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MATRIX INTERNATIONAL (UK) LTD.

BASIC PROJECT OVERVIEW

Basic list of Operations for the Treatment & Cleaning of Turbine Blades Facility

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Contents

1 Abstract

Matrix implemented the software and SCADA system for a series of Chemical Tanks for the purpose of cleaning and treating turbine blades.

2 Machine Assets

• Series of 23 tanks with various dosing systems and pumps

• Overhead conveyor and lowering system

• Various Sensors and Lid mechanisms for tanks

• Temprature control system, thermocouples et al.

3 Process Function

• Slow Soak - soaking of a turbine blade in certain chemicals over a period of time.

• Chemical Treatment - Using aluminium oxide , nitric acid and other substances to clean blades

• Rinsing - Water at speed to rinse a turbine blade.

• Drying - Air blown over the surface of a turbine blade to remove residual water.

• Temprature treatment - turbines heated up to temprature, wheter in water or a furnace, to aid cleaning or to change properties of the metal

• Part Storage - storing parts at the end of the pipeline of treatment.

4 Software Function

• Recipie handling - via a SCADA system

- Self-Maintence - Sensors report state and pumps are hence switched over to maintain system operation as long as possible.

- Part Tracking - MES system to ensure a paper trail for parts.

- Reporting - for information with respect to how to imporve the system.