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|-----------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|-------------------------------------------------------|
|  | <b>TECHNICAL SPECIFICATION FOR SERVICES<br/>FOR REGENERATIVE AIR PREHEATER ON<br/>UNIT 6</b> | Rev. 0<br>Date. 01.12.20<br>Page <b>1</b> of <b>4</b> |
|-----------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|-------------------------------------------------------|

## TECHNICAL SPECIFICATION FOR SERVICES FOR REGENERATIVE AIR PREHEATER ON UNIT 6

### Content

|                                        |          |
|----------------------------------------|----------|
| <b>1. OBJECTIVE.....</b>               | <b>2</b> |
| <b>2. BACKGROUND .....</b>             | <b>2</b> |
| <b>3. SCOPE OF SERVICES.....</b>       | <b>4</b> |
| <b>4. TECHNICAL REQUIREMENTS .....</b> | <b>4</b> |
| <b>5. PROVIDER REFERENCES .....</b>    | <b>4</b> |
| <b>6. ATTACHMENTS.....</b>             | <b>4</b> |

Actual specification includes **4** pages

|                                                                                   |                                                                                              |                                                       |
|-----------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|-------------------------------------------------------|
|  | <b>TECHNICAL SPECIFICATION FOR SERVICES<br/>FOR REGENERATIVE AIR PREHEATER ON<br/>UNIT 6</b> | Rev. 0<br>Date. 01.12.20<br>Page <b>2</b> of <b>4</b> |
|-----------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|-------------------------------------------------------|

## 1. OBJECTIVE

This specification includes minimal requirements for scope of supply and installation of heating elements for Ljungström Air Preheater (RAPH) on Unit 6 of thermal power plant Šoštanj.

## 2. BACKGROUND

The Ljungström regenerative air preheater (RAPH) is a regenerative heat exchanger with a rotating heat transfer surface. The rotor with the installed heating elements (heat storage mass) rotates continuously inside a housing. Air and flue gas flows are separated from each other by means of seals.

The hot flue gas coming from the boiler enters the RAPH through the flue gas duct and imparts heat to the heating elements of the turning rotor. The combustion air transported via the FD fan enters the RAPH through the air duct and reabsorbs the heat stored in the heating elements. This heat exchange is a continuous process for the recovery of the heat stored in the flue gas and thus contributes to an economic boiler operation. The air preheater works based on the counterflow principle. The flue gas inlet and the air outlet side is called "hot side" whereas the flue gas outlet and the air inlet side is referred to as the "cold side" of the RAPH.

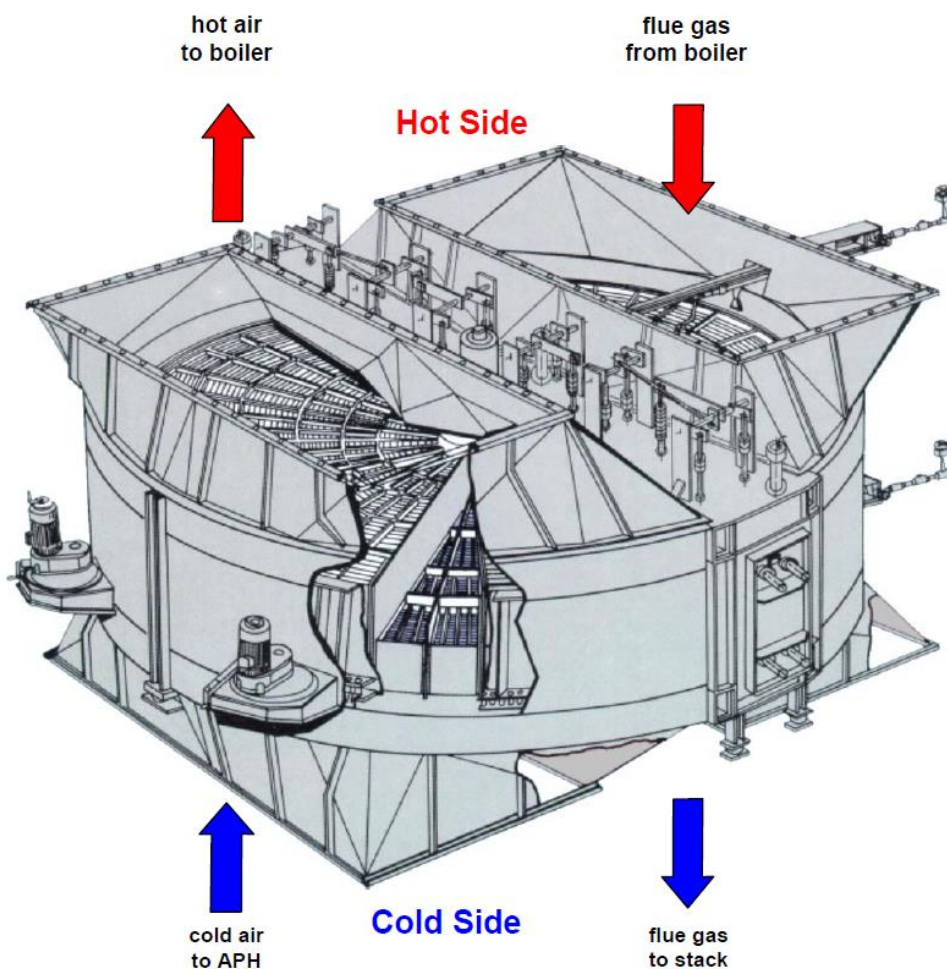


Figure 1: The Ljungström regenerative air preheater (RAPH) type LCVZB 31,5/1800.

**Package 4:** Supervision service during the installation of heating elements and revision, cold and hot commissioning after revision.

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|-----------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|-----------------------------------------|
|  | <b>TECHNICAL SPECIFICATION FOR SERVICES<br/>FOR REGENERATIVE AIR PREHEATER ON<br/>UNIT 6</b> | Rev. 0<br>Date. 01.12.20<br>Page 4 of 4 |
|-----------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|-----------------------------------------|

### 3. SCOPE OF SERVICES

#### Supervision service (LOT 4)

During assembly works and revision the contractor must provide supervisor to guide local personnel. All special tools needed to perform the intended erection work must be provided by contractor (hydraulic units for lifting the heating elements, hydraulic unit for turning the rotor when the main drives are out of service, etc.).

#### Cold and hot commissioning (LOT 4)

After finishing of the erection work cold and hot commissioning (including calibration of measuring probes) must be done to set sealing plates and ensure that all operating parameters are according to designed operation.

### 4. TECHNICAL REQUIREMENTS

The contractor must have appropriate workshop drawings of air preheater interior type **LCVZB 31,5/1800** i.e., rotor assembly including all supports for heating elements and heating elements for all three layers. New heating elements must have the same heat transfer and delta pressure characteristics like the original ones to ensure adequate efficiency of the unit 6 and preventing condensation of SO<sub>3</sub> in all three layers. No reverse engineering is allowed.

### 5. PROVIDER REFERENCES

The client requires one (1) revisions of RAPH in the last five (5) years. Reference must be verified by the provider's client.

### 6. ATTACHMENTS

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