1 Purpose

1.1 Provide guidelines. This standard will provide guidelines for the preparation and use of instrument loop diagrams in the design, construction, start-up, operation, maintenance, and modification of instrumentation systems.

1.2 Assist understanding. This standard will assist the understanding of instrument loop diagrams and improve communications among technical, non-technical, management, design, construction, operating, and maintenance personnel.

2 Scope

2.1 Additional information for individual loop. This standard establishes minimum required information and identifies additional optional information for a loop diagram for an individual instrumentation loop. This loop is typically part of a process depicted on the class of engineering drawings referred to as Piping and Instrument Drawings (P&IDs).

2.2 Suitability. This standard is suitable for use in the chemical, petroleum, power generation, air conditioning, metal refining, and many other industries.

2.3 Specialty fields. Certain fields, such as astronomy, navigation, and medicine, use very specialized instruments that are different from the conventional industrial process instruments. No specific effort to have this standard meet the requirements of those fields has been made. However, this standard is flexible enough to meet many of the needs of specialty fields.

3 Applications

3.1 Serve many purposes. Loop diagrams serve many purposes. Several of these stated below are in the chronology of project development.

3.2 Design

1) Illustrate control philosophy and confirm the completeness of submitted data
2) An extension of P&IDS, which show the components and accessories of the instrument loop, connections between devices, and identification of component action
3) The specification of instrument hardware items and a means of communicating requirements to vendors

3.3 Construction

1) Panel instrumentation interconnections and checkout diagram