

INDUSTRY VIEWPOINT

by

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In the last two and a half days, you have heard presentations by a number of industry representatives that stand as concrete evidence that the mining industry today is deeply involved in an effort to devise and use improved techniques of environmental quality control.

Yet in considering the relationships of our industry with the general public, it is not sufficient to simply outline the measures we are undertaking to improve our ability to cope with environmental matters. We must also consider the broad problems we, as a basic industry, face. In my presentation, I would like to focus attention on three primary considerations:

1. Our environment does have a substantial and dynamic capacity to absorb wastes and convert them into stable, nonharmful products.
2. We may set a wide range of objectives for the degree of control desired, each objective dependent upon a value judgment.
3. The mining industry, specifically, must operate where nature has placed ore bodies, whether this be an urban or rural environment.

To launch a meaningful approach to the significance and interrelationship of these factors, we begin with the recognition that environmental quality control today stands as an issue rather than an objective. The subject is becoming increasingly beclouded in emotionalism and misunderstanding. We have been treated to a wealth of panaceas notable for their simplicity and generality. Crusaders and militant organizations have drawn graphic pictures of imminent natural disaster. Literature on the dangers of effecting changes in our natural world ranges from popularizations of scientific studies to lurid Sunday supplement articles. All of these influences tend to reinforce the traditional American expectation of quick and decisive action. Perhaps the most obvious proof of this demand for instant solution of environmental problems is to be found in the burgeoning crop of proposed and actual government regulation on the local, state and Federal level. All too often, this regulation mirrors the popular misconception that government can legislate a quick and simple solution to environmental contamination problems. Too often, such precipitous attempts at resolution only serve to compound the problem by wasting time and effort...and by stirring protracted and meaningless argument.

There has been entirely too much finger-pointing. There have been too many charges that one segment of our society isn't doing enough to curb environmental problems...too many countercharges that the opposing sector is demanding too much...too many evidences of misunderstanding when it comes to an examination of who causes environmental problems and who should pay for their solution. Such squabbling can only serve to delay effective environmental quality control.

The time is long overdue when both the public and private sectors of our society should sit down and take a good clear look at the environmental quality control. Now is the time when some of the confusion and misunderstanding should be brushed away, when we should determine the specifics of the problem and what steps we, as a total society, can and are willing to take to control the quality of our environment.

A groundwork for understanding calls for a recognition that the overall problem of environmental quality control is not, as some would have us believe, the result of cumulative abuse of our environment. We are not facing the effects caused by the accumulation of the waste of centuries in our air, land and water. Our environment has a miraculous capacity for absorbing the wastes of our civilization and regenerating them. The intricate mechanisms of nature, for example, provide for turning contaminated water, over a period of time, back into clean water. These regenerative abilities of our ecology still exist. Our current problems stem from our shortcomings in adapting the degree of our waste input to the recycling capabilities of the environment.

Picture, if you will, the natural world around us as a vast sink into which we pour our gaseous, liquid and solid wastes. In the past, the ecology has been able to accept those wastes and eventually transform them. But two comparatively recent developments have greatly strained that ability. These factors are the accelerated industrialization and urbanization of our society that have caused intensive concentration of our waste input. The concentrated wastes are poured into small sections of the sink, rather than distributed evenly throughout the environment. The entire sink isn't overloaded...just certain sections.

Our basic approach to controlling the quality of our environment should be more efficient use of it as a sink. We must realize that the sink has limitations in terms of the amount of waste it can accept in any one area, and in the time it requires for proper recycling. We must control the dissemination of our wastes and bring them into reasonable balance with the capacity of the environment.

A crucial first step toward achievement of this balance is a complete and hardheaded analysis of the adverse environmental conditions that have spurred concern. We must trim away the speculation and confusion, isolate what is proven, and separate the important from the unimportant. Such examination and appraisal calls for an almost surgical objectivity.

By analyzing the various conditions that make up the broad spectrum of environmental change, we can establish the degree to which solution is critical and assign priorities for action.

Adverse environmental conditions may be divided into four major categories. In order of importance, these would include:

1. Conditions that cause acute illness or death in susceptible groups.
2. Conditions that may create a chronic health hazard.
3. Conditions that can be regarded as a source of nuisance or discomfort.
4. Conditions that offend aesthetic values.

Of the first category -- those conditions that are proven to cause acute toxicity -- there can be no argument. Industry recognizes its responsibilities in this area. It would be improper for anyone to knowingly ignore or continue practices that are destructive to human life. There can be no question of cost or priority in this category. If government regulation can determine where industry has been remiss in recognizing the dangers of such conditions, any action they might take to remind us of our responsibilities is to be welcomed.

Examination of the second category means entry into a vast grey area where controversy has proven sharpest. Specific examples of environmental influences that fall within this category include lead and sulphur in the atmosphere, fluoridation of water, use of pesticides, and the effects of nuclear radiation. In each of these instances, incomplete technology has not lessened the militancy of those who view them as major and immediate threats to human health. But it is critical that research in these areas progress with whatever speed is compatible with scientific care and objectivity.

The third category, comprised of those environmental conditions that may cause discomfort or take the form of a nuisance, would include unpleasant smells, foreign substances in the air that might cause watering of the eyes or shorten the life of a geranium, or soot on windows.

Attention has been focused on the final category -- conditions that may offend our aesthetic sensitivities -- by those who object to the presence of billboards along a highway or the construction of a highway through a redwood forest.

We must take the time to categorize and thus isolate individual environmental quality problems. By thus determining the urgency for solution in each case, we can move to the final consideration before working out methods, equipment, and procedures for solution. That final consideration calls for a careful examination of all relevant interests and a proper balancing of risk against benefit.

The modern industrialized society exists because we have demanded the advantages and conveniences it provides. And this society, because of its complexity and scope, must necessarily cause some changes in our natural world. The old saying that points out the impossibility of having our cake and eating it too holds very true in this case. If you want a silver bracelet, someone is going to have to dig a hole in the ground. If you must drive an automobile, some gases are going to be exhausted into the atmosphere. If you insist on an electric dishwasher, there will be detergents flushed into the water supply. It is impossible for a technological society such as ours to exist without changing our natural world and without producing wastes that require disposal. While it is too late to declare a moratorium on progress... too late to completely reverse the technology that has become so deeply embedded in our society and way of life, we must take action to cure environmental conditions that are proven dangers to national health.

Our pragmatic society would never stand for sacrifices required to restore our entire natural world to its pristine and primeval state. Yet our society asks some slowing or curbing of the massive changes it is causing in the natural world where it must survive. Somewhere, between complete return to a pure natural state and uncontrolled abuse of the environment, lies the desired compromise.

Having delineated the areas where improvement is needed or desirable, we can decide what we, as a society, are willing to pay or sacrifice. If we want cleaner air, cleaner water, more effective land reclamation... then we must know there is a price tag ... just as we have learned that technological progress has its price in terms of environmental change.

That price -- eventually and unavoidably -- is going to have to be borne by the total society. This will stand no matter who shoulders the immediate burden of funding improved waste disposal systems, more effective internal combustion engines, more intensive research into long-range effects of environmental changes, or any aspect of environmental quality control. The cost may be measured in money: higher prices for manufactured goods, smaller dividends for shareholders, reduced business profits or higher taxes. It may be measured in the loss of conveniences. Or it may be measured in terms of slowed progress as more technical and scientific talent is diverted into environmental quality control assignments rather than more materialistic pursuits.

Whatever the price of the controls we agree to impose to restore a better balance to our environment, the public will have to be prepared to meet the bills when they become due. And the public, in this reference, means a combination of the private and public sectors. Our modern society is too interrelated, too integrated, to permit isolation of any one part of it to accept total responsibility.

We all share in the benefits that accrue from this industrialized and urbanized society. We all share in the dangers that may develop from abusing the ecology. And we must all participate in examination

of the problem, selection of the solutions, and implementation of those solutions.

Attendant on this alliance of the various interests of our society, is the requirement for better cooperation than has been evident to date. Development of a more cooperative spirit in approaching the subject of environmental quality control may well have to begin with an examination and appraisal of some traditional attitudes.

Attendant, also, is the recognition that with respect to the degree of control desired, attitudes will vary geographically with the degree of urbanization and with the social and economic values of the particular area concerned. Thus, there can be no uniform objective for the degree of improvement sought for.

Industry, for example, has been called the villain so long that many of us -- both in and out of industry -- are prone to believe it. And accepting the role of principal wrongdoer encourages a defensive stance on the part of industry leaders. The result is that we often find industry fighting defensive holding actions when environmental problems are up for examination instead of aggressively seeking solutions. Too often, strategy has been based on resisting regulation as long as possible, then reluctantly complying with whatever regulation may be enacted over industry objections.

Defensive and negative attitudes on the part of industry to the extent they still exist must be displaced. Our reaction to any move to resolve environmental problems must be straightforward, honest, and positive. Most moves to abate contamination of our air, water or land depend heavily on the ability of industry to implement that technique or procedure. Industry, then, can make a major contribution -- and avoid a great deal of grief -- by making sure it plays a role in the examination of the problem and the basic development of the solution. Only in this way can we reasonably expect the solution to reflect a practical grasp of industry's ability to implement that solution.

Industry must continually demonstrate its readiness, willingness and ability to cooperate with the public sector. It must make its practical knowledge and expertise available to government. Public debate should be welcomed as an opportunity to dissipate confusion, misunderstanding, and unfounded fears. It should be seized as a chance to advance industry opinions, to educate the public sector. The mining industry has already seized this challenge.

Complementing environmental control projects of individual mining companies has been a collective effort by the industry to maximize cooperation with the public sector. Last year the American Mining Congress, active in pollution abatement and land reclamation for many years, restructured appropriate committees to be even more effective in these areas. Our Subcommittee on Environmental Quality Control is composed of leading company executives with a wide range of experience

and expertise in environmental quality control disciplines. Behind such efforts is the continuing campaign to develop the best practical and technical data available and then place this fund of information at the disposal of the government or any interested party.

Through the American Mining Congress, the mining companies have made substantial progress in setting up effective liaison with government in trading views and information. The immediate objective is obvious: avoiding the enactment of restrictive laws that cannot be supported with scientific evidence or that take no real heed of the capabilities of existing environmental control means.

An important key to working with the public sector lies in the mining industry's ability to focus attention on its own special characteristics ... to explain those principles of environmental quality control that are peculiar to the extractive industries. Firstly, the location of mining enterprises is determined by the location of the ore body which is being exploited. Ore is still where you find it ... therefore the mining, milling and smelting sites tend to be fixed by the location of the ore body. A second feature of hard rock mining operations stems from the fact that the concentration of recoverable minerals is often very low relative to the surrounding rock mass which must be excavated to liberate the finely-disseminated ore. For example, in copper operations, a metal content of 14 pounds per ton of rock is quite typical of such concentration. The result is a waste disposal problem of tremendous magnitude.

Fortunately, in many cases, because of geological conditions, mines do not have to compete with other emission sources for the available capacity of land, air, and water to absorb waste production. But, as urbanization increases, the juxtaposition of opposing interests can be expected to create new problems.

Finally, if industry is to effect certain changes in its traditional attitudes, it stands to reason that we may expect some new evidences of cooperation on the part of the public sector. Government must offer industry an even greater opportunity to be heard, must show even more willingness to respect our expertise and experience. Government must lend a more receptive ear to arguments that environmental control measures can best be resolved at the local level where consideration can best be given to wide differences in economic, industrial and natural conditions.

The general public must begin to show some very real concern for, and interest in, the quality of the environment. The problems and their solutions should not be left in the hands of organized pressure groups whose motivation may range from sincere social dedication to the crassest self-interest.

Both government and the general public must learn to supplement an increased objectivity in approaching environmental quality control with a larger measure of patience. Time is a commodity that is es-

essential to resolving our problems. We need time to complete meaningful research into cause and effect. We need time to further develop the technology that will serve as a medium from which to select solutions. We need time to train the scientists, technicians, and specialists who will have to implement environmental quality control procedures. And we need to get at it.

Joined in an alliance whose objective is a healthier world in which we can all live and prosper, our society should experience no difficulty to resolving even as complex a problem as environmental quality control.

PANEL DISCUSSION

Mr. Overton: Doyle's comments leave me to conclude that the hour is at hand for all of us in government and industry and in private life to begin anew developing a much needed national minerals policy and to consider within the framework of that policy how the total quality of our environment can be safeguarded without jeopardizing the vital minerals industry. Efforts to develop a national minerals policy date back to the Paley Commission in 1952 and to 1954 when President Eisenhower established the Cabinet on Minerals Policy. Legislation seeking to develop a national minerals policy has been introduced in the 91st Congress by Senator Gordon Allott of Colorado. We in the Mining Industry hope for early hearings on Senator Allott's bill. Action in this respect, in our judgement is long overdue. It is in dealing with a national minerals policy that we can best achieve a balanced approach to that environment in which the mining industry can find the scientific, technological and economical incentive to continue to make the impressive contributions it has in the past to our growing economic strength and to the greater well-being of all our people.

Mr. O'Leary: The coal mine inspection force for the Bureau of Mines consists of 200 some people with a median 10th grade education. These people are advising people who in many instances do not have mining engineering backgrounds and can not afford to hire consultants. Our people are advising them not only on the safety aspects of their mining operations. It could be that you could draw a line between safety and the other aspects of an underground operation and the regular courses of production as well. It is obvious that the source of raw material we have to work with in the Bureau now and prospectively, in the future, are out of tune with the demands that are placed on the Bureau. I think that brings up another point if I may add to them. I don't know if this is one you were going to get to. The newspapers, as witness the response to the mining disasters, are interested in the social implications of things. It seems to me that a good deal of the talk here today was with regard to how do we get the message across and we ought to spend a little bit of time on what the message is that you want to get across. I think there are two aspects of this that I can tell you from my own personal experience.

First, in the development of mining and extraction process metallurgical programs for the Bureau of Mines, we have not done the sort of work responsive to the changing public interest and environmental quality. We don't know how to prevent mine fires affectively, we don't know the physical parameters of caving, of subsidence in a tunnel area. We don't know the sort of support that can permanently prevent subsidence or leave a place stable. We don't know how to develop metallurgical processes that are first, economic by cause. As I have said many times, the first responsibility is to pay the freight, and secondly meet requirements of the American people. They want big, fast, high horse-power cars and we are quite willing to pay for them. They also want clean air and thus far we have said no we're not going to give you that,

although I think they are willing to pay for it. We haven't as a bureau, in our work in mining and extractive metallurgy, given the attention in our research programs to directing it to meet this new dimension of interest and demand of the American people. So that is one of the things we are going to have to get around to.

The second thing is that this industry has been so fantastically successful that it has disappeared. The only time that this industry comes to public attention is when people are killed or the landscape blighted. You have simply disappeared, you're not in the same posture as Bell Telephone. You have become, in effect, the industry that isn't there -- except when you cause trouble. Now I mentioned during the break that there are some people in this country who say, and I think the Santa Barbara population are in this category, "Import." "Don't produce it around here. Don't make a mess." And you are simply going to have to convince them with the sort of statements that assistant secretary Doyle and I made this week and others from the Interior Department will make in the future. You are going to have to convince them that if we take that course our whole standard of living is under attack. We have been able to have an affluent society for one reason and one reason only, because less and less of our over-all effort was directed toward raw material supply. A hundred years ago all our effort was devoted to providing enough food for those who produced the food and for the small element of the population who didn't and providing the metallic materials that were ultimately needed by this society. Now we have gotten around to where, as I say, the point of the pyramid has become the base of it. And if we destroy that base, the mineral industry, the whole situation will crumble. That is the social side of this story that has to be gotten across.

You can't do it by saying, "Look how well we've done." We are just now curing the sulfur problem at a little over 100% increase in price, \$18 to \$42. And that means people don't get to use more sulfur, more energy, and more capital, but that more man power goes into the production of sulfur. We're just curing our copper problem at another 4 to 5% increase in price and that means again that our material effort goes into the production of copper and not into the consumption of copper as a nation. We are now getting the first indications that the long-term trend toward declining metallic costs is ending and is starting up. And that is the treat to society that we have here.

QUESTION: I don't think Mr. McDonald has had a chance to talk. I sense a potential conflict in your discussion. I was very much taken, at the beginning of your talk, with the point about the tremendous capacity of the environment to absorb waste and to regenerate itself. How many different variables are there in the environment and how must we use them? Waste disposal is a legitimate use of the environment but to accept this use requires a very complex understanding. Then along toward the end I sensed a reluctance to agree to what seems to me to be the necessary controls and regulations to exact that very policy. If we are going to use the environment that way, I don't see how we can avoid extensive and fairly detailed regulations from the public sector. Nor do I think they can be local. They involve a number of

municipalities, often a number of states, and if we are not to get into a competitive bargaining back and forth it seems to me the logical place is federal.

Mr. McDonald: Well put. My reluctance which you have perceived correctly stems primarily from a recognition that we really know so terribly little about the things we need to know. Many of us haven't had engineering or scientific training and are reluctant to make statements on scientific data. There is a really obvious problem that is hard to express logically. I am sort of familiar with the Hudson River having worked and lived in that area a number of years. The major problem of the Hudson River is the fact that many of the small communities along the river have for many years dumped raw sewage into the Hudson River. And yet the emphasis in the public press and so on is saying that this is all manufacturing's fault. The fact remains that the amount of money that is required to solve the problem of raw sewage is rather monumental. I don't think anyone is prepared to say where that money is going to come from. So I guess you might say we're in a chicken and the egg situation. The more we investigate this thing the more we become impressed with the actions of the public and private sector in contributing to our basic dilemma. Secondly, the point that I tried to emphasize is that somehow we have to find a way of qualifying what it is going to cost us. And the last point that we wanted to make was of course that for heavens sake we have got to have some time. Now, what with the many things we need to do, time is pertinent.

A relative newcomer to the mining industry, I must admit I am appalled at what I regard as a very minimal understanding of public relations. For evidence, I sight the fact that prior to this major copper strike that went on, there was an attempt made to do a public relations job which was, by any reasonable measure, a failure. It was a failure as measured by the fact that the strike went on for 8 1/2 months, but more important than that, we didn't really believe that we made any measurable impact on the attitude of the people in the communities where the strikes were taking place.

So back to my point on more time. As Director O'Leary pointed out, before we start communicating, we need to give some thought to what we have to communicate. It is my observation that it's taking us a long time to do this. First we have to use a 2x4 to whack the public over the head to get his attention. I think we are getting his attention and very slowly people, who after thirty years of work have never spent five minutes seriously considering public relations, are going to have to do a lot of homework. Now that is not a very direct answer to your question but the question you asked was a very hard one to answer.

Editors Note:

At this point in the conference difficulties were encountered with the recording system and a portion of the panel discussion was not recorded.

Panel Discussion concluded:

Dr. Scott: At this time I'd like to introduce Mr. Thomas Ware, Business Consultant, Skokie, Illinois, who will summarize the conference and give his opinion on the position of the Mineral Industry today.