PATENT AND TRADEMARK OFFICE AUTHORIZATION ACT OF 1992

HEARING

BEFORE THE

SUBCOMMITTEE ON INTELLECTUAL PROPERTY AND JUDICIAL ADMINISTRATION

OF THE

COMMITTEE ON THE JUDICIARY HOUSE OF REPRESENTATIVES

ONE HUNDRED SECOND CONGRESS

SECOND SESSION

ON

H.R. 5248

PATENT AND TRADEMARK OFFICE AUTHORIZATION ACT OF 1992

MAY 28, 1992

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PATENT AND TRADEMARK OFFICE AUTHORIZATION ACT OF 1992

THURSDAY, MAY 28, 1992

HOUSE OF REPRESENTATIVES,
SUBCOMMITTEE ON INTELLECTUAL PROPERTY
AND JUDICIAL ADMINISTRATION,
COMMITTEE ON THE JUDICIARY,
Washington, DC.

The subcommittee met, pursuant to notice, at 10:05 a.m., in room 2237, Rayburn House Office Building, Hon. William J. Hughes (chairman of the subcommittee) presiding.

Present: Representatives William J. Hughes, Carlos J. Moorhead, Howard Coble, and F. James Sensenbrenner, Jr.

Also present: Hayden Gregory, counsel; Veronica Eligan, staff assistant; Thomas E. Mooney, minority counsel; William J. Hughes, Jr., Kathleen Keely, and Debbie Morman, interns.

OPENING STATEMENT OF CHAIRMAN HUGHES

Mr. HUGHES. The Subcommittee on Intellectual Property and Judicial Administration will come to order. Good morning.

Today the Subcommittee on Intellectual Property and Judicial Administration is conducting a hearing on the reauthorization of the Patent and Trademark Office in the Department of Commerce.

The bill before us, H.R. 5248, represents the administration's recommendations for reauthorization of the PTO. Mr. Moorhead and I introduced this proposal last week to establish a vehicle with which to consider the issues involved in reauthorization and refunding of this important government agency.

We followed a similar approach last year when the administration's proposal contained many more controversial issues than the one before us today. For example, last year the administration proposed elimination of most of the small entity fee structure, under which universities, small businesses and independent inventors pay fees equal to 50 percent of those paid by larger entities. We rejected that proposal.

I am happy that we are not going to be revisiting that again.

The authorization request before us does not ask for increases in funding beyond those already provided for in the reauthorization legislation we enacted last year. That legislation provided statutory patent and trademark fee increases in the neighborhood of 13 percent.

We also authorized annual fee adjustments equal to the changes in the Consumer Price Index. That increase—3.3 percent—combined with additional fee revenue generated by increased applica-

tions, would provide the source of the additional $66 million requested by the administration in the authorization bill.

Mr. Moorhead and I have agreed that, as we did last year, we will carefully review the recommendation within the subcommittee and arrive at any appropriate overall figure. We will then work with our Senate counterparts to reach a joint figure with consultation with the commissioner and members of the staff.

One important issue which continues to demand our attention is the question of public funding. Unlike the administration, the Congress has not endorsed full fee funding of the PTO, and we do not consider that this issue was resolved through the back door provided by the reconciliation act surcharge a year and a half ago. A year ago, the administration recommended retention of a small amount, $4 million, of public funding, but none is called for in their current proposal.

The authorization act enacted by Congress a year ago called for $24 million in public funding, but none was made available in the appropriation process.

We will continue to work to restore public funding for portions of the PTO budget. I am pleased to see that the IPO joins in that support. I hope the administration will also find that this is needed in the long term.

Still another issue which we need to revisit is that of the Automated Patent System or APS. We are rapidly approaching the half billion dollar level of expenditure on this important and obviously extremely expensive undertaking.

The General Accounting Office is undertaking a review for us of the project. Last night I went over their written testimony and that of the Acting Commissioner of the PTO to try to determine when we will complete the APS and what the total cost will be. I really didn't have very much success. It seems that, depending upon whom you talk to in the PTO and when you talked to them, it will take either 5 more years or 10 more years. It will cost another half billion dollars if you believe those who say we need a decade to do the job.

That was the view of the group at PTO with whom the General Accounting Office consulted in February of this year. By May, another group was speaking for the PTO and asserting that the job could be wrapped up in half the time—5 years. However, the cost to complete would go up a whopping $200 million to about $700 million additional dollars. Come to think of it, 100 percent overtime at time and a half would just about add up to this premium for early completion. That just doesn't make sense.

We do look forward to your testimony in exploring these very important issues.

[The bill, H.R. 5248, follows:]

I

102D CONGRESS
2D SESSION

H. R. 5248

To authorize appropriations for the Patent and Trademark Office in the Department of Commerce for fiscal years 1993, 1994, and 1995.

IN THE HOUSE OF REPRESENTATIVES

MAY 21, 1992

Mr. HUGHES (for himself and Mr. MOORHEAD) (by request) introduced the following bill; which was referred to the Committee on the Judiciary

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A BILL

To authorize appropriations for the Patent and Trademark Office in the Department of Commerce for fiscal years 1993, 1994, and 1995.

Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled,

SECTION 1. SHORT TITLE.

This Act may be cited as the "Patent and Trademark Office Authorization Act of 1992".

SEC. 2. AUTHORIZATION OF AMOUNTS AVAILABLE TO THE PATENT AND TRADEMARK OFFICE.

(a) There are authorized to be appropriated to the Patent and Trademark Office for salaries and necessary expenses $99,000,000 for fiscal year 1993, $103,000,000

for fiscal year 1994, and $107,000,000 for fiscal year 1995, to be derived from deposits in the Patent and Trademark Office Fee Surcharge Fund established under section 10101 of the Omnibus Budget Reconciliation Act of 1990 (Public Law 101–508), as amended by the Patent and Trademark Office Authorization Act of 1991 (Public Law 102–204).

(b) There are also authorized to be available, to the extent provided in advance in appropriation Acts, the revenues collected during fiscal years 1993 through 1995 from fees under title 35, United States Code, and the Trademark Act of 1946 (15 U.S.C. 1051 and following).

SEC. 3. AMOUNTS AUTHORIZED TO BE CARRIED OVER.

Amounts appropriated or made available pursuant to this Act shall remain available until expended.

SEC. 4. USE OF EXCHANGE AGREEMENTS RELATING TO AUTOMATIC DATA PROCESSING RESOURCES PROHIBITED.

The Commissioner of Patents and Trademarks may not, during fiscal years 1993 through 1995, enter into any agreement for the exchange of items or services (as authorized under section 6(a) of title 35, United States Code) related to automatic data processing resources (including hardware, software, and related services, and machine readable data). The preceding sentence shall not

apply to an agreement made in full compliance with all Federal procurement regulations or to an agreement relating to data for automation programs which is entered into with a foreign government or with an international intergovernmental organization.

Mr. HUGHES. The Chair now recognizes the distinguished gentleman from California.

Mr. MOORHEAD. Thank you, Mr. Chairman.

I would like to commend our chairman for scheduling this hearing and for all the hard work and leadership he provided the subcommittee in processing the PTO reauthorization last year. A year ago we were faced with the difficult job of a reduced budget on one hand and trying to keep the Patent and Trademark Office moving forward on the other.

At this time last year, the Patent and Trademark Office was in the process of making serious cutbacks in order to stay within the budget. There was a freeze on hiring of new examiners. All overtime had been discontinued. They were making cutbacks in the automation of the Office and pendency was on the rise, especially in the biotech area. It appeared to me that all of the progress we had made in the last 10 years was on hold and may be in jeopardy.

But, because of the action of this subcommittee and the leadership of our chairman, I believe we are now back on course. This doesn't mean that we are home free. There are many items we need to be concerned with, like the quality of issued patents, the time it takes before a patent is issued and whether we should harmonize our patent laws with the rest of the world. But none of this is even possible unless we have a strong and secure patent system.

Another area I hope we have time to explore this morning is the existing office space lease of the PTO, which is scheduled to expire in 1996. Presently, the PTO pays $50 million a year for space that is barely adequate. This lease will increase by 13 percent. For this kind of money, I would think we could find the most modern and efficient facility in the world for less cost to the user. If we are going to make changes in this area, we will need to act very soon, so I would think people should be looking around and getting figures and finding what it is going to cost.

Thank you, Mr. Chairman. I am looking forward to this morning's testimony.

Mr. HUGHES. I thank the gentleman.

Appearing today on behalf of the Patent and Trademark Office is Douglas B. Comer, who has been Acting Commissioner of that Office since May of this year. Mr. Comer began in government service as assistant U.S. attorney for the District of Kansas. From 1981 to 1985, he served as staff counsel, and later as chief counsel and staff director of the Senate Judiciary Subcommittee on Courts. He left the Senate for 4 years for the private sector. In 1989, President Bush nominated Mr. Comer to the position of Deputy Assistant Secretary and Deputy Commissioner of Patents and Trademarks.

We are very happy that you have joined us today. We have received a copy of your formal text which we will put in the record in full.

STATEMENT OF DOUGLAS B. COMER, ACTING ASSISTANT SECRETARY AND ACTING COMMISSIONER, PATENT AND TRADEMARK OFFICE, ACCOMPANIED BY BRADFORD R. HUTHER, ASSISTANT COMMISSIONER FOR FINANCE AND PLANNING

Mr. COMER. Thank you, Mr. Chairman.

Mr. HUGHES. Without objection, we hope you can summarize for us so we can get right to questions.

Mr. COMER. I will do my best. I know that the committee's time is short, and we will be succinct.

I am joined this morning at the table by Mr. Bradford Huther, who is our Assistant Commissioner for Finance and Planning.

At the outset, I would like to thank Harry Manbeck for 2 years of outstanding leadership of the PTO. Commissioner Manbeck will be missed by all employees of the PTO. We wish him well in his new endeavors in the private sector.

When we came before this committee in 1991 seeking authorization of our 1992 program, we came with a desire to maintain a first-class operation. The priorities we set before you then are the same that we have today: Maintaining current services in the face of ever-escalating costs, maintaining our world leadership position and acting upon pending patent and trademark applications in a reasonable period of time, moving steadily forward with the automation of the Patent and Trademark Office examining and administrative functions, and enhancing the quality of the work product of the agency through a variety of measures that would strengthen the training of examiners and improve the tools available to them.

We have attempted to fulfill as much of that program as possible with the funds that we were provided. Fortunately, over the past year the costs due to inflation and workload were slightly less than we expected, and we experienced some reduction in the anticipated rate of increase in patent applications, although I would note that the number again was up by about 5 percent.

As a result of the budget reductions of last year, we imposed a hiring freeze in both the Patent and Trademark Cost Centers, and patent pendency will consequently slip to about 19 months from our current standard of 18 months. Although trademark examining resources have been strained by the processing of the intent-to-use cases, we will reach 13 months trademark pendency by the end of fiscal year 1993, and we are already on track with regard to our first Office action goal of 3 months.

In the automation area, we have scaled back our efforts to complete and deploy APS to accommodate the reduction in funds available, but we are going to fulfill our commitment to test and deploy APS to examiners and the public by 1993.

In the quality improvements area, we have instituted many of the quality improvements that we proposed to you last year, but we have had to reduce the scope of those improvements in a number of areas.

Now for fiscal year 1993, we proposed, basically, to continue the program that was set last year. The program level is $486 million, an increase of approximately $66 million. Most of these increases are necessary to underwrite the cost of inflation and workload, that is, to maintain the current level of services.

Fee increases, as the statements have noted, will be held to increases in the CPI, as authorized in last year's legislation. We are requesting a small increase, about $18 million, which is less than 4 percent of our total program, to continue our deployment of the automation system and to fund necessary quality improvements.

I brought a couple of charts with me that I hope would elucidate for the committee our budgetary resource request. The chart on my right elucidates the dollar figures for 1992, the proposed and the actual funding levels that we were given, and compares that to our 1993 request. The chart on my left provides a graphic representation of the fact that the vast bulk of the 1993 funding request will go to maintain the current services base. That is the large block on the left of that chart, and only a small amount for program enhancements.

I would like to talk for a minute about the automation program. That is of principal concern to the committee.

Since 1982, we have embarked on a massive effort to fully automate the patent and trademark examining functions. We are not alone in this effort. Our Japanese and European competitors are doing the same. It is natural that this effort has been one of the most studied and contentious initiatives in light of the cost that it entails.

I would like to summarize some of the history to place the current debate in perspective. Our first automation plan was forwarded to the Congress in 1982. In 1984, the basic APS development contract was awarded to Planning Resources Corp.

Because of public concerns about the cost and the program direction, GAO initiated a review of the program in 1986. We implemented a number of recommendations that were suggested by the GAO, one of which was to use outside consultants to analyze the system's design and the PTO's management of the project. The department brought in the National Bureau of Standards and an industry review advisory committee composed of outside private sector automation experts which exhaustively surveyed the status of the project and made recommendations for improvements.

There were three key recommendations. They suggested that the PTO should reorganize the management of the program, modify the system architecture design, and adopt state-of-the-art life cycle analysis methodology. The PTO adopted these recommendations, among others.

In 1992, that panel of outside experts, drawn from some of the Fortune 500 companies and leading computer arts companies in the country, reviewed the PTO's implementation of its recommendations and reported very positively on its findings.

Now, after a decade of development and testing and 2½ years of using the APS text and image systems in production line mode, we are confident of the APS's success and that it is ready to be deployed. We believe it will improve the quality of the patents we issue, and we already have evidence to that effect. We believe it will provide the office and the public the most advanced database in the world of technological information, one that will be a vastly more efficient research tool than the existing paper-based system.

On the trademark side, the story is equally positive. We have had a system in place for a number of years referred to as "T

search," which is now nearing the end of its usable life. During the remainder of this year and next, the system will be upgraded to improve the quality and the timeliness of searches and to provide more and better information to users.

Nevertheless, concerns about the automation effort remain in the user community. And, as the chairman has noted, the GAO is currently reviewing the program again; and when they issue a final report, which we expect this fall, we will be pleased to review the recommendations and work with this committee and the Congress to modify our plans to any extent that may seem advisable.

We are not hesitant, however, to affirm the following conclusions: The Office cannot continue over the long term to rely on paper-based examination systems. Neither the technology nor our budget resources will permit it. We must proceed without delay if we are to have an electronic system that will enable us to adequately fulfill our statutory examination responsibilities during the latter part of this decade.

Finally, the funds requested in this authorization cycle, an additional $4 million for automation, are reasonable and necessary if we are to stay on track with the deployment of the APS system.

Recently, some of the members of our Board of Patent Appeals and Interferences have raised concerns regarding the Board's relationship to the Office of the Commissioner. This has given rise to some more general questions about the role of the Board in the examination process.

Shortly, we will publish a request for public comment on the role of the board; and, after receiving and evaluating these comments, we hope to work with the committee to ensure that applicants have a fair, inexpensive and expeditious forum for resolving challenges to examination decisions.

In sum, I would just say our objective is to provide the best possible products to the users of our services.

In that vein, we have recently reached an agreement with our public employee unions to radically expand the total quality management program that has been in operation at the PTO for the last 3 years to all aspects of our operation. We have learned from experience that this will enhance the quality of services while reducing the costs. This program focuses on implementing continuous improvements in products and processes, and it is driven by regular customer input and objective performance criteria. It is widely in use today in the private sector.

We think that the program that we are outlining for the committee, given the resources available to us, will achieve the long-term objectives of the Congress and of the PTO in providing the best possible patent system for the American public. As always, we want to work closely with the committee to ensure that we provide the level of stewardship that is rightfully expected of us.

I would be pleased to answer any questions that you may have, Mr. Chairman.

Mr. HUGHES. Thank you very much, Commissioner.

[The prepared statement of Mr. Comer follows:]

Statement of

Douglas B. Comer
Acting Assistant Secretary and Acting Commissioner
of Patents and Trademarks

before the

Subcommittee on Intellectual Property and Judicial Administration
Committee on the Judiciary
U. S. House of Representatives

May 28, 1992

Mr. Chairman and Members of the Subcommittee:

Thank you for this opportunity to appear before the Subcommittee to discuss our activities since our last oversight hearing in April 1991, and to describe some of our plans for the remainder of fiscal year 1992 and for fiscal year 1993.

As you may recall, during the last authorization process for fiscal year 1992, we divided our proposed budget changes into four areas.

> The first category was "Inflation and Base Adjustments". This category included the additional funds needed to provide the same level of service in fiscal year 1992 as in fiscal year 1991. These funds would pay for the higher rents charged to the Office, the cost of the statutorily mandated pay raises, and other increased costs beyond the control of the Patent and Trademark Office, such as publications, and contract inflation charges.
>
> The second category was "Workload". This category included the cost of processing the increasing level of services and products requested from the Office, including the number of patent and trademark applications filed in fiscal year 1992 over the levels filed in fiscal year 1991. These increased costs included not only compensation for additional examiners, but compensation for the additional support staff required and the materials and space that they need to do their job.

The third category was "Automation" which included the costs of moving forward with an aggressive deployment plan for the Automated Patent System, modernization of the trademark search system, and enhancing the dissemination of patent and trademark information to the public.

Finally, the fourth category was entitled "Priorities" or "Quality Improvements". In this category, we placed a number of initiatives to improve the quality or timeliness of the services we provide. For example, we planned to increase the examiner's access to commercial data bases, to hire more biotechnology examiners, and to provide special pay grades for patent examiners in critical technologies.

FISCAL YEAR 1992 ACTIVITIES

The result of the authorization process last year was Public Law 102-204, the Patent and Trademark Office Authorization Act of 1991. This Act not only authorized the Office for fiscal year 1992 but also provided for increases in patent and trademark-related fees in fiscal year 1992. Furthermore, it authorized yearly increases in those fees proportional to fluctuations in the Consumer Price Index in subsequent years. The Authorization Act was predicated on an income level of $426,000,000, an amount which was $36,000,000 less than requested by the Administration. The enacted level of funding, however, was $419,441,000, $6,559,000 less than level estimated by the authorizing Committees. It appears, however, that our fee collections will exceed the stimated level by approximately one-half percent.

Given this level of funding, the U.S. Patent and Trademark Office has taken steps to ensure that our expenditures do not exceed available program funds for fiscal year 1992.

- In the "Inflation and Base Adjustment" category, two actions were taken by the Office that enabled us to spend less for maintaining the current level of services. First, we requested and received lower rental payments to the General Services Administration. Second, the Office, on its own initiative, restricted hiring and overtime.

- With regard to the "Workload" category, we will reduce our spending by approximately $25,000,000. On the patent side, we will achieve reductions by hiring only that number of examiners that we will lose through attrition, except for special areas such as biotechnology. This was possible in part because fewer applications were filed than we originally anticipated, although applications continued to increase in absolute numbers. Improved retention rates also mitigated the effect of the reduction in hiring somewhat as the average experience and production levels per examiner remained higher than originally expected. Nevertheless, we now expect the patent pendency period to rise to 19.1 months by the end of fiscal year 1992, instead of 18.4 months as we originally expected.

In the trademark arena, we froze hiring of examining attorneys and eliminated overtime. As a result, we anticipate that the number of examining attorneys will be less at the end of this fiscal year than at the beginning. We have also had to draw on reserve funds that had been accumulated during previous years to meet the requirements of the trademark program. These accumulated funds will not be available to the Office in fiscal year 1994.

- In the "Automation" category, we have reduced our planned improvements by about $7,000,000. We have delayed the development work on "PAM", the Patent Application Management system, which would enable the Office to receive and process applications electronically and deferred its completion until 1997. This deferment means that we will not realize savings from PAM until then. For example, it could save over $15,000,000 annually in costs of printing patent documents.

  We have delayed the development work that would have enabled us to load foreign patent information into the Automated Patent System (APS) in fiscal year 1993. The availability of this type of information has been highlighted by industry as a critical concern.

- In the "Quality Improvements" category, we will spend approximately $7,000,000 less than requested. We have reduced by 60 percent our planned expansion of access to commercial data bases. Also, we were forced to defer needed reclassification activities by reducing the planned number of patents reclassified this year by twenty percent. Focusing on the biotechnology area, we were forced to scale back the number of examiner hires by 17 percent. We have reduced by 37 percent funds that would have been available for biotechnology examiners to access commercial data bases, to access non-patent technical literature, and to hire personnel for biotech examiners support.

FISCAL YEAR 1993 PLANS

For fiscal year 1993, we have requested a program level of $486,000,000 that will be funded solely by fee income. There are three fundamental aspects of this request that I want to emphasize:

1. We are not proposing any new goals or objectives -- the pendency, automation, quality, and other priority initiatives which were authorized for fiscal year 1992 will simply be continued next year;

2. We are no longer seeking taxpayer support for the Office's operations -- the $486,000,000 program budget we are requesting will be financed totally by user fee revenues; and

3. Over 96 percent of the total program request is connected with the maintenance of current services (inflation, base adjustments, and workload).

For fiscal year 1993, we anticipate a four percent increase in patent applications and a six percent increase in trademark applications. This increase in workload will provide us with $48,000,000 of the requested funding increase of $66,559,000. The remainder of our requested increase will be funded from a 3.3 percent increase in fees, which is consistent with the mandate of current law holding fee increases to the changes in the Consumer Price Index.

INFLATION AND BASE ADJUSTMENTS

Almost half of the proposed increase represents the additional cost this year of providing the same services as we did last year, i.e., inflation and base adjustments. Pay raises, replacement hires, and the increased costs of employee benefits, rental of office space, and contracted work will compose the bulk of these increases. The fee increase is not lone sufficient to cover these costs, and about one-half of the funds that will accrue from higher workloads will make up the difference.

WORKLOAD

As I mentioned, we expect that the number of patent applications will increase four percent to 182,000 and the number of trademark applications will increase approximately six percent to 130,000. We will do our best, given the resources we have, to decrease the patent pendency period, but our best projection now is that in fiscal year 1993 the pendency period will be 20 months. On the trademark side, we expect to do better, and reduce the pendency period to our long-standing goal of 13 months by the end of 1993.

QUALITY IMPROVEMENTS

The U.S. Patent and Trademark Office has had an ongoing Total Quality Management (TQM) program since 1989. We are pleased to report that recently we reached an agreement with our public employee unions to radically expand the TQM program to all aspects of our operation. We have learned from experience that this will increase the quality of the services we provide and reduce the costs of those services as the program is expanded into new areas.

AUTOMATION OF THE PATENT AND TRADEMARK OFFICE

Since December 1982, we have embarked on a massive effort to fully automate the patent and trademark functions. It is natural that this effort has been one of our most studied and contentious issues in light of the cost it entails. Nevertheless, we are convinced that completion of the patent and trademark automation improvements program is critical to the future viability of our industrial property system.

65-487 O - 93 - 2

The U.S. Patent and Trademark Office (PTO) has invested ten years and just under a half-billion dollars designing, building, and perfecting what we believe is the most advanced technological database in the world -- a database that, we are convinced, will prove invaluable to American Industry, and to the PTO's ability to meet its responsibilities into the next century. I would like to talk a few moments to detail the history behind our efforts so that the Subcommittee may be able to place the current debate in perspective.

Our first Automation Master Plan was forwarded to the Congress in 1982. In 1984, a contract to design and construct the Automated Patent System (APS) portion of that Plan was awarded to Planning Research Corporation, which subsequently designed a state-of-the-art system for the PTO.

Like many large development projects of this type, there were some problems early on which primarily were the result of having inadequate resources inside the PTO to monitor project development. By 1986, public concerns over system cost, design, and schedule prompted a study of the system by the General Accounting Office (GAO). GAO made specific recommendations for the correction of perceived deficiencies and further recommended that the Department of Commerce employ outside consultants to identify additional analyses that should be required.

The Department brought in two teams of consultants. One team was from the National Bureau of Standards or NBS (now called the National Institute of Standards and Technology) and the other team was an Industry Review Advisory Committee (IRAC) composed of private sector representatives experienced in the design and construction of large, complex systems. The NBS report was provided as input to the IRAC. In March 1988, the IRAC issued a report finding that the design of the APS system was appropriate, and it would meet user requirements. However, the IRAC criticized the PTO's management oversight of the prime contractor and the life cycle development methodology employed by the agency. As a result, several management changes were instituted at the Patent and Trademark Office to address these concerns, and the PTO modified its systems development methodology to reflect state-of-the-art practices.

Eighteen months later the IRAC was called back to review progress in implementing its recommendations. In January 1990, the IRAC issued its second report, which was positive. The Office of Management and Budget conducted its own review of the APS at the same time and also found the system's design and program management to be sound. Furthermore, the Office of Management and Budget removed the system from the Presidential Priority Systems watch list. Today, the PTO's APS system is used by OMB as a model system appropriate for emulation by other agencies with similar database management requirements.

After a decade of development and testing, and two and one-half years of using the APS test and image system in a production line mode in two examining groups, the Office is confident that the APS is a success and that it is ready to be fully deployed to both the public and the examining corps. I am delighted to report that, as we projected last year, we will finish the loading of the U.S. patent database and will deploy the Automated Patent System to a third

Examining Group by the summer of 1993. The fiscal year 1993 request includes over $3,000,000 to enable us to carry this forward. We know from our experience to date that such deployment will result in an improvement in the quality of patents issuing, and will provide an electronic patent database containing a motherload of technological information that can be searched by the public and our examiners using a powerful combination of text and image search tools that are simply unavailable in a manual, paper-based search environment.

On the trademark side of the automation effort, the story is equally as positive. Our existing trademark system has been operational for a number of years, and is being upgraded to provide the public and trademark users with improved trademark search capability. The faster and more user-friendly search system which we are working on now, and which we will be implementing by mid-1993, will provide the public with a greatly enhanced electronic search tool and better display of the trademark file. In addition, current plans call for developing and testing an electronic trademark application filing system which will further improve trademark quality and processing, and improve access to the system for users.

Despite this progress, public concerns about the patent system prompted some Members of Congress to request late last year that the GAO review our progress and our plans for our automated systems. As requested, the GAO has not looked at our efforts in isolation but has compared them with the efforts of the European and Japanese Patent Offices. As yet, the GAO has not completed its audit, but has only completed the survey portion of its work. When the final report is issued, we will be pleased to review any recommendations contained therein and work with the Congress to implement any reasonable modifications to the system's design or our deployment plans that the Congress may conclude are necessary.

After ten years of study of the problems and development efforts at the U.S. Patent and Trademark Office, however, we have no hesitancy in affirming the following conclusions:

1) The U.S. Patent and Trademark Office cannot survive into the next century by continuing to work in a paper environment.

2) The transition to complete electronic search systems must proceed apace to enable us to carry out our responsibilities during the latter half of the decade, and to achieve the establishment of an expanded database that will enable examiners to electronically search the bulk of foreign art that is not currently conveniently accessible by either the PTO or the public.

3) Finally, the funds that we have requested in this authorization cycle, which will provide the capability to complete the loading of U.S. patent data into the system and begin full deployment, are reasonable and necessary if we are to stay on track with the planned complete deployment of the system by 1997.

Automation is now providing benefits to the public that could not be achieved in a paper system. We now have a pilot program that is providing the capability to search the text portion of patent

documents at 14 Patent and Trademark Depository Libraries located throughout the country. Also, our investment in the APS system has enabled us to provide these Libraries with new CD-ROM products containing patent and trademark information.

Furthermore, studies by our Office of Quality Review show that the APS has improved the quality of the patents we issue. This is due to the fact that the APS provides for more secure files, that is all of the references are always available to the examiner. Examiners are able to extract more references that are pertinent to the application under examination, and the APS provides better and more powerful search tools.

For all of these reasons, we are convinced that the path we are on is the correct one.

SUMMARY

Our objective is to provide the best possible products to the users of our services. We believe that the program we outlined, given the resources available to us, will achieve our objective. As always, we want to work closely with this Committee to ensure that we provide that the level of stewardship that is rightfully expected of us by the Congress and the public.

Mr. HUGHES. Let me just start with the Automated Patent System program, APS. Who is it within the agency that can respond with some degree of authority—your office? Or who can we talk to?

We seem to be getting all kinds of answers about how long it is going to take, how much it is going to cost. Just since February we have gotten at least three different answers to those questions. Who is it that we can talk to and get direct answers based upon a factual analysis insofar as the status of this program?

Mr. COMER. It is the job of the Commissioner of the Patent Office and his senior staff to provide you with the correct and accurate information, Mr. Chairman.

And I would like to speak to the question of the discrepancy in numbers I think that you raised earlier.

We are still in the midstage of the GAO audit, and I think it is accurate to say that we need to refine the terminology that we have been using in terms of our discussions with the GAO. We have a discrepancy in understanding between different levels of discussion of the status of the system. It has also been a problem that the GAO has not yet had a chance to review all of the documentation that they need to review to fully understand our progress and plans for the system, and they have also reviewed some documentation that has been superseded or outdated by recent filing trends and revenue information that we have.

Mr. HUGHES. Now, Mr. Comer, we are going to have a very good working relationship, I am sure, but I have a problem with terminology. I mean, 5 years and 10 years, that is not a question whether or not we are communicating with one another. Whether it costs an additional $200 million or $500 million or $700 million is not a matter of terminology. We can agree upon the terminology.

It is a question—there must be some division within PTO as to how long it is going to take and complete it. And I understand that there has got to be a certain degree of speculation involved because it is contingent upon so many variables, and we understand that, but we get altogether different answers, depending on who we talk to in your agency. That is not a problem with terminology. That seems to me to be an internal problem. It demonstrates to me that you really don't know what is going on. I mean, that is what it suggests to me.

Mr. COMER. Mr. Chairman, I think that that would be a reasonable inference were you to assume that, in fact, we were providing disparate numbers to the GAO. We do not believe that is, in fact, the case. We believe we have had some difficulty in obtaining a proper understanding with GAO auditors regarding our proposed schedule and the differences, for example, between the total development and operational costs combined as a package as opposed to splitting out development costs. And this is one reason why the discrepancy in numbers has arisen.

With regard to the deployment dates, we have had ongoing discussions regarding what we mean when we say the system will be completed and deployed. And there is also the question of what the life cycle of the system is. In other words, what is the period of time during which the system will be in use before the technology has to be refreshed?

Since the 1991 submission, we have effectively held fairly firm to a 5-year projected date to the completion of the system components and its deployment—full deployment—to the public and the patent corps. Our 1991 estimate of 1996 slipped a year because of the budgetary constraints that were placed upon the program in 1991, so we are currently projecting a 1997 completion date, and we have consistently held firm to that date.

Now, when the system was originally proposed in 1982 to the Congress, there was an estimated completion date of 1991, I believe it was.

Mr. HUTHER. 1990.

Mr. COMER. 1990. But that schedule, of necessity, slipped because of uncertainties with regard to the levels of funding that were provided. There were significant questions about the ability of the PTO to devote the correct, adequate level of resources to the program, and there was a reorganization of the program that took place in the mid to late 1980's. All of those things had an impact on our ability to adhere to that original schedule.

Now, with regard to the cost—if you look at the total cost for development and operation of the system through its life cycle, you will find that our estimates have been fairly consistent if they are viewed in constant 1992 dollars. For example, this committee and the Congress received an estimate in 1983 that it would cost approximately $341 million to build and deploy the system, but that was an estimate that was stated in 1982 dollars. In 1991, we provided an estimate of $629 million, which was again stated in 1992 dollars.

Now, today, our estimate for the estimated cost of full deployment of the system by 1997 is $694 million. The estimated date of deployment is 1997.

If you adjust all of these figures for constant 1992 dollars, you will find that our original 1983 estimate expressed in 1992 dollars was $1.04 billion, and our current estimate, our 1992 estimate, expressed in 1992 dollars is $972 million. So, actually, the cost of the program expressed in constant dollar terms has dropped. This is primarily the result of more cost-efficient technology.

Mr. HUGHES. Apparently, the General Accounting Office received varying deployment dates. How do you explain that?

For instance, in February 1991 the deployment date was 1996, and in February 1992 the deployment date was 2002. In May 1992 the deployment date is 1997.

Mr. COMER. The February, I believe it was, 1991 date of 1996 again reflected our 5-year estimate to the date of completion of the system and the deployment of the system. We slipped a year because of the funding constraints, so the date moved to 1997. The 2002 date is actually the date of the end of the life cycle of the system; in other words, its usable life cycle, at which point in time we will have to revisit the technology and look toward the next generation of the system.

Mr. HUGHES. Do you have a communication problem with the General Accounting Office?

Mr. COMER. We have been having a communication problem. Part of the problem is that the auditors have not been talking, until very recently, to the most senior officials in the Office.

There are various planning documents that the PTO produces on an ongoing basis, depending on what our current estimates of fee revenues are, and, for example, one of the documents the GAO has referred to is a planning model that was developed in December of last year which assumed a flat or declining rate of applications. That was based upon what we were then experiencing of a plateau on the applications. Now, since the PTO is totally fee driven, we must constantly evaluate our spending plans against what our best guess is as to projections of what our revenues will be. Out of an overabundance of caution, Commissioner Manbeck decided that we would produce a revised deployment plan that would assume a flat or declining rate of applications.

Now, as it has turned out, since that time the application rates have once again taken off, continued to climb on their historical averages. That has enabled us to revise and revisit those planning assumptions that were made in December of last year.

Mr. HUGHES. Doesn't that provide a compelling reason why we should have some public funds so that you don't rely entirely upon dips in the economy and downturn in user fees? Isn't that a good reason?

Mr. COMER. I think that is certainly one of the very strong arguments in favor of a certain level of public funding, aside from all other things.

Now, one of the things we are now looking at—and we have not submitted this yet to the department or to OMB—but is the possibility of a creation of a working capital fund to fund the balance of the APS system, where Congress would seed the money in public funds up front, then we would pay the money back out of savings that we will achieve as a result of the system. We have a very reliable cost-benefit analysis which tells us that the APS system will save approximately $600 million, conservatively, over the life of the system for the public users of the Patent Office.

Mr. HUGHES. Let me just pick up on that.

Mr. Banner from the Intellectual Property Owners suggests that Congress should authorize that PTO borrow funds through the issuance of bonds and other similar borrowing practices. What is the position of the PTO on that suggestion? Did you see that suggestion?

Mr. COMER. Yes, I have reviewed the IPO's testimony. That is in the context of suggesting the appropriateness of the creation of a public or a semipublic corporation for the PTO.

Mr. HUGHES. I was going to ask that, too. Why don't you just respond to both questions. What is your feeling as to both proposals?

Mr. COMER. We feel that many of the positive things that are suggested that could come out of a public corporation can be accomplished directly by the Congress through legislative authorization.

For example, take our space issue, $50 million a year that we are now paying for space. In our 1993 budget we are going to be assessed by the GSA another 13 percent increase in our space costs in a period when the market is flat, if not declining, in terms of commercial lease space. But as long as we are a tenant of the GSA, we have no choice in that matter. There are certain appeal rights that are provided to us as an agency, but effectively we have not been able to achieve any direct reduction of those costs.

The Congress could directly authorize the PTO to go to the Federal financing bank and to obtain the funds necessary to provide for its space needs. We could negotiate in the marketplace and obtain the best possible rates for our users.

Mr. HUGHES. So you are saying you can accomplish the same thing without the formation of a corporation?

Mr. COMER. Exactly. And yet if we were a quasi-independent corporation, we would lose, on the other hand, the benefit of the significant clout, the influence of the Secretary of Commerce within the administration, so, you know, we think that in many of these areas the Congress could achieve these things directly by giving PTO the authority to accomplish these things.

Mr. HUGHES. You indicated that your studies have shown that automation has improved the quality of the examination process. How about the speed of the examinations, has automation affected that one way or another?

Mr. COMER. In terms of the average hours required to examine a given case, the hours have remained fairly constant over the years.

Now, bear in mind, Mr. Chairman, that the automation system has thus far only been made available to two groups. When that point in time comes, as it will in mid to late 1993, when the APS system can access the broad base of the technology across the board and we will begin to get the benefit of the possibility of using such things as artificial intelligence search tools, we do look toward some possibility of reductions in the amount of time it takes to examine a case.

Mr. HUGHES. On that score you indicate that you expect the average patent pendency period to increase to 19.1 months from the 18.4 months that originally was expected. Is that trend going to continue?

Mr. COMER. Our projection is to hold to 19 months until at least 1998. Again, that is purely driven by the amount of budgetary resources available to us for hiring and overtime.

Mr. HUGHES. Your prepared text states with regard to the workload category we will be reducing our spending by approximately $25 million. Why is this necessary, given that you are asking for "a maintenance of program level" budget with inflationary increases and workload increases built in?

Mr. COMER. The inflationary increases are what are required essentially to keep abreast of providing the current services that we now provide.

Mr. HUGHES. Other cuts which you identify as necessary include, one, a $7 million cut in developing electronic processing of applications which you say will result in an added cost of $15 million per year for printing patents; two, a delay of the program for entry of foreign patents into APS, a program which you identify as a critical concern to the industrial community; and, three, cuts in the area of biotechnology examination, another hot-button issue for all of us, really.

Why do I have the feeling that this sounds like we are closing down the Washington Monument?

Mr. COMER. Well, if I could—if the chairman would permit me to just correct a couple of things—the expense of printing patents

is one which we currently now absorb, obviously, since we are the sole repository and the creator or the producer of patents as requested by the public. Our current patent printing costs are in the neighborhood of about $30 million a year.

Now, when the APS is completed and we have available certain of the components, a lot of the component parts that are scheduled in the outyears, such as patent application management system, we will be able to reduce the patent printing costs by $15 million a year by being able to directly produce the printed copies off of the APS system, and we are already beginning production of the limited printing of copies off the APS system now. So in the context of printing patents, we will save $15 million a year when this system is completed.

Now, with regard to foreign patents, this again is one of the areas of, let's say, of confusion that we have had with the GAO. I believe their auditors were under the impression that we were not going to provide any foreign patent information due to cost considerations and so forth during the outyears of the APS. But, in fact, we have recently reached an agreement with our Japanese and European counterparts whereunder foreign patent information will be made available to the United States in a concise abstracted format which we call the first-page format, in English. This material will be loaded into the APS system in the 1993–94 time frame. That will represent a major enhancement of available foreign patent literature to American industry.

Mr. HUGHES. What you are saying is you will not be delaying the program for entry of foreign patents in APS?

Mr. COMER. We have modified our plans in order to do what we think better meets the needs of the users. That is, by obtaining these vast representational files that are reflected by this first-page program, and making those available to domestic users, we will be improving by many orders of magnitude enhancement the data base now available to the American public.

Mr. HUGHES. What about cuts in the biotech area?

Mr. COMER. In the biotech area, we are on track to reduce pendency by the end of 1993 by a substantial amount. We already are seeing the turnaround there.

Mr. HUGHES. You can do that by cutting the biotechnology examination?

Mr. COMER. Mr. Chairman, we are not cutting the biotechnology examination. In fact, we are going to be increasing the number of examiners in that area by 20 percent.

Mr. HUGHES. Then my information is not correct.

Mr. COMER. We are not hiring—Mr. Huther reminded me we are not hiring as many as we originally planned when we came before you last year, but we are still increasing by about 20 percent, and pendency in biotech——

Mr. HUGHES. That is sufficient to reduce the pendency period?

Mr. COMER. We believe we will see a reduction in pendency by about 4 to 5 months in the average pendency by this time next year.

Mr. HUGHES. Is the electronic filing system a part of the Automated Patent System?

Mr. COMER. The electronic filing system is a part of the Automated Patent System. That is what we refer to as PAM.

Mr. HUGHES. Finally, I have some great concerns, and you have anticipated my concerns over the letter, the memo that came in, as a matter of fact, and Commissioner Manbeck's response of the Board of Patent Appeal issue. And, frankly, if I read the Commissioner's memo right, what he is saying, basically, is "I can do anything I want. We set policy."

Frankly, I have some problems with that. Obviously, it has raised some serious concerns within your agency, and I am encouraged by your suggestion that you are going to basically take some public comment because I think that is the direction we need to go. We need to, first of all, assure everyone involved, the Board and the public, that we have an independent review mechanism in place that will be free of political influence, free of economic influence, free of any other extraneous influence except whether or not the patent was properly denied.

Mr. COMER. Mr. Chairman, I can say that with complete confidence that the Commissioners's authority to designate panels at the Board of Patent Appeals and interferences level has been very carefully exercised on a very narrow scale and only to address those cases where there were significant issues of patent policy involved, and it was critically important that the case be addressed in a way which gave proper effect to the intentions of Congress as reflected in title 35.

Mr. HUGHES. But there is an appeal process. It goes right from the Federal Court of Appeals for the Federal Circuit.

Mr. COMER. An appeal may be taken from a decision of the Board directly to the Court of Appeals for the Federal Circuit, but only by the applicant, not by the Commissioner of Patents.

Mr. HUGHES. My difficulty is with any commissioner having the ability, basically, unilaterally, for any reason that he or she deems fit to basically reverse or set up a new panel—don't like the decision. That just strikes me as fundamentally unfair, unsound and unworkable.

I can understand why those that work on the panel would basically feel that their independence and judgment is being tampered with. I can see the creation of tremendous morale problems.

Mr. COMER. Mr. Chairman, could I provide just a little bit of historical perspective on this? The Board of Patent Appeals was originally established in the 1870's, and it was set up in order to assist the Commissioner with what were then direct appeals from decisions of examiners to the Commissioner. The workload simply became too great for the Commissioner to handle, and so the Board was set up essentially as an extension of the Commissioner's Office to assist in deciding these cases.

Now, it was always the intent of Congress that the Commissioner would have a policymaking role on the Board, and that is reflected in the fact that the Commissioner is, by statute, a member of the Board, as is the deputy and other appointees to the Office.

The Commissioner's authority to designate panels which is set forth in the statute by Congress, has been very carefully exercised, however. Over the last 12 years the Board has heard approxi-

mately 50,000 cases, and out of those 50,000 cases, there have been Commissioner-designated panels in only nine.

For example, under Commissioner Manbeck's tenure there were five or six cases where there were Commissioner-designated panels, but, of those, five of those cases were collected as a group, because there was a common issue of patent law policy that was relevant to those cases.

So the number of cases is very small, and I agree with you that there should not be a situation where a board panel has actually been constituted and rendered the decision, and that decision was withdrawn. And, in fact, there has never been a situation where the Board actually issued a decision that was withdrawn by the Commissioner.

There have been a few cases—as I said, approximately nine totally in number—where there was a question of first impression of tremendous significance across the Board to the patent system and the Commissioner felt that it was necessary that the senior officials of the Office sit on the Board and so expanded panels were designated in those cases. But certainly our concern is that the public have a forum with regard to appeals from examiner decisions that they feel is fair.

Mr. HUGHES. I can tell you that, speaking for myself, I can see all kinds of problems with a policy that permits a Commissioner—any Commissioner—to pack a panel, to stack the deck, doesn't like it basically, constitute a new panel. I have some basic problems with that process. I am very pleased that you are moving ahead within PTO to try to deal with the problem, take some public comment. That suggests to me that you are openminded, you will take a look at it, and that is all I can ask.

Mr. COMER. And we are, Mr. Chairman. Our desire is to ensure that the system is viewed by the public as being sound and fair to all participants. And, you know, again these were policy choices made by the Congresses in the past. If after revisiting these issues it is determined that the change in the structure is appropriate based on public comment, we are happy to work with you.

Mr. HUGHES. I find a lot of things that were created in 1870 don't work today. It is a new day, and it is time to try to bring PTO, like all our agencies, like the Congress, into the 20th century. Maybe that is another area where we can issue some reforms that will be productive.

I have some additional written questions. Rather than hold you—I don't know how many votes we have—I just want to thank you for your testimony.

The record will remain open for 10 days so I can submit some questions I didn't get to, and I will come back in about 10, 15 minutes, hopefully, and we will start our second panel.

Thank you very much. The subcommittee stands recessed.

[Recess.]

Mr. HUGHES. OK. The subcommittee will come to order.

Appearing on behalf of the General Accounting Office is Ms. JayEtta Z. Hecker, who serves as the Director for Information Management. She evaluates the systems and management of computers and communications systems at several Federal agencies.

If you will come forward now, we will take your testimony. Ms. Hecker joined the General Accounting Office in 1982. Her prior experience in the executive branch is extensive and includes 6 years with the Agency for International Development, 2 years as Deputy of Policy and Planning Office of the Commodities Futures Trading Commission, as well as 2 years managing aspects of the Regulatory Reform Program of the Carter White House.

Ms. Hecker, we thank you for joining with us today. We have your prepared text which without objection will be made a part of the record in full, and so we hope you can summarize for us.

STATEMENT OF JAYETTA Z. HECKER, DIRECTOR, RESOURCES, COMMUNITY, AND ECONOMIC DEVELOPMENT INFORMATION SYSTEMS, INFORMATION MANAGEMENT AND TECHNOLOGY DIVISION, U.S. GENERAL ACCOUNTING OFFICE, ACCOMPANIED BY RONA STILLMAN, CHIEF SCIENTIST, INFORMATION MANAGEMENT AND TECHNOLOGY DIVISION

Ms. HECKER. Thank you, Mr. Chairman. We are very pleased to be here today to discuss our ongoing review for you and Senator DeConcini of PTO's development of the Automated Patent System.

With me today is Dr. Rona Stillman, who is the Chief Scientist of our Division. She plays a role in keeping us technically honest ensuring that we clearly understand and are careful about the technical issues that we are evaluating.

What I will do today is basically summarize my written statement by four areas. First, I will provide some limited background on the APS, then very briefly discuss what has been accomplished, what remains to be done, and some of the open issues that we will explore during our ongoing evaluation.

As you know, the APS was originally implemented in 1983. The objectives of the program are to automate the patent files and the paper-handling operations; automate the contact with applicants and others; and, finally, automate the whole application, examination, and classification process.

Actually, the major components of the APS are in this chart that I have here today, which is also on page 4 of my statement. Basically, it identifies the elements of the system and how they serve the application, the examination, and ultimately dissemination process.

On the left the application management system which would allow for electronic filing and would replace the paper application file folder. The core systems are primarily to support the examination process. The most important of these is the image system. Then there is the text search system, and a classification system—which is kind of like an automated card file. Finally there is a patent sales system to make copies of patents. All of these together in various ways would eventually support improved dissemination.

The original plan in 1983 was that the system would cost $341 million and, as the Acting Commissioner noted today, would be fully implemented in 1990. To date, PTO has spent $417 million with about $280 of that going for development and $130 going for operations and maintenance. As pieces get implemented they would need to be maintained, so not all the costs are for development, but $417 has been spent to date. And the current estimate, the most

current estimate, is that the APS will be completed in 5 years at an additional cost of $277 million. That covers the amount of background that I will provide.

Turning to the issue of progress in automating—if you look at the chart, basically only one of the five major systems has been fully implemented, and that is the text search system. It has been in place for several years now, and, as a result, all 1,800 examiners have access to automated text search, which is a very useful improvement.

The other systems are not yet in place. The image system, which is one of the most complex and most important in terms of really automating the examination process, is available in two and parts of a third of the 17 examiner groups.

What this means is that, in addition to accessing the text of patents, examiners can access the image, and, as you would imagine, this is a very important aspect of really automating the patent process. Without the images being automated, examiners basically go back to the shoebox files and continue to flip through the boxes to the images.

So the image system, that most important and significant component in total cost, as well as functionality, is only deployed to two and part of a third examiner groups.

There is some initial sales system capability in place. Similarly, the classification system has some limited functionality. But it is not supporting the full goal for automated reclassification, which is something that occurs frequently. Without this system APS really isn't providing the tool that it was anticipated to provide.

So the next issue that I will cover is what remains to be done, and, obviously, it is the flip side of this. This application management system, which is the one that will automate the electronic filing and eliminate the paper folder is not even developed yet. Basically PTO sent out a request for comment from interested parties last year. They received 1,200 comments on that proposal. So it is in the very early stages of its concept of design.

We have yet to receive a firm projection of when PTO will publish an RFP, when it would make an award, when it would have some initial development capability. But now we understand that there is an anticipation that somehow the application management system will be fully deployed in 1997. So the application system has the farthest to go and really isn't out of the starting gate yet.

The image system has to be expanded to the remaining 85 percent of the examiners. Foreign patents need to be fully loaded. It is true there is an alternative project to load first pages, which are not the complete foreign patent. And I know the Office is looking at some alternatives in terms of using a European concept of families of patents to increase the speed with which PTO can get the actual text of foreign patents in the system. But the full system—the one planned for 1990 implementation was recognized that foreign patents are very important and need to be loaded quickly. That yet remains to be completed. Similarly, the classification and patent copy systems need to be finalized.

One of the earliest inquiries we made was what is the cost and schedule to complete APS. As our statement says, we have received several inconsistent answers to our question. In addition, it took

months before we got an answer. So while we are certainly open to receiving new documents and want to work very closely with the Commissioner to understand the most current plans and the most current estimates, we did seriously encounter some significant problems in getting an estimate and then getting a consistent estimate from the different offices involved in the APS program.

So, as you in your own opening remarks said, the estimates range from taking 5 to 10 years to fully deploy the system and costing between about $500 million and $700 million to complete its deployment.

One of the important things is to identify the issues for the subsequent phase of our review as we address the core questions that you have raised in your request.

Basically, in the course of this early phase of our review, four critical issues have emerged which need to be explored during the final phases of the review. Each of these issues are critical because there is a lot of uncertainty and because they have a significant effect on the future of the APS development.

One of these issues is the uncertainty and inconsistency in PTO's cost and development estimates. Clearly we need to work with PTO to get a detailed specific set of milestones of what it is going to cost, when different components will be developed and the schedule. On the basis of that we will, hopefully, be able to give you an estimate of the reasonableness of that schedule. I think that is really the core of it. What is it going to cost? How long is it going to take? And is that really a reasonable schedule to follow?

Cost and schedule will be a critical area of further focus. I have met with the Acting Commissioner, and I am working closely with the PTO to get some final or more current numbers and estimates.

The second issue we think is important is the consistency or compatibility of the whole APS design with PTO's newly issued long-range plan. As you probably understand, one of the important things about automation is not automating for automation's sake, but having it linked to a business plan. A plan describing where an organization is going; what are the critical challenges it faces in the future; what are some of the organizational implications of where that unit is going?

PTO did not issue a comprehensive long-range business plan until just a few months ago. It was PTO's first long-range plan. It raises some very interesting, important and significant issues about the future of the PTO. It certainly surfaces very notably the growing importance of dissemination. It talks about the importance of the move to full fee funding. And there are other important issues raised, such as the possible complete transition to a first-to-file system in PTO which would also have significant implications.

There are also issues about a growing need to coordinate and share files with the Europeans, Japanese and other partners—nations—worldwide. There are a lot of new directions that are raised in this plan, and we think it will be important to find out the extent to which the APS design, the structure, the architecture, the whole approach being taken, are compatible and consistent with some of those important directions.

A third area is the development methodology being used. Basically, a methodology is an important part of managing a major de-

velopment and acquisition system. To PTO's credit it recognizes that there are new, more efficient and, hopefully, more effective ways to incrementally build the APS.

But what PTO is doing is basically beyond existing guidance. There is no guidance by GSA which establishes the general rules by which systems should be designed and built. Guidance doesn't exist in this area. Also, there isn't a clear definition within the Federal Government or even in the private sector, to describe PTO's unique approach. Nothing to say what are the major milestones? What do they look like? What kind of documentation makes sense to make incremental decisions along the way?

So we will be working with PTO to understand how it is using its methodology, how it is applying it, and what kinds of milestones it is documenting to show where the agency is, what it is learning, and how it is improving or perhaps altering the approach. We think that is important for the Congress, too, to be aware of this approach and to understand the risk and uncertainty involved.

The fourth issue surrounds the issue of user concerns about impact or overall effectiveness of the system. Basically, one of the questions in your request letter to us was to address what has really happened, what difference has the investment in APS made. Admittedly, not much is in place fully across the board, but some of the important systems like the image system which are available are clearly ones that should be studied to see how they are working, what kind of impact they have had.

We were disappointed to find that there was only one comprehensive documented study on the impact of APS and the image system in particular. It was done in 1988. Its results were inconclusive. There was a recommendation for further followup. However, we haven't seen the kind of impact studies that would really document what kind of impact or benefits occurring from the increments or elements of automation that have been put in place. This issue is underscored by the fact that the major users, both within the agency and outside, have raised significant concerns about the benefits of the system, to either the examiners inside or to the user community outside the agency.

So we think this issue of whether the impact is really as intended, is an important area for further analysis. So that is where we are in the study. We certainly have a lot more to do.

We are pleased to work with you and your staff to further define the issues of interest to you. This concludes the summary of my statement. I would be pleased to address any questions you may have.

Mr. HUGHES. Well, thank you very much, Ms. Hecker, for your testimony and your assistance.

[The prepared statement of Ms. Hecker follows:]

PREPARED STATEMENT OF JAYETTA Z. HECKER, DIRECTOR, RESOURCES, COMMUNITY, AND ECONOMIC DEVELOPMENT INFORMATION SYSTEMS, INFORMATION MANAGEMENT AND TECHNOLOGY DIVISION, U.S. GENERAL ACCOUNTING OFFICE

Mr. Chairman and Members of the Subcommittee:

I appreciate this opportunity to testify on our ongoing review of the Patent and Trademark Office's (PTO) effort to develop its Automated Patent System (APS). At your request, we are assessing whether PTO's automation program is meeting the agency's stated goals. In particular, we are examining the approach PTO is using to oversee the development and acquisition of the APS. Since we have not yet completed our review, our observations today are preliminary. We will provide more details and our recommendations in a subsequent report.

My statement will focus on (1) a brief overview of the APS program, (2) what PTO has accomplished through its automation effort, and (3) what remains to be done. In addition, I will discuss issues we intend to address during the next phase of our review.

OVERVIEW

PTO maintains one of the largest sources of information on technology in retrievable form anywhere in the world. PTO's files contain about 32 million documents, including 16.5 million U.S. patents,[1] 14.2 million foreign patents, and 1.2 million technical documents. Data stored in the agency's files are accessed and updated when inventors make inquiries or file patent applications, or when new information is obtained on foreign patents and related technical literature.

In 1991, PTO received and processed about 168,000 patent applications and issued over 150,000 patents. The Office estimates that this work load will grow at an annual

[1] This file contains over 5.4 million original U.S. patents cross-referenced three times.

rate of 4 percent. This work load is largely managed by over 1,800 examiners in 17 examining groups.

Although inventors and patent attorneys are the principal clients of the patent system, many users depend on the information maintained by PTO, including investors, corporations, and researchers. These clients use the information disclosed in patents to make investment decisions, allocate research and development resources, develop new products, and identify research trends. The importance of patent information to the nation is underscored by a PTO estimate showing that about 70 percent of information on emerging technologies is disclosed only in patent applications.

In 1983, PTO began a long-term program to automate the agency's paper files, along with patent application, examination, and dissemination processes. At that time, PTO estimated that APS would cost $341 million and all capabilities would be fully implemented by 1990. After 9 years, PTO has spent $417 million on the APS system. This includes $283 million on development and $134 million on operations and maintenance. PTO currently estimates that the system can be completed in the next 5 years for an additional $277 million.

BACKGROUND INFORMATION ON THE APS PROGRAM

The APS program is intended to improve PTO's internal processes, improve patent quality, and facilitate public access to patent information. PTO's automation objectives include

-- replacing paper files and paper-handling operations with computer-accessible data bases;

-- using automation technology rather than conventional mail to communicate with applicants and other constituents; and

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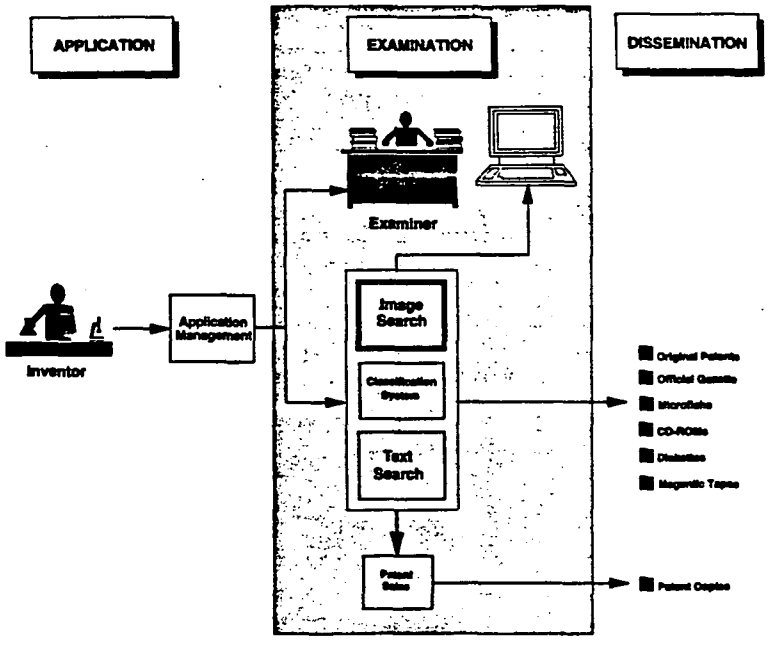
-- automating the application, examination, and classification processes.

When complete, the APS will consist of five integrated computer applications--an application management system, an image search system, a classification system, a text search system, and a patent sales system. PTO designations for the five systems are as follows: the application management system is called the Patent Application Management (PAM) system; the image search system is known as the Classified Search and Image Retrieval (CSIR) system; the classification system is called the Classification Data System (CDS); the text search system is called the APS Text Search or the Messenger system; and the patent sales system is called the Patent and Trademark Copy Sales (PTCS) system. Figure 1 shows an overview of the APS system.

Figure 1: The APS System



The application management system is designed to fully automate patent application and management by allowing applicants to electronically file applications and by replacing the paper-based application folder with an electronic folder.

The image search system relies on advanced imaging and optical storage technology to scan and retrieve images of documents stored on high speed optical drives. Also,

linkages between the image and text search systems allow examiners to display images of the patents identified during the text search. The system allows examiners to perform searches by class and to retrieve, display, and print the images of U.S. patents. PTO plans to deploy image search workstations to centrally located work areas called casinos, then to smaller common work areas called clusters, and finally to examiners' desks.

The classification system helps examiners classify patents. It is also designed to support the image and text search functions.

The text search system allows examiners to search the text of U.S. patents granted since 1971. The system also provides access to selected abstracts of foreign patents. Text search allows examiners to find appropriate patent references and provides them with full-text searching of the entire technology database.

The remaining system is the patent sales system. This system is designed to support on-demand printing of copies of patents and trademarks.

PTO's PROGRESS IN AUTOMATING ITS OPERATIONS

Of the five systems that make up the APS only one--the full-text searching system--is available to the entire examiner corps. Since 1986, all 1,800 PTO examiners have had access to the full-text search of all U.S. patents issued since 1971 and a limited number of foreign patent abstracts. The classified search and image retrieval capabilities have been deployed to 2 of PTO's 17 examining groups and to some examiners in a third examining group. As a result, approximately 270 examiners can access the images and text of the patents specific to their individual groups. In addition, the patent sales system is partially automated. PTO can now print copies of all 5.4 million U.S. patents stored electronically on APS storage devices.

APS' COMPLETION DATE AND DEVELOPMENT COST HAVE CHANGED FREQUENTLY

Although PTO has made progress in automating its paper files and manual processes, much work still needs to be done. Specifically,

- the application management system needs to be designed, developed, and accepted;
- image search capability needs to be deployed to the remaining examiner groups;
- software to search first-page summaries of foreign patents needs to be designed, developed, and accepted;
- foreign patent first-page summaries need to be loaded into the APS;
- software to search foreign patents needs to be designed, developed, and accepted;
- foreign patents need to be loaded into the APS;
- about 1,700 examiner workstations need to be acquired and installed.

Over the past several months, PTO has provided us numerous documents showing widely varying estimates for when the agency expects to have the APS completely deployed and how much it will cost to develop it. Table 1 summarizes the various deployment dates and cost estimates provided by PTO since we began our review.

Table 1: APS Deployment Schedule and Development Cost

Estimate as of	Deployment Date	Total Cost to Develop
February 1991[a]	1996	$630 million
February 1992[b]	2002	$496 million
May 1992[c]	1997	$694 million

[a] PTO's 1992 Budget Submission to the Congress

[b] PTO's Office of Information Systems February 1992 APS Cost and Schedule Estimates

[c] May 6, 1992, PTO letter to GAO

These frequent changes stem in large part from the fact that funding for the APS program is linked to the amount of fees collected from patent filings. As a result, the funds for APS fluctuate with the volume of applications received and the amount of fees collected.

For example, PTO attributes the 2002 deployment date to a decision by agency management to hold funding for the APS program to about $55 million a year for each of the next 10 years. The decision was based on a forecast that showed a smaller than projected growth in patent application filings through 2002. A subsequent analysis prepared this month shows that patent applications are growing faster than previously forecast. As a result, PTO believes it can complete the APS sooner. Because an implementation plan showing how the 1997 completion date will be achieved will not be prepared until later this year, we could not assess the reasonableness of PTO's latest completion date and cost estimate.

ISSUES AFFECTING FUTURE APS DEVELOPMENT

Mr. Chairman, we have identified four issues that may affect future APS development: PTO's cost and development schedules, PTO's long-range business plan, the APS system development methodology, and the benefits of APS to its users. We plan to explore these issues further as part of our ongoing work.

Table 1 represents PTO's latest APS development estimates, provided to us earlier this month. During the next stage of our review, we will work with PTO to gain an understanding of the causes for the volatility in the APS cost and development schedules, as well as their reasonableness.

In March 1992, PTO issued its Long-Range Plan: Fiscal Years 1993-1997. This plan identifies critical issues facing the agency over the next 5 years. The plan recognizes that PTO needs to rethink the way it does business, considering recent changes in the agency's mission and operating environment. For example, the plan recognizes the need to emphasize the dissemination of patent information and improved sharing of patent information among the European, Japanese, and U.S. patent offices. As part of our continuing assessment of the APS program, we plan to review PTO's actions to ensure that its automation activities are compatible with its recently issued long-range business plan.

PTO is planning to complete the APS using a system development methodology it is creating. In 1987 the Department of Commerce convened a panel of industry experts to review the APS program. The panel recommended that PTO adopt a state-of-the-art evolutionary approach to developing APS. The approach PTO selected uses an iterative method for developing solutions to the agency's automation needs. PTO believes that the new methodology it is developing is extremely important to PTO and the government in general. PTO expects to have a draft of the methodology complete this September.

Developing and practicing this new approach poses a challenge because there are no federal information processing standards to guide PTO. Further, this methodology is not widely practiced in either the public or private sector. We support and encourage this type of pioneering effort. To help PTO define its evolutionary methodology and ensure its value to other government agencies, PTO should consider having system development experts from other government agencies, industry, and academia review and comment on the approach it is developing. In the next phase of our work we will focus on understanding how PTO's approach will affect APS development, operations, and maintenance.

APS is intended to serve PTO's examiner corps, as well as external users such as applicants and inventors. Both user groups have expressed concerns regarding APS' benefit to them. The patent examiners' union, the Patent Office Professional Association, believes that the currently projected cost of APS far exceeds the value of the system's expected benefits. In 1991, the American Intellectual Property Law Association surveyed 1,000 of its approximately 6,500 members on the quality of services offered by PTO, including the APS. Sixty-five percent of those surveyed said that PTO should not proceed further with deployment of APS if the agency cannot demonstrate that productivity or quality gains will justify the expense.

The only rigorous and documented study evaluating the impact of APS on patent operations was done in 1988. The results of the study were inconclusive. In October 1991, PTO created an Office of Search and Information Resources, which is responsible for testing and evaluating the effect of the APS on patent operations. We will continue to explore the impact of APS with other interested users and examine the results of any studies issued by the Office of Search and Information Resources during our review.

Mr. Chairman this concludes my statement. I will be glad to answer any questions you or the other Members may have.

Mr. HUGHES. First, let me ask you—and I realize that it is very difficult to attempt to stay abreast of evolving technology—since the basic system was conceptually designed for PTO there have been major changes in systems, major changes in hardware and major changes in software.

I presume that this is a very unique system. This system will have to be designed, obviously, for some very special needs, distinguished from other systems. I recognize how difficult it is because I see in my own operation how it is difficult to stay ahead of the curve and implement the best system. This system is being implemented over a period of years, maybe 5 and maybe 10. I don't know. I don't know that anybody knows at this point.

But what is being done at PTO to evaluate the basic system and concept design to try to make it current with evolving technology?

Ms. HECKER. One of the early issues that we did try to evaluate was where the original and continuing justification was for that basic design. In our 1987 report, we raised some issues that the justification for the basic design was inadequate, and further analysis was needed of the changes in technology and of the needs of the users to select a better alternative. We have not seen such an analysis.

Basically, the agency has said that the incremental modular development approach it is using allows it to make incremental decisions and support the strategy of where APS is going. We haven't seen the analyses documented to support these decisions.

That was one of my points about the methodology PTO is using. It makes sense that there would be some documentation. Decisions have been made. There are people with a lot of awareness of the changes of technology. For example, we have some indications from discussions that the whole design of examiner work stations is taking advantage of important changes in technology, substantially reducing their cost.

But the documentation showing how changes in technology are altering the APS design is something we haven't seen.

Mr. HUGHES. Have you asked for it?

Ms. HECKER. Yes, we have.

Mr. HUGHES. Nothing has been presented to you?

Ms. HECKER. Well, the rationale is that the approach being used allows PTO to assure that it is building the right system.

Mr. HUGHES. Well, I can see with such a long-term venture where you could end up with a system, if you don't take into account evolving technologies and changes, with a system that is obsolete before it is deployed.

Ms. STILLMAN. The essence of the methodology, of the evolutionary methodology, that the panel of experts recommended that PTO use and that they say they are using is, in fact, to stay light on your feet and to learn as you go. And so what you do is you field some capability and, exactly as you refer to in your own office, you assess how well it is helping you. Do I want to do more of this? Do I want to do less of this? Is this advantageous to me? Is it working? Is it not?

In our work that we plan to do, in our oncoming work, what we plan to do is to understand much more about what PTO has learned about the effectiveness of what they fielded, about its util-

ity to its users inside and outside, about the basis for their decisions on whether to do more of something or less of something else.

Mr. HUGHES. And hopefully a paper trail, justification at various stages so that we can review those decisions as they make them; if there are midcourse corrections, the basis for those decisions?

Ms. STILLMAN. It seems only reasonable that for a system of this size and this import, costing this much money, that you would have an audit trail that was commensurate with a system like that.

Mr. HUGHES. Now, as I understand it, the text search is fully implemented.

Ms. HECKER. That is correct.

Mr. HUGHES. And the image search is implemented in two examiner groups, but 85 percent of the examiner groups basically have not implemented what is probably one of the more difficult areas, the image search area.

Ms. HECKER. That is correct.

Mr. HUGHES. All right. And nothing has been done as far as the application side is concerned. That is just—we are still on the maiden voyage, initial stages.

Ms. HECKER. Well, there was a publication of a request for information of the concept, but that was not as detailed as might be the case. Rather, it asked potential bidders what their concept would be or how they would build it. It wasn't a set of requirements.

Mr. HUGHES. What will be the overall scope and function of the classification system section when that is fully implemented?

Ms. HECKER. Well, my understanding is that the most important feature of the classification system is that it will support automated reclassification. Reclassification is a very frequent and important activity that occurs every 2 weeks within PTO. And, therefore, when you want to search something you need to have the most current classification so that you can be sure you are pulling the relevant documents. So the automation to support automated reclassification is key, and is an essential backbone to accessing patent information. There is an elementary part of this system in place, but it is not supporting automated reclassification, which has to be done manually now.

Mr. HUGHES. I see. How about patent sales?

Ms. HECKER. That basically is a copy system. It is not very complicated. It will produce the copies of patents for the public.

Mr. HUGHES. That is the simplest system to be implemented?

Ms. HECKER. Yes, I would say so. Well, the text search was not too complicated either. In fact, it replicated something that was available in the private sector.

Mr. HUGHES. I understand the General Accounting Office has visited the patent, trademark offices abroad, namely in Japan. I wonder if you could explain to me the status of the automation process existing in Japan today, how long it took Japan to achieve that level of automation, and how does the quality of the automation process in the United States compare to that existing there?

Ms. HECKER. We have completed some preliminary visits, however, we are not yet prepared to fully report on the differences among these systems or make observation on where they are.

I can tentatively share with you that both the Japanese and Europeans began about the same time we did. The Japanese have

fully implemented and made their system available to their entire examiner core. The Japanese system is an image-based key word system that has full automation capabilities supporting the examination process.

The Japanese have not replaced their paper files, though. They never sought to do that. So there is still extensive use of the paper files. They also have a fully deployed national system of CD–ROM's available within the country.

It is a complex system, requiring unique hardware and software which must be purchased by individuals. However, there is full deployment of an initial capability both to examiners and to the public in Japan.

One of the important things to remember is that the Japanese strategy is different than the strategy being followed by PTO. The Japanese are already working on the next upgrade. We were impressed with their progress.

Mr. HUGHES. When were they fully deployed?

Ms. HECKER. Within the last year. So it was 1983 to 1991. It cost about a billion dollars.

The Europeans also are moving forward. They are prototyping what is called the mixed mode that has an efficiency of providing enhanced search of both image and text in a unified system. They are in a test phase. They haven't fully deployed their system across their examiner corps.

Mr. HUGHES. Have they selected their hardware at this point?

Ms. HECKER. I am not aware whether that has been finalized or not.

Mr. HUGHES. What has been done at PTO to determine what is happening overseas? Compatibility is going to be, obviously, one of the major issues. Obviously, it is going to be extremely important, particularly with regard to foreign patents, if we can develop some degree of harmonization and compatibility with our systems. It will, I presume, simplify basically the input into our system. It will be much more economical if we can develop that kind of compatibility.

What is being done, basically, to ensure that we are tracking what others are doing? At a time when we are talking about harmonizing our laws, our patent and trademark laws, it seems to me it is also important that we look and see what others are doing in the area of automation so that we can make those systems compatible. Are we doing that?

Ms. HECKER. Well, as I said, we have made two visits, and we have talked with officials at PTO on how much they have understood and researched about what the state of automation is and the approaches and lessons being learned in these two major systems.

There is certainly knowledge of it in PTO. They have visited both Japan and Europe. Most importantly, there is aggressive coordination internationally. And most recently, in February of this year, PTO signed a joint agreement with the Japanese and Europeans for the joint development of a data base. There is important advancement in moving toward standardization. They are exchanging image data bases, and that is important.

One of the critical issues that I think underlies your question, though, is whether that is compatible and is in sync with the direc-

tion that the whole APS is going. This is really a separate project. It is a special project. And, admittedly, those agreements weren't reached 2 years ago, 5 years ago, 7 years ago. But the directions and the important advances in cooperation and standardization internationally really do present an opportunity for examining whether we are building the system that will incorporate that kind of standard or whether we are building a system that will just be parallel to the way things are done internationally.

Mr. HUGHES. Well, it seems to me that we have developed a capability to make systems compatible. And if, in fact—let's say Germany is loading into their system new applications—I am not sure what they are going to be doing with old applications, whether they will continue to do that manually, as apparently the Japanese are doing. But at some point in time they are going to be putting that raw material into their system, and it would certainly make sense, it seems to me, to be able to take that information and load it in to our system rather than go through the effort of loading it in manually to our system if we can develop the techniques to coordinate that activity and to make our systems compatible. Have I missed something in the process?

Ms. HECKER. No, I think you are raising very important questions. And as I said before, there are movements to coordinate and standardize. The issue is how much of that move toward standardization internationally will be incorporated into APS?

Mr. HUGHES. Have you looked at any of the records at PTO to determine whether those folks are looking at other systems, are, in fact, going through that type of an analysis, attempting to make those kind of decisions, recommendations, to the policymakers at PTO?

Ms. HECKER. When the long-term plan was issued, we asked PTO—and, in fact, we have inquired of Mr. Comer directly what his views are about the increased move toward harmonization and the increasing importance of working with the Europeans and the Japanese. He said he felt satisfied that the APS strategy, architecture, and technology were consistent with and would support the directions of international cooperation.

We have not seen the documentation to support this view. That is part of the future work that we think makes sense, so we will be asking for further documentation of PTO's rationale.

Mr. HUGHES. You have a lot of work to do, but it is important work, and I think it is going to be important for PTO to begin basically looking at these issues. It may very well be they are, and that documentation is there.

We haven't seen it either, but we are going to ask for it also so that we can see that as we make these incremental improvements to the system that we are taking a look at state-of-the-art developments, taking a look at what other countries are doing, taking a look at our needs, impacts on our user population to ensure that we are making the same decisions in this mammoth system that I have to make every week in my own system.

All right. Thank you very much. You have been very helpful. We look forward to hearing your ongoing reports.

Ms. HECKER. Thank you. We look forward to working with you and your staff.

Mr. HUGHES. Next is a very familiar face to those of us who work on Capitol Hill. Donald W. Banner is with us today from the Intellectual Property Owners, Inc. He is president of that very fine nonprofit corporation. Mr. Banner served as a Commissioner of the Patent and Trademark Office from 1978 to 1979. I am sure that today he brings with him his perspectives from that position as well as perspectives from our Nation's intellectual property owners.

We thank you for being with us today. I read your very fine and very comprehensive statement last night, as did my colleagues. So we hope you can summarize for us so we can get right to questions. Welcome.

STATEMENT OF DONALD BANNER, PRESIDENT, INTELLECTUAL PROPERTY OWNERS, INC.

Mr. BANNER. Thank you, sir. Thank you for your nice words and for the many intellectual property owners to speak in putting our statement into your record. I think I can be very brief.

With regard to the one point of the administration's draft authorization bill suggesting a 3-year period before the next authorization, we think it would be much better to do it on an annual basis for many, many reasons.

With respect to a matter that you touched upon earlier, that is public support funding for the Office—and we know this may not bear much fruit—the fact is we think that we have to have some substantial public funds. In our statement we said something on the order of $50 million.

It is only proper and fair for the public to support things like automation, for example, which is not of any use particularly to many people who file patent applications today. They get no benefit from it today. Why should they be paying for it? Library activities, many things that are mentioned in our paper. We just think it is better. And, of course, the point you made is so important, that is to level out this swing in the kinds of funds that the Office has.

One of the things that is very important, that we think requires some looking into, is the quality of patent examiners. This is a matter we have talked about for a long time. As you probably know, the American Intellectual Property Law Association recently did a survey indicating that there was a widespread concern about the quality of examination in the Patent Office.

One of the things we questioned last year and which we repeat this year is how the patent examiner production quota system is applied. Is that really consistent with the highest reasonable quality of patent examining work? It appears to us that the production system is such that it gives almost automatic awards to nearly all the patent examiners. And the perception is that these awards are given only for making an extra effort on production—that is, on numbers—and not making an extra effort on quality.

Another thing that is of significance to us is this matter of the allowance of patent applications on the first action. If an examiner allows an application on the first action, he gets credit for disposing of the application, and he gets credit for reviewing it at that stage.

Now, it is not necessarily new, but we recommend we look into how it is working in this system for paying bonuses because we

think it would be advisable to look at the numbers, percentages, of applications that are allowed on the first action and also other indications of quality such as the percentages of applications ultimately allowed as patents and the percentages of rejections upheld by the Board of Patent Appeals and Interferences.

We have talked about the Board of Patent Appeals and Interferences earlier. I won't spend much time on that unless you have some questions. They also are on a production system.

In testimony before the Senate committee the other day, only the member of the three-person panel who writes the decision gets credit. And that strikes us as a rather unusual way to go about that type of thing because one wonders what the other two people are doing on that Board panel.

With respect to the issue of the Commissioner and his relationship with the Board, I think it is fair to say that he needs authority to establish uniform policies, but the Board needs a reasonable degree of independence.

The major point that we would like to stress once again is we think the sweeping changes are really necessary in the way that the Office works. People in the Patent and Trademark Office are for the most part hard-working, dedicated, intelligent people. They are doing their best. But we ask you to reinvent the Patent and Trademark Office. It has got to change. We have to do it soon, too. We have been studying this for several years, and we are convinced that is the only way to go.

PTO should be established as an independent agency under the executive branch of the Federal Government. In our paper we indicated that would give the Office three major features—the opportunity to borrow, the opportunity of flexibility in handling personnel and contracting services, and it would have a statutory advisory committee to advise the Commissioner, Congress and the President how it is working. I think that is very important.

We think it is very important now because many of the Crystal City leases are expiring in 1996. Crystal City, of course, is where most of the buildings are that the Patent and Trademark Office is located in. You know, they are located in over 15 buildings, 15 different buildings or parts of buildings in Crystal City, and I don't have to say any more. I think that is a strange way to run a railroad.

The rent charged to the PTO was $29 million in 1991. It is going to be $50 million next year. PTO should have a separate corporation, I should say, it should have the power to borrow money to arrange for its own building. It should have a special building built to specifically meet the PTO needs, to accommodate this expensive automation system that we are talking about, for example, to do it right. In the long run that is going to save a lot of money, I think.

We recommend that the subcommittee develop comprehensive legislation to establish the PTO as a government corporation designed to provide the best possible service to the United States. We would be glad—indeed we would be delighted—to work with the subcommittee in developing such a proposal.

Thank you, sir. I would be pleased to answer any questions.

Mr. HUGHES. Thank you, Mr. Banner, for your testimony.

[The prepared statement of Mr. Banner follows:]

PREPARED STATEMENT OF DONALD W. BANNER, PRESIDENT, INTELLECTUAL PROPERTY OWNERS, INC.

INTELLECTUAL PROPERTY OWNERS, INC.

Mr. Chairman and Members of the Subcommittee:

I appreciate the opportunity to appear before the Subcommittee today on behalf of Intellectual Property Owners, Inc. (IPO) to urge administrative reform of the Patent and Trademark Office.

IPO is a nonprofit association whose members own patents, trademarks, copyrights and trade secrets. IPO's members are responsible for a substantial portion of the research and development conducted in the United States, and they pay large amounts of fees to the Patent and Trademark Office (PTO). They are, therefore, interested in having the Office operate as effectively as possible.

I had the privilege to serve as Commissioner of Patents and Trademarks in 1978 and 1979. In my testimony today, I will draw on some of my experiences as Commissioner. The PTO needed administrative reform when I was Commissioner, and the need is greater now.

The time has come to make sweeping changes in the way the PTO is administered.

Administration's Draft Authorization Bill

We have reviewed the draft Patent and Trademark Office Authorization bill that the Bush Administration has prepared. Our comments on the bill are brief, because the bill proposes to maintain the status quo.

First, we recommend authorizing funding for the PTO for only one year, as Congress did last year, rather than for the three-year period proposed by the Administration. Annual reauthorization will make it

easier for the Subcommittee to monitor the Office's operations and insure that improvements are being made.

Second, we urge that the bill authorize substantial public funds for the PTO for fiscal year 1993. Last year's authorization act included authority for $24 million of public funds, but, unfortunately, the Administration did not support and the Appropriations Committees did not approve significant public funds. We suggest authorization for $50 million to $100 million in public funds for 1993.

After the 13-percent average increase in fees last year and the 69-percent increase in patent fees the year before, we are gratified to see that the authorization bill does not propose fee increases this year except to adjust for inflation. We are not optimistic, however, that the Office can improve its operations while holding fee increases to the amount of inflation, in the absence of fundamental reforms.

Patent and Trademark Office Performance

In our testimony on past authorization bills, we have stressed the need for high-quality patent examining work and adequate funding for the PTO. We are generally in agreement with the main PTO goals that are stated in the 129-page document entitled "Patent and Trademark Office 1993 Budget Submission to the Congress." Those goals, which are basically unchanged for the last several years, are:

- To maintain patent pendency at 18 months and continue to improve patent quality;

- To maintain trademark pendency;
- To automate the patent and trademark processes in the 1990's; and
- To strengthen worldwide protection of intellectual property.

As we explained at last year's hearing, while our members are generally in favor of maintaining patent pendency at a relatively short period such as 18 months, they are more concerned about patent quality. Except for a few industries -- notably the biotechnology industry and industries that obtain design patents -- patent pendency has not been a major problem in recent years.

The highest priority should be to improve the quality of patent examining. Examining does little good if the examiners fail to find the most relevant earlier technology when they conduct searches, or fail to evaluate patent applications carefully for compliance with laws and regulations. Without a strong likelihood of validity of patents, the system becomes a cruel hoax to those who have risked their money and time in commercializing inventions only to find they have no valid patent rights.

The quality of patent examining work is a continuing major concern of our members and patent attorneys in industry and law firms. A recent survey by the American Intellectual Property Law Association revealed widespread concern about the quality of patent searches performed by the PTO and about several other things that affect the reliability of patents. A formal survey of IPO members in the 1980's showed similar

opinions. At that time, only 17 percent of IPO members expressed a strong degree of confidence in the validity of their patents. We believe the attitudes of IPO members have not changed significantly.

In our testimony last year, we questioned whether the patent examiner production quota system as it is being applied in the PTO is consistent with the highest possible quality and quantity of patent examining work. The production quota system appears to give almost automatic awards and bonuses to nearly all patent examiners. The perception is that awards and bonuses are paid only for making an extra effort on production, and not making an extra effort quality. As far back as 1984, the Office of Technology Assessment reported that the production quota system "inherently awards shortcuts ...."

One feature of the quota system that should be reviewed is whether it creates undesirable incentives to allow patent applications on the "first action". Examiners are evaluated according to a formula that gives credit for first actions as well as credit for disposing of applications. We recommend that the Committee look at the percentages of applications allowed on the first action in recent years, and also at other indicators of quality such as the percentages of applications ultimately allowed as patents and the percentages of rejections upheld by the Board of Patent Appeals and Interferences.

The Board, as the reviewing tribunal for rejections made by examiners, is an essential part of a quality patent examining system. The Subcommittee should be aware of complaints raised on behalf of members of the Board during a recent hearing before the Senate Judiciary Subcommittee on Patents, Copyrights and Trademarks. The Commissioner of Patents and Trademarks should have authority to establish uniform, PTO-

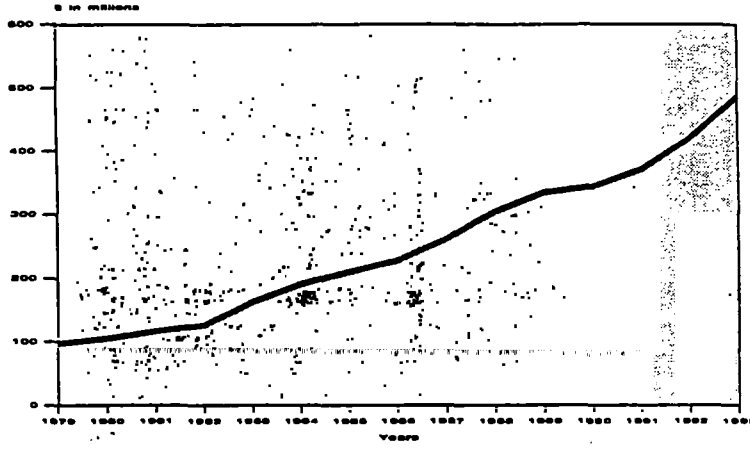
wide policies on questions of interpretation of patent law, but the members of the Board need a reasonable degree of independence to decide individual cases.

In addition to their concerns about patent examining quality, IPO members are concerned about the competence and responsiveness of the clerical and paper processing operations in the PTO and the cost-effectiveness of the Automated Patent System. With regard to automation, the general perception is that the Office is still preoccupied with spending hundreds of millions of dollars on a system that so far has provided very little payback, and that the Office has been very slow to respond to pleas from its users to consider alternative technology such as CD-ROMs or to give higher priority to making patent information accessible to members of the public.

The complaints by users of the Patent and Trademark Office have been expressed repeatedly in many public forums. For a decade, Congress and the Executive Branch have attempted to respond with increases in funding for the PTO. When I left the government in 1979, the annual budget of the PTO was $97 million. For 1993, the proposed budget is $486 million, an increase of 400 percent (FIGURE 1) in a 14-year period during which inflation will have been about 100 percent. Granted, the workload of the Office also has increased substantially during this period (FIGURE 2), but spending has far outdistanced inflation plus workload.

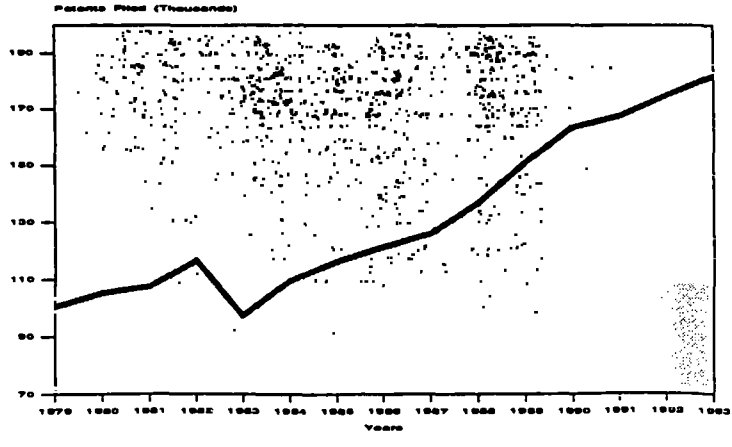
User fees have risen far faster than the PTO budget, of course, because the portion of the budget supported by public funds has declined from about 70 percent in 1979 to zero in 1993 (FIGURE 3).

Figure 1
PTO Budget



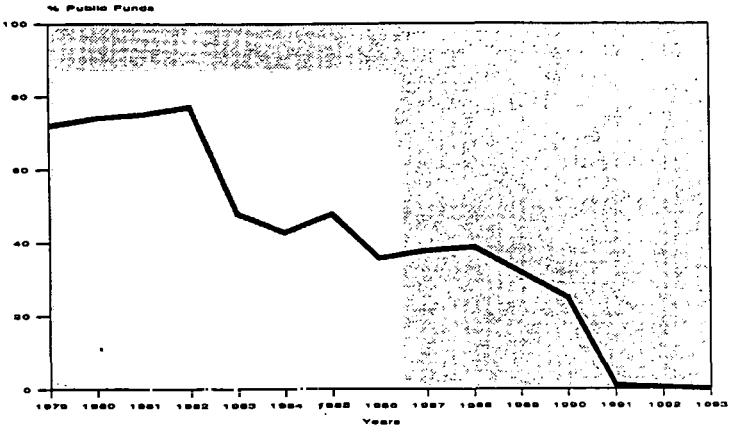
Sources: Annual Reports of Commissioner and 1993 Budget Submission to the Congress.

Figure 2
Patent Applications Filed



Sources: Annual Reports of Commissioner and 1993 Budget Submission to the Congress.
Design patent filings are not included.

Figure 3
Public Funding of PTO



Sources: Annual Reports of Commissioner and 1993 Budget Submission to the Congress.

While IPO favors an adequate budget for the PTO, we have come to believe that the time-honored solution of throwing money at problems - whether user fee money or public funds - is not the answer to attaining excellence in PTO operations. We are urging Congress to take forceful action to reform the PTO institution so that it can serve the public more effectively with the resources it has.

PTO as a Government Corporation

In 1989 the National Academy of Public Administration issued a report commissioned by IPO entitled "Considerations in Establishing the

Patent and Trademark Office as a Government Corporation."[1] The report was requested by IPO to obtain information on new approaches that might be taken to improve the Office.

The report was prepared by Alan O. Dean and Dr. Harold Seidman of the National Academy staff. They were assisted by an advisory panel consisting of Paul Dembling, Ronald Moe, and Gerald Mossinghoff, the latter having served as Commissioner of Patent and Trademarks from 1981 to 1985.

The report concluded that the Patent and Trademark Office would be able to provide better service to the public if it had government corporation status similar to that possessed by the Tennessee Valley Authority, Federal Prison Industries, and a number of other special entities in the federal government. These "government corporations" or "government enterprises" have in common that they are financed primarily by their users and customers, rather than by the general taxpayers. Congress has seen fit to give them greater operating and financial flexibility than agencies that depend on appropriated funds. The National Academy report says the PTO meets the basic tests for eligibility for government corporation status: it is largely self-sustaining and it must respond to demands for services that it does not control.

In essence, a PTO corporation would enjoy the advantages that a private business has over a conventional federal government agency in responding to customers. IPO has endorsed the concept of a PTO government corporation and has been studying the features that should be

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[1] Copies available on request from the IPO office.

in legislation to establish such a corporation.

We recommend that the Subcommittee develop comprehensive legislation to establish the PTO as a government corporation designed to provide the best possible service to its users. The corporation, which could still be called the Patent and Trademark Office, should be an independent agency in the executive branch of the government. The chief executive officer of the PTO would possess management authority equivalent to the authority possessed by a CEO of a major private company and could still be called "Commissioner".

The position of Commissioner should be defined in a way that would attract the best-qualified individuals in the country to the position and give them incentives to stay for several years. We suggest compensation equivalent to that earned by an attorney who heads the intellectual property staff of a major private company.

The Commissioner should be appointed by the President, with the advice and consent of the Senate. Users of the PTO would recommend individuals to be considered by the President for the position. The Commissioner could be appointed for a term of 6 years and be removable from office only for cause. The Commissioner would continue to participate in national economic, scientific, and trade policy-making, as the Commissioner does today.

The legislation establishing the PTO corporation should have the following main features:

- Authority for the PTO to borrow money through issuance of bonds, subject to limits set by Congress;

- Broad operating flexibility similar to that enjoyed by private businesses with regard to personnel systems, employee compensation, contracting for services, and ability to inject entrepreneurial spirit into operations; and

- A statutory advisory committee whose members would be users of the Patent and Trademark Office appointed by the President to advise the President, the Commissioner, and the Congress on the administrative operations of the PTO.

Borrowing Authority

The PTO should have statutory authority to issue bonds to assist in financing its activities. The PTO would pledge its revenues for the payment of the principal and interest on its bonds.

Borrowing authority would enable the PTO to build or lease its own buildings. The PTO currently occupies more than 1.3 million square feet of space in 19 buildings, 15 of which are located in Crystal City in Arlington, Virginia. The majority of the PTO's Crystal City leases expire in 1996. The rent that the PTO is required to pay to the General Services Administration for its leased office space is skyrocketing.

Table

PTO OFFICE SPACE RENT

Year	Square Feet Occupied	Rent
1991	1,294,000	$29,288,000
1992	1,374,000	$41,971,000
1993	1,430,000	$50,389,000

Source: Testimony by Commissioner of Patent and Trademarks Harry F. Manbeck, Jr. before House Appropriations Subcommittee, March 24, 1992.

As we understand it, the rent paid by the PTO to the General Services Administration includes amounts for GSA's building fund. It is inequitable for patent and trademark user fee money to be devoted to this purpose unless the GSA contemplates financing building construction for the PTO.

The high rent paid by the PTO also reflects the fact that rents in Crystal City, Virginia, and downtown Washington, DC, are among the highest in the country. A private survey reported in the Washington Post this month concluded that Washington, DC, office space rent indeed is the highest in the United States, higher than mid-town Manhattan.

We believe that it is essential for the PTO government corporation to have the authority to construct or lease its own office space. This is an urgent matter. With the Crystal City leases expiring in 1996, a satisfactory long-term solution to the PTO's office space must be found in the near future.

We have recently obtained a copy of the "Patent and Trademark Office

Long Range Plan, Fiscal Years 1993 - 1997." The long range plan includes a "Space Master Plan" which describes decisions that will be made by the General Services Administration.

Assumptions in the plan are subject to question. The plan assumes that the PTO, which estimates it will need 2 million square feet of space by 1996, should have all of its operations at a single location. This assumption should be reviewed with the benefit of input from members of the public. It may be not only beneficial to U.S. industry, but also cost-effective, to have segments of the PTO situated in the areas of the country where those industries are predominantly located. Similarly, it is not clear that the patent operations and trademark operations of the PTO need to be at the same site, although no doubt it is a convenience for some attorneys.

It also could be cost-effective to move data entry, paper processing, and clerical support units of the PTO to areas of country where labor costs are lower. Data could be transported or transmitted to the examining operations from those remote locations.

Private businesses examine and reexamine these kinds of issues continually, and choose the options that are best for their customers. Whatever the office space needs of the PTO, with due respect, the decisions should not be made by anonymous bureaucrats in the General Services Administration. The decisions should be made by the chief executive officer of the PTO corporation -- the Commissioner -- after weighing the needs of the users of the PTO, including the need to control expenses. The PTO corporation, therefore, should be given immediate authority to borrow money and to arrange for its own office space without involvement by GSA.

Borrowing authority for the PTO also is needed in order to finance other large, one-time capital improvements such as automating the search files. Automation of search files is providing little or no benefit to current patent applicants, who are paying about $80 million this year in automation expenses. It is unfair to assess today's applicants to pay the huge development costs for the automation program. By using borrowed money to support the automated patent system, the PTO might be able to reduce the levels of fees for current applicants.

Another benefit of borrowing authority for the PTO would be to enable the PTO to avoid short-term cash flow problems caused by fluctuations in patent and trademark filing rates. Under the current financing system, if the PTO increases its staff on the assumption that a certain level of patent or trademark applications will be filed and that rate of filings fails tc materialize, the income expected from filing fees does not materialize and the PTO finds itself in a temporary cash squeeze that may adversely affect long-term programs.

Operating Flexibility

Borrowing authority for the Patent and Trademark Office must be accompanied by legislation to give the PTO more operating flexibility, which in the long run will enable the PTO to be more efficient. The chief executive officer of the PTO corporation should have operating flexibility and management discretion equivalent to that possessed by CEOs of private companies.

The PTO, like most federal agencies, is a rigid, bureaucratic, monopoly service provider. Like most federal agencies, the PTO does not

have a reputation for innovation in providing services to users. If the PTO were given the flexibility of a Merck & Co. or a United Parcel Service, the PTO's users and the national economy would benefit.

For example, the Commissioner should have authority to establish a flexible personnel system for the PTO consistent with principles of fairness, due process, and merit systems. The Commissioner should have authority to fix the rate of compensation of PTO employees at rates higher than regular government salary schedules for executives, scientists, engineers, and other employees who are in short supply -- for example, patent examiners in the field of biotechnology.

As a user-fee-funded institution, the PTO corporation should be exempt from government-wide personnel and spending ceilings that are imposed from time to time to conserve public funds.

The PTO should have the flexibility enjoyed by private companies and state and local governments to contract for services. Fortune 500 companies increasingly are contracting for a variety of support services such as mail room operations, copying work, data entry, computer-support services, and accounting.[2]

Infusion of competition into government agencies is one of the keys to making government efficient, effective and responsive. With adequate operating flexibility, the Commissioner could utilize a variety of approaches for introducing competition into the PTO bureaucracy. Competition can be achieved by requiring multiple private contractors to compete with one another, by requiring private contractors to compete with in-house operations, and by permitting customers to choose among

[2] "Small Companies Thrive by Taking Over Some Specialized Tasks for Big Concerns," Wall Street Journal, page B1, Sept. 11, 1991.

competing services. With increased flexibility to manage and restructure PTO operations, we believe many ways can be found to improve operations.

An essential ingredient for providing operating flexibility to the PTO is to eliminate unnecessary layers of government managers and reviewers and to decentralize decisionmaking. To this end, the PTO must be made independent of the Commerce Department. Numerous former Commissioners of Patents and Trademarks have supported separation from Commerce. Commerce Department management of the PTO slows down decisionmaking and results in policy decisions being made by people who have no understanding of the needs of PTO users. Former Commissioner C. Marshall Dann had this to say in Congressional testimony in 1980:

> The Department of Commerce often impeded our efforts and rarely was of assistance to the Patent and Trademark Office. Because the Office is a bureau of the Department of Commerce, a great many actions could be taken only after approval by or with active participation by the Department. At best, this involved delay, while quite often it amounted to obstruction of what we viewed as very constructive undertakings.
>
> Many of the problems resulted simply from having additional layers of review. For example, on legislative matters, not only was it necessary to have clearance from the Office of Management and Budget before views were presented to the Congress, but it was also necessary for the Patent and Trademark Office to go to the Department of Commerce before there could be any communication to OMB. Sometimes Patent Office personnel had direct contact with OMB, though often they did not. The same thing was true on budget matters. On personnel matters requiring the approval of what during my tenure was known as the Civil Service Commission, it was invariably necessary to go first though the Personnel Office of the Department of Commerce. Internal Patent and Trademark Office organization changes could be made only with approval from the Department.
>
> Clearance with the Department did not ordinarily mean the approval of one person. Instead, in routine bureaucratic fashion, each approving person had a staff of persons reporting to him who first had to review the matter at issue. In all the paper-shuffling, there was rarely a sense of

urgency.

We do not in any way intend to be critical of the current Secretary of Commerce or any former Secretaries. Commerce has had some exceptionally able leaders. Nevertheless, we cannot achieve a "lean and mean" PTO unless we eliminate unnecessary layers of management. Commerce has countless unnecessary layers. From my own experience as Commissioner, I feel very strongly that there is no compromise on this point. The PTO corporation must be an independent agency.

Statutory Advisory Committee of Users

A PTO corporation must include a statutory advisory committee whose members would be appointed by the President, perhaps with the advice and consent of the Senate. The members would be drawn from users of the PTO. Such a committee would guarantee a strong voice for users in the operation of the PTO. The committee should have the ability to control its own agenda, have access to information about PTO operations, and have staff support to carry out its functions.

The committee should have statutory responsibility to recommend to the President individuals who should be considered for appointment to the post of Commissioner of Patent and Trademarks. The committee also should have responsibility by statute to recommend to the President the removal of the Commissioner of Patent and Trademarks. The advisory committee should provide annual reports to the President and to the Congress on the policies, goals, performance, budget and user fees of the PTO, and should advise the Commissioner on these matters. The committee could have

subcommittees to advise on issues unique to patents or to trademarks, or separate advisory committees could be established for patents and trademarks.

The reports of the advisory committee would help Congress oversee the PTO corporation. Congress should retain the controls over the PTO it has now - legislative, oversight, and authorization authority of the Judiciary Committees and appropriations authority of the Appropriations Committees - and have control over the borrowing authority of the PTO corporation.

Operating flexibility and authority for the PTO, of course, must be accompanied by accountability. PTO users have a strong interest in helping oversee the PTO and can be depended upon to insist on efficiency and effectiveness of Office operations. The structure we recommend would enable users to work in partnership with the Congress, the President, and the Office of Management and Budget to ensure accountability of the PTO for its operations. With the benefit of regular reports from the advisory committee representing patent and trademark users, Congress would be well positioned to provide broad policy guidance to the President and the Commissioner through legislation and control of financial affairs.

Restoration of Public Funding for PTO

Until the enactment of the Budget Reconciliation Act of 1990, the Patent and Trademark Office was receiving about $100 million a year in support from general tax revenues. The Reconciliation Act effected a 69-percent increase in patent fees and cut public funding to nearly zero.

For fiscal year 1993, the Administration is recommending no public funding for the PTO.

IPO urges restoration of substantial public funding. It is sound public policy to use taxpayer funding to support operations of the PTO that do not directly benefit patent and trademark applicants and other paying customers of the PTO. Operations of the PTO that deserve public funding include automation, public information activities, public search facilities, depository library programs, legislative and international activities, and the like. Such operations are primarily of benefit to the public at large. They promote dissemination of technological information, encourage innovation and investment, and improve patent and trademark laws and treaties for the benefit of the country as a whole. A draft report by the Commerce Department's Advisory Commission on Patent Law Reform dated April 27, 1992, recommends public funding for such operations.

Congress also should provide public funds to cover the 50-percent discount in patent fees that current law requires for independent inventors, small businesses, and universities. The discount for these "small entities" costs about $50 million a year.

Since 1990, when public funding was eliminated, large businesses have been paying not only the full cost of the processing of their own patent applications, but also an extra $50 million to subsidize the small entities. This is a grossly unfair tax on innovation by large companies. IPO supports continuation of the small entity discount, but urges that it be paid with public funds.

Public funding for a portion of PTO operations is not inconsistent with establishing the PTO as a government corporation. A number of

existing government corporations are less than fully self-sustaining. As long as an agency is largely self-sustaining and has a need to respond to market forces in providing services to users, it is suited for government corporation status. One hundred million dollars in public funding would be only 21 percent of the PTO's $486 million budget for 1993.

CONCLUSION

We submit that prompt administrative reform of the Patent and Trademark Office is essential. The Office's employees are hard-working, dedicated individuals who are doing their best to serve the Office's users, but they are shackled by an outdated, rigid, bureaucratic system. Congress must reinvent the Patent and Trademark Office.[3]

* * *

[3] Cf. D. Osborne and T. Gaebler, Reinventing Government, Addison-Wesley Publishing Co., Inc. 1992. Messrs. Osborne and Gaebler testified before the Joint Economic Committee of the Congress on Feb. 5, 1992.

Mr. HUGHES. In your written text you advocated severing the Patent and Trademark Office from the Department of Commerce to enhance the quality of services provided by the PTO. You suggest it can best be accomplished with a new government corporation.

What corporate mechanisms do you see as being advantageous that would suggest that we should form a new corporation, and use that mechanism as opposed to the present structure within the Department of Commerce? What are the advantages that you see coming about?

Mr. BANNER. There are several, Mr. Chairman. In the present mode, the way we operate today, the Department of Commerce properly likes to understand what the PTO is doing. It likes to be very careful about what is happening. And so you have a series of—an overlaying of management.

I can't tell you how it works right today, but I can tell you as Commissioner one time I wrote a letter which I thought was a very simple letter. As a matter of fact, it was to a Member of Congress, and it is hard to believe, but that letter went back and forth in the Department of Commerce 14 times before we finally got that letter worked out. That is nonsense.

Mr. HUGHES. Maybe you wrote it to the wrong Member of Congress.

Mr. BANNER. The Member of Congress didn't get it until the 14th—I didn't hear from him again, so I guess—but there were matters such as how do you compensate examiners. How do you do that? In some places, examiners require very, very special, almost unique skills. In other places, in the Office, that is not true. You have to learn how to adjust this.

I spent most of my life in a very large corporation, and you learn how to do this. You balance off these things. You balance off personnel needs. You balance off what they are paying on the outside. You balance off what kind of special requirements you are going to have. All those things you can do with a corporation that you can't do today. You can't today certainly borrow money to build that building. You can't have a separate building. Maybe you can. By God we haven't done it.

We certainly have been fooling around long enough. This is costing us a great deal of money. We are not doing it as efficiently as we could.

All of those things could be accomplished with a separate corporation. You would have much closer contact with the users, with an appropriate advisory board which would be subject to the approval of course of Congress. I think you would be closer to the action, more responsive to the way this whole thing works.

Mr. HUGHES. Well, we could increase the salaries. You suggest that would be a factor. In fact, I was intrigued by your suggestion we ought to be paying the top brass much more. That is probably true.

Mr. BANNER. I wasn't talking so much about the top brass, although I think if you are in the top brass that is always looked upon favorably. I was talking about some of the examining people, some of the people who are in specialized skills, such as biotechnology, and how you handle those——

Mr. HUGHES. We probably don't pay them enough. That is an area that we could certainly, if that were a particular problem, we could change that.

Mr. BANNER. And you should.

Mr. HUGHES. Insofar as accountability to users and public generally, we can take all kinds of steps to try to increase that by creating an additional advisory board if that is needed or strengthen the advisory board. You don't need a corporation to do that.

Mr. BANNER. All of which wouldn't take you out of the Department of Commerce, though, would it?

Mr. HUGHES. The only thing I have heard, basically, to suggest that it would be an advantage would be to eliminate some duplication. The Department of Commerce looks, you know, at some of the things that PTO is doing, and that is proper, as you suggest. It should be.

But is that the major problem? I have never heard that advanced as a major problem.

Mr. BANNER. If you are the Commissioner, it is a major problem.

Let me also say that one of the advantages of such a corporation is something that is extremely important in the administration of the Office. As you well know, it is customary when the administration changes to get a new Commissioner of Patents. In fact, you get a new Commissioner of Patents; you get a new Deputy Commissioner of Patents. You throw all those people away. What are we doing that for?

It seems to me that if there is any job in the Government that should be apolitical, it is the job of the Commissioner of Patents. And with a separate corporation like this you could hire somebody and say you have a job for 6 years or whatever.

Mr. HUGHES. We could do that by changing the term of the Commissioner.

Mr. BANNER. Well—the term today, you mean? It is set by the President.

Mr. HUGHES. I know, but we could change that legislatively. We could increase the term.

Mr. BANNER. Well, let me be very clear about this. I think that the Congress could probably do everything there is that a separate corporation could do, and I would welcome it if they did.

Mr. HUGHES. I am not being argumentative. I am just trying to find out from you whether I have missed anything in trying to assess what advantages would come about by creating a new corporation. I am intrigued by the idea, but I am not sure I see any major advantages at this point. I think we need to do a lot of things to reform the structure of the PTO, and I think there is some recognition within PTO that that needs to be done, and I think we can perhaps do some things to make—provide that kind of continuity which I think would be important to the PTO.

I am also intrigued by the whole concept of making PTO a separate independent agency.

Mr. BANNER. And the ability to borrow money is very important.

Mr. HUGHES. That we can create by statute. That is no problem. We can provide that.

Mr. BANNER. That is good. That should be done.

Mr. HUGHES. Frankly, I am in favor of eliminating the layers of bureaucracy. We will certainly take a closer look at some of your recommendations. Insofar as public funding is concerned, I think you know how I feel about public funding and the need for public funding.

I must say that I find it interesting, however—on the one hand, you think public funding is necessary. On the other hand, you want to create a separate corporation, which is somewhat incompatible, I suppose. I think public funding is important for all the reasons you spelled out, some of the reasons I have spelled out in my opening statement.

But, you know, I never realized that we had such an ability for shell games around here with money. It reminds me of the days I visited the carnival trying to find the pea, you know. That is a little bit like what happens with funding around here. And the ability to engage in that shell game increases significantly when, basically, you do not have a certain amount of public funding involved. It reduces our ability to ensure that we also have some say about priorities.

Mr. BANNER. Well, it does, no question about that, but one of the real disadvantages of where we are now is, we have no public funding, and we have the PTO in its place. As I said before, how can you explain to your somewhat impecunious client that he has to pay his share of hundreds of millions of dollars for, for example, automation, and he gets—if he is in a division that has nothing to do with those two places where they are examining—he gets no benefit at all. How could you explain that?

Mr. HUGHES. I would have a hard time explaining that because, while the user benefits, the public benefits also. There is a public benefit involved. That is why the public has basically a major stake in the operation of PTO because we all benefit.

Mr. BANNER. Exactly. We all benefit, but the public doesn't pay for it.

Mr. HUGHES. Well, I don't know that I have any other questions. Your statement, as I indicated, was very comprehensive and very helpful to us, as always, and we appreciate that.

Mr. BANNER. Thank you, sir.

Mr. HUGHES. Thank you, Mr. Banner.

That concludes the hearing for today. The subcommittee stands adjourned.

[Whereupon, at 11:48 a.m., the subcommittee adjourned, to reconvene subject to the call of the Chair.]

APPENDIX

STATEMENT OF JOHN J. CUMMINS, CHAIRMAN OF THE BOARD AND PRESIDENT, THE UNITED STATES TRADEMARK ASSOCIATION

U.S. Trademark Association

STATEMENT
OF
JOHN J. CUMMINS
CHAIRMAN OF THE BOARD AND PRESIDENT
THE UNITED STATES TRADEMARK ASSOCIATION

Subcommittee on Intellectual Property and Judicial Administration
House Judiciary Committee

May 28, 1992

Mr. Chairman:

The United States Trademark Association ("USTA") appreciates the opportunity to present our views on Trademark Office resources and activities as they bear on the current and future needs of the trademark community and the proposed Fiscal Year 1993 USPTO authorization legislation. As always, we appreciate the opportunity to work with you and the members of the Committee.

My name is John J. Cummins and I presently serve as Chairman of the Board of Directors and President of USTA. I am employed by The Procter & Gamble Company as Corporation Counsel and Assistant Secretary. I am also a member of the American Bar Association, the Cincinnati Intellectual Property Law Association and am past president of the latter. I have been admitted to the bar of the states of Missouri, Florida, and on a corporate basis, Ohio. Like all USTA officers, Board members and Committee chairpersons, I serve on a voluntary basis.

USTA is a 114-year old not-for-profit membership organization. Since its founding in 1878, its membership has grown from twelve New York based manufacturers to over 2400 corporations, package design firms and professional associations from across the United States and approximately 85 countries. USTA's membership crosses all industry lines, spanning a broad range of manufacturing, retail and service operations. Our members include both small and large businesses and all sizes of general practice and intellectual property law firms.

USTA will concentrate on those activities of the Trademark Office which will need the attention of this Committee and the U.S. Patent and Trademark Office ("USPTO") in the years immediately ahead. USPTO reauthorization is a critical area, followed closely by the Trademark Law Revision Act's ("TLRA") impact on the Office, the filing of Intent-to-Use ("ITU") applications, the Madrid Protocol, and the ever-present problem of automation.

First, however, I would like to give you some background on the Association. USTA has five principal goals;

- To support and advance trademarks as an essential element of effective commerce throughout the world;

- To protect the interests of the public in the use of trademarks;

• To educate business, the press and the public to the importance of trademarks in both our national and international economies;

• To fulfill an active leadership role in matters of public policy concerning trademarks;

• To provide a comprehensive range of services to its members that includes keeping them well-informed on current trademark developments and in touch with professional colleagues.

The active pursuit of these goals is vital to promoting the interests of consumers and encouraging free and effective competition.

USTA POSITION ON FISCAL YEAR 1993 U.S. PATENT AND TRADEMARK OFFICE REAUTHORIZATION

USTA believes that the current reauthorization law enacted in late 1991 presents an acceptable framework for the USPTO to discharge the original statutory objectives of the Lanham Act; satisfy the strictures of the 1988 Trademark Law Revision Act 22provisions, particularly those regarding ITU filings; increase its automation capabilities and efficiencies; and begin preliminary preparation for the possible U.S. adherence to the Madrid Protocol. Thus, to the extent that the Fiscal Year 1993 proposal allows the Trademark Office to realize those objectives, we brook no opposition to its enactment. Nevertheless, we believe that in this tight budgetary period, the USPTO will need to discover additional means of achieving its goal of running an efficient and responsive Trademark Office.

Of particular importance to the trademark community is the Congressional confirmation of the statutory policy mandating the use of trademark user-fees and reserve revenues exclusively for trademark-related activities. Present trademark budget procedures were established during a period, Fiscal Years 1983-1990, when the Trademark Office was the sole USPTO component which was 100% user-fee funded. Since Trademark Office revenues continue to come from private monies rather than taxpayer subsidies, use of trademark user-fees and reserve funds for non-trademark activities would deprive Trademark Office users of resources at a time when, due to current USPTO policies, practices and projected needs, every dollar received and spent is crucial to the continued viability of Trademark Office operations.

CURRENT STATE OF THE TRADEMARK OFFICE

In Fiscal Year 1991, the Trademark Office received in excess of 120,000 registration applications. Although this number is down from the 127,294 received in Fiscal Year 1990 and lower than initially expected in the last fiscal year, it reflects a

permanent increase in registration application filings under the TLRA's ITU provisions which became effective in Fiscal Year 1990. Fiscal Year 1991 resources (including the reserve fund) generated by fees for these and other filings totaled $49,748,000 while expenses were $39,978,000. However, Fiscal Year 1991 user-fees produced only slightly more than $33,000,000 in Trademark Office income.

Simply raising fees to cover either short or long term costs will eventually work against the central purpose of the Trademark Office. In 1982, when Congress transferred fee-setting authority to the USPTO, the House Judiciary Committee stated:

> It is expected that the Commissioner will set the fees in a way that the filing fee will be kept as low as possible to foster use of the Federal registration system. (House Report 97-542).

The Senate Judiciary Committee agreed, emphasizing this policy during its 1986 deliberations of USPTO reauthorization legislation which originated in the House (HR 2434). The Committee stated that "...the Office's public mandate is more important than cost recovery."
USTA does not oppose those fees or fee increases that bear a reasonable correlation to trademark functions and are both consistent with and necessary to fulfill the Office's mandate. However, the Association believes that increasing fees as a quick and easy solution will instead subvert the intent of the Lanham Act. To merely augment staff or increase automation capacity without first investigating constructive alternatives will ultimately transform a system meant to be accessible to all to an unaffordable luxury available to only a few.

USTA urges this Committee and the USPTO to review traditional policies and practices, some which have gone unchallenged and unchanged, since the founding of the agency. For example, although the Trademark Office must serve as an information repository, is it efficient for the Office to maintain cumbersome paper search files in an age of electronic communications and data collection? As a part of agency which receives no taxpayer subsidies, is it appropriate that it continue to pay the General Services Administration ("GSA") a fee for building services that the Office may be able to do without GSA assistance?

As a major part of that review, thought should be given to increasing the responsibility of the Assistant Commissioner for Trademarks for determining the budget of those USPTO functions which relate directly to the quality of the Trademark Office's service to both the trademark community and the general public. Making the Trademark Office accountable for proper budgetary planning of trademark "off-line" functions would make it more effective in meeting the intent of the Lanham Act. It would also allow the Office greater discretion to undertake appropriate

policy and procedural changes in order to keep the Trademark Register fully accessible to all.

INTENT-TO-USE

Upon a good faith declaration of a bona fide intent to begin using a mark, an ITU applicant may establish constructive use of a trademark for a specific period in anticipation of its actual use by filing an ITU application with the USPTO. Since ITU filings were first accepted in Fiscal Year 1990, they have constituted over 40% of all initial registration applications. Thus far, in the current fiscal year, they are approaching 48% of all registration applications accepted by the agency. Compliance with TLRA's ITU provisions results in issuance of a Notice of Allowance ("NOA"). Nearly 27,000 NOA's were issued in Fiscal Year 1991, and in Fiscal year 1992, as of February 1, 9,965 NOAs have already been granted.

Not surprisingly, since beginning ITU processing, the USPTO goal of first action on new applications (both standard and ITU) within three months has not been met. In February 1, 1991, the average time to first action was 5.8 months. However, precisely one year later, because of a now "ITU smart" Examining Corps, the initial response period has fallen to 3.4 months.

USTA applauds the USPTO's ability to approach its goal. The speedy but careful melding of ITU policies and procedures into traditional Trademark Office functions has, in major part, kept the ITU system from being abused. Consequently, there has been little, if any, lessening of competition in the marketplace or interference with the flow of commerce.

THE MADRID PROTOCOL

The Madrid Protocol, negotiated in 1989, is a free-standing treaty which creates multi-national trademark protection through international registration rights established under a centralized system. It enables trademark owners to benefit from the Paris Convention priority established by their national applications without instituting separate national filings or retaining local counsel.

The Protocol is administered by the World Intellectual Property Association ("WIPO") in Geneva, Switzerland. However, if Congress ratifies the Protocol, the Trademark Office would become responsible for its implementation in this country.

Predicting the effect of Protocol adherence on filings with the Trademark Office is virtually impossible. There is no basis for comparison. Nevertheless, because the U.S. is a major commercial market, its adherence to the Protocol could create a significant increase in application filings.

A sizable boost in the number of filings could also produce a dramatic increase in the pendency time for applications. Moreover, it is possible that examination priority would have to be given to Protocol filers: an unpalatable prospect to both U.S. trademark owners and policy makers. Additionally, since the filing date of a federal application constitutes nationwide constructive use (contingent on the issuance of the application), the USPTO may need to take appropriate measures to ensure that accurate, up-to-date trademark searches will continue to be a reasonable expectation.

If the U.S. joins the Protocol, the Trademark Office may well need to reassess and perhaps restructure its resources in order to ensure that the Protocol becomes an enhancement of U.S. trademark law and practice. Finally, the Office must share that assessment and confer with users in order to ensure significant changes in its policies and procedures do not carry negative consequences.

TRADEMARK OFFICE AUTOMATION

It is the automation component which provides the Trademark Office the most obvious means to enhance its work product; its value and necessity to examination staff increases daily. However, as a user-funded agency, the USPTO is restricted in the financial resources it can extend to its automation aims. USTA remains committed to ensuring that any USPTO automation initiatives relating to federal trademark activities be clearly justified in fostering improved service to Trademark Office users.

Trademark Office automation activities involve several systems: T-Search (and its replacement X-Search), used by the Examination Corps; TRAM II, which provides trademark status information for registrations and applications; and CD-ROM technology, to make registration and application status information available to the general public in the Trademark Public Search and the Patent and Trademark Depository Libraries across the nation. All of these automation endeavors play a key role in enabling the Trademark Office to respond, in a timely and effective manner, to current and anticipated Trademark Office activities.

Presently, the primary focus is on the implementation of the X-Search system, the successor to the present T-Search system. X-Search's eventual use is scheduled in four phases. Phase I (Version 1.0 of X-Search) is directed, in part, to converting record images from a proprietary format and software to a standard CCITT Group IV format that will be usable by off-the-shelf image processing software. This change should result in greater efficiency by the Examination Corps as well as placing the Trademark Office on the international system used by WIPO. Without the benefits of Version 1.0, the automation resources presently available to the public would, within the relatively near future, have to be reduced so as not to impede Trademark

Office examiners in the normal course of their duties. We understand that this work is nearing completion.

Phase II of X-Search (Version 1.1) is principally concerned with replacing ORBIT, the present software search engine which gives the automation system its specific capabilities. The ORBIT engine, developed over 25 years ago, has become as much of a hindrance as a help in the prosecution of trademarks. For example, it is limited in the number of terminals that it can serve concurrently. This limitation means that the system starts to "degrade" if it must respond to more than 25 users simultaneously. Additionally, its inability to handle more than 60 users at any one time renders it inadequate for an Examination Corps of 180 professionals.

Versions 1.0 and 1.1 are to be in place by the spring and fall of 1993, respectively. The necessary costs of implementing these two phases is expected to total slightly less than $1.5 million. This figure includes the replacement of ORBIT, current work stations, communications software and a component computer for images. Providing work stations so that every examiner has access to a terminal at his or her desk could add an additional $780,000. Projected Fiscal Year 1992 outlays total approximately $510,000 of the possible $2,000,000 - $2,500,000 anticipated overall X-Search expenditures (excluding costs related to in-house personnel). Because of the obvious advantages of X-Search, USTA is concerned that no financial or administrative circumstances impede the system's implementation.

Phases III and IV (Version 2.0), originally with a completion goal of late summer 1996, was to enhance X-Search by emphasizing the utilization of advanced search techniques to attain still greater efficiencies. However, the Association has been informed, that at this time, funding for Version 2.0 has been cancelled.

USTA recognizes the importance of acquiring a highly efficient automation system for the Trademark Office. The Association is encouraged that the estimated total of $2,000,000 to $2,500,000 compare favorably with the $10,000,000 (in 1984 dollars) spent to effect the present T-Search system. From its beginning, T-Search has proven unsatisfactory in meeting the needs of the Trademark Office and has become an immense disappointment to the trademark community as well as the general public. Nevertheless, USTA wants to ensure that X-Search expenditures do not become prohibitive and show an indisputable relationship to the present and future needs of the trademark community.

To this end, the Association is pleased that the Assistant Commissioner for Trademarks has solicited the comments of the trademark community and that the Commissioner's Office has acceded to our request for regular and frequent consultation regarding X-Search developments. We have had several mutually beneficial exchanges and more are planned. In order to prevent

another costly mistake, it is essential that the USPTO remain responsive by sharing any tentative revisions in its plans and scheduling for the new system. Such disclosures must not be made after the fact if the Office is to foster the confidence and patronage of the trademark community as it works to develop a successful system from a limited budget.

SUMMARY

A fully funded Trademark Office presents significant and continuing challenges. Nonetheless, the Office has shown marked improvement under its current user-fee structure now in effect for a decade. The Association is aware that the Office is more than just a business; in fulfilling its public mission, it has an integral role in national and international commerce. Ironically, however, in a period in which there is no room for financial error, the Commissioner's Office must encourage the Trademark Office to think more like a business by providing it every available means for it to recognize, gauge and address the needs of its constituency. In turn, the Trademark Office must continue to seek new channels to strengthen its ties with its users. USTA is heartened by the increasingly open and candid dialogue with USPTO officials. Nonetheless, we realize that the current challenges of the Trademark Office demand that those exchanges take place on a long term basis for much remains to be done.

Congressional scrutiny and legislative efforts have provided the necessary framework for the Trademark Office to successfully meet the intent of the Lanham Act. We are confident that Congress will continue and, indeed, increase its efforts to streamline and improve the operations of the Trademark Office for the benefit of the public. USTA is pleased to be a resource to this Committee and will be pleased to assist it in any way in discharging these important responsibilities.

STATEMENT OF THE TASK FORCE ON PATENTS OF THE COUNCIL ON ENGINEERING OF THE AMERICAN SOCIETY OF MECHANICAL ENGINEERS, JUNE 23, 1992

The AMERICAN SOCIETY of MECHANICAL ENGINEERS

FOUNDED 1880

Statement
on the
Fiscal Year 1993 Authorization
for the
United States Patent and Trademark Office
of the United States Department of Commerce

by the
Task Force on Patents
of the
Council on Engineering
of the
American Society of Mechanical Engineers

Submitted to the
Subcommittee on Intellectual Property
and the Judicial Administration
of the
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U.S. House of Representatives

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The Patent Task Force of the Council on Engineering of the American Society of Mechanical Engineers (ASME) appreciates the opportunity to present its views through this written statement to the Subcommittee on Intellectual Property and Judicial Administration of the House Judiciary Committee regarding reauthorization of the Patent and Trademark Office (PTO) in the Department of Commerce. This statement represents the considered judgement of the Task Force, a group of engineers with expertise in the field, rather than an official position of ASME.

Founded in 1880, ASME has a membership of 118,000 engineers, including 22,000 students. ASME members are employed by industry, academia, and work in both large industrial and small professional settings. As such, many ASME members have a strong interest in the future of the PTO, whether they are multiple patent holders and frequent patent applicants, or work for companies developing patented technologies to commercial fruition.

Engineers are both the innovators and the developers of inventions. As such, the patented items of today will be the lifeblood of engineers and U.S. technology five years from now and the foundation of the future U.S. economy. Small businesses and individual inventors, in particular, have historically come up with many of the key patented innovations which have launched powerhouses of the U.S. economy.

In an era when the need to be technologically competitive is essential for the nation's economic well-being, Congress must follow its constitutional mandate to "promote the progress of science and the useful arts by securing for a limited time the exclusive rights of inventors to their discoveries." The patent system has provided encouragement of invention since the late 1700s. However, recent changes in this important office threaten its ability to continue to effectively provide incentive for innovation. Engineers have both a knowledge and appreciation of the value of an effective patent office.

Under H.R. 5248, the authorized federal expenditures for the PTO would be $99 million for fiscal year (FY) 1993, $103 million for FY 1994, and $107 million for FY 1995. However, the PTO has calculated that it will require $486 million for operating expenses in FY 1993.

The Omnibus Budget Reconciliation Act of 1990 mandated that the PTO be financed by user fee revenues. It is absolutely necessary that this be changed and that all the PTO's overhead and capital improvement costs be supported with federal funds. Only the marginal costs should be paid for by users. Therefore, we recommend that Congress increase its authorization of the PTO to at least $250 million for FY 1993. Congress must act to increase funding for the PTO so that patent application, issuance, and associated fees return to the pre-Omnibus Budget Reconciliation Act levels.

Although we recognize a common need to decrease the number of tax-funded federal programs, patents granted by the PTO benefit every citizen of the U.S. and also promote international competitiveness. As a matter of public policy, yearly overhead costs of the office and long term projects should be borne by the federal government. The marginal costs of the PTO, on the other hand, should be charged to the office's users.

The current law requiring that the PTO be financed by user fees has resulted in steep annual fee increases to make up a budget gap. For the past three years, the PTO has increased user rates. Indeed, despite the fact that the PTO has testified they are not proposing any new goals or objectives, they recently proposed to increase user rates again by October 1, 1992.

The patent system benefits society because in exchange for a complete disclosure of an invention, an inventor is given a monopoly to exclude others from making, using, or selling the invention for 17 years. New inventions build on the disclosures from previous ones and the technology base expands. To this end, inventors should be encouraged to disclose their ideas to the public in exchange for a patent. Continued patent fee increases send the wrong message that supporting America's inventors is not essential. It is the individual and small-entity inventors who are least able to absorb the present large up-front PTO costs. As a result, good inventions may never be introduced or be patented later by foreign competitors. Reasonable and stable patent fees are essential for supporting technology development in the United States.

If Congress authorizes and appropriates less than $250 million for the PTO, the entire nation will lose. It will be the users -- often individual inventors -- who will be forced to finance the budget shortfall by paying staggering up-front fees for application, issuance, and maintenance of patents. It will be those same users who determine that it has become too expensive to file for a patent and who will decide to keep their good ideas to themselves. We urge the U.S Congress to reexamine the Omnibus Budget Reconciliation Act of 1990 and their decision to make the PTO user-funded. Instead, we recommend that the PTO be federally funded and that Congress authorize and appropriate $250 million for the PTO for FY 1993.

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This statement was prepared by a Task Force of the Council on Engineering of the American Society of Mechanical Engineers (ASME). It represents the considered judgement of this group rather than an official position of ASME.