This is not a reasonable position to take. Compulsory licensing will have a harmful effect on our patent system. Further, if a situation should arise where the government believes that it is necessary for the public good to force the licensing of a specific invention, the government can exercise its right of eminent domain, to take over the patent for such public use, conditioned, of course, upon the payment to the patentee of just compensation.

There has also been mention by prior speakers of the fact that courts recently have refused to take injunctive action against an infringer when that is considered in the public good. We recognize that these cases do exist. Whether this is a constitutional act or not, I am not quite sure at the moment.

At any rate, it is quite clear that companies, themselves, are not arguing that point, and are accepting the decisions of the court.

Some mention was made earlier in connection with the question of consent judgments. I don't think consent judgments are in the same class. I don't think this is a judicial decision. I think it is an agreement between the company and the Justice Department, and is not likely to have been a decision which would have been provided by a judgment.

A judgment might hold a patent unenforceable for antitrust reasons, but a court would not require licensing of a patent on that ground.

Our reason for objecting to compulsory licensing is not just that it appears to be unnecessary, but also that it would be a step in the downgrading of our patent system. It would have the effect of diluting the incentive for invention and investment provided by our present patent system. Indeed, it could prompt a policy of trade secrecy rather than patenting and public disclosure, obviously to the public detriment.

If a company makes the heavy investment presently necessary to develop new technology, it should have the right to utilize that invention under the patent laws so as to recoup its investment and make a profit. One of our speakers talked about a small investor making it big. I certainly think he should be entitled to do so if he makes a significant contribution to the public good.

I think the waiver policy, while reasonable in principle, is somewhat unworkable in practice. I think it provides a heavy, front-end burden on contracting and it will cause delays. I'm sure that there will be many circumstances where waivers will not be granted because of the difficulties involved.

I think to the extent possible, if the waiver situation could be simplified in certain situations, it would be extremely helpful.

Nuclear contractors who are committed to the development of advanced systems should automatically be entitled to irrevocable licenses in all inventions developed by their employees in the course of the performance of government contracts. The irrevocable licenses, being non-exclusive, will not give any preferential position to the contractors.

We believe that the granting of such an irrevocable license is justified because the company involved in the development of a new power system generally has a large personal commitment in the program and is the one entity most likely to develop the system to commercial practicability.

I think one has to think somewhat differently of these large systems and the investment that has to be put in them in order to get them to go over the top and become commercial. It requires large investment and a heavy risk.

For example, a company like General Atomic has been working for 15 years on the HTGR system. If it is not able to commercialize that system, it is unlikely that other companies will.

Independent of the government findings, it incorporates the totality of its employees' prior experience and knowledge on a program. Further, in the eventual undertaking of a commercial plant it will probably incur large private development costs as well as a large financial risk.

One might ask why the contractor should obtain an irrevocable license in inventions which it does not immediately develop. The answer is that this is necessary because in the development of large systems one normally explores various possibilities for accomplishing the objectives sought.

However, it will be defective unless in actual practice, background rights acquisitions are limited to situations where they are both justified and fairly necessary. It has been our experience that once regulations are adopted or standard clauses drawn, the government's contracting officers attempt to acquire background rights in nearly every R and D transaction.

That is not the stated policy, and is not good practice. Thoughtlessly pursued, it can frustrate the government's wish to find its R and D contractors among those who are best qualified simply because those firms are the most likely to have relevant background which they feel they must protect.

In this connection it seems to me that ERDA's method of contracting is to request background rights in all situations, and then force the contractor into an extended negotiation to prove that such background rights are not needed. I think this is putting these backwards. I think that it is important that the government does not request background rights in general in contracts, but that when it is needed, they should justify the use of a reasonable background patent clause.

Acquiring background rights is not always justified and necessary. For example, if government finances an effort which tends to enhance a background patent, but only a small sum of government money is spent, background rights should be accorded to no more than the government; but when the government spends substantially more, certainly when the very purpose of a contract is to enhance the background, domestic background rights should be extended under reasonable terms, upon the government request, to responsible third parties.

Mere use of background inventions in the performance of a government contract does not evidence a need for background rights to third parties nor justify taking them. We must await the implimentation of the stated policy to see whether it will be followed in practice.

We urge that background patent rights provisions be left to negotiation between the government and contractors rather than relying on specific procurement clauses which quickly become frozen.

Another point on which we would like to talk briefly is the question of rights which should be accorded

I would like to say a few words about the implementtation of the proposed patent policy. In the proposed policy the government acquires title in any invention or discovery conceived or first actually reduced to practice in the course of or under a government contract. Upon written request to ERDA a contractor may retain title in any foreign country in which the government does not elect to secure patent rights.

Again, we have no quarrel with this general policy; however, the proposed implementation thereof may cause difficulties. It sets forth a certain time framework in which inventions must be reported, foreign rights requested, and inventions commercialized.

This time framework is not consistent with the practical situation in this field. As indicated, many inventions particularly in the nuclear area take a long gestation period. After conception, there is a large time delay in the construction and testing, particularly in situations where nuclear irradiation and testing are required.

Further, it is important that various inventions be maintained for backup purposes and not incorporated in the commercial system until first choices fail or become uneconomic. The government spends rather warily in the foreign area since this constitutes a rather large risk with little benefits if the invention is not of importance and ultimately utilized. The government should not expect private industry to act differently.

And I would hope that in the implementation of the ERDA policy it would take these factors into recognition before they revoke foreign patents which are taken out under the present ERDA patent policy.

Before ending, I would like to make mention of one area which we have not discussed here. It was discussed quite ably a little earlier this morning by Mr. Finger. That is the data clauses. I would like to incorporate his remarks along with mine because this is certainly as important an area for a company as the patent area.

There have been some thoughts given in this area, and we assume this will be taken care of in due course.

Finally, I recommend that ERDA be cautious in implementing its patent policy and avoid adopting unreasonable provisions merely because there were previously utilized by

Nevertheless, I think it is one of the resources we look forward to in our lifetimes. When current energy sources diminish, we will have to look for new and better energy sources.

I think nuclear energy is one of the prime sources of the future that we can look forward to hopefully, that will keep this world going for many hundreds of years.

I think it is an area that has to be fostered, along with every other, the development of every other source of energy.

Certainly, I think it has been the common objective of government and industry. I do not see, in answer to your question, that the patent policy has deterred us. It might have made things a little difficult for contracting, but that has not been the cause of the five percent utilization.

MR. DENNY: Thank you.

One other question. We are to look into the need for compulsory licensing and its effect in accomplishing ERDA's mission. As you know, the Atomic Energy Act, Section 153, has had compulsory licensing provisions for about 20 years now. With the experience you have had, would you be able to identify any effect that such a compulsory licensing provision may have had on research in the nuclear field or commercialization?

MR. TABIN: I would say the provision was unnecessary. I think it was just fear that caused it to be included in the first place. I think there is no reason that, because it was included and has not be utilized, that it should now be broadened widely.

I certainly think it is contrary to the precepts of the patent system. I can certainly see situations, depend-on how compulsory licensing is used, where it can be a disincentive. It can deter people from working in specific areas.

It could lead people to go the trade secret, confidentiality route, rather than patenting. I think it is very hard to take a specific situation, as you point out, and say now what harm has it done. I think by the time we see the harm, it will be too late. I think that there is no

DR. FUMICH: Thank you.

That is a little different than what we heard before.

MR. EDEN: You made one comment which was similar to the proposal raised by General Electric this morning: You would like the inventor-contractor to receive an irrevocable license on government-financed patents. The obvious purpose of giving an irrevocable is to provide for the possibility of giving an exclusive license later if the technology lies dormant.

You have suggested that we limit the original irrevocable license to a particular field of use.

How would you handle the situation where a potential licensee wishes to exploit the same field of use for which an irrevocable license has been retained by, say, General Electric? How can he possibly hope to compete in a situation like that?

MR. TABIN: You have to remember that we are talking about the nonexclusive licensing being granted.

MR. EDEN: Initially.

MR. TABIN: I was talking about an irrevocable nonexclusive license, not an irrevocable exclusive license. What I am saying is that, what we are talking about, we are talking strictly from the point of view of a large company such as General Atomic in a industry such as the development of a large nuclear power reactor.

Now, if General Electric is given an irrevocable nonexclusive license to develop a power reactor, this would not deter General Atomic from also taking an irrevocable nonexclusive license in the same area if it wanted, if it also wanted to develop that power reactor system.

I am saying the big companies involved in building big systems have millions of dollars involved, hundreds of millions of dollars of investment involved, and tremendous risk. They need the availability of the inventions in that area which relate to the development of that system.

As long as any of the inventions in that area can be of use, it ought to be made available to those companies. They are the ones that are putting up their money; they are

MR. EDEN: What I am suggesting is that the giving of an irrevocable license to the contractor may itself be an impediment, if that contractor chooses not to develop the technology. He prevents us from giving an exclusive license to some other party who might develop it.

MR. TABIN: As I say, I have no quarrel with an invention that is of no possible potential use. The contractor is not interested in that invention.

MR. EDEN: He has developed it; now he chooses to do nothing while hedging his bet on some other technology.

MR. TABIN: I am saying any potential invention that is useful potentially in this system ought to be available to many for exploitation in the further development of the system.

What I am saying is that right now if you develop a fuel element, you may have five different fuel element concepts. It may take you six years to work out a fuel element concept before you decide for some reason that is not the way to go.

MR. EDEN: What if during that six-year period of time, another party steps in and says "We would like an exclusive license, and we are willing to put up money right now; we think it is important."

I say, "I can't give you an exclusive license because there is already a nonexclusive license in existence." They say, "Well, since we are ready to go right now, why don't you simply revoke that license?"

MR. TABIN: Are you saying a company that has been investing all this money, who is already going and on the way, now probably has spent several hundred million dollars, is not going --

MR. EDEN: You are speaking now of the second potential licensee?

MR. TABIN: I am saying the first company who has been involved in the field has a tremendous investment in the area and has a tremendous interest in providing the best possible system he can develop --

MR. EDEN: He is holding it in his hip pocket because there is some other technology he perceives as more

technology make various licensing arrangements with foreign entities. I think this is beneficial not only from a licensing point of view but it is involved in further development of that technology which may help to bring that technology to fruition much earlier.

There is much more going on ith the HTGR area, almost as much outside of the United States as in the United States. All of this information is going to further this technology and bring it nearer the day when it becomes commercially practicable.

MR. RITZMANN: If such patent rights of subcontractors would atomatically flow through to the foreign affiliates and licensees, how does the U. S. Government get just compensation for money it has expended for the research and development?

MR. TABIN: I think you are perhaps misinterpreting what we are requesting. If the subcontractor makes an invention he gets rights to that invention under the ERDA policy. We are merely saying that he should be willing to sell the product which has been developed, to the contractor's licensees, or license them. The subcontractor would be suitably rewarded, but we want to make the invention, which has been made in order to solve a particular problem, or to provide a particular component for a system which is being worked on, available to the contractor's licensees.

The licensor must see that that development is available to the licensee so he will also have such a system. If the subcontractor refused to provide that to the licensee, the licensee has to go through a tremendous expense in redeveloping it.

All we are saying is that there should be some recognition of the purpose of the development and it should be provided in an agreement with subcontractors.

I am pleased to say that we have been able to get such a provision in some of the subcontracts which we have been able to negotiate with the approval of ERDA.

MR. RITZMANN: So you are saying it should be made available, but at a reasonable licensing fee or reasonable royalty.

MR. TABIN: Right. We are saying, well, we were able to do it in the past in certain situations which

MR. TABIN: Thank you.

MR. DENNY: Our next speaker is Mr. Greg Barthold, Manager of Technical Programs, Aluminum Company of America.

MR. BARTHOLD: Thank you.

I am Greg Barthold with Alcoa. With me is Robert Teeter, Patent Counsel. Our comments will be brief.

Mainly, a summary of our position on the subjects of patent policy regarding, one, mandatory licensing; two, background information; three, title to patents; four, waiver procedures; and 5, licensing.

Examples to fortify and justify our position can be provided, but are not included in our statement.

We believe that the basic philosophy of the patent system should apply in the issues presently being considered by ERDA. We feel that proposals for mandatory licensing of energy-related -- or any other -- patents are self-defeating. We further believe that government control of patents, as a matter of policy, would tend to stifle rather than stimulate invention.

In our opinion, most business organizations concerned with continuance of a strong, viable patent system in the United States, one which promotes industrial progress, oppose the concept of mandatory licensing of energy-related patents. Such a concept involves a form of compulsory licensing, something which has been excluded from the U. S. patent system since its inception. It is hoped that it would not appear necessary to ERDA to report any need for statutory implementation of this concept. The consequences of a mandatory licensing policy might call for a return to industrial security instead of patent application.

The newly proposed patent regulations suggest that ERDA is endeavoring to implement a patent policy which will be encouraging in most respects to the participation of business organizations in the research and development programs of this government agency. They are much more likely to be acceptable to most contractors than some of the earlier regulations of various agencies in the energy field. However, it is important to note that ERDA regulations have contained, and apparently are intended to continue to contain, provisions for background patent rights in most

The proposed patent regulations do provide for waiver of the government's right to title at the discretion of the administrator. However, chis is stated as the exception. We cannot be sure that the waiver provisions will be used properly. When requests for proposals for competitive procurements are issued, a request for a waiver by the proposer may be regarded as a nonresponsive proposal. The government in this instance uses its contract awarding ability as economic leverage to acquire title.

Alcoa, therefore, would recommend that the regulation, if not the legislation, be modified to provide for title to go to corporate contractors.

In order to protect the public interest, the developments made with ERDA funds should be made available to others in practice, but for an adequate consideration. Companies gaining title to inventions created partially by government funds should license others to use these inventions. The mechanics that provide for licensing should allow the title holder, the corporation, to prove the invention in practice for a period of about three years before being obliged to license others. Equitable royalties can then be determined. Formulas for government participation in the royalties have been devised.

Our purpose in responding to the notice of hearing is served if we have expressed our concern in the areas commented on above.

There are several other comments I would like to make. A major portion, or a portion of ERDA's funds will be spent by others, by the national labs, by other government agencies through memoranda of understanding with ERDA. For example, NASA, Marshall Space Flight Center has cognizance over a large solar energy development program.

Now, when doing business with these other agencies and laboratories, ERDA contract provisions plus contract provisions of these other agencies are inserted in the boilerplate, making business relationships extremely non-uniform. It would seem that all programs pertaining to the ERDA mission should have uniform terms and conditions.

So I think we are calling for uniformity among ERDA-oriented programs, and also a rapid implementation down to the field and to the government-owned/contractor-operated type of installation of changes to ERDA provisions.

situations in which ERDA and the contractor were arguing over clauses until someone asked the contractor, "What don't you want to give?"

To which he responded -- to which our program people responded, "We don't want it anyway."

So when you get it on the table and take a good look at it, most of the problems go away. That is our attempt at a balancing act. I would like to see these hearings held a year from now to see whether or not policies and practices we would like to see happen have actually occurred.

Are there any questions from the panel?

(No response.)

Thank you very much.

Our next contributors are Mr. Charles Haughey and Dr. George Smith, Hughes Aircraft.

DR. SMITH: Mr. chairman, I am George Smith, Director of the Research Laboratories of the Hughes Aircraft Company. I would like to express my appreciation and that of my company for the opportunity to present our views. As I sat through today's session and listened to the proceedings, I found that almost everything I have to say has been said at least once and sometimtes more often than that. I will skip a bit over the prepared presentation that we have provided for you in the interest of saving time.

I should say at the outset that the Hughes Aircraft Company has only modest interaction with the ERDA organization at this point. We have only a few million dollars of research and development going on under ERDA contracts. This work ranges over quite a number of technology areas, including high voltage switching, high power lasers, laser optical systems and solar cells. For those of you who don't know, Hughes Aircraft Company is a high technology company that is mainly in the electronics business. There are quite a number of energy fields to which our company could contribute; the degree to which we do so will depend upon the way the incentives develop.

business. Yet ERDA initially asked for very broad background rights. I am very happy to say that just last month we did successfully negotiate a subcontract, and we are now under way.

I also might say we managed nearly six months ago to negotiate a very similar contract with an institute in West Germany with a lot less bother, which I think is some kind of a commentary.

Let me conclude by saying that although we recognize that the final ERDA policy must provide some access to background patents and data, we think the way it has been administered in the past year or so has provided too strong a negative incentive for the contractor.

Now let us turn to foreign patent rights. They are very important to the Hughes Aircraft Company. This point has been made before by others here today. If we are going to become a supplier in the foreign marketplace we have to establish a competitive position.

Current ERDA policy provides that foreign rights may be given to a contractor if ERDA chooses not to take title. If ERDA does take title, there may be a license available, too, but there are lots of ifs, ands, and a fair amount of negotiation required. We urge the policy be changed to allow the contractor to get foreign rights as a matter of course. The ideal arrangement would be for the contractor to take domestic title with a license to the government, of course.

We are strongly opposed to mandatory licensing, especially of our background patents. I should hasten to add it has always been company policy to license our patent property. However, sometimes the injunctive remedy is the only tool that can lead to suitable negotiation. We also think it is right for us to have the first opportunity to supply the marketplace. If it turns out we are not able or willing to supply the marketplace, on a competitive basis, we certainly will be willing to license.

The final topic is the matter of time and energy required to negotiate terms and conditions. I put it high on the list of things that need attention for the reasons we already have alluded to.

Mr. Tabor initiated a chance to improve that. I hope we will. The regulations we put out will take a little time. I hope we can eliminate those problems. You mentioned specific negotiations in the involvement of background rights. I assume that could not have been under the specific background provisions we have on these proposed regulations, would that be correct?

MR. HAUGHEY: It was not done under them.

MR. DENNY: May I ask if we would reverse that negotiation and first suggest to you the background provisions that were set forth in these regulations, would you anticipate that the delay would have been cut down some?

DR. SMITH: In the most recent negotiation, the one we just concluded, Mr. Haughey tells me the delay wasn't only because of rules. I am not sure whether the new rules would improve that or not. It was just the course of time with several alternate proposals going back and forth before we came to some mutual ground we could agree on. I am afraid I have not answered your question specifically.

MR. DENNY: Did you eventually wind up taking a background clause in that contract?

DR. SMITH: Yes, we did. It's not altogether to our liking, but we took it.

MR. DENNY: How does it compare to the one that is in the clause we have proposed?

MR. HAUGHEY: It's quite close to the one actually in the clause, as I understand it. I haven't had time to study them with great care, but it appears to be close to those actually in the clause. It does, however, give us the problem that, in the event the background material becomes needful for licensing, we may have lost the opportunity to get an injunction against a reluctant licensee.

By the time we would attempt to enforce it by going into court, we would have spent so much on the enforcement that it is questionable whether we would ever get reasonable terms and conditions, or reasonable compensation.

The right of injunction is an important tool to us in negotiating reasonable terms, and if we have to rely

DR. SMITH: There are a lot of factors here. One of the factors has been that the patent and data practice and policy have been such as to discourage us from investing our own resources.

Our scientists do talk with the people at Los Alamos and Livermore all the time and say, "Hey, we have a great new idea. ' We would like to work on that."

We don't have all that much enthusiasm at the management level, or we haven't in the past, because of the disincentives of the kinds of provisions we have seen.

That is not to say we have refused to go after any of this kind of business.

We in fact do have a handful of contracts now. I would like to see it develop into a larger thing.

Some years back we even had a little activity at our Research Laboratories that was addressing the question of fusion, but I personally shut it off because I saw no way in which the Hughes Aircraft Company was going to work from that base into a money-making business.

There are a lot of reasons for that, not just the issue of patent provisions, but that was one of them.

There was also the time scale. We try to look a few years ahead, but not that many.

I made that decision. It must have been over ten years ago.

ME. EDEN: I gather from your remarks that you have a very liberal patent licensing policy, that either all or virtually all of your patents are available for licensing?

DR. SMITH: I would say it is liberal.

Chuck?

MR. HAUGHEY: That is definitely true.

I am not aware of any patents we have refused to license on what we considered reasonable terms. Our top management has expressly so stated in very important forums.

In that particular competition the next round is expected to be a $500 million contract limitation.

MR. EDEN: Xerox held the basic patent on xerography. If they licensed that, they would have been more vulnerable than GM would be if it held 1000 patents and licensed them to 1000 different parties. That is what I mean by vulnerable.

MR. HAUGHEY: We are widely spread in technology, yes. Very much so. This was not the case, though, about fifteen years ago when we were extremely vulnerable; and in fact one government program cut off about two-thirds of the backlog of our business. That is what drove us into becoming a widely based technology company.

In fact, that was the time at which we manufactured the first communications satellite and had a unit ready before we accepted any contracts.

MR. EDEN: There is another reason for a liberal licensing program because you want to maximize your royalty income.

There is a third possibility I would like to explore with you:

the fear that if you were to refuse to give licenses you might find yourselves involved in an antitrust action.

MR. HAUGHEY: I can speak to that.

To avoid any possibility of such a thing happening we bend over backwards to make every license we can nonexclusive.

We license everything that we have. We make it available. It is a conscious effort to avoid any possible -- You know the story of Caesar's wife.

MR. EDEN: It is not the policy you would normally follow in a free environment. You are constrained in some fashion by the antitrust laws or fear of possible prosecution under those laws?

MR. HAUGHEY: It is a little in the back of our mind because we are big enough to be prominent, which was not the case ten or fifteen years ago.

In fact, I think to state it more precisely, it has been our experience that in the first go-around, ERDA asks for everything; and we say, "No, we can't do that."

And we go around and finally end up with some position which is acceptable. But it takes a long time.

I certainly would not stand here and claim that there should be no access to background patents and data. If that access is limited within reason to do the job at hand and not carry it on forward indefinitely into the future, with a wide scope, that is okay.

But some of the provisions that have come by my desk for approval I just couldn't believe in. And they don't, by any stretch of the imagination, limit themselves just to the application to a particular research job to be done.

MR. POTEAT: You were commenting that current ERDA policy required, and our current ERDA regulations follow the R and D.

I would like you to comment with regard to that.

DR. SMITH: We have been able to come to an agreement with terms that are fairly reasonable. Even those terms are broader than we would like to see. I think it again depends upon what the investment of the company has been as compared to what the magnitude of the development of the contract might be. It depends on where the business may eventually develop, and how much of that business might be encroached upon by the background patent license.

In our judgment, there has been a tendency on the part of the ERDA man across the table to ask for more than we think is appropriate.

MR. DENNY: Thank you.

Our next speaker is Mr. Eric Schellin.

MR. SCHELLIN: My name is Eric P. Schellin, and I am deeply appreciative of the opportunity to testify before this group.

Politically, the struggle between big government and big labor for control over the decision-making process will certainly have a profound effect on the ultimate status of small business sector with respect to the political sector in our still-mixed economy, grantism is indeed here.

If, unfortunately, small business is considered to be of lesser economic significance than it used to be, its economic role is still terribly important. The fact that the future of the large corporation involves the future of our private sector should not obscure the more basic fact that small business preeminently is the private sector.

Economically, small business plays a critical role in the process of innovation, so important to ERDA's mandate for accomplishment. As reported in a recent article in The Wall Street Journal, when one surveys the new products and new processes of the past 25 years, it is extraordinary how many of them were introduced by aggressive entrepreneurs or small business firms.

The Xerox copier, the Polaroid camera, the minicomputer, high-fidelity recordings, frozen foods, wash-and-dry clothing, et cetera, the list is long and impressive. Nor is it only product innovation that small business is so good at.

It also rates high marks for conceptual innovation, for developing a new way of organizing older services. Containerization, the discount store, the motel, franchising the sale of hamburgers, fried chicken, and other food products: These, among other things, were ideas in the head of an individual that proved fruitful and beneficial because our economic system permitted them to compete with existing ideas as to how things should be done.

Obviously, not all the innovations of entrepreneurs succeed. Indeed, most of them fail, as they are bound to, in a high-risk, high-payoff situation. But this willingness to risk failure is itself one of the major merits of a system of private enterprise.

The large corporation may be the end-product of private enterprise, but it is not its quintessential representative, either in theory or practice. It is true that in the U. S., as compared with the Soviet Union, the large corporation is relatively innovative, does preserve an

On the other hand, government patent policy can directly affect the degree to which the patent system promotes the development of inventions, once made, to the point of commercial utilization. There is no question that the exclusivity afforded by the patent plays an important role in spurring the development of inventions.

It has been said that many of the large businesses do not need patents, as new products are introduced successfully by a combination of the ability to saturate based on marketing acumen. Therefore, there are cases concerning big business where a particular invention was commercialized just as quickly without any government-sanctioned exclusivity.

Certainly, no small businessman would dare to compete against the formidable odds posed by big business or big government. Nor could small business establish at least a modicum of time for itself without the patent system. Therefore, at least for small business, effective patent policy must take advantage of the fact that development will normally be promoted by exclusivity; at the same time, it must provide for others to exploit an invention if exclusivity does not produce the desired results of utilization on reasonable terms.

The well-known Harbridge House study for the U. S. Federal Council for Science and Technology, Committee on Government Patent Policy provides good documentation as to the benefits of generally allowing exclusivity to promote utilization.

We believe that without exclusivity many governmen-sponsored inventions would lie dormant, thus benefiting no one. It has been said that which is owned by all is owned by none. Entrepreneurs would be unwilling to invest in the development of an invention if others could take advantage of their efforts by producing the same product without the initial expenses invoked in the research creation of markets or developing and demonstrating that the item can be produced economically.

In most cases the costs of making the invention may be only a small proportion of the total cost of developing the invention into a product useful to the general public. It has been estimated that the cost of bringing the typical invention to the marketplace is ten times the cost of making the invention.

This special preference should be greater even than that of the contractor if the contractor is deemed to be big business unless the contractor has demonstrated expertise by possessing background patents and/or revealed trade secrets and the contractor has given evidence of an intent to commercialize the invention or has in fact already commercialized the invention.

2. While this hearing is not designed to consider the permanent regulations to be promulgated in Chapter 9 of Title 41, Code of Federal Regulations, we would recommend that ERDA consider these only as interim regulations. In its place we further recommend that all pertinent legislation be repealed and rules thereunder be abrogated pertaining to the allocation of patent rights among the government, its contractors and third parties and a uniform and government patent policy, applicable to all agencies and departments should be enacted.

3. To administer governmental patent policy we would recommend a government patent policy review board, preferably located in the Patent and Trademark Office.

4. To avoid mandatory licensing per se, we would recommend that 28 U.S.C. 1498(a) be amended to permit suit against the government in the Court of Claims as usual, but also in the Federal District Court. Furthermore, suit may be brought against the contractor and against a third party exclusive or non-exclusive licensee of ERDA for relief presently afforded under present 28 U.S.C. 1498(a).

However, in the case of a contractor already having a dominating or background patent position necessary to the practice of the invention, ERDA should attempt to obtain rights thereunder for the benefit of itself and/or an ERDA licensed third party.

Similarly, in the case of a non-contractor having a dominating patent position necessary to the practice of the invention, ERDA should attempt to obtain rights thereunder for the benefit of itself and/or an ERDA licensed third party. Furthermore, 28 U.S.C. 1498(a) should be amended to provide injunctive relief to the owner-contractor against a third party if he meets the test of use under the first recommendation that was made, provided the third party is not small business.

In the case of an owner of a dominating patent who is not a contractor, injunctive relief against an ERDA

8. Again, as in a previous recommendation, ERDA should be given authority to use available funds to purchase data rights and to settle claims for the misuse of background data submitted to ERDA with restrictions as to its use or disclosure. We also see no reason that such provisions cannot be made for all of government.

That is the end of the specific recommendations. We appreciate that some of the recommendations encompass a radical departure from current thinking. But this shouldn't be too surprising, for didn't we state in the foregoing that small business is innovative? While some of the concepts posed are new, they are not so radical that they do not fall within the Congressional intent of ERDA.

We at NSB and NPC would be pleased to cooperate with ERDA in association with the Small Business Administration to provide specific language for draft regulations or legislation.

Thank you.

MR. DENNY: Thank you very much.

Some of those are very innovative.

Does the panel have any questions?

MR. EDEN: I would like to know where the cutoff would be between small and large business?

Is it the same SBA current uses?

MR. SCHELLIN: That is correct, yes.

MR. EDEN: It could be quite large in the minds of most people?

MR. SCHELLIN: Excuse me?

MR. EDEN: I gather the cutoff definition on small business is such that most people would consider it as a large business, that which is considered as a small business by the Small Business Administration.

In other words, the number of firms excluded from the set of small businesses is itself very small.

the large business we are dealing with is not in a position and is giving no evidence of intent to commercialize. That is the time.

In other words, under Recommendation 1, the large business could in fact still obtain rights and would have a preference if it met the criteria of use.

If it doesn't meet the criteria of use, then it would go to small business.

In other words, if it is thrown open to anyone, then a small business would be preferred, very much like anyone getting a job in the government. There are certain points of value on the civil service rating, that sort of thing.

MR. HILL: Let me ask you, Mr. Schellin, I was interested in your differentiation of the two tiers, the small and the larger.

As Mr. Eden pointed out, it is a matter of equalization.

Do you find your so-called large companies often do not utilize technology for whatever reasons; therefore, it is in the nature of blocking technology? If so, can you cite some examples? Does it happen sometimes, or could you expand on that problem?

MR. SCHELLIN: Are you talking about suppression of patents?

MR. HILL: No, not suppression.

But you said, for example, at the beginning of your statement, large companies, because of prior investment in a given technology, may not be as fast to adopt marginal or nonprofitable increases, whereas a smaller company looking for a new edge might.

MR. SCHELLIN: No. What I said was that a large corporation would be more interested in incrementally increasing productivity rather than going into an entirely new market or coming out with a new product because it has a large capital investment.

Small business, on the other hand, is willing to throw the dice and put everything on it and go. This is what

to present at a public hearing Westinghouse's views on the patent policy contained in the Federal Non-Nuclear Energy Research and Development Act of 1974.

Westinghouse Electric Corporation strongly supports the Congressional view that a single patent policy in both the nuclear and non-nuclear areas should be employed for operating under the Atomic Energy Act of 1954 and the Federal Non-Nuclear Energy Research and Development Act of 1974.

Our comments will be directed to Section 9 of the ERDA Act, however, to the extent policies have been created by the proposed regulations recently issued by ERDA in the Federal Register of October 15, 1975, these remarks will be directed to such policies.

We find that, as a whole, the ERDA Act creates a patent policy which provides a "middle of the road" approach between two camps; i.e., the "title camp" and the "license camp" which have been at loggerheads for the past 30 years. It is our opinion that the waiver policy adopted by the ERDA Act is the most reasonable patent policy available to assure public benefit through the availability of new products and new energy sources to solve the present energy crises, yet still provide industry with assurances that a patent position to protect risk capital investment through exclusive rights waivers will be available to it.

The question has been raised as to whether or not the ERDA Act should be modified to provide for "mandatory licensing" of energy related patents. Also, the proposed ERDA regulations of October 15, 1975, require ERDA contractors to license their background patents, under specified conditions, to others on reasonable terms.

It is the position of the Westinghouse Electric Corporation that compulsory licensing of background patents by either statute or regulations is undesirable since risk capital must be protected if we are to have growth in the energy industry.

The government has consistently recognized the value of exclusive rights, when discussing the licensing of government-owned patents. It seems totally inconsistent not to consider this factor when dealing with a contractor's background patents.

In the atomic energy area we have found that a foreign marketplace is normally satisfied by the purchase of only the first few power plants manufactured in the United States. Thereafter, there is normally a foreign government requirement that a local industry be set up as soon as possible to satisfy future power plant needs as well as the repair and replacement market.

As a practical matter this is achieved through patent and technology licensing. For a United States company to negotiate reasonable returns for its participation in setting up a foreign competitor, it must keep intact its patent and technical data resources for licensing those foreign designees.

For the United States government to require an ERDA contractor to license its foreign patents to others will substantially diminish a United States company's bargaining position in foreign markets. It has been our experience that for a foreign company to invest in a new business venture, it requires the ability to obtain at least exclusive manufacturing rights for the product in its mother country.

This need is recognized in the ERDA policy of waiver of exclusive rights as an incentive for United States contractors to invest risk capital in new business ventures. There are sufficient incentives in the private sector of foreign marketplaces for licensing.

Preservation of United States industries' bargaining position in the foreign marketplace, in our opinion, substantially outweighs the small potential benefit, if any, to the United States public created by the proposed ERDA requirement for mandatory licensing of privately owned background foreign patents.

It should be borne in mind that foreign manufacturers have direct access to the fruits of ERDA funded technology through access to technical data under the Freedom of Information Act. In fact, there are some United States companies whose sole purpose is to acquire United States technology and forward it to foreign clients throughout the world. Let me assure you that the reverse is not true. United States companies do not get ready and free access to energy developments funded by foreign governments. We feel that foreign competitors and foreign governments receive sufficient access to United States

Views have been expressed by some lawyers in government to the effect that even though a contract is negotiated between ERDA and the contractor and executed by authorized officers of both, the negotiated patent and data terms and conditions of the contract are still subject to judicial review pursuant to the language in the ERDA Act or the Atomic Energy Act. It is urged that the ERDA Act be amended, insofar as patents and technical data provisions are concerned, to include language giving full-force and effect to a negotiated resolution of issues as embodied in the contract.

Turning now to technical data, the ERDA Act is silent in this area. Regulations issued previously under the Atomic Energy Act as well as the new proposed ERDA regulations call for the delivery of the contractor's background technical data.

In the Atomic Energy area, substantially every contract involving Westinghouse Electric Corporation entered into with ERDA and its AEC predecessor within the past decade has included a requirement that background technical data be furnished.

The parties have contractually stipulated that there are two classes of background proprietary data. One class comprises background proprietary information that is actually delivered to the government, while the second class is a class of background proprietary technical data which has been termed "excepted items." Excepted items fall into two categories:

(1) proprietary analytical techniques of the contractor including computer programs and;

(2) proprietary manufacturing information, proccesses and techniques of the contractor.

These excepted items are identified at the outset of the contract, to the extent possible, and are made available to the government at the contractor's facilities for review and evaluation of the work. Physical delivery to the government of the excepted items does not occur. The contractor and the government, however, have agreed that in the event an excepted item is absolutely necessary, the contractor will license the government and responsible private parties on reasonable terms. the matter of "absolute necessity" is determined by the following criteria:

A survey was conducted at a Westinghouse operated facility to determine the time span between the date of conception by the inventor and the date of submission of the disclosure to the local patent representative. In one calendar year the latter time span averaged 7 months; in a second year the time span was an average of 11 months.

This survey was taken at the laboratory operated by Westinghouse which had been operated in previous years by another contractor. Since Westinghouse undertook the operation of the laboratory, the quantity of invention disclosures submitted has increased substantially.

It is our opinion that in order to comply with the proposed regulations, a number of "excuse letters" will be required for more than half the invention disclosures submitted under ERDA contracts.

As a solution to this problem, we strongly urge that the six month period for reporting and decision-making by the contractor should commence with the date an invention is identified to the contractor, rather than the date of conception.

If the Administration is concerned that such a regulation would unduly delay the reporting of invention disclosures because some contractors do not provide sufficient incentive to its inventors, we feel ERDA can use two standards; one for contractors who do not have an approved invention disclosure system -- using the date of conception as the starting point; and a second standard for those contractors who have submitted its invention disclosure system for review and ERDA has found the same to be a reasonable system for ensuring prompt identification of inventions. For the latter group of contractors, the starting point in the six month reporting cycle should be the date of identification of the invention.

I should like to thank the panel for the opportunity of presenting Westinghouse's positions and shall be happy to answer any questions that may serve to clarify these positions.

MR. DENNY: Thank you for those, relatively speaking, kind words. I particularly appreciate the comment on foreign patents and the background rights clause. I

we have got this specific statutory authority to finalize negotiations, which are not challengable in a court as Congress has ever given. Was that the point you were making?

MR. DERMER: I do agree that the ERDA Act does put to rest the question of authority to grant waivers. I was not addressing myself to that specifically, however.

In the waiver area, we are merely concerned -- We support your position -- the position of ERDA and of the Congress in instituting ERDA. It is a reasonable position to satisfy all the diverse forces that affect patent rights.

MR. DENNY: What was your comment, then, on the possible court challenge of negotiated patent rights under contract?

MR. DERMER: I did not make a comment to my knowledge about that.

MR. DENNY: I thought that you had. Maybe we can go to something else here and while I do, somebody can look that up. On your comments on our data and your reference to past treatment of excepted data, I think I can say for myself the intent of our data regulations was to reenforce more directly in our regulations this kind of approach to data. I would request that if you believe that intent does not show in our regulations, perhaps you could get in touch with Mr. Poteat. I think that is our intent and we certainly want to keep that possibility available.

MR. DERMER: It is our opinion that there are no crieria set forth for the government to determine whether it requires certain proprietary data with limited rights. If the standards that we have used in the past AEC contracts could be made a part of that determination, everything would be satisfactory.

MR. DENNY: We have approached it really on a three-tier level. I think it is that data which we don't want at all. And there is that data which we believe that, after identification in general, that from a programmatic point of view we decide we have to have, either with limited rights or to others, licensing rights to others is still another possibility. As a matter of fact, I think in our non-nuclear area there may be areas where we in the

stricter standard for government contract inventions than for our own. We find normally we get satisfactory results without a time limit. But the time span is normally more than six months. Your six month period includes decision-making time as well, not just the identification. This I feel would just result in too much paperwork once the invention is identified. I think the first thing we would have to do is ask for a delay in the six month period in most of the cases.

What was the second part of your question, sir?

MR. BLASEY: The second part was, if your idea was accepted to start the six month period from the time that the invention was identified to the contractor, should there also be then another time established for which the invention would have to be identified to the contractor from the time of its inception?

MR. DERMER: No. I would suggest that if you approve of our system for encouraging invention submission, that should be a sufficient standard for starting the time period with the date the invention is identified to the contractor.

MR. DENNY: Mr. Goodwin.

MR. GOODWIN: I would like to focus on the comparison of results you would expect to be obtained under the proposed ERDA patent policy as compared with the results that were obtained both under the AEC patent policy and the NASA patent policy. Do you expect that the practical results ultimately obtained would be substantially different regardless of what system you were operating under?

MR. DERMER: I feel as a practical matter there is no substantial difference in the results obtained, as the AEC policy was administered and the NASA policy administered.

MR. GOODWIN: Thank you.

MR. DENNY: Mr. Poteat.

MR. POTEAT: I believe you indicated that the Act is silent as to data. Is it the Westinghouse position that we would need a modification to our statute, or handle it by the regulation?

Speaker

K

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November 7, 1975

U.S.E.R.D.A.
OFFICE OF THE GENERAL COUNSEL

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A

Robert C. Seamans, Jr.
Administrator
Energy Research and Development
Administration
Washington, D.C. 20545

Honorable Sir:

In response to your Notice of Hearing on whether legislation requiring mandatory licensing of energy-related patents is needed to carry out the purposes of the FNERDA of 1974, I enclose an economic and legal analysis and conclusion on this subject.

I personally feel that the subject and issues involved are too complex to summarize in any meaningful manner with an oral presentation. However, if the interagency task force would like to question me on the attached statement or would like to have me make an oral presentation, I would be happy to attend the Hearing.

By way of information, I am Counsel and Officer of Cavitron Corporation, New York City. I am also a Vice President and Director of the Ultrasonic Industry Association, Inc., an organization representing the interests of hundreds of high technology R&D firms vitally dependent upon the patent system for progress in the fields of medicine, national defense and industry, including energy R&D.

I am the author of Intellectual Property Management: Law - Business - Strategy, a 700 page treatise published by Clark Boardman, Ltd., in which I have made a study of the relationship between the patent incentive and venture capitalism needed for the financing of new product ventures.

I have also served as committee, subcommittee and group chairman on licensing, antitrust and patent legislation in the American Patent Law Association, the Licensing Executives Society, the New York State Bar Association, the New Jersey State Bar Association and the New York Patent Law Association.

ENERGY INDEPENDENCE AND COMPULSORY LICENSING

Testimony by Philip Sperber

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Competition in America is normally minimized or at least controlled by the new product venturer through the use of a number of well known techniques.[3] Most of these techniques are only available to the giant corporations that have well-financed and agressive R&D, marketing and distribution capabilities. It is unfortunate that entrepreneurs, small businesses and medium sized companies have less options in dealing with competition because our nation must rely more heavily on them than the giants for our energy solutions. It is a fact that more than 60% of the major innovations of the twentieth century are based on inventions of individuals and small business.[4] It therefore becomes vital that small business in America be given other forms of protection against competition if our country is to have an adequate supply of energy innovators and financia backers willing to gamble on profits from energy technology.

The two forms of protection against new product competition available for small businessmen are trade secrets and patents. At the present time there is much pressure on small business to keep innovations as secret as possible because of the unbearably high cost of suing more established corporations that blatantly infringe patent protecting new products competing with their own. Furthermore, the high risk of patent invalidity and the immediate publicity and industry-wide knowledge thereof also makes trade secret protection favorable. Even in the situation where the trade secret is cracked by a potential competitor, the secret might only be expropriated by that one competitor as opposed to the entire industry (because of secrecy also being maintained by that one competitor).

Fortunately for the nation, the majority of the important innovations are not kept as trade secrets because patent protection has certain inherent advantages.[5] Thus, as long as small business has the right to exclude competitors from copying its patented energy breakthroughs, technological developments will be publicly disseminated, further spurring our progress in building on the past to hasten energy independence.

WHY COMPULSORY LICENSING?

The FNERDA of 1974 requires the Administrator of the Energy Research and Development Administration (ERDA) to give Congress his recommendations on mandatory licensin in the nonnucelar energy field by December 31, 1975.

Four years later in Hoe v. Knap, the opinion states that "under a patent which gives a 461 patentee a monopoly, he is bound either to use the patent himself, or allow others to use it, on reasonable terms."[12] In Blount Mfg. Co. v. Yale & Towne Mfg. Co., the court stated "an attempt to make profit out of Letters Patent by suppressing the invention covered thereby is outside the patent grant... "[13] In a more recent case, Allied Research Prods., Inc., v. Heatbath Corp., the court concluded that "public policy requires liberal use of a patent. An owner of a patent cannot assert his rights under the law and Constitution if such owner refuses to make use of a patent, or to license a patent so that it may be of use to the public, or refuses to license an applicant when it has already granted a license to the applicant's competitor..."[14] Finally, we come to the recent case of Foster v. American Machine & Foundry Co., Inc., wherein the court concluded that an injunction "is not intended as a club to be wielded by a patentee to enhance his negotiating stance.... in the assessment of relative equities, the court could properly conclude that to impose irreparable hardship on the infringer by injunction, without any concommitant benefit to the patentee (because of nonuse) would be inequitable."[15]

Third, there are the purists and the rationalists who advance the constitutional argument for compulsory licensing. S. Devalle Goldsmith has set forth this position in detail, concluding that "the purpose of the patent provision in the Constitution is not just to reward the inventor, but to promote the progress of science and the useful arts for the general benefit of the country's economy. This can only be accomplished by use rather than by suppression of patented inventions."[16] The Constitution grants the exclusive right to inventors to their discoveries; but, since they already own their discoveries and can keep them secret if they desire, the Constitution must mean the exclusive right to use their discoveries. The Supreme Court in Kewanee stated that "the Federal Government is willing to pay the high price of 17 years of exclusive use for its (the invention's) disclosure..." [17]

Finally, there are those who advocate compulsory licensing legislation in some limited form in order to eliminate a growing tendency by the courts to abuse the patent right and to head off enactment of an unreasonable law which would permit widespread compulsory licensing. This compromise position for compulsory licensing has been set-

the product after the first couple of years experience with it on the market. With the exception of the patent that actually covers the product eventually selected for commercialization, all the other inventions and patentable improvements and the patents covering them will not be made, used or sold by the innovator.

Under any of the proposed compulsory licensing statutes, these abandoned (or suppressed, if you will) inventions can be compulsory licensed after a period of three years of non-exploitation.[19]

No company is going to conduct research if others will be able to obtain a license on the second best product developed by the innovator to compete with the innovator's number one choice product. Companies will either shy away from energy R&D, attempt to keep their energy solutions secret rather than apply for patent applications on any but the one selected for commercialization, or will no longer develop several parallel inventions to see which will do best in a test market for fear that they will be competing against their second or third best technical approaches. This negative incentive to prematurely choose and predict the best technical solutions to the energy problem and avoid patent protection will retard the goal of energy independence, due to restricted research and industrial secrecy.

The compulsory licensing proponents may make the argument that the patented inventions of an innovator that are not selected for exploitation will not be compulsory licensed if the innovator is fulfulling the market need for the energy solution with the patented invention he chose to commercialize. Unfortunately, different technical approaches evolving in different inventions inherently satisfy different or at least overlapping market needs, thereby enabling the compulsory licensing applicant to make a convincing appeal to the court that the suppressed energy solution be introduced into commerce for the benefit of those not utilizing the innovator's number one / solution to the problem.

The example of the large R&D company may be taken one step further with respect to further improvements on a new product that has been commercialized. In a company's attempt to extend the product life-cycle, quite frequently new ideas are generated and sometimes an unexpected breakthrough is discovered, for which blocking patents and a pioneer patent, respectively, are applied for.

First, the energy R&D company will be forced to set a certain minimum price per unit in order to recoup its total R&D, marketing research, and start-up investment within a certain maximum number of years based on anticipated sales volume and profit margin after operating expenses and taxes are deducted from gross revenue received at the set price. It cannot be expected that the initial price per unit set will be at all in the same ball park or range as the price per unit of the closest substitute products which presumably are no longer as desirable as the patented innovation and whose price per unit has been driven down by competitive forces as well as mass production techniques or market saturation.

Second, not only does the initial price have to be set high in order to recoup the investment in the new product being introduced, but also to recoup capital invested in designs and products possibly having no relation at all to the final product development or breakthrough to be commercialized. The reason for this is that the statistics show that as many as /four out of every /five products developed are either technical or market failures.[20] This means that for every innovation that is commercially successful, the profits that are derived therefrom must be sufficient to sustain the innovator's investment in developing and marketing /five innovations, /four of which are abandoned at various stages of development and commercialization. Even a former Commissioner of Patents has recognized this unfortunate fact of life when he stated that "(if) a strong profit incentive to justify expensive and risky research . . . . is to continue, the profit return on the inventions which are successful must carry the losses of those that fail."[21]

Third, the well known marketing strategy of price skimming is normally applied when a new product or service is introduced. This strategy is based on the fact that there will always be a certain percentage of the market that will attempt to fulfill the unsatisfied need with a newly introduced product or service regardless of how high the price. Since a high price will frequently produce a greater dollar volume of sales in the early stages of market development than a lower price policy which would not necessarily capture a larger market segment due to the usual skepticism that prevails among potential customers, relying on salesmanship to skim the cream of the market at high prices before attempting to penetrate the more price-sensitive sections of the market provides

Even if the compulsory licensing statute is not abused and is infrequently used, the venture capitalist mentality itself shows the fallacy of the basic premise that businesses having no intention to suppress need not worry about compulsory licensing. The finanical backers and top management have to worry because compulsory licensing becomes an uncontrolled factor that could prevent the company from reaping the fruits of its labor due to copying and immediate competition by licensees. The venture capital decision is a gamble at best, based upon certain facts from which objective conclusions can be reached, but in the end a subjective judgment. A fundamental factor in the psychology of such a risky decision is first considering the critical variables, those that by themselves can spell failure for the venture. Compulsory licensing would be just this type of psychological or irrational, if you will, factor that would make venture capitalists think twice about putting money into basic and applied research. The average company/or inventor does not know and does not care that the percentage of compulsory licenses granted is very small. It only cares about its own particular circumstances, its innovation, its sweat, its risk and its money.

If the company is astute enough to know about the infrequent use of compulsory licensing statutes, then the company management will also be aware that the compulsory licensing laws would give competitors negotiating leverage over the innovator to grant licenses to them. In other words, any company that expects to introduce a profitable innovation to the marketplace will also expect to use the threat of injunction against competitors that copy the innovation. But, with compulsory licensing looming over the innovator's head, how can he justify the great expense of infringement litigation when in the end it can be assumed that the competitor will ask for a compulsory license?

Thus, the mere presence of a compulsory licensing statute in the energy field regardless of how infrequently used it may be, will become the critical factor in the minds of many venture capitalists that will cause a high-risk venture to become an unjustified gamble having too many unknowns that could prevent not merely a return on the investment, but also a return of the investment itself. Conversely, in the absence of compulsory licensing, financial backers and top management will continue the confidence they have exercised in the past in the energy field because of their unaltered expectation of meeting their goals once they have decided to take the risk of technical, market or patent

to the complexities of manufacturing start-up and market introductions and education. The managers of the average business are well aware that it is important to be first in the marketplace for at least the first few years in order to capture as great a market share as possible before competition enters. Businesses simply do not gamble with their new product investment by intentionally delaying market introduction and resultant loss of valuable time in capturing a good market share, notwithstanding existing products may be hurt, for the future is with the innovations that satisfy the needs of the marketplace more effectively than that being fulfilled with existing products (which in many instances will have already saturated the market and are headed towards the end of their natural life cycle).

Important segments of the energy industry already have a liberal licensing policy in the absence of mandatory licensing legislation. For instance, oil companies have their own oil fields. If one competitor innovates a new method for extracting crude or discovers a new catalyst for refining more propane, gasoline, middle distillates, or wax from a given barrel of oil, the innovator has nothing to lose and everything to gain by licensing its competitors. Why? Because the markets of the oil companies are fixed by the oil fields they own and helping a competitor to more efficiently deliver oil products to the markets will not be detrimental to the innovator's sales. To the contrary, the competitor, by means of the cost saving innovation, will be able to pay a royalty to the innovator, thus boosting the innovator's profits. Therefore, the oil companies have an inherent incentive in the free-market enterprise system to license as many other competitors as possible on extraction and refinery technology, in complete contrast to any suppression incentive.

The coal companies, oil refineries, utilities and energy user / industries (transportation, housing, machinery, etc.) are in the public eye and are tightly regulated by various government agencies such as the EPA, FPC, ICC, HUD, OSHA, etc. The pressure on each competitor to meet standards and regulations and to increase its profit margin in the face of fixed rates will make even a conspiracy to suppress very unlikely.

On the other hand, if the exclusivity of the patent incentive is tainted by the possibility of compulsory licensing, there is great danger of suppression. This is

out from a proven technical approach and market reaction thereto as opposed to just a concept and a forecast of a possible unsatisfied need.

Third, the company must be careful to establish a strong foothold in the mas market so that a reasonable market share can be assured despite subsequent stiff competition, and this can normally only be accomplished by penetration pricing (in other words, at a reasonaoly low price per unit) encouraging purchasers to switch from the closest-substitute conventional products.

Fourth, if the quality, durability, guarantee, maintenance, and service associated with the newly introduced product or service leaves something to be desired, initial unfavorable reaction may very well result due to the high price notwithstanding that the unsatisfied need is, for the most part, fulfilled. This can result in a very bad company and product image if it is obvious to the customer that the price is completely and outrageously out of line with the cost of manufacture.

Fifth, at any given time, there normally are several if not many firms conducting R&D in a particular problem area. Chances are the first company to introduce solar energy on a widespread scale will be forced to meet the price competition of the next entrant into the market with a competitive process that does not infringe the first innovator's patent because of the use of a different technical approach. Let's face it. We are no longer in the age of the James innovators when a patent on a solar device literally meant a 17 year monopoly.[22] Today, the solar energy prior art would prevent anyone from monopolizing this energy source with broad patent claims.

On the other hand, the presence of compulsory licensing would encourage businesses to de-emphasize R&D capabilities and concentrate on large and aggressive marketing networks capable of capturing large shares of new markets created by those few firms that decide to maintain their status as industry leaders in technology. Upon introduction of the new product, these market-oriented competitors who have access to large amounts of capital (which was not spent on R&D) would jump on the bandwagon and force the R&D firms into cut-throat price competition which would weed out all but the biggest corporations from the market. Thus, although there would initially be low prices, in the end a few companies would remain in control of a new product innovation and prices would eventually

it is assumed, will stimulate ideas and the eventual development of further significant advances on the art."[30] What is significant in this dictum is the court's recognition of the sole reason under the Constitution for granting a reward to the inventor in the first place; dissemination to the general public and those skilled in the trade to add to the general store of knowledge for further significant advances. In other words, the Supreme Court, as of last year in /two separate cases, held that the only conditions for the reward of a patent grant is disclosure without the requirement of use. There are some who might confuse the Kewanee dictum "that the Federal Government is willing to pay the high price of 17 years of exclusive use for its disclosure" to mean that exclusive use is a mandatory requirement for the award of the patent grant. What the majority opinion is actually saying is that the Federal Government is even willing to pay the price of a commercial monopoly in return for disclosure to the public. Clearly, there is no intent in this opinion to hold that there must be an actual monopoly (exclusive commercial use), in contrast to the court's Paper Bag decision rendered /three months earlier.

It is interesting to note that prior to Foster, all the cases which interpreted the Constitution as requiring use by the patentee in addition to the mandate of disclosure never got beyond the District Court level.[31] It is a certainty that Foster will be reversed by the Supreme Court because it is in direct opposition to /two hundred years of decision making by the high court.[32]

In light of the legislative intent of the framers of the Constitution and the historic position of the Supreme Court to this day, Foster and the other lower court decisions, that have compelled licensing in the absence of use in situations where there was no serious risk of injury to the public health or welfare, represent bad law. However, bad law is not an anomaly in this country, and it is only infrequently remedied by legislation in the most serious instances. Here, we are confronted with only a handful of cases over the past /two hundred years that have deviated from the premise that a patent is a property right owned by the patentee for a limited period of time, to use or not to use as he wishes. Certainly, there is no crying need for legislation to make the law uniform, as to the health and welfare exceptions that dictate mandatory licensing pursuant the nation's police power, when the Supreme Court and the Judiciary, as a whole, have been doing such a good job on a case-by-case basis.