

RESUME

Personal Data

Burton Grad  
87 Barnes Road  
Tarrytown, New York  
Medford 1-3430  
Born April 16, 1928, USA  
Married -- <sup>4</sup>3 children  
5'9" -- 160 pounds  
Health -- excellent  
No military service

Present Job

*Manager, Systems Engineering Services*  
~~Technical Counselor, Integrated Systems~~  
*Data Processing Division* ~~Research and Development~~  
~~Manufacturing Services, General Electric Company~~  
570 Lexington Avenue *200 Mamaroneck Ave*  
New York 22, New York *White Plains, N.Y.*

~~General Electric Lab Level~~  
~~Salary - \$12,000 per year~~

Education

Rensselaer Polytechnic Institute--Nov. '45-Jan. '49  
Bachelor--Management Engineering  
Physics Minor  
<sup>Top</sup> Upper 10% of class; A-average  
Central High School--Washington, D.C.--grad. June '45  
1st in class  
Rensselaer Medal  
Harvard Book Award  
Four year Pepsy-Cola Scholarship

Activities and Awards

Business: ~~Received Manager's award for Warehouse Reporting Plan-1956~~

Co-authored paper on Sequential Sampling for AQC Journal with Frank E. Satterthwaite - 1949

Co-authored paper on Cost of Carrying Inventory for Mill and Factory with training program student - 1953

Co-authored paper on Information Process Charting for AIEE Journal with Richard G. Canning - 1959

~~Member of the Association for Computing Machinery~~

Personal: Phi Sigma Delta *American Institute of Industrial Engineers*  
Social Fraternity - College, Intramural athletics, *Operations Research Society of America*  
Guilderland School Advisory Committee, Reading, Tennis, *Management Sciences* Handball

*Papers*  
add  
AIEE -  
AIEE (2)  
Data Machine (2)  
D.P.D.

References

- H. F. Dickie, Manager - Production Control Service, General Electric Company, 570 Lexington Avenue, New York 22, New York.
- N. W. Coutant, Manager - Materials, Large Steam Turbine-Generator Department, Building 273, Room 116, 1 River Road, Schenectady, New York.
- R. G. Canning, Consultant - Richard G. Canning and Associates, 614 South Santa Fe Avenue, Vista, California.

Work Experience

- Summer 1944 United States Weather Bureau, clerk  
Washington, D. C.
- Summer 1945 Department of the Army, Air Surgeon Office, statistical  
clerk - Washington, D. C.
- Summer 1947 Texas Oil Company, warehouse man - Albany, N. Y.
- Summer 1948 Miles Shoe Store, salesman - Albany, N. Y.
- Sept. '48-Jan. '49 McAn Shoe Store, salesman - Albany, N. Y. (30 hrs./wk.)
- Feb. '49 -<sup>Jan '59</sup>pres. General Electric Company as detailed on the following  
pages.
- Jan '59 - pres International Business Machines Corp as detailed

Work Experience - General Electric Company

Nov. '57 - Present      Technical Counselor - Integrated Systems Research  
and Development, Manufacturing Services, New York,  
New York.

Managed and technically directed an applied research project using an instrument business as representative. The goal of the project was to demonstrate technical and economic feasibility of an automatic information and material processing system. Project responsibility included proposal preparation, management liaison, budget preparation and required managing the work of fifteen full time and ten part time specialists from various business functions: Engineering, Manufacturing Engineering, Quality Control, Cost Accounting and Production Control. This project resulted in basic new concepts for the design of industrial information systems and an entirely new approach to a general systems-oriented computer programming language. New organization principles were evolved.

During the course of the work a comprehensive set of production and inventory control rules were designed. These rules were evaluated through two special purpose computer simulator programs that were written for the project. Numerous technical reports were prepared to describe the new techniques developed. A series of full-day management meetings were held to describe project results. Application of this work is now being stimulated through consulting visits and various educational media.

Mar. '56-Oct. '57      Specialist - Manufacturing Control Systems  
Acting team leader - Automated Systems Project  
Manufacturing Services  
New York, N. Y. and Fort Wayne, Indiana

Did a detailed study and analysis of a representative motor business to design and plan full scale office and factory automation system. This was a highly technical, intensive applied research project with

broad usage of outside consultants. I coordinated the work of twenty full time and fifteen part time specialists studying all phases of the business. A series of new analytical techniques were developed together with new concepts of an integrated business system. The material has been documented in a series of three books plus additional articles on particular techniques such as Information Process Charting and Product Structure Analysis.

Conducted various specialized research, consulting and educational activities including: Production Leveling, ABC Analysis, Buffer stock planning, Cost of money.

Conceived and participated in the development of a general purpose program for the IBM 650 to solve Load-Capacity Analysis problems.

Studied and read extensively in the fields of operations research, electronic data processing and factory automation.

July '53-Mar. '56

Specialist - Advanced Technique Development  
Production Control Service  
Manufacturing Services  
Schenectady, N. Y. and New York, N. Y.

Technically organized and conceived an integrated warehouse reporting plan covering all General Electric Apparatus Sales Offices and 25 product departments. This involved the use of Western Union's punched tape and IBM's punched card equipment at the departments to use the data for stock record keeping and financial control.

Guided the development of a special purpose analog computer for Load-Capacity Analysis; the Productron is now being sold by General Electric's Computer Department.

Proposed, planned and initiated a dispatch rule - factory simulation project for the IBM 704. This was carried out by our Section with IBM cooperation.

Conceived and carried out a complete project for one department covering an integrated parts explosion, factory scheduling and machine load analysis plan. This was flow charted, programmed and coded for the Univac at Louisville, and the 10,000 steps debugged in New York.

Attended the following courses:

IBM's accounting equipment for manufacturing  
Remington Rand's two-week Univac Programming  
IBM's Electronic Data Processing  
Canning and Sisson's Electronic Data Processing

Guided and planned a comprehensive punched card stock control program for one department covering 8,000 items, 1,500 withdrawals per day, etc.

Prepared numerous speeches to be presented by Service Manager as well as many reports to Service and Company management. Prepared necessary budget and job descriptions.

Performed extensive consultation for over 50 General Electric Departments in various production control, inventory control, punched card and computer problems.

Responsible for the preparation of a Company textbook on Production Scheduling of which over 4,000 copies have been sold.

Prepared numerous original articles for internal Company use on: Economic Ordering Quantity, Cost of Carrying Inventory, Bin Reserve, ABC Analysis, Voucher Systems, Factory Scheduling, Automatic Stock Record Keeping, The Uses for Medium Scale Computers.

June '50-June '53

Large Steam Turbine-Generator Department  
Schenectady, New York.

Production Control Supervisor - Supervised 4 sub-unit Supervisors and through them 50 employees. This incorporated Inventory Control, Production Procedures, Manufacturing Budgets and Measurements, and Production Service Bureau.

Inventory Control Supervisor - planned and established a major inventory control program which resulted in a 50% improvement in turnover. This included use of ABC Analysis, Economical Order Quantities, Manufacturing Cycle Control, Punched Card Physical Inventory, etc. In addition conducted a joint study of the information processing system and recommended a comprehensive punched card program. Supervised three-five employees.

Production Procedures Specialist - setup a complete procedures planning function and participated in materials priorities work.

Spare Parts Supervisor - Supervised 3 production control clerks handling 200 supply requisitions per week. Raised promises kept from 80% to over 95%.

Special Assignments - training - planned and installed a new dispatch control routine for a large job covering 1,000 employees. This was followed by studies on performance measurement, stockroom operation and factory paperwork preparation.

Feb. '49 - June '50

Test Engineer

Home Laundry Dept., Bridgeport, Conn.  
Wire and Cable Dept., Bridgeport, Conn.  
Wire and Cable Dept., York, Penna.  
Aeronautics and Ordnance, Schenectady, N. Y.  
Large Steam Turbine, Schenectady, N. Y.  
Large Motor and Generator, Schenectady, N. Y.  
Gas Turbine, Schenectady, N. Y.

These were a series of short training assignments designed to acquaint the student with the Company. Included was 6 months on Quality Control with one task to set up a complete quality control program for a small (250 employees) satellite plant.