**ORLEN S.A.**

# M

**SCOPE OF WORK**

# MR:M(M2D)

Załącznik do poz. Nr harmonogramu remontu

|  |  |
| --- | --- |
| **Complex** | ETHYLENE |
| **Plant** | PETROCHEMICAL |
| **Area** | **PGH** |
| **Location** | *D-11* |
|  |  |
| **Vessel** | *P-DC 902* |
| **Type** | *Reactor* |

|  |  |  |
| --- | --- | --- |
| **MPK** | **Nr Projektu Naprawy /**  **Nr rodzaju kosztów** (Operacyjne) | **Nr Czynności Zlecenia Naprawy** |
| 960 |  |  |

## Required deadline for completion of work..............according to the schedule............

Work execution is planned for first shift (6:00 - 18:00)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| I | **VESSEL UNIQUE DATA**  *Factory number:* 1296-1  *Registration number:* 2318031227 *Archive number of documentation:* PW/WIM-119/15-10-000  *Inventory number:* 1500306  *Other data: Audit book*  *Reactor technical data: construction height 4.5m; diameter ᶲ2200mm; capacity-38m3; height 11092mm; shell material 12HM; weight-Q-40000kg;* | | | |
| II | **Scope of works to be executed (basic activities):**   1. Assembly of spectacle blind 6” CL600 – 2 pcs. 2. Disassembly, assembly of flange connection 18” CL600, 10” CL600 3. Disassembly, assembly of supply elbow 10” Q-925kg 4. Disassembly, assembly of blind flange 10” CL600 5. Disassembly, assembly of distribution baskets 25 segments of 3 pieces each 6. Inspection and repair of inlet baskets 75 pcs. (L- 600mm, Ø -150mm ) 7. Inspection and repair of outlet basket 8. Unloading of spent catalyst with inert balls in quantity of ca. 13 tons to steel drums 200 l (drums   provided by ORLEN S.A.) in accordance with the approved instructions   1. Separation inert balls from catalyst 2. Weigh drums with spent catalyst, drums labelling according to template delivered by ORLEN S.A. and making a list of drums. 3. Transport of the catalyst from the warehouse (steel drums) up to 3km, capacity around 13 tons 4. Loading of fresh catalyst with lower and upper inert balls layers in quantity ca. 13 tons according to loading diagram   **Additional remarks:**   1. It is required to prepare and get approved Instruction of Safe Execution of Works for works inside the vessel (IBWR) approved by process safety department. 2. It is required to prepare and get approved instruction of unloading and loading the catalyst 3. Work inside of the reactor with equipment isolating respiratory system (fresh air apparatus) 4. Catalyst in reactor can be partially caked. 5. Catalyst will be loaded after vessel tests (inspection, pressure test, non-destructive testing) 6. In case of vacuum unloading, it is necessary to meet requirements of **Technical Standard ST S7 T5** (attached to this scope of works) | | | |
| III | **Scope of work (~~unlimited~~/limited\*) technical acceptance of the installation** | | | |
| IV | **Required materials and spare parts:**   |  |  |  | | --- | --- | --- | | Material | Provides | Required certificates | | Materials for repairing baskets, materials resulting from the technology of performing the work | Contractor | - | | Final gaskets | ORLEN S.A. | 3.1B, 2.1 | | | | |
| V | **Estimated equipment needed to carry out the work** (provided by the Contractor):  1. Crane 30t. - 24 h  2. Forklift- 16h  3. Specialized equipment for unloading, loading the catalyst and segregating inert balls  (including two hoppers).  4. Scale for weigh barrels with unload catalyst (weight accuracy up to 100g).  5. Equipment resulting from the technology of performing the work | | | |
| **VI** | **The supervision over the implementation of the works on behalf of ORLEN S.A. is performed by:**   |  |  |  | | --- | --- | --- | | Name and surname | Phone | Mail | | **Andrzej Szymborski** | **(24) 25-696-45** | **andrzej.szymborski@orlen.pl** | | **Tomasz Rokicki** | **+48 665 870 187** | **tomasz.rokicki@orlen.pl** |   **Technical conditions for the implementation of works:**  - in accordance with standards and guidelines for contractors performing work at ORLEN S.A. | | | |
| **VII** | **Technical conditions for acceptance of work:**  Test: -...... for pressure in the shell -….MPa/atm\*. in the tubes -....MPa/atm\*.  (hydraulic, pneumatic, atom-labeled or other\*\*)  Test Medium: *-*  Other test parameters: .....according to documentation.....................................................................  Test will be accepted by: .........................UDT and SUR inspectors……............................................  (UDT) – (ZDT) - (SUR\*)  **Required documents for acceptance of works:**  - Technical report of repair  - Gasket replacement report  The works will be accepted on behalf of ORLEN S.A. by: Acceptance commission.   |  |  |  | | --- | --- | --- | | Name and surname | Phone | Mail | | **Andrzej Szymborski** | **(24) 25-696-45** | **andrzej.szymborski@orlen.pl** | | **Tomasz Rokicki** | **+48 665 870 187** | **tomasz.rokicki@orlen.pl** | | | | |
| VIII | This scope includes:  Technical documentation available from the TP-1 Production Support Engineer | | | |
| IX | Information about repair waste | | | |
| Code | Waste name | quantity (tonne or ~~m~~~~3~~) | Waste Producer |
| 07 02 99 | Worn gaskets | 0,001 | Contractor |