

## **Inspection Innovation and Technology Enhance Mechanical Integrity**

**Wichit Yokyongpraserd<sup>a,\*</sup>, Chaianan Nandhasphong and Kornjirayu Prannatteethanada**

*<sup>a</sup>Rayong Engineering and Plant Service Company, Rayong, 21150, Thailand*

*\*wichity@scg.com*

**Keywords:** Mechanical integrity, Inspection technology, Robot, Pipeline

Inspection strategy is developed by RAGAGEPs in order to comply law compliance as a minimum, maintain the mechanical integrity, prevent fatality and prevent irreversible cases with the best life cycle cost (LCC). In fact, there are many obstacles occurred during inspection such as inaccessible area, risky area like a confined space & working at height or high investment cost. Thus, the innovation and technology will be invented to eliminate such obstacles. Firstly, the customized robot to measure and evaluate carburization in ethylene cracking furnace's coil, robot to measure wall tube thickness in steam boiler. Secondly drone and remotely operated vehicle (ROV) for subsea object inspection. Thirdly tough point corrosion or corrosion under pipe support (CUS), this tool does not only measure the remaining thickness but also allow to perform corrosion repairment. Finally, direct assessment (DA) according to NACE standard with applicable tool and practical procedure is the working process to ensure the underground pipeline integrity. All of these innovation and technology invention is just a part of REPCONEX.