Software) fails to conform to the Equipment Warranty, then Siemens will at its option and expense correct such nonconformity by repair or replacement.

B. Software Warranty and Exclusive Remedy

If Equipment includes Software, then Siemens also warrants that the Software will be free of errors which materially affect its utility until one (1) year from the date of shipment of the Software to Purchaser. If during this warranty period, Siemens is promptly notified in writing that the Software fails to conform to its warranty, then Siemens will at its option and expense correct the nonconformity by correction in the medium originally supplied or by providing a procedure to correct material errors. Third party Software shall be warranted on a pass through basis in the same manner and for the same period and extent provided to Siemens by the firm which supplied said third party software.

C. Shop Repair and Modernization Warranty and Exclusive Remedy

Siemens warrants that the work performed by Siemens on Purchaser's Material, including any materials supplied by Siemens in connection therewith (hereinafter referred to as the "Work"), will be free of defects in workmanship and materials until one (1) year from the date of shipment of the original item of Purchaser's Material that has undergone Shop Repair and Modernization (the "Shop Repair and Modernization Warranty Period"). If during the Shop Repair and Modernization Warranty Period, Siemens is promptly notified in writing that the Work fails to

conform to the Shop Repair and Modernization Warranty, then Siemens will at its option and expense correct such nonconformity by repair or replacement of the defective portion of the Work. If repair or replacement is impracticable, then Siemens will refund the amount of the compensation paid to Siemens by Purchaser for such nonconforming portion of the Work.

D. Technical Services Warranty and Exclusive Remedy

Siemens warrants for each item of Technical Services that (i) the advice, recommendations and performance of its personnel will reflect competent professional knowledge and judgment and (ii) the technical information, reports and analyses transmitted by Siemens in connection therewith will reflect competent professional knowledge and judgment, beginning with the start of the item of Technical Services and ending one (1) year after completion of said item of Technical Services by Siemens (hereinafter the "Technical Services Warranty Period").

If during the Technical Services Warranty Period Siemens is promptly notified in writing that any portion of the Technical Services fails to conform to the Technical Services Warranty, then Siemens will promptly reperform such nonconforming portion of the Technical Services. If reperformance is impracticable, then Siemens will refund the amount of the compensation paid to Siemens for such nonconforming portion of the Technical Services.

E. Title

Siemens warrants that the Equipment, when delivered, shall not be subject to any encumbrances, liens, security interests, or other defects in title. In the event of any failure to conform to this warranty, Siemens, upon prompt written notice of such failure, shall defend the title to the Equipment.

F. Warranty Conditions

The warranties and remedies set forth in this Article 7 - Warranty are conditioned upon:

- (1) Purchaser's receipt, handling, storage and maintenance during any storage, installation, testing, operation and maintenance, including tasks incident thereto, of the Equipment, Purchaser's Material or Purchaser's equipment for which Siemens has provided Technical Services, in accordance with the recommendations of Siemens to the extent applicable or, in the absence of such recommendations or to the extent not applicable, in accordance with the generally accepted practices of the United States electric power industry. In addition, such Equipment, Purchaser's Material or Purchaser's equipment shall not have been operated in excess of limitations specified in writing by Siemens and not have

been subjected to accident, alteration, abuse or misuse; and

- (2) For all warranty work, where disassembly, removal, replacement and reinstallation of equipment, materials, structures or Purchaser's Material was not part of the Siemens scope of work under the Agreement; Purchaser providing, without cost to Siemens, access to the nonconformity by disassembling, removing, replacing and re-installing any equipment, materials, structures or Purchaser's Material to the extent necessary to permit Siemens to perform its warranty obligations.
- (3) All warranty work being performed on a single-shift straight-time basis, Monday through Friday. In the event Purchaser requests correction of warranty items on an overtime or multiple shift schedule, the premium portion of such overtime or multiple shift shall be to Purchaser's account.
- (4) Purchaser, without cost to Siemens, making its Site facilities and personnel (to the extent consistent with personnel job classifications) available to assist Siemens in the performance of its warranty obligations.
- (5) The Purchaser, with respect to Paragraph 4 above, reimbursing Siemens for all costs incurred in the transportation of personnel and defective, repaired or replacement parts to and from the Site.
- (6) The Equipment or Purchaser's Material must be returned with complete identification in accordance with instructions furnished by Siemens. In no event will Siemens be responsible for Equipment or Purchaser's Material returned without proper authorization and identification.

Prior to the return of any Equipment or Purchaser's Material to Siemens, the Purchaser must obtain authorization and shipping instructions from Siemens. Siemens reserves the right to reject any Hazardous Material.

G. Additional Conditions Applicable to the Sale of Monitoring Devices

Monitoring devices supplied by Siemens pursuant to the Agreement, such as but not limited to, monitors for generator condition and for steam chemistry, are intended to enhance the availability and reliability of turbine generators. These monitors normally represent state-of-the-art technology which enables users to better diagnose and control conditions within the turbine generator. While such monitors follow conditions and trends within the equipment and thereby permit earlier detection of harmful conditions, Siemens does not warrant or represent that use of

such monitors will prevent failure or detect all harmful conditions in the turbine generator and Purchaser acknowledges the same.

H. Additional Conditions Applicable to Diagnostic and Non-Destructive Examination and Testing

Diagnostic and non-destructive examination and testing techniques employed by Siemens represent the current Siemens techniques for detecting defects in (including indications of cracking) and evaluation of the condition of Purchaser's Material. However even these current techniques, when performed according to the standards detailed above in this warranty provision, may not detect all of the defects in Purchaser's Material (including indications of cracking) and shall not constitute a breach by Siemens of its warranty obligations. Purchaser acknowledges that Siemens will not be responsible for the consequences of undetected defects including undetected cracks.

I. Purchaser Supplied Third Party Parts and Materials

- (1) Purchaser warrants that any and all Third Party Parts which may be the subject of any performance under this Agreement shall be (a) fully compatible with the corresponding part, component, equipment or material of the Original Equipment Manufacturer ("OEM") in terms of form, fit, and function; (b) timely provided to Siemens hereunder; and (c) capable of installation in the same manner and within the same time as the corresponding OEM part, component, equipment, or material.
- (2) Purchaser assumes the entire liability and risk arising out of or resulting from Third Party Parts. The warranties and remedies set forth in paragraphs A through D above of this Article 7 - Warranty do not apply to Third Party Parts or performance relating to Third Party Parts, and SIEMENS DISCLAIMS ANY AND ALL WARRANTIES AND REMEDIES, WHETHER STATUTORY, EXPRESS OR IMPLIED (INCLUDING ALL WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, AND ALL WARRANTIES ARISING FROM COURSE OF DEALING OR USAGE OF TRADE), OR OTHERWISE, FOR OR WITH RESPECT TO THIRD PARTY PARTS OR SERVICES ON THIRD PARTY PARTS.

J. Exclusivity of Warranties and Remedies.
THE WARRANTIES PROVIDED BY SIEMENS AS SET FORTH IN THIS ARTICLE ARE EXCLUSIVE AND ARE IN LIEU OF ALL OTHER WARRANTIES WHETHER STATUTORY, EXPRESS, OR IMPLIED (INCLUDING ALL WARRANT-

(INCLUDING ALL WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, AND ALL WARRANTIES ARISING FROM COURSE OF DEALING OR USAGE OF TRADE). Correction of nonconformities in the manner and for the period of time provided above shall constitute Siemens' sole liability and Purchaser's exclusive remedy for defective or nonconforming Equipment, Software, Shop Repair and Modernization or Technical Services whether claims of the Purchaser are based in contract, in tort (including negligence and strict liability), or otherwise.

8. Taxes

The price paid or to be paid to Siemens under the Agreement does not include any federal (other than federal income taxes imposed on Siemens), state, or local property, license, privilege, sales, use, excise, value added, gross receipts, or similar taxes now or hereafter applicable to, measured by, or imposed upon or with respect to the transaction, the property, its sale, its value or its use, or any services performed in connection therewith. Purchaser agrees to pay or reimburse Siemens for any such taxes which Siemens or its Suppliers are required to pay.

9. Additional Conditions Applicable to Nuclear Installations

In the event the Technical Services, the Shop Repair and Modernization or the Equipment provided hereunder is to be performed or utilized at or in any manner in connection with a nuclear installation, the following conditions shall apply:

A. In the event the Equipment or Purchaser's Material shall be utilized at or in connection with a nuclear installation, Purchaser shall at its own cost, prior to the arrival of nuclear fuel at the Site, secure and thereafter maintain in force, protection against liability arising out of or resulting from a "Nuclear Incident" (as defined in the Atomic Energy Act of 1954, as amended) as required by the Nuclear Regulatory Commission; provided, however, that if the nuclear liability protection system in effect on the date of the Agreement expires or is repealed, changed, or modified, Purchaser will, without cost to Siemens, maintain liability protection through government indemnity, limitation of liability, and/or liability insurance which will not result in a material impairment of the protection afforded Siemens and its Suppliers by such nuclear liability protection system which is in effect as of the date of the Agreement, taking into account the availability of insurance, customary practice in the United States electric utility industry for plants of similar size and character, and other relevant factors in light of then existing conditions. In any event, the protection provided pursuant to this provision shall remain in effect until the decommissioning of the nuclear plant.

B. Neither Siemens nor its Suppliers shall be liable for any loss of, damage to, or loss of use of property or equipment wherever located, arising out of or resulting from a Nuclear Incident. Purchaser waives and, to the extent permitted by its insurers, will require its insurers to waive all rights of recovery against Siemens and its Suppliers on account of any such loss, damage, or loss of use. All such waivers shall be in a form acceptable to Siemens.

In the event Purchaser recovers damages from a third party based on losses at the plant site resulting from the hazardous properties of source, special nuclear or byproduct material (as defined in the Atomic Energy Act of 1954, as amended), Purchaser shall indemnify Siemens and its Suppliers against claims by such third party which are based on Purchaser's recovery of such damages. In addition, Purchaser waives and will require its insurers to waive all rights of recovery against Siemens and its Suppliers, for any and all costs or expenses arising out of or in connection with the investigation and settlement of claims or the defense of suits for damage resulting from the nuclear energy hazard.

C. Purchaser will indemnify Siemens and its Suppliers for any liability arising out of loss of or damage to property at the Site which arises out of a Nuclear Incident. In addition, Purchaser shall obtain for the benefit of Siemens and its Suppliers, protection against liability for, arising out of, or resulting from damage to any property or equipment located at the Site which is

used or intended for use by Purchaser in connection with the operation of the nuclear power plant (including but not limited to fuel) and which is owned by parties other than Purchaser.

D. Purchaser shall, without cost to Siemens, perform any required decontamination and health physics necessary for, related to or resulting from the work. This includes but is not limited to decontamination of any Siemens equipment or tools used in the performance thereof. Purchaser shall provide documentation demonstrating that components or parts being returned to Siemens after such decontamination meet the requirements designated for unrestricted release as set forth in the United States Code of Federal Regulations, Title 10, Part 20, as amended (10 CFR 20).

10. Force Majeure

A. Siemens will not be liable for failure to perform any obligation or delay in performance resulting from or contributed to by any cause beyond the reasonable control of Siemens or its Suppliers or from any act of God; act of civil or military authority; act of war whether declared or undeclared; act (including delay, failure to act, or priority) of any governmental authority or Purchaser; act of terrorism; civil disturbance; insurrection or riot; sabotage; fire; inclement weather conditions; earthquake; flood; strike; work stoppage or other labor difficulty; embargo; car shortage; fuel or energy shortage; major equipment breakdown; delay or accident in shipping or transportation; or failure or delay beyond its reasonable control in obtaining necessary manufacturing facilities, labor, or materials from usual sources.

B. In the event of a delay in performance excusable under this Article 10 - Force Majeure, the date of Delivery or time for performance of the work will be extended by a period of time reasonably necessary to overcome the effect of such delay, and Purchaser will reimburse Siemens for its additional costs and expenses resulting from the delay.

11. Termination

Purchaser may terminate the Agreement upon thirty (30) days prior written notice to Siemens and payment of reasonable and proper termination charges. Should the work be delayed for a period in excess of six (6) months, at the option of Siemens, the Agreement may be deemed to have been terminated by Purchaser. Termination charges in either event will include a portion of the purchase price reflecting the amount of work performed, man hours expended and materials acquired at the date of termination. These charges will also include the expenses associated with the termination, including, but not limited to, any additional expense incurred by reason of termination or cancellation of agreements between Siemens and its Suppliers, and any applicable cost allocated in contemplation of

performance. Siemens will make every reasonable effort to minimize such termination charges. All termination charges shall be due and payable thirty (30) days from the date of the Siemens invoice.

Siemens shall have the right to terminate the Agreement immediately in the event of (a) a material breach of the Agreement by the Purchaser; or (b) Purchaser's bankruptcy, insolvency, liquidation or similar financial condition. Siemens shall have the right to suspend performance or, at its option, terminate the Agreement for Purchaser's failure to make any payment when due, except to the extent that Purchaser has provided a good faith reason in writing for any such failure. In addition, if at any time during the performance of its work under the Agreement Siemens reasonably determines that the Purchaser's financial condition may render it insolvent or unable to make future payments under the Agreement, then Siemens shall be entitled to one or more of the following at Siemens' option: (i) adequate written assurances, supported by documentation, of Purchaser's ability to pay; (ii) payment in advance for any further work; (iii) future payments against an irrevocable Letter of Credit on terms, and from an issuing bank, acceptable to Siemens; (iv) other payment security or credit support mutually agreed by Purchaser and Siemens.

12. Intellectual Property

A. Siemens will, at its own expense, defend or at its option settle any suit or proceeding brought against Purchaser so far as based on an allegation that any Technical Services, work on Purchaser's Material, Equipment (including parts thereof), or use thereof for its intended purpose, constitutes an infringement of any United States patent, copyright or misappropriation of a third party's trade secret, if Siemens is notified promptly in writing and given authority, information, and assistance in a timely manner for the defense of said suit or proceeding. Siemens will pay the damages and costs awarded in any suit or proceeding so defended. Siemens will not be responsible for any settlement of such suit or proceeding made without its prior written consent. In case the Technical Services, work on Purchaser's Material, the Equipment, or any part thereof, as a result of any suit or proceeding so defended is held to constitute infringement of any United States patent, copyright or misappropriation of a third party's trade secret, or its use by Purchaser is enjoined, Siemens will, at its option and its own expense, either: (a) procure for Purchaser the right to continue using the Equipment or Purchaser's Material; (b) replace it with substantially equivalent non-infringing equipment; or (c) modify it so it becomes non-infringing.

B. Siemens will have no duty or obligation to Purchaser under this Article 12 - Intellectual Property to the extent that the Technical Services or work on Purchaser's Material or Equipment is (a) supplied accord-

rial or Equipment is (a) supplied according to Purchaser's design or instructions wherein compliance therewith has caused Siemens to deviate from its normal course of performance, (b) modified by Purchaser or its contractors after delivery by Siemens, or (c) combined by Purchaser or its contractors with items not furnished hereunder. In addition, if by reason of such design, instruction, modification or combination, a suit, claim or proceeding is brought against Siemens, Purchaser shall protect Siemens in the same manner and to the same extent that Siemens has agreed to protect Purchaser under the provisions of Paragraph A above.

C. THIS ARTICLE IS AN EXCLUSIVE STATEMENT OF ALL THE DUTIES OF SIEMENS RELATING TO PATENTS, COPYRIGHTS OR TRADE SECRETS AND DIRECT OR CONTRIBUTORY INFRINGEMENT THEREOF AND OF ALL THE REMEDIES OF PURCHASER RELATING TO ANY CLAIMS, SUITS, OR PROCEEDINGS INVOLVING PATENTS, COPYRIGHTS OR TRADE SECRETS. Compliance with this Article 12 – Intellectual Property as provided herein shall constitute fulfillment of all liabilities of the parties under the Agreement with respect to patents, copyrights or trade secrets.

13. Proprietary Information

A. Siemens may have a proprietary interest in information that may be furnished pursuant to the Agreement. Purchaser will keep in confidence and will not disclose any such information which is specifically designated as being proprietary to Siemens, other than to Purchaser's employees, without the prior written permission of Siemens or use any such information for other than the purpose for which it is supplied. The provisions of this paragraph shall not apply to information, notwithstanding any confidential designation thereof, which is known to Purchaser without any restriction as to disclosure or use at the time it is furnished, which is or becomes generally available to the public without breach of any agreement, or which is received from a third party, including Purchaser's subsidiaries or affiliates, without limitation or restriction on said third party or Purchaser at the time of disclosure.

B. Siemens also has a proprietary interest in (i) the quotation, (ii) the Agreement and (iii) the processes and procedures used by its personnel in performance of the Agreement. Accordingly, neither the quotation, the Agreement or such processes and procedures will be disclosed or viewed in whole or in part to third parties without the prior written permission of Siemens.

In addition, Siemens has a proprietary interest in the manner of performance of the work, including but not limited to the

know-how, processes, methods and techniques employed by Siemens in connection therewith. The observing or recording of the work or any part thereof, whether by photographic, video or audio devices or in any other manner is prohibited. In the event any such prohibited observation or recording occurs, Siemens may (in addition to any other legal or equitable rights and remedies) stop the work until Siemens has satisfied itself that the prohibited conduct has ceased, and in such event (a) the date of delivery or time for performance will be extended by a period of time which Siemens determines necessary and (b) Purchaser will reimburse Siemens for Siemens' and its Suppliers' additional costs and expenses resulting from such delay, including but not limited to any for demobilization or remobilization.

C. Without limiting its obligations pursuant to paragraphs A and B above, Purchaser agrees not to reverse engineer, modify, improve, or make derivative works of Siemens' confidential information or intellectual property. Purchaser further agrees not to seek any intellectual property rights directly or indirectly based in whole or part on Siemens' confidential information or intellectual property without Siemens' prior written consent. Purchaser further agrees that if it obtains any such intellectual property rights, it has acted or will act as an agent for the benefit of Siemens for the limited purpose of obtaining and securing such intellectual property rights and will upon written direction from Siemens assign the same to Siemens.

D. Without limiting its obligations pursuant to paragraphs A and B above, Purchaser agrees not to reverse engineer, modify, improve, or make derivative works of the Equipment or Shop Repair and Modernization. Purchaser further agrees not to seek any intellectual property rights directly or indirectly based in whole or in part on the Equipment or Shop Repair and Modernization without Siemens' prior written consent. Purchaser further agrees that if it obtains any such intellectual property rights, it has acted or will act as an agent for the benefit of Siemens for the limited purpose of obtaining and securing such intellectual property rights and will upon written direction from Siemens assign the same to Siemens.

E. Purchaser shall indemnify and hold Siemens harmless from and against any loss, damage or liability arising or resulting from non-compliance with the provisions of this Article 13 – Proprietary Information.

F. When required by appropriate governmental authority, including governmental regulations, applicable law or regulation, by order of a court of competent jurisdiction or lawful subpoena (hereinafter collectively referred to as "Governmental Authority"), Purchaser may disclose such proprietary information to such Governmental Authority; provided, however, that prior to

ity; provided, however, that prior to making any such disclosure, Purchaser will: (a) provide Siemens with timely advance written notice of the proprietary information requested by such Governmental Authority and Purchaser's intent to so disclose; (b) minimize the amount of proprietary information to be provided consonant with the interests of Siemens and its Suppliers and the requirements of the Governmental Authority involved; and (c) make every reasonable effort (which shall include participation by Siemens in discussions with the Governmental Authority involved) to secure confidential treatment and minimization of the proprietary information to be provided. In the event that efforts to secure confidential treatment are unsuccessful, Siemens shall have the prior right to revise such information to minimize the disclosure of such information in a manner consonant with its interests and the requirements of the Governmental Authority involved.

14. Limitation of Liability

PURCHASER EXPRESSLY AGREES THAT NEITHER SIEMENS NOR ITS SUPPLIERS WILL UNDER ANY CIRCUMSTANCES BE LIABLE UNDER ANY THEORY OF RECOVERY, WHETHER BASED IN CONTRACT, IN TORT (INCLUDING NEGLIGENCE AND STRICT LIABILITY), UNDER WARRANTY, OR OTHERWISE, FOR: ANY INDIRECT, SPECIAL, INCIDENTAL OR CONSEQUENTIAL LOSS OR DAMAGE OR PUNITIVE DAMAGES WHATSOEVER; DAMAGE TO OR LOSS OF PROPERTY OR EQUIPMENT; LOSS OF PROFITS OR REVENUE; LOSS OF USE OF PURCHASER'S MATERIAL, EQUIPMENT OR POWER SYSTEM; LOSS OF DATA; INCREASED COSTS OF ANY KIND, INCLUDING BUT NOT LIMITED TO CAPITAL COST, FUEL COST AND COST OF PURCHASED OR REPLACEMENT POWER; OR CLAIMS OF CUSTOMERS OF PURCHASER.

PURCHASER EXPRESSLY AGREES THAT THE REMEDIES PROVIDED IT HEREIN ARE EXCLUSIVE AND THAT UNDER NO CIRCUMSTANCES SHALL THE TOTAL AGGREGATE LIABILITY OF SIEMENS UNDER ANY THEORY OF RECOVERY, WHETHER BASED IN CONTRACT, IN TORT (INCLUDING NEGLIGENCE AND STRICT LIABILITY), UNDER WARRANTY, OR OTHERWISE, EXCEED THE LESSER OF ONE MILLION DOLLARS (\$1,000,000) OR THE TOTAL PRICE PAID TO SIEMENS UNDER THIS AGREEMENT.

THE PROVISIONS OF THIS ARTICLE SHALL PREVAIL OVER ANY CONFLICTING OR INCONSISTENT PROVISIONS SET FORTH ELSEWHERE IN THIS AGREEMENT.

15. Transfer

A. Prior to the transfer to another party of any Equipment, Purchaser's Material, work product furnished hereunder by Siemens

or its Suppliers, or the transfer of any interest in said Equipment, Purchaser's Material or work product, or the facility in which or the site on which said Equipment, Purchaser's Material or work product is or will be installed or furnished, Purchaser shall obtain for Siemens and its Suppliers written assurances from the transferee of limitation of and protection against liability following the proposed transfer at least equivalent to that afforded Siemens and its Suppliers under the Agreement.

- B. If Purchaser is not the sole owner of the Equipment, Purchaser's Material, work product furnished hereunder by Siemens or its Suppliers, or the facility in which or the site on which the Equipment, Purchaser's Material or work product is or will be installed or furnished, Purchaser represents and warrants that it has (and will maintain) written assurances from each and every other owner of limitation of and protection against liability of Siemens and its Suppliers with respect to each and every such other owner at least equivalent to that afforded Siemens and its Suppliers under the Agreement.
- C. Transfer contrary to the provisions of paragraph 15.A. above or breach of paragraph 15.B. above, shall make Purchaser the indemnitor of Siemens and its Suppliers against any liabilities incurred by Siemens and its Suppliers in excess of those that would have been incurred had no such transfer or breach, as the case may be, taken place.

16. Software License

Siemens grants to Purchaser a nonexclusive, nontransferable license to utilize any Siemens Software furnished hereunder solely for Purchaser's internal use in connection with the Siemens equipment with or for which it is supplied or in which such Software is incorporated. All title and ownership of the Siemens Software, including, without limitation, the copyright to such Software, shall remain exclusively with Siemens. Purchaser may make one backup copy of the Software for the sole purpose of replacement of a worn, impaired, damaged, or destroyed original copy. Purchaser shall not itself, or with the assistance of others, reverse compile, reverse engineer, or in any other manner attempt to decipher in whole or in part the logic or coherence of any Software licensed hereunder. Third party Software provided by Siemens may be subject to a separate license agreement and/or registration requirements and limitations on copying and use.

17. Compliance with Laws

In the performance of work under the Agreement, Siemens and its Suppliers shall comply with all applicable provisions of Executive Order 11246, as amended, relating to equal opportunity and non-segregated facilities, the Fair Labor Standards Act of 1933 and the Occupational Safety and Health Act of 1970.

The price for such work is based on compliance by Siemens with these laws and requirements as they are in effect on the date of the offer submitted by Siemens (or the effective date of the Agreement if no offer is provided).

18. Export Law Compliance

Purchaser acknowledges that Siemens is required to comply with applicable export laws and regulations relating to the sale, exportation, transfer, assignment, disposal and usage of the Equipment, Shop Repair and Modernization, and Technical Services, or one or more of them, provided under the Contract, including any export license requirements. Purchaser agrees that such Equipment, Shop Repair and Modernization, and Technical Services, or one or more of them, shall not at any time directly or indirectly be used, exported, sold, transferred, assigned or otherwise disposed of in a manner which will result in non-compliance with such applicable export laws and regulations. It shall be a condition of the continuing performance by Siemens of its obligations hereunder that compliance with such export laws and regulations be maintained at all times.

19. Changes

Purchaser may request changes within the scope of the Agreement and, if accepted by Siemens, the price, performance, schedule and other pertinent provisions of the Agreement will be adjusted by mutual agreement of the parties prior to implementation of the change.

Expenses incurred by Siemens due to (i) delays, other than delays which are deemed to be within the reasonable control of Siemens, and (ii) changes in applicable laws and requirements after the date of the offer submitted by Siemens, as applicable, will be treated as changes to the scope of work and the Agreement will be adjusted as set forth in the previous paragraph.

Siemens may make a change(s) in the Equipment, the work on Purchaser's Material or the Technical Services without additional compensation from Purchaser if such change(s) does not adversely affect the warranties, the interface with Purchaser's equipment, materials and plant, the technical soundness of the work, the operability of the facility where the Equipment or Purchaser's Material is installed or for which Siemens is providing Technical Services under the Agreement, or the schedule.

20. Inspection by Purchaser

Purchaser shall have reasonable access to the areas of the Siemens plants where work under the Agreement is being performed to enable Purchaser to observe tests on the work. Siemens, if requested, will inform the Purchaser of those tests and procedures which can be witnessed. Should Purchaser elect to witness specific tests, Purchaser must so specify such requirement in ample time to permit Siemens to include said witness tests in the schedule. Siemens, if requested, will

advise Purchaser of the schedule of such tests. However, no rescheduling of tests or delays in manufacturing or shipment will be made to accommodate such inspection. Siemens will exercise reasonable efforts to secure similar rights with respect to the inspection of Purchaser's work at Supplier's premises.

21. Miscellaneous Provisions

- A. Shipment Dates
Shipment dates are the dates the Equipment or Purchaser's Material will be ready for shipment from the factory and are predicated on the prompt receipt by Siemens of all information necessary to commence and complete the work without delay or interruption. Should Purchaser request Siemens to ship any Equipment or Purchaser's Material prior to a date established based on Siemens standard lead time for such Equipment or Purchaser's Material, and provided Siemens accepts in writing the earlier date, an additional fee will be applied to cover the costs associated with such expedited shipment.
- B. Return of Equipment
Prior to the return of any Equipment to Siemens, the Purchaser must obtain written authorization and shipping instructions from Siemens. Siemens has the right, in its sole discretion, to permit or reject any such return. Siemens authorization to return any Equipment to Siemens shall not relieve Purchaser of its obligation to pay for such Equipment. Upon receipt, inspection, and acceptance of the Equipment by Siemens, Siemens will issue a credit memo in favor of Purchaser, less applicable restocking fees.
- C. Waivers
The failure of either party to enforce at any time any of the provisions of the Agreement or to require at any time performance by the other party of any of such provisions, shall in no way be construed to be a waiver of such provision, nor in any way to affect the validity of the Agreement or any parts thereof, or the right of either party thereafter to enforce each and every provision.
- D. Modification
No waiver, modification, or amendment of any of the provisions of the Agreement shall be binding unless it is in writing and signed by duly authorized representatives of both parties.
- E. Headings
The headings used in the Agreement are not to be construed as modifying, limiting or expanding in any way the scope or extent of the provisions in the Agreement.
- F. Assignment
The Agreement will not be assigned by Purchaser without the prior written consent of Siemens. Any purported assignment without such prior written consent shall be null and void.

G. Governing Law

The Agreement will be construed and interpreted in accordance with the laws of the State of Florida without application of its choice-of-law rules.

H. Asbestos and Thermal Insulation

The terms "Asbestos" and "Presumed Asbestos Containing Material" shall have the meanings set forth in United States Code of Federal Regulations Chapter 29 Section CFR 1926.1101 et seq., and "ACM" shall mean Asbestos and Asbestos containing materials.

(1) The Purchaser warrants and represents that, in any areas which may be accessed by Siemens or its Suppliers, any ACM which is or is contained in thermal insulation or sprayed-on surfacing material is conspicuously and specifically marked as ACM, and any other ACM is in a lawful condition.

(2) Prior to Siemens' commencement of Services at any Site:

(a) The Purchaser shall, at Purchaser's expense remove all thermal insulation, sprayed-on surfacing material, and/or Presumed Asbestos Containing Material (any or all of the foregoing hereinafter "PACM"), and ACM which may be disturbed during or removal of which is required for the performance of the Services; and,

(b) The Purchaser shall ensure that any areas where any activities involving the abatement or removal of PACM or ACM shall be conspicuously identified, posted and isolated, all as required by applicable law.

PURCHASER EXPRESSLY ACKNOWLEDGES AND AGREES THAT, IN PERFORMING THE SERVICES AND DISPATCHING EMPLOYEES TO WORK AREAS, SIEMENS IS RELYING UPON THE AGREEMENTS, WARRANTIES AND REPRESENTATIONS MADE BY PURCHASER IN THIS PARAGRAPH 21.G. Without limiting its other rights and remedies, Siemens (i) shall not be obligated to commence, and may stop any affected Work, unless and until it is fully satisfied that the Purchaser is in compliance with this paragraph

ance with this paragraph 21.G, and (ii) shall be entitled to an equitable adjustment in the schedule, price and other provisions of the Agreement resulting from Purchaser's non-compliance.

(3) In no event shall Siemens be obligated to install, disturb, handle, or remove any PACM except as specifically agreed in writing by Siemens and only after Siemens has been provided acceptable chemical analyses verifying that the same are not ACM.

(4) Siemens makes no representation that it is licensed to abate ACM. Notwithstanding anything set forth in the Agreement, Siemens shall be obligated to handle, remove, or reinstall generator wedges, packing, or high temperature gaskets (such materials herein "GPW") only if such activities are within the scope of the Services and only then to the extent that:

(a) (i) such activities would be classified as Class II or Class III activity under United States Code of Federal Regulations Chapter 29 Section CFR 1926.1101 et seq., (ii) such activities do not require a permit, license, or authorization, (iii) such activities are not likely to generate airborne asbestos fibers, and (iv) all such GPW is non-friable; or,

(b) Siemens is provided satisfactory written evidence that such GPW is not ACM.

In all other cases, such activities shall be Purchaser's responsibility and Siemens shall be entitled to an equitable adjustment in the schedule, price and other pertinent affected provisions of the Agreement should the same not be performed in a timely manner. The disposal of any GPW or scrap or waste material resulting from its disturbance or removal shall in all cases be the Purchaser's responsibility.

(5) Purchaser shall defend, indemnify and hold Siemens harmless against any and all claims, demands, damages, losses, liabilities, fines, penalties, costs or expenses, including without limitation any clean up or remedial

measures arising out of, connected with, or resulting from the Purchaser's failure to comply with the provisions of this Article 21.G.

I. Integration

The Agreement contains the entire agreement and understanding between the parties as to the subject matter of the Agreement, and merges and supersedes all prior agreements, commitments, representations, writings, and discussions between them. Neither of the parties will be bound by any prior obligations, conditions, warranties, or representations with respect to the subject matter of the Agreement.

J. Survival

The provisions entitled "Intellectual Property," "Additional Conditions Applicable to Nuclear Installations," "Proprietary Information," "Limitation of Liability," "Transfer," "Software License" and the second paragraph of "Delivery, Title and Risk of Loss or Damage" shall survive termination, expiration or cancellation of the Agreement.

K. Site Safety

Purchaser shall comply with all federal, state, and local safety regulations and standards applicable to the site and to the equipment on which Siemens will perform the work. Siemens shall not be obligated to commence or perform work unless Purchaser's site complies with all applicable safety requirements. In the event Purchaser's site safety is non-compliant, Siemens may suspend work until such time as Purchaser corrects the non-compliance. To the extent Siemens incurs additional time and expense as the result of Purchaser's non-compliance, Siemens shall be entitled to an equitable adjustment in the schedule, price and other affected provisions of the Agreement.

L. Purchaser's Insurance

If Purchaser procures property damage insurance applicable to occurrences at the Site, then Purchaser shall obtain a waiver by the insurers of all subrogation rights against Siemens.

Siemens Energy, Inc.
The Quadrangle
4400 Alafaya Trail
Orlando, Florida, U.S.A. 32826

Rothemuhle Air Heater Mod's & Upgrades

August 2010



BALCKE-DÜRR
ROTHEMÜHLE

Balcke-Durr Rothemuhle Offices



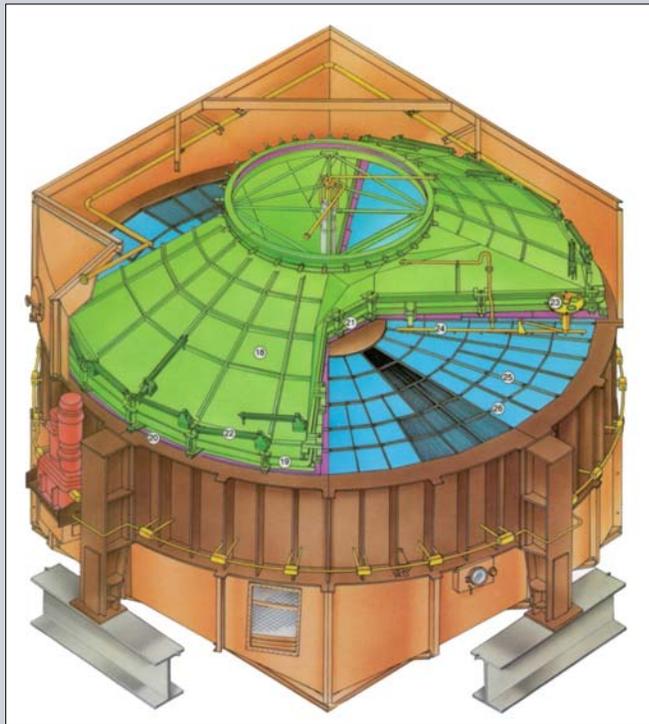
Employees:

Filters:		29
Service:		
- Erection:	4+45	49
- Comm.		7
HE:		
- Office:	38+5 T	43
- Production:	6+41+6 T	53
- QA	4	4
Supply Man.:	8+9+2 T	19
Commercial:		6
Apprentices:	3+9	12
Facility Man.:		6
Total:		228

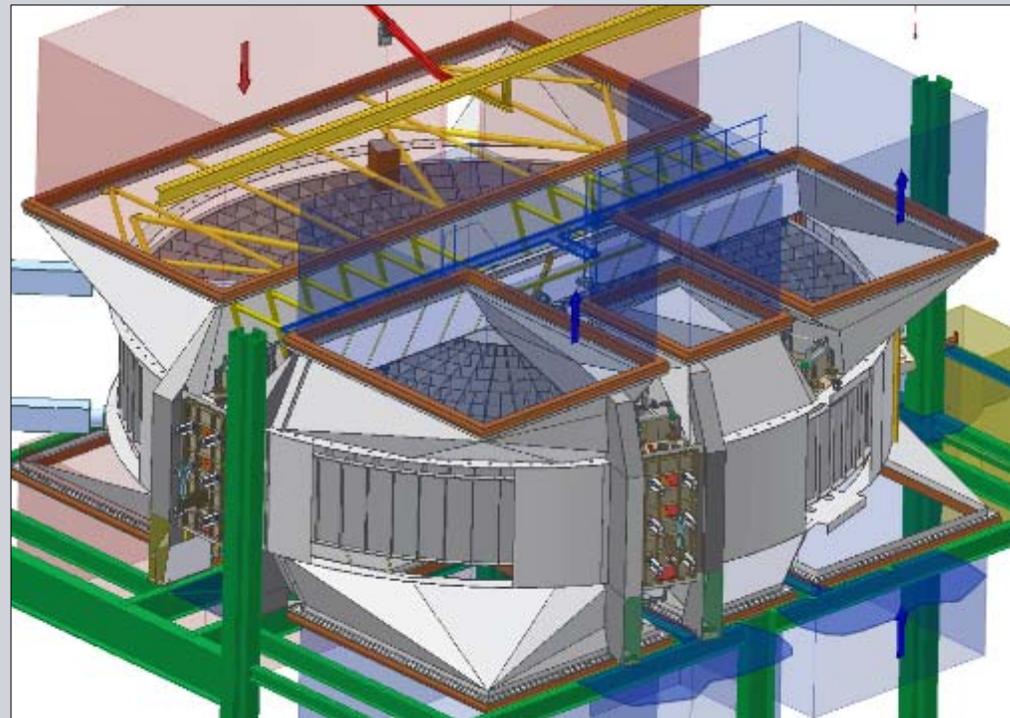
Niederlassung Wenden- Rothemühle, nahe Olpe- Biggensee



Air Heater Types



■ **Stator Type (Rothemühle)**



■ **Rotor Type (Ljungström)**



Manufacturing Capabilities

Key components :

- Manufacturing of Stator's and Rotor's
- Manufacturing of Heating elements
- Manufacturing of Sealing Systems
- Manufacturing of Sootblowers



Manufacturing of Stator & Rotors



Manufacturing of Casings & Transition Ducts

SIEMENS
SPX



BALCKE-DÜRR
ROTHEMÜHLE

Manufacturing of Rotating Hoods



Manufacturing of Heating Elements



**BALCKE-DÜRR
ROTHEMÜHLE**

Compact Air Heaters for Industrial Applications

SIEMENS
SPX

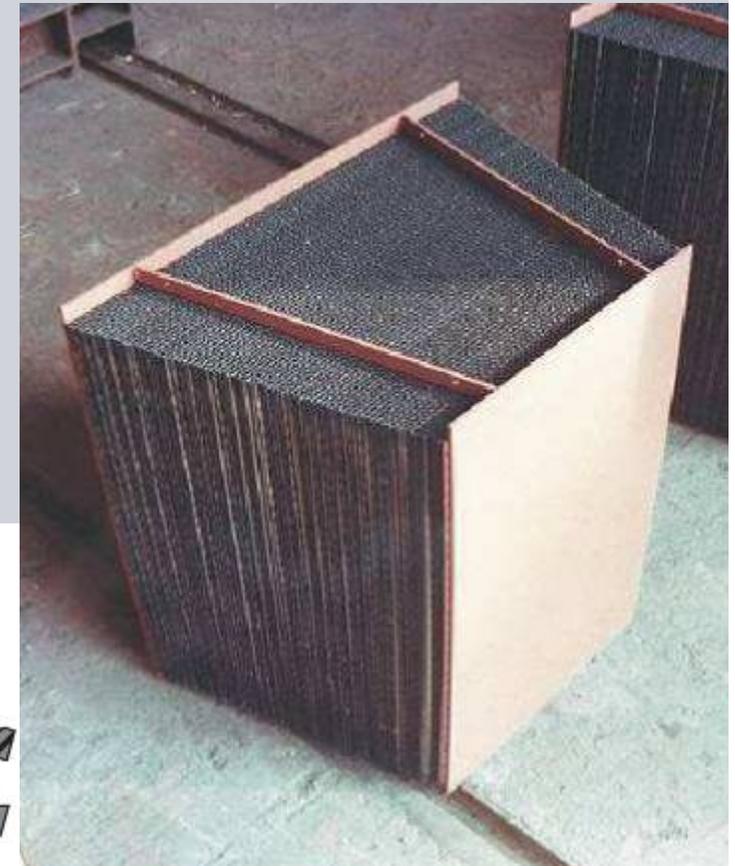
Diameters from 9 to 21 Ft



BALCKE-DÜRR
ROTHEMÜHLE

Basket Replacements

- Different Profiles Available based on Operating Data and Fuel Analysis Calculations
- Capable to Provide Enameled Elements



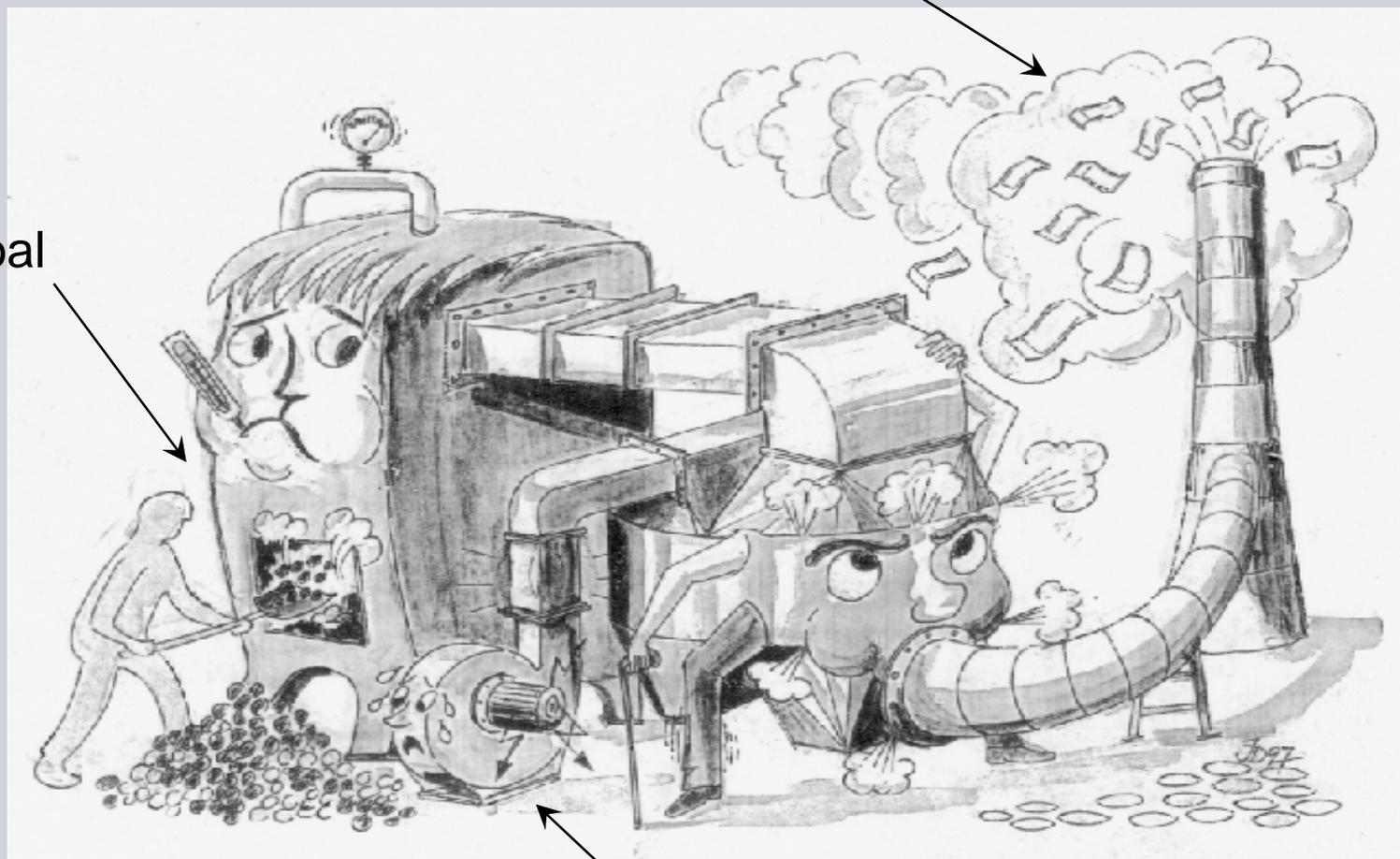
Air Heater Modernization...

WHY ???



3. Saving MONEY

1. Saving Coal



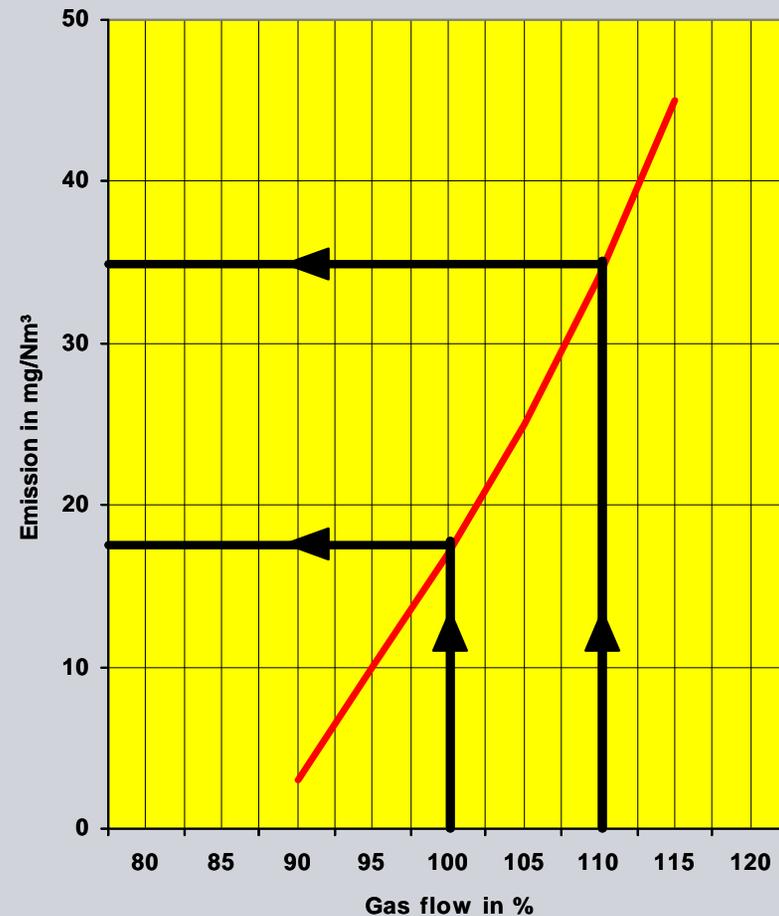
2. Saving Additional Energy

Refurbishment & Modernization

- Pressure drops → Less pressure drop with modern profiles
- Leakage → Lower Leakage with better sealing systems
- Heat Efficiency → Higher Heat efficiency with new basket and element design
- Wear → Less wear with better sealing systems

Leakage Impact on Dust Emissions

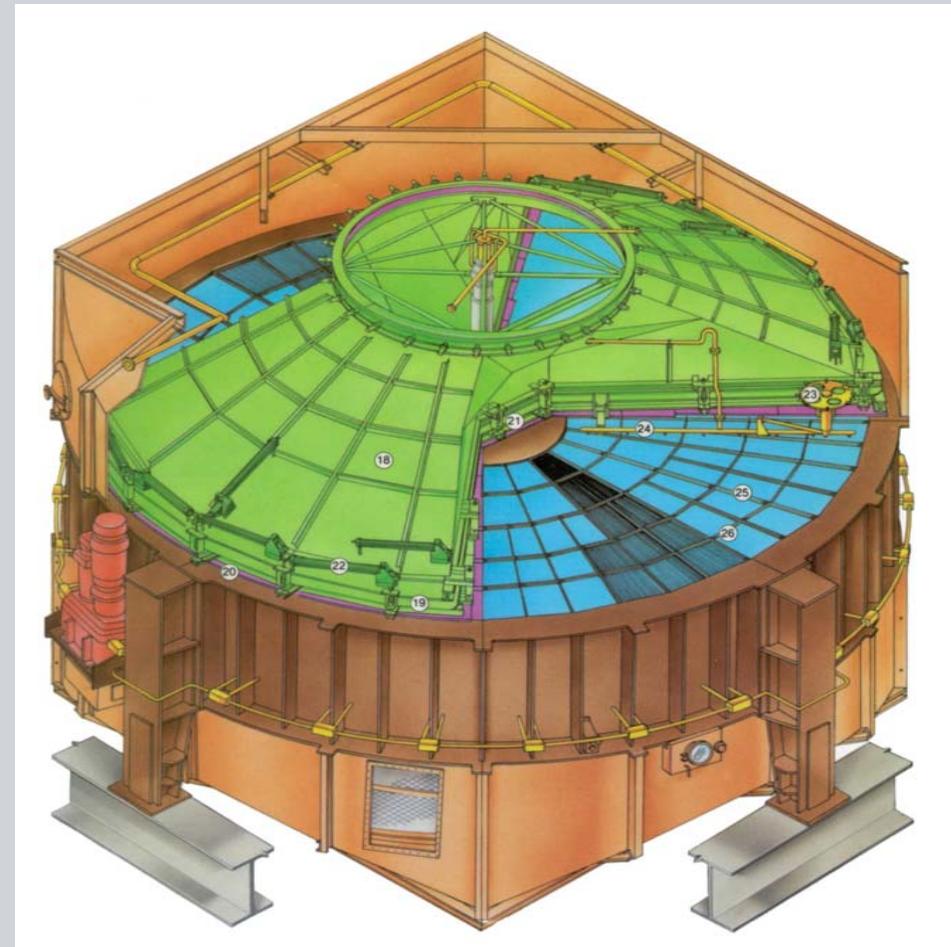
- Due to decrease of leakage the flue gas flow is reduced
- Lower flue gas velocity
- Higher efficiency of Precipitator
- Lower Dust emissions
- Saving of repair costs !



Modernization Opportunities for Stator Design Air Heaters

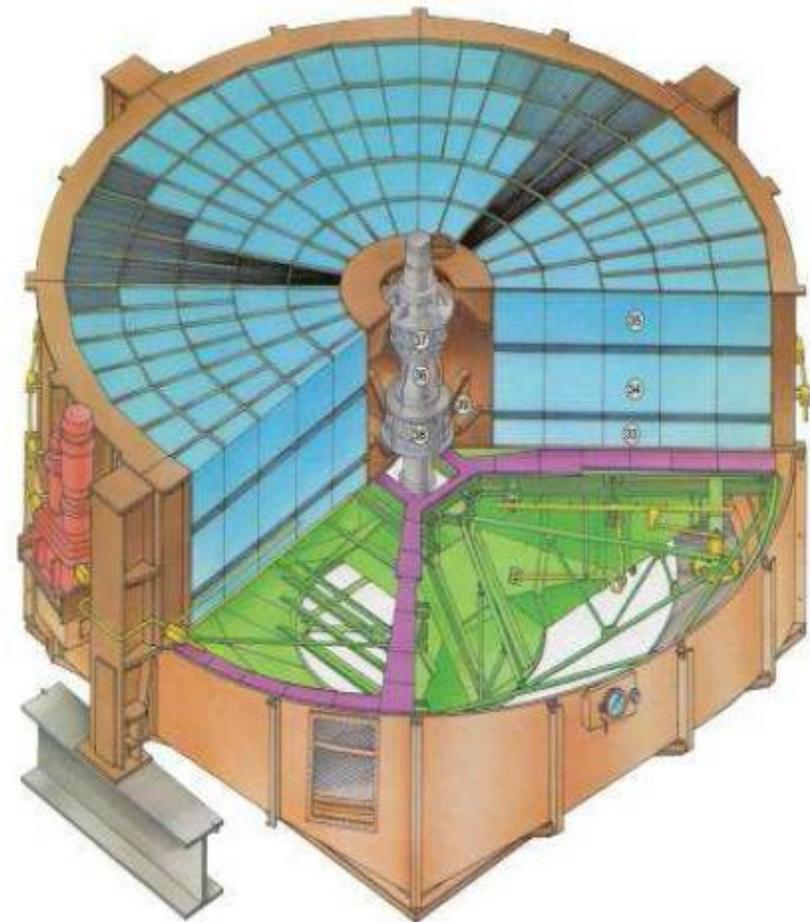
SIEMENS
SPX

- Modernization of Collar Seals
- Stator refurbishment
- Change of seal shoe shape
- Installation of electronic seal control systems
- Improvement of heating element efficiency
- Modernisation of soot blowers

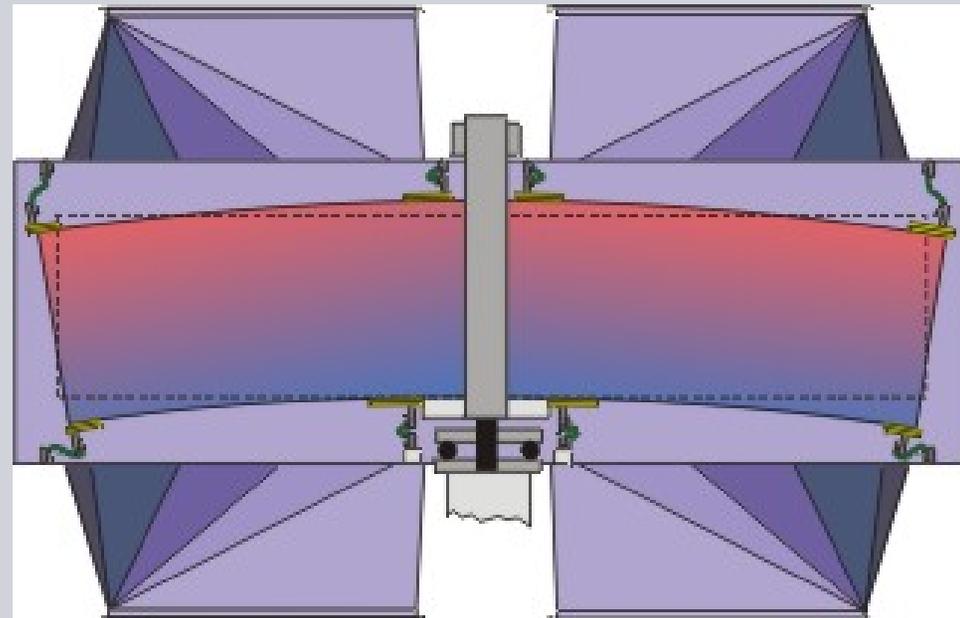


Stator Refurbishment

- Replacing the Radial & Cordial Walls by Removing Old Plate and Replacing with New Plate
- Modular Assembly of Pie Sections
- Leveling of Hot and Cold End Radial Walls
- Installation of New Stator Flanges & Core Plates
- Alignment of Shaft



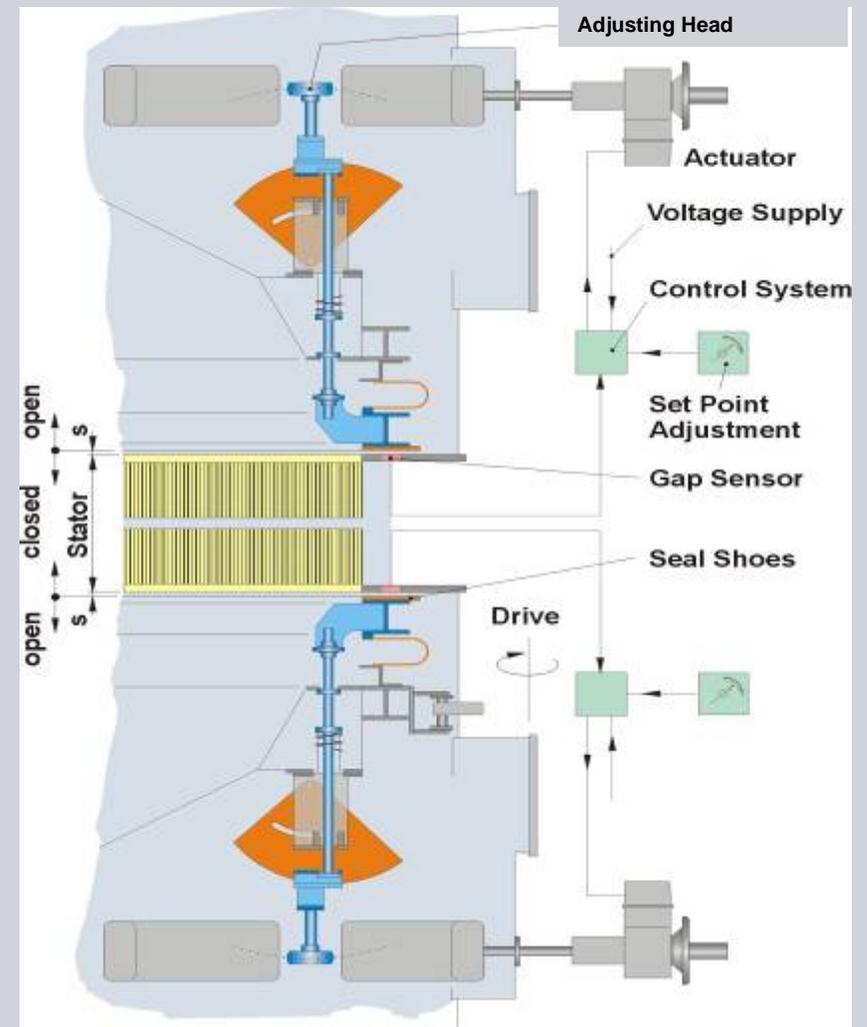
Seal & Seal Control



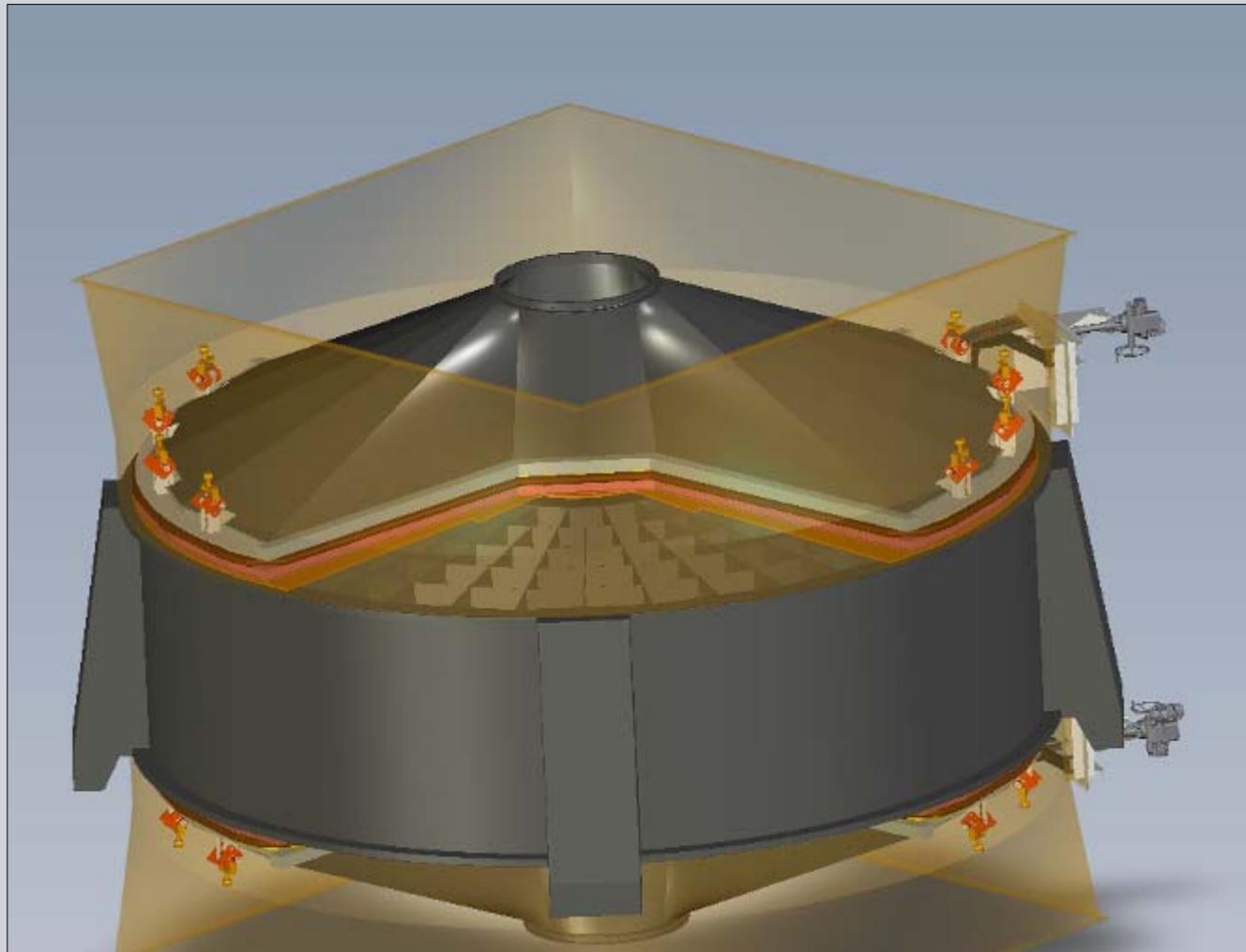
Automatic Seal Setting System

Electronic seal setting devices for cold and hot end

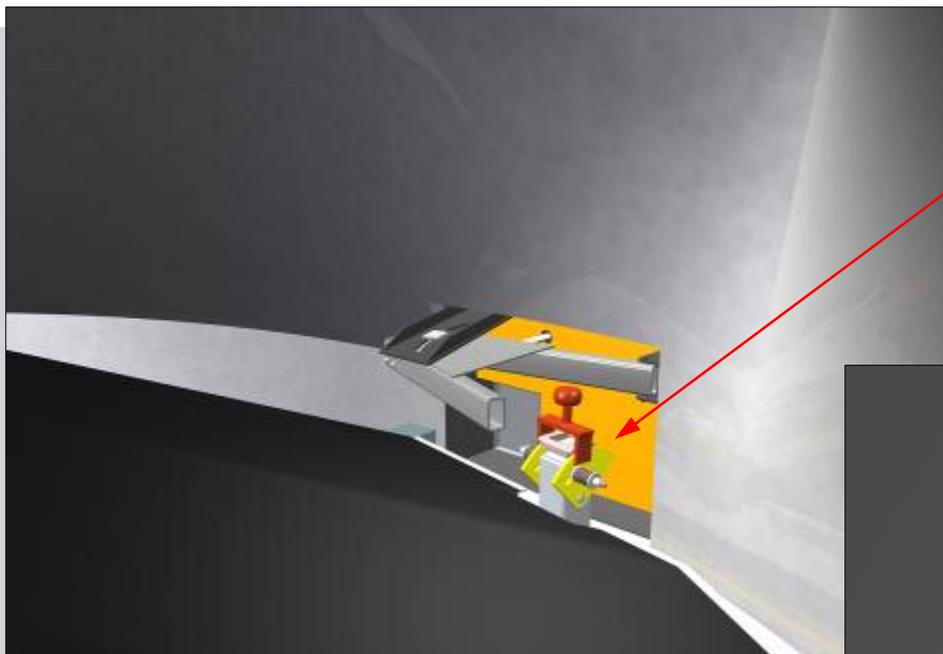
- Reduction of gap leakages
- Reduction of bypass leakages
- Enhanced thermal efficiency
- Reduction of wear



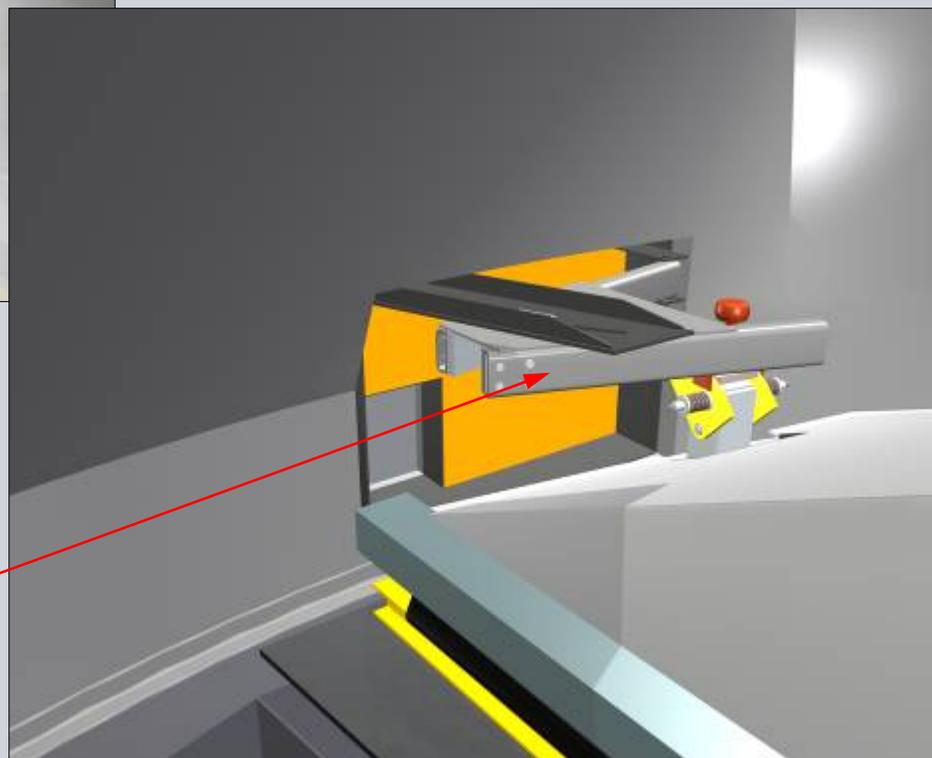
Automatic Seal Setting System In Detail



Automatic Seal Setting System In Detail



Spring bolt with adjusting head

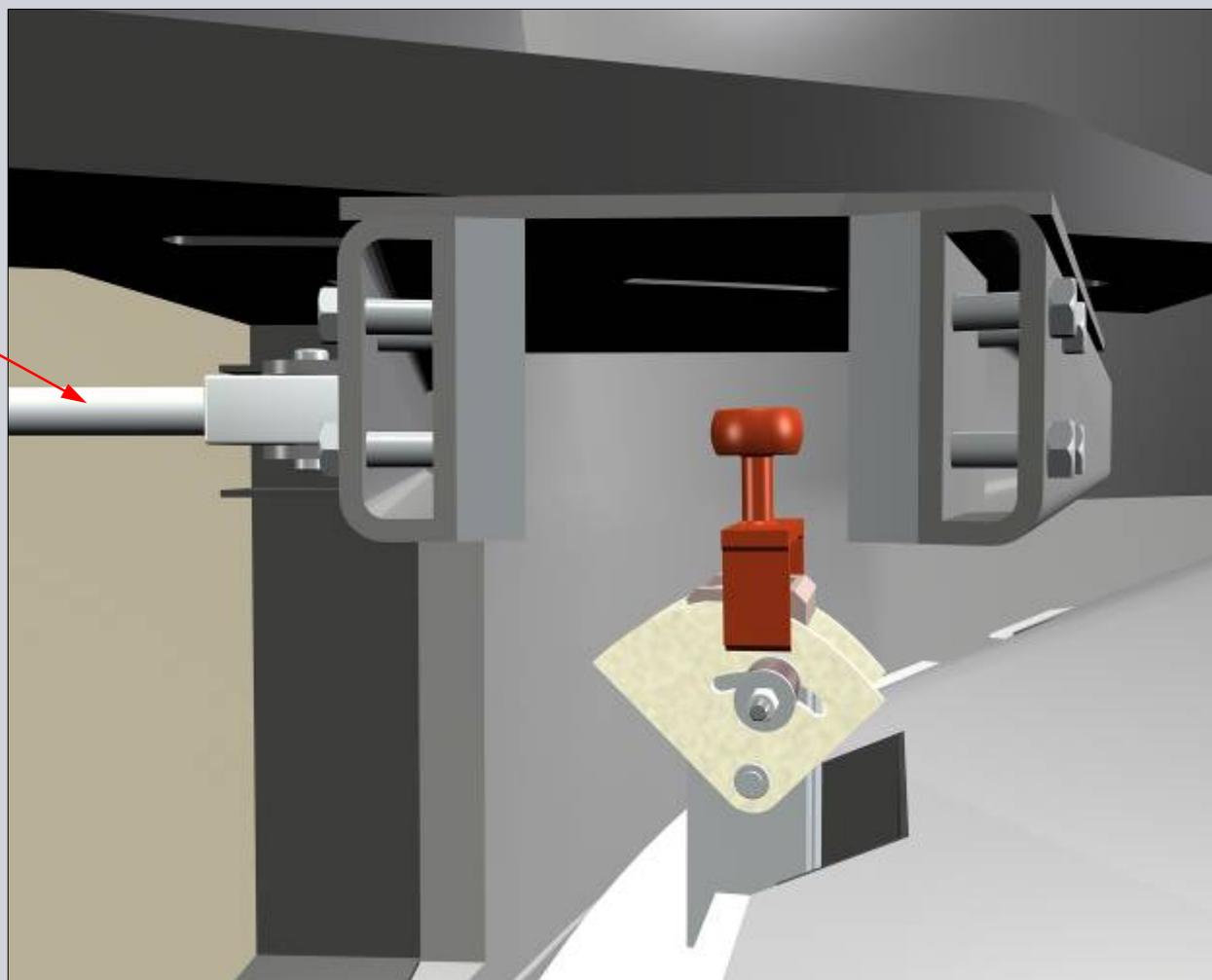


Adjusting Ramp



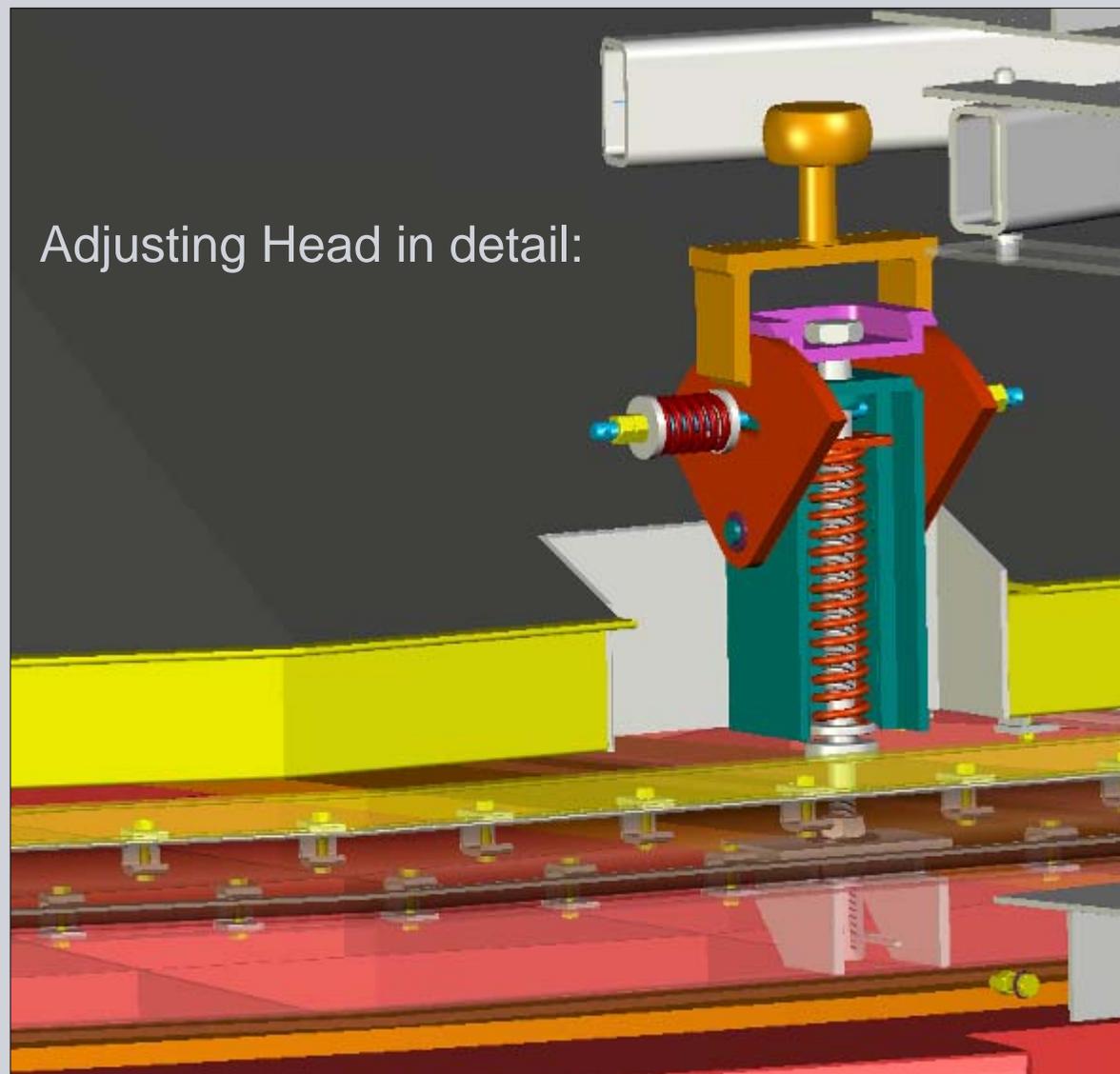
Automatic Seal Setting System In Detail

Outside actuator
with actuating-arm



Automatic Seal Setting System In Detail

Adjusting Head in detail:



Customer	Boiler Make, Capacity	Power Station, H. Exch., Boiler	Heat Exch. Size (m)	HExch. №	Electron. №	Arrangement	Time of Installation	System	Manufac. of Processor	Commiss. Time	Note
CEGB, England	Foster Wheeler, 500MW	Eggborough, 3A	Prim-A.H. Vu. 5,6/...	1	1	Cold Side	Subsequent Equipment	Davidson	DAV	10 / 80	Prototype
EBNI, Nordirland	Babcock Ltd., 200MW	Ballylumford, 4A	A.H. Vu. 7,1/...	1	1	"	"	Davidson	DAV	6 / 82	
VKR, Gelsenkirchen	Steinmüller, 370MW	Scholven B, 8 1	A.H. Vu. 10,0/...	1	1	"	"	RM	EMG	3 / 83	Prototype
Yoyo Soda, Japan	IHL 410t/h	Takuyama, 4	A.H. Vu. 8,5/...	1	1	"	"	I.H.I.	Shinkawa	/ 83	Prototype
EBNI, Nordirland	Babcock Ltd., 200 MW	Ballylumford 5	A.H. Vu. 7,1/...	2	2	"	"	Davidson	DAV	/ 84	
Isar, Amperwerke AG	VKW, 450 MW	Leiningerwerk, 5	Twinflow-A.H. Vu. 11,5-5,4/...	2	2	"	Standard Equipment	RM	EMG	4 / 85	
EBES, Belgien	Brouhon, 300MW	Langerlo I., 1	Twinflow-A.H. Vu. 11,8-6,0/...	1	1	"	"	RM	EMG	10 / 85	
Cajun Electric, USA	B.u.W - RB 591, 2000 t/h	Big Cajun №2 3	Prim - A.H. Vu. 14,0/...	1	1	"	Subsequent Equipment	RM	EMG	11 / 85	
ESCOM, Südafrika	ICL, 350MW	Arnot, 1A	A.H. H. 10,6/...	1	1	"	"	RM	EMG	4 / 86	Only Device for Gap Measurement
Saarberg AG	Steinm / Borsig, 700MW	Weiber, 3	Twinflow-A.H. Vu. 18,0-7,15/...	1	1	"	"	RM	EMG	5 / 86	
Cajun Electric, USA	Bu.W - RB 591, 2000 t/h	Big Cajun №2 3	Sec.-A.H. Vu. 15,0/...	2	2	"	"	RM	EMG	4 / 86	
EBES, Belgien	Brouhon, 300 MW	Langerlo II., 2	Twinflow - A.H. Vu. 11,8-6,0/...	1	1	"	Standard Equipment	RM	EMG	6 / 87	
HEW, Hamburg	Steinmüller, DENOX-Anlage	Hafen,	GAVO Vu. 10,3/...	1	2	Cold and Hot Side	"	RM	EMG	12 / 87	"low dust system"
Rheinbraun, Köln	EVT / Lurgi, 125 MW	Wachtberg, 1	A.H. Vu. 6,3/...	1	2	"	"	RM	EMG	/ 88	Boiler with fluidized Bedfiring
Rheinbraun, Köln	Lentjes / Lurgi, 125 MW	Wachtberg, 2	A.H. Vu. 6,3/...	1	2	"	"	RM	EMG	/ 88	Boiler with fluidized Bedfiring
Stadtwerke, Mainz/W.	DBA / Fläkt, DENOX-Anlage	Mainz / Wiesbaden, 2 u. 3	GAVO Vu. 10,6/...	2	4	"	"	RM	EMG	1 / 88	"low dust system"
Nitchitsu HIPDC Peking, China	B.u.W. Kanada, 2x350 MW	N-Plant, 1 u. 2	Twinflow-A.H. Vu. 11,8-5,7/...	4	4	Cold Side	"	RM	EMG	/ 88 / 89	(2 Stück) (2 Stück)
Nitchitsu HIPDC Peking, China	Bu. W. Kanada, 2x350 MW	S-Plant, 1 u. 2	Twinflow-A.H. Vu. 11,8-5,7/...	4	4	"	"	RM	EMG	/ 88 / 89	(2 Stück) (2 Stück)
STEAG	Steinmüller, 500 MW	Herne IV, 4	Twinflow-A.H. Vu. 17,0-17,5/...	1	1	"	"	RM	EMG	/ 89	

29 34

APPARATEBAU
ROTHEMÜHLE
Brand - Kritzer GmbH
D-5963 Wenden 5



Referencelist for microprocessorcontrolled Seal Gap Adjusting Devices
at RM-Heat Exchangers

Zeichnung Nr.
3 | 07 | 101 | 4 098 | 0E
Blatt 1 von 2



BALCKE-DÜRR
ROTHEMÜHLE

Automatic Seal Setting System- installations in 2000:

Operating Company	Power Station	# of Air Heaters	Heat Exch. Size	Arrangement	System	Year
Cajun Electric / USA	Big Cajun (sec.)	2	Vu 49,2 (15,0)/12" + 58"	2 x upper side / 2 x bottom side	Rothemühle	2001
Cajun Electric / USA	Big Cajun (prim.)	1	Vu 45,9 (14,0)/12" + 52"	1 x upper side / 1 x bottom side	Rothemühle	2001
E.ON / Germany	Wilhelmshaven	1	VuY 14,5/1,0+0,4+0,35	1 x upper side	Rothemühle	2003
E.ON / Germany	Leininger Block 5	2	VU 11,5 - 5,4/2,1+0,35 E - 2,1 + 0,35E	2 x upper side	Rothemühle	2006
GKM Mannheim / Germany	GKM Mannheim KL18	2	VMu 11,8/(0,3) + 0,575 + 1,2 + 0,575 E	2 x upper side / 2 x bottom side	Rothemühle	2006
Essent / The Netherlands	Amer 9	2	Vu 14,0-6,8/1025+1025+650E	2 x upper side / 2 x bottom side	Rothemühle	2006 / 2007
CFE / Mexico	Altamira	4		4 x upper side / 4 x bottom side	Rothemühle	2006 / 2007
CFE / Mexico	Valle De Mexico	2	Vu 10.0 / 1.08 + 0.3C	2 x upper side / 2 x bottom side	Rothemühle	2007 / 2008
CFE / Mexico	Rio Escondido	1	Vu 9,5-4,56 / 0,8 + 0,8 + 0,3c	1 x upper side / 1 x bottom side	Rothemühle	2008

Example: Latest Modernizations with
AUTOMATIC SEAL SETTING SYSTEMS:



2006 / 2007

Plant owner: ESSENT

Location: Amer 9 (The Netherlands)

Measures: Modernization of 2 x Rothemühle Type Air Preheaters (Vu14,0-6,8/...?) for SCR operation.

Installations: Seal frames; seal plates; exp. sleeves; spring bolts; collar seals, heat. elements; stator refurbishment, **seal setting system**

Seal adjustment: Automatic Seal Setting System, hot and cold end

Leakage before modernization: > 30%

New leakage rate: 12.0% (warranted and measured)



BALCKE-DÜRR
ROTHERMÜHLE

Latest NEW INSTALLATIONS with AUTOMATIC SEAL SETTING SYSTEMS:

2006 / 2007

Plant owner: CFE

Location: Altamira (Mexico)

1:1 installation: 4 x NEW- Rothemühle Type Air Preheaters (VoY8,0/...)

Seal adjustment: Automatic Seal Setting System, hot and cold end

New leakage rate: approx. 13%

2007 / 2008

Plant owner: CFE

Location: Valle De Mexico (Mexico)

1:1 installation: 2 x NEW- Rothemühle Type Air Preheaters (Vu10,0/...)

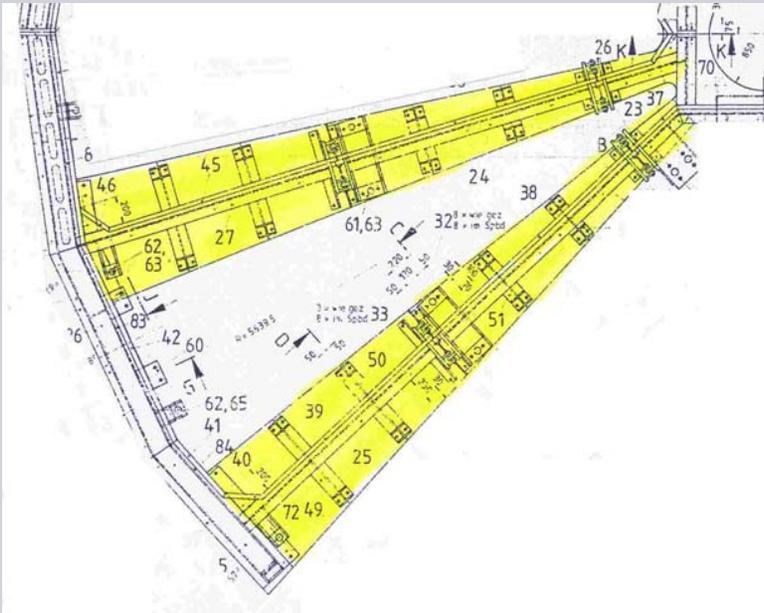
Seal adjustment: Automatic Seal Setting System, hot and cold end

Leakage- installed Rothemühle Type APH's: approx. 41.5%

Leakage- new delivered Rothemühle Type APH: approx 14%



Pulsation of Radial-Seals



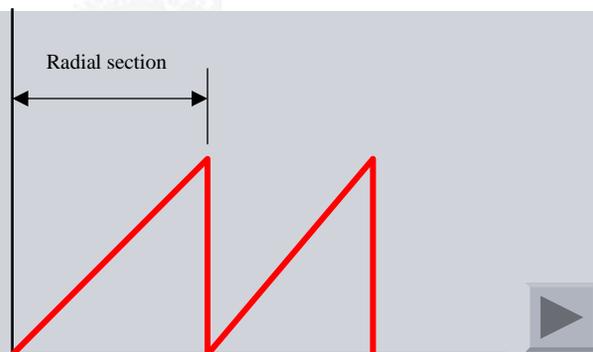
- Pressure difference is acting on the whole sealing surface

- Seals open and closing periodically

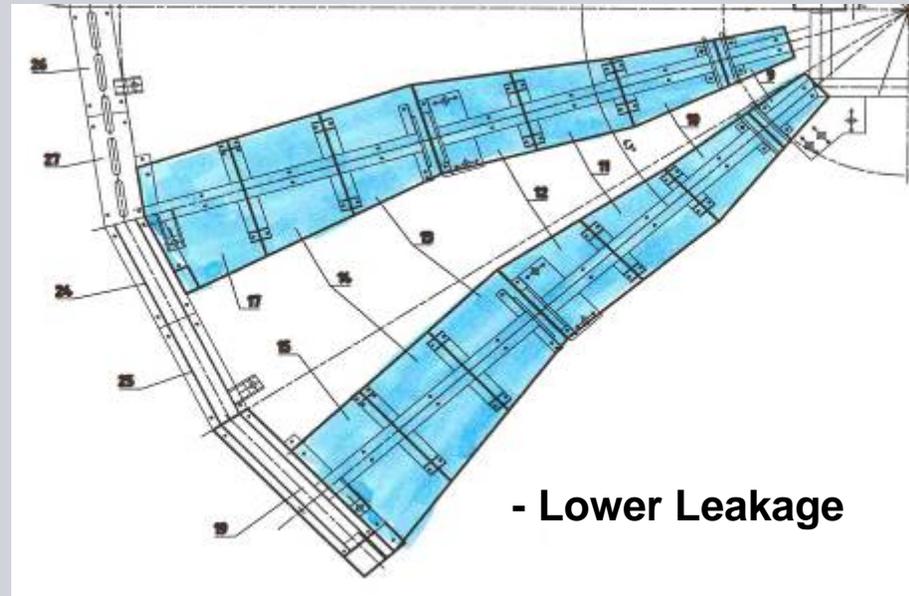
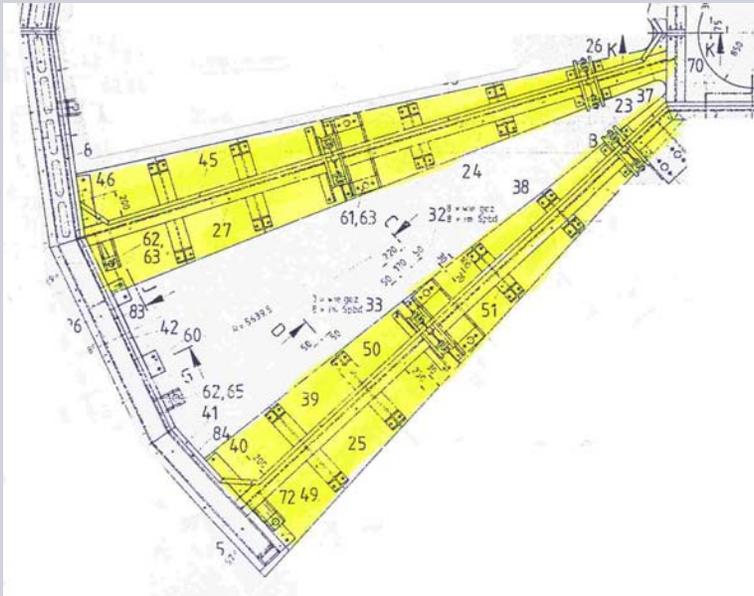
- Seal shoes are „jumping“

- High leakage peak's occur

- Fast wear out of seals and adjusting devices

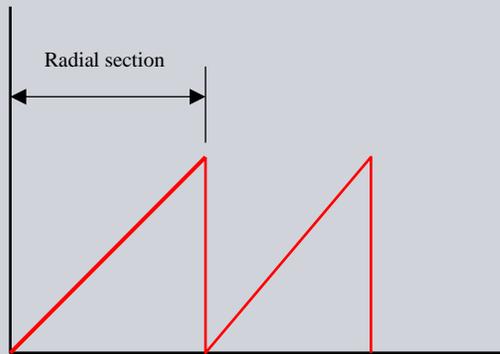


Asymmetrical Radial-Seals



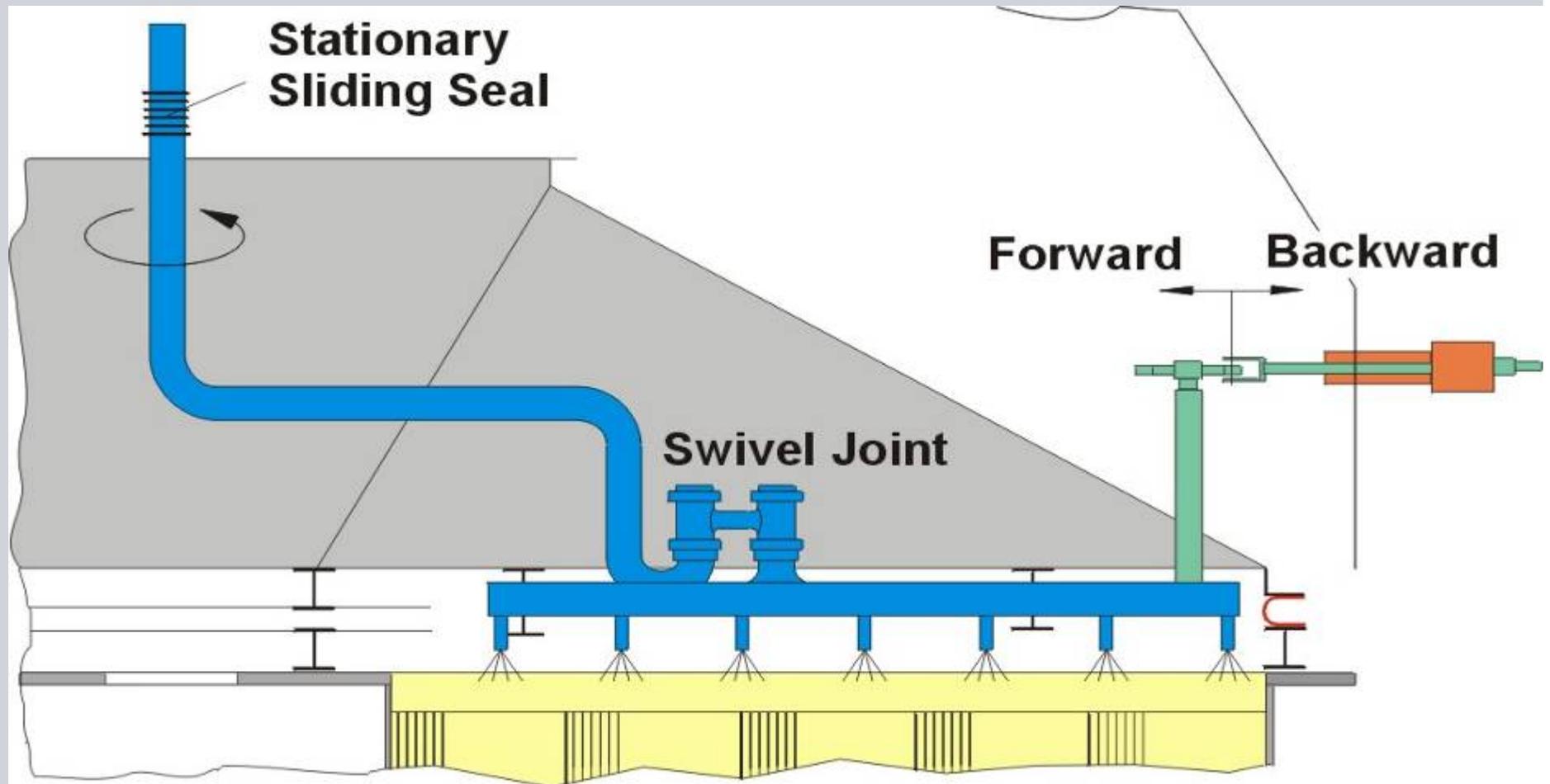
- Lower Leakage

- Longer operational availability due to less wear

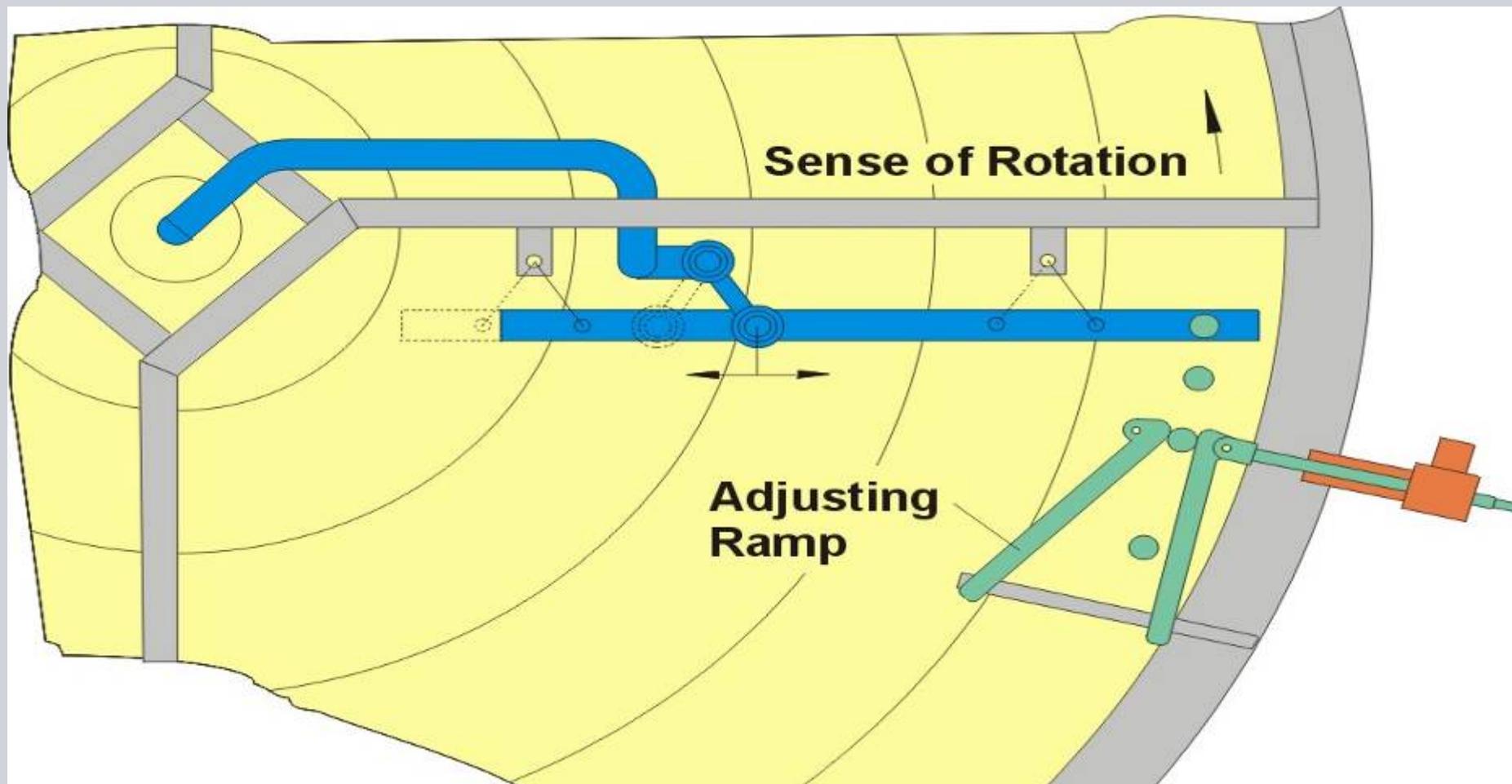


BALCKE-DÜRR
ROTHEMÜHLE

Blower Oscillating Type, Adjusting Ramp



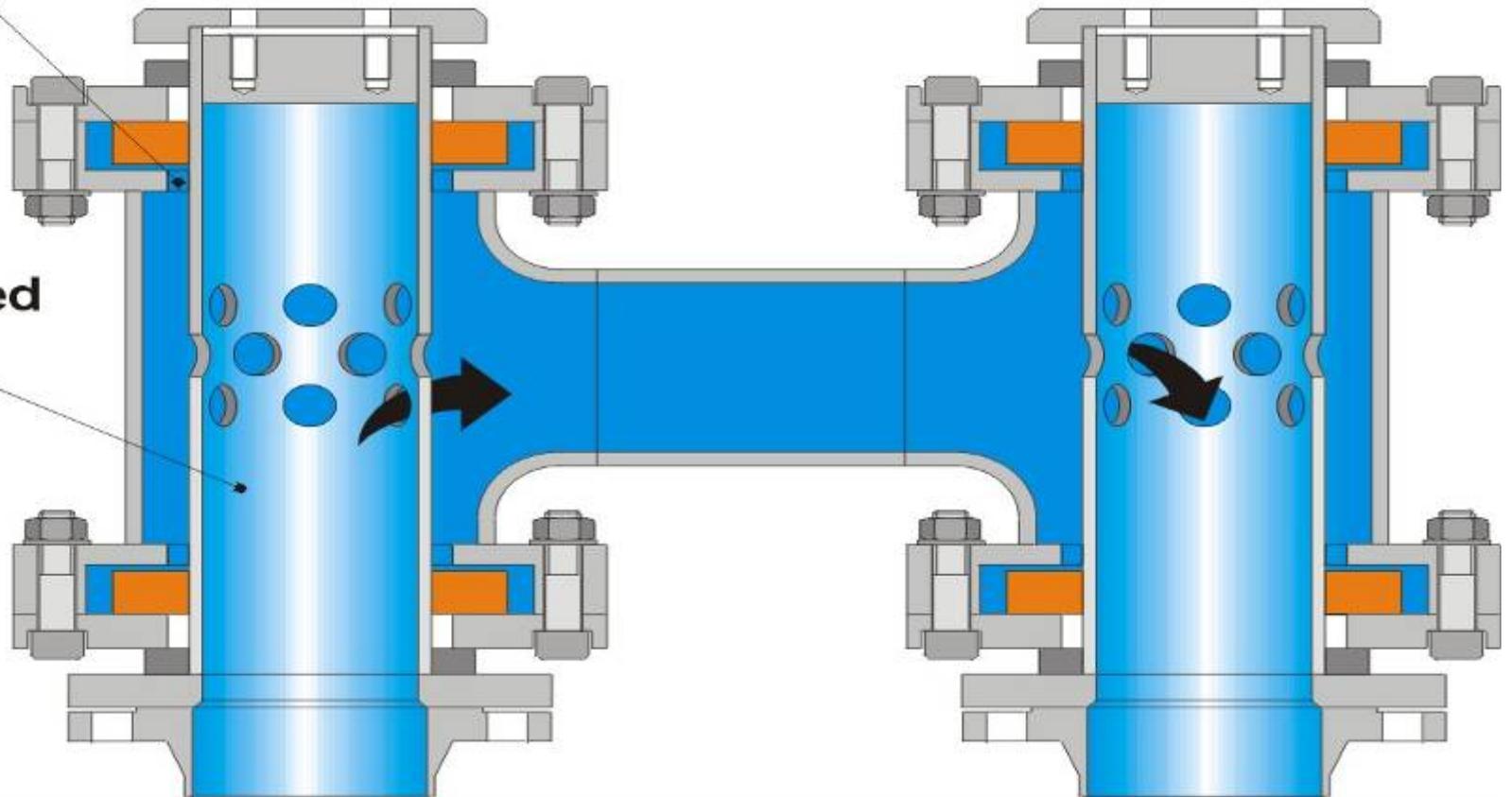
Blower Oscillating Type, Adjusting Ramp



Swivel Joint Cleaning Device

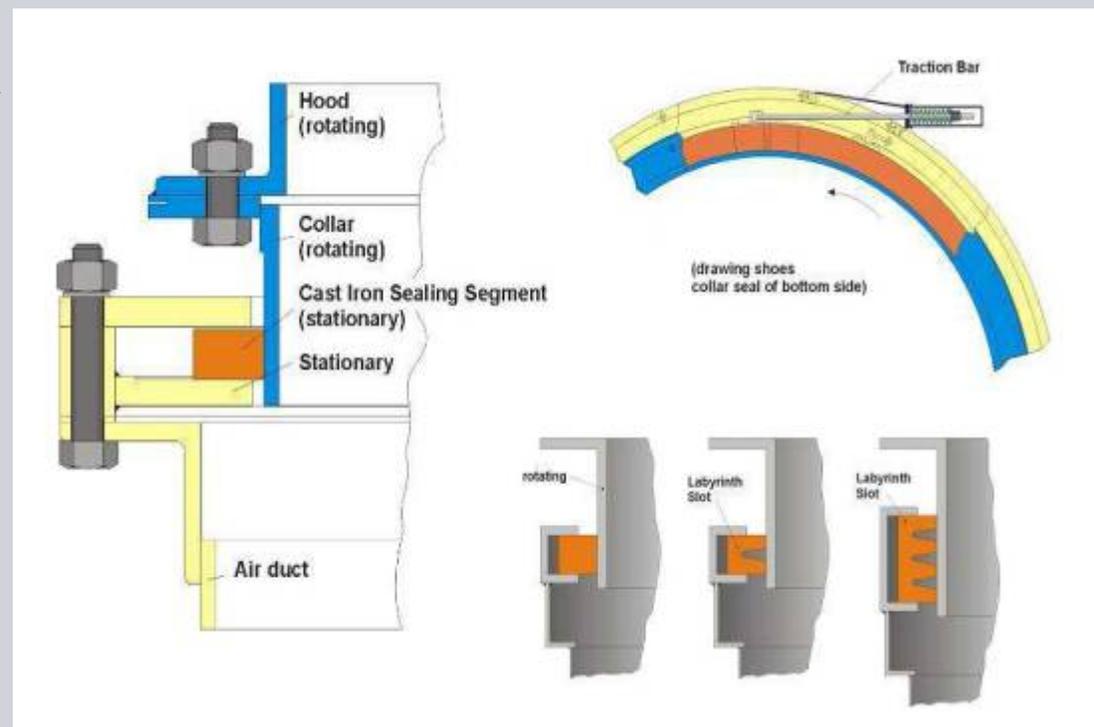
**Packing
Gland**

**Perforated
Pipe**



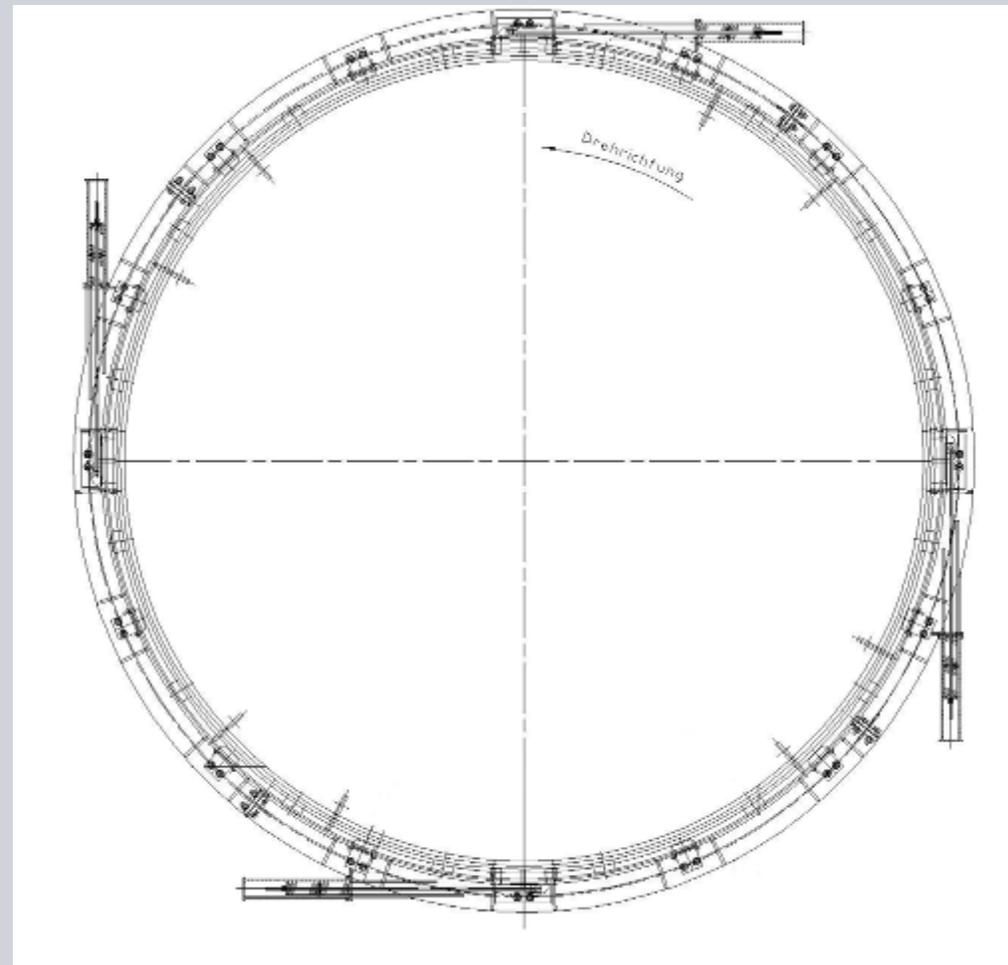
Collar Seal Design

- Amount of Maintenance Reduce to New Design Resulting in Less Springs & Adjustments
- Labyrinth Slots Added to Sealing Segments to add Turbulences for Greater Sealing
- 2 or 4 Tangential Springs Acts Like a Belt Tightening for Better Seal Design

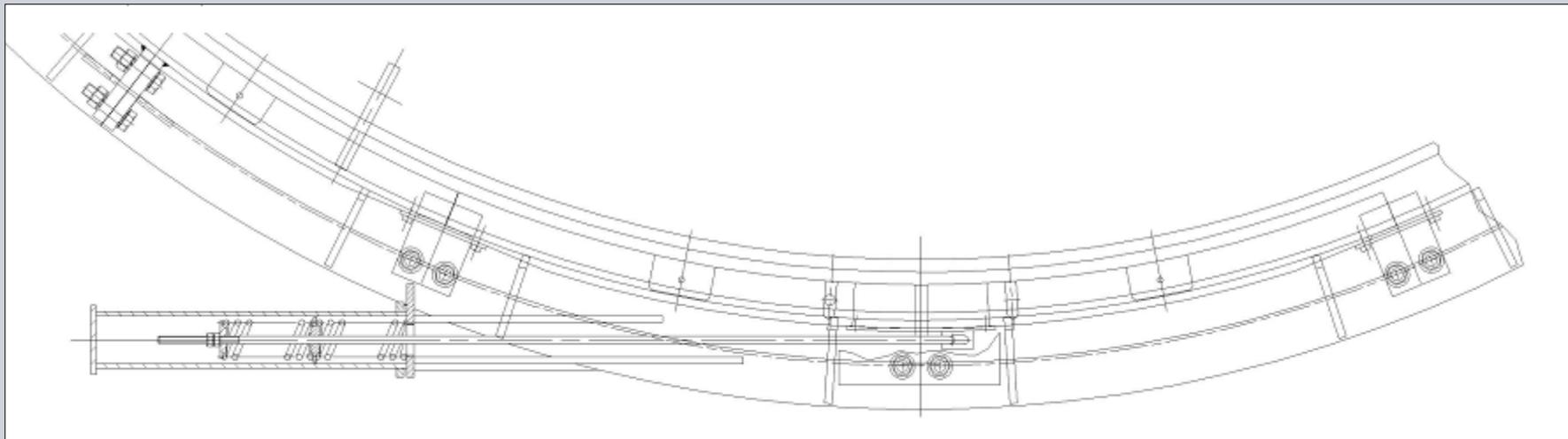


Detail- Collar Seal Complete

- Only 2 or 4 traction bars, depending on collar diameter
- All seal shoes fit evenly to the hood collar
- Long lasting- minimum leakages
- Longer service lifes
- Less maintenance costs
- Easier to inspect and to service



Detail – Traction Bar



BDRM Capabilities for New Installations and Modernization for Rotor & Stator Type Air-Preheater



- Design Calculation
- Layout Design

- Design Engineering
- Project Management

- Manufacturing Supervision
- Quality Management
- Manufacturing of key components

- Shipment logistics

- Site Supervision

- Commissioning
- Performance Test
- After Sales Service



**BALCKE-DÜRR
ROTHEMÜHLE**

US References

San Miguel Electric Co-Op:

Contact Name: Jerry Harris (Superintendent)

Contact Phone: 830-784-3411 Ext.254

Scope: Spring 2009 – Primary Air Heater Mod. Included TFA Services for Installation of New Seals, Expansion Joints, Shoes, Spring Bolts, Cold End Collar Seal, Stator Refurbishment.

Scope: Spring 2010 – Secondary Air Heaters Mods: Included TFA Services for Installation of New Seals, Expansion Joints, Shoes, Spring Bolts, Cold End Collar Seal, Stator Refurbishment.

NRG Big Cajun:

Contact Name: Michelle Zachery

Contact Phone: 225-638-3773

Scope: 2002 Automatic Seal Setting System, 2009 Collar Seal and Seal Shoes

