

DCS Simulator Briefing

1. Introduction

JCCP offers various types of simulators to provide training that is as practical as possible. These simulators consist of a distributed control system (DCS) that is indispensable to plant operations and a miniature plant that is used in actual field devices. The DCS system consists of two simulator models, which are systematically renewed for improvement to provide training that measure up to the latest technical advancements. One of the simulators, namely the No. 6 simulator, manufactured by Azbil Corporation,

was renewed three years ago, and the other, the No. 5 simulator, manufactured by Yokogawa Electric Corporation, was completed last October. As there have always been requests from JCCP members regarding DCS simulators, a briefing and introduction of the new DCS simulators was held for JCCP members, as outlined below.

2. Overview of the Briefing

The briefing attracted a larger turnout than expected, not only from JCCP's Training Department, but also



Hands-on experience session

from other departments as well. It was organized in three parts, beginning with an overview of the system, then providing an explanation of its startup method, and ending with a hands-on experience in DCS simulator operations for those interested. The general description of the system included the history of DCS that dates back roughly 40 years, the reason why the system is called a “distributed” instrumentation control system, an introduction of an actual field control station and other devices that compose the main parts of the system, and details of practical training that are provided in JCCP training programs.

A startup ceremony was provided by activating the operation that is usually first implemented in DCS simulator training—that is, the operation to inject water into the water tank. When water began to be injected into the three miniature plants practically at the same

time, exclamations of surprise and applause arose from the participants.

The following hands-on experience session won great popularity with a larger number of participants than expected, in contrast to initial concern that only a few might be interested. During the session, a pair of participants each sat and practiced in front of the three operation desks, with additional participants waiting their turn.

The hands-on experience provided the same training that is provided to participants of JCCP training programs. In the operation to adjust the water level in the tank to a target value, some were able to make the adjustment smoothly in a short amount of time, while others were able to achieve the target value only after fluctuating above and below the target, but all participants seemed to enjoy the simulator exercise all the same.

3. Summary

Some of the participants had heard the term DCS for the first time, but the fact that they enjoyed the simulator experience was more than we had hoped for. It was a good opportunity for all JCCP members to become more familiar with the DCS simulators. Taking a hint from this opportunity, we hope to give closer consideration to providing an understanding of training facilities to all JCCP members and to obtain various ideas from them to enhance the effective utilization of all training facilities.

<by Kazuhiro Suzuki, Training Dept.>



New No. 5 simulator