

AMERICAN ENGINEERING ASSOCIATION, INC.

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ENHANCING U.S. PRODUCTIVITY THROUGH IMPROVED UTILIZATION OF ENGINEERS

The effective utilization of America's engineering workforce is essential if the United States is to enhance its technological position in the world today.

The nation's competitiveness and productivity can be substantially increased through proper utilization of the time and skills of its engineering professionals.

Engineering is a lifelong profession in which the engineer's ability and skills are enhanced and cultured by years of practice and depth of experience. Those years should not be cluttered with trivia or sub-engineering tasks that may be more appropriately performed by support personnel.

The organizations in which engineers are employed are characterized by a wide spectrum of engineering and management practices. Some organizations effectively utilize the time, knowledge, skills and judgment of their engineers with positive results that increase productivity and result in products of professional quality. The under-utilization of engineers or use of engineers in sub-engineering tasks, on the other hand, has a detrimental influence on the engineers' performance and skill level and should be avoided.

Effective utilization results in:

- Enrichment of an engineer's skills

- Increased engineering depth, experience, ability and vision

- Incentives to further individual skill development

- Technical growth, improved performance, increased value and self esteem

- Self development and the ability to aggressively overcome new problems and challenges

- Enhanced productivity

- Improved quality of products and services

The following recommendations are intended to improve engineering performance and utilization:

Use engineers in tasks that utilize their highest skills and frequently challenge and expand those skills.

Provide engineers with adequate support personnel including technicians, wiremen, assemblers, writers, draftsmen, administrative assistants, secretaries, etc. so they may concentrate on technical problems that require engineering experience.

Provide engineers with current and state of the art equipment necessary for test, investigation and evaluation to synthesize solutions of technical problems.

Provide the engineering environment, space and resources that are conducive to creative work, thought and progress.

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Use engineers in the guidance and direction of support personnel to assure that their knowledge and contributions are of a quality that will enhance the engineering effort.

Use engineers in formulation of management decisions that influence engineering projects and technological issues.

Encourage engineers to present talks and demonstrate equipment and systems within the organization to increase the technical knowledge of their associates.

Provide financial incentives to encourage patent development or methods to increase efficiency or provide product and organization improvements.

Where these recommendations are implemented, engineers will be considerably more productive. Good engineering practice and judgment are derived from in-depth experience and are paramount to the solution of technological challenges.

The United States cannot afford to let its engineers be ineffectively utilized. Rather, we must implement these key recommendations and maintain our engineering capabilities in order to continue our leadership in technological competition. Improved utilization will keep our engineers sharp and increase their technical excellence. Improved utilization of engineers is essential if we are to enhance the profession, preserve our national defense, bolster homeland security, strengthen our international balance of trade and achieve domestic prosperity. Indeed, without the innovations from a US based Engineering community we will be dependent on offshore sources for our very existence.