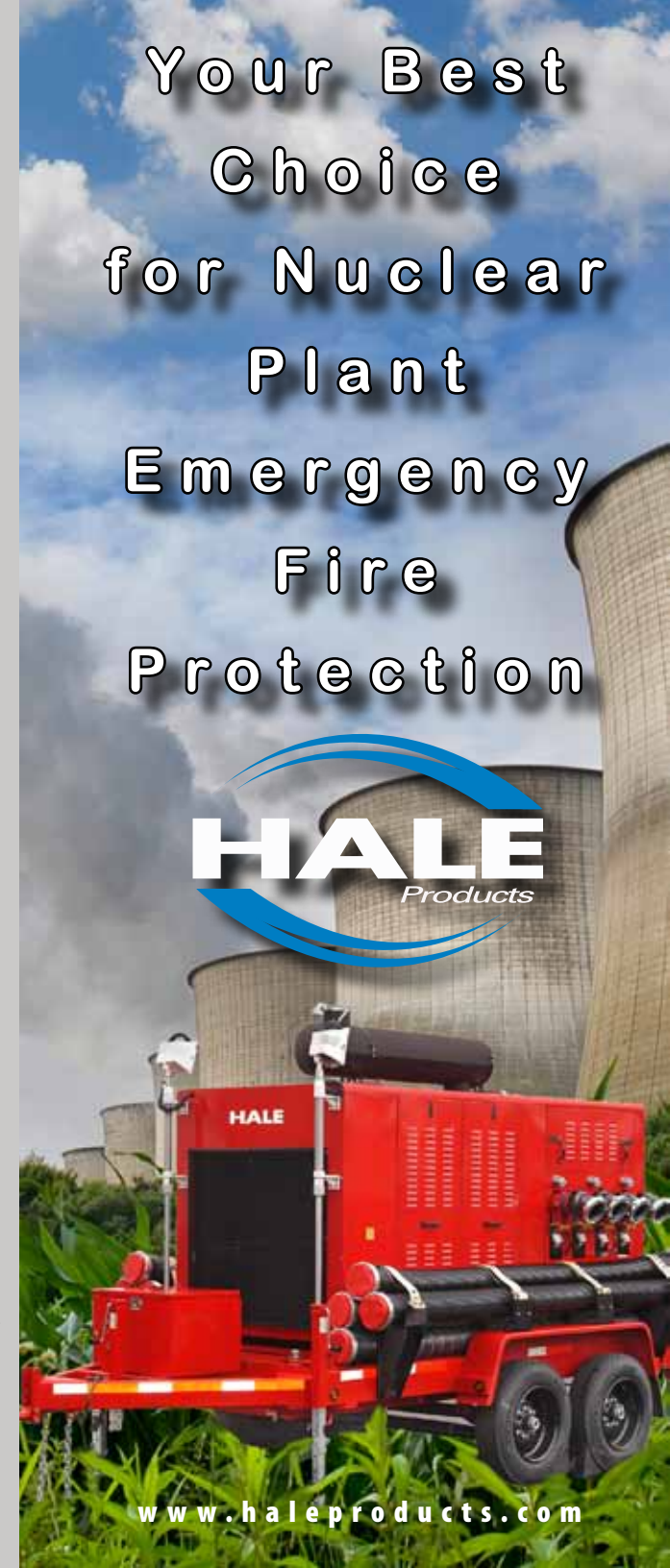


- **Thermal relief valve.** A thermal relief valve prevents pump damage from overheating by automatically discharging a small amount of water to atmosphere when the pump temperature is too high. This patented Hale feature reduces maintenance and can eliminate expensive repairs caused by improper pump operation and poor pump operation practices.

The above features are a few of the standard features built into Hale trailer pumping units for the Power Industry.

Your engineers may want to witness the construction and operation of a custom trailer. If this is advantageous to evaluate Hale's capability, contact us to arrange a site visit at Hale's design and manufacturing facilities.

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Your Best Choice for Nuclear Plant Emergency Fire Protection



www.haleproducts.com

Nuclear Power Generation Plant Protection Units

Hale Products has been designing and manufacturing specialized pumping unit trailers for the Power Generation Industry for over 85 years. Hale has a standardized trailer product line that includes fire pumps that meet the performance required by your Request for Quotation (RFQ). This standard trailer product line is our starting point for your quotation, and is also the basis for custom modifications needed to meet the unique requirements of your specification. Our design and manufacturing process is built to meet your specific needs.

While details of specific pump applications at United States nuclear facilities are considered a matter of national security and are not available to the public, Hale engine driven units are positioned at Edison, Duke, PP&L and Progress power plants in order to meet Nuclear Regulatory Commission (NRC) and government agency requirements concerning safe shut down, auxiliary heat removal (reactor core/fuel pools) and auxiliary fire protection during loss of AC power.

In some cases, fire pumping units are stored at a secure location off site to assure that pump units would be protected from damage from either incidents at the facility or natural disaster.

Hale trailer units include the best available technology for a portable trailer mounted emergency pumping units serving Power Plants. Key features and benefits include:

- **Automatic electronic pump pressure governor.** Manufactured by the Class 1 division of Hale, this unit controls engine speed to maintain a constant pump pressure. This is critical to maintain water delivery rates while preventing over-pressurization when discharge valves are closed or gated which reduces flow and increases pump pressure. The pressure governor includes a “pre-set” button. With a single pump operator push of a button the pump will accelerate to a pre-set pressure and maintain that pressure as valves are opened, gated, and/or closed. This technology is in widespread use world-wide as a requirement for safe and effective operation of fire equipment with hoses during manual fire combat applications, as required



by NFPA standard 1901, *The Standard for Automotive Fire Apparatus*. The pumping unit we are proposing exceeds NFPA requirements.

- **Vertically split pump case.** Our pump case design is close-coupled to the driver/engine. There is no open coupling and no base plate to flex. The SAE elastomeric drive is fully contained in the Hale bell housing and the entire assembly is rigidly mounted to the power plant. This design allows easy service on the trailer, is more compact and lighter than FM / UL style horizontal split case designs typically found with NFPA 20 requirements. The rigid pump/engine structure floats above the trailer frame to provide a higher degree of reliability and low maintenance.
- **Bronze impeller.** An all bronze pump impeller and renewable clearance rings provide a pumping unit with the durability to provide excellent service with minimal maintenance.
- **Mechanical seal.** A mechanical seal made of silicon carbide and carbon needs no adjustment or maintenance.