

Paulin Research Group Redefines Nozzle Analysis with Advanced Finite Element Analysis (FEA)

Paulin Research Group advances nozzle FEA with precision tools that go beyond WRC methods. New software release coming in March 2025.

HOUSTON, TX, UNITED STATES, February 14, 2025 /EINPresswire.com/ -- [Paulin Research Group \(PRG\)](#), a pioneer in advanced engineering software solutions, is empowering engineers and designers with state-of-the-art Finite Element Analysis (FEA) tools to tackle the most complex challenges in nozzle design. Traditional methods like [WRC 107](#), WRC 537, and WRC 297 often struggle to

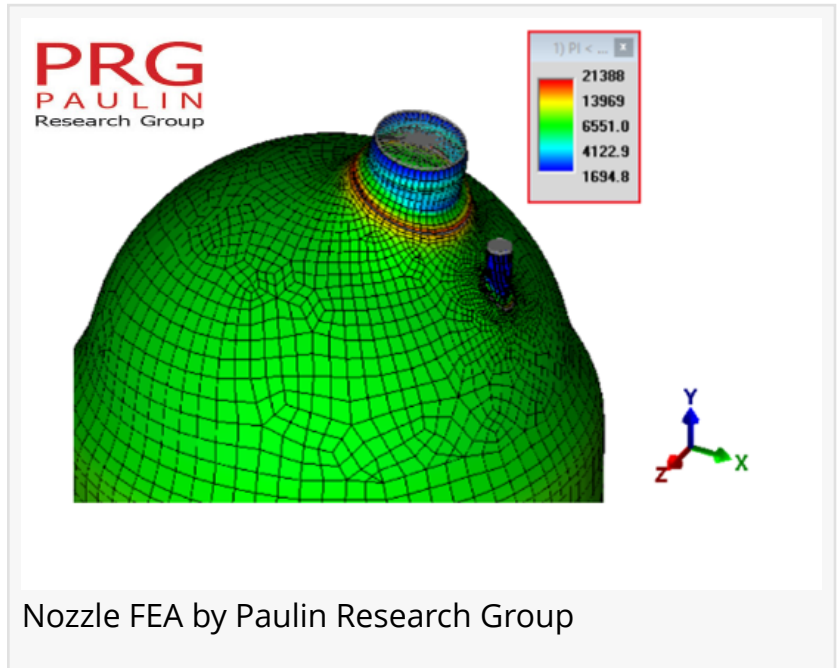
accommodate intricate geometries, multiple nozzles, or irregular configurations. PRG's advanced FEA capabilities eliminate these limitations, delivering unprecedented accuracy, safety, and reliability for pressure vessels and piping systems.

Accurately evaluating nozzle loads is critical to ensuring the structural integrity of pressure vessels and piping systems. PRG's solutions address these challenges head-on with features that enable engineers to analyze even the most complex nozzle configurations and loading scenarios with efficiency and precision.

Why Choose PRG for Nozzle Analysis?

- Linear and Nonlinear Analysis: Precisely evaluate material behavior under real-world conditions, from elastic deformation to plastic collapse, ensuring comprehensive design validation.

- Advanced Meshing Options: Combine structured meshing for uniform geometries and unstructured meshing with localized refinement to capture critical stress concentrations at nozzle-shell intersections.





PRG's tools continue to lead the way in FEA and ASME BPV code compliance with ongoing updates. Our next release includes flat-head attachments, B31.1 and B31.3 updates, as well as meshing algorithms."

Michael Clark, P.E., Head of Engineering

- Comprehensive Modeling: Analyze nozzles on flat, hemispherical, torispherical, elliptical, cylindrical, and conical hosts. Handle configurations such as oblique, hillside, or clustered nozzles that surpass the capabilities of traditional methods.

- ASME Part 5 Compliance: Simplify stress linearization and ensure designs meet stringent ASME Section VIII Division 2 requirements.

Since 1990, PRG has been at the forefront of advancing FEA technology for pressure vessels and piping systems. For over three decades, engineers have relied on PRG's

tools to improve their designs, ensuring safer and more reliable equipment while meeting rigorous industry standards.

To further simplify and streamline nozzle FEA workflows, PRG is gearing up for an exciting software release at the end of March. This update will introduce new features designed to save engineers valuable time and enhance their ability to evaluate nozzle loads with unparalleled precision.

"The PRG suite, including NozzlePRO, PVPTPro, and FEPIPE, stands as the premier choice for high-end FEA and ASME BPV and piping code compliance—truly second to none," said Michael Clark, P.E., Head of Engineering.

"Our team continually raises the bar with regular feature updates. In our upcoming release, we're introducing structural attachments in flat heads, supporting both standalone evaluations and combined analyses with other structures and nozzles. Additionally, we're incorporating the latest B31.1 and B31.3 code updates alongside enhancements to our automated meshing algorithms, further advancing the industry standard."

For more information on Paulin Research Group's FEA solutions or to stay updated on the upcoming software release in March of 2025, follow us on [LinkedIn](#).

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