



POSITIONER REPLACEMENT PROJECT

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During the late 1950's, the power industry experienced ever increasing sizes, weights and lengths associated with high energy piping systems. In anticipation of the costs and limitations associated with conventional hangers, emphasis was placed on the development of electro-mechanical and hydraulic supports or *positioner technology*. The devices were used to push and pull piping systems, ducts, and related plant equipment into predetermined locations and embrace the deadweight loads. Weights up to 150,000 pounds and 24 inches of movement could be accommodated.

Representing a major advancement in the suspension of piping systems, the devices were employed at various power plants throughout the 1960's and into the early 1970's. Ironically, the decline in construction of fossil fuel facilities during this period, and advancements involving nuclear facilities construction resulted in the general waning of the equipment and their applications throughout the power industry. On the other hand, the remaining devices represented an ever increasing concern and burden for various power plants as the spare parts and technology associated with the positioners continued to erode away.



Original Support Scheme

In addition to the performance of regular walkdown activities directed at pipe supports, restraints and snubbers, OST Services has performed a number of unique and major projects over the years. The following represents a brief description of a notable undertaking.

PROJECT DETAILS

In one instance the devices were installed to suspend a wind box arrangement on a 250 MW cyclone furnace type boiler. Additionally, the arrangement involved a somewhat unique application whereas the positioners involved variable load arrangements that were used in conjunction with conventional variable spring hangers.

With continued operational and performance issues, the organization contacted OST Services for the purpose of

evaluating the support arrangement and developing a revised design.

The work involved a review of the loadings (close to 700,000 pounds) and the design of replacement hangers that would accommodate both the loads and travels being experienced.

Equally important were efforts to minimize costs associated with structural rework. During a four week

outage, the original positioners and variable springs were removed and a replacement support scheme involving the use of 18 constant support hangers was installed and subjected to services. The revised support scheme continues to perform in a totally predictable and acceptable manner.

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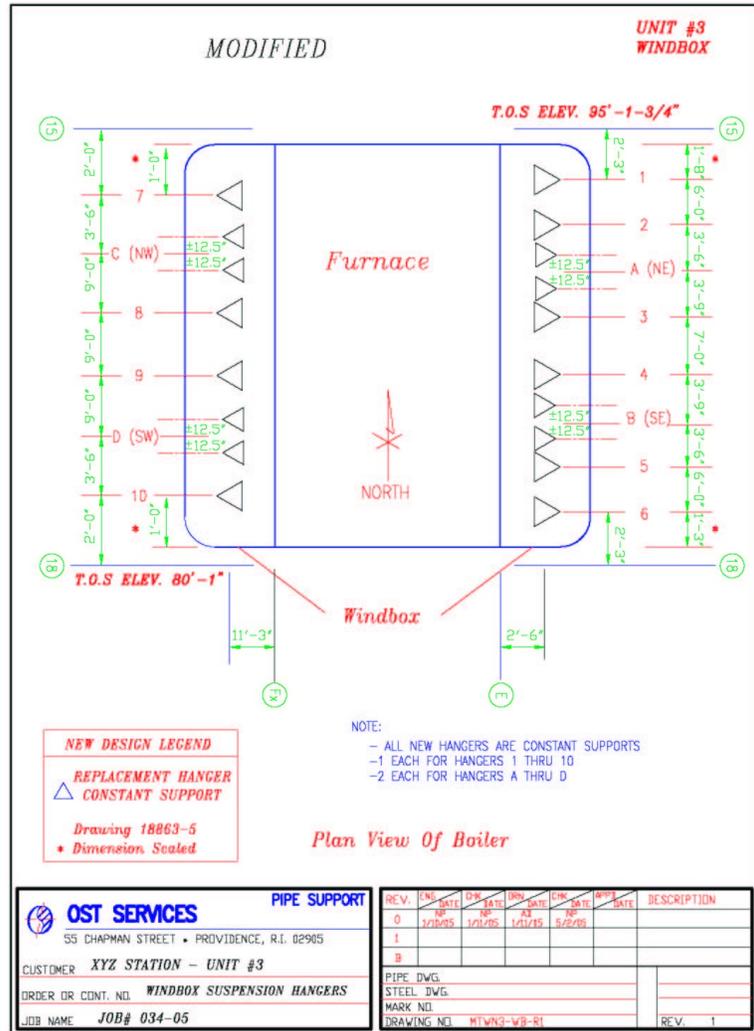
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GENERAL DISCUSSION

The care, maintenance and ultimately the reliable performance of a high energy piping system are dependent upon a number of categories. Factors such as the performance of pipe supports are crucial to accommodating dead weight loadings and allowing unobstructed thermal expansion of the systems. The restraint control devices, or snubbers, are intended to telescope freely and absorb only the dynamic loadings that may tend to develop within a system.

Periodic inspection of these devices provides crucial information on this area as well as identifying instances where abnormal operating occurrences may have developed along with unpredicted stresses. Also, important to the process is the periodic application of various non-destructive testing techniques at selected locations along the piping systems. The areas can be prioritized based upon industry experiences, site specific issues, along with objective engineering evaluations.