



Helping others acquire, license or invest in patents with confidence – A guide for patent searchers to patent due diligence

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ARTICLE INFO

Keywords:

Patent due diligence
Patent expiration
Patent ownership
Renewal
Maintenance
Annuities
Patent validity
Prior art
Novelty
Patent infringement
Freedom to operate

ABSTRACT

Investors are becoming increasingly savvy in this knowledge economy. A noticeable trend has emerged within the patenting arena in which those seeking to acquire, license or invest in patented technology are asking more focused and detailed questions in order to assess whether commitment is warranted. Being satiated with superficial or incomplete information or having lax attitudes towards patent portfolio appropriation are becoming a distant memory, as more realize that by thoroughly scrutinizing patent rights before purchase, the exposure to infringement risks or the risk of purchasing a “lemon” can be mitigated.

Scrutinizing a patent portfolio to determine if it is a worthwhile investment involves conducting patent due diligence. Different types of patent searches are required at each of the four steps of due diligence and these include patent family searching, patent status searching, patent validity searching and patent infringement searching. A practical guide to each as well as their interrelationship is presented herein, as these types of searches pave the way towards identifying both the strengths and weaknesses of a patent portfolio.

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1. Introduction

Patents, like other forms of intellectual property rights including trade marks, designs and copyright, are a commodity that can be bought and sold. As a commodity, the value of patents can be analyzed from a macro or micro perspective. Each perspective has different benefits. A macro perspective attempts to value patents by visualizing trends such as the number of patent filings in a particular field of technology over a period of time. Other measures include determining the extent to which a patent is cited by other companies within a given field of technology and the number of prior art references cited by a patent examiner. Such macro analyses of patent information can provide a bird’s eye view of a particular patent landscape which can be valuable when scouting for potential business opportunities, but it cannot provide the level of detail concerning individual patents that is required for negotiations.

In contrast, a micro perspective enables one to look at the individual patents under consideration to determine the strength of each before purchasing, licensing or investing in the patent rights. The micro perspective is constructed from the results of patent due diligence searching. Such searching is important to potential buyers, licensees or investors as well as vendors. As patent due diligence searching can identify weaknesses or problems at the early stage of negotiations, the buyer/licensee/investor will not fall into

the trap of over-valuing the patent rights in question by relying on assumptions that later may prove to be incorrect [1]. The vendor can also benefit from patent due diligence searching, because it enables the vendor to provide prompt, thorough and accurate information regarding the status of its portfolio which in turn will help to build the buyer’s trust and confidence [2]. In light of the importance of patent due diligence searching to both the buyer and the vendor, this paper will focus on the four steps of patent due diligence searching that can be taken in order to gain a micro perspective of a patent portfolio.

2. Four steps of patent due diligence searching in practice

Buying a patent portfolio is similar in some respects to buying a car. When one sets out to buy a car, most people typically research the various features such as fuel economy, safety and performance of the available cars in the marketplace. Similarly, when buying a patent portfolio one needs to research key features about the portfolio before closing the deal. The extent of research carried out will depend on the goals and nature of the buyer, licensor or investor [3]. As comprehensive patent due diligence searching is an iterative, time-consuming and expensive process, search priorities will need to be established at the outset in order to tailor the scope of the search to ensure a cost-effective approach [4]. For example, the scope of patent due diligence searching will need to be more extensive if the goal of the buyer is to use the purchased patented

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technology in developing and launching a new product in the market. In such a case, patent due diligence searching needs to be initiated as early on as possible [5]. By initiating the search in the early stages of negotiations, there is a greater likelihood that if a rectifiable weakness is identified by the search that the vendor will resolve it in order to prevent the deal from being derailed [6].

One obvious feature of a patent portfolio that needs to be determined is the extent to which there is patent protection in the jurisdictions of interest, as patent rights are limited by jurisdictional boundaries. In order to determine within which jurisdictions patent applications or patents exist, a patent family search needs to be conducted by a competent patent searcher. This search can be the first step in conducting patent due diligence.

Next, when considering a patent family, the status of each patent family member should be investigated in order to verify that each patent or patent application of the patent family is, as claimed by the vendor, currently in force or pending [7]. This step is similar to the situation of buying a car, in that, prudent buyers will take the car for a test drive and have the car inspected to make sure that it stands up to the vendor's claims. It is unlikely, however, that every car in the marketplace will be test-driven. This may also be the case for patent family status checks. It may not be cost-efficient to investigate the status of each and every patent or patent application within a large patent family. Some buyers may therefore opt to focus only on the status of patent publications in jurisdictions of commercial importance to them or to focus only on the status of those patent publications that claim key technology [8].

Once the scope of the status search is defined, the potential buyer will not only need to know whether the patent family members of interest are in force, but also who owns each patent family member as the ownership of patent rights can differ from country to country [9]. Further, patent term expiration is a critical feature that can often drive the price of the portfolio up or down depending on the length of term remaining for each patent family member. Each of these features need to be investigated by a patent searcher and the results should be verified by a patent attorney registered in each of the jurisdictions of interest.

In addition to status, ownership and expiration, savvy buyers will also need to gain an appreciation of whether or not the patent portfolio on offer would likely withstand a validity challenge, as only valid patents can be enforced against potential infringers. Just as most car purchasers would refuse to purchase a car with an inoperable transmission, the purchaser of a patent portfolio is wise to steer clear of a patent portfolio that cannot be enforced. In order to evaluate the strength of a patent portfolio, a validity search would need to be completed as the third step of patent due diligence. The results of the validity search would then need to be considered by a patent attorney who is qualified to practice in one or more of the jurisdictions of interest in order to provide validity advice.

The fourth and final step in buying either a car or a patent portfolio is to identify third party rights. Just as one would need to investigate whether there a lien against the car, one would also need to investigate whether there is a potential risk of being sued for patent infringement. Remember a patent confers upon the patent owner the right to exclude others from practicing the claimed invention for a length of time in a particular jurisdiction [10]. Patent ownership, does not in itself, however, excuse activity that constitutes infringement of someone else's patent rights. Thus, a patent infringement search is an important step as is seeking the advice of a qualified patent attorney who can provide infringement advice.

In order to illustrate the four steps taken in assessing a patent portfolio, consider the following example. A client is interested in purchasing the patent portfolio pertaining to a birth control dermal patch which is described and claimed in US Patent No. 5876746.

Taking the first step of patent acquisition, a patent family search would be conducted to determine the countries in which patent protection for the patch currently exists.

2.1. Patent family search (step 1)

In conducting the patent family search, there are a few important points to keep in mind. First, as a competent searcher, one would not rely on any one source of patent family information, as many databases such as INPADOC and DWPI, do not include patent family members for all jurisdictions [11]. Second, it is important to conduct inventor name and/or at least title keyword searches in the national patent office records for the jurisdictions of interest. Such a supplemental search enables one to identify any patent family members that may not claim priority from the same basic application, but nevertheless relate to the same patent family.

Once the patent family search is conducted for the above-noted example, it becomes apparent that there is a patent family member in Australia (AU703593), New Zealand (NZ311304), Canada (CA2222133) and Europe (EP0836506) among others, all of which correspond to US5876746. Armed with this information, the searcher can next set out to determine status information for one or more patent family members by searching the appropriate national patent office databases if available.

It is important to bear in mind that the information that can be obtained from a national patent office database may be incomplete or incorrect. For example, unregistered security interests in respect of a patent may not be recorded in the online record. It is therefore important to impress upon the potential purchaser that the status and ownership of each patent on offer should be verified by a local patent attorney before any purchase is completed. Nevertheless, status checks of the available online national patent registers will at least provide a preliminary overview of the status and possibly raise any issues that will need to be further investigated. The status information that a searcher may be able to obtain from a national patent office register can address one or more of the following questions:

- (1) is the patent family member a patent application or a granted patent?
- (2) is the patent family member in force or pending (which can be ascertained by identifying whether the renewal/continuation/maintenance/annuity fees have been paid up-to-date)?
- (3) who is the current owner and do any licensees exist?
- (4) when will each patent family member expire? and
- (5) whether there are any patent term extensions in place that can arise from procedural delays, as can be the case with US patents, or pharmaceutical patent term extensions (which are, for example, possible in Australia and United States, but not in Canada or in New Zealand) or Supplementary Protection Certificates which are available in most European countries).

One word of warning is to be cautious when calculating patent term expirations, especially from the front page of a patent, as the term can be affected by a number of factors [12] including:

- **Type of patent** (in Australia, for example, an innovation patent has a shorter term than a standard patent);
- **Filing date** (was the application filed before or after the implementation of the TRIPS Agreement? The patent laws of some countries include transitional provisions that allow for the term of a patent, filed in a particular date range, to be either 20 years from the date of filing or 17 years from the date of grant, whichever period is longer);

Fig. 1. Screen Capture of PAIR database.

- **Omitted/incorrect application data** (it is possible that the front page of a patent may erroneously record or omit reference to an earlier filed international application or parent application);
- **Patent term adjustment** (as stated above, the term of a US patent may be extended to take into account delays caused by the USPTO and such adjustments may not appear on the face page);
- **Terminal disclaimer** (which in effect, limits the term of a patent to the term of a related but earlier filed patent in order to overcome a double patenting objection);
- **Patent interference proceedings** (the front page of a US patent or patent application may not reflect that it has been the subject of an interference proceeding, and the claims may have already been cancelled or surrendered); and
- **Patent litigation** (which can result in revocation of a patent).

It is therefore advisable to always seek the assistance of a local patent attorney to verify patent expiration dates.

2.2. Status checks (step 2)

There are many resources available for free that enable one to check the status of several patent publications within a particular patent family. Returning to the above-noted example, the patent searcher could obtain status information for US5876746 as well as the corresponding Australian, New Zealand, Canadian and European patents as described below in Sections 2.2.1–2.2.5.

2.2.1. United States patent status resources

Current status information for US5876746 can be obtained from the Patent Application Information Retrieval (PAIR) database [13] provided by the United States Patent and Trademark Office (USPTO).

Fig. 1 shows the screen capture of the PAIR database. The status information is obtained by entering the patent number once the appropriate radial button has been selected.

Fig. 2 shows the application details for US5876746, and it can be seen from the right hand side of the screen capture that it is a granted patent. It is important to note that the “status” provided on this application data page may not necessarily reflect the current status, and therefore it is worthwhile to check the image file

wrapper page (if available), by clicking on the “image file wrapper” tab circled in red.¹

The image file wrapper page, as shown below in Fig. 3, indicates that the patent application has indeed been granted and that a patent term extension certificate has issued in respect of this patent. If one clicks on the “Patent Term Extension Certificate” hyperlink (circled in red), one will see that, subject to the payment of maintenance fees, US5876746 will expire 20 November 2015, which will be 166 days after the original expiration date.

Although it is apparent that the term of this US patent has been extended, it is unclear at this stage whether the patent is currently in force. It is entirely possible that a granted US patent may no longer be in force for failure to pay the requisite maintenance fees. To determine the patent status, the maintenance fee payment schedule needs to be consulted by clicking on the “Fees” tab which is also circled in red in Fig. 3.

Fig. 4 shows an excerpt of the maintenance fee payment schedule which indicates that the fourth and eighth anniversary maintenance fees have been paid in respect of US5876746, and that the next maintenance fee is due 3 September 2010, after which time a surcharge applies. Thus, it appears that US5876746 is currently in force.

At this stage, the online USPTO assignment reel [14] should also be consulted to see if any patent assignments have been recorded in respect of US5876746. It is worthwhile to note that the online version of the assignment reel may not be up-to-date, and if there is any doubt as to ownership, it is best to contact the USPTO directly to determine the current assignee.

According to the USPTO online assignment reel, the last recorded assignee is Ortho-McNeil Pharmaceutical Inc., which obtained the patent rights as a result of an assignment from Cygnus Inc., in 1999. Thus, it appears that US5876746 is a currently in force US patent that is in the name of Ortho-McNeil Pharmaceutical Inc.

2.2.2. Canadian patent status resource

The status of Canadian patent applications and patents can be accessed from the Canadian Intellectual Property Office (CIPO) [15]. If one enters the Canadian patent number identified by the

¹ For interpretation of color in Figs. 1–10, the reader is referred to the web version of this article.

Patent Application Information Retrieval			
Order Certified Application As Filed Order Certified File Wrapper View Order List			
08/660,024 TRANSDERMAL PATCH AND METHOD FOR ADMINISTERING 17-DEACETYL NORGESTIMATE ALONE OR IN COMBINATION WITH AN ESTROGEN			
Select New Case	Application Data	Transaction History	Image File Wrapper
		Continuity Data	Fees
		Published Documents	Address & Attorney/Agent
Bibliographic Data			
Application Number:	08/660,024	Customer Number:	-
Filing or 371 (c) Date:	06-06-1996	Status:	Patented Case
Application Type:	Utility	Status Date:	02-22-1999
Examiner Name:	WEBMAN, EDWARD J	Location:	ELECTRONIC
Group Art Unit:	1615	Location Date:	-
Confirmation Number:	5045	Earliest Publication No:	-
Attorney Docket Number:	230002010321	Earliest Publication Date:	-
Class / Subclass:	424/449	Patent Number:	5,876,746
First Named Inventor:	JANAN JONA , SUNNYVALE, CA (US)	Issue Date of Patent:	03-02-1999

Fig. 2. Application details for US5876746.

08/660,024 TRANSDERMAL PATCH AND METHOD FOR ADMINISTERING 17-DEACETYL NORGESTIMATE ALONE OR IN COMBINATION WITH AN ESTROGEN			
Select New Case	Application Data	Transaction History	Image File Wrapper
		Continuity Data	Fees
		Published Documents	Address & Attorney/Agent
This application is officially maintained in electronic form. To view, click the desired Document Description. To Download and Print: Check the desired document(s) and click Start Download.			
Available Documents			
Mail Room Date	Document Description		
02-10-2006	Patent Term Extension Certificate		
10-11-2005	Notice of Final Determination-Eligible		
08-31-2004	FDA Final Eligibility Letter		
01-15-2004	Transaction for FDA Determination of Regulatory Review Period		
08-11-2003	Initial letter Re: PTE Application to regulating agency		
06-16-2003	Letter from FDA or Dept. of Agriculture RE: PTE Application		
02-19-2002	Initial letter Re: PTE Application to regulating agency		
01-16-2002	Patent Term Extension Application Under 35 USC 156		
07-06-1999	Miscellaneous Internal Document		
03-22-1999	Miscellaneous Incoming Letter		
03-02-1999	Certified Copy of Foreign Priority Application		
11-10-1998	Notice of Allowance and Fees Due (PTOL-85)		
10-27-1998	Miscellaneous Incoming Letter		
10-27-1998	Power of Attorney		
10-27-1998	Change of Address	1	

According to USPTO:

Original expiry:
07-Jun-2015

Extended expiration date:
20-Nov-2015

Total Extension Approved:
166 days

Fig. 3. Image File Wrapper Page for US5876746.

patent family search in Section 2.1 in the Canadian Patent office database, one will see that the Canadian Patent Office record for CA2222133 indicates that the owner is Ortho-McNeil Pharmaceutical Inc., but that the applicant was Cygnus Inc.

From the Administrative Status information provided, one will see that CA2222133 is an in force patent in the name of Ortho-McNeil Pharmaceutical Inc., and that the next renewal fee will be due 6 June 2009. As pharmaceutical patent term extensions are not available under Canadian patent law and the corresponding patent application was filed after the date at which transitional provisions related to term apply, it is expected that CA2222133, subject to the payment of the renewal fees, will expire 6 June 2016.

2.2.3. European patent status resource

Status information for European patent publications can be obtained from the European Register [16] (see Fig. 5 below). By entering the European patent publication number identified by the

patent family search in Section 2.1, one will see that the European patent has been granted.

In order to determine the status of the European patent in various European countries, the corresponding national patent office databases need to be consulted. If such databases are not available, then it is recommended that the assistance of a local patent attorney be sought. For instance, the status of the European patent in the United Kingdom (UK) can be obtained by visiting the UK Intellectual Property Office site [17].

Fig. 6 shows the screen capture of the UK Intellectual Property Office record for EP0836506 once the patent number has been entered in the search screen and the “Full Details” button has been clicked. The status record indicates that the European patent is currently in force in the UK in the name of Ortho-McNeil Pharmaceutical Inc., and that the next renewal fee is due 6 June 2009. If one clicks on the “View the Supplementary Protection Certificate that exists for this Patent” hyperlink, one will see that the birth control dermal patch will continue to be protected until 21 August 2017

Patent Bibliographic Data		04/20/2008 02:57 AM	
Patent Number:	5876746	Application Number:	08660024
Issue Date:	03/02/1999	Filing Date:	06/06/1996
Title:	TRANSDERMAL PATCH AND METHOD FOR ADMINISTERING 17-DEACETYL NORGESTIMAT		
Status:	12th year fee window opens: 03/02/2010		Entity: Large
Window Opens:	03/02/2010	Surcharge Date:	09/03/2010
Fee Amt Due:	Window not open	Surchg Amt Due:	Window not open
Fee Code:	1553	MAINTENANCE FEE DUE AT 11.5 YEARS	Total Amt Due: Window not open
Surcharge Fee Code:			
Most recent events (up to 7):	<div style="border: 2px solid red; border-radius: 50%; padding: 5px;"> 10/17/2006 Pat Hldr no Longer Claims Small Ent Stat 08/28/2006 Payment of Maintenance Fee, 8th Yr, Small Entity. 08/16/2002 Payment of Maintenance Fee, 4th Yr, Small Entity. --- End of Maintenance History --- </div>		

Fig. 4. Maintenance Fee Schedule for US5876746.

European Patent Office

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Register Plus

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Search:

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Please enter your search criteria or choose a recent search or file from the menu.

The following formats are valid for your search.

Fig. 5. Screen Capture of the European Patent Office's Register Plus database Register.

under the Supplementary Protection Certificate (SPC). Although the SPC comes into effect once the term of the European patent expires, its legal effect is substantially the same as that of the patent upon which it is based.

2.2.4. Australian patent status resource

The current status of the corresponding Australian patent publication (AU703593) can be obtained from IP Australia's online database, AUSPAT [18]. By entering the Australian publication number identified by the patent family search in Section 2.1 into AUSPAT [19] (as shown in Fig. 7), the status information for AU703593 appears as shown in Fig. 8.

It appears that AU703593 is a currently in force patent in the name of Ortho-McNeil Pharmaceutical Inc., and the next renewal fee will be due 6 June 2009. Subject to the payment of future renewal fees, the patent is expected to expire 6 June 2016 as shown in Fig. 8. Therefore, it does not appear that a pharmaceutical patent term extension applies in respect of AU703593, as the expiry date is 20 years from the filing date.

2.2.5. New Zealand patent status resource

The current status for the corresponding New Zealand patent publication can be accessed by searching the Intellectual Property Office of New Zealand (IPONZ) database [20]. By entering the New

Patents status information

[View the Supplementary Protection Certificate that exists for this Patent](#)

FULL DETAILS

REGISTER ENTRY FOR EP0836506

Title TRANSDERMAL PATCH FOR ADMINISTERING 17-DEACETYL NORGESTIMATE ALONE OR IN COMBINATION WITH AN ESTROGEN

Applicant/Proprietor
ORTHO-MCNEIL PHARMACEUTICAL, INC., U.S. Route No. 202, Raritan, NJ
 08869-0500, United States of America [ADP No. 67391375002]

RENEWALS DATA

Date Filed	06.06.1996
Date Not in Force	
Date of Last Renewal	11.06.2008
Year of Last Renewal	13
Next Renewal Date	06.06.2009
Status	PATENT IN FORCE

Fig. 6. UK Intellectual Property Office record for EP836506.

Australian Government
 IP Australia

AusPat

Structured Search

Number

Number
 Invention title
 Applicant name
 Inventor name
 Agent name
 Application status

Fig. 7. Screen Capture of the Australian Patent Office Database, AUSPAT.

Zealand publication number identified by the patent family search in Section 2.1 and clicking on the “Submit Query” button, as shown in Fig. 9, the status information for NZ311304 can be obtained.

As can be seen from Fig. 10 below, NZ311304 is a currently in force patent for which the final renewal fee is due 6 June 2009. As pharmaceutical patent term extensions are not available in

1996062597 : Transdermal patch and method for administering 17-deacetyl norgestimate			
Bibliographic data			
Application details		Serial number	703593
Australian application number	62597/96	Patent application type	Standard
Application status	SEALED	Paid to date	2009-06-06
Currently under opposition	No	Proceeding type(s)	
Invention title	Transdermal patch and method for administering 17-deacetyl norgestimate alone or in co		
Inventor(s)	Audett, Jay ; Jona, Janan ; Singh, Noel		
Agent name	F B Rice & Co	Address for legal service	Level 23 44 Market
Filing date	1996-06-06	Australian OPI date	1996-12-30
Effective date of patent	1996-06-06	Expiry date	2016-06-06
Additional/Divisional application number	Additional/Divisional		
Applicant details			
Applicant	Ortho-McNeil Pharmaceutical, Inc.	Applicant address	US Route 202, Ran
Old name(s)	Cygnus, Inc.		

Fig. 8. Australian Patent Office Record for AU703593.

Ministry of Economic Development  IPONZ – Intellectual Property Office of New Zealand

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PATENT SEARCH

SUBMIT QUERY | RESET QUERY

Case Sensitive

Search all fields

Search Text e.g. hydraulic* and tractor*
Enter your search above to search many fields at once.

Basic search fields

Keyword(s) e.g. tract* and trail*

Owner Name e.g. farm*

Inventor Name e.g. haines*

New Zealand Number(s) e.g. 169080, 501984

Fig. 9. Screen Capture of the IPONZ Database.

New Zealand, it is expected that NZ311304, subject to the payment of the final renewal fee, will expire 6 June 2016. It is important to note that the New Zealand Patent office record for NZ311304 indicates that the patentee is Cygnus Inc. In view of the fact that the

corresponding United States, Canadian, British and Australian patents all appear to be in the name of Ortho-McNeil Pharmaceutical Inc., this discrepancy is important to a potential purchaser as it may introduce a new party to the negotiations. Although the case

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NEW SEARCH | DELIVER ALL

Patent Details

Patent Number (11)	311304	Current Status	Granted and Sealed
International Application Number	PCT/US96/09396		
WO Publication Number	WO96/40355		
Patent Type	Patent PCT Inward		
Patent Title (54)	Transdermal patch and method for administering 17-deacetyl norgestimate alone or in combination with an estrogen		
Filed (22)	06-JUN-1996		
Nat	08-DEC-1997		
Convention	Date (320)	Country (330)	App No:
	07-JUN-1995	United States of America	95 473531
	21-AUG-1995	United States of America	95 517263
Renewal Date	06-JUN-2009		
Applicant / Patentee: (71)	CYGNUS, INC., 400 Penobscot Drive, Redwood City, California 94063, United States of America		

Fig. 10. IPONZ record for NZ311304.

may be that an assignment of NZ311304 from Cygnus Inc., to Ortho-McNeil Pharmaceutical Inc. has yet to be registered with the New Zealand Patent Office, it may also be the case that the New Zealand patent rights have not been assigned. If the latter is true, then the New Zealand patent rights are currently owned by Cygnus Inc., in which case, an assignment to the purchaser would need to be negotiated separately.

In summary, the patent family search for US5876746 revealed family members in Canada, Europe, Australia and New Zealand, and the status checks of these revealed that although each of these family members are currently in force patents, the family members will not expire at the same time and not all of the family members are in the name of Ortho-McNeil Pharmaceutical Inc. Thus, further inquiries and investigation will need to be conducted to ascertain or confirm the ownership of NZ311304.

The remaining two steps that should be taken before investing, acquiring or licensing a patent is to commission a patent validity search and a patent infringement search. Although both validity and patent infringement searching are typically expensive and time-consuming to complete due to their breadth and iterative nature, the benefit of these searches can be invaluable to both the vendor and the purchaser in deal negotiation.

2.3. Patent validity searching (step 3)

As stated in Section 1, it is important to consider whether or not a patent portfolio on offer would likely withstand a validity challenge, as only valid patents can be enforced against potential infringers. Typically, a valid patent is one in which the claimed subject matter is novel, non-obvious and useful in addition to other criteria such as disclosure requirements and entitlement/inventorship issues. The precise criteria for a valid patent vary from juris-

isdiction to jurisdiction, and it is recommended that the advice of a patent attorney concerning patent validity be sought. Patent attorneys will also be able to either arrange validity searching or conduct the search themselves.

It is beyond the scope of this paper to delve into the finer details concerning the manner in which a validity search should be conducted, but there are a few important concepts that should be considered before conducting a validity search. First of all, it is important to remember that a comprehensive validity search involves searching not only patent publications, but also non-patent publications and even sources of public use in order to identify relevant prior art that may anticipate the claimed subject matter. It is also important to keep in mind that the patent laws of different countries may provide for a grace period. For example, in Australia, an inventor derived publication of the claimed subject matter cannot jeopardize the validity of an Australian patent if the publication was published within 12 months of filing the non-provisional patent application.

In addition to grace periods, the question of whether the prior art was available in a particular jurisdiction may also preclude the prior art from being cited as novelty destroying. For example, in New Zealand the novelty standard is currently a local standard which means that the prior art must have been available in New Zealand prior to the relevant date.

The relevant date is an important consideration when conducting a validity search, because the date dictates the date range by which the scope of the search is restricted. As the patent laws of most countries operate under a 'first to file' regime, validity searches are usually limited to prior art that was publicly available prior to the relevant date. In the case of a United States patent, however, validity searching is not as straightforward, as the United States currently operate under a 'first to invent' patent regime.

Notwithstanding, most validity searches in respect of United States patents are conducted as if a 'first to file' regime were in place, as it is unlikely that a validity search could uncover evidence that establishes the true date of an invention.

The date restriction of the validity search should take into consideration non-patent publications that were published prior to the filing date of the patent in question. This is true even if the patent in question claims priority from an earlier application, as any non-patent publications published after the priority date, but before the filing date may still be relevant if the priority claim is not supported. The date restriction of the validity search should also take into consideration patent publications, and particularly, those patent publications that can be cited against the novelty of the patent in question on a 'whole of contents' basis if the applicable patent law provides for such a basis. Thus, the date restriction applied, *in general*, should include the following three scenarios:

- patent publications published before the priority date of the patent in question;
- patent publications published after the priority date of the patent in question, but before the filing date of the patent in question; and
- patent publications published after the filing date of the patent in question, but that claim an earlier priority date than the patent in question (the 'whole of contents' scenario).

Of course, if the validity of a single patent is being considered, not all of these scenarios may apply, and depending on the patent laws of the particular jurisdiction, other scenarios that have not been discussed may also need to be covered. It is therefore always prudent to seek the advice of a patent attorney registered in the particular jurisdiction before conducting the validity search.

Once the validity search is complete and the patent attorney's advice indicates that the patent portfolio on offer would likely withstand a validity challenge, the final step to take before closing the deal is to consider whether there are any risks of patent infringement. There may be little or no point in purchasing patent rights, if third party patent rights stand in the way of one's ability to make, sell or use the patented technology on offer. Thus, patent infringement searching is a key component of patent due diligence, as it enables the identification of potential patent infringement risks.

2.4. Patent infringement searching (step 4)

It makes good business sense to not only know the competitors in the markets that are of interest, but also to understand whether the manufacture, sale or use of the proposed technology in those markets will invoke law suits launched by third parties claiming that their patent rights have been infringed. The only reliable manner in which to determine whether such risks exist, is to approach a competent patent searcher or a qualified patent attorney to conduct a separate patent infringement search in each of the jurisdictions of interest. The critical features of the proposed product or process will need to be first identified so that the search will not retrieve an excessive number of records that will undoubtedly increase both the time and expense involved. Patent infringement searching, like validity searching, is an iterative, time-consuming and expensive process as the results of the patent infringement will need to be reviewed in order to identify potentially relevant patent publication(s) and to cull obviously irrelevant records. The subset will then need to be assessed by a patent attorney in order to provide his or her opinion as to whether or not the proposed product or process would likely infringe any of the third party patent rights identified by the review.

It is beyond the scope of this paper to discuss the manner in which a patent infringement search should be conducted, but there are a few important concepts that should be considered before conducting a patent infringement search. Unlike a validity search, patent infringement searching only involves searching patents and published patent applications of the jurisdictions in which the proposed activity is planned. The scope of the patent infringement search is also limited by date, but the date range that applies is different from that of a validity search.

Many believe that the date range for a patent infringement search should be the past 20 years, as most patent terms expire 20 years after the filing date. However, such a date range would not likely encompass those patents for which the term has been extended by either a pharmaceutical patent term extension or a patent term adjustment. Therefore, it is prudent to select a date range that captures such possible extensions by typically adding five years to the start date of the search. For example, if the patent infringement search were to have been conducted on 1 May 2008, then the start of the date range would have been 1 May 1983 instead of 1 May 1988.

By adjusting the date range in the suggested manner, the likelihood that relevant patents will be retrieved by the patent infringement search will be enhanced.

3. Conclusion

It is the author's hope that this paper provides a practical guide for both patent searchers and their clients alike in regards to the search-related steps that should be taken in completing patent due diligence. Patent family searching enables one to determine the extent of patent protection around the world, while status checks facilitate answering whether the individual patent family members are in force, who owns them and when they expire. Patent validity searching enables the evaluation of whether a patent family member is enforceable, which is an important consideration in view of the fact that a patent that is unenforceable is of little or no value. Assessing patent infringement risks is also an important step to take before licensing or purchasing patent rights, as owning or licensing a patent does not excuse activity that constitutes infringement of someone else's patent rights.

Acknowledgement

This paper is largely based on a presentation made by the author at the PIUG 2008 Annual Conference which took place in Arlington, Virginia in May, 2008.

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