

# Streamlining Control Valve Selection & Evaluation Process Using Electronic Data Exchange

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## Introduction

In every major piping project, technical information is exchanged between the various stakeholders; specifically the plant owner, engineering design firm, purchasers, suppliers, contractors, operations, and maintenance. This information is acquired during the design process and is used during the entire life of the plant.

For example, when purchasing a control valve for a piping project the requirements of the control valve are based on hydraulic calculations performed in the design process, the client's specification documents, as well as a variety of industrial standards. This information for each control valve is typically entered onto a control valve datasheet and forwarded to the procurement group of the engineering contractor. The procurement group compiles the data sheets for all the control valves in the project and includes this information in the control valve purchase specification.

The purchase specification package is transmitted to the various control valve suppliers on the approved bidders list. Valve suppliers create their bid submittal package based on the customer's purchase specification document. The valve supplier's bid package is then reviewed by the client and the winning bid is selected. The final step in the purchasing process is the issuance of the purchase order that contains all the terms and conditions. Finally, the control valves, spare parts, and documentation are delivered and the valves are installed in the system. Typically, word processors and electronic spreadsheets are used to create the necessary documents, which are

then printed out or converted to a Portable Document Format (.pdf) and transmitted electronically. This exchange of information is a very labor-intensive process, in which the data sheets and specifications documents must often be manually transcribed from one format to another. Any manual transcription of data is prone to error and can lead to information being misinterpreted or improperly translated throughout the process.

In order to standardize and streamline the equipment specification and procurement process, a number of organizations are promoting and working to utilize Electronic Data Exchange (EDE). With EDE, the information typically found on data sheets is transmitted as electronic files that facilitate equipment selection. This is a major effort involving the owners, operators, design firms, and sellers of capital equipment. Like every major process change, it builds with success, and the first successes need to be rooted in the existing workflow. Only when all the stakeholders see value will EDE be widely adopted.

The following information is based on work that has been accomplished within a commercial fluid piping program to streamline the selection and evaluation of capital equipment. In this example, we will be focusing on control valves specifically. The architecture of the software application must be flexible enough to accomplish today's manual purchasing process, outlined above, and grow to become part of a much more integrated exchange of electronic data between various applications. Many industry initiatives are currently underway to further facilitate EDE between buyers and sellers of equipment found in piping systems, and this article will touch on these initiatives as well.

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