



Questionmark Case Study: American Electric Power

Assessing The Knowledge Of Power Plant Employees Regarding Safety And Environmental Conditions

Background

American Electric Power is one of the largest electric utilities in the United States, delivering electricity to more than 5 million customers in 11 states. Based in Columbus, Ohio, AEP ranks among the nation's largest generators of electricity, owning nearly 36,000 megawatts of generating capacity in the U.S.

AEP uses Questionmark™ Perception™ in its power plants to assess knowledge levels in safety and environmental conditions, which is required regulatory knowledge in electric utilities. But the company also assesses technical knowledge among the employees who work in AEP's coal-fired and hydroelectric power plants, including operators and mechanics. Using questions written by field personnel, AEP currently uses Perception for this purpose in about 10 plants. The company plans to double that number in 2007.

Low Stakes and High Stakes

AEP has about 10,000 questions in its operations bank. Each question comes from one of six areas of plant operation, such as electrical systems or control room operations. Employees take an assessment in one of these areas every three months. The assessments are usually 100 to 150 multiple-choice, multiple-response, or true/false questions.

Employees who take the assessments see the coaching and employee reports afterward, which tell them which questions they didn't answer or answered incorrectly. They then must research the correct answers on those questions. The goal is to make employees responsible for their own learning. To keep the focus on learning, they are not penalized if they fail an assessment. Maintenance employees in the hydroelectric plants, on the other hand, take 100-question assessments about machinery and components in plants, such as bearings, gearboxes, and others. Unlike operations employees, they must pass these assessments to be promoted.

The Art of Meta-tagging

AEP takes meta-tagging to an art form. Each plant has an individual tag, and a tag that designates it as a small, medium or large plant. Questions are tagged according to the category of plant operation to which they apply. Each week, subject matter experts (SMEs) from each plant meet with a facilitator, and they discuss new questions, the correct answers to those questions, and which plant and type of plant they apply to. The questions are then tagged accordingly, and tagged with an "all" tag if they apply to all plants. This makes it easy to create assessments for any plant, type of plant, or plant operation category, or assessments that cross categories and/or plant types.

Capturing Expertise with Ease

Perception makes it easy to write the questions, categorize them, gather them into different types of assessments, and deliver feedback once employees have completed an assessment. Some SMEs aren't accustomed to PCs, so they write their questions in a simple Excel template, and a macro imports those questions into Perception. AEP uses Questionmark Secure to deliver the tests, so that employees can only take them once.

Perception helps not just with knowledge assessment, but also with knowledge management. As test authors approach retirement, writing their questions in Perception captures their knowledge before they leave the company.

More information

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