

# Necessary Qualities of a Secretary of the Department of Energy

by Michael Jennings

## Loyalty to the Team

The most important quality of a Secretary of the DOE is loyalty to the team. Everyone must act together to strengthen the Obama administration and the United States government.

Sometimes people who have led companies develop habits that cause them to be poor team members. An extreme example is Gerald Levin, former CEO of Time Warner, who called himself an “imperial CEO”, and who by himself decided Time Warner should be bought by AOL, which even some non-technical people knew at the time was not a reliable company. Some consider that the worst business decision ever, and it is an example of what happens in the absence of healthy teamwork.

The Secretary of the DOE must stay neutral. He can help the Obama administration and the American people define the options, but should continually make very clear that he does not set overall public energy policy. The idea is to do nothing that would invite political attack on the DOE; attacks would confuse the issues and complicate the work of the administration. The Secretary must handle the attacks that do occur in a socially and politically sophisticated manner.

## Technological Ability

The second most important quality in a DOE Secretary is deep technological understanding. Most of what the DOE does, and all alternative energy methods, use technology in these four fields simultaneously: physics, electronic circuit design, computer programming, and mechanical engineering. A Secretary must have experience in those fields or he will lack credibility and will have little coordinating power.

The coordinator of the DOE must have spent decades training himself to think in the rigorously logical and extremely detailed manner that technological projects require.

The culture we think of as normal and the technological culture are so different it is as though they are two different worlds. It is common that we think of someone as successful who graduated from a top university, has social connections, and has a good resume. However, a suitable candidate for a highly technological leadership position must be an expert at teaching himself. He must already have taught himself far, far more than anyone learns at a university. And while social interactions are important in scientific research, strictly social connections have never solved a scientific problem.

Resumes tend not to have information that would be useful in knowing whether someone would be a good candidate to coordinate the DOE. As a hobby, I have helped people write resumes and job-getting letters for over 30 years. Resumes tend to be most helpful when they explain an extremely linear career. Resumes tend to be least helpful when looking for someone with a broad range of abilities who must adjust quickly to changing circumstances. I was initially made aware of this by reading Carl Boll’s book *Executive Jobs Unlimited*, and found it to be true over decades of experience. (Carl Boll helped graduates of Harvard Business School get jobs for 27 years.)

Resumes aren’t helpful and are sometimes very misleading when what is needed is the presence of dynamic mental processes that are well-established in the leader’s mind. Mental processes generally aren’t reflected in a resume. It often happens that someone who was

successful in one management position is not successful in a new management position. The new management position may require mental processes that weren't required in the old position, or the necessary thinking in the old position may have been done by someone else than the top manager.

**Zero Defects:** In most human endeavors, errors in communication or execution are spontaneously corrected or called into question by co-workers. In scientific endeavors, errors that seem very small may lead to the loss of the entire project. Seven lives were lost in the Challenger space shuttle disaster when managers forgot one small fact, that O-rings being used were not pliable at low temperatures. The Columbia space shuttle was lost because managers assumed that the wings were strong enough to resist damage from pieces of foam heat shield that often broke loose. There is a need for strict logic, rigorously applied, that is far beyond the education the average person gives himself or herself.

**Be known as one of them.** To manage the DOE successfully, it is necessary to be able to walk into a room filled with scientists and get their technical respect immediately. That doesn't mean knowing everything they know. It does mean being immediately recognized by scientists as someone who thinks in the extremely careful way they think and who focuses on the challenges in a way that is scientifically valid.

**Technological Idealism:** It is important to understand that the space shuttle disasters mentioned were social failures, not technical failures. In both disasters there was adequate technical knowledge that was ignored.

I've studied this phenomenon for many years. People who are good technological leaders are

very rare. Successful technological organizations generally have one or very few such leaders, and those leaders act to correct the mistakes of others. A good example of that is Steve Jobs, CEO of Apple. Apple's extremely successful iPhone and iPod products are not perfect, they are just more perfect than the products of the competition. It is the product feature idealism of Steve Jobs, who is not particularly technically knowledgeable, that makes the difference.

The people who are most successful in leading a technological organization teach themselves rapidly and have habits of thorough, intense, relentless idealism. Those who merely remember the most technical facts are poor leaders.

**Technically qualified leaders avoid embarrassment.** When a technological organization has a non-technical manager, contact with the manager is filled with social difficulty. What should be said to the manager? Will he be unhappy if an explanation demonstrates his ignorance? Does he expect that the people who work for him help him hide his ignorance? Will he disapprove of those who say things he can't understand? How much effort should there be to teach him? Will he accept being taught? Is the situation so hopeless that it is better to let him make poorly informed decisions?

### **Social Ability**

The coordinator of the DOE must not only have extensive familiarity with technological issues, he must also be very comfortable with people.

He must be someone who is able to sense the sociological health or problems of any group instantly. He must have a strong ability to lead and to get people to like being coordinated.

In general, however, people who have chosen

to concentrate on technological issues have poor social skills.

### **Psychological Health**

It is generally understood that stress reduces immune system response. That makes it important that leaders not try to do too much. Leaders must feel comfortable delegating. They must help other people do their best, not make themselves and their own needs the focus of their organizations, as so often happens.

Note that Steve Jobs of Apple, the example used before, is widely said to have interpersonal difficulties, and he has already had cancer even though he is only 53. There are many, many other examples.

### **Handle conflict well.**

To be effective, the coordinator of the DOE must be very comfortable handling all kinds of conflict: conflicts of ideas, interpersonal-conflict, conflict of needs, and others.

Al Gore has been an excellent leader of technological efforts. In a private email message I asked Vint Cerf, who is called the “father of the Internet” whether it was true that Al Gore was important in creating the Internet. Mr. Cerf described Al Gore’s contribution.

In actuality, Vint Cerf was one of the original designers of an inter-network called ARPAnet. Those who had access to the ARPAnet often did not want it to become a public utility. During that time I visited a friend at Tektronix, then a very important electronic instrument maker, and he talked intensely about why ARPAnet should not allow public access. That was generally how those at universities and big companies and research centers felt then.

So, in fact it is Al Gore who is the “father of the Internet”. Back then, government leaders usually didn’t even know how to type; their secretaries did the typing. They certainly did not own or use a computer. Against strong objections, Al Gore caused the ARPAnet to become the public utility we know today as the Internet. Al Gore was a leader in technology when other people didn’t even know the technical words. That was a far larger accomplishment than can be described here.

That extraordinary accomplishment in the public interest, and his contribution to our understanding of global warming, suggests that Al Gore could lead the DOE.

However, Mr. Gore often does not deal well with conflict. When attackers began calling his contribution to the Internet into question, his response was very weak, allowing the attack to have credibility.

After he had served with Bill Clinton for 8 years, it is surprising that Al Gore didn’t learn a little of Bill Clinton’s sometimes amazing smoothness in handling conflict. One way of interpreting events is to say that Mr. Gore lost his bid for the presidency because he didn’t handle the conflict over abortion rights well. When pressed, he made an unnecessarily strong statement that alienated those against abortion rights. He made that statement even though a president doesn’t decide that issue. Because of that one statement, which was widely publicized by the opposition, even my own mother voted for George W. Bush, a decision she now strongly regrets.

### **Be a professional communicator.**

A large part of the work that needs to be done is to aid the Obama administration in helping U.S. citizens make their own choices, without

causing them to feel pushed by politics or considerations of profit for big business. That means that the head of the DOE must be a professional communicator.

At present there is an enormous amount of misunderstanding of energy issues. There is general ignorance. There have been enthusiasts who ignore faults in their solutions. There have been people wanting to make a profit who misled others deliberately. Almost every article in magazines or newspapers contains error or misleading elements or gives insufficient warning of the difficulty of the challenges.

In this context it is good to remember that Hilary Clinton's health care initiatives failed partly because the collection and consideration of information was not sufficiently explained to the public. Certainly she had no ill intent; she was apparently overwhelmed by the difficulty of arranging clear communication of the issues, many of which were medical and technological.

The Obama team is certainly not making the mistake of insufficient openness, but the difficulty of continuing to create that openness must not be underestimated.

### **Be multi-cultural.**

The head of the DOE must be multi-cultural, so that he or she is respected in laboratories around the world. Many of the issues surrounding energy supply require world-wide technical coordination.

There are cases in which there are initiatives to make alternative energy research proprietary in a way that slows research and does not have a reasonable chance of profit. Good leadership can reduce that tendency.

Being multi-cultural means being the kind of person who brings people of different cultures together, rather than making them see the differences.

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