

U.S. DEPARTMENT OF COMMERCE
Office of Inspector General



**PUBLIC
RELEASE**

PATENT AND TRADEMARK OFFICE

*Office of Patent Publications:
High Inventory, Late Patent Deliveries, and
Patent Printing Issues Must Be Addressed*

Audit Report No. BTD-10996-9-0001 / September 1999

Office of Audits, Business and Trade Audits Division



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EXECUTIVE SUMMARY

The Office of Inspector General has completed its performance audit of the Office of Patent Publications (OPP) at the Patent and Trademark Office (PTO). After patent applications have been allowed by examiners, they are sent to OPP for final processing. OPP oversees the complex process of image-capturing, printing, publishing, and disseminating patents around the world. OPP also produces related patent products for the benefit of PTO and its customers, including weekly issues of the *Official Gazette*, the official journal of issued patents and PTO notices, and the patent image file used to support the Automated Patent System. OPP relies significantly on several contractors for various services and contractors account for almost 80 percent of OPP's \$51 million budget. OPP is changing the publication process to become more efficient, reduce publishing time frames, and help PTO reduce the time needed to issue patents.

An increasing workload is causing a high inventory of pending application files. The number of patents awaiting final processing in OPP grew by 51 percent from FY 1993 to FY 1998, in spite of a virtually equal increase in the number of patents actually published. We found that:

- Despite increased productivity, a large inventory of patents awaiting final processing and publication by OPP still exists because (1) the total number of patents allowed by examiners has increased each year, (2) patents have not been processed by OPP until issue fees were paid by the applicant, and (3) OPP's production capacity has been limited (see page 5).
- OPP's efforts to reduce the inventory have overburdened data compilation activities. As a result of sustained increases in the size of the weekly issue of the *Official Gazette*, OPP has not been able to deliver, in a timely fashion, products to the database contractor for processing (see page 7).
- Late deliveries of processed patents to the printing contractor have delayed printing operations. During FY 1998, instead of receiving the entire weekly issue of patents on one or two magnetic tapes, as stipulated in the contract, the printer had to process three tapes before printing an issue. Recent data provided by PTO indicates some improvements in this area (see page 8).
- OPP and contractor initiatives to improve the process may decrease publishing time, but still may not meet PTO's cycle time goals (see page 9).

On page 10, we recommend that the Acting Assistant Secretary and Acting Assistant Commissioner of Patents and Trademarks establish a plan to reduce the inventory of patents and meet PTO goals for publishing within four weeks by:

1. Assessing the effect on cycle time of processing files for publication before fee receipt and changing the new process as needed;
2. Processing patents more rapidly for timely delivery to the database contractor;
3. Assisting the database and printing contractors in meeting their contractual obligations in a timely manner; and
4. Considering, as needed, further consolidation of the database compilation and printing processes.

PTO should streamline patent dissemination and pursue the oversight responsibilities for the printing contract. PTO has been designated by the Vice President as a “High Impact Agency” and directed to focus on the use of information technology and customer service. Accordingly, PTO’s “Reinvention Goals for 2000” include a transition to a paperless patent publishing process by FY 2003. Information technology enhancements enable OPP to publish patents more efficiently and allow PTO to assume greater responsibilities for printing patents and providing patent documents electronically to the patent community. However, we found that:

- PTO spends an average of \$1.5 million annually to print hard copies of the *Official Gazette*, its official journal of patents, and produces microfilm products of published patents and printed copies of patents, despite the increasing availability of this information on PTO’s Internet website (see page 14).
- By law, the Government Printing Office (GPO) functions as a contracting agent for OPP for the procurement of its printing services, but PTO assured us that GPO does not provide procurement or contracting services that PTO cannot perform more efficiently in-house. Since FY 1992, OPP has paid \$1,384,293, or an average of \$230,072 annually, in “handling fees” to GPO, that PTO could provide at no cost with existing resources (see page 16).
- GPO and OPP approved the printing contractor’s claims of \$218,903 for overtime and other expenses without adequately substantiating the claims. OPP also did not involve the onsite quality control specialist in key discussions with GPO and the printing contractor (see page 17).

On page 18, we recommend that the Acting Assistant Secretary and Acting Commissioner of Patents and Trademarks:

1. By the end of FY 2003, disseminate all patent-related products, including all elements of the *Official Gazette*, on the Internet. Initiate customer surveys to determine which printed patent products can be eliminated to reduce costs when PTO fully implements a paperless patent dissemination process.
2. Consider pursuing a waiver from the Joint Committee on Printing, or the necessary legislation, to independently solicit and efficiently manage its own printing contract.
3. Request GPO to review the basis for the printing contractor's future claims of expenses incurred as a result of late patent tape deliveries.
4. Increase the role of the onsite quality assurance specialist in the oversight of the database and printing contractors.

In its response to our draft report, PTO agreed with our recommendations and described a number of measures it is taking to implement the recommendations. According to PTO, the new process for publishing patents, instituted in April 1999, will ultimately increase production capacity to the extent that the cycle time for publishing patents will be reduced by 10 weeks. But the database contractor encountered significant startup problems, so the initial goals for the increase in production capacity and reduction in cycle time have not yet been met. Significant progress has been made by increasing issue sizes to an average level of 3300 patents per week over the last 8 weeks. PTO and the database contractor have developed a new and more realistic plan to reach the cycle time goal by March 2000. Other measures PTO is taking or will take to meet our recommendations include: (1) eliminating delays in the deliveries of magnetic tapes to the database contractor; (2) meeting weekly with the database contractor to resolve problems and reassess production capabilities; (3) initiating a customer survey to determine which patent products can be eliminated when PTO implements a paperless patent dissemination process; and (4) giving the onsite quality assurance specialist a significantly enhanced role in the oversight of the two contractors.

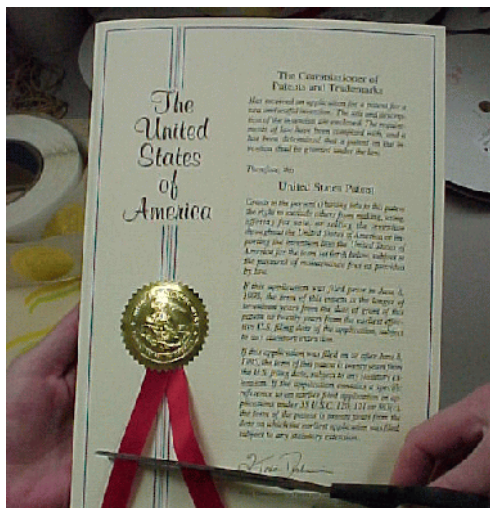
We have reiterated our recommendations, with minor changes, in the final report. Summaries of PTO's response for each set of findings and recommendations begin on pages 10 and 19, and we have attached PTO's complete response to the report.

INTRODUCTION

The Office of Inspector General has completed its performance audit of the Office of Patent Publications (OPP) at the Patent and Trademark Office (PTO). After patent applications have been allowed by examiners, they are sent to OPP, which oversees the complex process of capturing, printing, publishing, and disseminating them around the world.

Performance audits are objective and systematic examinations of evidence to independently assess an organization, program, activity, or function to provide information to improve accountability and facilitate decision making by parties with responsibility to oversee or initiate corrective action. By identifying systemic strengths and weaknesses, the OIG will help the Department's managers implement more efficient and effective operations to better serve the Department's customers.

An OPP employee affixes PTO's official seal to a published patent



PURPOSE AND SCOPE OF AUDIT

The purpose of our audit was to (1) identify key causes of the inventory of patents in the post-examination process, (2) review initiatives to reduce publishing pendency and the extent that they are achieving desired results, (3) review selected aspects of the printing process, and (4) determine whether OPP is complying with significant laws and regulations applicable to the post-examination process. We reviewed:

- 35 U.S.C. § 11 and 44 U.S.C. § 1137-1138;
- the publication process, including several related flowcharts;
- organizational charts and position descriptions for key personnel;

- written agreements with the database and printing contractors;
- historical workload and production data;
- correspondence between OPP and contractors; and
- various documentation related to the publishing process.

We also interviewed:

- the OPP director and deputy director;
- OPP managers including the publication manager, supervisory quality control specialist, and supervisory program analyst;
- the contracting officer's technical representative, the supervisory legal instrument examiner, and the quality assurance specialist for field operations;
- PTO officials, including the Deputy Assistant Commissioner for Patent Process Services, the Comptroller and Deputy Chief Financial Officer, the Administrator for Information Dissemination; and representatives from the Office of Procurement;
- officials at two contractors involved providing critical services to OPP; and
- contracting officers at the Government Printing Office (GPO).

We assessed OPP's compliance with applicable laws and regulations, including sections of Titles 35 and 44 of the United States Code, and concluded that it acted in accordance with these laws. We also reviewed OPP's compliance with internal controls over contractors' costs and performance and found a lack of compliance, as reported below.

We conducted our fieldwork from August 1998 through January 1999 at PTO's headquarters in Crystal City, Virginia. We also made site visits to contractors in both Horsham and Claysburg, Pennsylvania. We did not verify the reliability of computer-based data cited in the report, because such tests were outside the scope of our audit. With that exception, our review was conducted in accordance with generally accepted government auditing standards and under the authority of the Inspector General Act of 1978, as amended, and Department Organization Order 10-13, dated May 22, 1980.

BACKGROUND

OPP is led by a Director, who reports to PTO's Deputy Assistant Commissioner for Patent Process Services. At the end of FY1998, OPP had 123 FTEs and an operating budget of \$51.4 million. OPP, in its post-examination process, ensures the production of individual patent documents and several related products for the benefit of PTO and its customers, including the weekly issue of the *Official Gazette*, the official journal of issued patents and PTO notices; the patent image file used to support the Automated Patent System; and microfilm conversion files used to make microfilm copies of patents.



*Allowed patent files await
processing by OPP staff*

From FY 1993 to FY 1997, the inventory of patents awaiting final processing in OPP grew by 59 percent, from 62,183 to 98,609, before declining to 93,923 in FY 1998. In December 1997, the OIG reported the existence of a high inventory of patents in the post-examination area.¹

Cycle time² analysis showed that in FY 1998, PTO needed an average of 16.9 months to process a patent. Within that time, OPP should take 5 to 6 months from the time an allowed patent arrives in OPP until it is issued. This was due in large part to the 90 days granted to inventors to pay the issue fee. The publishing schedule dictates that OPP publish a patent 14 weeks after it receives the issue fee. PTO's FY 1999 goal is to reduce cycle time to 12 months or less for 75 percent of all inventions. OPP has been charged, as part of this goal, to reduce the cycle time needed to publish a patent to 4 weeks, as further discussed below.

Every week OPP publishes a set of patents in the *Official Gazette*.³ The average issue size did not vary much between FY 1995 through FY 1997, averaging 2,215 in FY 1995, 2,268 in FY 1996, and 2,348 in FY 1997. In FY 1998, OPP published 157,824 patents, an average of 3,035 patents per issue. Issue sizes in FY 1999 were averaging over 3,200 patents during our audit. Patents are processed for about 10 issues simultaneously. Consequently, at any one time, there are an estimated 30,000 to 40,000 patent files in various stages of the process.

¹ *PTO Business Analysis*, Survey Report No. PTD-10381-8-0001, page 18.

² Cycle time is PTO's measure of the time needed to process an allowed patent from the application to the publication phase.

³ An issue is scheduled for each Tuesday of the year and contains patents, reexamination certificates, and statutory invention registrations (which enable inventors to prevent others from patenting a specific invention), plus the patent data, related indices, and other printed materials such as PTO Notices.

In order to publish patents, OPP relies significantly on contractors that provide the following services:

- data capture--converting allowed patent application paper files into electronic form;
- printing--imaging, binding, packaging, and distributing to customers internally, nationally, and worldwide;
- color reproduction of color/part-color photoprints; and
- management and processing of allowed patents--reviewing, assembling, and mailing of patent grants and certificates.

The most technical, and costly, aspects of the publishing process are performed by two contractors, and weekly issue sizes are largely based on their production capabilities. The first provides data compilation services (the "database contractor"). The second is mainly responsible for printing the patents (the "printing contractor"). OPP recompeted its database contract in September 1998, and the database contractor successfully retained it. As with the prior contract, the contract period covers one base year and four option years. OPP procured the printing contractor's services through GPO, which acts as a contracting agent when procuring printing services under Title 44 of the United States Code. The printing contractor's current contract with GPO took effect in January 1997.

FINDINGS AND RECOMMENDATIONS

I. OPP Struggling to Process and Publish High Inventory of Patents

OPP is struggling to publish patents at a level commensurate with the constantly increasing number of patents allowed by examiners. As a result, we found that (1) despite increased productivity, a large inventory of patents awaiting final processing and publication still exists, (2) OPP's efforts to reduce the inventory have overburdened contractor's data compilation activities, (3) late patent deliveries have disrupted printing operations, and (4) OPP initiatives will decrease publishing time but might not meet PTO cycle time goals.

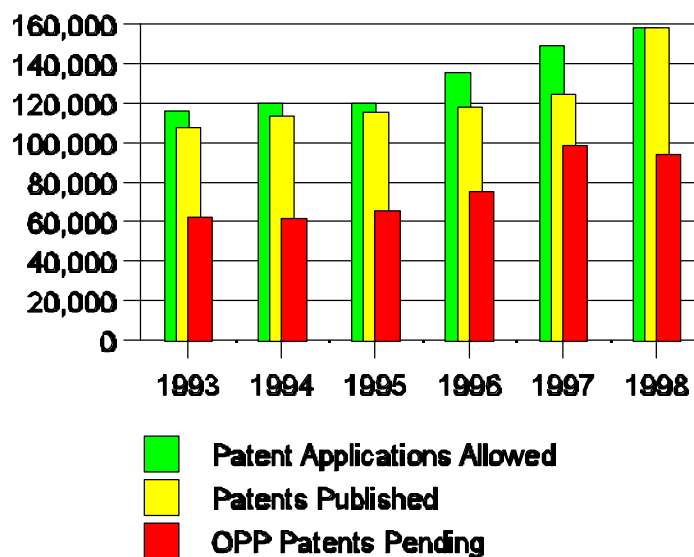
A. Increased productivity has not reduced inventory

The number of patents awaiting final processing in OPP has grown by 51 percent from 62,183 in FY 1993 to 93,923 in FY 1998, an average increase of 6,348 per year. The inventory has grown in spite of a 47 percent increase in the number of patents published annually since FY 1993 (see Figure 1). OPP has a large inventory of patents awaiting processing because (1) the total number of patents allowed by examiners has increased each year, (2) patents have not been processed by OPP until issue fees were paid, and (3) OPP's production capacity has been limited. OPP is taking action to reduce publishing times so that inventors do not wait longer to receive their patents.

Inventory

The total number of patents allowed by the patent examining corps has increased each year from about 116,151 in FY 1993 to 158,259 in FY 1998, a 36 percent increase. Between FY 1996 and FY 1998, total allowed patents grew annually by an average of 9.8 percent. OPP anticipates continued increases because, as we previously reported, the size of the patent corps is

Figure 1: Workload Statistics



growing.⁴ Last year PTO hired 725 new examiners and it plans to hire another 700 in 1999. This will directly impact OPP's workload and production demands on its contractors. For example, using FY 1998 patent production statistics, a 25 percent increase in the number of examiners and corresponding increase in allowed patents would add over 39,000 patents to the post-examination stage.

Issue Fee

Through FY 1998, about 50 percent of OPP's ending inventory each year consisted of patents that it would not publish because the applicant had not paid the issue fee.⁵ When the applicant pays the fee, the patent files are retrieved and then sorted for processing. At the end of FY 1998, OPP was awaiting the issue fee for 43,870 patents.

Beginning with the patents intended for the April 13, 1999 issue of the *Official Gazette*, OPP was scheduled to process allowed patents prior to receipt of payment. Under the new process, patent files would be processed by the database contractor immediately after the patent has been allowed, instead of waiting until fee payment, drawings, or other requirements have been submitted to complete the application. This would enhance its ability to build weekly issues, better manage its workload, and dramatically reduce publishing time.

Production Capacity

In response to the growing inventory, OPP increased its production significantly in FY 1998 and published a record 157,824 patents. In FY 1999, OPP plans to issue 201,359 patents by increasing the number of patents per issue from an average of 3,232 to 5,770 for 13 weeks beginning on April 13, 1999. As a result, OPP will issue an estimated 2,538 extra patents every week for a total of 32,994 additional patents.

OPP officials were not certain whether OPP can maintain this level of total production in future years. They provided documentation showing the number of patents per FTE (including contractor personnel) increased 38 percent, from 900 in FY 1995 to 1,239 in FY 1998. Their analysis concluded that it is unrealistic to expect similar increases in the future. Without increased production to match the continuing increases in the number of allowed patents, we do not believe that OPP can reduce its inventory and maintain it at a reasonable level. As of this report, we are not certain whether OPP and its contractors, despite their best intentions, can

⁴ *Board of Patent Appeals and Interferences: High Inventory and Inadequate Monitoring Threaten Effectiveness of Appeal Process*, Report No. BTD-10628-8-0001, September 1998, page 4.

⁵ The issue fee is established by law to pay the costs of securing a patent grant, conducting a reexamination due to a question of patentability, or obtaining a statutory invention registration (SIR) certificate.

publish enough patent application files to prevent the inventory from reaching unprecedented levels and to ensure that patents are published within four weeks.

At our exit conference, PTO officials explained that the new process will enable OPP to increase issue sizes to meet production demands, but acknowledged that budget constraints could hinder OPP's publishing capability. In order to justify program increases for budgetary purposes to address the production capacity, PTO needs to establish a plan to reduce the inventory of pending applications to meet publishing goals.

B. Efforts to reduce inventory have overburdened contractor's data compilation operations

OPP's efforts to reduce its inventory of patents waiting to be published have negatively impacted the production schedule and operations of its database and printing contractors. First, OPP did not give the database contractor sufficient warning to facilitate sustained increases in issue sizes. Second, OPP has not delivered patents timely to the database contractor, who in turn cannot provide the magnetic tapes containing patents to the printing contractor. OPP needs to process patents more rapidly to ensure that database and printing contractors are given sufficient notice to prepare for sustained increases in *Official Gazette* issue sizes.

The extent to which OPP overwhelmed the database contractor's production capacity can be traced to the increase in the number of allowed patent applications in FY 1997. That year, OPP established a production schedule and informed the database contractor that it planned to issue about 113,000 patents based on the patent corps' projection of allowed files. But OPP unexpectedly received 18,000 more allowed patents, a 16 percent increase. OPP was unable to expeditiously process them, and by the end of the fiscal year its inventory had grown to 98,609 patents. Hence, OPP officials felt they had to increase issue sizes in FY 1998 to reduce the inventory.

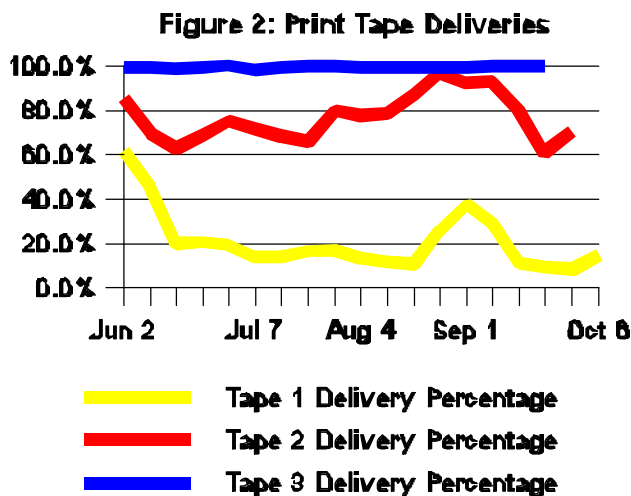
The average issue size grew from 2,348 in FY 1997, to 3,035 during FY 1998, to 3,232 patents through March. Beginning on April 13, 1999, OPP was scheduled to increase issue sizes to 5,770 patents for 2 to 3 months. But OPP has not identified, organized, and prepared enough patents for timely delivery to the database contractor. As a result, in FY 1998 OPP began to close issues late and deliver fewer files by key deadlines to the database contractor. Because OPP was late sending the patents to the database contractor, it was late in sending magnetic tapes of patents to the printing contractor.

The president of the database company told us that the company has made every effort to meet OPP's production demands and were able to handle modest increases in weekly issues. However, he stated that the 38 percent increase in issue size was beyond manageable levels and could not be controlled with overtime and hiring/training of new personnel. The database contractor's own stringent quality standards, and other technical matters involved in assembling

the tapes, pose limitations on how many employees the database contractor can hire at one time. We reviewed production data provided by the database contractor and it appears that its recent recruitment efforts are helping it catch up to current demands.

C. Printing contractor's operations have been delayed due to late patent deliveries

The printing contractor's contract states that it is to receive the entire weekly issue from the database contractor on one magnetic tape 14 days before the issue date and a second tape with corrected patents 9 days prior to issue. Receiving a high percentage of patents on the first tape is critical to meet the printing schedule. As a result of the delay in OPP's transmitting of patents to the database contractor, it was forced to generate not just two, but three tapes for the printing contractor during FY 1998. In FY 1998, the percentage of patents received on the first tape declined considerably, averaging 17.5 percent between the June 16 and September 29 issues. Figure 2 illustrates the problems described by the printing contractor.



According to the printing contractor, it became apparent in FY 1997 that OPP and the database contractor were not delivering patents timely. In FY 1998, the printing contractor worked diligently to meet OPP's production demands until it could no longer do so without incurring additional costs. But the printing contractor's costs began to increase as a result of fluctuations among weekly issue sizes and the delays in sending the tapes. The printing contractor requested a contract modification for additional costs resulting from the delays, which GPO approved in October 1998. Our review of the modification decision is discussed below.

OPP and officials of the database contractor expressed optimism that they are correcting the timeliness issue. Recent data shows that OPP is delivering patents to the database contractor more timely and the percentage of patents on the first tape is increasing (*e.g.*, the database contractor delivered an average of 44 percent of the patents on the first tape for the first three December 1998 issues, up sharply from the 17.5% level in June 1998). Database contractor officials believe that production capacity has increased to meet current production demands because of recent recruitment and training efforts. At the conclusion of our audit, OPP was also seeking ways to improve patent deliveries by changing the production schedule to permit the delivery of one tape to the printing contractor.

D. OPP initiatives may decrease publishing time but not meet PTO cycle time goals

The Government Performance and Results Act of 1993 specifies that an agency's annual performance goals should define an objective and measurable target level of performance for each program activity. Reducing cycle time remains among PTO's highest priorities. In its FY 1999 Corporate Plan, PTO set a goal of reducing cycle time to 12 months for 75 percent of all inventions. Accordingly, senior patent management directed OPP to reduce the time it takes to publish a patent from a normal processing time of 14 weeks to 4 weeks.

Shortly after PTO decided in September 1998 to renew the database contract, OPP notified the database contractor of PTO management's decision to change the publishing process and significantly reduce publishing times by processing patents before the fee is received. OPP and the database contractor had to accelerate efforts, rapidly develop new procedures, and test the new process. At the conclusion of our fieldwork, it was too soon to determine whether OPP will meet PTO cycle time goals in FY 1999.

The new process might dramatically reduce publishing time to the desired 4-week level. According to OPP officials, successful implementation of the reengineered process hinges on several factors, including whether (1) the database contractor assumes more responsibilities, including physical management of patent files, (2) OPP maintains control and accountability for files returned to OPP from the database contractor for data questions, (3) PTO completes necessary programming upgrades to the Patent Application Locating and Monitoring on time, (4) exceptions to the normal examination process will be allowed, and (5) short-term increases in issue sizes create additional bottlenecks within OPP and the database contractor. Several of these were outside the scope of our audit, so we did not assess their impact.

Both OPP and the database contractor officials are confident that the new publishing process will be implemented, but less certain that they can maintain the planned production schedule. Officials of the database contractor told us they cannot guarantee they can meet all of OPP's production demands. PTO may need to consider other measures to further consolidate the database compilation and printing process.

E. Recommendations

We recommend that the Acting Assistant Secretary of Commerce and Acting Commissioner of Patents and Trademarks establish a plan to reduce the inventory of patents and meet PTO goals for publishing within four weeks by:

1. Assessing the effect on cycle time of processing files for publication before fee receipt and changing the new process as needed;
2. Processing patents more rapidly for timely delivery to the database contractor;
3. Assisting the database and printing contractors in meeting their contractual obligations in a timely manner; and
4. Considering, as needed, further consolidation of the database compilation and printing processes.

F. PTO Response to Draft Report and OIG Analysis

In its reply to our draft report, PTO agreed to, or has taken action consistent with, all of our recommendations. According to PTO, the new process for publishing patents, instituted in April 1999, will ultimately increase production capacity to the extent that the cycle time for publishing patents will be reduced by 10 weeks, to four weeks after issue fee payment. The new process entails sending all patents to the database contractor as soon as the examiner allows the case. The contractor takes approximately three weeks to capture the patent file in electronic form. The file is then stored until the issue fee is paid. During this storage, any post-allowance papers and new drawings are processed. Once the fee has been paid, any changes and information from the issue fee form are captured. The patents are then built into a weekly issue of the *Official Gazette*.

However, the database contractor encountered significant startup problems in actions such as such as substantially changing its automated tracking systems; procuring and renovating new space; meeting new requirements in the new contract issued in September 1998; and hiring and training a sufficient number of staff. So the initial goals for the increase in production capacity and reduction in cycle time have not yet been met.

A summary of PTO's position on each recommendation as stated in the draft report is followed by OIG comments. A copy of PTO's complete response is attached.

Recommendation #1:

Assessing the effect on cycle time of processing files for publication before fee receipt and changing the new process as needed.

PTO Response:

While both OPP and the database contractor now realize that the original plan to reach the cycle time goal was overly optimistic, considerable progress has been made towards the production capacity to achieve this goal. New space has been procured and final renovations are being completed. A net gain of 191 database contractor employees are finishing the final stages of training, and many are starting to be productive to the database contractor's production capabilities. A number of software programs problems have been resolved and automation glitches are now at a minimum. Significant progress has been made by the database contractor, increasing issue sizes to an average level of over 3300 issued patents per week over the last 8 weeks.

OPP and the database contractor have recently reassessed the steps necessary to process patents in the time necessary to publish them within four weeks. A new issue plan with more realistic issue sizes has been developed. The database contractor has assured the PTO that they are confident that these issue sizes can be met. This plan includes gradually working towards issue sizes of 4500 patents a week by end of the calendar year. According to this plan, the PTO would reach its goal of issuing a patent 4 weeks after issue fee payment by March of 2000, which would delay reaching PTO's stated cycle time goals by six months.

OIG Comments:

We commend PTO and OPP for taking joint action with the database contractor to increase production capacity and reduce the cycle time for patent publishing. We concur with PTO's response to our recommendation.

Recommendation #2:

Processing patents more rapidly for timely delivery to the database contractor.

PTO Response:

With the new process of delivering patent applications for earlier data capture, OPP has better control over this process. While OPP initially fell behind in processing patent applications for delivery to the database contractor under the new process, it is now current with timely deliveries. To date a total of 102,500 patent applications have been delivered. The goal for

FY99 is to deliver 136,855 patent applications. This represents a total delivery in FY1999 for both the old and new process of 181,500 applications.

OIG Comments:

We commend PTO and OPP for eliminating delays in the deliveries to the database contractor. We concur with PTO's response to our recommendation.

Recommendation #3:

Assisting the database and printing contractors in meeting their contractual obligations in a timely manner.

PTO Response:

OPP staff has been holding weekly meetings with the database contractor to resolve problems that have arisen. OPP management has held several meetings with the database contractor focusing on developing process improvements and reassessing production capabilities. One important aspect of recent meetings was to adhere to production schedules so all contractors are able to meet their contractual obligations.

OIG Comments:

We concur with PTO's response to our recommendation.

Recommendation #4:

Considering, as needed, further consolidation of the database compilation and printing processes.

PTO Comments:

The PTO will make every effort to consolidate the publishing process. The recent legislation that passed the House of Representative, HR 1907, has a provision that allows the PTO to enter into printing contracts without regard to certain sections of Title 44. We are committed to find and implement process improvements.

OIG Comments:

While we concur with PTO's response to our recommendation, we urge PTO to consider specific measures to meet the recommendation without regard to the prospects for passage of HR 1907, in case it does not become law.

II. PTO Should Streamline Dissemination of Patent Products and Pursue Oversight Responsibilities for Printing Contract

Information technology enhancements enable PTO to publish patents more efficiently and pave the way to providing patent documents electronically. PTO has begun to disseminate patent information on the Internet, but could accelerate such dissemination and survey customers on the continued need for printed patent products. We also found that OPP is not efficiently serviced by GPO in its role as contracting officer for printing services and could independently oversee those procurements. We are also concerned that GPO and OPP did not substantiate the printing contractor's cost claims prior to payment.

A. PTO should disseminate patent products on Internet and survey customers on elimination of printed products

PTO spends an average of \$1.5 million annually to print hard copies of the *Official Gazette*, its official journal of patents, and produces microfilm products of published patents and copies of patents, despite the increasing availability of this information on PTO's Internet website. PTO has been designated by the Vice President as a "High Impact Agency" because it has considerable interaction with the public and business. These agencies have been directed to focus on the use of information technology and customer service. Accordingly, PTO's "Reinvention Goals for 2000" refer to a transition to a paperless patent publishing process by FY 2003: "We will enable customers to use the Internet to request the status of their patent and trademark applications, to place orders and *receive products*, and to access patent and trademark data when they are in a Patent and Trademark Depository Library."⁶ (*Emphasis added.*) On April 21, 1999, the Secretary of Commerce unveiled a new Internet database containing all text and images for all patents dating back to 1976, and for all trademarks dating back to 1870.⁷ Already, the number of accessed pages of patent bibliographic and abstract text available on PTO's Internet web site has increased by over 61 percent, from 1,765,756 pages in FY 1997 to 2,850,141 pages in FY 1998.

PTO continues to print the *Official Gazette* while also making its contents available on its Internet web site. PTO Notices, which are included in the *Gazette*, are already available online,⁸

⁶ <http://www.uspto.gov/web/menu/npr/npr.htm>, Reinvention Goal number 4.

⁷ <http://www.uspto.gov>.

⁸ <http://www.uspto.gov/web/offices/com/sol/og/index.html>.

and as stated above, the full text and images of all patents is now available.⁹ Over the past three fiscal years, PTO has paid GPO an average of \$1.5 million annually to print the *Gazette*.

We raised the possibility of publishing the *Gazette* on the Internet with several PTO officials. They agreed that when PTO becomes completely automated, it will have less need for hard copies of the *Gazette*, and so too should the intellectual property community. However, they expressed concerns that they do not know the extent to which the community uses the *Gazette* today and would need to conduct a survey before deciding whether to discontinue printing the publication. One official stated that the risk of not circulating hard copies of the *Gazette* is to deny the publication to those who do not have Internet access, including some of the Patent and Trademark Depository Libraries (PTDL). That may be true at this time, but PTO is already taking steps to improve the PTDLs' technological capabilities. PTO's FY 1999 Corporate Plan includes funding to grant Internet access to patent and trademark databases at all PTDLs. Furthermore, the number of subscriptions to the *Gazette* has declined 29 percent over the past five years, from 2,775 in FY 1993 to 1,964 in FY 1998.

PTO, through its contractors, also produces a microfilm containing copies of all patents published for distribution to the PTDLs. A survey of users at the PTDLs was beyond the scope of this audit, so we do not have an opinion on the extent of use of the microfilm. However, for the same reasons cited above, we believe there may be a declining need for PTO to continue to make copies of patents available on microfilm. Technological advances and funding initiatives are providing alternatives to help the patent community achieve greater access to patent documents.

OPP also prints copies of every patent included in each weekly issue. OPP's typical print order contains 1 grant copy for the patent owner, 21 complete sets for overseas distribution, 2 sets for PTO's Patent Public Search Room, and unspecified amounts for subscription and advanced order copies. Additional sets of patents are printed primarily for the benefit of international exchange of patent documents. Officials at PTO's Office of Information Dissemination informed us that members of the World Intellectual Property Organization have reached a significant agreement: Beginning in 2000, PTO may begin to provide electronic copies of published patents to its foreign counterparts that have traditionally accepted only printed copies of patents. This is an additional reason why PTO should reduce the number of printed patents.

PTO officials agree that PTO should be able to achieve the Reinvention Goal, since a considerable number of products and services are already available online. But the Goal itself is vaguely stated, and PTO has not announced specific plans to implement it. By the end of FY 2003, PTO should be able to electronically publish all patent-related products on the Internet, including all elements of the *Official Gazette*. As PTO continues to become more automated

⁹ <http://www.uspto.gov/web/menu/search.html>.

and its products and services become more accessible via the Internet, there might be less interest in receiving printed copies. In addition, extra copies of patents can be produced more efficiently directly from the Internet site and other electronic media. PTO should initiate surveys of its customers to determine which of its printed products can be eliminated to reduce printing costs.

B. Services provided by GPO as contracting agent could be performed more efficiently by PTO

GPO functions as a contracting agent for OPP for the procurement of its printing services, but does not provide any procurement or contracting services that PTO cannot perform in-house. We concluded that PTO possesses the necessary expertise to procure these services, and would be better positioned to manage the printing operations if it did not have to communicate with the contractor through GPO. Since FY 1992, OPP has paid \$1,384,293, or an average of \$230,072 annually, in "handling fees" to GPO.

Title 44 requires government agencies to procure printing services through GPO, unless a waiver is granted by the Congressional Joint Committee on Printing. Title 44, section 504 states that "the Joint Committee on Printing may permit the Public Printer to authorize an executive department...to purchase direct for its use such printing...as the Government Printing Office is not able to execute or as may be more economically or in the better interest of the Government if executed elsewhere." According to OPP officials, PTO received a waiver in the 1970s to independently engage and oversee a private printer, but the Joint Committee revoked the waiver three years after granting it. Recently PTO included another waiver request as part of a revision to its spending authorization, but the request was not included in the authorization.

Every OPP official we interviewed stated they would rather OPP procure and manage its own printing contract. OPP officials contend that GPO's involvement has complicated communications with the printing contractor and hindered their ability to more efficiently manage the printing operations. Under the GPO's contract with the printing contractor, all disputes pertaining to whether an item or operation may or may not be charged, or pertaining to how a charge should be applied, are decided by GPO's contracting officer. Oversight of the printing contract is further complicated by the lack of a memorandum of understanding between GPO and OPP. Hence, OPP personnel lack the authority to communicate directly with company officials on contractual and financial matters.

OPP officials asked GPO contracting officials to explain what services GPO provides to justify the 6 percent handling fee GPO adds to every invoice from the printing contractor before it forwards the invoice to OPP. According to them, GPO did not sufficiently explain what services it provides, or identify any services for which GPO was uniquely qualified to offer, to justify the handling fees. We reviewed correspondence between OPP and GPO officials during fiscal years 1997 and 1998, including the list of services GPO provides OPP. The list contained

20 items, including activities such as preparing specifications and solicitations, maintaining an automated bid list system, receiving and evaluating proposals, and awarding contracts. PTO procurement officials whom we subsequently interviewed stated that they could perform the same function at PTO, without additional staff, and were very confident that they could serve OPP's needs. PTO's Office of Procurement already oversees dozens of information technology contracts with outside vendors.

In short, we concluded that PTO already has the in-house expertise to perform these services at no cost beyond what is already incurred to manage existing contracts. PTO should pursue a waiver from the Joint Committee on Printing to independently solicit and manage its own printing contract, or continue to pursue legislation if needed.

C. OPP and GPO did not adequately review printer's claims resulting from print tape delivery problems

Poor communication and inadequate analysis by GPO and OPP, as well as the lack of involvement of OPP's onsite representative, resulted in GPO and OPP approving a contract modification claim by the printing contractor for reimbursement of additional expenses without adequately substantiating its claims. We concluded that GPO and OPP paid the printing contractor \$218,903 without sufficient knowledge of the impact of late deliveries of magnetic tapes by the database contractor on the printing contractor's operations. In fact, OPP paid the invoice in December 1998 despite (1) the unfulfilled request by GPO for a specific breakdown of the printing contractor's costs, (2) GPO's not providing OPP with the opportunity to review the printing contractor's calculations to justify its claim, (3) last-minute objections by OPP's onsite quality assurance specialist, (4) concerns by a PTO procurement official, and (5) our suggestion that PTO request another review of the contractor's claims. PTO should first have ensured that it was satisfied with the rationale and validity of the printing contractor's claim.

In September 1998, the printing contractor submitted a modification claim to be reimbursed retroactively for additional costs it incurred as a result of OPP's and the database contractor's inability to adhere to the production schedule. The printing contractor prepared its claim using surcharges it negotiated with GPO. GPO, having already obtained OPP's consent on the surcharges, formally approved the claim and forwarded the printing contractor's invoice to OPP for payment.

According to GPO's contracting officer, the claim included overtime and other expenses such as equipment downtime, inefficiencies, lost sales, and disruptive operations. He informed us that GPO sought a breakdown of these costs but was never able to obtain the pricing and costing data it was seeking to evaluate the claim. Negotiations between GPO and the printing contractor led to an agreement that the contractor assess a surcharge based on the percentage of patents delivered on each tape. But GPO apparently did not give OPP the opportunity to review all of the documentation submitted by the contractor which was used to calculate the surcharges. We

determined that OPP personnel did not review that documentation before it paid the invoice. In addition, we found that OPP officials were unaware that the contractor was seeking reimbursement for overtime, maintenance and overhead costs. Before we showed them the contractor's original request letter, OPP officials assumed that the claim was for overtime charges only. The contracting officer stated that GPO would not have proceeded if OPP seriously disagreed with the surcharges.

We also found that OPP headquarters staff did not involve the onsite quality control specialist in key discussions with GPO and the printing contractor. The specialist, who should be in the best position to assess whatever problems the contractor was experiencing, did not know that the claim was being processed until he was asked by OPP headquarters staff to review it for accuracy and sign accordingly, as he is required to do for all invoices. After reviewing the invoice, the specialist raised several concerns to OPP managers and us about the contractor's workload, its production capacity, the amount of overtime work needed, and whether additional overhead charges were allowable. It's unclear why he was excluded from knowing about the claim, but his concerns may have been justified. OPP should take steps to ensure that its onsite representative is actively involved in the oversight and processing of contractor claims.

We discussed OPP's options with PTO procurement officials, who also raised their concerns with OPP officials. We advised them that OPP should seek a legal opinion prior to paying the printing contractor's invoice. As we were reviewing the circumstances surrounding the claim, OPP officials met with GPO representatives to request another review of the claim. They informed us that GPO was satisfied with the surcharges it negotiated with the printing contractor and did not want to review the claim. Therefore, OPP was left with little choice but to pay the invoice. As we completed the audit, the printing contractor had submitted another invoice, estimated at over \$231,000, for additional expenses to be incurred through April 1999. PTO should more diligently pursue these issues with GPO to ensure a sound basis for the claims and any future contract modifications.

D. Recommendations

We recommend that the Acting Assistant Secretary of Commerce and Acting Commissioner of Patents and Trademarks take the following actions:

1. By the end of FY 2003, disseminate all patent-related products, including all elements of the *Official Gazette*, on the Internet. PTO should also initiate customer surveys to determine which printed patent products can be eliminated to reduce costs when PTO fully implements a paperless patent dissemination process.
2. Consider pursuing a waiver from the Joint Committee on Printing, or the necessary legislation, to independently solicit and efficiently manage its own printing contract.
3. Request GPO to review the basis for NPC's future claims of expenses incurred as a result of late patent tape deliveries.
4. Increase the role of the onsite quality assurance specialist in the oversight of the database and printing contractors.

E. PTO Response to Draft Report and OIG Analysis

In its reply to our draft report, PTO agreed to, or has taken action consistent with, all of our recommendations.

Recommendation #1:

By the end of FY 2003, disseminate all patent-related products, including all elements of the Official Gazette, on the Internet. PTO should also initiate customer surveys to determine which printed patent products can be eliminated to reduce costs when PTO fully implements a paperless patent dissemination process.

PTO Response:

The PTO welcomes this suggestion and will initiate a survey of its OG subscribers. HR 1907 also includes a provision that allows for electronic publishing. This, coupled with the survey, should allow the PTO to move quickly towards a more efficient distribution of patent information.

OIG Comments:

While we concur with PTO's response to our recommendation, we urge PTO to consider specific measures to meet the recommendation without regard to the prospects for passage of HR 1907, in case it does not become law.

Recommendation #2:

Pursue a waiver from the Joint Committee on Printing, or the necessary legislation, to independently solicit and manage its own printing contract.

PTO Response:

The PTO would more than welcome on opportunity to manage its own printing contracts. It will pursue this in all venues; however, this may be a difficult goal to achieve in view of the political ramifications. Again, HR1907 may hold the key to allowing the PTO to independently solicit and manage its own printing contract.

OIG Comments:

While we concur with PTO's response to our recommendation, we urge PTO to consider specific measures to meet the recommendation without regard to the prospects for passage of HR 1907, in case it does not become law. Based on the response, we made a minor change to this recommendation.

Recommendation #3:

Request GPO to review the basis for NPC's future claims of expenses incurred as a result of late patent tape deliveries.

PTO Response:

The PTO will make every effort to assure GPO's diligence when handling claims by NPC. However, under the new process, multiple tape deliveries are no longer feasible. Since the entire issue is being built at one time, one tape is now being delivered to the printing contractor.

OIG Comments:

We concur with PTO's response to the recommendation.

Recommendation #4:

Increase the role of the onsite quality assurance specialist in the oversight of the database and printing contractors.

PTO Response:

The lack of involvement of the onsite quality assurance specialist in recent dealings with GPO and NPC was an oversight by OPP management and will be corrected. Steps will be taken to assure that the onsite quality assurance specialist has a significant role in the oversight of the two contractors. His concerns will be given new weight and follow-up measures implemented at his suggestion.

OIG Comments:

We concur with PTO's response to the recommendation.



APPENDIX
UNITED STATES DEPARTMENT OF COMMERCE
Patent and Trademark Office
ASSISTANT SECRETARY AND COMMISSIONER
OF PATENTS AND TRADEMARKS
Washington, D.C. 20231

AUG 20 1999

MEMORANDUM

TO: George E. Ross
Assistant Inspector General for Auditing
Department of Commerce

FROM: Office of the Assistant Commissioner for Patents

SUBJECT: Draft Audit Report (BTD-10996-9-XXXX)

This memorandum reflects written comments on Draft Audit Report BTD-10996-9-XXXX concerning Office of Publications (OPP).

We would like to thank you for inviting comments on the draft report. We find the draft report to be fair and accurate and appreciate its thorough analysis and feedback. We also appreciate the spirit of cooperation shown by you and your staff in the audit process and look forward to continuing to work with you to help us resolve those problems that are identified. In general, we agree with all of your recommendations. Comments for each recommendation follow later in the memorandum.

The Patent and Trademark Office instituted a new process for publishing patents in April of 1999. The planning for this new process began with the signing of the new database contract in September of 1998. The analysis showed that to meet the cycle time goal, 182,000 patents needed to be printed in FY1999. This number includes 152,000 patent applications projected to be allowed by patent examiners during FY99 and shrinking OPP inventories by 30,000 applications. This would have the effect of reducing cycle time of allowed applications by 10 weeks. These 10 weeks represent a significant portion of the PTO's cycle time goal and equates to issuing patents 4 weeks after issue fee payment. This plan requires an overall 27 % increase in production capacity by the database and printing contractor.

The new OPP process entails sending all patent applications to the database contractor as soon as the examiner allows the case. OPP acts as a conduit for this initial process. The contractor then takes approximately three weeks to capture the paper patent application in electronic form; this is being called Initial Data Capture (IDC). The file is then shipped to the File Maintenance Facility (FMF) in Northern Virginia for storage until the issue fee is paid. During this storage, any post allowance papers and new drawings are processed. Once the fee has been paid the case is shipped to Pennsylvania for Final Data Capture (FDC). This includes capturing any changes made to application and some information

from the issue fee form submitted with issue fee payment. The applications are then built into a weekly issue.

Due to significant start up problems with this new database capture process and new requirements in the database contract, the database contractor was not able to meet the large increase in production capacity and projected issue sizes have not been met. The problems encountered by the database contractor included: (1) a completely new process which encompassed a substantial change to their automated tracking systems; (2) procurement and renovation of new space to house parts of the new process both in Pennsylvania and Northern Virginia; (3) requirements in the new contract to capture Complex Work Units (CWU) with off-the-shelf commercial software programs; (4) requirements in the new contract to provide output tapes in a new SGML format; (5) requirements in the new contract to use our Patent Application Location and Monitoring (PALM) system; and (6) inability to hire and train large enough staff due to the low unemployment in both geographical areas.

In regards to the report's recommendation on page 10 to establish a plan to reduce the inventory of patents and meet PTO goals for publishing within four weeks by:

1. Assessing the effect on cycle time of processing files for publication before fee receipt and changing the new process as needed.

While both OPP and the database contractor now realize that the original plan outlined above to reach 4 weeks was overly optimistic, considerable progress has been made towards the production capacity to achieve this goal. All new space has been procured and final renovations are being completed. A net gain of 191 database contractor employees are finishing the final stages of training and many are starting to be productive and to the database contractor's production capabilities. A number of software programs problems have been resolved and automation glitches are now at a minimum. Significant progress has been made by the database contractor improving issue sizes to an average level of over 3300 issued patents per week over the last 8 weeks.

OPP and the database contractor have recently reassessed the steps necessary to process patent applications in the time necessary to publish them within four weeks. A new issue plan with more realistic issue sizes has been developed. The database contractor has assured the PTO that they are confident that these issue sizes can be met. This plan includes gradually working towards issue sizes of 4500 patents a week by end of the calendar year. According to this plan, the PTO would reach its goal of issuing a patent 4 weeks after issue fee payment by March of 2000 which would delay reaching PTO's stated cycle time goals by six months. Please see attached proposed schedule for Fiscal Year 2000.

2. Processing patents more rapidly for timely delivery to the database contractor.

With the new process of delivering patent applications for earlier data capture, OPP has better control over this process. While OPP initially fell behind in processing patent applications for delivery to the database contractor under the new process, it is now current with timely deliveries. To date a total of 102,500 patent applications have been delivered. The goal for FY99 is to deliver 136,855 patent applications. This represents a total delivery in FY1999 for both the old and new process of 181,500 applications.

3. Assisting the database and printing contractors in meeting their contractual obligations in a timely manner.

OPP staff has been holding weekly meetings with the database contractor to resolve problems that have arisen. OPP management has held several meetings with the database contractor focusing on developing process improvements and reassessing production capabilities. One important aspect of recent meetings was to adhere to production schedules so all contractors are able to meet their contractual obligations.

4. Considering, as needed, further consolidation of the database compilation and the printing process.

The PTO will make every effort to consolidate the publishing process. The recent legislation that passed the House of Representative, HR 1907, has a provision that allows the PTO enter into printing contracts without regard to certain sections of Title 44. We are committed to find and implement process improvements.

In regards to the report's recommendation on page 16:

1. By the end of FY 2003, disseminate all patent-related products, including all elements of the Official Gazette, on the internet. PTO should also initiate customer surveys to determine which printed patent products can be eliminated to reduce costs when the PTO fully implements a paperless patent dissemination process.

The PTO welcomes this suggestion and will initiate a survey of its OG subscribers. HR 1907 also includes a provision that allows for electronic publishing. This coupled with the survey should allow the PTO to move quickly towards a more efficient distribution of patent information.

2. **Pursue a waiver from the Joint Committee on Printing or necessary legislation, to independently solicit and manage its own printing contract.**


The PTO would more than welcome an opportunity to manage its own printing contracts. It will pursue this in all venues; however, this may be a difficult goal to achieve in view of the political ramifications. Again, HR1907 may hold the key to allowing the PTO to independently solicit and manage its own printing contract.

3. **Request GPO to review the basis for NPC's future claims of expenses incurred as a result of late patent tape deliveries.**

The PTO will make every effort to assure GPO's diligence when handling claims by NPC. However, under the new process, multiple tape deliveries are no longer feasible. Since the entire issue is being built at one time, one tape is now being delivered to the printing contractor.

4. **Increase the role of the onsite quality assurance specialist in the oversight of the database and printing contractors.**

The lack involvement of the onsite quality assurance specialist in recent dealings with GPO and NPC was an oversight by OPP management and will be corrected. Steps will be taken to assure that the onsite quality assurance specialist has a significant role in the oversight of the two contractors. His concerns will be given new weight and follow-up measures implemented at his suggestion.


Nicholas P. Godici
Deputy Assistant Commissioner
for Patent Process Services

**FISCAL YEAR 2000
Patents Issued and Obligated - Utilities**

PLAN ACT
UTIL UTIL

ISSUED	10/5/99	3700			
	10/12/99	4000			
	10/18/99	4000			
	10/28/99	4000			
OBLIGATED	11/2/99	4000			
	11/9/99	4200			
	11/18/99	4200			
	11/23/99	4200			
	11/30/99	4500			
	12/7/99	3500			
	12/14/99	4500			
	12/21/99	4500			
	12/28/99	4500			
	CALENDAR YEAR	1/4/00	4500		
1/11/00		4500			
1/18/00		4500			
1/25/00		4500			
2/1/00		4500			
2/8/00		4500			
2/15/00		4500			
2/22/00		4500			
2/29/00		4500			
3/7/00		4500			
3/14/00		4500			
3/21/00		4500			
3/28/00		4500			
4/4/00		3373			
4/11/00		3173			
4/18/00		3173			
4/25/00		3173			
5/2/00		3173			
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8/22/00		3173			
8/29/00		3173			
9/5/00		3173			
9/12/00		3173			
9/19/00		3173			
ISSUED		9/26/00	3173		
		10/3/00	3173		
OBLIGATED	10/10/00	3173			
	10/17/00	3173			
	10/24/00	3173			
	10/31/00	3173			
	11/7/00	3173			
	11/14/00	3173			
	11/21/00	3173			
	11/28/00	3173			
	12/5/00	3173			
	12/12/00	3173			
CALENDAR YEAR	12/19/00	3173			
	12/26/00	3173			
		FY00 Total	FY00 Base	Catch up	
	PLANNED FISCAL YEAR UTILITY ISSUES	195,000	185,000	30,000	
	PLANNED OBLIGATED UTILITY ISSUES	191,992			
	PLANNED CALENDAR YEAR UTILITY ISSUES	182,450			