



## Custom Solutions Bulletin

**Industry:** Petroleum

**Application:** Fire Protection – Water Wall

**Product Descriptions:** Wide Angle N Spiral Nozzle

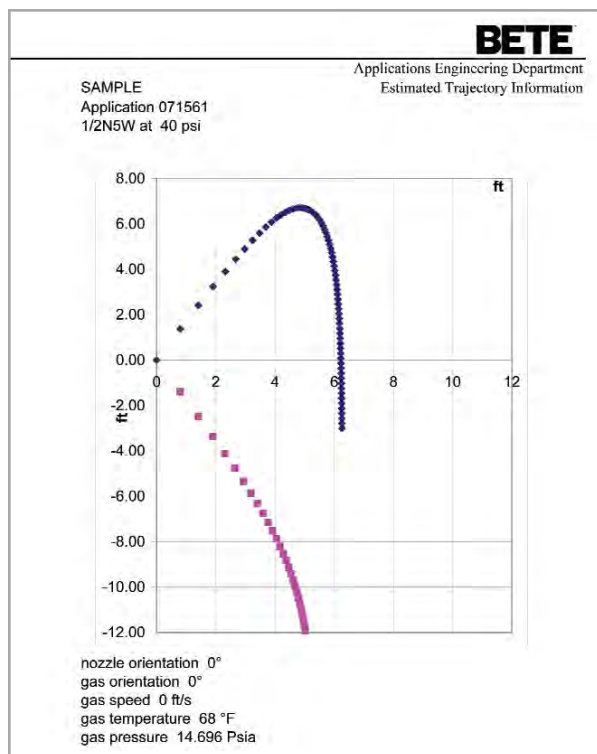
**Situation:** A BETE customer was developing a water wall protection system on an oil rig. The purpose of the system was to protect equipment and personnel from the extreme heat generated by the natural gas flare when it was operated. The current system consisted of a few nozzles on the flare boom, but was inadequate for the amount of heat generated.

**BETE's solution:** BETE Applications Engineers suggested that a wide-angle spiral would be appropriate for this application. The extreme 150° and 170° spray angles included in the TF series offer the best coverage, but at the cost of atomization. Also, these nozzles did not offer the insurance approvals needed for this application. The customer was looking for a flow rate of about 25 gpm/nozzle at 40 psi and about one nozzle every 10 feet along a railing to protect the rig. In addition, they planned on using about 4 nozzles on the boom to protect the piping and structure to the flare.

BETE Engineers suggested the N5W to match the flow rate. To confirm spacing, the BETE engineers used in-house modeling software to predict the coverage from each nozzle when sprayed horizontally outward. These trajectories allowed the customer to be confident that the coverage at this spacing would be more than sufficient to protect the rig.

### Technical Questions?

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The original system was inadequate

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