ENGINEERED PUMP SERVICES, INC.
624 Perkins Drive · Mukwonago, WI 53149-1454
(262)363-9002 · (800)657-0845 · fax (262)363-9013
www.epspumps.com · email: eps@epspumps.com

RECOMMENDED REPAIR SPECIFICATION

EPS Order	**: 56782**	**Quotation No**	**: 67568-Q2**
Customer order	**: SP11271**	**Quotation Date**	**: 10/06/23**
Page	**: 1 of 2**	**Ref. EPS Report**	**: 56782-IR1**

East Kentucky Power Cooperative
Spurlock Generating Station
Byron-Jackson 12x12x14 HDB-6 Stage Boiler Feed Pump

A) NEW PARTS:

Qty.	Part Description	Material
5	Series Case Wear Rings (205)	420 Stainless Steel (Hardened)
1	1st Stage Small Case Wear Ring (205-1)	420 Stainless Steel (Hardened)
1	1st Stage Large Case Wear Ring (205-2)	420 Stainless Steel (Hardened)
1	Booster Case Wear Ring (205-3)	420 Stainless Steel (Hardened)
8	Split Impeller Retaining Rings (256)	410 Stainless Steel
4	Series Stage Pieces (009)	420 Stainless Steel (Hardened)
1	Split Center Stage Piece (009-2)	420 Stainless Steel (Hardened)
1	1st Stage Sleeve Stage Piece (009-6)	420 Stainless Steel (Hardened)
1	Balance Sleeve (218)	420 Stainless Steel
1	Takeoff Tube	410 Stainless Steel
1	Gasket - Volute Bushing	304 Stainless Steel
3	HHCS, Volute Main Joint	416 Stainless Steel
8	Studs and Nuts, Volute Main Joint	410 Stainless Steel, B6

B) RECOMMENDED REPAIRS:

1. Shaft (167)
    a. Line up to the impeller fit turns and re-cut centers.
    b. Clip axial faces to ensure perpendicularity.
    c. Prep machine impeller fits to remove gall marks.
    d. Prep grind bearing journals to prep for chrome.
    e. Chrome and grind bearing journals to restore design clearance to the bearings.
    f. Chrome and grind the prep machined impeller fits to restore design diameter and surface finish.
    g. Burnish and de-mag proximity probe bands.

B) RECOMMENDED REPAIRS, CONTINUED:

2. Impellers (176)
    a. Excavate, weld repair, and grind to contour all linear indications.
    b. Machine impeller seal turns to restore design running clearances with new case ring and stage piece.
    c. Minimum machine the impeller seat faces to ensure perpendicularity to the shaft centerline.
    d. Dynamic balance impellers to ISO G1.0 for 5490 rpm.

3. 1st Stage Sleeve (217)
    a. Machine sleeve seal turn to restore design running clearance with new stage piece.
    b. Minimum machine the sleeve seat face to ensure perpendicularity to the shaft centerline.
    c. Prep machine, chrome plate, and finish grind sleeve fit bore to restore design fit interference with shaft.

4. Volute Bushing (026)
    a. Prep machine then chrome and grind the fit bore to the end head to remove fretting and maintain design fit clearance.
    b. Minimum machine the bushing seat face to ensure parallelism with volute casing.

5. Volute Casing (001)
    a. Remove all splitters.
    b. Hand dress all raised areas on volute seal faces.
    c. Thoroughly stone mating faces and re-assemble volute halves using new dowels.
    d. Re-install splitters then clean volute thoroughly.

6. Assembly
    a. Assemble rotating element complete. Tack weld 6th stage and booster impeller at hub turns to secure and hand dress welds. Dynamic balance to ISO G1.0 for pump 5490rpm. Indicate all turns and document runout.
    b. Disassemble rotating element and assemble with case rings and stage pieces in place.
    c. Clean casing complete. Scope all cavities to ensure all chips have been removed.
    d. Assemble pump complete documenting axial float and lifts in both directions.
    e. Prepare pump for shipment to Spurlock Generating Station.