


THE BOILER MANUFACTURERS' ROLE OVER THE UNIT LIFE CYCLE

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Presented at the
COMMITTEE ON POWER GENERATION
ASSOCIATION OF EDISON ILLUMINATING COMPANIES
Raleigh, North Carolina
APRIL 3, 1986

RST-56

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ABSTRACT

his paper briefly discusses the role and relationship of Riley Stoker's organization as it relates to the design, manufacturing, Construction and Support Services necessary to insure efficient and reliable operation of its fossil fired Steam Generators in service throughout the U.S.

INTRODUCTION

To understand the boiler manufacturer's mission within the utility industry, some history and insight is necessary to appreciate its present role and relative responsibility.

HISTORY

Riley Stoker, like two of the other major boiler manufacturers, initially started in business providing something other than complete boiler generating systems. In Riley's case, Sanford Riley, the founder, designed, engineered, manufactured and serviced stokers firing all types of fuels, literally thousands of them and became the leading stoker manufacturer in the United States.

As the economy expanded over the years, Riley also expanded and took advantage of the incredible appetite U.S. industries created for electric power generation. Riley assimilated through expansion, acquisition and research, the commercial, technical and manufacturing skills required to provide complete state of the art boiler system for use in the utility segment of U.S. industry. With a strong commercial commitment from the marketplace, Riley refined its organization to meet the challenges and opportunities as well as responsibilities to serve owner's of its boiler 24 hours a day, 7 days a week throughout the entire United States and overseas.

MANUFACTURER'S ROLE

Figure one is a Kaleidoscope representing 73 years of Riley experience and serves as a reservoir of information for daily internal and external activities which are an inherent part of Riley's infrastructure.

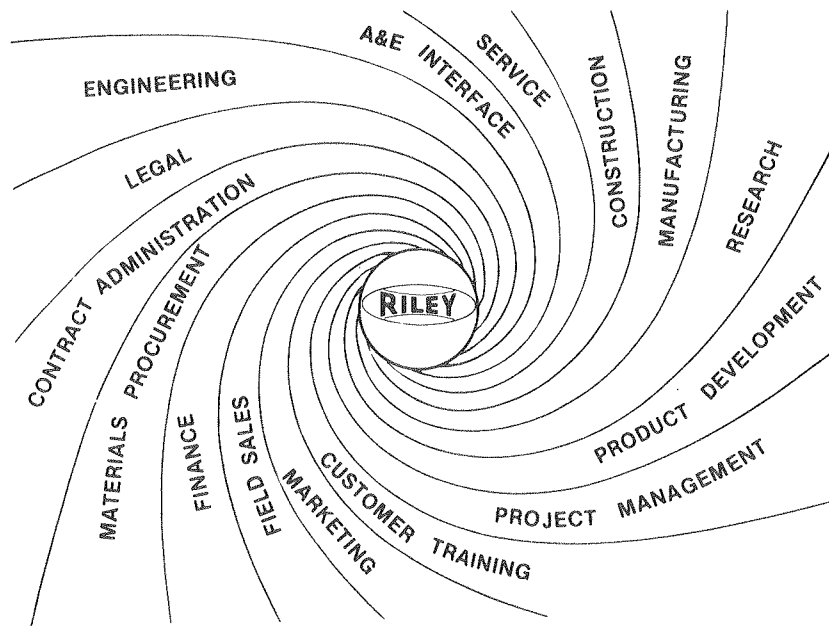


Figure 1

While these activities appear to be self serving, they provide significant direct and/or indirect benefits to the boiler owner depending on the extent and magnitude of the situation. Some of the Owner Benefits can easily be recognized as "Riley".

- Regional Field Service Consultations
- Regional Field Construction Consultations
- Assistance in Planning Maintenance Activities
- Assistance in Diagnosing Problems
- Assistance in Planning Capital Expenditures through comprehensive proposal activity
- Routine Technical Meetings with Owner/Engineer Personnel
- Routine issuance of technical advisories by Riley's Field Service Organization

These routine activities, for the most part, are provided without cost. In addition, while not so obvious to you, they are further enhanced by Riley's association with major professional societies, organizations and/or agencies.

Figure two identifies these organizations and, while some are not directly related to the Utility industry, exchanges of technical, environmental and other information, provides further insight into common areas of concern.

Riley's commitment has, over the years, been strong with Executive, Technical and Commercial Staff members participating on important policy making committees of these organizations, and/or advising other regulatory or legislative bodies of its position. Riley constantly monitors proposed codes, changes to laws or ordinances which may adversely effect new or existing boiler operations which in the end, serve to enhance the owner's position.

Riley's participation and contribution to the major professional societies and organizations is often the product of its Research and Development Activities carried out in its World Class facility in Worcester, Massachusetts. Extensive research has taken place in its 3MM BTU Pilot Scale Combustion Facility and its 100 MM BTU Coal Burner Test Facility. Riley Research has recently completed many major programs which, again, Riley

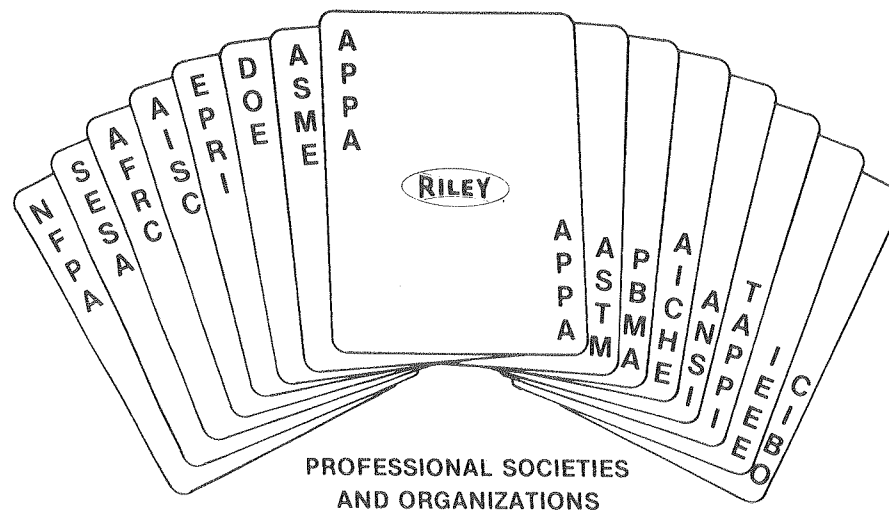


Figure 2

Boiler owners and others always benefit from. Some of the completed and ongoing programs are:

- Cold Water Slurries
- Burner Test and Development
- NO_x Reduction
- SO_x Reduction
- Slagging Combustion Process
- Fuels Testing and Development
- Low Excess Air Burning
- Heat Recovery Equipment

These programs are other examples of Riley fulfilling its role as a concerned and responsible manufacturer over the life cycle of a boiler. While the relationship is not always direct or obvious to the owner, it may be, however, one of the more important roles it plays, but, like "Goodwill" it is difficult to determine the real value expressed in dollars.

Riley, like all dynamic organizations, accepts its full responsibility as a major designer and manufacturer of boilers for the Utility Industry.

In addition, Riley understood long ago, its role was not over when a new boiler went through the acceptance phase of a contract and all commercial warranty conditions were satisfied.

Riley, reacting to the challenge and opportunity to serve owners of Riley Boilers, created a special division to serve this segment, the Aftermarket, of the Utility Industry (Figure 3.)

"The Plant Improvement Division" (PID) is a group of dedicated professionals who specialize in After-market Services and whose stated mission is to be a respected supplier of quality products, provide practical and cost effective solutions to problems and to promote, when possible, cost effective State of the Art changes in equipment and services.

The Plant Improvement Division essentially emulates, from a functional standpoint, the infrastructure of Riley's main organization and has been functioning for approximately 20 years.

This division and its specialists, are responsible for coordinating and communicating the needs of the boiler owner to the appropriate functional support departments and providing the owner recommendations or proposals which meet his needs.

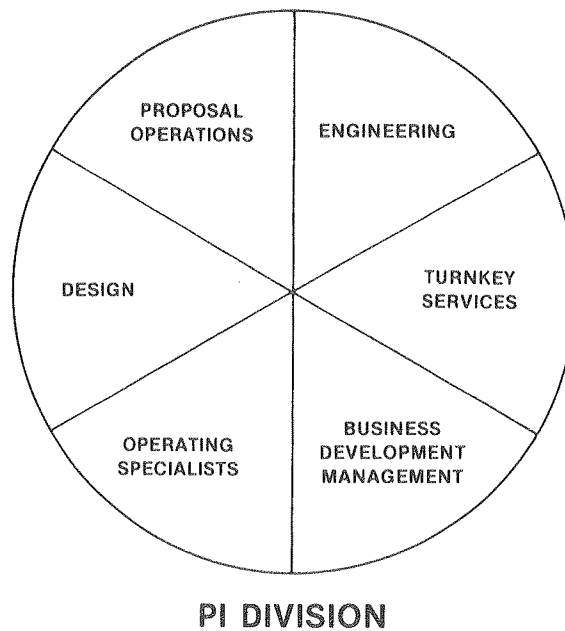


Figure 3

The Plant Improvement Division Organization was structured to provide its services at the lowest possible cost and is staffed with highly experienced professional individuals averaging 21 years in the boiler industry.

One way PID meets its objective to provide quality service at the lowest cost is that it works very closely with owner personnel to find ways to reduce down time and cost. When appropriate, it utilizes owner preferred local shop and/or services, which are capable of furnishing products to Riley standard.

By taking this approach, Riley believes it is a further demonstration of its desire to serve the boiler owner without sacrificing quality or jeopardizing the integrity of the boiler systems.

PID services and programs, such as Life Extension Evaluations, Boiler Availability and extensive laboratory analysis are all designed to serve the owner and enhance reliability of mature operating equipment. The fact Riley dedicates highly experienced individuals to serve the owner in the Aftermarket is a statement of its commitment to provide the utility industry with the most effective way of meeting its responsibility to its consumer and industrial clientele.

INDUSTRY ROLE AND SUMMARY

Like Manufacturers, the Utility industry, or more specifically the Owner, plays an equally and maybe more important role to insure the future well being of this entire segment of the U.S. Economy.

Depending on whose eyes one looks through, the Manufacturer's or Owner's, it would appear each perceives something different from a responsibility standpoint and each may expect more from one another regardless of the economic reality of the present market.

This paper is intended to highlight the rather wide range of activities Riley and other manufacturers engage in to maintain and advance boiler industry technology.

The manufacturer is, at this time, at a financial cross road. Riley believes that continued active participation and support of professional societies and organizations is necessary to keep abreast of events which could impact the industry and believes technical research exchange and presentation of technical papers at meetings such as the Joint Power Generation Conference, assist and enhance the innovation of engineers and other professionals who have dedicated their careers to serving our industry.

While Riley has maintained an active role to support these important activities, it is also faced with the reality of responding to economic pressures of the market place and has diligently been pursuing more cost effective ways of doing business. Installation of state of the art Engineering and design computer systems and installation of advanced manufacturing equipment designed to increase productivity are two examples of actions Riley is taking to remain competitive.

The manufacturers play a role which cannot be assumed by local, regional or national contractor firms. Essentially, contractors "only" duplicate what exists or worse, may utilize from another manufacturer, information to modify or replace a component on a boiler which utilizes a different philosophy or expansion and support system and may cause early failure of the replaced component.

The Manufacturer's Role must be recognized by the industry for what it is - a complete commitment and vested interest to sever the Utility Owner for the entire life cycle of the Riley Boiler.

In summary, Riley provides some very important benefits to the Utility Boiler Owner:

- State Of The Art Engineering & Research Programs
- National Data Base of Corporate Experiences
- Analytical Tools specifically tailored to Boilers
- Extensive Experience in maintenance of Boiler System
- Vested Interest in being represented by reliable equipment
- System Warranties
- National Coverage by Regional Sales, Service and Construction Engineers

The Company reserves the right to make technical and mechanical changes or revisions resulting from improvements developed by its research and development work, or availability of new materials in connection with the design of its equipment, or improvements in manufacturing and construction procedures and engineering standards.