48-16

MEETING #7 ON ENGINEERING POLICY
Held at
SCHENECTADY
September 14, 1948

Present: H. A. Winne, Chairman
C. H. Black
B. A. Case
D. E. Chambers
M. J. Hamner
E. E. Johnson
I. J. Kaar
E. S. Lee
S. J. Levine
J. W. McNairy
H. E. Strang
F. W. Warner
John Horn, Secretary

Part Time: M. Anderson, L. D. Miles, A. H. Rau

-o-

Introduction. Mr. Winne acknowledged the appointment of Mr. C. H. Black as Manager of Engineering of the Construction Materials Department and welcomed him as a member of the Committee.

He also paid tribute to the memory of Mr. Ray Patten.

Value Analysis. Mr. L. D. Miles briefly outlined Mr. H. L. Erlicher's concept of full purchasing service which includes more than the procurement, placing orders, letting contracts, etc. Purchasing specialists hold extensive knowledge of market quotations, material availability, current processing methods, vendors' specialized abilities and the like, and Mr. Erlicher has long felt that all of this knowledge can be brought to have an effective influence on economic design, manufacturing and procurement.

In this light, a small group under Mr. Miles' direction has inaugurated Value Analysis. Briefly, it comprises evaluation of parts and assemblies with the following basic questions as the background:

1. Is it worth the money for its intended use?
2. Does its use contribute to the value of the product?
3. Does it need all of its features for the intended use?
4. Is there anything better for the intended use?
5. Can a usable part be made by a lower cost method?
6. Can a standard, or a vendor's standard, be found which will be suitable?
7. Do its material and reasonable labor, overhead, and profit total its cost?
8. Will another dependable supplier provide it for less?
9. Can our competitors buy it for less?

Only when a part or a product meets these specifications is it worth the money.

By example evaluation of a number of parts and assemblies of products with this approach, Mr. Miles showed how lower costs, without sacrifice of quality, are obtainable in innumerable instances by cooperative engineering, works laboratory, manufacturing and purchasing effort based on sound value analysis.

The Committee was in full agreement that a great deal stands to be gained by the suggested method of attack on the cost problem. In recognition of this, ways and means were discussed for stimulating effective action in the various groups concerned within the different Departments. One suggestion, offered by Mr. Kaar, was that a travelling team be formed which could make the rounds and help educate local personnel to do this sort of analysis work. In that connection, it was mentioned that the Company Drafting Committee has appointed a Task Force to make recommendations for educational activities on the subject within design and drafting groups. Mr. Strang invited Mr. Miles to make a presentation on Value Analysis to the Managers of Engineering of the Affiliated Manufacturing Companies Department at their forthcoming meeting in November. Mr. McNairy spoke of Mr. Miles' work as falling directly in line with efforts made at Bridgeport where the buyers are backed up by planners to be in a position to negotiate intelligibly with vendors and to establish value before buying. Mr. Levine called attention to increasing benefit at Bloomfield from the use of tabulated drawings of available designs and stock parts as tools for economic selection and procurement.

Mr. Winne summarized the discussion by saying that it is vital to the Engineering Divisions to receive every bit of advice that the Purchasing personnel can give, and he encouraged the buyers to make sure that the engineers fully consider the economics that may result from suggestions based on procurement and processing knowledge.

New Drawing and Part List Project. Mr. A. H. Rau reported on a Drafting Committee study which has disclosed considerable opportunity for savings by eliminating recopying of engineering information to produce the necessary manufacturing papers. The present practice, followed rather uniformly, requires much rewriting which consumes much time and is a source of inaccuracies. He explained briefly how this study has culminated in a proposal for new forms for Drawing and Material Lists that will effect such elimination. The full proposal also takes in new drawing forms that will facilitate incorporation of the new parts lists and provide additional features as shown on the appended sheet. A travelling exhibit explaining the proposal in full detail is on a scheduled circulation to the various Departments and will be available for further use in promoting adoption.

It was recognized that Engineering and Drafting must spearhead the changeover to the new forms and the related routine, and Mr. Rau was offered full support in promoting the project.

Drafting Personnel Problem. Mr. Marshall Anderson brought to the attention of the group two phases of the drafting personnel problem that needs to be solved. First, our drafting jobs are classified into three Drafting and three Detailing categories with steps above the job rate for exceptional performance at the top classification. With fuller progress in standardization of products and design methods, there will follow a reduction in the amount of high-grade design work. This raises the questions of: Do we then reduce the number of high-grade designers? Can we resort more to transfers? Does the job content deteriorate? Do we feed in new high-grade work? The second phase concerns salary opportunities beyond our present Design-1 rate. What have our men to look forward to when they reach Design-I classification, say at around 40 years of age. A few may qualify for engineering or become supervisors, the remainder have reached their ceiling. How shall we arrange to utilize the creative effort of these men in whom the Company has an investment?

It was agreed that we must be careful to apply the Engineering Design Classification to people who measure up to it. We cannot afford to water down this classification by moving people into it without real justification. The second phase question raised by Mr. Anderson, therefore, is one that we must fit into our long-range planning.

Mr. Johnson suggested that we can do more in the line of having the people concerned work to a greater extent in the shops towards improving methods and processes.

Mr. Levine raised the question of whether any activity was contemplated to educate draftsmen for engineering occupations, for instance by establishing courses in Strength of Materials, Mechanics, etc. The answer was that nothing of this nature beyond the General Course is available, and the feeling was that the policy of leaving technical subjects to outside educational institutions is the road to follow.

Mr. Anderson suggested that informative meetings be considered as one step in the general education of our drafting people.

Quality and Customers Acceptance. Mr. Winne pointed out that with the increasing costs of material and labor the matter of watching out for quality has become most important, especially in consumers goods lines. With this trend there follows a buyers resistance to higher prices. All of this underlines the importance of maintaining quality and of reducing costs, and shows the need for the kind of effort that was brought out in the presentations of Messrs. Miles and Rau.

Mr. McNairy said that the A & M Department has an organized activity for analyzing complaints and for doing something about them. He considered this a most necessary measure.

Mr. Kaar agreed that quality is an important factor, as is service, to customers. Both items are subject to constant deliberations in the Electronics Department.

Rating Sheet. Mr. Case made some introductory premises for a discussion of the rating sheet situation, but for lack of time this item was carried over for a fuller discussion at the next meeting.

Silicone Plant. Mr. Warner said that with the Waterford Plant operating, there is a need for active development of every possible application of silicone. He briefly outlined some of the problems involved and invited the Committee to meet with him and his associates in the Chemical Department for a more complete review of the situation.

Mr. Winne felt that this item is one that must be given priority, and the group agreed to meet again in October to take it up, together with other deferred business, such as the Rating Sheet problem.

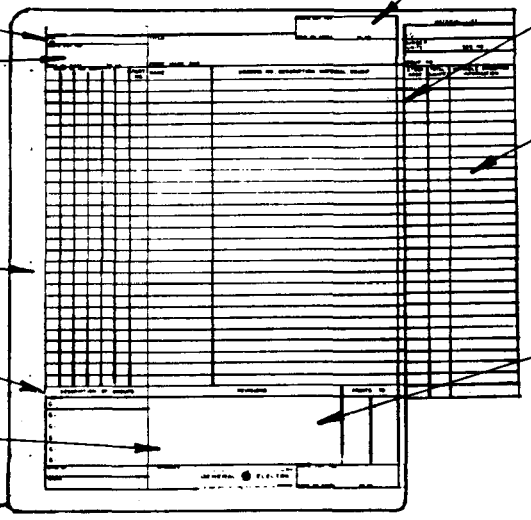
Next Meeting. The committee will meet again in Mr. Winne's office, Building 2, Schenectady at 9:00 AM Thursday, October 21. The afternoon session will be transferred to Waterford for a review of the Silicone situation.

9/27/48

JOHN HORN
Secretary

PRINCIPAL FEATURES
— OF —
BASIC FORMAT DESIGN

- REVISION NUMBER ADJACENT TO DRWG. NO. TO ASSURE ACCURACY IN FILING.
- NUMBER IN THIS LOCATION ON ALL FORMS TO PERMIT FOLDING TO $8\frac{1}{2} \times 11$
- AMPLE BINDING MARGINS
- LARGE SPACE FOR GROUP DESCRIPTION
- PROVISION FOR ALL HORIZONTAL TYPING
- ROUNDED CORNERS RESIST DOG-EARS PROLONGS LIFE OF TRACING - SPEEDS-UP PRINTING



- NUMBER IN THIS LOCATION FOR BOOK FILING
- EASY REGISTER WITH MANUFACTURING FORMS
- RE-COPYING OF ENGINEERING INFORMATION FOR PRODUCTION USE IS ELIMINATED
- REVISIONS ADJACENT TO DRAWING NUMBER PROVISION FOR EXTEN SION AT LEFT-HAND MARGIN OF LARGER FORMS

ADDITIONAL FEATURES

- ALL ENGINEERING AND PRODUCTION FORMS ARE MULTIPLES OF $8\frac{1}{2} \times 11$
- PARTS LISTS ON OR OFF THE DRAWING ARE IDENTICAL
- PARTS LISTS READ FROM TOP TO BOTTOM TO CONFORM TO AMERICAN READING CONVENTIONS AND TO FACILITATE TYPING
- UNIFORM FOLD LINES INDICATED ON SIZE B AND ABOVE
- ADAPTABLE TO EXISTING DRAFTING PRACTICES AND PRODUCTION ROUTINES
- SUITABLE FOR USE WITH VARIOUS REPRODUCTION METHODS