

Eliminate Piping Vibration Causes, Remedies and Prevention

Rayong Engineering and Plant Service Co., Ltd | (REPCO)



Rayong Engineering and Plant Service (REPCO)

With more than 10 years of petrochemical plant services, Rayong Engineering and Plant Service (REPCO) has delivered its skill and expertise in providing practical solutions for piping vibration in the petrochemical industry including the **Eliminate Piping Vibration Causes, Remedies and Prevention**. We provide solution-independent project delivery, engineering and consulting services. Most of the solutions provided are advanced in worldwide technique, insight solution, practical and cost-optimization. The solutions have been proven at the petrochemical to real operating conditions. Our team consists of experienced practitioners and skilled specialist in knowledge.



What Is Piping Vibration?

Piping vibration is simply the movement of pipe away from its static, at-rest position. Some vibration can be seen by the naked eye, some vibration can be felt or heard, and some vibration occurs only occasionally under certain operating conditions, and **may not be recognized until a piping failure has occurred**. The piping failures due to vibration could potentially lead to plant shut down, loss opportunities of production and business impact.

REPCO Advantages

REPCO has unique experience and skills in piping vibration including **ASSESSMENT, TROUBLESHOOTING and PREVENTION**

We can provide with the **FASTEST SERVICE WITH HIGH QUALITY**. Save lost of profit and opportunity to the customer

We can provide **THE MOST COMPREHENSIVE SERVICE** offering in the industry

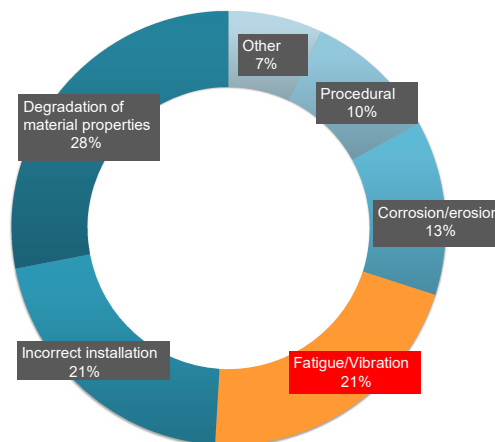
Our Services

- Acoustic-Induced Vibration (AIV) Analysis.
- Finite Element Analysis (FEA)
- Flow-Induced Turbulence (FIT) Analysis
- Flow-Induced Vibration (FIV) Analysis
- Multiphase and Slug Flow Analysis
- Pipe Stress Analysis
- Piping Vibration and Integrity Assessment
- Review & Design Support Services
- Small-Bore Connections (SBC) Assessment
- Manpower Supply for Review the Results
- Cost/Benefit Analysis

Benefits

Avoiding piping vibration risks has many benefits to employees, operations staff, shareholders, and society as a whole. Such benefits include:

- **Improved integrity and safety** – Zero VOCs, prevent uptime loss, un-plan shut down, reduced loss opportunities of production due to piping vibration
- **Increase efficiency** – For long run service, work safely environment
- **Lower capital costs** – Through fit-for-purpose design recommendations; less conservative engineering, less re-work, and elimination of redundant activities



21% of hydrocarbon releases are due to fatigue and high vibration
(Source: UK Health and Safety Executive)

Piping Vibration Overview

► Design Review

- Study history and background investigation of piping system
- Overall visual inspection and site survey
- Quantitative risk assessments (EI guidelines)

► Static Analysis

- Pipe stress
- Nozzle load
- Pipe support
- Displacement
- Flange Leak
- Local Stress

► Dynamic Analysis

- Pipe stress (Fatigue)
- Piping natural frequency
- Resonance frequency

The Analysis Tools

Our analysts are experts in the latest analytical software for pipe stress analysis including **CAESAR II** and **FEA**



Capabilities Tools:

- Static Analysis
- Dynamic Analysis
- Accuracy of designs and Analyses
- Calculate more realistic loading Conditions
- Wind and Wave Analysis
- Seismic and Support Settlement Analysis
- 35 International Piping Codes

CONTACT US

SODSAI LAMTHARN / UESAK KATEPONG
Plant Engineering (PED)
Project Engineering Management (PEM)
Rayong Engineering & plant Service Co.,Ltd. (REPCO)

271 Sukhumvit Rd,
Map Ta Phut, Muang District,
Rayong Province 21150, Thailand
Phone: (+66) 38911946 (Office) (+66) 852199440 (M)
E-Mail: sodsaila@scg.com
Web Site: www.chemical.scg.com

