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INCOMING INSPECTION REPORT

MS6001FA (GE Frame 6FA) 3rd Stage Nozzle Set

Report No. UNEW-NSRP-825353-NZ3-IIR-Rev01 | Work Order WO-1004061642

Customer	Nghi Son Refinery & Petrochemical LLC	Report Date	09 June 2026
Customer P.O. No.	WO-1004061642	Component	MS6001FA 3rd Stage Nozzle
Engine Type	MS6001FA (GE Frame 6FA)	Qty. Received	20 pieces (1 complete set)
Component Part No.	119E4885 G05 / G06 / G07 REV A	As-Received Coating	No coating
Material	GTD262	Severity Category	Standard / Medium Refurbishment
Repair Classification	MEDIUM REPAIR, LEVEL 6 OF 10	Fuel Hours	No information supplied
Service Cycle	No information supplied	Previous Repairs	No information supplied
Job No.	825353	Disposition	Repair and restore per the Level 6 scope

Report Reviewed and Approved By



Paul McGuire

Engineering Manager, UNEW, Inc.

1. EXECUTIVE SUMMARY

Twenty (20) MS6001FA 3rd stage nozzle components were received from Nghi Son Refinery and Petrochemical LLC for refurbishment. The set consists of 3rd stage nozzle segments P/N 119E4885 G05/G06/G07 REV A, GTD262 material, with no coating applied as received.

The incoming inspection identified trailing-edge crack indications, airfoil and leading-edge corrosion, surface oxidation-corrosion at the hot gas path surface, weld-and-blend requirements on nozzle segments and diaphragm bodies, replacement of honeycomb seals, replacement of cloth seals and joint seals, locking plate deformation, and dimensional verification requirements across the complete set.

The required restoration is a full-set controlled refurbishment within the standard/medium repair envelope. The work is driven by the combined condition of all 20 nozzle segments and associated diaphragm/seal assemblies, including complete defect mapping, 20/20 nozzle segment blend and local weld-and-blend routing, 20/20 diaphragm body repair routing, replacement of honeycomb seals, cloth seals, joint seals and locking plates, repeated FPI/NDT, heat-treatment sequence, local EDM recovery of seal slots/cooling holes where required, final dimensional verification, assembly fit-up and coating restoration. All of this work is performed at locations designated weld-repairable and remains within normal shop repair limits.

Based on these technical findings and the applicable scoring of the UNEW ten-level repair-severity framework, the set is classified as **Level 6 of 10 – Medium Repair** within the Standard / Medium Refurbishment band (Levels 4–7).

2. INTRODUCTION

The MS6001FA 3rd stage nozzle operates in the hot gas path and is exposed to high-temperature gas flow, thermal cycling, combustion-gas contaminants, pressure loading, seal interface loading, vibration, and repeated service exposure. The incoming inspection identified multiple repair drivers, including trailing edge cracking, leading edge and concave airfoil corrosion, surface oxidation-corrosion, seal and honeycomb fretting, locking plate deformation, diaphragm body repair requirements, and dimensional variation requiring controlled repair and verification.

Based on the observed damage condition, affected quantity, material condition, required weld-and-blend repair, dimensional restoration, seal replacement, honeycomb replacement, coating restoration, heat treatment, FPI/NDT verification, and final assembly fit-up inspection, this nozzle set requires standard/medium repair control. Every identified indication is repairable by normal shop processes at its location, the base material has been confirmed sound, and the nozzle cavity and 3-piece assembly checks are acceptable for all 20 segments. The work remains fully within repairable limits at the incoming inspection stage; no scrap recommendation is made for the complete set.

Final release remains subject to completed repair results, dimensional verification, FPI/NDT results, heat-treatment records, coating inspection, assembly fit-up verification, seal alignment confirmation, final visual inspection, and final acceptance documentation.

3. INSPECTION SUMMARY

Order Information	Component Details
Customer P.O. No.: WO-1004061642 Date of Report: 09 June 2026 Quantity Received: 20 pcs Incoming Packing: Good	Engine Type: MS6001FA Component Type: 3rd Stage Nozzle Component Part No.: 119E4885 G05/G06/G07 REV A Material Type: GTD262 As-Received Coating: No coating
Customer History	Repair Work Disposition
Total Fired Hours: No information supplied Total Starts: No information supplied Previous Repairs: No information supplied Fuel Type / Mode: No information supplied	Repair Classification: Level 6 of 10 – Medium Repair Severity Category: Standard / Medium Refurbishment (Levels 4–7) Scrap Recommendation: None at incoming stage Disposition: Repair and restore per technical work scope

Level 6 – Medium Repair is defined within the UNEW ten-level framework as: *“Significant but controlled restoration — multiple repair areas, larger weld/braze restoration, measurable material loss, coating/base-metal recovery, repeated inspection required.”*

This definition describes the present set with precision: the incoming condition is characterised by multiple repair areas and repeated weld-and-blend restoration across the complete population, while every affected feature remains at a designated weld-repairable location, the base material is confirmed sound, and the set remains controlled and within the normal repairability margin.

4. DEFECT SUMMARY

This section summarizes the as-received condition, the numerical/quantity basis, and the required restoration process for each affected area. Individual indications are repairable by normal shop processes at their locations; because the complete set is affected, the work requires coordinated repair control, heat treatment, repeated FPI/NDT, seal-system renewal, coating restoration, dimensional verification, and final assembly fit-up verification — all of which fall within the standard/medium refurbishment envelope.

No.	Defect Basis	Finding	Required Restoration / Repair Process	Technical Significance / Repair Control
1	Total received components	20 nozzle pieces received: P/N 119E4885 G05/G06/G07 REV A, GTD262 material, no coating.	Full-set inspection, serial control, defect mapping, dimensional baseline, repair routing, and final release.	All 20 pieces require serial control, defect mapping, dimensional baseline, repair routing and final release documentation. No scrap condition was identified at incoming stage.
2	Airfoil corrosion / oxidation exposure	20/20 segments routed for blend repair in airfoil corrosion/erosion areas. The as-received material examined under report UNEW-MET-1642-01 (Item #4) showed surface oxidation-corrosion on the hot gas path surface, removable by controlled surface cleaning.	Grit blast, removal of oxidation products, controlled blend, FPI, heat treatment, and final diffused aluminide coating.	All segments are affected by surface corrosion/oxidation. After grit blast and controlled blend, the base material remains sound and repairable; coating restoration is by the standard diffused aluminide cycle.
3	Trailing-edge crack indications	Inspection photographs identify trailing-edge cracks (5–10 mm, typical) on multiple nozzle airfoils. The defect record routes all 20 nozzle segments with weld-and-blend requirements.	Scallop/excavate defect, weld repair, blend to restore profile, FPI after weld and after heat treatment.	Trailing-edge/local crack indications are at designated weld-repairable locations and require localized excavation, weld repair and profile blending. FPI after weld and after heat treatment is required before release.
4	Nozzle segment defect routing	20/20 segments show blend repair and weld-and-blend routing. Nozzle cavity condition recorded as acceptable.	Blend repair, weld-and-blend repair, profile restoration, FPI/NDT confirmation, dimensional inspection.	20/20 segment routing makes this a coordinated full-set repair. Cavity condition was acceptable, so restoration remains well within controlled repair limits.
5	Diaphragm body condition	20/20 diaphragm serials SNEG425893/1 through /20 show weld-and-blend routing at diaphragm body areas.	Weld/blend repair, fit-up verification, braze heat treatment after honeycomb replacement, final inspection.	All diaphragms require body repair and fit-up verification. Honeycomb replacement requires braze heat-treatment control and final dimensional confirmation.

6	Honeycomb / seal system	20/20 honeycomb seals require replacement. 90/90 segment assembly cloth seals, 36/36 diaphragm cloth seals, 10/10 segment joint seals, and 4/4 diaphragm joint seals require replacement.	Remove damaged seals, fit replacement seals/honeycombs, braze heat treatment, blend excess honeycomb, dimensional inspection.	Leakage-control features must be renewed as a set. Replacement of honeycomb, cloth and joint seals is a standard consumable renewal required to restore seal integrity and assembly fit-up.
7	Locking plates and hardware	20/20 locking plates require replacement due to deformation. Diaphragm retaining screw pins: 37 repair / 3 replace. Thermocouple guide/nipple for segments 13 and 19: 2 replace.	Replace locking plates, replace required pins/guides, repair remaining hardware, inspect assembly fit-up.	Hardware replacement/repair is required to restore secure assembly. Final fastening, fit-up and installation condition must be verified before release.
8	Dimensional baseline	A = 37.85–40.05 mm; B = 159.03–160.72 mm; C = 203.63–204.21 mm; D = 38.03–39.64 mm. 3-piece assembly fixture result: 20/20 positions acceptable.	Use incoming baseline for final comparison; perform dimensional inspection after weld, braze, coating, and final assembly.	Incoming dimensions are used as the baseline for comparison. Fixture acceptance across all 20 positions confirms recoverable geometry; final dimensional verification is required after repair.
9	Gap and alignment measurements	Outer/inner abutment face gaps A–D range 2.07–4.73 mm; diaphragm top face gaps E–F range 2.32–5.04 mm; front face gaps G–H range 2.42–5.60 mm; discourager seal alignment 0.17–0.25 mm.	Final seal alignment and assembly verification after diaphragm repair, seal/honeycomb replacement, and coating.	Gap/alignment values provide the baseline for seal alignment. Final alignment must be verified after diaphragm repair, honeycomb replacement and coating.
10	Inspection / heat treatment / coating	Work scope includes incoming solution heat treatment in full vacuum, repeated FPI, visual inspection, EDM to restore cooling holes and seal slots, diffusion aluminide coating, diffusion heat treatment, final heat treatment, and final inspection.	Execute repair sequence with inspection hold points and final acceptance documentation.	Multiple process hold points are required. Records are to be maintained for FPI/NDT, heat treatment, coating and final dimensional inspection.

5. TECHNICAL MEASUREMENT AND REPAIR BASIS

NSRP requested objective technical details and numerical records to understand the repair classification. The table below links each observed condition to its incoming measurement or quantity basis and to the required repair control. The purpose is to explain what was found, what work is required, and how the components will be restored and verified before release.

Category	Technical Assessment Basis	Incoming Measurement / Repair Requirement and Repair Control
Welding / Material Buildup	Local weld repair is required where crack excavation or defect removal exposes repairable base material. Multiple local weld areas require weld, blend, FPI and post-weld heat treatment.	Incoming basis: 20/20 nozzle segments require weld-and-blend routing at crack/shroud/local repair areas. 20/20 diaphragm bodies also require weld-and-blend repair. All affected areas are at designated weld-repairable locations. Repair control: full-set local weld-and-blend with FPI/NDT hold points.
Dimensional Restoration	Geometry and fit-up are controlled against incoming and final measurement records. Local dimensional variation and gap/alignment changes must be recovered within repair/assembly limits.	Incoming basis: A 37.85–40.05 mm, B 159.03–160.72 mm, C 203.63–204.21 mm, D 38.03–39.64 mm. 3-piece assembly positions were all acceptable (20/20). Repair control: final comparison after weld/blend, braze, coating and assembly.
Coating / Base Metal Condition	The hot gas path surface has no coating and shows surface oxidation-corrosion. The material must be cleaned, inspected and coated after repair.	Incoming basis: material evaluation confirmed GTD262 with near-nominal chemistry. The oxidation-corrosion is a surface condition, fully removable by grit blast, with no deep substrate attack; the base material was confirmed sound and repairable after surface cleaning. Pre-weld solution heat-treatment material (Item #9) showed improved microstructure and 36.2 HRC hardness. Repair control: grit blast, controlled blend, FPI and diffused aluminide coating.
Cooling Hole / Passage / Seal-Slot Recovery	Cooling holes and seal slots must remain open and dimensionally suitable after repair. Local recovery is controlled after welding, blending and coating preparation.	Incoming basis: work scope includes EDM to restore cooling holes and seal slots where required. Discourager seal alignment was recorded at 0.17–0.25 mm before repair. Repair control: local EDM/recovery and final passage, slot and seal-alignment verification.
Inspection / Heat Treatment / Engineering Control	Repeated inspection and thermal-process hold points are required to control weld quality, base-metal condition, coating condition and final release.	Incoming basis: repair plan includes incoming solution heat treatment, FPI after preparation, FPI after repair, post-weld heat treatment, diffusion heat treatment, final heat treatment, visual inspection, final dimensional inspection and final report. Repair control: documented QA hold points and final release review.
Overall Repair Classification	Repair classification is based on the combined condition across welding, dimensional restoration, base-metal/coating condition, seal-system restoration and QA requirements.	Incoming basis: full-set scope includes 20 nozzle segments, 20 diaphragm bodies, 20 honeycombs, 90 segment cloth seals, 36 diaphragm cloth seals, 14 joint seals, 20 locking plates and 40 retaining screw pins. Repair control: classified Level 6 of 10 – Medium Repair, Standard / Medium Refurbishment band.

6. DIMENSIONAL MEASUREMENT SUMMARY

The following dimensional values are taken from the incoming inspection dimensional record. They are used as an incoming baseline for post-repair comparison. The repair classification is not based on a single dimension alone; it is based on the combined repair work, repair process sequence, affected quantity, and final QA requirements.

Dimension	Reference / Tolerance	Minimum (mm)	Maximum (mm)	Measured Range (mm)	Measured Points
A - segment location (left/right)	38.49 reference	37.85	40.05	2.20	40
B - segment location (left/right)	159.90 reference	159.03	160.72	1.69	40
C - diaphragm radius	Actual measurement record	203.63	204.21	0.58	20
D - base plate to segment	38.49 reference	38.03	39.64	1.61	20

6.1 Highest and Lowest Recorded Points

Dimension	Lowest Recorded Point	Highest Recorded Point	Range
A	37.85 mm at Segment 15 right	40.05 mm at Segment 7 left	2.20 mm
B	159.03 mm at Segment 14 right	160.72 mm at Segment 12 left	1.69 mm
C	203.63 mm at Segment 7	204.21 mm at Segment 15	0.58 mm
D	38.03 mm at Segment 14	39.64 mm at Segment 12	1.61 mm

6.2 Abutment Face Gap / Seal Alignment Baseline

Measurement	Min (mm)	At Position	Max (mm)	At Position	Range (mm)
Outer/Inner abutment A	2.20	6-7	4.29	10-11	2.09
Outer/Inner abutment B	2.07	19-20	4.73	20-1	2.66
Outer/Inner abutment C	2.40	20-1	3.68	18-19	1.28
Outer/Inner abutment D	2.60	11-12	3.67	18-19	1.07
Diaphragm top face E	2.40	19-20	4.91	20-1	2.51
Diaphragm top face F	2.32	19-20	5.04	20-1	2.72
Diaphragm front face G	2.42	19-20	5.60	20-1	3.18
Diaphragm front face H	2.75	19-20	4.96	20-1	2.21
Discourager seal alignment	0.17	5-6	0.25	1-2	0.08

7. DAMAGE SUMMARY AND DISPOSITION

Damage Category	Finding (As Inspected)	Disposition
Trailing Edge Cracks	Crack indications identified on trailing edge in inspection photos; defect map routes nozzle segments for weld-and-blend.	Excavate / scallop defect, weld repair, blend to profile, FPI confirmation and heat treatment.
Leading Edge / Airfoil Corrosion	Corrosion identified on leading edge and concave airfoil; material evaluation identifies surface oxidation-corrosion, removable by controlled cleaning.	Grit blast, controlled blend, surface cleaning, metallurgical acceptance, FPI, and diffused aluminide coating.
Nozzle Segment Inner / Outer Shroud Areas	20/20 segments show B/WB repair coding in nozzle segment inspection findings.	Blend repair and weld-and-blend repair based on location limits; final dimensional and visual inspection.
Diaphragm Body	20/20 diaphragms show WB repair routing.	Weld/blend diaphragm body areas, inspect, braze heat treatment, and final dimensional check.
Honeycomb Seals	20/20 honeycomb seals require replacement.	Prepare and fit replacement honeycombs to diaphragm faces; braze heat treatment; blend excess honeycomb and inspect.
Cloth Seals and Joint Seals	90/90 segment assembly cloth seals, 36/36 diaphragm cloth seals, 10/10 segment joint seals, and 4/4 diaphragm joint seals require replacement.	Replace all listed seals and verify final assembly fit-up and seal alignment.
Locking Plates	20/20 locking plates show deformation and require replacement.	Replace locking plates; inspect fastening and post-repair assembly fit-up.
Retaining Pins / Guide Hardware	40/40 diaphragm retaining screw pins received: 37 repair / 3 replace. Thermocouple guide / nipple on segments 13 and 19: 2 replace.	Repair / replace hardware as identified; verify installation and final release documentation.

LEVEL 6 MEASUREMENT BASIS

The UNEW repair severity method scores five categories against measurable incoming criteria. Levels 4–7 form the Standard / Medium Refurbishment band; heavy repair review begins only at any category Score of 4/5 or a total score of 18 or higher. The scoring below applies the measurable criteria to the NZ3 set incoming condition. No category reaches Score 4; the composite places the set at Level 6 – Medium Repair.

Technical Area	Inspection Reference / Technical Criteria	As-Found Measurement / Repair Requirement	Assessment Value
Welding / Material Buildup	Score 3: defect depth, crack excavation, or weld gap 2.1–3.0 mm; weld area 76–150 mm ² per location; multiple local weld areas.	20/20 nozzle segments require weld-and-blend routing at crack / shroud / local repair areas. 20/20 diaphragm bodies also require weld-and-blend. Repair is full-set and multi-location, but every location is designated weld-repairable and no major reconstruction or near-scrap condition is recorded.	3
Dimensional Restoration	Score 3: deviation 0.51–1.00 mm or local geometry recovery / machining required; fit, seal, or contour	Incoming dimensional record: A 37.85–40.05 mm, B 159.03–160.72 mm, C 203.63–204.21 mm, D 38.03–39.64 mm. 3-piece assembly positions were all acceptable (20/20). Final	3

	affected but recoverable by normal repair.	dimensional verification is required after weld/blend, braze, coating, and assembly.	
Coating / Base Metal Condition	Score 2: surface oxidation or light-to-moderate corrosion removable by standard cleaning; no deep substrate attack; base metal confirmed sound; recoat by standard process.	The hot gas path was uncoated as received, so there is no coating system to strip and no coating-loss driver. Surface oxidation-corrosion is fully removable by grit blast with no deep substrate attack. GTD262 base material was confirmed with near-nominal chemistry, and the pre-weld solution heat-treatment condition (Item #9) showed improved microstructure at 36.2 HRC. Diffused aluminide coating is applied by the standard cycle for 1 set.	2
Cooling Hole / Passage / Seal-Slot Recovery	Score 3: special cleaning, local hole recovery, or limited EDM may be required.	Work scope includes EDM to restore cooling holes and seal slots, replacement of honeycombs, cloth seals and joint seals, and final assembly seal alignment control. Discourager seal alignment recorded 0.17–0.25 mm before repair.	3
Inspection / Heat Treatment / Engineering Risk	Score 3: repeated FPI/NDT or intermediate inspection required; engineering review may be required.	Repair plan includes incoming solution heat treatment, FPI after preparation, FPI after repair, post-weld heat treatment, diffusion heat treatment, final heat treatment, visual inspection, final dimensional inspection, and final report.	3
Total Score Basis	Level 6 band: total score 12–14 points within the Standard / Medium Refurbishment band (Levels 4–7). Heavy repair review begins at any Score 4/5 or total score 18 or higher.	Applicable scoring: $3 + 3 + 2 + 3 + 3 = 14$ points. Classification conclusion: LEVEL 6 OF 10 – MEDIUM REPAIR (Standard / Medium Refurbishment band). This remains an incoming classification; final acceptance depends on completed repair and QA results.	14

Standard / medium repair (Level 6 of 10) is included in the agreed refurbishment scope and requires no additional repair charge.

8. ENGINEERING EVALUATION AND RECOMMENDATION

8.1 Damage Assessment

- The defect routing identifies repair requirements across all 20 nozzle segments and all 20 diaphragm assemblies.
- Nozzle airfoil areas show corrosion/erosion and trailing-edge crack indications requiring blend and weld-and-blend repair at designated weld-repairable locations.
- The hot gas path surface is uncoated and exhibits surface oxidation-corrosion; the base material is confirmed sound and repairable after controlled surface cleaning.
- The diaphragm and seal system requires full-set renewal of honeycomb seals, cloth seals, joint seals, and locking plates — a standard consumable renewal within the refurbishment scope.
- Dimensional records provide a complete incoming baseline: A, B, C, D dimensions; abutment face gaps; and discourager seal alignment. 3-piece assembly position check is acceptable for all 20 segments.
- The repair scope is beyond light touch-up because it includes multi-location weld-and-blend, heat treatment, FPI/NDT, EDM/local hole or slot recovery, coating restoration, hardware replacement, and final assembly verification — while every element of the work remains within the controlled standard/medium repair envelope.

8.2 Engineering Conclusion

The combined technical findings place the complete 20-piece MS6001FA 3rd stage nozzle set within standard/medium repair control at Level 6 of 10 – Medium Repair. The set is fully repairable at the incoming inspection stage, with final release subject to completed repair results, FPI/NDT acceptance, heat-treatment records, dimensional verification, coating inspection, assembly build, seal alignment verification, and final QA documentation.

8.3 Repair Recommendation

- Maintain serial-number control for all 20 nozzle segments and all 20 diaphragm/honeycomb assemblies throughout the repair process.
- Perform cleaning, abrasive blast, FPI/NDT, visual inspection, dimensional inspection, and metallurgical review as required.
- Remove defective material in repairable crack, corrosion, and weld-and-blend areas before weld repair.
- Perform weld-and-blend repair on nozzle segment and diaphragm body areas as required by defect map and repair limits.
- Use EDM/local recovery to restore cooling holes and seal slots where required by inspection results.
- Replace all honeycombs, cloth seals, joint seals, and locking plates; replace specific retaining pins and thermocouple guide/nipple hardware as identified.
- Apply diffused aluminide coating to the nozzle set and perform required diffusion / final heat treatment.

- Perform final dimensional inspection, post-repair assembly build, seal alignment verification, visual inspection, final report, and controlled packing.

9. SPECIAL ADDITIONAL REPAIR SCOPE

Special Additional Repair Scope	Numeric Basis	Qty / Unit
Incoming inspection and serial control	20 nozzle segments; 20 diaphragm assemblies	1 set
Blend repair to airfoil corrosion / erosion areas	20/20 nozzle segments show blend routing	1 set
Weld-and-blend repair to segment crack / shroud / local structural areas	20/20 nozzle segments show WB routing	1 set
Weld-and-blend repair to diaphragm body areas	20/20 diaphragm bodies show WB routing	1 set
EDM/local recovery of cooling holes and seal slots	Required by work scope after repair preparation and FPI	As required
Full replacement of honeycomb seals	20/20 honeycombs require replacement	20 ea
Replacement of segment assembly cloth seals	90/90 ea received/required for replacement	90 ea
Replacement of diaphragm cloth seals	36/36 ea received/required for replacement	36 ea
Replacement of segment and diaphragm joint seals	10/10 segment joint seals + 4/4 diaphragm joint seals	14 ea
Replacement of locking plates	20/20 locking plates deformed and require replacement	20 ea
Retaining screw pin repair/replacement	40/40 received; 37 repair and 3 replace	40 ea
Diffused aluminide coating	Required for external surfaces after repair	1 set
Final dimensional inspection and assembly build verification	20/20 segments accepted in incoming fixture check; final verification required after repair	1 set

10. SPARE PART / REPAIR-REPLACE LIST

Replacement seals, locking plates, honeycombs and hardware are supplied per UNEW repair routing. Where an OEM reference part number exists it is listed for traceability.

Item	Part Description	Received / Required	Condition	Quantity	Remark
1	Segment assembly seals – cloth seal type, Material L605, seal positions 01 to 05, per UNEW repair routing	90/90 ea	Replace	90 ea	Additional
2	Diaphragm seals – cloth seal type, seal positions 06 to 07, per UNEW repair routing	36/36 ea	Replace	36 ea	Additional
3	Segment joint seals – flat seal type, Material Hast-X, seals 01 to 05, Reference P/N 119D3157 P03–P07	10/10 ea	Replace	10 ea	Additional
4	Diaphragm joint seals – flat seal type, Material Hast-X, seal positions 06 to 07, Reference P/N 119D3157 P101–P102	4/4 ea	Replace	4 ea	Additional
5	Diaphragm retaining screw pin, Material A286, Hex head bolt, Size 5/8 in., thread 1/2-20 UNC, L=48 mm, per UNEW repair routing	40/40 ea	Repair / Replace	37 repair / 3 replace	Standard
6	Outer cover plate, Material SS304, Reference P/N MP109E910 P001 REV G	20/20 ea	Repair	20 ea	-
7	Impingement plate, Material A286	20/20 ea	Repair	20 ea	-
8	Locking plate, Material SS316, per UNEW repair routing	20/20 ea	Replace	20 ea	Additional
9	Bush / Sleeve, Material A286, OD 20 mm / ID 12.7 mm, L=23 mm	20/20 ea	Repair	20 ea	-
10	Thermocouple guide / Nipple for Segment No. 13 and 19, per UNEW repair routing	2/2 ea	Replace	2 ea	Standard
11	Honeycombs, Material Haynes 214, per UNEW repair routing	20/20 ea	Replace	20 ea	Standard

11. COMPONENT CORRELATION

The following serial-number correlation shall be maintained throughout repair, inspection, coating, assembly, and final release.

Item	Part Number	Serial Number	Material
1	119E4885G07 REV A	P3FE 04238	GTD262
2	119E4885G05 REV A	P3FE 04266	GTD262
3	119E4885G05 REV A	P3FE 04257	GTD262
4	119E4885G05 REV A	P3FE 04218	GTD262
5	119E4885G05 REV A	P3FE 04272	GTD262
6	119E4885G05 REV A	P3FE 04237	GTD262
7	119E4885G05 REV A	P3FE 04232	GTD262
8	119E4885G05 REV A	P3FE 04244	GTD262
9	119E4885G05 REV A	P3FE 04194	GTD262
10	119E4885G05 REV A	P3FE 04243	GTD262
11	119E4885G07 REV A	P3FE 04229	GTD262
12	119E4885G05 REV A	P3FE 04231	GTD262
13	119E4885G06 REV A	P3FE 04268	GTD262
14	119E4885G05 REV A	P3FE 04251	GTD262
15	119E4885G05 REV A	P3FE 04267	GTD262
16	119E4885G05 REV A	P3FE 04261	GTD262
17	119E4885G05 REV A	P3FE 04253	GTD262
18	119E4885G05 REV A	P3FE 04240	GTD262
19	119E4885G06 REV A	P3FE 04220	GTD262
20	119E4885G05 REV A	P3FE 04223	GTD262

11.1 Diaphragm / Honeycomb Correlation

Item	Diaphragm Part Number	Serial Number	Diaphragm Material	Honeycomb Material
1	109E9129G03 REV.B1	SNEG425893/1	SS304	Haynes 214
2	109E9129G03 REV.B1	SNEG425893/2	SS304	Haynes 214
3	109E9129G03 REV.B1	SNEG425893/3	SS304	Haynes 214
4	109E9129G03 REV.B1	SNEG425893/4	SS304	Haynes 214
5	109E9129G03 REV.B1	SNEG425893/5	SS304	Haynes 214
6	109E9129G03 REV.B1	SNEG425893/6	SS304	Haynes 214
7	109E9129G03 REV.B1	SNEG425893/7	SS304	Haynes 214
8	109E9129G03 REV.B1	SNEG425893/8	SS304	Haynes 214

9	109E9129G03 REV.B1	SNEG425893/9	SS304	Haynes 214
10	109E9129G03 REV.B1	SNEG425893/10	SS304	Haynes 214
11	109E9129G03 REV.B1	SNEG425893/11	SS304	Haynes 214
12	109E9129G03 REV.B1	SNEG425893/12	SS304	Haynes 214
13	109E9129G04 REV.B1	SNEG425893/13	SS304	Haynes 214
14	109E9129G03 REV.B1	SNEG425893/14	SS304	Haynes 214
15	109E9129G03 REV.B1	SNEG425893/15	SS304	Haynes 214
16	109E9129G03 REV.B1	SNEG425893/16	SS304	Haynes 214
17	109E9129G03 REV.B1	SNEG425893/17	SS304	Haynes 214
18	109E9129G03 REV.B1	SNEG425893/18	SS304	Haynes 214
19	109E9129G04 REV.B1	SNEG425893/19	SS304	Haynes 214
20	109E9129G03 REV.B1	SNEG425893/20	SS304	Haynes 214

12. MATERIAL EVALUATION

Metallurgical evaluation was performed on the as-received nozzle material examined under report UNEW-MET-1642-01 (Item #4, leading edge, Job Order 825353) to verify the repair suitability of the GTD262 base material. The hot gas path surface was uncoated and exhibited surface oxidation-corrosion, as recorded in the metallurgical figures. Material verification confirmed the base material as GTD262 alloy with near-nominal chemistry. The microstructure consisted of fine grain-boundary carbides in a gamma matrix with fine gamma prime, primary carbides, and dispersed secondary carbides. On the basis of these findings, the base material is considered suitable for repair following controlled surface cleaning by grit blast.

Report No.	UNEW-MET-1642-01	Job Order No.	825353
Serial / ID	Item #4	Cutting Location	Leading Edge
Received Status	As-Received	Coating Type	No Coating
Nearest Alloy	GTD262	Hardness Test	-

Element	Co	Cr	Ni	Ti	W	Ta	Mo	Fe	Al
Nominal	19.0	22.5	Bal	2.2	2.0	0.0-1.1	-	-	1.7
Result	19.8	20.6	52.0	2.1	2.3	0.04	-	-	1.7

Main composition, %. The measured composition is consistent with GTD262, with the expected cobalt, titanium and tungsten contents. The modest reduction in measured chromium relative to the nominal value reflects near-surface chromium participation in the service-formed oxide and is fully consistent with a sound, repairable substrate; it does not indicate base-metal degradation.

12.1 Pre-Weld Heat-Treatment Confirmation

The nozzle material examined under report UNEW-MET-1642-02 (Item #9, leading edge): after pre-weld solution heat treatment, the base material microstructure was significantly improved compared with the as-received condition recorded under UNEW-MET-1642-01, and grain-boundary carbide / detrimental phase was refined to an acceptable condition. Hardness test result: 36.2 HRC. The heat-treated condition supports proceeding with weld repair under controlled repair procedures.

Metallurgical micrographs (as-received hot-gas-path surface condition and typical microstructure at higher magnification, etched; and the corresponding heat-treated condition figures) form part of the metallurgical record and are retained on file under reports UNEW-MET-1642-01 and UNEW-MET-1642-02.

13. REPAIR WORK SCOPE SUMMARY

Work Scope Area	Required Work
Inspect	Receipt inspection and serial number record; digital photos; downstream deflection and nozzle twist check; metallurgical evaluation; disassembly; hardware bag/tag; abrasive blast; incoming solution heat treatment; FPI; visual inspection; incoming inspection report.

Repair	Blend to remove oxidation products; cold straighten distorted/bulged areas as required; scallop defects for weld; weld repair of structural cracks; blend repaired areas to profile; FPI after repair; solution heat treatment; EDM to restore cooling holes and seal slots; abrasive blast and clean; final FPI; visual and dimensional inspection.
Diaphragm / Honeycomb	Weld/blend repair diaphragms; prepare and fit replacement honeycombs; braze heat treatment; visual inspection; blend excess honeycomb; dimension inspection.
Coating	Apply diffused aluminide coating to external surfaces; diffusion heat treatment; final visual inspection; final heat treatment; assemble segments to diaphragms; final dimensional inspection; post-repair assembly build and seal alignment verification.
Final Release	Final visual inspection; compile final report; pack and ship components with required documentation.

14. DETAILED DIMENSION INSPECTION RECORD

Unit: mm. A and B include left/right readings against 38.49 and 159.90 references respectively. C is diaphragm radius actual measurement record. D is base plate-to-segment reading against 38.49 reference.

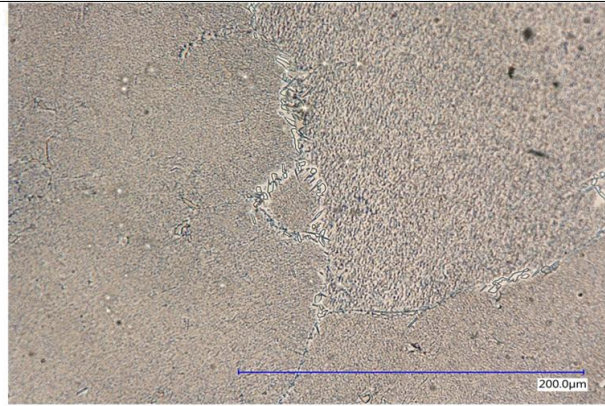
Segment No.	A Left	A Right	B Left	B Right	C	D
1	38.88	38.93	159.63	159.55	203.94	38.62
2	38.95	39.84	159.76	159.61	204.12	38.59
3	39.12	39.10	160.05	159.94	203.98	38.70
4	38.80	38.48	160.23	159.88	203.80	38.76
5	38.76	38.86	159.96	160.02	204.11	38.54
6	38.75	38.56	160.14	159.93	203.84	38.68
7	40.05	39.22	160.10	160.10	203.63	38.58
8	38.71	38.79	160.14	160.00	203.84	38.76
9	38.57	38.61	159.33	159.42	203.93	38.62
10	38.84	38.84	160.17	160.04	203.92	38.86
11	38.48	38.31	159.72	159.67	204.18	38.60
12	39.35	38.58	160.72	159.93	204.09	39.64
13	38.50	38.36	159.88	159.73	204.10	38.44
14	38.29	38.13	159.06	159.03	204.02	38.03
15	38.29	37.85	159.66	159.31	204.21	38.33
16	39.41	39.32	159.26	159.35	203.96	38.56
17	38.88	38.94	159.72	159.60	204.01	38.41
18	38.72	38.80	159.66	159.70	204.11	38.63
19	39.11	39.05	160.11	160.05	203.95	38.50
20	39.16	39.10	159.94	159.88	203.90	38.55

14.1 3-PIECE ASSEMBLY CHECK and MATERIAL EVALUATION

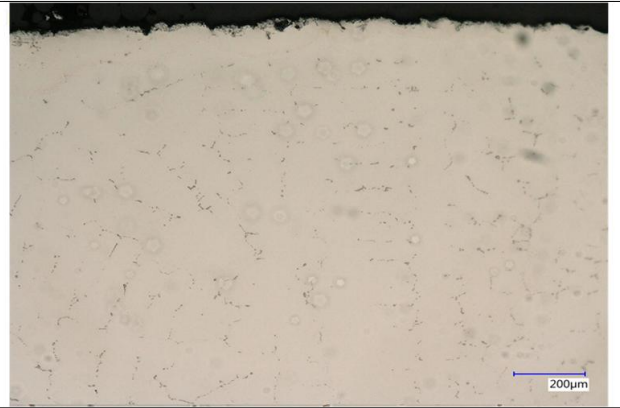
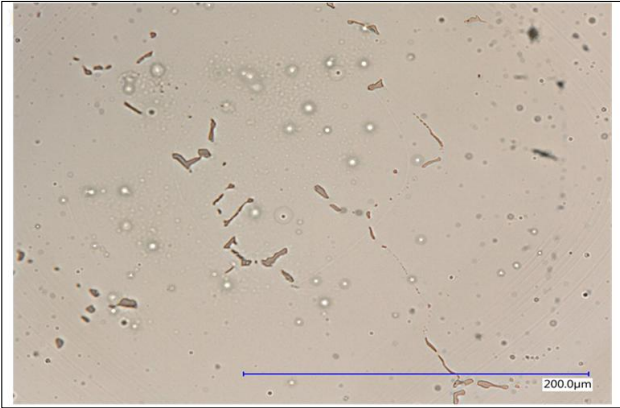
UNEW assembly-check fixture FX-4093: all 20 segment positions were recorded as acceptable (ACC) during the incoming 3-piece assembly check. Final assembly build must be repeated after repair, coating, and seal/honeycomb replacement.

Segment Group	Position Result
1–10	ACC for Segments 1, 2, 3, 4, 5, 6, 7, 8, 9, 10
11–20	ACC for Segments 11, 12, 13, 14, 15, 16, 17, 18, 19, 20

INCOMING INSPECTION REPORT

Report No.	L11464	Job order no.	825353								
Serial no.(or ID)	Item# 4	Cutting location	Leading Edge								
Received status	☒ As-Received ☐ Pre-Weld HT ☐ Post-Weld HT ☐ Other										
Analysis Result											
Main composition, %										Hardness Test	-
Element	Co	Cr	Ni	Ti	W	Ta	Mo	Fe	Al	Grain size	-
Nominal	19.0	22.5	Bal	2.2	2.0	0.0-1.1	-	-	1.7	Coating Type	No Coating
Result	19.8	20.6	52.0	2.1	2.3	0.04	-	-	1.7	Nearest Alloy	GTD262
Microstructure											
											
Fig.1 Showing the hot gas path surface condition.(Etched)						Fig.2 Showing the typical microstructure at higher magnification.(Etched)					
The sample was mounted in L11464 to assess if the material would be acceptable for repair. The following was observed. Hot gas path was uncoated and exhibited a layer of oxidation-corrosion and associated substrate alloy depletion, refer to Fig.1. Base material was confirmed as GTD262 alloy, comprising of fine grain boundary carbide and a gamma matrix with fine gamma prime, primary carbide and dispersed secondary carbide, Fig.2.											
Recommendation											
Based on the finding above, the base material was considered suitable for repair following surface cleaning by grit blast.											

INCOMING INSPECTION REPORT

Report No.	L11464-1	Job order no.	825353
Serial no.(or ID)	Item# 9	Cutting location	Leading edge
Received status	☐ As-Received ☒ Pre-Weld HT ☐ Post-Weld HT ☐ Other		
Analysis Result			
Main composition, %		Hardness Test	36.2 HRC
Element	Co Cr Ni Ti W Ta Mo Fe Al	Grain size	-
Nominal	(Refer to As-received analysis result)		Coating Type (Refer to As-received analysis result)
Result	(Refer to As-received analysis result)		Nearest Alloy (Refer to As-received analysis result)
Microstructure			
			
Fig.1		Fig.2	
Showing heat treated material condition. (Etched)		Showing the typical microstructure at higher magnification.(Etched)	
The sample was mounted in L11464-1 to assess the material microstructure in pre-weld solution heat treated condition. Examination revealed that the base material has been significantly improved. The grain boundaries carbide and detrimental phase was satisfyingly refined (compare with the as-received microstructure in the report no.L11464). (Fig.1 and 2)			
Recommendation			
The base material was satisfyingly recovered by the used solution heat treatment program.			

15. DETAILED GAP AND SEAL ALIGNMENT RECORD

Unit: mm. Values are incoming baseline readings for outer/inner wall abutment face gaps (A–D), diaphragm top face gaps (E–F), diaphragm front face gaps (G–H), and discourager seal alignment.

Position	A	B	C	D	E	F	G	H	Seal Align.
1-2	2.99	3.12	3.60	2.93	3.11	3.00	3.16	2.95	0.25
2-3	2.79	3.64	2.65	3.00	4.20	3.90	4.21	3.48	0.21
3-4	3.48	3.46	3.00	3.05	2.90	3.62	3.71	3.75	0.19
4-5	2.88	4.11	2.85	2.72	3.99	4.21	4.73	4.13	0.24
5-6	3.48	3.69	3.48	3.21	3.18	3.10	3.11	2.82	0.17
6-7	2.20	3.54	2.81	2.77	3.63	3.88	3.83	3.92	0.20
7-8	2.91	3.09	2.72	2.94	3.62	3.83	3.67	3.62	0.18
8-9	3.07	3.38	3.01	3.02	3.44	3.36	3.70	3.33	0.23
9-10	3.75	3.97	3.36	3.64	3.33	3.35	3.64	3.32	0.18
10-11	4.29	3.07	2.75	2.64	3.90	4.10	4.41	4.00	0.24
11-12	2.89	2.53	2.68	2.60	4.37	4.38	3.34	3.89	0.21
12-13	3.77	3.92	3.49	3.53	2.69	3.65	3.23	2.95	0.19
13-14	4.27	4.65	3.60	3.54	3.32	3.58	4.28	3.11	0.22
14-15	3.30	3.21	3.13	3.22	4.01	4.10	4.15	3.84	0.19
15-16	3.92	4.21	3.24	3.44	4.06	4.37	4.32	3.50	0.21
16-17	2.89	3.04	3.42	3.27	3.45	3.42	3.31	3.22	0.17
17-18	3.81	3.91	2.98	2.96	3.48	3.69	3.79	3.44	0.22
18-19	3.74	3.76	3.68	3.67	3.76	3.93	4.07	3.85	0.19
19-20	3.35	2.07	3.09	3.43	2.40	2.32	2.42	2.75	0.20
20-1	2.71	4.73	2.40	2.80	4.91	5.04	5.60	4.96	0.24

A–D = outer/inner wall abutment face gaps; E–F = diaphragm top face abutment face gaps; G–H = diaphragm front face abutment face gaps.

16. DEFECT ROUTING SUMMARY

Repair code legend: B = Blend repair; WB = Weld and Blend; WM = Weld and Machining; WE = Welding and EDM; TPR = Transient Phase Restoration; R = Replace; ACC = Acceptable as is; REJ = Dimension unacceptable and requires repair or scrap review; S = Non-repairable / Scrap.

Component / Area	Defect / Condition	Repair Code	Quantity
Nozzle Segments 1–20	Airfoil / gas path corrosion and erosion areas	B / Blend repair	20/20
Nozzle Segments 1–20	Crack / shroud / local weld repair areas	WB / Weld and Blend	20/20
Nozzle Cavity	Cavity condition after incoming inspection	ACC / Acceptable as is	20/20
Diaphragm Honeycombs	Fretting / wear requiring replacement	R / Replace	20/20
Diaphragm Body	Body repair routing	WB / Weld and Blend	20/20
Locking Plates	Deformation requiring replacement	R / Replace	20/20

16.1 Nozzle Segment Inspection Findings (Per Segment)

Per-segment routing from the incoming inspection findings record. Airfoil C.C-A/F and C.V-A/F corrosion/erosion areas carry Blend (B) routing; crack / shroud / local weld repair areas carry Weld-and-Blend (WB) routing; downstream deflection is acceptable (ACC) on all segments.

Segment No.	S/N	Airfoil Corr/Erosion (C.C-A/F)	Airfoil Corr/Erosion (C.V-A/F)	Crack / Local Weld Areas	Downstream Deflection
1	P3FE 04238	B	B	WB / WB	ACC
2	P3FE 04266	B	B	WB / WB	ACC
3	P3FE 04257	B	B	WB / WB	ACC
4	P3FE 04218	B	B	WB / WB	ACC
5	P3FE 04272	B	B	WB / WB	ACC
6	P3FE 04237	B	B	WB / WB	ACC
7	P3FE 04232	B	B	WB / WB	ACC
8	P3FE 04244	B	B	WB / WB	ACC
9	P3FE 04194	B	B	WB / WB	ACC
10	P3FE 04243	B	B	WB / WB	ACC
11	P3FE 04229	B	B	WB / WB	ACC
12	P3FE 04231	B	B	WB / WB	ACC
13	P3FE 04268	B	B	WB / WB	ACC
14	P3FE 04251	B	B	WB / WB	ACC
15	P3FE 04267	B	B	WB / WB	ACC
16	P3FE 04261	B	B	WB / WB	ACC
17	P3FE 04253	B	B	WB / WB	ACC
18	P3FE 04240	B	B	WB / WB	ACC

INCOMING INSPECTION REPORT

19	P3FE 04220	B	B	WB / WB	ACC
20	P3FE 04223	B	B	WB / WB	ACC

16.2 Diaphragm Inspection Findings (Per Assembly)

Item	S/N	Honeycomb – Fretting	Body – Repair Routing
1	SNEG425893/1	R (Replace)	WB (Weld and Blend)
2	SNEG425893/2	R (Replace)	WB (Weld and Blend)
3	SNEG425893/3	R (Replace)	WB (Weld and Blend)
4	SNEG425893/4	R (Replace)	WB (Weld and Blend)
5	SNEG425893/5	R (Replace)	WB (Weld and Blend)
6	SNEG425893/6	R (Replace)	WB (Weld and Blend)
7	SNEG425893/7	R (Replace)	WB (Weld and Blend)
8	SNEG425893/8	R (Replace)	WB (Weld and Blend)
9	SNEG425893/9	R (Replace)	WB (Weld and Blend)
10	SNEG425893/10	R (Replace)	WB (Weld and Blend)
11	SNEG425893/11	R (Replace)	WB (Weld and Blend)
12	SNEG425893/12	R (Replace)	WB (Weld and Blend)
13	SNEG425893/13	R (Replace)	WB (Weld and Blend)
14	SNEG425893/14	R (Replace)	WB (Weld and Blend)
15	SNEG425893/15	R (Replace)	WB (Weld and Blend)
16	SNEG425893/16	R (Replace)	WB (Weld and Blend)
17	SNEG425893/17	R (Replace)	WB (Weld and Blend)
18	SNEG425893/18	R (Replace)	WB (Weld and Blend)
19	SNEG425893/19	R (Replace)	WB (Weld and Blend)
20	SNEG425893/20	R (Replace)	WB (Weld and Blend)

10. PHOTOGRAPHS:



Fig.1 As-received condition.



Fig.2 As-received condition.



Fig.3 As-received condition.

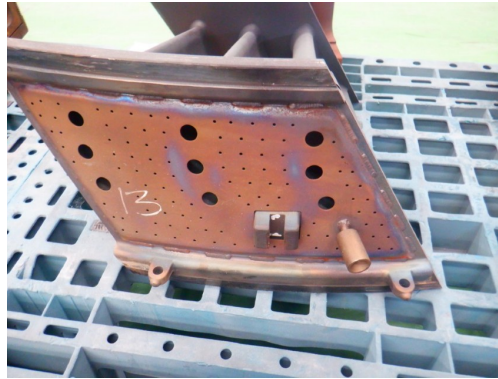


Fig.4 As-received condition.



Fig.5 As-received condition.

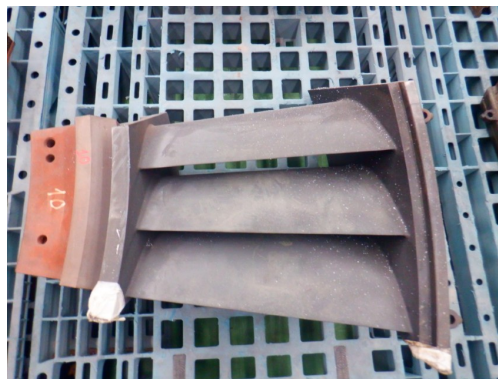


Fig.6 As received condition.



Fig.7 As received condition.

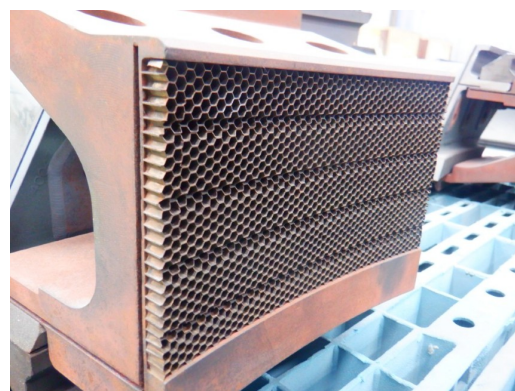


Fig.8 As received condition.



Fig.9 As received condition.



Fig.10 As received condition.



Fig.11 As received 3-pcs assembly inspection.



Fig.12 As received 3-pcs assembly inspection.

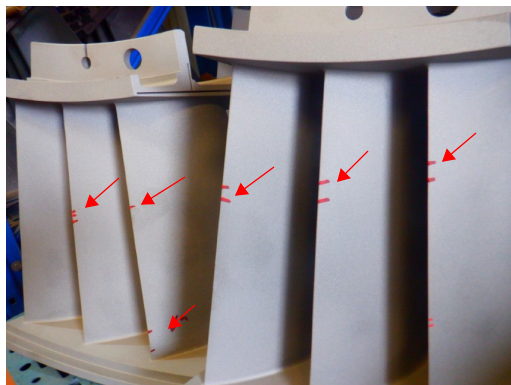


Fig.13 Crack on trailing edge.

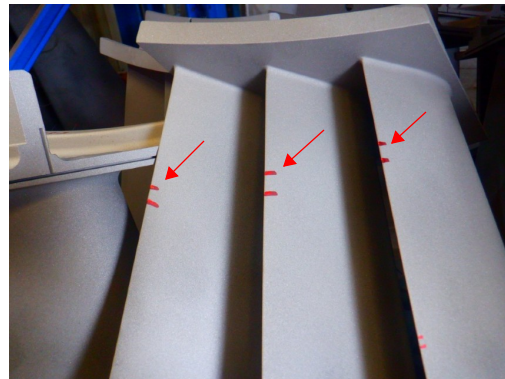


Fig.14 Crack on trailing edge.

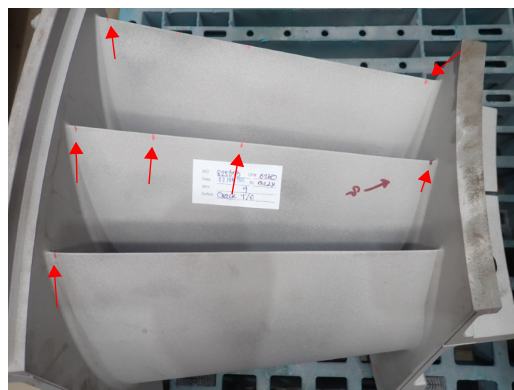


Fig.15 Crack on trailing edge.

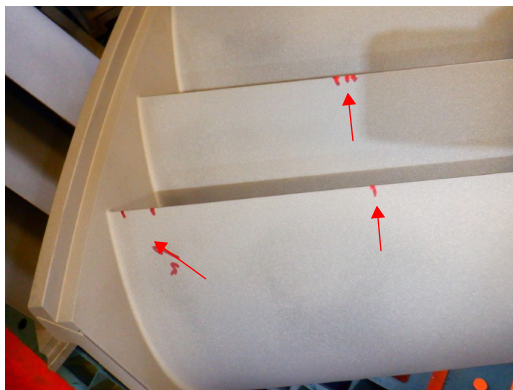


Fig.16 Crack on trailing edge.

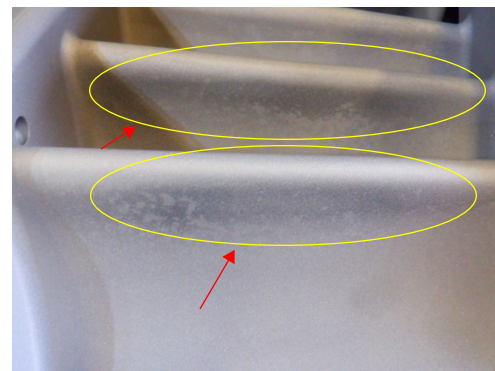
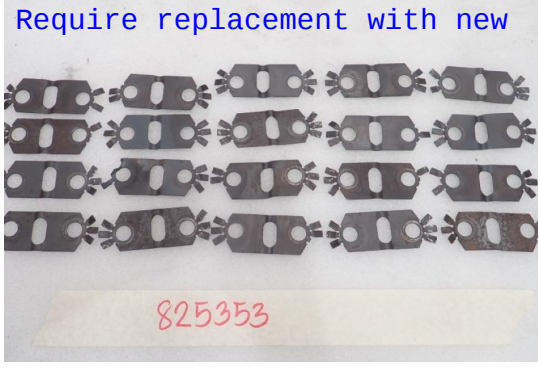
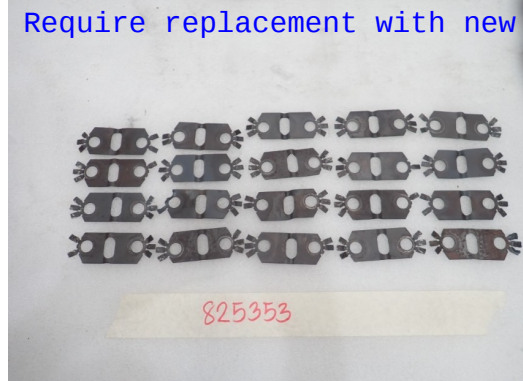


Fig.17 Corrosion on leading edge.



Fig.18 Corrosion on leading edge and concave airfoil.

 825353	 825353
Fig.19 As received condition of Cover plate, (repairable).	Fig.20 As received condition of Cover plate, (repairable).
 825353	
Fig.21 Impingement plate, Bush, Diaphragm RET. screw pin- Hex. Head Bolt, (repairable).	Fig.22 Impingement plate, Bush, Diaphragm RET. screw pin- Hex. Head Bolt, (repairable).
Require replacement with new  825353	Require replacement with new  825353
Fig.23 Deformation of locking plate which requires replacement with new.	Fig.24 Deformation of locking plate which requires replacement with new.

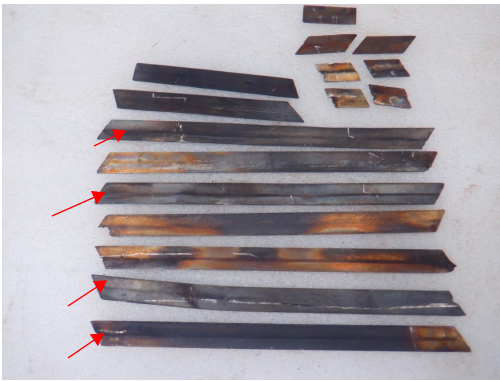


Fig.25 Fretting,deformation and corrosion on seals which require replacement with new.

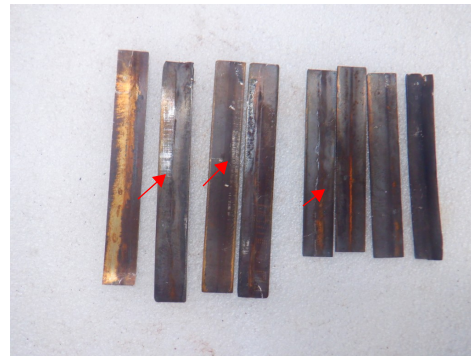


Fig.26 Fretting,deformation and corrosion on seals which require replacement with new.



Fig.27 Fretting on Honeycomb seals which require replacement with new.

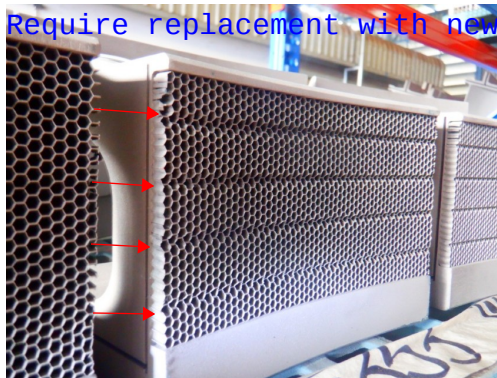
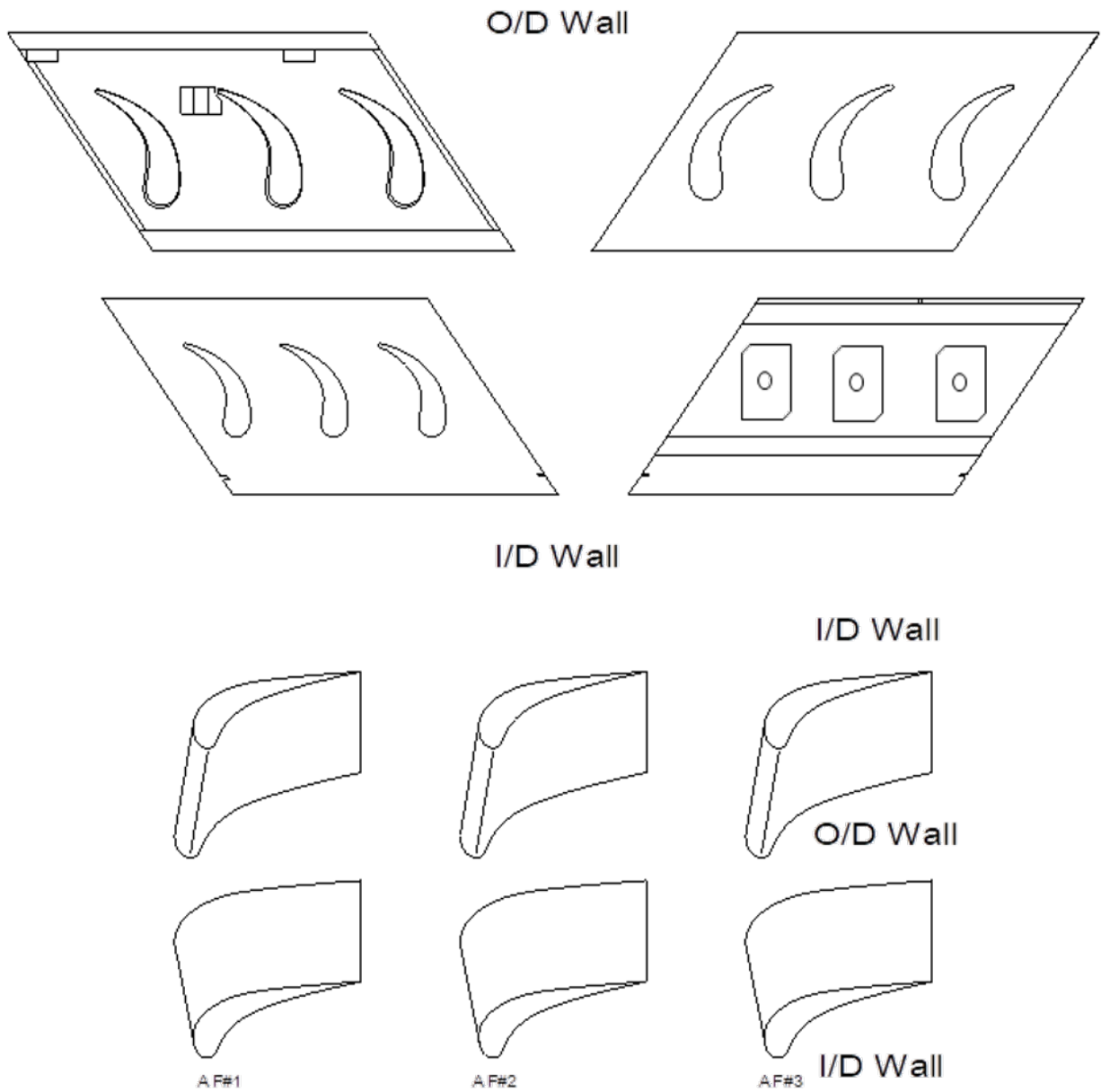


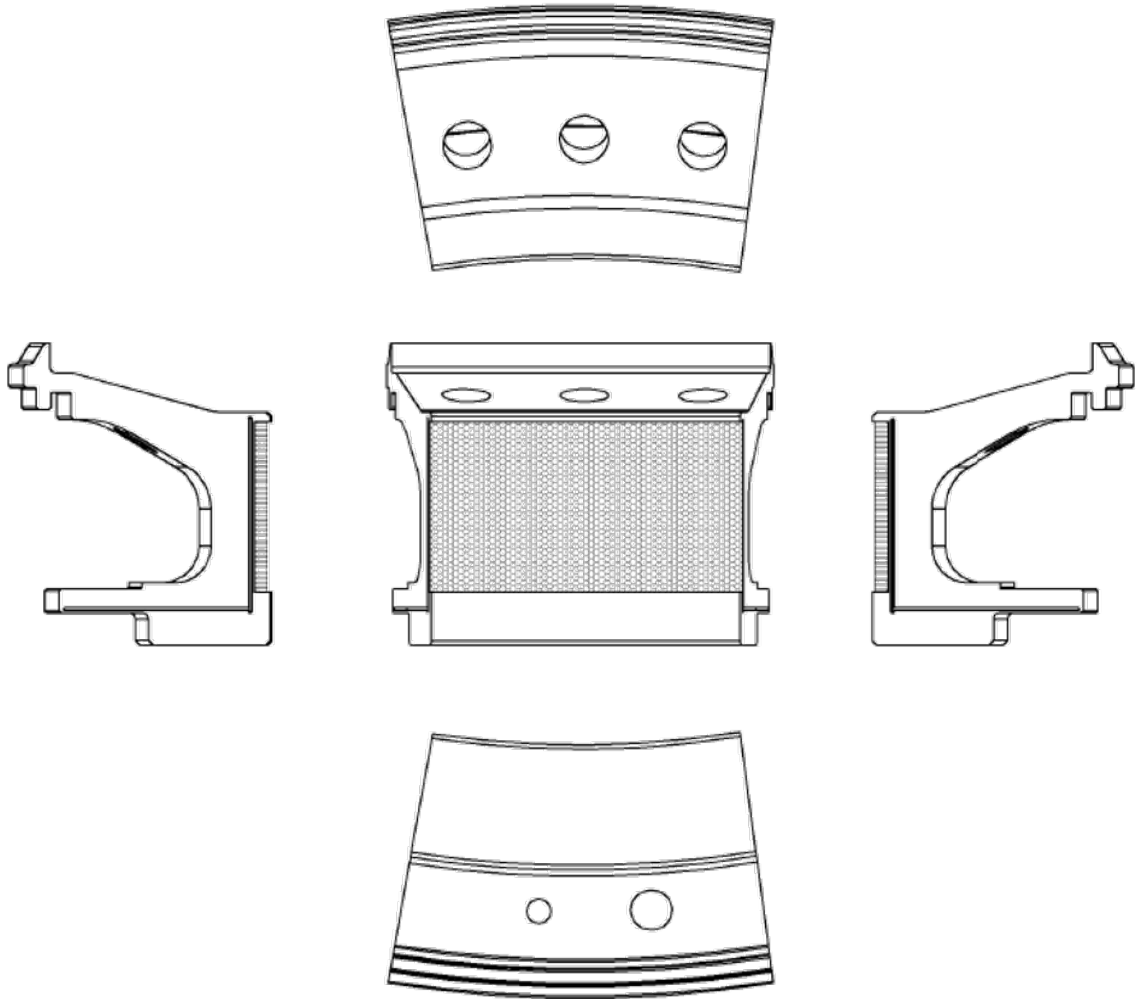
Fig.28 Fretting on Honeycomb seals which require replacement with new.

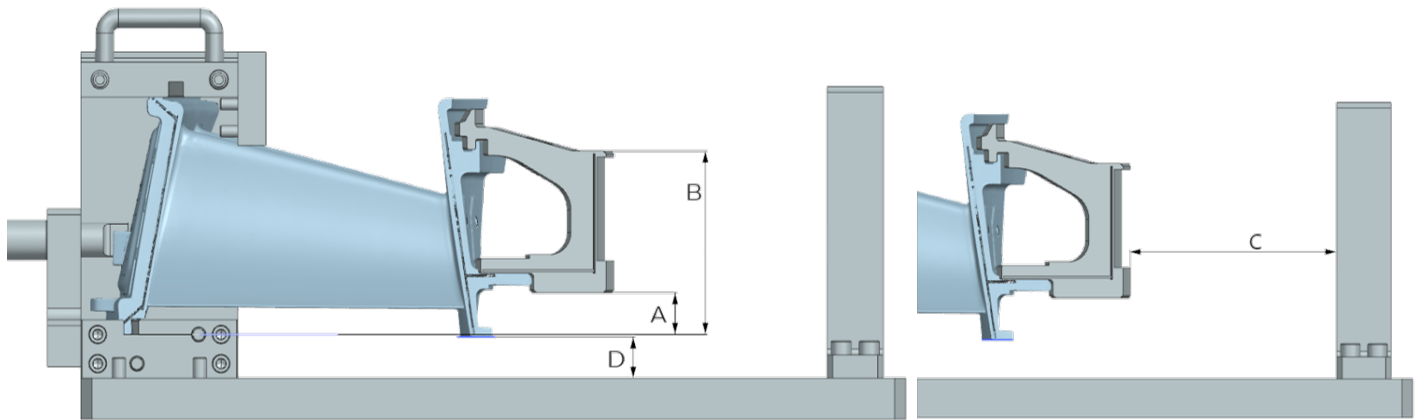
11. DEFECT LEGEND TABLE:

FOR SEGMENTS



FOR DIAPHRAGMS



12. DIMENSION INSPECTION:

Location	A		B		C Diaphragm radius (Actual measurement record) (Unit : mm.)	D Base plate to segment (Unit : mm.)
Tolerance	38.49 (Unit : mm.)		159.90 (Unit : mm.)			
Segment no.	Left	Right	Left	Right		
1	38.88	38.93	159.63	159.55	203.94	38.62
2	38.95	39.84	159.76	159.61	204.12	38.59
3	39.12	39.10	160.05	159.94	203.98	38.70
4	38.80	38.48	160.23	159.88	203.80	38.76
5	38.76	38.86	159.96	160.02	204.11	38.54
6	38.75	38.56	160.14	159.93	203.84	38.68
7	40.05	39.22	160.10	160.10	203.63	38.58
8	38.71	38.79	160.14	160.00	203.84	38.76
9	38.57	38.61	159.33	159.42	203.93	38.62
10	38.84	38.84	160.17	160.04	203.92	38.86
11	38.48	38.31	159.72	159.67	204.18	38.60
12	39.35	38.58	160.72	159.93	204.09	39.64
13	38.50	38.36	159.88	159.73	204.10	38.44
14	38.29	38.13	159.06	159.03	204.02	38.03
15	38.29	37.85	159.66	159.31	204.21	38.33
16	39.41	39.32	159.26	159.35	203.96	38.56
17	38.88	38.94	159.72	159.60	204.01	38.41
18	38.72	38.80	159.66	159.70	204.11	38.63
19	39.11	39.05	160.11	160.05	203.95	38.50
20	39.16	39.10	159.94	159.88	203.90	38.55

3 PCS DIMENSION INSPECTION RESULT

3 pcs assembly check use fixture no.EETH4093

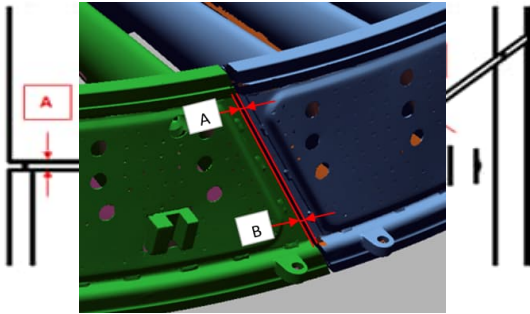


Segments No.	1	2	3	4	5	6	7	8	9	10
Position (Acc / Rej)	Acc	Acc	Acc	Acc	Acc	Acc	Acc	Acc	Acc	Acc
Segments No.	11	12	13	14	15	16	17	18	19	20
Position (Acc / Rej)	Acc	Acc	Acc	Acc	Acc	Acc	Acc	Acc	Acc	Acc

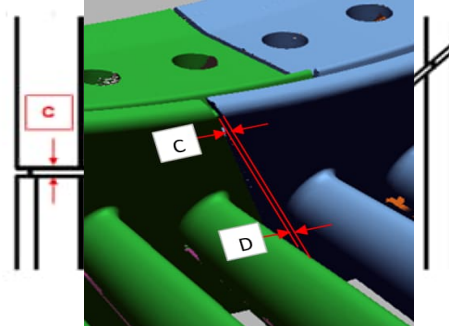
3 PCS. DIMENSION INSPECTION RESULT

Outer wall/Inner wall abutment face gaps

Outer platform of Nozzle



Inner platform of Nozzle

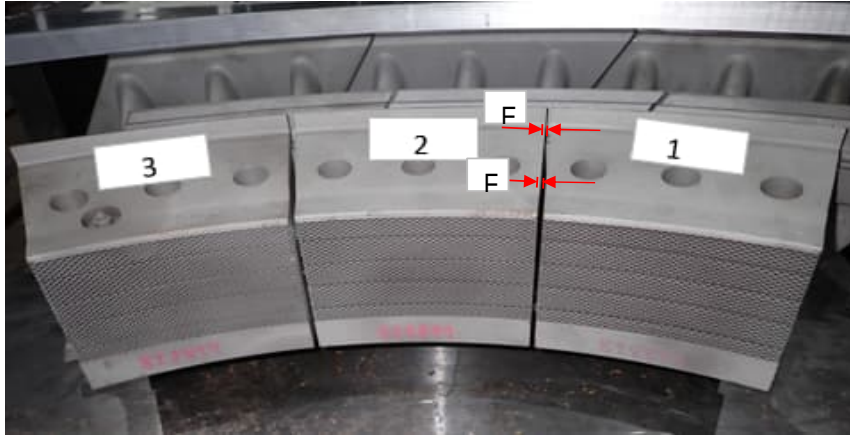


Position	A	B	C	D
1-2	2.99	3.12	3.60	2.93
2-3	2.88	4.11	2.85	2.72
3-4	3.48	3.69	3.48	3.21
4-5	2.79	3.64	2.65	3.00
5-6	3.48	3.46	3.00	3.05
6-7	3.07	3.38	3.01	3.02
7-8	3.75	3.97	3.36	3.64
8-9	2.20	3.54	2.81	2.77
9-10	2.91	3.09	2.72	2.94
10-11	3.77	3.92	3.49	3.53
11-12	4.27	4.65	3.60	3.54
12-13	4.29	3.07	2.75	2.64
13-14	2.89	2.53	2.68	2.60
14-15	3.92	4.21	3.24	3.44
15-16	2.89	3.04	3.42	3.27
16-17	3.81	3.91	2.98	2.96
17-18	3.74	3.76	3.68	3.67
18-19	3.35	2.07	3.09	3.43
19-20	2.71	4.73	2.40	2.80
20-1	3.30	3.21	3.13	3.22

Unit : mm.

3 PCS. DIMENSION INSPECTION RESULT

Diaphragm top face abutment face gaps

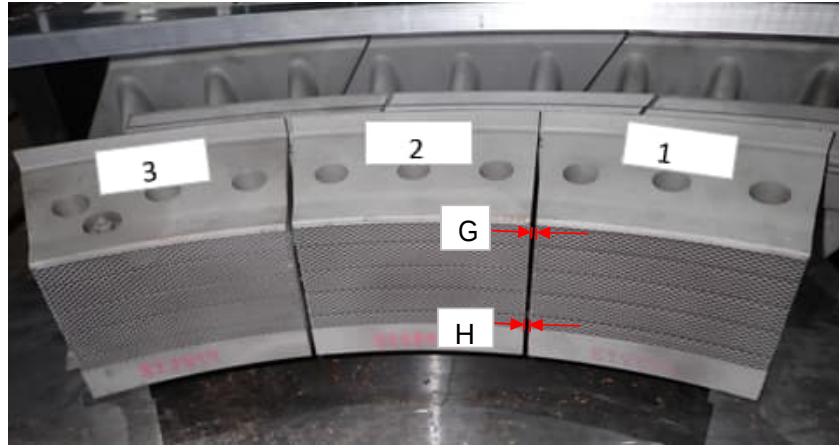


Position	E	F
1-2	3.11	3.00
2-3	4.20	3.90
3-4	2.90	3.62
4-5	3.99	4.21
5-6	3.18	3.10
6-7	3.63	3.88
7-8	3.62	3.83
8-9	3.44	3.36
9-10	3.33	3.35
10-11	3.90	4.10
11-12	4.37	4.38
12-13	2.69	3.65
13-14	3.32	3.58
14-15	4.01	4.10
15-16	4.06	4.37
16-17	3.45	3.42
17-18	3.48	3.69
18-19	3.76	3.93
19-20	2.40	2.32
20-1	4.91	5.04

Unit : mm.

3 PCS. DIMENSION INSPECTION RESULT

Diaphragm front face abutment face gaps

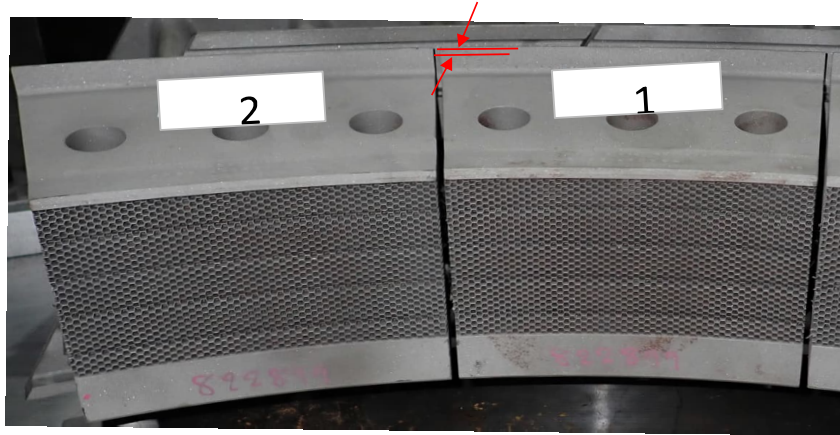


Position	G	H
1-2	3.16	2.95
2-3	4.21	3.48
3-4	3.71	3.75
4-5	4.73	4.13
5-6	3.11	2.82
6-7	3.83	3.92
7-8	3.67	3.62
8-9	3.70	3.33
9-10	3.64	3.32
10-11	4.41	4.00
11-12	3.34	3.89
12-13	3.23	2.95
13-14	4.28	3.11
14-15	4.15	3.84
15-16	4.32	3.50
16-1	3.31	3.22
17-18	3.79	3.44
18-19	4.07	3.85
19-20	2.42	2.75
20-1	5.60	4.96

Unit : mm.

3 PCS DIMENSION INSPECTION RESULT

Diaphragm discourager seal alignment



Position	Seal alignment
1-2	0.25
2-3	0.21
3-4	0.19
4-5	0.24
5-6	0.17
6-7	0.20
7-8	0.18
8-9	0.23
9-10	0.18
10-11	0.24
11-12	0.21
12-13	0.19
13-14	0.22
14-15	0.19
15-16	0.21
16-17	0.17
17-18	0.22
18-19	0.19
19-20	0.20
20-1	0.24

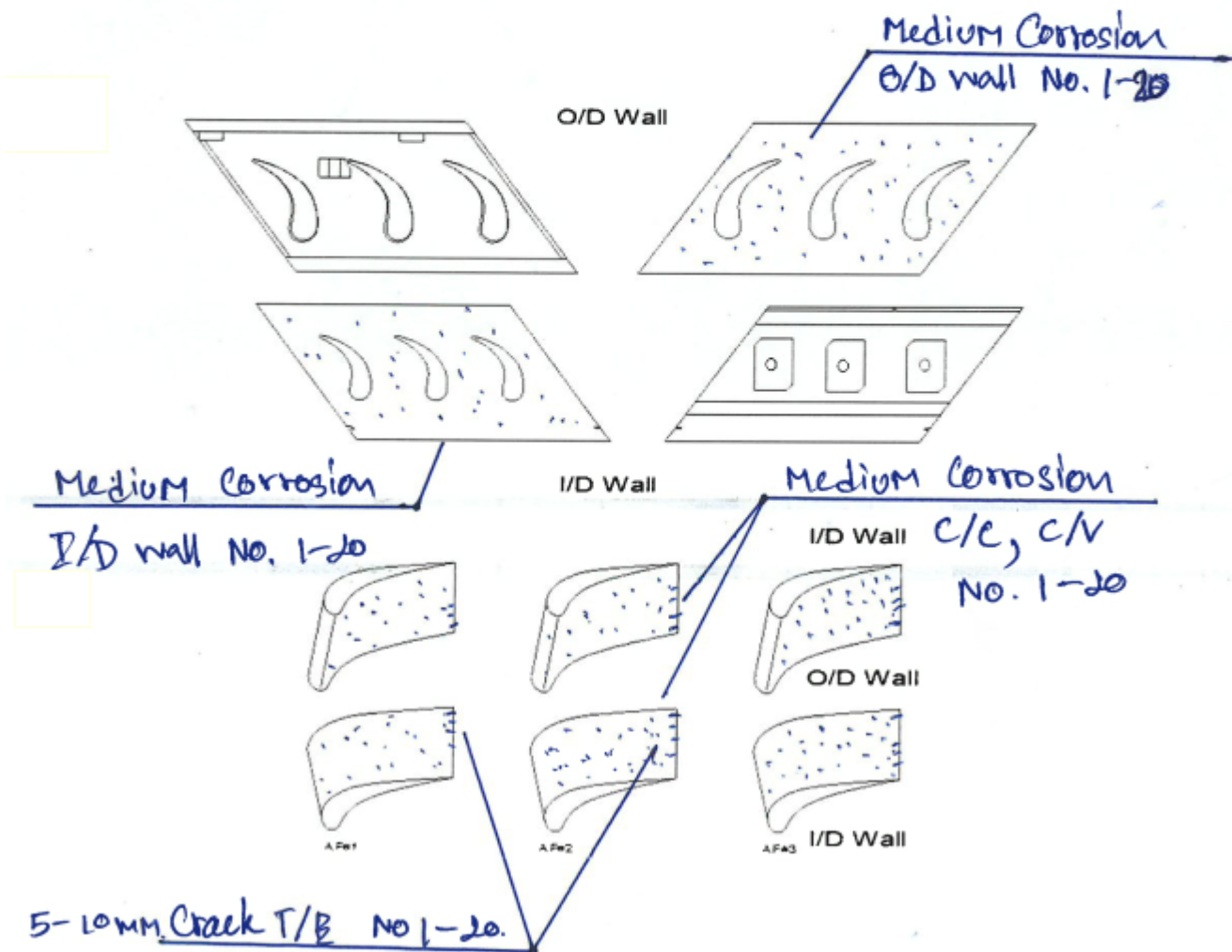
Unit : mm.

13. DEFECT MAP:

INSPECTION AND PROCESS RECORD SHEET			
MS6001FA 3rd STAGE NOZZLE		IPRS NO.	3064-50
PART NUMBER : GENZ03M6FA		REV.	00
CUSTOMER :	Nghi Son Refinery &	CUSTOMER PO :	WO-1004061634-100406
JOB NUMBER :	825353	OP.	0260
INSPECTED BY :		DATE :	03/06/2026

Crack (mm)
 Foreign Object Damage (L/M/H)
 Fracture (L/M/H)
 Deformation area (mm²)
 Corrosion (L/M/H)
 Missing Material (mm²)

*Bowing Airfoil indicate in Light (L), Medium (M), Heavy (H)



INCOMING INSPECTION REPORT

INSPECTION AND PROCESS RECORD SHEET			
MS6001FA 3rd STAGE DIAPHRAGM		IPRS NO.	3064-50
PART NUMBER : GENZ03M6FA		REV.	00
CUSTOMER :	Nghi Son Refinery &	CUSTOMER PO :	WO-1004061634-100406
JOB NUMBER :	825353	OP.	0260
INSPECTED BY :	Mr. Supachet Kantaro	DATE :	03-06-26

Crack (mm)
 Foreign Object Damage (L/M/H)
 Fretting (L/M/H)
 Deformation area (mm²)
 Corrosion (L/M/H)
 Missing Material (mm²)

