



NEWES, THE NETHERLANDS

Key Facts

Company: NEWES

Website: www.newes.nl

Industry: Maintenance and services to boilers, furnaces, and ovens.

Country: The Netherlands

Products Used:

- CADWorx® Plant Professional
- CAESAR II®
- Visual Vessel Design

Key Benefits:

- International code flexibility: ability to design efficiently according to different design codes
- Ease of use enabling quick implementation and project startup
- Ability to execute accurate and correct stress and pressure vessel analysis

NEWES ACHIEVES TRUE INTERNATIONAL CODE FLEXIBILITY WITH CAESAR II® AND VISUAL VESSEL DESIGN

Dutch maintenance and service provider executes a pipe design project for a power plant



NEWES is the largest maintenance and service company for the steam boiler industry in the Netherlands. Since January 2015, NEWES (formerly NEM Energy Services/NEW Energy Services) is privately owned and focuses on developing international markets and services in the boiler industry.

IDENTIFYING GOALS

The company was contracted to perform pipe design for a new power plant with three clinical boilers. The plant would be generating process steam for a chemical plant. The scope included creating a DN500 steam line from the three boilers to the pressure reducing stations that have connections with the existing steam piping systems. This also comprised safety lines to safety valves with blow out lines. In addition, NEWES was asked to create a DN350 feed water line from the boiler feed water tank to the boiler feed water pumps.

All of the systems were to be designed within the PED (European Pressure Equipment Directive) according to the Dutch laws for pressure vessels. The goal of the project was to design and install a functional power plant in accordance with the European legislation, ensuring customer satisfaction.

OVERCOMING CHALLENGES

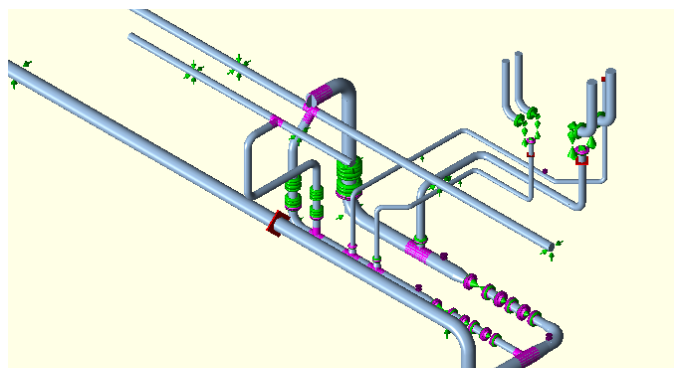
The three cylindrical boiler connections with low allowable forces and moments made the steam line design especially challenging. The distance between the three boilers was only seven meters and one or two of the boilers could be out of service at times. In addition, the main obstacle for successful design and implementation of feed water lines were the allowable forces and moments on the feed water pumps.



To overcome these challenges, NEWES chose to design an expansion loop between each boiler connection and the main steam line. The system would be checked according various design cases, ensuring compliance with the specified loads and accuracy of the design.

REALIZING RESULTS

CADWorx® & Analysis Solutions were chosen for the project for their reliability and ability to check designs and stresses in accordance to multiple design codes. NEWES also found the user-friendliness and ease of use of the products to be key for efficient project delivery. The ease of use enabled NEWES to start executing the project quickly and the company was ready for production after only a few weeks of training.

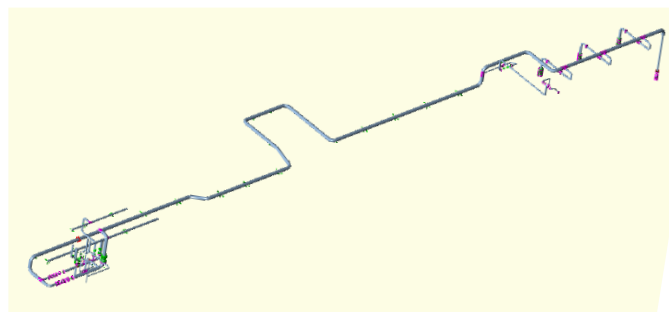


A connection from the new boiler to the existing system was designed with the pressure reducers and safety valves.

NEWES chose to use CAESAR II® for all of the stress calculations in accordance with relevant codes, while Visual Vessel Design was used for the internal pressure calculations according to ASME and EN codes. First, the piping system stresses were checked with CAESAR II and the resulting nozzle loads for the boilers were checked according to the EN13445 with Visual Vessel Design.

The key benefits NEWES realized by using Hexagon PPM software included:

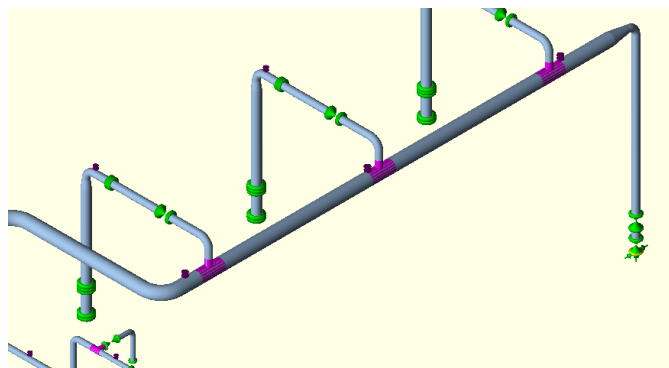
- True international code flexibility: ability to perform stress calculations in accordance with all international design codes
- Shortened project time due to efficient and accurate pipe stress and pressure vessel analysis
- Accurate and correct stress and pressure vessel analysis



An example of the three boiler connections that were included.

MOVING FORWARD

NEWES will continue to use CAESAR II and Visual Vessel Design on its upcoming projects for ensuring design safety. Stefan Wesseling, service specialist at NEWES, commented, "One of the key benefits of using Visual Vessel Design is the ability to use the created 3D model also for CAD engineering. This model gives the user a global overview of designs and calculations, helping to prevent mistakes."



An example of the three boiler connections that were included.

ABOUT HEXAGON

Hexagon is a global leader in digital solutions that create Autonomous Connected Ecosystems (ACE). Our industry-specific solutions create smart digital realities that improve productivity and quality across manufacturing, infrastructure, safety and mobility applications.

Hexagon's PPM division empowers its clients to transform unstructured information into a smart digital asset to visualize, build and manage structures and facilities of all complexities, ensuring safe and efficient operation throughout the entire lifecycle.

Hexagon (Nasdaq Stockholm: HEXA B) has approximately 20,000 employees in 50 countries and net sales of approximately 3.8bn EUR. Learn more at [hexagon.com](https://www.hexagon.com) and follow us @HexagonAB.