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PASSING THE BUCK

Today, in local government entities, the buck is passed in two different directions: When one decides to question local government on decisions which have been made, or tax increases which appear unwarranted, the buck is passed around, from person to person, to such an extent that the questioner becomes weary of pursuing the responsible person and drops his case. There is another buck-passing that occurs: This second buck is the one passed from the local government entity to its citizens; the dollar increases which are never really accounted for, but are handled in a variety of clandestine ways that ensure that the citizen pays the freight.

The same sort of buck-passing occurs in the Federal government, but is open for all to see. We always know when taxes are going to be raised, and we have come to expect the passing of responsibility for answering citizen complaints from one person to another, from one office to another, from one department to another, and so on, ad infinitum. This type of buck-passing is such a normal occurrence that it is now accepted as a way of life in many Federal government agencies.

Bumbling Bureaucrats

Anyone with long Federal service has obtained firsthand experience with delays and bumbling by bureaucrats, their adamant refusal to go to the root cause of budget problems, and their tunnel vision based on personal experience with things that work and things that don't work. There are those persons in management positions who cannot permit any change to the status quo, but keep themselves busy marking time, going nowhere, and wanting to take everyone along with them.

How do we solve budget problems in Federal government? Do we determine where the problems originated and then seek methods for corrective action which is necessary to ease the budget pinch?

Unfortunately, the normal approach is to eliminate positions, reduce travel, give lip service to conserving paper and electric power usage, and count pencils. In really extreme cases, we reallocate funds from one program to another or try to obtain supplemental appropriations from the Congress.

The Local Method

The same bureaucratic approach to budget problems occurs on the local governmental level. Each entity — state, county, city, town and village — has its share of civil servants who have retired in place and use the stock answer to budget squeezes: RAISE TAXES.

Recently, the all-knowing seers of Suffolk County, New York (a lovely area on Long Island), have pulled their bumbling bureaucratic stunt of the month. One legislator, Dr. Martin Feldman, tried to force action on the part of the county staff to reduce costs of a sewer plant which had been bid at twice the budget figure. Dr. Feldman called Congressman Larry Winn, Jr. (R-Kansas), to seek help in reducing costs. Congressman Winn, who is MR. VALUE in government, immediately called on the Value Engineering community to provide that help.

A Certified Value Specialist was contacted to give advice to Suffolk County on their budget problem. It was rapidly determined that there was just one sewer plant that was bid at almost twice the budget, but that the entire Sewer District — 96 square miles — appeared to be in the same over-run position. Inasmuch as the problem was one in the area of construction — the building team — a solution was given to the county based on a total approach to new construction techniques.

Did the Suffolk County staff rapidly accept the method offered to get them out of their dilemma? Were they pleased to find that there were specialty firms in the construction area that were equipped to help them? How do our local government public servants handle budget problems? Do they determine where the problems are and then dig in and solve them? Or, is there another, easier way to handle them?

The Home Owner Pays

The easy way to solve any budget crunch is to raise the taxes. And the best way to do that is to lower the tax rate on private homes — or keep it constant — and just reassess all of the property in such an amount as to make up for the reduction in tax rate, if any, and provide the extra funding needed to support the dollar-eating machine of local government. After all, they state, "Everything is going up in price," and they feel that their legitimacy is assured.

And, as if that isn't bad enough, many of the local staffs then brag that "we reduced the tax rate this year," or "our taxes (sic) weren't raised this year."

If the local bureaucrats are really smart, as is the case in Fairfax County, Virginia, real estate is only assessed on a three-year cycle. Only one-third of the homes are reassessed each year, and only one-third of the citizens are up-in-arms at the County staff each year; by next year they've already accepted the rip-off they were given by the staff, whose salaries they pay. Another great benefit of this three-year cycle of reassessments in Fairfax County is that the percentage rise in assessment can be anything that the staff wants it to be — as long as they have assured that their proposed budget increase will be covered.

The most amazing thing about this process is that it has been going on for years; that the local legislators haven't seen through this ploy which assures annual salary increases for the staff, and that the citizens have not banded together to throw the bums out.

Clearing Up The Symptoms

It becomes clear, therefore, that local public servants needn't attack the reasons for their budget problems, they need only clear up the symptoms. Is there too much outflow of cash planned? Raise the taxes! And so life...
INDUSTRIAL PROPERTY ADMINISTRATION COURSE


TWO AWARDS TO WESTERN ELECTRIC

The Western Electric Company in North Carolina received two Defense Supply Agency Awards in June 1974. The Western Electric Guilford Center personnel received the Performance Improvement Achievement Award. The honor was bestowed in recognition of their continued excellent performance in error prevention and goal achievement. The award was presented by Navy Captain J. W. Lipscomb of the Department of Defense Supply Agency. J. B. Bocock, general manager at the Guilford Center, accepted the award on behalf of the employees. Also during June, the Department of Defense presented its Military Craftsman Award to the Greensboro Shops of Western Electric for superior performance through individual and group craftsmanship. The Merritt Drive plant is the sixth recipient of this award in the Southeast area. Navy Rear Admiral Eugene A. Grinstead, Jr., director, Materiel Division, Deputy Chief of Naval Operations, Washington, D.C., made the award. H. G. Worley, manager of the Greensboro Shops, accepted the award on behalf of the employees. Outstanding employees who were leaders in accepted error cause identifications and goal achievements were recognized during the ceremony.

Western Electric Company plants in North Carolina have now received five awards for excellence through the Pride in Personal Performance Program — three Achievement Awards and two Craftsmanship Awards.
Caserio pointed out that it possibly was to her advantage that she was turned down in the early going. “You would have received only $2,500 as a top award back then,” he said. The last increase was from $6,000 to $10,000 in 1968. Some suggestions are rejected, said Caserio, because they are too advanced to be applied to present circumstances. “In Nancy’s case, persistence paid off for her and the division.”

Miss Armentrout will use the award to build a greenhouse for raising worms. “I’ve been experimenting with them in my garage,” she explained, “but in order to get into raising worms seriously, you have to have a warm place in the Winter.”

The worms won’t be raised for the fishing bait market, although the 48-year-old woman is an avid angler.

“These will be for organic gardening, something a lot of people are getting into. The worms are in demand because they are great topsoil rebuilders—they can rebuild in one-tenth the time it takes Mother Nature.”

Organic gardeners generally avoid manufactured fertilizers and use those created by nature, such as compost. “Food organically grown tastes much better to me than things grown in fertilizer,” said Miss Armentrout.

The project will be for retirement which will come “as soon as possible.” This will also mean more time for fly fishing at Cooley Lake, where she has “a place.”

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PERFORMANCE
By ARTHUR F. SAMPSON

America and the highly developed Western World are moving into an era of sacrifice; whether we want to call it that, or even admit it. The evidence is all around us.

For the next few generations we will be facing material and energy shortages as widespread as ever before and, most probably, more severe. We are at the borders of our physical world, and near the end of the easy resources extracted from it. Facing the known reserve of our supplies will be an unknown — but growing — demand.

Developing nations, increasing populations and rising expectations around the world will make it more and more difficult to match needs with material goods; and inflation may make it impossible.

In this climate, conservation becomes more than a lofty ideal or a sound principle. Conservation — of energy, of material resources, and of money — must become a way of life.

Now, there's nothing new about looking for economies. Every head of household and every businessman has done a whole lecture series on it. Belt-tightening is the touchstone for every office holder; and waste, the theme for every office seeker. But there are — or will be — some new angles to our new age of sacrifice.

First, as I said, our shortages will be widespread, touching our lives no matter where we turn. They will extend, at times, beyond luxuries, beyond the niceties of life, to the very necessities of life.

Second — and also new — our shortages will seem permanent. There is no doubt that technology will open up new treasures to us, in time. But in the long meantime, we're going to be giving up and doing without.

Finally — and this is truly novel — we're being asked to sacrifice in a reasonably sound economy, by a Democratic form of government, in a fairly peaceful world situation. We are not involved in a war to make economizing a part of our patriotic duty; we do not live in a totalitarian state to make it law; nor are we involved in a depression to make it a simple fact of life. But it must become a fact of life. Conservation must become a way of life. The alternatives are not attractive.

Looking down the road, not so very far, we can see the consequences of the wasteful Western lifestyle: An unlivable environment, world economic distress, international extortion or war. As I said — not very attractive.

So the question of the day has to be conservation. Will the Western nations and America, specifically, alter their use of resources in a way which will promote stable international economic and political balance?

All the evidence says no!

In the face of inflation, we’re still spending. Some Congressmen are even suggesting a tax cut. In the face of environmental problems, we’re still driving our cars with abandon. And in the face of a very real energy problem, we’re still fighting the construction of nuclear power plants, offshore drilling and superports.

The question is: Will Americans practice self-denial voluntarily? History seems to indicate that we will not. Chances are that we will continue on our present course until disaster overtakes us. But there is one bright and encouraging hope. That hope is conservation technology.

I’m not talking about new technology that someday may bring us non-polluting travel or a geothermal toaster. I’m talking about today’s technology, operating with today’s resources, on today’s products and services. We won’t give up our lifestyle entirely, but we can moderate it. In fact, conservation is the one thing that stands between us and the potential disasters that await us in the future.

We may not sacrifice, but we will conserve: If the government takes a strong hand along with private industry, if the ways to save are there, and if it doesn’t hurt.

And that is exactly what the 1974 National Meeting of the Society of American Value Engineers is about. It could be called an energy conservation meeting, a natural resources conservation meeting or even an anti-inflation meeting. Value Management is the art — becoming a science — of getting more for less — achieving a goal with limited means — satisfying a need without sacrificing economy.

The value profession shares several qualities with the energy conservation and environmental preservation disciplines.

First, you must maximize your goals with minimum resources. And, second, the goals you seek to achieve are often, if not always, in conflict with other goals and priorities. Finally, Value Management shares with energy and en...
environmental conservation methods one other characteristic: All have demonstrated their ability to get results.

However, the Value Management profession, as it is developing in this country, is unique in several respects. These unique qualities are reason to believe that Value Management will become a very widely recognized and very widely used discipline in government and business in the years ahead.

First among its qualities, Value Management appears to be developing in an orderly and professional way. It is not a run-for-the-money proposition nor a play for new business, such as we have seen to some degree in the energy conservation area where, overnight, we developed a remarkable number of energy specialists we never thought we had, and energy conservation expertise we didn't know we needed. And VM doesn't have the fanatical, almost rabid, nature of the environmental movement of a few years ago.

Rather, Value Management is building on the known strengths of existing professions; using established talents, in combination, to provide a fresh approach to problems. And VM is selling itself through reason and not rhetoric. Without the debilitating struggles and frantic pace which have marked the growth of other new kinds of businesses, Value Management appears to be developing into a true profession.

And the new Certification procedure for Value Specialists assures that it will be a profession, in the true sense, with standards of conduct and quality of service.

The second characteristic of the VM movement, if I can call it that, is its organization. The Society of American Value Engineers is the VM group. It has a progressive record in promoting the utility of Value Management. As the Society continues to increase in size and stature, the experiences of its members can be shared, and the overall benefits of Value Management thus maximized.

Finally, the Value Management movement is open and public. It seeks, I believe, to document its successes, to train new practitioners, to eliminate the mystique of VM and, so, expand its use.

All of these qualities are healthy. All of them hold the promise that VM will continue to grow; that its methodology will be refined by shared experience.

As we move into the era of sacrifice and shortages that I think lies before us, there is no discipline more needed than Value Management. With the qualities of this young profession and its record so far, it will be there when we need it.

The Federal government, like every business and every household, will have to adapt to shortage. With costs rising and resources strained, we're all going to have to produce more with less.

But the government bears a special responsibility all its own.

First, the government must not only save — it must set the example in saving for private business and individuals.

Second, the government is a large organization — the largest in the country. It suffers, then, the most from the resistance to change which infects all big organizations. What's more, the Federal government, with its overlapping systems of tradition, legislation and regulation, tends to lose sight of the end products of its efforts. All too often the functional needs of its clients — the taxpayers — seem to be lost somewhere in its operations.

All of these are reasons why VM methodology should find fertile soil in government establishments. And the process has begun in several agencies.

In the General Services Administration (GSA), our VM

ARTHUR F. SAMPSON was appointed by President Nixon May 22, 1973, to head the U.S. General Services Administration. The appointment was confirmed by the U.S. Senate June 20.

GSA is the multi-billion dollar business arm of the government. It is a conglomerate employing nearly 40,000, controlling assets of nearly $11.8 billion and executing government-wide policy and management activities. It is the main civilian construction arm of the Federal Government; leases, owns and maintains 10,000 buildings; manages the national stockpile of strategic materials; procures over $2 billion annually in supplies and services; manages surplus and real property disposal; provides computer and telecommunications services; and develops government-wide policies on procurement, Federal property, automated data processing, management systems and financial management.

Sampson joined GSA in 1969 as commissioner of the Federal Supply Service. He was named later that year as commissioner of the Public Buildings Service where he served until June 1972, when the President appointed him acting administrator.

Prior to Federal service, Sampson served six years in Pennsylvania State government. He gained a reputation as an advocate of government efficiency as secretary of administration and budget secretary under Governor Raymond P. Shafer and as deputy secretary for Procurement, Department of Property and Supplies, under Governor William Scranton. Prior to entering public service, he was with the General Electric Company for twelve years.

In May 1973, he received three distinctive citations: Honorary Member of the American Institute of Architects; Public Works Man of the Year from the American Public Works Association; Fire Protection Man of the Year from the Society of Fire Protection Engineers; and in November 1972, the Synergy III Award from the Society of American Registered Architects for outstanding contributions toward the advancement of architecture, environment and the fine arts.

Sampson earned a Bachelor of Science degree in business administration from the University of Rhode Island in 1951.

He has been active in professional organizations, community, church and political affairs. A native of Warren, Rhode Island, Sampson was born October 8, 1926.
program now includes all services and has a good record. The history of VM in GSA is short, but successful.

In September 1970, I hired our first VE specialist to set up a program for us in the Public Buildings Service. There were people who felt that VE wouldn't work for construction — "too unruly," "too fragmented."

Well, it did work. And last Fiscal Year, the program saved us nearly two million dollars in the Public Buildings Service — a 400 percent return on our investment.

Our program has grown and prospered; but you'll agree, I think, when you hear about it, that its real potential and the major benefits are still ahead.

In May 1973, President Nixon reassigned a number of the Office of Management and Budget (OMB) functions to GSA by Executive Order. He took this step to build on the strengths of GSA and our experience in providing administrative and management services to the executive agencies of government. I organized these new responsibilities into an Office of Federal Management Policy under an associate administrator reporting directly to me.

The office has a broad charter to formulate, prescribe and assure compliance with government-wide policies in the functional areas of management systems, procurement, financial management, property management and automated data processing.

The Office of Federal Management Policy has already undertaken diverse projects. Included, for example, are steps to enhance Federal productivity, simplify grants administration policy and procedures, provide direction for Federal energy conservation efforts, improve Federal financial management practices, and a concerted effort to pursue the recommendations of the Commission on Government Procurement.

One current, important project of the office is the development of a comprehensive Federal Value Management Program. On February 15 of this year, a draft Federal Management Circular was issued to the heads of all Executive Branch departments and establishments. The purpose of that document is two-fold. First, it establishes the policy and procedures for VM programs throughout the Executive Branch. Second, the circular proposes a Federal Value Management Council.

To establish VM programs, the circular proposes that agencies appoint an individual in charge, first. Next, develop their in-house procedures and training programs and then measure the institution and successes of VM programs in an orderly way.

The circular also provides for the use of VM contract provisions, hiring and training support by the Civil Service Commission, and the establishment of VM awards to recognize achievement.

To guide this advance towards a uniform Federal VM program, we are considering the establishment of a Federal VM Council. The council will be high level — assistant secretaries for Administration. It will meet regularly to review the effectiveness of VM programs. And when it terminates in the Spring of 1976, the council should have overseen the development of Value Management into a visible and respected Federal function.

Of course, that program isn't going to be easy to implement. Since our Federal Management Circular has been out for comment, we've received some negative feedback. Most
of the comments have been positive, but some have been negative.

There are a couple of reasons behind the dissent. First, there's a natural desire to protect one's own programs. Outsiders are always suspect. That's a problem that the Office of Federal Management Policy has had to face before. And it doesn't worry me. What does concern me is this: There seems to be a lack of understanding of what Value Management really is.

Some people have said to us that VM is just another program heaped on Cost Reduction, Suggestion Systems, Management-By-Objectives, Productivity or Management Improvement. Value Specialists know that that just isn't so. Value Management is function-oriented as opposed to operation-oriented. Most cost reduction programs ask: How can we reduce the cost of an operation, the paper involved, or the design in hand? Value Management methodology asks: What function is required, what is it worth, and what else will accomplish that function?

So, the disciplined VM function is new and it holds far greater potential benefits than simple economizing. For example: A team of four men recently applied Value technology to computer scheduling in one of our regions. A cost reduction effort would have focused on the number of copies, or the number of file cards, or the equipment to produce the schedule, and may have achieved cost savings of five to fifteen percent. However, the functional approach stimulated new concepts through the review of lapsed time, event time, cost and purpose of forms. That approach resulted in operational changes and a 48 percent reduction of life cycle cost.

When I worked for the Commonwealth of Pennsylvania, one study undertaken with the functional approach was the internal mail distribution system for the capital complex. The results were quite surprising.

We reduced the 700 personnel involved to operate the old system to 500, but gave each an average $1,000 a year raise. We reduced 75 mailrooms to 25, changed the sorting and coding functions, combined state mail with Federal mail, improved service and still saved $380,000 a year in direct costs.

Those of you who have been close to Value Management know the testimonials could go on and on. It has been applied to baggage handling, food service operations, hospital check-in procedures, bank-by-mail systems and, of course, the more common areas of reporting systems, correspondence control, hardware and facilities, just to name a few.

When we think in terms of required functions, it is common to discover alternate ways to reliably accomplish them at savings ranging from five to 95 percent — and at times 100 percent — when unnecessary functions are identified and then eliminated.

Our present programs of cost-cutting or Management Improvement do not often produce such results.

I am convinced that the adoption of Value Management in all levels of Federal government will provide, in addition to savings, employees who will become self-motivated achievers — not merely doers, but achievers committed to a common objective. That objective, of course, is required service at minimum costs.

We have the full support of the President with this program. And I have made it top priority at GSA. I'm convinced that we will have a coordinated and well-developed Federal Value Management Program in the near future.

Everything I've said so far about Value managers and Value Management has been positive; and, with good reason. But I can't leave Value managers without a challenge. Because VM is young, and it does have a long way to go, there is really only one challenge Value specialists and the Society of American Value Engineers (SAVE) face; but it's a tough one.

Your challenge is this: Get VM into use in governments and businesses around the country, and get it into use now, because we need it now!

There are several ways to meet the challenge. First, as I said, the understanding of Value Management has to be improved. It must be promoted as the detailed, disciplined and precise methodology that it is. Its successes should be carefully documented and publicized. SAVE, in its meetings and in the speeches and papers of its members, should pursue this goal. And you have to publicize the failures, too; the weaknesses and limitations of the tool.

Another important element in selling VM: Be very careful of your numbers when counting up savings. Carelessness or overstatement can hurt your credibility and postpone the wider use of VM. At the same time, you've got to be a salesman and a diplomat. VM, by definition, is the creation and management of change; and change frightens people or antagonizes them. You must convince them that you're working for change within the system.

Finally, to widen the usefulness of the methodology, you must keep researching new areas and training new people. Value Engineering and Value Analysis techniques have been applied to a wide variety of problems and a great range of organizations. But VM still has the reputation of being a program for hardware. Of course, it can do so much more, especially in the study of administrative and service functions. The membership of SAVE should be open-ended and should seek to include representatives from all professions, so that the Value service methodology can be applied to an ever-greater number of problems in our society, and the benefits of that methodology can be even more dramatic.

I leave you with the above suggestions on getting VM into wider use. They will be worthwhile for Value specialists and SAVE, of course. But even more important, Value Management, in practice with other conservation methodologies, will enable our country to moderate its patterns of consumption and to meet, in time, its obligations in the coming age of sacrifice. [P]
productivity -- a concept and a perspective

By The Hon. Darrell Trent

(Excerpts from an address by the Honorable Darrell Trent, director, Office of Policy Development, U.S. Department of Commerce, prepared for delivery before the Sixth Annual Conference of the American Society for Performance Improvement.)

Few words in the English language have broader connotations than "productivity." It is the very essence of our competitive system. It is the key to future growth and prosperity for America...and I would like to focus my comments on three basic considerations:

What is productivity? Why are we concerned? and What can we do about it?

PRODUCTIVITY

First, what is productivity? To the economist, it has rather specific meanings which typically relate measures of output to measures of input. For the average citizen, however, the word productivity has different implications. Its most popular meaning could probably be summarized by a phrase now part of the American idiom — more bang for the buck. This is, of course, an oversimplification and...
naturally leads to misunderstandings and even controversies over the proper meaning, role and consequences of productivity. Unfortunately, such problems in understanding tend to obscure common interests, inhibit accomplishment and become counterproductive.

CONCEPT

In the interest of possibly contributing to a better general appreciation of productivity and its implications, I suggest we approach productivity from a conceptual viewpoint which could be stated as follows: "Productivity is a measure of the effectiveness of the application of resources to satisfy human needs." From this perspective, it becomes obvious that productivity has been, is now and always will be fundamental to human society. Productivity is the mechanism by which peoples' needs and aspirations can be met. It is fundamental to this concept that productivity must ultimately be responsive to the needs of people — a means to an end.

ELEMENTS

Productivity involves many contributing elements, such as human resources, raw materials, equipment and facilities, energy sources and means of distribution. To integrate these elements effectively requires entrepreneurship, financial resources, management mechanisms, marketing skills and, of course, time. For good measure we can add in motivation, innovation and technology. We must always recognize that there are many factors that contribute to and determine productivity, each in its own way. The blending of these elements to best meet our needs must always be a dynamic process, as costs and availability of resources change.

MEASUREMENT

How do we measure productivity? From a broad perspective we measure it in terms of how effectively resources satisfy our human needs. Productivity measurement is both relative and multidimensional. It involves comparisons over time, within industries, between industries and across political boundaries.

DYNAMICS OF NEEDS

Finally, we must recognize the dynamics between productivity and needs. Within our society, human needs cover a vast spectrum, complex and constantly changing. They extend from such fundamental needs as food, housing, clothing, health care, transportation and physical security to education, recreation, financial security, personal satisfaction and, last but not least, faith in the future. It is only through productivity, in one form or another, that we can effectively apply our resources to meet these diverse needs.

In a free economy, priorities among needs are established primarily by the manner in which people allocate their own resources. In advanced economies, pricing and quality of goods and services constitute primary determinants in this selection process. Productive enterprises which survive this selection process are sustained; those which do not go under. The resources available to people in this selection process are derived from their own creative participation in some form of productive activity. If their output fails to survive the selection process, the means for satisfying their needs are critically affected. Hence, productivity relates to both goods and services and the means by which they may be obtained. The element of competition is the catalyst of this process, driven by the basic desire of people to improve the quality of life.

With this brief view of productivity as a concept, let us now turn to why it is of vital concern today.

NEEDS NOT SATISFIED

Perhaps the main reason is simply that our country's needs have not been satisfied. It is true that a large portion of our population enjoys an unprecedented standard of living in terms of material comforts, health services, educational opportunities and leisure time. Yet, this group still aspires to better things, such as more financial security — particularly after retirement — better education for their children and a cleaner and safer environment.

But at the same time, the needs and aspirations of a most significant number of Americans are far from being met. Furthermore, the population continues to expand. Let's review some facts in this area:

Within the lifetime of many of today's older citizens, our Gross National Product per capita has increased approximately five times, in constant dollars. This trend obviously has stimulated ever-increasing expectations.

During this same period, the population has more than tripled, and an increase of some twenty to thirty million is expected during the present decade.

From 1960 to 1970, we find that families with two or more automobiles doubled, to thirty percent of all U.S. households; homes with air conditioning more than doubled to over thirty percent; and homes lacking some or all plumbing dropped from over eighteen percent to under eight percent. Families in the low income level dropped from over twenty-two percent to less than thirteen percent.

Yet, in 1970 almost five million homes remained without minimum plumbing facilities, and there were over twenty-five million persons in the low income category.

At the same time that we must deal with unsatisfied basic needs, we are faced with a major reallocation of productive effort to the nation's social welfare. To illustrate, government Social Welfare expenditures — Federal, state and local — increased during the 1960s from 10.6 percent to 15.2 percent of the Gross National Product. This reordering of priorities is particularly obvious in the field of education. United States census data for 1900 indicate that only six percent of the eligible age group graduated from high school that year; in 1970 the figure was 78 percent. The impact of this trend in public education has been a major factor in the rapid increase in number of government employees at all levels, which now stands at approximately one-sixteenth of the employed labor force.

As we try to satisfy ever-rising needs, particularly in the social and environmental areas, there are very large new costs that must be supported in some manner. To a major degree this is being done by various forms of
taxation, which eventually must be supported through some productive mechanism. Increased productivity can absorb all or part of such costs depending on the magnitudes involved. But costs not absorbed by productivity increases will require giving up of something in exchange. This adjustment typically occurs through price increases of one form or another. For persons on fixed incomes, which might also be viewed as a fixed productivity level, the consequences are clear: Something must be literally given up. This phenomenon was illustrated by the change in the consumer price index over the period 1960-1970, when the purchasing power of the dollar dropped approximately twenty-four percent.

SPIRALING DEMANDS FOR FINITE RESOURCES

Our concern with productivity increases now starts to become critical. Faced with a very real need to improve living standards and quality of life, with proper concern for future generations, we confront some sobering realities.

One of these is our spiraling consumption of the nation's supply of natural resources. The finite nature of these resources is becoming more and more obvious as we project demands over even one or two generations. The energy situation illustrates this trend quite vividly. The point is that the marginal cost of meeting our raw material needs is inherently increasing, simply because in the past we naturally developed the most accessible resources first. While we can confidently expect new technologies to help alleviate our problems in the long term, we must find ways for making increasing efficient use of our natural resources or be prepared to satisfy fewer needs.

COMPETING WORLD DEMANDS FOR RESOURCES

Another significant development is that the needs and aspirations of other nations are rapidly rising, along with expanding populations. Perhaps the world-wide expansion in television coverage has been an important influence here. This upsurge in needs has had an obvious effect on essential raw materials in short supply or susceptible to cartel-type control. Again, the implications are clear — higher costs. Without compensating productivity increases, the effect on our living standards can only be adverse.

INTERNATIONAL TRADE

These basic but critical concerns, unsatisfied and expanding national needs, spiraling consumption of domestic raw materials and international competition for essential raw materials, are all influenced by our present and future international trade posture. Here we face both challenge and opportunity. Disregarding trade tariffs and other trade constraints, a nation will normally import those materials, products or services it needs, when it either does not have domestic sources or such sources would be more expensive than foreign suppliers. The assumption here is that the importing nation has both the ability to pay and a natural preference for the least costly foreign supplier.

Hence to import, a nation must pay by exporting; to export a nation must meet a need and at a competitive price.

To the extent we are, or become, dependent upon foreign sources for essential needs, we must be competitive exporters of goods or services in demand or witness a decline in our overseas purchasing power. This typically results in official or de facto dollar devaluation, requiring a larger share of our productive effort to cover the costs of such imports. Our personnel costs relative to those of our foreign competitors suggest that our primary source of strength in the international trade area lies in the continued development and application of advanced technology, coupled with economies of scale which can accrue from our very large domestic market. So again we go back to a fundamental point: Only continued gains in domestic productivity will provide a viable basis for applying selected or essential foreign materials, goods or services to national needs on a favorable basis.

PRODUCTIVITY TRENDS

There are, of course, many complex effects associated with international trade, involving foreign penetration of domestic markets and associated industry-labor dislocations, demands for protective tariffs, export controls on materials and products in short supply, export of technology to our competitors and a host of other issues and impacts. The process still can be summarized in a very simple way: The higher our productivity, the less our domestic markets will be penetrated by foreign competitors and the lower our costs will be for those things we do import.

Productivity trend data for the period 1960-1972 are not comforting. The Bureau of Labor Statistics has estimated that the average annual productivity increase for manufacturing in the United States during this period was 3.1 percent. In a comparison of ten highly industrialized countries, our rate was the lowest, while Japan's rate exceeded ten percent. Similarly, we were the lowest in terms of percent output reinvested in new equipment and facilities. While these trends don’t tell the whole story, they are certainly warning signs that our ability to compete with foreign producers is being seriously challenged.

ACTIONS

The last question is what can we do about increasing our national productivity? One important step is simply to recognize the need for increasing productivity and the implications of not doing so. Also fundamental to what can be done is the fact that the power, the leverage, the talents that can really get the job done are those participants in literally millions of enterprises, large and small, who understand a competitive challenge and are ready to tackle it. This Sixth National Conference of the American Society for Performance Improvement is a most visible manifestation of this spirit.

A listing of general areas where significant productivity gains can be made would certainly include the following, though not necessarily in this order of importance:

Reduction of waste, to include materials, energy, time.

New technology in equipment and processes.

New energy sources, to include waste products.

New products responsive to priority human needs (such as more effective, lower cost medicine).

Materials recycling.

More efficient distribution systems or procedures.

Better planning.
More use of economy of scale opportunities.

Continuing review of priorities among needs to assure cost implications of choices are fully understood.

Better use of capital resources.

Development of substitute materials.

Better use of human resources through improved training, better career development and transitional training programs to more efficiently absorb industry dislocations.

Last, but not least, better leadership that strives to develop the full potential that resides in us all.

Fundamental to productivity improvement is the concept of rewards. We must be particularly aware of the dangers of our highly organized society where people can be buried in a maze of charts, diagrams, computerized personnel systems and many-tiered organizational structures. Everyone must be given the opportunity to make his own special contribution and earn recognition for it in meaningful ways. To do any less is to deny ourselves a tremendous and critical resource.

DEPARTMENT OF COMMERCE

I would like to comment briefly on the Department of Commerce and its relationship to this pervasive thing called productivity.

The Department's basic mission since its establishment by Congress in 1903 has been to foster, promote and develop the foreign and domestic commerce, as well as the manufacturing and shipping industries of the United States.

The Department provides business with basic economic research data that facilitate sound decisions on industrial growth and development. Its statistical data and business analyses provide the standard analytic framework for use in economic policy planning.

The Department's initiatives in the international field are most dramatically illustrated by the historic 1972 commercial accords reached by the United States and the Soviet Union to open a new trading era between the world's two strongest powers, ending a twenty-five-year break in normal commercial relationships.

How our daily activities relate to productivity is suggested by a quick glance at some of the internal organizations of the Department, ranging from Maritime affairs to Minority Business enterprises; from Economic Development to Patent Administration; from Telecommunications to Travel Services; and from Ocean and Atmosphere Affairs to Domestic and International Business activities. I should also mention an Ombudsman for businessmen and a network of forty-three district offices and service centers to assist American commerce and industry. This is not an exhaustive listing, but it does illustrate the extent of our activities. The Departmental programs currently being developed specifically in the interest of productivity include a review of the national fishing industry; cooperative ventures in a number of quality of work demonstration projects; and continuing efforts to improve the efficiency of our own government services; for example, by speeding up the average time required to handle a patent application.

With these resources and initiatives, I fully expect that the Commerce Department will continue to encourage and support productivity enhancement by American enterprise and the institutions of government. Let me assure you that the Department is continuously examining its efforts with a view to better serving you and the nation in meeting the challenge of productivity.

CONCLUSIONS

In summary, I am convinced that productivity is fundamental to our national survival and growth. Our success in enhancing productivity now and in the future directly affects the welfare and security of every citizen, and his prospects for achieving a better life. But the government can only do part of the job. The Department of Commerce welcomes the opportunity to work with forward-looking groups like this Society to build a more productive America.
Like most lawyers whose lot in life is to represent a corporate client, I welcome this chance to practice a little preventive law and close the barn door before, rather than after, the horse is gone.

Employee Suggestion plans, when fairly and carefully administered, can be an important contributor to maintaining good employee relations. However, like most benefits provided by employers, there are legal considerations which should be taken into account in administering any such plan.

To begin with basics, it is important to understand the nature of the legal relationship created between the employer and an employee who submits a suggestion under a Suggestion Plan. Basically, that relationship is a contractual one. That is, the employer offers to make payment in accordance with certain rules established for the plan for ideas submitted by employees if such ideas are adopted and put to use. The employee accepts that offer by submitting his suggestion. If his idea is adopted, the employer becomes contractually obligated to pay an award in accordance with its announced plan.

You will note that I have stressed the phrase “in accordance with the rules of the plan.”

These are the rules which define and limit the contract which comes...
into being between the employer and an employee when a suggestion is submitted. In order for these rules to be binding on both parties, it is essential that they be made known to the employee at the time he submits his suggestion. The best way to handle this is normally to print these rules on the suggestion form used to submit suggestions. What may appear in a Suggestion Plan operating manual cannot be relied upon by the employer in defending against a lawsuit brought by a suggester for the simple reason that the provisions in the operating manual are not brought to the attention of the employees and are purely for administrative purposes.

Because the plan with which I am most familiar is the General Motors Suggestion Plan, I thought it would be useful to take a look at several of the basic rules of that plan and their legal significance.

First, there is the "use" clause which appears on the face of the suggestion form, just above the employee's signature. This clause provides:

"My foregoing suggestion is submitted for consideration under the terms and conditions of the General Motors Suggestion Plan as set forth on the reverse side hereof. I understand and agree that General Motors Corporation and its subsidiaries, and the successors and assigns thereof, shall have the right to make full use of my suggestion."

The purpose of this language is two-fold. The first sentence is an acknowledgment by the employee that the rules of the plan as set forth on the reverse side of the form, including its rules pertaining to eligibility, payment, computation of awards and finality of decisions made by the Suggestion Committee, are binding upon him with respect to the handling of his suggestion once it is submitted.

In the second sentence, the employee gives to the corporation and its subsidiaries, and the successors and assigns thereof, what amounts to a nonexclusive license to use his idea, in whatever way the company sees fit. This does not mean that the employee is thereby precluded from making his idea available to some third party or that he is not free, if he chooses, to seek patent protection for his idea. It simply means that once submitted as a suggestion under the Suggestion Plan, the employee may not thereafter deprive General Motors of the right to make whatever use it wishes of his idea.

Let me turn to several additional basic rules of the GM Plan.

The rule governing the submission of suggestions provides as follows:

"SUBMITTING SUGGESTIONS — Suggestions are submitted by employees on Suggestion Forms available in suggestion boxes throughout GM plants or offices."

It is critically important from a legal standpoint that employee suggestions be accepted only if they are set forth on an official suggestion form. To accept and process a suggestion which has not been reduced to writing on an official form could take the suggestion out from under the rules of the plan and expose the employer to much greater potential liability than is contemplated by the rules.

Let me illustrate. Suppose an employee has an idea for modifying a particular stamping machine in such a way that a substantial amount of scrap will be saved. In fact, over the course of a year the employee's idea could result in a savings of ninety to a hundred thousand dollars. If the suggestion is submitted on a GM suggestion form and the suggestion is adopted, the maximum award which the suggester could receive is one-sixth of the total gross savings, up to a maximum award of $10,000.

If, on the other hand, management were to accept the employee's idea and put it into use merely on the basis of a letter written by the employee, it is possible that the employee could claim substantially more than $10,000 in damages on the basis that the corporation had used his idea and had been enriched by some ninety to a hundred thousand dollars by doing so.

It is equally risky to accept and put into use an employee's idea and then later request that he submit it for a suggestion under the plan so that it can be considered for an award. The suggestion form should be the sole means used for bringing employee ideas to management's attention.

The rule dealing with investigation of suggestions provides:

"EVALUATING SUGGESTIONS — Each suggestion is systematically investigated for merit so that a sound decision can be made as to whether it should be adopted. Every suggestion is reviewed by the Suggestion Committee which is made up of representatives of major departments. If a suggestion is not adopted, the suggester is told the reason."

This language constitutes a commitment by the corporation to give each suggestion careful and thorough consideration. In order to demonstrate that this commitment has been carried out, each suggestion file should reflect the nature of the investigation conducted and the reasons why the suggestion was either adopted or not adopted. Although the rule does not specify that an employee must be advised in writing of the reasons for not adopting his suggestion, as a matter of evidence in a lawsuit, it would be most helpful to be able to produce such a document which was given to the employee.

One of the most troublesome questions raised by the rule dealing with kinds of suggestions eligible for awards involves the issue of management priority. Again, as a matter of evidence, it is preferable to be able to produce written material in the form of drawings, minutes, work orders or correspondence which shows, by reference to date, that the same idea was being considered by management prior to the date when the suggestion was submitted. From an employee relationships standpoint, too, documentation is highly desirable.

With regard to the rule dealing with the finality of suggestion committee decisions, you should not be under any illusion that this provision automatically forecloses an employee from challenging a decision of the suggestion committee. Where an employee can show that the committee, in arriving at its decision, violated one of the announced rules of the plan, or arrived at its decision in bad faith, or on the basis of mistaken information, or if it can be shown that there was an element of fraud in the committee's action, a suggester could successfully bring suit to set aside the committee's decision.

Several years ago, the Michigan Court of Appeals, in a case involving the U.S. Rubber Company suggestion plan, reversed the decision of a trial court which had dismissed an employee's suit on the basis of the plan rule providing that decisions of the suggestion committee were final. The appeals court sent the case back for trial on the factual issue of whether or not the evidence would disclose that the committee had acted in bad faith or upon mistaken information. The Court of Appeals pointed out that:

"The proper function of the Suggestion Committee...is to make decisions within the framework of the rules set out in the contract. If it does not do so, or if its decisions are based on gross or palpable mistakes, the plaintiff becomes entitled to relief for breach of contract."

Several years ago, the rules of the GM Suggestion Plan were amended to
clarify the status of suggestions which involve new or patentable ideas. This revised language reads:

“A suggestion made under the terms and conditions of the General Motors Suggestion Plan is not made in confidence and General Motors, its subsidiaries and the successors and assigns thereof, shall not be obligated in any way with respect to such suggestion except as provided under the Rules of the Plan as set forth herein.

While an employee making a suggestion under the GM Suggestion Plan may be free to seek patent protection for his suggestion depending on the nature of his employment, any protection he may obtain shall be subject to the right granted on the reverse side to General Motors Corporation and its subsidiaries and the successors and assigns thereof to make full use of his suggestion.”

In substance, this new language establishes that suggestions are not submitted on a confidential basis. In other words, once a patentable idea is submitted by an employee under the Suggestion Plan, he may not later claim that the corporation had no right to retain or use his idea because of his desire to secure the exclusive protection of a patent. Nor can he correctly claim that the corporation has wrongfully deprived him of the profit that he might have enjoyed as the result of having secured the exclusive protection of a patent.

While an employee who submits a suggestion remains free to seek patent protection for his idea, it is with the understanding that any such patent is subject to the right which he has given the corporation to retain and make full use of his idea.

Careful and intelligent administration of a Suggestion Plan on a day-to-day basis is the best answer to avoiding employee complaints which can give rise to legal complications.

I have already stressed the importance of the need to follow through on the employer’s commitment to conduct a thorough investigation of each suggestion as provided in the rules of the plan. Such an investigation should include a search of prior records for earlier duplicate suggestions or prior management consideration, as well as reviewing the suggestion with those management, supervisory or engineering personnel knowledgeable about the subject matter and in a position to make a decision concerning whether or not the idea will be adopted.

I should add that in this area of the employer-employee relationship, as in all others, the legal obligation to refrain from any discriminatory action on the basis of race, religion, national origin or sex of the employee is applicable and should be strictly observed.

The results of a suggestion investigation should be reflected in adequate records documenting the decisions made with respect to the suggestion. These records should also reflect the history of its handling from date of submission to notification to the employee of the committee’s decision. Any notes or memoranda made during the course of an investigation reflecting decisions or action taken by management should be dated and should include the names of the individuals involved in reaching the decision. Such notes or memoranda should avoid mere off-the-cuff opinions about the suggestion and should never take a light approach toward the idea being proposed. Obviously, the suggestion file should contain nothing that would indicate a hostile or negative attitude about the employee submitting the suggestion.

It is well to keep in mind at all times that each piece of paper which goes into a suggestion file could someday find its way into a courtroom as evidence in a lawsuit, and the author of that piece of paper may find himself on the witness stand being asked to explain why he wrote what he did. I need hardly remind you that a witness who has fervently supported a suggestion before an attorney enters the picture, than afterward. To ignore an employee’s request for an explanation or to create the impression in the employee’s mind that he is being given the brush-off, generates an emotional situation which may be very difficult to dispel and which may well lead to the employee’s retaining an attorney and initiating a lawsuit.

Once an employee has retained an attorney to represent him in connection with a claim under a suggestion plan and the Suggestion Plan administrator has been notified of that fact, the best course of action is to contact your legal counsel for advice. In order to offer sound advice in any such situation, it will be necessary for your attorney to have complete facts concerning the suggestion, as well as a readable copy of the entire suggestion file. It is usually not wise for management personnel to undertake to deal with an attorney claiming to represent an employee suggester without first reviewing the entire matter with the company’s lawyers and securing advice as to how to proceed.

While it is not possible in a brief discussion such as this to touch upon all of the various legal problems which may arise in connection with the handling of employee suggestions, I hope that the foregoing comments will give you some idea of the legal considerations which govern the operation of suggestion plans and some of the pitfalls to be avoided.
A WRITTEN TECHNIQUE FOR PROPERTY MANAGEMENT AUDITING AT LOS ALAMOS SCIENTIFIC LABORATORY

By NORMAN RIECHMAN

(This article is the result of work performed under the auspices of the U.S. Atomic Energy Commission.)

The Los Alamos Scientific Laboratory has had for some years a written technique for auditing the Property Management activities at LASL. We rather informally refer to this procedure as, "Points to be Covered in Current Year Cycle of Audits." To my knowledge, this is a unique technique; therefore, I thought that I should exchange this type of information with others in the Property Management field. Its overall use and adaptation will vary among installations and companies; indeed, some may not be able to utilize it at all.

It might be appropriate and helpful to present background information: LASL, which is operated by the University of California under contract with the Atomic Energy Commission, is a multi-program Laboratory dedicated totally to a wide variety of research and development activities for the Atomic Energy Commission. This research concerns itself with a strong involvement in the physical sciences and increasing efforts in bio-medical activity. A major consideration is the response to the efforts of an individual or small teams of experimenters with a constantly changing and redirection of research efforts.

In terms of geography, LASL is scattered over some 77 square miles of mesa tops in the Pajarito Plateau area of Northern New Mexico. Coupled with this, we have the deliberate decentralization of LASL based on a variety of safety considerations, including both explosive and radiation hazards. As a result, there are some thirty-one separate physical sites established throughout mountainous terrain and the distances are great enough to have a definite effect on our Property Management Program. We have approximately forty-five property representatives who are located throughout 77 square miles of territory and they are, by necessity, an integral part of our Property Management Program.

In order, therefore, to acquaint our Property representatives with the Property Management Program, as well as to keep them abreast of the new AEC requirements relative to property in general, some years ago we devised this technique for systematically auditing the property representatives' purview. We have divided the audit review into two basic categories:

I. The physical and record review of the property activities.

II. The precious metals audit.

The audits are performed on a full-time basis. The property management audits are performed biennially; however, in line with the AEC requirement, the precious metal audits are conducted on an annual basis. All audits are prepared in rough draft form and approved by the property manager or his alternate. Subsequently, they are mailed to the audited group for their review, after which they are finalized and distribution is made. To assure that the latest procedural changes are covered for each audit, the check list is revised, reviewed and updated at the beginning of each calendar year.

NORMAN H. RIECHMAN is presently serving as a national representative to NPMA from the Northern New Mexico Chapter. His background includes over twenty-four years of experience in property management. Educational qualifications include completion of a five-semester graduate course in economics, history and political science from the Industrial College of the Armed Forces, Washington, D. C.; a BA degree in political science from Westminster College, Fulton, Missouri; and graduate work in history from New Mexico Highlands University. For the past twelve years he has held the position of alternate property manager for the Los Alamos Scientific Laboratory in New Mexico.
I. PROPERTY ACTIVITIES – PHYSICAL REVIEW
   1. Was the walk-through inspection of operating areas generally satisfactory?
   2. Does the organization have designated equipment storage areas?
      If yes, did the spot check (20% of total capital equipment) disclose any of the following?
      A. Short-term storage items without storage tags?
         If yes, indicate locations:
      B. Short-term storage items not indicating usage during a 12-month period?
         If yes, indicate locations:
      C. Equipment held for future projects (Account 0019) but not officially transferred?
         If yes, indicate locations:
      D. Equipment held as spares (Account 0020) but not officially transferred?
         If yes, indicate locations:
      E. Did the area(s) appear to have excessive amounts of capital equipment items?
         If yes, indicate locations:
      F. Did the area(s) appear to have excessive amounts of operating and/or expensed materials?
         If yes, indicate locations:
   3. Did the walk-through disclose any evidence of misuse of property?
   4. Does the organization have controllable quantities of ethanol?
      If yes, are controls adequate?
   5. Does the organization have any hypodermic apparatus?
      If yes, are they properly safeguarded?
      If yes, are they destroyed prior to discarding?
   6. Does the organization have any pocket calculators?
      If yes, are they properly safeguarded?
      If yes, are record controls adequate?

II. PROPERTY ACTIVITIES – RECORDS REVIEW
   1. Does the organization have any parkas, jackets and/or briefcases?
      If yes, has a physical inventory been conducted? Date
      If yes, do the records reflect justification for retention?
   2. Does the organization have a personal charge file?
      If yes, is it properly maintained?
   3. Is the organization maintaining adequate property records?

Recommendations made in prior audit reports are reviewed in order that they may be checked to determine results, and the information is included in the current reports.

**PHYSICAL AND RECORDS REVIEW**

As a part of the physical and records review, a walk-through inspection is conducted of all operating and storage areas, including the following points:

A. Checking by observation and questioning responsible personnel regarding any equipment items and/or expense materials which may appear to be infrequently used, idle,
# Precious Metals Audit Check List

**Custodian(s):**

**Date:**

**Group:**

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<th>YES</th>
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1. Were excess amounts of precious metals found in the group?
2. Are expenditures and transfers promptly reported and documentation submitted?
3. Are the precious metals in the group adequately safeguarded?
4. Does the group have a film and/or other silver-bearing photographic developing operation?
   A. If yes, approximate amount (in gallons per year) of spent fixing solution currently being generated:
   B. Is the group currently engaged in the recovery of silver from spent fixing solutions?
   C. Is it economically feasible to install a silver recovery unit?
5. Is the group currently involved in any work which generates scrap film?
   (Exception-Polaroid Film)
   If yes, is the scrap film being sent to SP-4 for reclamation purposes?

Precious metal audit covers the following points:

- Compare property management's book balance with that of the property representative and/or custodian to determine if they agree, prior to conducting the physical inventory.
- Verify and record the weight of all precious metal charged to the group: platinum, gold, rhodium, osmium, iridium, palladium, silver, and their alloys. The weight must be recorded to one-tenth of a gram.
- Compile the final results of the physical inventory. If shortages and/or overages are discovered, documentation is to be submitted by the group to adjust the account(s), and the differences are to be explained and detailed in the audit report.
- During the course of the inventory, ask all individuals charged with precious metals if any of their holdings can be reduced, and include the results as an overall statement in the audit report.
- All precious metals not in use must be safeguarded in combination safe files or vaults. Exceptions to this regulation must have the approval of the Auditor's Department office.
- Expenditures and transfers are to be reported and appropriate documentation submitted. If irregularities are found, make recommendations in the audit report.
- Remind the precious metal custodian that under no circumstances are precious metals to be mailed when transferring precious metals between groups and the stockroom. The metal is to be hand-carried.
- In those groups engaged in silver hypo solution recovery, a re-evaluation should be conducted by the auditor. In those groups where none presently exists, evaluations should be made to ascertain the feasibility of establishing a recovery program.

For quick reference purposes, an audit check list is prepared (Reference A) as a part of the audit package covering property activities, both the physical and records reviews. A precious metals audit check list (Reference B) is also utilized and included where appropriate.

The above auditing procedure has worked very successfully for the Los Alamos Scientific Laboratory. It is hoped that the reader will find it adaptable to his particular operation.
And Its Impact
On The Business
And Labor Community

By HUBERT I. BENNETT

Whether or not the recent trauma that we have been going through because of this energy supply and demand dilemma was or was not inspired, it has dramatically served to make us aware that we are using energy at an unacceptable rate. Energy is a vital substance of which there is a finite amount on and in this ball on which we live, and when the coal and gas and oil deposits are depleted, and they surely will be in the not too distant future, then they are simply gone.

Our first step, then, is to recognize this stark fact and the second step is to realize that we must begin now to alter our rampant energy consumption.

Let's consider the energy used, or expended, in the steel in your car. Energy was expended in getting the ore out of the ground, transporting it to the place of extraction of the iron, in processing the steel, in transporting
the steel and then processing it into a useful shape, in assembling the auto, in transporting the auto to you so that you could buy the car and put it to work consuming large quantities of gasoline which had a similar energy consumption chain getting to you. This consumption chain appears in almost everything that we do and use.

It is obvious that our concepts, our sense of responsibility and our lifestyles must change. We simply must leave some energy for future generations, even though it means a sacrifice to us of jobs, pleasures and comforts. We cannot go on thinking that if we can get the money to buy it that we can have anything that we want.

We must demand of our elected officials that they give serious consideration now to the following:

A. Recognize that our natural resources are national resources.
B. Nationalize the resources and the oil and gas companies, if necessary.
C. Set up an effective Federal agency to regulate and control all aspects of energy consumption on a true need and not luxury basis.

I am now going to close this line of thinking right here because I don't believe a damn thing I've said. Unhappily, however, it is not inconsistent with ninety percent of what we read and hear daily; and in my opinion, it is so much hogwash!

The result of the kind of nationalism that I was using is illustrated by something that was passed on to me recently. Entitled, "How to Invite a Depression" — and I'd like to quote it to you:

"A man lived by the side of the road and sold hot dogs. He was hard of hearing so he had no radio. He had trouble with his eyes so he read no newspapers. But he sold good hot dogs. He put up signs on the highways telling how good they were. He stood by the side of the road and cried: "Buy a hot dog, Mister." And people bought. He increased his meat and bun orders. He bought a bigger stove to take care of his trade. He got his son home from college to help him. But then something happened. His son said, "Father, haven't you been listening to the radio? There's a depression on. The European situation is terrible. The domestic situation is worse."

Whereupon the father thought, "Well, my son's been to college, he reads the papers and he listens to the radio, and he ought to know." So the father cut down on his meat and bun orders, took down his advertising signs, and no longer bothered to stand out on the highway to sell hot dogs. And his hot dog sales fell almost overnight. "You're right, son," the father said to the boy, "we certainly are in the middle of a great depression."

There is no doubt that we have an energy problem and it is going to inconvenience us for some period of time. However, almost always problems also present opportunities and I firmly believe that this one is a striking example.

To be sure, there is a finite amount of oil, gas and coal — we do have coal for many years to come and we are spending about $170 million a year and are making progress in getting it better and in finding ways to use it in a cleaner fashion. There also are tremendous reserves of off-shore oil to be tapped. Some informed people tell me that we can and should be adding fifteen to twenty percent methanol to our gasoline and some say that it would do more to clean up emission problems than the energy wasting devices that now are required on our cars. These resources, along with the growing use of nuclear energy plants, are going to carry us for quite some time.

In the meantime, we can get on with making solar energy conversion a practical matter and of making liquid hydrogen from ocean water. These latter two sources are virtually inexhaustible. And then there is the fuel cell which is starting to be used and may have very practical application.

In my company, we have invented a slurry explosive that appears to be safe for use at great depths and I believe has tremendous potential for rejuvenating oil and gas wells, for shale oil extraction, as well as other applications. Following two years of research, we scheduled our first well tests in May and are excited about the new business prospects and what it may do to improve the energy supply.

Who knows what other potential sources will present themselves. None of the few alternatives that are presented here compare in complexity of solution, I believe, with some of our accomplishments of the past twenty years.

Now, I know that some will say that some of these sources may be too expensive for average use. I'll grant that for the first cut at the problem, but where there is free enterprise and a large market, wonders do occur. You know, in the beginning it was thought that the airplane would never be in reach of the average person. It was too expensive and wouldn't fly very far and even if it could, there was no job on board, anyway.

In the beginning, the automobile was far too expensive for the average person, and now a one-car garage is almost unheard of.

Just a few years ago we dreamed of harnessing nuclear energy for peaceful use, but it would be far too expensive and unsafe. We've largely solved these problems now. New sources of energy won't be any different.

So what should we really demand of our elected officials? I say:

A. Be realistic and honest with us on the short-term problem.
B. Accentuate the positive, eliminate the negative, do away with this gloom and doom business, put the major emphasis on solution instead of crisis and problems.
C. If it is essential, and I don't say that it is, but if it is essential in order to revitalize competition, consider some oil company break-ups, then set the few rules that are necessary and let the competitive process work at its best, free of unnecessary alphabetic bureaucratic interference, and
D. Make it attractive again to explore and extract and refine in our own borders.

Then what should be the effect of energy on business and people? If we are willing to work for it, and I'm sure that we are, we should expect new business, new and better factories, increased numbers of jobs, a cleaner environment and more of the comforts that we dream of and work for; that's all that we should expect.
RONALD F. BECKER is a mechanical engineering graduate from the University of Missouri at Rolla. He joined the Value Engineering Co., Alexandria, Va., in 1960 and later served as vice-president and a member of the Board of Directors. Subsequent positions include director of Special Projects at Airtronics, Inc., and vice-president of Jakus Associates. Becker is currently a senior associate at OMR, Inc., Silver Spring, Md. He is an active member of SAVE, having served as president and vice-president of the National Capital Chapter and as national historian.

Becker has been selected for biographical listing in “Men of Achievement — 1974”; “The Two Thousand Man of Achievement — 1970”; “Who’s Who in The South and Southwest”; “World’s Who’s Who in Finance and Industry”; and “Dictionary of International Biography.” He received the Distinguished Service Award from his fraternity, Phi Kappa Theta, and is currently president of their Scholarship Foundation.

A STUDY IN VALUE ENGINEERING METHODOLOGY

By RONALD F. BECKER

(Editor’s Note: This study was performed under the leadership of Ronald Becker while at the Value Engineering Co. His original study was published in the DoD Course Book, “Principles and Applications of Value Engineering (PAVE).” This re-write was prepared by Mr. Becker, in somewhat more detail, in order to appeal to a wider audience than the original version. This study helps bring it all together without the reader getting lost in some of the sophisticated techniques that are used in performing a Value Engineering study.)

INTRODUCTION

Much has been written on the theory and application of Value Engineering. This article attempts to describe how this theory is actually applied during a VE study. The example used is one the reader can easily identify with — a common household light switch.

A Value Engineering team assigned itself the problem of reducing the cost of a silent light switch so it could be cost competitive with the more conventional snap-action toggle switch. The purpose of this exercise was to illustrate the application of the VE methodology. There was no intent to market any new ideas evolving from this exercise.

THE ROADMAP

The Value Engineering chart (Figure 1) is the roadmap that will be followed through this exercise. The center boxes are the problem-solving steps used in the scientific approach to problem solving. The outside boxes represent comparable steps for the two primary investigations of Value Engineering — function and cost. Alongside the function and cost steps are techniques used in the analysis for that step. It is not necessary to use all the techniques on all problems — use those that will yield useful information and eliminate those that are not applicable.

The solution axis at the bottom of the chart is a pictorial representation of how these techniques help zero in on a solution. It has no scientific basis, but is shown to help the reader visualize the dynamics of the process.

NEED FOR COST REDUCTION

In this exercise, the goal was to make the silent switch cost competitive with the snap-action toggle switch. This need could have been disclosed from an analysis of the sales trends; it could have come as a result of management deciding to penetrate the market. The important point is that the need should be real and should be supported by management. There are other alternatives that should be considered at this point: Is cost reduction the only goal, or can the costs remain about where they are but increase the features that a customer may desire, thus making the light switch more competitive from a functional standpoint, rather than a cost standpoint? For our problem we will consider cost competition as the primary objective, but remain open-minded to improving the function.

OBTAIN COSTS

Costs are either historic or estimated. If an item has been in production, the cost accounting section should be able to provide the historic costs. When an item has not been manufactured before, estimates can be obtained through purchasing for vendor and subcontract items, or through the plant estimators for in-house manufactured components and assemblies. The detail to which costs are obtained should be considered. The switch that is the subject of this analysis is a highly competitive, high production item. We will be looking for a few cents reduction here and there. It is to our advantage to look at the costs for each operation (cost increments) so that the out-of-line costs can be identified. If we were looking at a complete missile system, we would initially gather the total cost for each of the major sub-systems. After performing the value engineering at this
level, the costs would be gathered for the next lower level, and so on.

All of the cost elements that contribute to the selling price are broken out and studied. These costs might include labor, material, overhead, general and administrative. In most VE studies, there is generally little opportunity to effect a change in overhead and G&A costs. (The cost reduction opportunities in the areas of overhead and G&A can be greater than in the product. However, since these costs involve all products, they should be the subject of special studies.) The purpose of gathering these data is to have visibility on where a reduction in labor or material costs might best be achieved.

In addition to obtaining the cost elements (labor, material, etc.) and cost increments (milling, drilling, stamping, etc.) it is often desirable to convert these into costs per
production run or costs per year. In the switch exercise, a yearly production quantity of 1,000,000 was assumed. At this quantity, each penny of direct labor has a yearly cost of $10,000. Without considering the production quantity, it would appear useless to spend study effort to remove pennies from the cost. With the production quantity considered, it can be seen that even if it cost $5,000 in engineering work to remove one cent of direct labor cost, it would be a good savings.

Costs were obtained for each component of the switches as illustrated in Figures 2 and 3. The costs of the mercury capsule are presented as a sample in Figure 4. The mercury capsule is the principle component that is different from the toggle switch. The capsule is the highest single cost item in the mercury switch. For these reasons, the capsule will be the principle component described in this study. Actually, all components were studied in the complete analysis.

<table>
<thead>
<tr>
<th>PART NAME</th>
<th>Material Cost</th>
<th>Labor Cost</th>
<th>Cost/Year (Quantity 1,000,000)</th>
</tr>
</thead>
<tbody>
<tr>
<td>End Caps</td>
<td>.004</td>
<td>.01</td>
<td>4,000</td>
</tr>
<tr>
<td>Draw Caps</td>
<td></td>
<td></td>
<td>10,000</td>
</tr>
<tr>
<td>Glass Molded Disk</td>
<td>.002</td>
<td>.012</td>
<td>2,000</td>
</tr>
<tr>
<td>Install Wire</td>
<td></td>
<td></td>
<td>12,000</td>
</tr>
<tr>
<td>Platinum Wire</td>
<td>.001</td>
<td>.005</td>
<td>1,000</td>
</tr>
<tr>
<td>Cut Wire</td>
<td></td>
<td></td>
<td>5,000</td>
</tr>
<tr>
<td>Stake Wire</td>
<td>.009</td>
<td></td>
<td>9,000</td>
</tr>
<tr>
<td>Mercury Seal</td>
<td>.03</td>
<td></td>
<td>30,000</td>
</tr>
<tr>
<td>Total</td>
<td>.037</td>
<td>.066</td>
<td>100,000</td>
</tr>
<tr>
<td>TOTAL DIRECT LABOR</td>
<td>.066</td>
<td></td>
<td>66,000</td>
</tr>
<tr>
<td>Mfg. Overhead @ 125%</td>
<td>.099</td>
<td></td>
<td>99,000</td>
</tr>
<tr>
<td>Material</td>
<td>.037</td>
<td></td>
<td>37,000</td>
</tr>
<tr>
<td>Mfg. Cost</td>
<td>.202</td>
<td></td>
<td>202,000</td>
</tr>
<tr>
<td>G.A. @ 15%</td>
<td>.03</td>
<td></td>
<td>30,000</td>
</tr>
<tr>
<td>Profit @ 7%</td>
<td>.02</td>
<td></td>
<td>20,000</td>
</tr>
<tr>
<td>Selling Price</td>
<td>.252</td>
<td></td>
<td>252,000</td>
</tr>
</tbody>
</table>

Figure 5. Cost per Ampere

<table>
<thead>
<tr>
<th>TYPE</th>
<th>CURRENT</th>
<th>COST</th>
<th>COST PER AMPERE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Knife - Industrial</td>
<td>50 amp</td>
<td>$2.17</td>
<td>$0.044</td>
</tr>
<tr>
<td>Knife - Plastic Base</td>
<td>25 amp</td>
<td>0.19</td>
<td>0.008</td>
</tr>
<tr>
<td>Knife - Porcelain Base</td>
<td>25 amp</td>
<td>0.24</td>
<td>0.009</td>
</tr>
<tr>
<td>Toggle - Military</td>
<td>20 amp</td>
<td>2.01</td>
<td>0.102</td>
</tr>
<tr>
<td>Toggle - Industrial</td>
<td>15 amp</td>
<td>0.66</td>
<td>0.045</td>
</tr>
<tr>
<td>Pushbutton - General</td>
<td>12 amp</td>
<td>1.01</td>
<td>0.084</td>
</tr>
<tr>
<td>Slide - General</td>
<td>3 amp</td>
<td>0.63</td>
<td>0.210</td>
</tr>
<tr>
<td>Mercury - General</td>
<td>3 amp</td>
<td>1.27</td>
<td>0.431</td>
</tr>
<tr>
<td>Toggle - Miniature</td>
<td>0.25 amp</td>
<td>0.40</td>
<td>1.60</td>
</tr>
<tr>
<td>Switch - Reed</td>
<td>5 amp</td>
<td>0.18</td>
<td>0.036</td>
</tr>
</tbody>
</table>

Figure 6. Dollar Cost per Ampere of Single Throw Switches

potential for cost reduction. There may be requirements that the product under study must meet, that the comparison product does not meet. These comparative costs give us visibility as to how much an additional requirement in the specification may cost.

The mercury switch, as shown in Figure 6, is a high-cost item when compared with other commercially available switches. Although some of the other switches may not be directly applicable to being used as a wall switch, the data does indicate a sufficient spread in costs so that ample opportunity should exist for a lower cost silent switch.

FUNCTIONAL ANALYSIS

So far the study has been concerned with the cost side of the roadmap. The function side will now be considered. It should be noted here that there is no set order in which to perform the cost and functional analysis. It is common to cover the cost and function step together for each of the problem solving steps.

IDENTIFY FUNCTION

In VE, function is defined as the specific purpose or use intended for something. It describes what must be achieved. In order to lay bare the essence of the function to be achieved, the function is described by a verb and a noun (conductor current, provide buoyancy, support weight). The verb-noun description helps in defining what needs to be accomplished, and not how it is being accomplished. This overall function is termed basic function. Those features that are required to make a particular design meet the basic function are termed secondary functions.

In the exercise involving the mercury switch, the basic function is to make/break circuit. Here the verb has to be a dual verb since the switch must perform two opposite functions — make and break. It should be noted that this function is not limited to a mercury switch, but would apply to...
any switch. Figure 7 illustrates a family tree of the components in the mercury switch. Each component has a function listed under it. The top assembly — the mercury switch — carries the basic function. All the components making up the top assembly list additional functions. These components allow the specific design — the mercury switch — to function and are called secondary functions. Another switch design would likely involve different secondary functions — those necessary to allow that particular design to meet the basic function. It should be noted that the mercury capsule carries a function that is identical to the basic function of the complete switch — make/break circuit. The mercury capsule is providing the basic function within the switch assembly. The fact that the capsule provides the basic function, and is the high-cost item, makes this a good candidate for a value engineering study.

CRITERIA AND CONSTRAINTS
The criteria and constraints define the parameters that the design must meet. This step generally requires considerable information gathering to determine what the customer wants, what the undesirable features are in competitive designs, what rules and regulations govern the product, and what the limits are on the measurable parameters such as temperature, range, weight, size. The following constraints were assigned to the light switch design:

<table>
<thead>
<tr>
<th>FEATURE</th>
<th>WEIGHTED FACTOR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Silent</td>
<td>3</td>
</tr>
<tr>
<td>Cost competitive</td>
<td>4</td>
</tr>
<tr>
<td>Adaptable to existing</td>
<td>2</td>
</tr>
<tr>
<td>junction boxes</td>
<td></td>
</tr>
<tr>
<td>Minimum associated compo-</td>
<td>1</td>
</tr>
</tbody>
</table>

Each of the constraints are assigned weighted factors for later evaluation. The higher the assigned weight, the more important the factor. The constraints listed above are subjective, since they do not contain absolute values. Two proposed designs could be cost competitive, but one may be more so than the other. There are other criteria and constraints that must be met within absolute values, such as:
1. Operate on 110 VAC.
2. Operate with 15 amp inrush current, 10 amp sustained.
3. Must meet Underwriters Laboratory standards.
These would not be weighted since they are not subject to a degree of attainment, but must be 100 percent acceptable.

ALTERNATE METHODS
The next step in value engineering is the idea-finding or speculation phase, in which one asks: How else might we perform this function? What else would do the job? What would that cost? At this point it is necessary to establish the value for the function. We have already accumulated costs and analyzed them by various characteristics. By using these costs we can determine what costs are involved in functions such as: provide support; isolate noise; maintain temperature.

In this idea-finding phase, the creative technique most commonly used is brainstorming, which is, generally, a group activity operating under the following ground rules:
1. Criticism is ruled out. Defer judgment.
2. Editorializing is ruled out. Reason for or explanation of idea is not wanted at this time — just state idea.
3. Free-wheeling is welcomed; ridiculous, foolish, funny ideas often trigger practical ideas from other panel members.
4. Quantity is wanted. A large number of ideas are needed at this time to influence other panel members to contribute. Blast, then refine.
5. Combination and improvement are sought. Panel members are urged to add to or hitchhike on the ideas of others. Turn suggestions of others into better ideas by modification.

The purpose of the group brainstorming session is to generate a large quantity of alternate ideas of providing the basic function. The greater the number of ideas that are conceived, the more likely that among them will be one that will eventually lead to better value.

One brainstorming session dealt with the problem of: How might we perform the function of making/breaking the circuit? The following twenty-one ideas were generated in several minutes.

BRAINSTORMING IDEAS

<table>
<thead>
<tr>
<th>What is it? Switch</th>
<th>What Does It Do? Make/Break Circuit</th>
<th>What Else Will Do the Job?</th>
<th>Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Silicon rectifier</td>
<td>.30</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Knife switch</td>
<td>.20</td>
<td>Transformer</td>
<td>1.20</td>
</tr>
<tr>
<td>Transistor</td>
<td>.30</td>
<td>Magnetic amplifier</td>
<td>4.00</td>
</tr>
<tr>
<td>Capacitor (with battery)</td>
<td>.20</td>
<td>Insulated 10 A thumbtack</td>
<td>.001</td>
</tr>
<tr>
<td>Rheostat</td>
<td>.25</td>
<td>Mouserstrap</td>
<td>.10</td>
</tr>
<tr>
<td>Vacuum tube</td>
<td>.20</td>
<td>Saltwater (with other)</td>
<td></td>
</tr>
<tr>
<td>Photocell</td>
<td>.12</td>
<td>Wheatstone bridge</td>
<td>.25</td>
</tr>
<tr>
<td>Thermistor</td>
<td>.45</td>
<td>Stapler</td>
<td>.49</td>
</tr>
<tr>
<td>Bi-metallic</td>
<td>.50</td>
<td>Icepick</td>
<td>.15</td>
</tr>
<tr>
<td>Thermocouple</td>
<td>.05</td>
<td>Clotheshpin with manual</td>
<td>.02</td>
</tr>
<tr>
<td>Diode</td>
<td>.05</td>
<td>disconnect</td>
<td></td>
</tr>
<tr>
<td>Hand on clock</td>
<td>2.00</td>
<td>Magnetic</td>
<td>.05</td>
</tr>
</tbody>
</table>
After generating the list, each idea was reviewed to estimate what it might cost to produce a design utilizing the basic idea. These costs are very crude estimates and are intended to weed out those ideas that are impractical from a cost standpoint.

**IDEAS VS. CONSTRAINTS**

In the evaluation of these ideas, several proved worth pursuing. Ideas were evaluated against the subjective weighted constraints as shown in Figure 8. Each idea was ranked according to how it met given constraints. Again, the high-rank number was the best. The sum of the rank times the weighted constraint was tabulated to determine the score. The ideas were pursued, re-evaluated and re-brainstormed until the highest potential possibility was selected. Concept sketches were made for the top scoring ideas and were evaluated against the objective criteria (110 VAC, 15 amp inrush current, etc.). The most promising idea was magnetically activated leaf springs sealed in a glass capsule. This concept evolved from the permanent magnet suggested in the brainstorming session.

**DEVELOPMENT OF IDEAS**

This concept was, in essence, a reed switch. At the time...
of the study, reed switches were not available to meet the
inrush current requirements. However, a crude model was
fabricated from pieces of an Acco fastener, glass tube, corks
and soldered wires. This breadboard was tested under load
and the concept proved valid for the requirements.

Since the development of this idea, reed switches have
become available that will satisfy the requirements. Besides
meeting the subjective and objective criteria, the concept
had additional advantages that could increase the value for
certain applications. The contacts are sealed in a tube in
any type of gas atmosphere to prevent the contacts from
burning, pitting or welding. This switch can be used in ex­
losion proof applications. The associated hardware was re­
cycled in functional analysis, brainstormed and judged until
all components were value engineered. The final design is
shown in Figure 9. The design consists essentially of three
components. The reed switch performs the basic switch
function. The plastic adapter plate holds the switch,
mounts the assembly to the existing junction plate and pro­
vides a slot for the toggle to move in. The toggle is plastic
with a magnet imbedded in it to activate the contacts.

SUMMARY

Costs were accumulated on the existing design to high­
light those areas where the costs appeared to be excessive,
and to have baseline data for later evaluation. The function
was analyzed to determine specifically what the design was
intended to accomplish and to determine the limitations
placed on that design. The cost data indicated the mercury
capsule was excessive in cost and the functional data indi­
cated that the capsule was performing the basic function of
the switch. Alternate methods were generated to determine
how else this function of making/breaking a circuit could
be accomplished. These alternate methods were evaluated
against the requirements and the most promising ideas were
pursued and recycled until the most potential candidate
emerged. After the basic function was satisfied, the associ­
ated parts that comprised the secondary functions were
evaluated in a similar manner until the complete assembly
was developed.

The manufacturer's selling price breakdown of the reed
type of switch was estimated as follows:

<table>
<thead>
<tr>
<th>Component</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reed switch</td>
<td>.20</td>
</tr>
<tr>
<td>toggle w/magnet</td>
<td>.03</td>
</tr>
<tr>
<td>adapter</td>
<td>.02</td>
</tr>
<tr>
<td>hardware</td>
<td>.01</td>
</tr>
<tr>
<td>packaging</td>
<td>.02</td>
</tr>
</tbody>
</table>

Manufacturer selling price: $ .28

The manufacturer's selling price was estimated to be
about fifty percent of the retail list price:

<table>
<thead>
<tr>
<th>Type</th>
<th>Mfg. selling price</th>
<th>Retail price</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mercury switch</td>
<td>.70</td>
<td>1.40</td>
</tr>
<tr>
<td>Toggle switch</td>
<td>.34</td>
<td>.68</td>
</tr>
<tr>
<td>Reed switch</td>
<td>.28</td>
<td>.56</td>
</tr>
</tbody>
</table>

The reed switch indicates a significant savings over the
toggle switch as well as the mercury switch. Although there
was no intent to add any functional features to the new
switch, it does offer the additional benefits of being explo­
SION proof and is of simpler construction, which should
result in greater life.

PERFORMANCE
What Should NASS Be Doing For Its Members:
What Should The Members Be Doing For NASS?

By CHARLES H. FOOS

It seems appropriate to begin by examining what members of a Suggestion Association expect from their organization, and then following with a few remarks on what ought to be their contribution to the Association. Initially, a primary expectation is to have the Association serve as a means of information sharing or exchange for job-related problems, trends and technical developments, plus the opportunity to meet and work with their peers in the same profession.

Let us dwell for a moment on the point of sharing experiences. In order to be able to do this, the Association must have sources of obtaining information, documenting it, categorizing it and publishing it. To make this work, members must be willing to contribute and get involved. An Association like NASS must sponsor questionnaires, surveys and assign various special studies as projects to individual chapters and members of the organization. By sponsoring competition on technical papers, valuable research and data is collected and published. By summarizing various workshop discussions, speeches and seminars, the inventory of useful experiences and knowledge is enlarged. Sponsoring local chapter meetings brings together individuals of common interest and geographic identity and establishes a forum for the verbal exchange of ideas, successes and concerns. By sponsoring regional conferences, this exchange is widened in scope and more speakers participate.

Finally, by planning, organizing and conducting an annual conference scheduled over four days, a tremendous opportunity to learn, see and compare is established. Demonstrations by way of exhibits are available, impressive speakers are scheduled and many workshops or clinics are offered in addition to individual counselling. All of this is to enhance the sharing and exchange of information, knowledge and experience in an informal and mostly verbal manner.

Not to be overlooked, however, is the expectation by our members of written sources of assistance and interest. These expectations are usually fulfilled by providing monthly newsletters or monthly journals or a combination of the two. The association has a distinct responsibility to see that the quality, timeliness and appropriateness of the material is in keeping with the needs and desires of its members. Special reports or studies pertaining to a particular profession or field of interest are also included in this area. Within NASS, we can mention the Annual Statistical Report, the Quarterly NASS-PAK, which is a publicity aids kit, membership surveys and a roster of other members which includes their addresses. Another means of fulfilling the expectation of members is an Association-maintained lending library, properly categorized and publicized. This library would represent a collection of technical data, research reports, surveys, plus examples of materials, forms and booklets used by the membership. It should also contain periodicals and papers on related subjects and on the matter of management and motivation.

Thus far, we have touched on how an Association meets the expectation of its members to provide a sharing and exchange of information. The means of fulfilling these discussed so far have been administrative, but these methods do permit an Association to provide the material which enables its members to keep abreast of the newest developments, creative ideas and technology in the field, plus on a personal basis, through chapter meetings, seminars and conferences, develop relationships and contacts which become beneficial.

Moving into another area of expectation on behalf of members from an Association, we must comment on training. One of the prime reasons for joining an Association is to learn and to base that learning on the experiences and practices of others who are in the profession or occupation. It is the responsibility of the Association to harness those experiences in a meaningful way and mold them into training programs so as to provide a valuable service to the novice or newly appointed administrator.

Not only should programs for basic fundamentals be established, but sessions for the more sophisticated, covering the more profound aspects of the job, should also be offered. Going one step further, a program of certification should be developed so as to grant accreditation to those who meet an established set of standards which will enhance not only their image, but also the image and effectiveness of Suggestion System administrators in general. Such a certification program should provide an incentive and a program for Suggestion System personnel which will enable and encourage them to broaden their knowledge, improve their performance and acquire a greater pride and satisfaction in their work. Establishing this kind of program requires a textbook, examination and review committee; neverthe-
less, in the long run it does provide a tangible service.

On a different level, training can be provided by the Association developing and purchasing a film which supports the understanding, growth and resolution for Suggestion Systems. No one member could easily absorb the cost, so the membership looks to their Association with its combined resources to provide such a tool. These combined resources represent not only the financial support from dues, publications and other services, but also the wealth of experience, leadership and knowledge of its membership in developing the service items offered.

Of extreme importance is the fact that whatever is offered, whether it is a booklet, film, seminar or discussion session, it must be significant and it must be relevant. Lack of these two ingredients is causing many Associations in America to experience dwindling membership. It is very easy for an Association to develop a booklet, seminar, film or whatever, and then set back and market it. In due time, the material is old and begs for updating.

Permit me to comment briefly on what members expect their Association to do for them on a broader scale. Members can expect their Society or Association to be their spokesman and carry out that role in industry, in government and to other Associations and professions. Members see it as an Association responsibility to seek out and lobby for favorable legislation. For instance, securing an exception to the tax law on suggestion awards, establishing laws regarding ownership of suggestions, and others. Our Association would be the logical body to spearhead a promotion to have all government elements establish Suggestion Systems at all levels for their employees. The Association ought to provide the leadership roles in running the affairs of new innovations and techniques, etc.

Summing up, members in our Association may expect their Society to be their spokesman; to become the major source of knowledge and to establish methods of exchanging that knowledge and sharing experience; to publish in various ways significant and relevant material; to identify changing trends; to provide training and collect research data; and to maintain corporate support for Suggestion Systems.

Let us now examine the other side of the coin, which asks: "What can the Association expect its members to contribute?" The answer to this is related to a degree some of the material covered earlier. For instance, when it comes to sharing experiences, failures and successes, our Association must expect a degree of genuine willingness to contribute actual experiences, problems, solutions and methods. One of the principles of membership is to contribute your share of the input so that collectively there is a reservoir of useful intelligence. By going to this reservoir, an individual member can secure that which he needs and, from this shared knowledge, he or his employer can leapfrog ahead of an obstacle instead of having to figure out, on an individual basis, how to solve it. In other words, everybody will not have to invent the wheel, only one member must and, from that point on, any member needing to know the principle of the wheel will have it available. The conclusion, of course, is that we will all progress faster.

At times, individual contributions can be difficult, especially if it requires admitting that something we tried didn't work so we went to something else, or are still looking for another approach. By participating in surveys and questionnaires, each member is helping to establish norms and system averages which permit comparisons and objective conclusions. Such averages help to prove helpful in establishing goals and objectives.

By communicating individual changes in policy and procedure to the Association headquarters, it is in a position to see trends developing and seek out more details to pass on to the general membership.

Another expectation of our Association of its members is that they get personally involved in the various services and programs. We are all aware of the manpower needed to plan, organize and conduct a conference, to edit and publish a journal, to find answers to technical problems. Where does this manpower exist? It lies in the membership itself, and the degree of success of services rendered and the breadth of expertise is in direct proportion to the willingness and involvement of one member to help and share with another. It is the business of the Association to find, harness and channel productive sources of information and manpower. It is the business of the individual members to provide the knowledge and manpower to be harnessed and shared.

Our Association can and should expect its members to discuss problem situations so that we can determine if it is an isolated case or a problem already shared by others. If it is an isolated case, we can work on it jointly, since a group can very often accomplish more than an individual.

Our Association can rightfully expect financial support from member companies to pursue research studies which will be of value to all and which are too expensive for one member to absorb. As an example, the printing and publishing of a textbook on Suggestion Systems and their administration.

The Association can expect its members to get involved in assuming leadership roles in running the affairs of the Society and seeing to its growth, viability and quality of service. There is mutual benefit in this regard in that the individual who serves usually is exposed to opportunities and developments which keep him up to date on the prevale development of trends in their early stages. In the long run, the employee becomes a bit more valuable to the employer.

The collective input of so many has always been the strongest source of guidance for each and every individual.
member. There have been times when one would give without receiving and when one would gain more than was given. This is the nature of Association relationship. Without NASS there would have been no common crossroad of information, no common collection point of data, and no common center for research and training.

As a result of United Air Lines’ association with NASS, we did not have to operate in a vacuum but were able to make decisions and recommendations on the basis of experience of others who willingly shared their experiences with the Association and all of its members. The information secured enabled us to develop programs and campaigns that proved successful in moving us to achieve higher results year after year. By being able to refer to NASS materials in contrast to conducting surveys on our own, we have saved valuable time and have arrived at conclusions in a more productive manner.

Finally, the Association can expect its members to be open-minded and receptive to changes. To attempt to champion one point of view or a special interest item by using the channels provided by the Association is a gross injustice. To seek recognition at the expense of denying training or to schedule social events rather than technical and productive events is to take advantage of one’s membership.

It is only fair that, when a member accepts or volunteers for an assignment or project, proper preparation and research be done and that the best possible effort be made which will project pride in the work and professionalism in the project.

Just as it is the job of all Suggestion administrators to help his employer improve his competitive position, or achieve goals more efficiently through the collective efforts and knowledge of all employees, so it is the job of every member of an Association to improve the effectiveness of that Association by providing input, through experience and involvement, which will be translated into service for all members of the Association.

It can be said that many administrators appreciate the help, training and coaching they get from NASS while they are learning their job. But after that, they lose interest because they feel they have no more to gain. To them I say, it is what you learn after you know it all that counts. To harvest the crops without planting seeds and working the soil will lead to a hungry situation.

In summing up this aspect of our discussion, we have touched on what the Association can expect from its members. Briefly, we mentioned the willingness to share actual experiences, problems and solutions, to contribute a fair share of the intelligence input by reply to questionnaires and surveys with factual data, by volunteering individual changes in policy and procedure, by getting involved personally in providing the manpower to run programs, to financially support worthwhile projects and studies and, finally, to accept leadership positions when called upon.

An Association depends on three ingredients: members, income and support of industry. What one receives as an individual is in proportion to what he himself, or at times another, puts into it. So, when called upon to fill either role, make certain that what is done is significant and relevant. We can take assurance from the statement that we can accomplish more together collectively than we can accomplish individually. Together we are entrusted with the existence of our Association. Together we must fulfill that trust. Together we must earn even more dignity for the value of our efforts. Together we must strengthen our individual worth. As contributing members, together we will.

Reviews are among the many key facets of interest explored in this text. Computer program software, an overlooked area for profitable CM application, is included as a candidate for both change and quality controls.

If the text has a weakness, it lies in the under-treatment of the importance of cost benefits through proper use of CM with design to cost, life cycle costing, value analysis, et al. Recent stress on cost by the DOD, NASA, FAA, DSA and many industrial firms now makes dynamic CM programs a necessity.

In this new era of cost emphasis, some major systems are said to have twenty to thirty percent of total ownership cost generated by changes. Many managers are unaware of the total cost impact of changes to a product during its useful life. CM would seem to be the disciplinary tool for giving them this realization in order to make better decisions.

Samaras and Czarwinski have performed a great service to government and industry managers, technical personnel and students through this pioneer CM text. Any reference library, bookstore or technical service should stock it and it would be an asset as a ready reference in any working area. Rudy Kempter
UPDATE
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ADVANCED PROPERTY ADMINISTRATION COURSE

ARMED SERVICES PROCUREMENT REGULATIONS
The 1974 revised edition of the Armed Services Procurement Regulations (ASPR) will be effective September 1, 1974. Future editions will be issued annually and will have a July 1, 19xx effective date. Revisions to ASPR will be incorporated in the annual revision and will not be issued separately. The annually revised ASPR will have page notations to indicate the new or revised portions of the regulation. Defense Procurement Circulars (DPCs) will be issued to promulgate informational material and items that cannot be deferred until the next annual revision of ASPR.

A separate, bound volume of Section VII of ASPR will contain all clauses, provisions and notices that are to be included in Department of Defense contracts. The clauses, provisions and notices contained in Section VII of ASPR may be incorporated into a contract by reference only and will not be spelled-out in the body of the contract. These publications are available for purchase as individual items from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.

Richard Gafarian (left), deputy director, Industrial Material Management, United States Air Force Contracts Management Division, Kirtland Air Force Base, spoke at a recent meeting of the Northern New Mexico Chapter of the National Property Management Association. Gafarian discussed some of the problems of property management with members of the Chapter. He is shown here with Dwight Clayton, local chapter president.

Can the ordinary guy who's worked hard, retired and felt the pinch get more income and a tax break, too? You bet.

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And here's a way to get interest checks every month, if you'd like. Just buy an H Bond a month for six consecutive months. That way, you've got 120 checks in a row guaranteed (and 120 more in the extension).

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Your banker has purchase applications for H Bonds. At face value of $500, $1,000, and $5,000, there's an annual purchase limitation of $10,000 ($20,000 with a co-owner). But there's no limit when you're trading in E Bonds.

Buy H Bonds with cash, too.
What if you don't own E Bonds? Or you want to keep those you own? Just buy H Bonds with plain ol' cash. They're still a good idea.

PERFORMANCE
IF THE SHOE FITS
Continued from page 5

go, in every city, town and county throughout the land. Taxes continue to skyrocket. Local officials blame inflation and an increase in citizen demands for more services. Budget problems are buried in cold cash; that makes them go away. And the individual citizen pays — through the nose!

When a concerned legislator like Dr. Martin Feldman appears on the scene and tries to reverse the trend to ever-greater expenditures on the part of the staff of Suffolk County, ridicule and innuendo are aimed at him, and partisan political pressure is put on his associates in legislature by the staff. Not wanting to be made out to be fools — who ever heard of anyone coming in to save us money? — all of the others succumb to the pressure and accept the fairy tale that the staff just found a pile of money that no one had allocated to anything else; and again we bury that budget problem in cold cash. (Remember who pays in the long run?) So the county executive becomes a hero to almost all of the legislators. After all, didn't he find the money we needed to cover the cost over-run? I can't understand why the entire group that was hiding that "found" money wasn't fired on the spot!

Tunnel Vision
A method for reducing the cost of the entire county sewer system was given to the county executive and his staff. The deputy county executive was alleged to have stated that he had heard all about this reduction of cost through Value Engineering, and that "they never guarantee any savings, they charge a high price to come in, and we can't spend any more money on this project (Ed: No matter how much we save)." This bureaucrat, with his "long experience" in county management — some of these experienced people are over 30 years of age and have three or four years of minor experience somewhat related to the job they are supposed to be doing — is a victim of visionus tunnelitis (tunnel vision), and doesn't even want to talk about having an outsider come in to tell him how to reduce costs.

Another true story illustrates the fact that many people, who are otherwise very learned, suffer from this rather common disease. One of America's foremost scientists of the day, when asked about the feasibility of the airplane, was quoted as saying that the airplane could never be. He is further quoted as stating: "It is speed alone that would keep the airplane in flight. How could you bring it back to the ground? If you slacken the speed, the airplane will fall and wreck itself. Besides, even if it could fly, of what practical use would it be?" Less than two months later, the Wright Brothers flew at Kittyhawk. The only difference between the Brothers Wright and the professor was that the Wrights, not suffering from tunnel vision, didn't know that it couldn't be done.

Defining the Problem
And how has this disease affected the Suffolk County staff? Although it is a common cliche that understanding and defining a problem leads one at least halfway to its solution, I'm afraid that Suffolk County's horrendous cost over-run was never viewed by the staff — and perhaps most of the legislators — as a problem, but merely as an inconvenience. That inconvenience can and is being solved by burying it in money.

It would be interesting to find out whether there ever has been any local government entity that has maintained a constant budget and a constant level of services from year to year. Has any local government entity ever reduced taxes while maintaining services? Can anyone name any government entity in the United States that is not so busy spending money that it has any time to devote to saving some?

Construction Value Management
The system for reducing costs, which was rejected by Suffolk County, was to hire a competent construction cost estimating company with both experience in the field under study and an ongoing Value Engineering program, i.e., one which has made proven savings on every project in which they have been involved. This would take advantage of the newer techniques in construction, such as fast-track scheduling of revised plans and contract award, systems building and work package breakdown for subcontracting the entire job.

The final step would be for the County to assume the risk on unknown inflationary trends by accepting bids based on this year's dollars, and awarding the contracts with a built-in escalation clause. This would keep each contractor from bidding at an escalation rate of 25-35 percent per year as a hedge against inflation by reducing the contractor's risk against inflation to zero.

Economy in Government
The buck should stop here — with the readers of PERFORMANCE. Now that you know how assessments are established (increase them enough to assure the amount of funds required to balance the budget), there is a way out of this dilemma. Citizen power — Taxpayer power. We elect the legislators; they appoint the administrators, who hire the staff. We are in control of our own destiny. If local legislators continue to let the wool be pulled over their eyes by the local staff, elect someone else — someone who understands that budget problems are solved by hard work, and not increased taxes.

Congressman Larry Winn, Jr., is the taxpayer's champion. Not only does he push for economy in government on the national level, but he also becomes involved on the local level whenever the opportunity presents itself. He believes that the buck can be stretched — to give us more purchasing power. He has championed the Value Engineering/Value Analysis cause for a number of years. Our hats are off to you, Congressman Winn. When the buck is passed to you, you make sure that constructive action is taken to solve the problem. Unfortunately there are too few people like you in our Congress. Although we have failed in the case of Suffolk County, New York, perhaps your efforts on their behalf, coupled with those you continue to apply at the national level, will cause the Value Revolution to take place in the near future.

PERFORMANCE
The beginning of the '70's required reinforcement of the basic economic strength of the country. We needed to improve our productivity and competitive advantage in world markets. Value Engineering/Analysis is being used in an ever-expanding role in government, private, and public sectors. We must now turn to the Sociological, Ecological, and Environmental aspects of our Technology.

We want the best of your new ideas, recent experiences and newly developed techniques and applications for Value Engineering. This annual meeting is your forum - the best way to broadcast advances in the art, generate fresh applications, and think our way through the Sociological side of Technology. Consider the following topics:

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