

Invoice No.: WO-1003946086/WO-1003986864



UNEW Inc.

3321 SE Gran Park Way, Stuart, FL 34997, United States

FROM	UNEW, Inc. 3321 SE Gran Park Way Stuart, Florida USA 34997 United States	TO	Nghi Son Refinery & Petrochemical, LLC. Nghi Son Economic Zone, Hai Binh Ward Thanh Hoa Province, Vietnam	PAYMENT TERMS	30 days or less after receiving products
				INVOICE DATE	06 July 2026
				CURRENCY	USD
				INVOICE NO.	WO-1003946086/WO-1003986864
				WORK ORDER REF.	WO-1003946086 / WO-1003986864

INVOICE — GAS TURBINE REPAIR SERVICES | WORK ORDERS WO-1003946086 / WO-1003986864

No.	Work Order / Component/ Repair classification	Detailed Invoice Description / Technical Basis	Qty / Unit	Standard / Medium Amount (USD)	Heavy / Additional Amount (USD)	Extended Price (USD)
1	WO-1003946086 MS6001FA Combustion Liner (MNQC) Set P/N 119E9620G001 Qty 6 liners (1 complete set) HEAVY REPAIR, LEVEL 9 Level 9 of 10 (upper boundary) Heavy repair charge applies	HEAVY REPAIR TECHNICAL BASIS - complete MNQC combustion liner set (6 liners). Body cracking recorded on 6/6 liners: cracks 2-4 mm in high-temperature combustion zones require crack excavation and GTAW weld reconstruction; cowl cap crack and floating collar crack recorded on Item 5 require weld repair. Body corrosion, oxidation and coating-interface degradation recorded on 6/6 liners; affected surface material must be removed by controlled blending/scalloping and restored by local weld build-up where required before coating. End ring roundness REJECT on 6/6 liners and spring seal diameter REJECT on 6/6 liners; dimensional restoration and fit-up verification required on all six liners. Liner body F-roundness recorded out of limit on 6/6 liners (5.85-6.47 mm); cold press / reshape required to restore body geometry and fit-up prior to coating. Fretting and wear recorded at sealing and fit-up interfaces, including spring seals, collar retainers, floating collars, crossfire collars and liner stops; mating surfaces require blend repair and weld repair where blend limits are exceeded. Replacement hardware required across the complete set: end rings (6), spring seals / hula skirts (6), crossfire collars (12), liner stops (18), floating collars (36), collar retainers (36) and cowl cap rivets (72). Full strip of degraded TBC / MCrAlY coating and reapplication of the coating system: APS Chrome Carbide on hula skirt wear areas, APS MCrAlY bond coat on internal gas path surfaces and APS Class C TBC on liner body internal surfaces. Required process controls: metallurgical evaluation, abrasive blast / coating removal, pre-strip and post-strip ultrasonic wall-thickness inspection, visual inspection, repeated FPI/NDT, GTAW weld repair, post-weld heat treatment, dimensional requalification, coating acceptance, final inspection, final report, packing and shipment documentation. The heavy / additional repair charge applies to this line per the Level 9 classification of the incoming inspection report.	1 set	193,920.00	145,400.00	339,320.00

Invoice No.: WO-1003946086/WO-1003986864



No .	Work Order / Component/ Repair classification	Detailed Invoice Description / Technical Basis	Qty / Unit	Standard / Medium Amount (USD)	Heavy / Additional Amount (USD)	Extended Price (USD)
2	WO-1003946086 MS6001FA Transition Piece Set P/N 119E9674G002 Qty 6 units (1 complete set) MEDIUM REPAIR, LEVEL 7 Medium-High Repair (upper boundary of Standard / Medium band, Levels 4-7) No additional heavy repair charge	Repair classification per report: Level 7 of 10 - Medium-High Repair, the upper boundary of the Standard / Medium refurbishment band (Levels 4-7); no additional heavy repair charge is applied. Seventeen (17) FPI-confirmed crack locations across the set: 2-5 mm cracks on all 12 impingement sleeve halves; 5-10 mm cracks on outer picture frame wear strips of Units 1, 3, 4 and 5; 10 mm crack on inner picture frame wear strip of Unit 6. Fretting at inlet bores on all six units; inlet bore ID and roundness REJECT on Units 1, 4 and 6, including out-of-roundness up to 4.12 mm; blend repair and dimensional restoration required. Fretting at inner, outer and side picture frame wear strips and H-blocks; inner wear strips (6) and side wear strips (12) require replacement, outer wear strips require repair and H-blocks require blend repair. Deformation and wear on 100% of the floating seal system: inner floating seals (6) and outer floating seals (6) require replacement; seal slot re-creation by EDM required after weld repair. Exit end dimensions REJECT on 6/6 units with out-of-roundness up to 4.79 mm; picture frame slot dimensions REJECT on 6/6 units; full-set cold press correction and dimensional restoration required. Wall thickness acceptable on 6/6 units and transition piece bodies show no primary structural cracking, no heavy internal corrosion, no missing material and no base-metal attack; this controls the report classification below Heavy Repair. Repair scope includes weld and blend repair, replacement of required detail parts, repair of 42 detail parts, three furnace cycles per unit (incoming solution heat treatment, post-repair heat treatment and final age heat treatment), multiple NDT hold points, final dimensional / visual inspection and final report. Coating restoration includes Chrome Carbide hard-face coating by APS process at inlet end and forward support ring, APS MCrAlY bond coat on internal body and picture frame surfaces, and APS TBC topcoat on internal body surface.	1 set	136,656.00	—	136,656.00
3	MS6001FA Bucket Stage 1 NOT REPAIRABLE Reverse engineering for new interchangeable replacement parts No repair charge on this invoice	The component is not repairable. UNEW Engineering will scan selected repairable parts to obtain dimensional data and material composition. This information will be used to develop engineering drawings, blueprint data and material property specifications for manufacturing new interchangeable replacement parts to replace the missing or damaged blades. No repair charge is applied on this invoice line.	1 set	—	—	—
4	WO-1003986864 MS6001FA 1st Stage Nozzle Set P/N 143E5711G02 / 129E9734 P002 Qty 24 segments (1 complete set) FSX-414	HEAVY REPAIR TECHNICAL BASIS - complete 24-segment 1st stage nozzle set. 100% trailing-edge rejection: all 24 segments rejected; 48 of 48 airfoil trailing-edge positions require restoration. Ultrasonic wall-thickness inspection at T1/T2 recorded 89 of 94 measurable readings below the 2.03 mm minimum limit and 2 positions unmeasurable due to through-wall material loss; lowest reading 1.12 mm (44.8% below limit), mean reading 1.57 mm (22.6% below limit). Pressure Side Plate (PSP) restoration required on all 48 airfoil trailing-edge positions to restore minimum wall thickness before coating. Extensive trailing-edge cracking on all 24 segments: O/D wall cracks 5 to 75 mm and I/D wall cracks 5 to 25 mm require crack excavation,	1 set	238,320.00	178,672.00	416,992.00

Invoice No.: WO-1003946086/WO-1003986864



No .	Work Order / Component/ Repair classification	Detailed Invoice Description / Technical Basis	Qty / Unit	Standard / Medium Amount (USD)	Heavy / Additional Amount (USD)	Extended Price (USD)
	HEAVY REPAIR, LEVEL 9 Very Heavy, Level 9 of 10 (upper boundary) Heavy repair charge applies	GTAW weld repair, blending and inspection. Full-set airfoil body multi-cracking: crack networks 15x40 mm2 to 30x120 mm2 on concave and convex surfaces, leading edge and trailing edge, on all 24 segments require Transient Phase Restoration (TPR), weld repair and vacuum heat treatment. Non-gas-path cracking: I/D wall cracks 8 to 20 mm on all 24 segments and O/D wall cracks 8 to 15 mm on Items 1, 3, 22 and 23 require TPR / GTAW weld repair. Missing material repair: O/D wall patches 5x30 mm to 8x50 mm on Items 1, 2, 4, 5, 6, 11, 14, 15 and 17, plus 8x100 mm through-wall trailing-edge material loss on Item 8, require weld build-up, EDM / PSP restoration and requalification. Item 19 has a 50 mm crack at the concave airfoil face requiring GTAW weld repair and blending. Heavy hot corrosion and oxidation on trailing edges, concave airfoil faces, outer shroud wall, I/D wall and non-gas-path surfaces require removal of degraded material, blending and weld restoration where needed. Trailing-edge bowing and permanent deformation require cold straightening and planishing of trailing-edge and airfoil sections across the set. Base metal condition: FSX-414 metallurgical evaluation confirmed grain boundary carbide coarsening and detrimental phase precipitation; mandatory full vacuum solution heat treatment is required before / after repair, and post-HT hardness values are within UNEW's approved acceptance range for FSX-414 weld-repair eligibility. Cooling hole and cooling passage recovery: EDM restoration of cooling holes and seal slots, cooling-hole flow checks, ultrasonic wall-thickness verification, dimensional inspection, harmonic analysis, roundness check and final assembly requalification. Hardware replacement / reinstallation required: 192 segment joint flat seals; 24 inner impingement cover plates; 24 outer impingement cover plates; 48 inner leading-edge core plugs; 48 outer leading-edge core plugs; 48 trailing-edge core plugs; 24 internal retaining rings 13/16 in.; 4 Heli coils 3/4 in.-10UNC; 18 Heli coils 5/8 in.-11UNC; nozzle retaining pins welded in place. Full coating restoration on all 24 segments: chemical strip of existing TBC and MCrAlY, heat tint verification, abrasive blast surface preparation, HVOF MCrAlY bond coat on gas path surfaces, full TBC top coat, post-coating visual inspection, fabrication weld inspection and final report. Required process controls: receipt inspection, serial number recording, dimensional and harmonic baseline, FPI before and after weld / TPR, full vacuum solution heat treatment, HF and vacuum cleaning for TPR, ultrasonic wall-thickness confirmation to 2.03 mm minimum, cooling-hole flow check, final dimensional inspection, harmonic / roundness check, final visual inspection, packing and shipment documentation. The heavy / additional repair charge applies to this line per the Level 9 classification of the incoming inspection report.				
5	WO-1003986864 MS6001FA 1st Stage Shroud Block Set Body P/N 119E4234G001 / Inner Plate P/N 176D3829P001 Qty	HEAVY REPAIR TECHNICAL BASIS - complete 1st stage shroud block set (24 units / 72 tip shoes). 100% fixture rejection: all 24 inner plate assemblies REJECT at Z2 fixture check; tip shoe position C REJECT at Z1 on 24 of 24 assemblies; Item 18 could not be fully seated in the fixture and is rejected on failure to achieve fixture seating. Inner plate dimensional non-conformance: 13 side rail readings below the 1.70 mm minimum repair datum across 5 assemblies; Item 19 non-conforming at 7 of 8 side rail positions with L-dimension 3.45 mm, 10.2% below the lowest conforming L	1 set	130,320.00	97,750.00	228,070.00

No .	Work Order / Component/ Repair classification	Detailed Invoice Description / Technical Basis	Qty / Unit	Standard / Medium Amount (USD)	Heavy / Additional Amount (USD)	Extended Price (USD)
	24 units / 72 tip shoes (1 complete set) HEAVY REPAIR, LEVEL 9 Very Heavy, Level 9 of 10 (upper boundary) Heavy repair charge applies	value in the set (3.84 mm). Worst material losses include Item 19 S2 = 0.90 mm (47.1% loss vs datum), Item 16 S5/S7 = 1.00 mm (41.2% loss) and Item 19 S7 = 1.10 mm (35.3% loss); weld build-up and re-machining are required. Fretting beyond blend limits at FWD side, AFT side, pressure face, left and right side contact rails and inner plate contact surfaces on the complete set; blending alone cannot restore load-bearing contact geometry, so scallop / route, GTAW weld build-up, blending and re-machining are required. Structural deformation of shroud bodies at left and right side regions; Items 14, 17, 18 and 19 require jacking, contouring, mechanical straightening and geometry correction. FOD and surface damage on exposed body surfaces require blend and weld repair; old dowel holes require weld plug pins. Metallurgical degradation: SS310 body shows abnormal microstructural transformation, coarsened grain boundary carbide networks, secondary phase precipitation, oxidation-affected surface layer and localized material loss; Inconel 738 inner plates show coating and substrate interface degradation, gamma prime coarsening and localized base-metal loss. Degraded material must be removed, followed by controlled weld repair and post-weld vacuum heat treatment. Full dimensional restoration and re-machining of all 24 inner plate assemblies to recover L, S1 to S8 and Z2, interface fit-up, gas path sealing and final fixture requalification. Full coating restoration: chemical strip and heat-tint verification of existing TBC Abradable coating, abrasive blast, TBC Abradable coating with ceramic compound on all 24 inner plate gas path surfaces, coating heat treatment in furnace and post-coating dimensional / visual inspection. Replacement / installation required: new L605 inner plate side seals (flat and bone type), 72 tile retention pins, 72 internal retaining rings and applicable split-line seals; final assembly of shroud plates to blocks, FPI, visual inspection, dimensional inspection, fixture requalification, final report, packing and shipment documentation. The heavy / additional repair charge applies to this line per the Level 9 classification of the incoming inspection report.				
UNEW's price is net price, exclusive of VAT and any bank charges, and all other taxes/fees unless otherwise stated in the final commercial invoice. Heavy / additional repair charges on this invoice apply to Line 1 (MS6001FA Combustion Liner MNQC), Line 4 (MS6001FA 1st Stage Nozzle) and Line 5 (MS6001FA 1st Stage Shroud Block), each classified HEAVY REPAIR, Level 9 of 10 (upper boundary), per the corresponding incoming inspection reports. Line 2 (MS6001FA Transition Piece) is classified Level 7 of 10 - Medium-High Repair and carries no additional heavy repair charge. Line 3 (MS6001FA Bucket Stage 1) is not repairable and carries no repair charge on this invoice.					TOTAL (USD)	1,121,038.00
THANK YOU FOR YOUR BUSINESS!						

REPAIR WORK HOURS

STANDARD / MEDIUM REPAIR VERSUS HEAVY REPAIR

Combustion Liner, 1st Stage Nozzle and 1st Stage Shroud Block
Work Order WO-1003946086 and Work Order WO-1003986864

Customer	Nghi Son Refinery & Petrochemical LLC	Document date	17 August 2026
Contract	LTSA No. 128/2024.NSRP.Maint-UNEW	Engine type	MS6001FA (GE Frame 6FA)
Combustion Liner MNQC	WO-1003946086, 6 units, P/N 119E9620G001, Hastelloy X	UNEW work order	825088
1st Stage Nozzle	WO-1003986864, 24 segments, P/N 143E5711G02, FSX-414	UNEW work order	825091
1st Stage Shroud Block	WO-1003986864, 24 units, SS310 body / Inconel 738 inner plate	UNEW work order	825092
Classification, all three sets	HEAVY REPAIR, Level 9 of 10 (upper boundary)	Basis	Incoming inspection reports held by NSRP

Hours shown are the shop working hours required for the complete set at each repair level.

1. Combustion Liner MNQC, WO-1003946086

Major task	Standard / Medium repair (hours)	Heavy repair (hours)	Difference
1. Cleaning, coating strip and surface preparation	30	138	4.6 times (+360%)
2. Welding (GTAW) and material build up	39	322	8.3 times (+726%)
3. Dimensional repair and geometry correction	30	168	5.6 times (+460%)
4. Sealing and fit up restoration (fretting)	52	216	4.2 times (+315%)
5. Hardware replacement and fit up	62	130	2.1 times (+110%)
6. Heat treatment (post weld)	0	93	Not performed at Medium
7. Coating rebuild (three material system)	33	171	5.2 times (+418%)
TOTAL FOR THE SET, 6 UNITS	246	1,238	5.0 times (+403%)

2. 1st Stage Nozzle, WO-1003986864

Major task	Standard / Medium repair (hours)	Heavy repair (hours)	Difference
1. Cleaning and full chemical strip	72	254	3.5 times (+253%)
2. Straightening and distortion correction	36	132	3.7 times (+267%)
3. Welding (GTAW) and Transient Phase Restoration	84	511	6.1 times (+508%)
4. Heat treatment (vacuum solution)	0	158	Not performed at Medium
5. Trailing edge structural restoration and cooling recovery	62	614	9.9 times (+890%)
6. Hardware replacement and fit up	72	110	1.5 times (+53%)
7. Coating rebuild (HVOF MCrAlY and full TBC)	70	306	4.4 times (+337%)
TOTAL FOR THE SET, 24 SEGMENTS	396	2,085	5.3 times (+427%)

3. 1st Stage Shroud Block, WO-1003986864

Major task	Standard / Medium repair (hours)	Heavy repair (hours)	Difference
1. Disassembly, cleaning and coating strip	55	190	3.5 times (+245%)
2. Welding and material build up (body and inner plates)	72	578	8.0 times (+703%)
3. Mechanical straightening (jacking and contouring)	0	34	Not performed at Medium
4. Dimensional restoration, re machining and fixture requalification	77	468	6.1 times (+508%)
5. Heat treatment (incoming solution and post weld vacuum)	0	155	Not performed at Medium
6. Hardware replacement and fit up	22	42	1.9 times (+91%)
7. Coating rebuild (TBC Abradable and ceramic compound)	58	220	3.8 times (+279%)
TOTAL FOR THE SET, 24 UNITS	284	1,687	5.9 times (+494%)

4. Result

Component set	Standard / Medium repair (hours)	Heavy repair (hours)	Difference
Combustion Liner MNQC, 6 units	246	1,238	5.0 times (+403%)
1st Stage Nozzle, 24 segments	396	2,085	5.3 times (+427%)
1st Stage Shroud Block, 24 units	284	1,687	5.9 times (+494%)
ALL THREE SETS	926	5,010	5.4 times (+441%)

Heavy repair on these three component sets takes **5.4 times** the working hours of a Standard or Medium repair on the same parts. That is **441% more work**.

The difference is concentrated in welding, structural restoration and heat treatment. Heat treatment is not performed at Standard or Medium level on any of the three sets. Neither is the mechanical straightening of the shroud blocks, nor the trailing edge plate fabrication on the nozzle segments.

On all three sets the wear exposed hardware was replaced new in full: 186 of 186 parts on the liners, 430 parts plus 48 fabricated structural plates on the nozzles, and every side seal and tile retention pin on the shroud blocks. A set in Medium condition returns most of its hardware to service.



Ronald Miller

Operations Director

UNEW, Inc.

3321 SE Gran Park Way, Stuart, FL 34997, United States

Telephone 772-408-4600 | www.unew.com