

ANDE-1 Systematic Approach to Training

Henry Stephens¹, Michael Turnbow², Christopher (Todd) Brown³

¹ASME ANDE Chairman, ASME/Consultant, USA, ¹ANDE Committee, ASME/Consultant, USA,

¹Advanced Test Reactor Plant Engineering, ASME/Idaho National Laboratory, USA

The concepts of the Systematic Approach to Training (SAT) were first applied during World War II when equipment quality and reliability became a national issue. Over time the process has been refined as reflected in the current version implemented in all branches of the military and many fortune 500 companies including safety significant industries such as nuclear. The 5 steps of SAT are a comprehensive process that identifies what is performed on the job, what should be instructed, and how this instruction should be developed and conducted. The key element of SAT is the involvement of subject matter experts (SME) in the development and review of the performance-based training process. This systematic approach ensures that what is being instructed are those tasks that are most critical to successful job performance (i.e., performance-based training). It also ensures that the training chosen is most time and cost efficient. The SAT process further identifies standards of performance and learning objectives. This ensures that the candidate is evaluated on the ability to meet these objectives and that courses are evaluated based on whether they allow mastery of these objectives and not just based on time-on-the-job. Finally, the SAT identifies the need for continuous program evaluation and revisions to improve program effectiveness and efficiency. Additionally, management commitment is imperative to ensure resources, personnel, and materials are available to ensure the training program's success. The five-phases of the Systematic Approach to Training (SAT) most recognized and used by ANDE-1 are Analysis, Design, Development, Implementation, and Evaluation and are as follows: Analysis begins by gathering the facts to make informed training development needs based on existing performance deficiencies. A job task analysis (JTA) is performed using existing job data and subject matter experts to identify and rate job tasks. Tasks are rated based on difficulty and importance and selected for training to address required knowledge and skills. Design uses the task performance information collected during analysis to specify, in measurable terms, the knowledge, skills, and aptitudes necessary for job performance expectations. Development organizes the training materials needed to achieve the learning objectives. Emphasis is on maximizing the use of existing materials and resources. Implementation is the process of putting training programs into operation. Instructors are selected and trained, and performance evaluated. Evaluation ensures continuous improvement based on monitoring job performance, equipment, procedure changes, and experience. It is the dynamic process of assessing performance, identifying concerns, and initiating corrective actions. The origin of SAT, the evolution and resulting success of the “simple and logical” 5 step process as it applies to ANDE-1 will be discussed.