Analysis of Chimney Trays collapse in Amine Regeneration column

PTT PLC

PTT Public Company Limited (Gas Separation Plant, Rayong)

Thailand

www.pttplc.com/en/

ANSYS Fluent EnSight

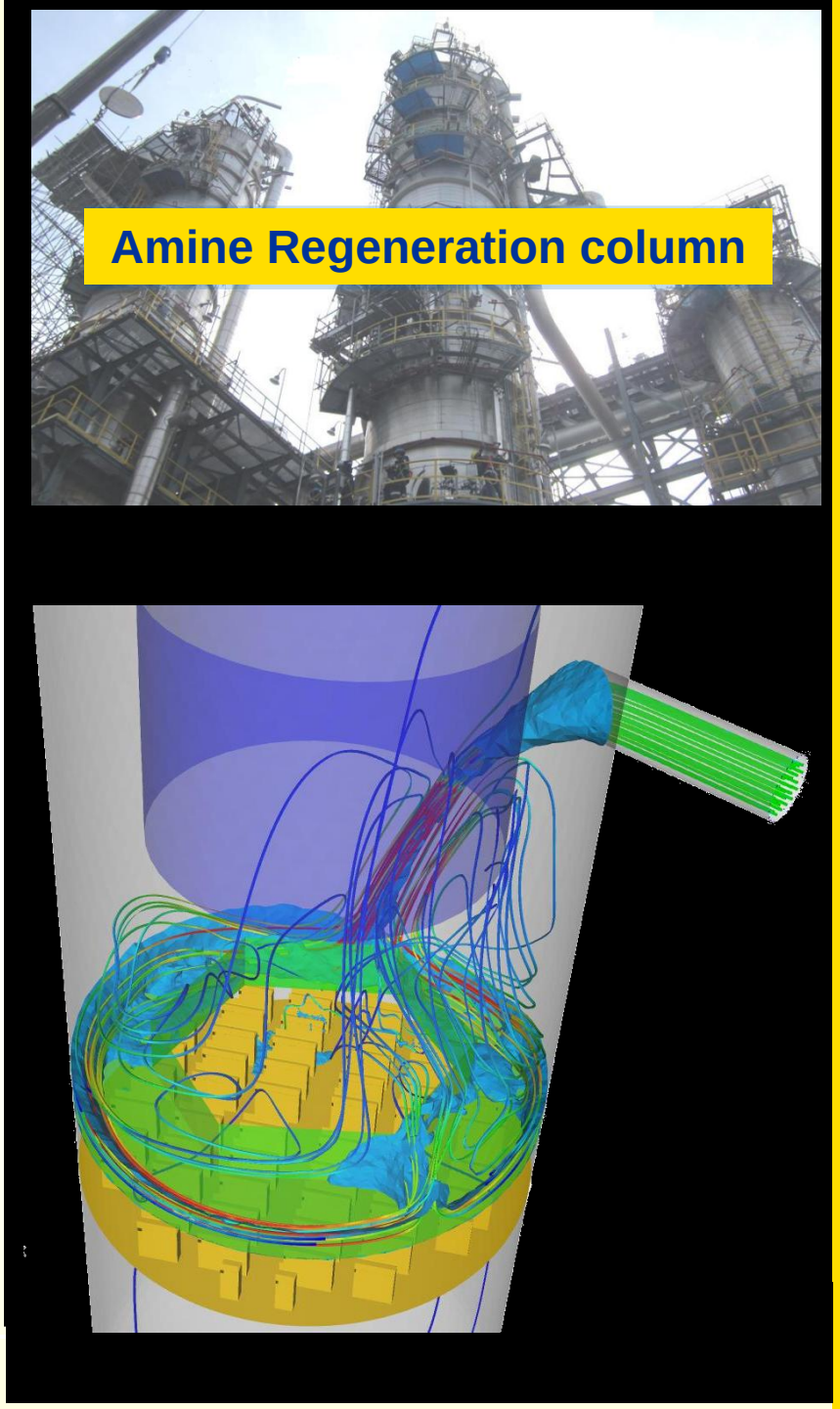
CAD-IT CONSULTANTS

Overview

PTT Public Company Limited (PTT) was established on December 29, 1978, during a time when the world was facing a second global wave of petroleum acute shortage. PTT advocated its primary mission of expediting production of adequate oil for domestic consumption. It was a drive for PTT to seek additional indigenous petroleum reservoirs for the benefit of the country.

PTT Group is a group of leading national and integrated petroleum and petrochemicals companies under the align management throughout the business chain for synergy of common growth under the good corporate governance principles, with due regard for social, community and environmental responsibility to ensure their sustainable growth together.

The Group realised that enhancing organisation strength alone will not enable it to achieve its vision to be a Thai Premier Multinational Energy Company or to build a sustainable business. That can only be achieved through enhancement of every society where it operates. PTT Group has defined strategies for sustainable development by balancing High Performance Organization (HPO), Corporate Governance (CG), and Corporate Social Responsibility (CSR) to lay a strong foundation for the organization's development in the long-term and cope with the changing situation, locally and internationally, in a timely manner.



Testimonial

"ANSYS has realised our previously invisible dream – the understanding of problems occurring in our Gas Separation Plants units, which we could not have accomplished without simulation. In this project, chimney trays collapsed in amine distillation column. With a simulation analysis conducted through the ANSYS Fluent VOF model, coupled with powerful post processing support from EnSight, our impossible dream has become very visible."

MR. SUNVARIS UYWATTANA
Senior Mechanical Engineer

Challenges

- Solving of Volume of Fluid (VOF) model in a complex geometry accurately
- Post-processing for complex geometry/large file smoothly
- Providing the solution (animation) effectively to provide strong evidence for maintenance implication

Solution

- With the strength of FLUENT solution, the "chimney trays collapsing" problem has been revealed
- Accurately illustrated the fluid flow motion in amine distillation column helped to identify problem and solution development

Benefits

- Reduced the loss of income due to less operating shut down
- Enhanced project report, provide greater understanding of the problem
- Reduced time consumption for CFD post-processing

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