

Refinery RFCC TA – Reactor & Regenerator Laser Scan & Dimension Verification

No	Item	Description
1	Objective	<ul style="list-style-type: none"> • Check deformation of the internal riser and lift line of RFCC • Verifying dimension of replacement for installation • Acquire internal and external As-Built Data of RFCC
2	Execution Time	<ul style="list-style-type: none"> • 13 days/duration of TA: 60 days <ul style="list-style-type: none"> a. Site Work : 9 days b. Analysis & Report : 4 days
3	Background	<ul style="list-style-type: none"> • Refinery has being operated for 30 years. • Limits to check all required parts of dimension and deformation by manual measurement method of measurement. <ul style="list-style-type: none"> a. Many areas are not accessible. (Safety reason, and no scaffoldings) b. Acquired dimensions are not accurate and not sufficient.) • Following the trends of plant digitization <ul style="list-style-type: none"> a. Acquire As-Built Data for tracing deformation/changes of plant after the operation. b. Can utilize for a future renovation/revamping project.
4	Manpower	<ul style="list-style-type: none"> • Project Management : 1 Manager • Dimensional Survey & Data Processing : 2 Engineers

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5	Scope of Work	<ul style="list-style-type: none"> • 3D Scan of external and internal Reactor & Regenerator • 3D Scan based dimensional analysis <ul style="list-style-type: none"> a. Vessel Plumbness & Roundness b. Internal Riser/Lift Line Plumbness and Roundness c. Internal Cyclone Plumbness & Center of Cyclones • Dimension Verification of installed internal Wet Gas Scrubber Gas Inlet & Nozzle <ul style="list-style-type: none"> a. Nozzle Position (Distance/Angle) b. Verification of installed Nozzle dimension 	
6	Results	Reactor & Regenerator	Wet Gas Scrubber Nozzle
		<ul style="list-style-type: none"> • The first & best case utilizing 3D Scan on RFCC TA in Korean Refinery Plant. • Increasing work efficiency 200% with a low cost (1/3 price of other foreign competitor's service.) 	<ul style="list-style-type: none"> • Found replacement installation error - Drawing: 14° → Actual 30° • Correct errors and re-installed nozzle