

Equipment & Description of the Job	Client / Plant	Period
UREA SYNTHESIS REACTOR ▶ Relining of 6m of cylindrical area ▶ Relining of bottom dome ▶ Weld buildup of manway cover ▶ Weld buildup of manway gasket seat HP PROCESS PIPING ▶ Replacement of ~30m of straight length of HP pipe, recovering the existing elbows, weldolets and branches	PETRONAS CHEMICALS FERTILIZER KEDAH Gurun. Kedah Malaysia	February / March 2024
UREA SYNTHESIS REACTOR Repair of liner welds and support welds	OMIFCO Oman India Fertilizer Company SAOC SUR Sultanate of Oman	January / February 2024
UREA HP SCRUBBER Fabrication and replacement of cylindrical internals	STAMICARBON B.V. / LIBYAN FERTILIZER COMPANY #2 (LIFECO) Marsa El Brega, Libya	November 2023
 UREA SYNTHESIS REACTOR Relining of 8.25 meters of cylindrical area Relining of manway neck Repair of liner Repair of support cleats 	PETROVIETNAM FERTILIZER AND CHEMICAL CORPORATION Phu My – Vung Tau VIETNAM	March / April 2023
AMMONIA PRIMARY REFORMER P Replacement of No. 288 Catalyst tubes	SOHAR INTERNATIONAL UREA AND CHEMICAL INDUSTRIES LLC Port of Sohar Sultanate of Oman	February / March 2023
 No.1 BIMETALLIC HP UREA STRIPPER Unit 01 Shortening in-situ (without removing the stripper from its position) Modification of the protrusion of tubes on the bottom tubesheet from 5mm to 18mm Remaking of all bottom tube to tubesheet welds 	IFFCO Indian Farmers Fertilizer Co. PHULPUR II Unit Ghiyanagar, UP INDIA	May / June 2022
UREA SYNTHESIS REACTOR ▶ Partial relining ▶ Repair and replacement of tray supports ▶ Repair of existing liner AMMONIA PRIMARY REFORMER ▶ Welding of Catalyst tubes	OMIFCO Oman India Fertilizer Company SAOC SUR Sultanate of Oman	March / April 2022



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UREA SYNTHESIS REACTOR ▶ Opening of trays, inspection and repair of liner welds ▶ Installation of No. 6 new SAIPEM Supercups® trays HP PROCESS PIPING ▶ Opening and box up of HP valves and flanges ▶ Modification of HP lines to improve alignment and reduce leaks	GPIC Gulf Petrochemical Industries Co. Al-Manama BAHRAIN	March 2022
 No. 2 BIMETALLIC HP UREA STRIPPERS Unit 31/41 Shortening in-situ (without removing the stripper from its position) Modification of the protrusion of tubes on the bottom tubesheet from 5mm to 18mm Remaking of all bottom tube to tubesheet welds 	IFFCO Indian Farmers Fertilizer Co. PHULPUR II Unit Ghiyanagar, UP INDIA	January/February 2022
UREA SYNTHESIS REACTOR ▶ Relining of top dome ▶ Relining of 6 courses on cylindrical area HP PROCESS PIPING ▶ Replacement of No. 9 elbows	PETRONAS CHEMICALS FERTILIZER KEDAH Gurun. Kedah Malaysia	June / July 2021
UREA SYNTHESIS REACTOR ➤ Relining of 12.4 meters of cylindrical area ➤ Repair of liner ➤ Installation of supports for new Supercups tray	BRANCH OF PETROVIETNAM FERTILIZER AND CHEMICAL CORPORATION Phu My – Vung Tau VIETNAM	April / May 2021
UREA SYNTHESIS REACTOR ➤ Partial relining ➤ Repair and replacement of tray supports ➤ Repair of existing liner	OMIFCO Oman India Fertilizer Company SAOC SUR Sultanate of Oman	February / March 2021
TITANIUM AMMONIA CONDENSER Remove of plugs Partial retubing (68 tubes) 	GPIC Gulf Petrochemical Industries Co. Al-Manama BAHRAIN	March 2020
 TITANIUM STEAM CONDENSER ➢ Removal of No. 5 tubes ➢ Plugging of No. 5 + 5 holes 	SABIC – Saudi Arabian Basic Company. At AR-RAZI A SABIC AND JAPAN SAUDI ARABIA METHANOL COMPANY AL JUBAIL KINGDOM OF SAUDI ARABIA	March 2020



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UREA SYNTHESIS REACTOR Partial relining Repair and replacement of tray supports Repair of existing liner	OMIFCO Oman India Fertilizer Company SAOC SUR Sultanate of Oman	February / March 2020
SOLID 25.22.2 HP STRIPPER Modification of internals Replacement of ferrules HP CARBAMATE SEPARATOR Repair Relining	YARA ITALIA SPA At YARA ITALIA urea plant FERRARA, Italy	November 2019
UREA SYNTHESIS REACTOR ▶ Relining of No. 2 courses ▶ Replacement of No. 2 trays ▶ Replacement of No. 2 elbows in the distributors	YARA ITALIA SPA At YARA ITALIA urea plant FERRARA, Italy	September / October 2019
UREA SYNTHESIS REACTOR → Partial relining → Repair	CASALE SA At TOGLIATTIAZOT Togliatti Russia	September / October 2019
UREA SYNTHESIS REACTOR ▶ Replacement of neck liner and gasket seat on top manway ▶ Relining of 5m ▶ Repair of 100% of welds liner and tray supports	FERTILIZANTES NITROGENADOS VENEZUELA (FERTINITRO) Barcelona VENEZUELA	February / March 2019
UREA SYNTHESIS REACTOR Installation of new SUPERCUPS® TRAY #18	PETROVIETNAM CAMAU FERTILIZER JOINT STOCK COMPANY Ca Mau Vietnam	August 2018
UREA SYNTHESIS REACTOR Relining of 15.5m CARBAMATE CONDENSER Partial relining of channel HP PROCESS PIPING Modification	PETRONAS CHEMICALS FERTILIZER KEDAH Gurun. Kedah Malaysia	July / August 2018
 UREA SYNTHESIS REACTOR ➢ Relining of the area between tray #14 and bottom tangent line ➢ Replacement of nozzle N1 CARBAMATE SEPARATOR ➢ Rehabilitation HP PROCESS PIPING ➢ Repair and modification 	GPIC Gulf Petrochemical Industries Co. Al-Manama BAHRAIN	April 2018



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 UREA SYNTHESIS REACTOR ➢ Relining of top dome ➢ Relining of 8.2 meters of cylindrical area ➢ Repair of liner 	BRANCH OF PETROVIETNAM FERTILIZER AND CHEMICAL CORPORATION Phu My – Vung Tau VIETNAM	November / December 2017
 BIMETALLIC UREA HP STRIPPER Shortening in-situ (without removing the stripper from its position) Modification of the protrusion of tubes on the bottom tubesheet from 5mm to 18mm Remaking of all bottom tube to tubesheet welds 	KRIBHCO FERTILIZERS LTD. PIPROLA, Shahajahnpur, UP INDIA	September / October 2017
 BIMETALLIC UREA HP STRIPPER Shortening in-situ (without removing the stripper from its position) Modification of the protrusion of tubes on the bottom tubesheet from 5mm to 18mm Remaking of all bottom tube to tubesheet welds 	IFFCO Indian Farmers Fertilizer Co. AONLA Unit Bareilly, UP INDIA	July/August 2017
UREA SYNTHESIS REACTOR Complete replacement of titanium liner by cutting and re- welding the top portion of the pressure shell	CHITTAGONG UREA FERTILIZER LTD. Chittagong, Bangladesh.	March / July 2017
 BIMETALLIC UREA HP STRIPPER Shortening in-situ (without removing the stripper from its position) Modification of the protrusion of tubes on the bottom tubesheet from 5mm to 18mm Remaking of all bottom tube to tubesheet welds 	IFFCO Indian Farmers Fertilizer Co. AONLA Unit Bareilly, UP INDIA	June / July 2016
 UREA SYNTHESIS REACTOR ➢ Removal and replacement of No. 1 liner course ➢ Modification of carbamate inlet and solution outlet lines 	YARA ITALIA SPA At YARA ITALIA urea plant FERRARA, Italy	May / June 2016
 UREA SYNTHESIS REACTOR ➢ Complete removal and replacement of titanium liner by cutting open the pressure shell 	CHITTAGONG UREA FERTILIZER LTD. Chittagong, Bangladesh.	September / December 2015
 SOLID 25.22.2 HP STRIPPER Machining of the stripper tubes top end Modification of the stripper ferrules Design and fabrication of new grid 	YARA ITALIA SPA At YARA ITALIA urea plant FERRARA, Italy	September / November 2015



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UREA SYNTHESIS REACTOR → Second phase of relining SOLID 25.22.2 HP STRIPPER → Supply of ferrules for Urea Stripper	YARA ITALIA SPA At YARA ITALIA urea plant FERRARA, Italy	September / November 2015
UREA SYNTHESIS REACTOR Repair, modification and relining <u>HP PROCESS PIPING</u> Modification	PETRONAS CHEMICALS FERTILIZER KEDAH Gurun. Kedah Malaysia	May / June 2015
UREA SYNTHESIS REACTOR ▶ Relining of 10.6m of cylindrical area. CARBAMATE SEPARATOR ▶ Rehabilitation HP PROCESS PIPING ▶ Repair and modification	GPIC Gulf Petrochemical Industries Co. Al-Manama BAHRAIN	April 2015
UREA SYNTHESIS REACTOR Repair of titanium liner	CHITTAGONG UREA FERTILIZER LTD. Chittagong, Bangladesh.	November / December 2014
UREA SYNTHESIS REACTOR Item R501-2: Replacement of all tray supports Installation of new trays Repair of liner welds Relining of top dome	STATE COMPANY OF SOUTHERN FERTILIZERS – SCF Khor Al Zubair IRAQ	September / October 2014
 UREA SYNTHESIS REACTOR Second phase of relining – relining of lower half and bottom dome. 	BANGLADESH CHEMICAL INDUSTRIES CORPORATION At JAMUNA FERTILIZER COMPANY LTD TARAKANDI, JAMALPUR BANGLADESH	June / July 2014
UREA SYNTHESIS REACTOR Item R501-1: Replacement of all tray supports Installation of new trays Repair of liner welds Relining of top dome	STATE COMPANY OF SOUTHERN FERTILIZERS – SCF Khor Al Zubair IRAQ	May 2014
SOLID 25.22.2 HP UREA STRIPPER Emergency repair	KOCH FERTILIZER CANADA, ULC. Brandon (MB) CANADA	December 2013
METHANOL CONVERTER Repair and re-welding of 304H and Incoloy 800 tubes	OMAN METHANOL Oman	December 2013



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AMMONIA CONVERTER	PROMAN A.G., Germany At: CNC AMMONIA PLANT Trinidad and Tobago	November 2013
CARBAMATE CONDENSER Emergency repair	PETRONAS CHEMICALS FERTILIZER KEDAH Gurun. Kedah Malaysia	October 2013
TITANIUM HP UREA STRIPPER Replacement of top channel HP PROCESS PIPING Modification – replacement of spools	SABIC Saudi Basic Industries Co. At: SAFCO IBN AL BAYTAR PLANT Al Jubail KINGDOM OF SAUDI ARABIA	April 2013
 UREA SYNTHESIS REACTOR ➢ Relining of 10.6m of cylindrical area. HP PROCESS PIPING ➢ Replacement of reactor-o-stripper and carbamate separator-to-reactor line 	GPIC Gulf Petrochemical Industries Co. Al-Manama BAHRAIN	November 2012
UREA SYNTHESIS REACTOR ▶ Relining of 8m of cylindrical area HP PROCESS PIPING ▶ Modification, replacement of elbows and spools	PETRONAS CHEMICALS FERTILIZER KEDAH Gurun. Kedah Malaysia	September 2012
AMMONIA CONVERTER → Extensive repair HP PROCESS PIPING → Partial replacement	KAFCO Karnapuli Fertilizer Company LTD. Chittagong BANGLADESH	May 2012
TITANIUM HP UREA STRIPPER Emergency repair of titanium liner	SABIC Saudi Basic Industries Co. At: SAFCO IBN AL BAYTAR PLANT Al Jubail KINGDOM OF SAUDI ARABIA	January / February 2012
UREA SYNTHESIS REACTOR Relining of top dome and 8m of cylindrical portion	YARA ITALIA SPA At YARA ITALIA urea plant FERRARA, Italy	May / June 2011
TITANIUM HP UREA STRIPPER Relining of top channel	SABIC Saudi Basic Industries Co. At: SAFCO IBN AL BAYTAR PLANT Al Jubail KINGDOM OF SAUDI ARABIA	April / May 2011



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UREA SYNTHESIS REACTOR	SABIC Saudi Basic Industries Co. At: SAFCO IBN AL BAYTAR PLANT Al Jubail KINGDOM OF SAUDI ARABIA	April 2011
ZIRCONIUM HP UREA STRIPPER Inspection and repair.	PROFERTIL Bahia Blanca ARGENTINA	September 2010
UREA SYNTHESIS REACTOR → Relining of Urea Total Recycle Secondary Reactor.	KOCH FERTILIZER CANADA, ULC. Brandon (MB) CANADA	June / July 2010
 UREA SYNTHESIS REACTOR ➢ Relining of top dome and of 22.5 meters of the cylindrical portion. ➢ Supply of bolts, nuts and washers for the sieve trays. 	BANGLADESH CHEMICAL INDUSTRIES CORPORATION At JAMUNA FERTILIZER COMPANY LTD Tarakandi, Jamalpur BANGLADESH	April / May 2010
 UREA SYNTHESIS REACTOR ➢ Relining of the area included between tray #1 and tray #5. ➢ Repair of liner welds. <u>HP PROCESS PIPING</u> ➢ Modification of high pressure piping for the installation of a new stripper. BIMETALLIC HP UREA STRIPPER ➢ Repair of the tube-to-tubesheet welds and the channel liner of the old stripper 	GPIC Gulf Petrochemical Industries Co. Al-Manama BAHRAIN	February / March 2010
TITANIUM HP UREA STRIPPER Repair of liner and tube-to-tubesheet welds and replacement of cover strips.	CHONGQING JIANGFENG CHEMICAL COMPANY Baitao Town, Fuling District, Chongqing CHINA	November 2009
 UREA SYNTHESIS REACTOR ➢ Supply and installation of top hoist. ➢ Repair of liner welds. ➢ Supply and installation of No. 5 new sieve trays. ➢ Supply of material for overflow pipe. 	PETRONAS CHEMICALS FERTILIZER KEDAH Gurun. Kedah Malaysia	August 2009
UREA SYNTHESIS REACTOR Emergency repair of the liner welds.	PETRONAS CHEMICALS FERTILIZER KEDAH Gurun. Kedah Malaysia	December 2007 / January 2008



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 UREA SYNTHESIS REACTOR Replacement of the gasket seating ring on the manhole flange. Relining of the top dome and 1.5 meters of the cylindrical portion. Repair of liner welds. Supply and installation of No. 9 new sieve trays. BIMETALLIC HP UREA STRIPPER Repair of tube-to-tubesheet welds. 	GPIC Gulf Petrochemical Industries Co. Al-Manama BAHRAIN	November 2007
 UREA SYNTHESIS REACTOR ➢ Relining of 7.5 meters of the cylindrical portion between tray #5 and tray #9. ➢ Supply and installation of load-limiting device for the top hoist. TITANIUM HP UREA STRIPPER ➢ Relining of the top channel. 	SABIC Saudi Basic Industries Co. At: SAFCO IBN AL BAYTAR PLANT Al Jubail KINGDOM OF SAUDI ARABIA	June 2007
 AMMONIA PRIMARY REFORMER Re-design and replacement of No. 1 complete coil Replacement of No. 2 headers and No. 1 row of finned tubes on a second coil Replacement of No. 1 header in a third coil. SOLID 25.22.2 HP STRIPPER Modification of gasket type from Delta to Cam Profile, with replacement of the gasket seating ring, on the high pressure flanges. Supply of ferrules and ferrule stay grid for No. 2 strippers. UREA SYNTHESIS REACTOR Modification of gasket type from Delta to Cam Profile, with replacement of the gasket seating ring, on the manhole flange. 	YARA ITALIA SPA Ferrara ITALY	October 2006
UREA SYNTHESIS REACTOR Repair of tray supports	FERILIZANTES NITROGENADOS DE VENEZUELA (FERTINITRO) Barcelona, VENEZUELA	October 2005
 UREA SYNTHESIS REACTOR ➢ Installation of load-limiting device in the reactor's top hoist. ➢ Installation of new liner strips over the existing liner at tray #13 and #14 elevation. ➢ Repair of liner welds. ➢ Replacement of overflow pipe. H.P. PROCESS PIPING ➢ Replacement of stub ends BIMETALLIC H.P. UREA STRIPPER ➢ Repair of bimetallic stripper tube-to-tubesheet welds. 	GPIC Gulf Petrochemical Industries Co. Al-Manama, BAHRAIN	June 2005