

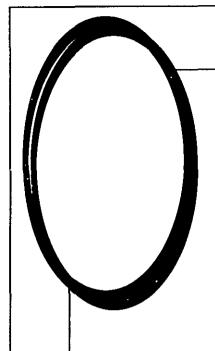
DEPT. OF NUCLEAR TECHNOLOGY CHULALONGKORN UNIVERSITY

Presentation - 1

"INTRODUCTION TO QUALITY MANAGEMENT (QM) "

George Wieckowski
Operations Quality Corp.

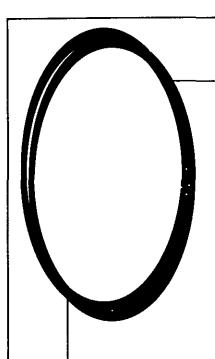
Nov., 1996



OBJECTIVES OF PRESENTATION

This presentation will discuss the following topics:

- ♦ Historical backgroun of Quality
- ◆ Role and contribution of the "Pioneers"
- **♦** Quality concepts
- ◆ Quality Standards and Awards



Modern Pioneers of QUALITY MANAGEMENT

R. A. FISHER

W. A. SHEWHART

Y. ISHIDA

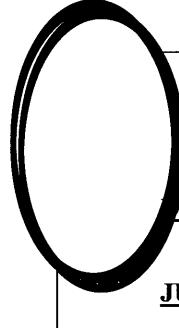
W. E. DEMING

J. M. JURAN

G. TAGUCHI

P. B. CROSBY

A. V. FEIGENBAUM



QUALITY GURUS and THEIR MESSAGE

- EMING statistical process control
 - 14 point mngmt. program

JURAN

- Quality planning
 - Quality control
 - Quality improvement

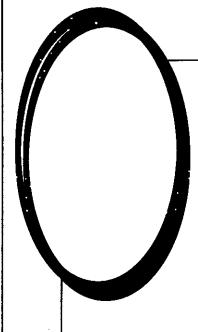
- **CROSBY** definition of Quality
 - prevention of defects
 - performance standard
 - measurement of Quality

FEIGENBAUM - TQC

- Quality management
- customer satisfaction
- control of operations
- control of costs

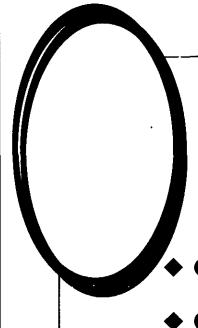
DEMING'S 14 POINTS FOR Q MANAGEMENT

- ◆ Create constancy of purpose
- ◆ Adopt the new philosophy
- case dependence on mass inspection
- Award business on quality and price
- ◆ Improve constantly, every process and service
- ◆ Institute training on the job
- ◆ Adopt and institute leader ship
- ◆ Drive out fear
- ◆ Break down barriers between departments
- ◆ Eliminate slogans and targets for workers
- ◆ Eliminate numerical quotas for workers and management
- ◆ Eliminate the annual rating or merit system
- ◆ Institute education and self-improvement
- ◆ Put everybody to work to accomplish the transformation



BALDRIDGE AWARD CRITERIA

- **◆** Leadership
- **◆** Information and analysis
- ♦ Strategic Quality planning
- ♦ Human resource development and management
- **◆** Management of process quality
- ♦ Quality and operational results
- ◆ Customer focus and satisfaction

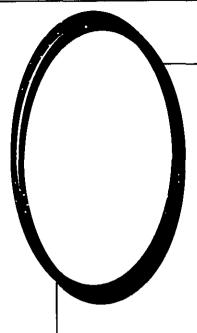


DEMING PRIZE CRITERIA

- Company policy and planning
- ◆ Organization and its management
- ◆ QC education and its dissemination
- ◆ Collection, transmission and utilization of information on quality
- **♦** Analysis
- **◆** Standardization
- **♦** Control
- **♦** Quality Assurance
- **◆** Effects
- **♦** Future plans



- **◆** Leadership
- **♦** Policy and strategy
- ◆ People management
- **♦** Resources
- **♦** Processes
- **♦** Customer satisfaction
- **♦** People satisfaction
- **♦** Impact on society
- **♦** Business results



CRITERIA: CANADA AWARD FOR EXCELLENCE

- **◆** Leadership
- **♦** Customer focus
- **♦** Planning for improvement
- **♦** People focus
- **◆** Process optimization
- **♦** Supplier focus



SO 9000 - selection and use of QM and QA s tds.

ISO 9001- QA system for Design and Development

ISO 9002 - QA system for Production and Installation

ISO 9003 - QA system for final Inspection and Testing

ISO 9004 - Quality Management and Quality System elements

Guidelines for application of Standards:

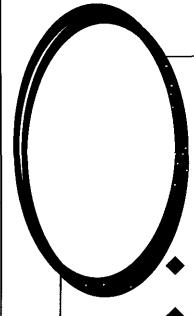
e.g. <u>ISO 9000-2</u> generic Guidelines for Application

- <u>ISO 9000-3</u> Guidelines for Software
- ISO 9004-2 Guidelines for Services
- and many others

IAEA NUCLEAR SAFETY STANDARDS (NUSS PROGRAM)

- ◆ Governmental organization : Code 50-C-G
 - Safety guides 50-SG-G1 to G9
- ◆ Siting: Code 50-C-S
 - Safety Guides 50- SG- S1 to S11B
- ◆ Design: Code 50-C-D
 - Safety Guides 50-SG-D1 to D 15
- ◆ Operation : Code 50-C-O
 - Safety Guides 50-SG-O1 to O12
- ◆ Quality Assurance: Code 50- C-QA
 - Safety Guides 50-SG-QA1 to QA11

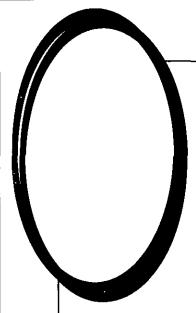
Safety Practices pertaining to each of the above topics 50 -P - 1 to



KEY STRATEGIES for SUCCESS

- Customer focus
- ◆ Upper managers involved
- ◆ Strategic Quality planning
- ◆ The concept of "BIG Q"
- **◆** Quality improvement
- **◆** Business process management
- ◆ Training in managing for Quality
- **♦** Measurement of Quality
- ♦ Bench marking
- ◆ Human resources and empowerment
- ◆ Motivation recognition and reward

CONCEPT of "BIG Q" and "LITTLE Q"		
◆ <u>P.ODUCTS</u> :	all	manuf. only
PROCESSES :	_ all	manuf. only
◆ <u>INDUSTRIES</u> :	all	manuf. only
◆ QUALITY :	business problem	technical problem
◆ <u>CUSTOMER</u> :	all, internal, external	external only
◆ QUALITY GOALS:	included in bus. plan	factory only
◆ TRAINING IN QUALITY :	company wide	QA Dept. only



TOOLS of QUALITY

- **♦** Systematic Collection of Information
- **♦** Analysis

Statistical Process Control Root Cause Analysis

- Fault Tree analysis
- Cause and Effect Diagram
- Change Analysis
- Human Performance Evaluation

Pareto diagram
Histograms
Cost of non-Quality

