Quality Assurance/Quality Control

PLAINTIFF'S EXHIBIT

ZUR-104

A Sense of Quality
Zurn Industries, Inc., Energy Div. designs, engineers, manufactures, and constructs steam generating systems for virtually any fuel requirement. Every effort is made to provide a system that not only conforms to American Society of Mechanical Engineers (ASME) Code requirements, but also one that performs reliably and efficiently. Fabrications and components undergo rigorous and repetitive inspection and testing. Drums, tubes, insulation, support structures, fans, controls and other components are thoroughly examined prior to and during assembly. The final unit is then checked and re-checked. Such thorough attention to each component ... each assembly ... and each system assures that every Zurn steam generator is constructed to exacting reliability standards and ready for years of dependable service.

ASME Code Requirements
As boilers and pressure vessels, all Zurn steam generators must comply with minimum ASME Code requirements. Design, materials, fabrication, testing, and certification are done in accordance with Sections I, IV, and VIII Div. I of the ASME Code.

The Authorized Inspector, as an employee of an Authorized Inspection Agency, is provided under contract to supply inspection services required by the ASME Code. The Authorized Inspector is a full-time resident inspector and has access to all drawings, design calculations, specifications, procedures, process sheets, records, test results and Quality Assurance Manuals as well as free access to all plants as required to perform his duties in accordance with the ASME Code.

Additional QC Standards
Quality Control Standards have been established in various manufacturing areas to define the procedures and outline the acceptance levels for various manufacturing operations. Standard written practices have also been developed for all nondestructive testing. Personnel performing nondestructive examination have been qualified in accordance with the American Society for Nondestructive Testing recommended practice SNT-TC-1A. In addition, standard inspection forms have been developed for each product line. The Quality Control Department establishes the inspection procedure guidelines for each of these inspection points.

Human Resources
Maintaining a high quality level is the responsibility of each department, each individual. The Zurn Quality Control Department is responsible for providing guidelines, implementing procedures, and assuring compliance. A Quality Assurance Manual thoroughly defines company policies. The Manager-Quality Control, reports directly to the President and has full authority and freedom in all quality control areas. Inputs from all levels are actively encouraged and regular sessions are scheduled for specific problem areas.

To improve quality of work, productivity, and proficiency, Zurn also supports an on-going program of Manufacturing Process Instruction. Welders are trained and certified to national standards required by the ASME and the American Welding Society (AWS). Quality Control personnel are required to qualify for certification in Welding Inspection (AWS), Nondestruction Examination, and the use of a wide range of testing equipment.

Inspection/Testing Procedures
As an extension of human resources, Zurn provides a variety of tools designed to probe beyond human senses. X-rays see through drums, drum seams, and tube bends detecting the tiniest flaw. Ultrasonics sound-out any mistakes. Magnetic particles polarize problems. Liquid dyes penetrate hairline defects. Water spurts through any leaks. Pressure tenses weld seams to their limit. At every step, work and raw materials are checked, re-checked, and verified to strict standards.



Above: *Inputs from all areas involved often help provide solutions to specific quality control problems.*

Opposite Page: *Zurn X-Ray Machine radiographs drum seams in compliance with ASME Code, Section I and VIII requirements. Quality radiographs are rapidly produced and examined so that any re-work can be scheduled immediately.*