

Armament Research, Development & Engineering Center

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ARDEC
Invention Disclosure Guidance

For use with
ARDEC-305 Invention Disclosure Procedure

Originating Office: Office of the Director of Technology (ODoT)

ARDEC Invention Disclosure Guidance

Change Record

Revision	Date	Description of Change
A	27 Jun 2011	Draft prepared by Standard Developer.
	11 Jul 2011	Initial Release.
	21 Dec 2011	Addressed comments from Organizational review.
	4 Jan 2012	Incorporated changes recommended by ARDEC Legal Office.
	30 Jan 2012	Incorporated changes recommended by Process Owner.
	8 Feb 2012	Process CCB review.
	23 Feb 2012	Process CCB concurrence – actions from Process CCB review closed.

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WARNING!

Any disclosure of your invention to persons or organizations outside ARDEC before filing a patent application with the US Patent and Trademark Office (USPTO) can jeopardize patent protection for your invention. Consult with ARDEC patent counsel prior to disclosing or publishing.

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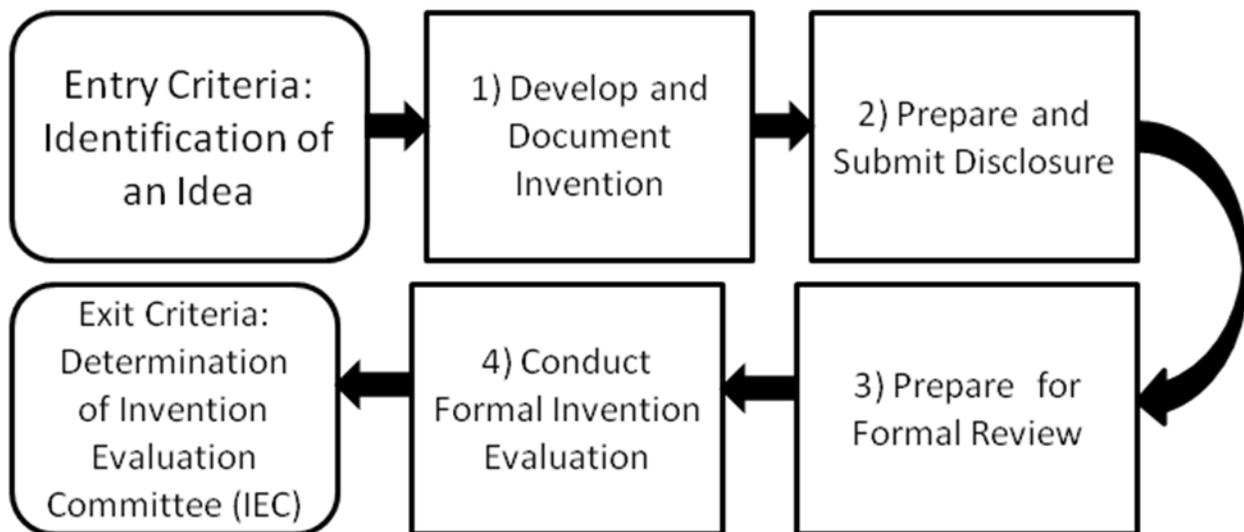
1. Purpose

A patent provides the legal right to exclude others from making, using, offering for sale, selling, or importing an invention or discovery without the patent owner's permission. As such, patents protect ARDEC's intellectual property. Further patents are a metric of ARDEC's innovation.

Army Regulation 27-60 mandates the prompt and complete disclosure of any invention and protects the interests of all involved.

Inventors also have a distinct incentive in properly disclosing intellectual property including supporting our patriotic missions, recognition of their invention, protection of their inventor rights, and monetary reward.

2. Process Overview Map



3. Patent Types

a. Relevant Patent Types to ARDEC:

Utility Patent- Patents regarding any new and useful process, machine, manufacture or composition of matter, including any business method or software invention relating

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thereto. Utility patents, when granted, provide the right to exclude others for 20 years from date of patent filing. Utility patents cover the following:

Process- Manipulation of material to cause a change to the material through any series of steps involving physical or chemical means.

Machine- A mechanical device that functions to achieve a particular result; may also be an electrical circuit to achieve a particular result.

Composition- Any new combination of matter not found in nature.

Manufacture- The use of raw materials to produce something with a new form, quality, property or combinations thereof.

Design Patent – Patents related to new, original and ornamental design, which affects appearance only. Design patents provide the right to exclude others for 14 years from date of grant.

b. Utility Patent Criteria

An idea must meet all of the below criteria in order for to receive a utility patent:

New/Novel- An invention previously unknown to anyone. Note: there is a 1 year grace period within which the inventor can disclose his/her patent without losing the right to file a patent application in the U.S.

Useful- An invention that possesses a specific and significant utility, though the invention need not be any better than what is known. The invention must be capable of performing its intended function, as evidenced by successful testing. Utility can also be found in doing something in a more economical and effective fashion.

Non Obvious- The invention must be sufficiently different from what was previously known, such that the invention would not have been obvious to a person having ordinary skills in the specific technology. An invention may be considered obvious if it is, for instance, a combination of previously known elements when prior art has suggested the desirability of the combination, or where the invention is merely a combination of known elements where each element is acting predictably for a predictable combined result, or a known technological improvement is being applied to an existing design or technology. There are other factors that can argue against obviousness, such as surprising results, if a novel element is needed to combine the existing elements, if a special synergy occurs with the combination of elements, or if the underlying problem or its root cause which the invention solved was not publicly known or understood.

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Not Barred- Patent laws do not allow for patenting the laws of nature, physical phenomena, naturally occurring minerals, or plants, or living organisms, or human beings. Algorithms not tied to a particular machine or, which does not transform a particular article into a different state of being or thing is also barred. A patent may not be filed on an invention that was disclosed more than one year prior outside the inventor's organization (for us the government). However, if a non-disclosure agreement is in place, signed by the individuals/company to whom the invention is being disclosed, it is legally considered that no outside disclosure has occurred.

4. ARDEC Patent Criteria

ARDEC has specific criteria to consider before recommending that the Government pursue a patent application on any invention. The decision criteria for patent filing shall include if the subject invention:

- (i) Is patentable or not - i.e. novel, useful, not obvious and not barred by premature disclosure (patentability is the first hurdle and the determination of patentability shall be the sole responsibility of an ARDEC patent attorney)
- (ii) Aligns with and supports ARDEC's mission (a second, important, independent hurdle)

However, the invention must also meet one or more of the following additional criteria:

- (iii) Has potential for use by the Army and/or other departments of the U.S. Government, which must involve a significant use and/or significant dollar benefit
- (iv) Has potential for commercial licensing
- (v) Has potential for being patented by a commercial entity, which could then potentially charge the U.S. Government a royalty for use of the invention, understanding that if ARDEC publishes or otherwise makes public the invention, this cannot happen. No one can patent an invention that is publically known
- (vi) Is a fundamental advance in technology or science.

Remember that, independent of these criteria, federal employees, as employees, are required to report any and all discoveries or inventions made. Therefore, federal employees must always file the appropriate discovery/invention disclosure forms, even on a discovery or invention that is unrelated to their government job.

5. Assistance Available to Inventors

Who can assist an ARDEC Inventor to get an invention patented?

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There are several ARDEC resources available to assist in the patent process, among them the ARDEC Legal Office, Patent Liaisons, and Idea Catalysts.

ARDEC Legal Office: Inventors may contact any member of the team of patent attorneys at the ARDEC Legal Office for assistance. The Legal Office can assist Inventors with all forms and documentation, as well as, provide detailed guidance on any aspect of the patent process, as well as, on US and International patent laws and regulations. Further, the Legal Office can provide advice on avoiding creation of any bar to patentability; including, Non-Disclosure/Non-Use Agreements with outside parties. The ARDEC Legal Office website is:
<https://picac2w4.pica.army.mil/legal/>

Patent Liaisons: Advises and provides guidance to inventors on the informational and procedural requirements of the invention disclosure process. Provides information on factors related to patentability including: patentable subject matter, prior art and searches, novelty and non-obviousness, outside disclosures, documentation, test data, etc. The Patent Liaison can assist with prior art searches and with determining the novel aspects of the invention. They advise on any specific information that should be included in both the Invention Disclosure and the Invention Evaluation Committee (IEC) brief to provide a full and accurate basis for evaluation of the invention by the IEC. Monitors and motivates the invention disclosure's progress while establishing realistic expectations regarding patentability, ARDEC priorities, and possible process outcomes. The Patent Liaison does not provide legal advice.

With the conception of a new idea, the liaison can guide the Inventor(s) to keep proper documentation of the invention (especially in obtaining sufficient data to prove efficacy/reduction to practice) and advise what precautions to observe before disclosing outside the government (including to contractors). The liaison can also advise the Inventor by coordinating with the ARDEC Legal.

If assistance finding a Patent Liaison is required, Inventors should contact their department managers or the ARDEC Legal Office for guidance. The ARDEC Legal Office website is:
(<https://picac2w4.pica.army.mil/legal/>)

Idea Catalyst: Idea Catalysts can advocate and better define an inventive concept. Idea Catalysts are available to assist inventors early in the idea generation process helping to capture the idea in ARDEC's IDEAS database, helping an Inventor formalize an idea, putting Inventors in touch with subject matter experts for consultation to refine the idea, and guiding Inventors to ARDEC's Innovation Champion's who provide assistance in inter-agency negotiation, facilitation, guidance, advisement and in determining potential sources of funding. Inventors can find the Idea Catalysts on the Science and Technology website, which is accessible from the PicaWeb at:

https://picac2ocsprod1.pica.army.mil/portal/page?_pageid=804,2020641&_dad=portal&_schema=PORTAL

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6. Notification of an Invention

Whom does the Inventor notify of an invention and what else should be done?

The Inventor should notify their Manager first if there is an invention. If the Inventor is not familiar or aware of their Patent Liaison, the Manager or the ARDEC Legal Office can direct the Inventor to the proper person, so that the inventor can get whatever help is necessary throughout the invention documentation and disclosure process.

The Inventor must clearly document the invention in his/her lab notebook IAW AR 27-60; promptly detail the new invention in ARDEC's IDEAS database; and provide ARDEC legal with an invention disclosure. Both the Patent Liaison and the ARDEC Legal Office can assist the Inventor in completing this documentation and forms process. Section 7 of this document details the best practices related to these actions.

7. Best Practices

WARNING!

Any disclosure of your invention to persons or organizations outside ARDEC before filing a patent application with the US Patent and Trademark Office can jeopardize patent protection for your invention. Consult with ARDEC patent counsel prior to disclosing or publishing.

a. Avoid outside disclosures

Outside disclosure of an invention can bar the Inventor or the Government from obtaining a patent. Outside invention disclosures may include, but are not limited to:

- Printed or internet publications describing the invention
- Displays or use of the invention before non-Government personnel
- Sale of an invention or offer for sale

US patent rights may still be obtained if a patent application is prepared and submitted within 1 year of the outside disclosure.

Outside disclosure that can be detrimental to patenting includes the mere physical displays of prototypes in uncontrolled situations such as trade shows or Armed Forces Day. Even if the Invention is hidden, putting the machine or article embodying the Invention in public view may bar the Inventor from obtaining a patent as the Invention is in "Public Use".

Inventors also must be careful not to publicly disclose an invention during lab and facility tours. The display of equipment including the structural features of the claimed invention to laboratory

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visitors is a public use, even though the “public” did not see the inner workings of the device. The person to whom the invention is publicly disclosed need not understand the significance and technical complexities of the invention. A disclosure which does not describe the entire invention but provides enough information to render the invention obvious to one skilled in the art may still bar patentability if the disclosure is made more than 1 year before a patent application can be submitted.

i. Non Disclosure Agreements

A non-disclosure agreement (NDA) is a confidentiality agreement, a legal contract to protect all parties involved in the sharing of information. An NDA creates a confidential relationship between the parties to protect any type of confidential and proprietary information or trade secrets.

Inventors should always be sure an NDA is in place before discussing any inventions with a contractor. Inventors may obtain NDA forms from the ARDEC Legal Office. Please address any questions regarding the proper completion of forms to the ARDEC Legal office.

Examples of Types of Public or Outside Disclosures to avoid (unless an NDA has been signed by the individual(s), or by an authorized representative, of the outside party seeing the invention):

- Meetings with Contractors or working with Contractors who do not have a Non Disclosure Agreement in place
- Program Management reviews with contractors, who themselves or whose organization does not have an NDA in place
- Lab and Facility Tours
- Demonstrations or product tests – such as at a firing range – where witnessing contractors do not have an NDA in place
- Symposia and other presentations/trade shows.

ii. Clearance of Technical Information for Patent Filing

Documents should generally be marked as Distribution Statement B, Distribution to Government Agencies Only – with the reason indicated to be: “any public disclosure would be premature pending filing of a patent application.”

Notes:

- No patent disclosure should be marked Statement A, Approved for Public Release. Any Statement coding other than Statement B will cause the invention to be

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considered by the Invention Evaluation Committee for filing as a Secret Patent. A Secret Patent is held as secret with the U.S. Patent Office and not disclosed, published, or granted until explicit approval is given therefore.

- Prior to any presentation, symposium, publication or outside disclosure whatsoever of an invention, or other non-public Government Technical Information, a Public Release Form (ARDEC 3002f) must be circulated and approved. This includes talking about the invention to contractors or academia (other than those working with you who have already signed a formal non-disclosure agreement), in written publications, or at conferences. Describing an invention, without approval in any public disclosure, or even displaying a prototype containing your invention publicly can seriously jeopardize the inventor's and ARDEC's claim to the patent and can be a potential serious breach of security.

Examples of Types of Public or Outside Disclosures to avoid unless clearance is approved:

- Conferences
- Papers/Journal Articles/Internet Postings
- Displays – whether at a meeting or in any public place
- Published Test results (Trade Shows)

The Clearance of Technical Information for Public Release form (ARDEC 3002f) is a Pure Edge form, available on the pica web at:

<https://picac2w5.pica.army.mil/PureEdge/forms/ARDEC%203002f.PDF>

b. Maintain Documentation

i. Lab Notebooks

It is important that Inventors be able to prove priority of invention, i.e. the date of conception of their invention, as well as, the date it was reduced to practice. Further, Inventors must keep a complete record of the invention in order to avoid any confusion over Inventorship.

Without dated and witnessed records relating to the conception, reduction to practice, and disclosure to others of the invention, some later inventor may be able to obtain the patent for the invention.

Inventors must maintain a laboratory notebook documenting all experiments related to their work and inventions in ink. No erasures should be made, and an initialed crossing out should indicate mistakes and changes.

This requirement to document all experimentation and innovation in a bound and numbered laboratory notebook is set out in Army regulations 27-60, which also mandates that each page is signed and dated, and each sheet containing potentially patentable material, including any supplementary reports or memoranda, will also be signed by two witnesses who understand the entry. Co-inventors should not be used as witnesses. More than one entry may be made

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per sheet, provided each such entry is dated and signed.

The Inventor should keep data from all experiments, whether they are successful or not, in their lab notebook. This record of the proof of invention and reduction to practice proves the invention record and helps the Inventor strengthen their claim to inventorship. When it is impractical to attach all data to the lab notebook, the inventor should record a reference and meaningful description of the data and results in the notebook and retain the data in a dedicated data repository. Never remove original pages from any Army laboratory notebook.

It is important for the Inventor to document the innovation as soon as possible, especially if there is more than one Inventor involved. Each Inventor should sign and date next to their contribution to the invention. If the Inventor(s) believe a particular activity or event may lead to a patent, a witness that fully understands the concept should also sign and date the associated lab notebook entry.

In cases where there is more than one Inventor, all Inventors must have contributed to the invention in order to be included as joint Inventors on the patent. Only ideas incorporated into the invention as finally claimed in the patent application are contributions to the invention. An idea never claimed in a patent application is not a contribution to the invention. Likewise, someone who happens to be at the meeting where the invention is conceived but does *not* have a tangible contribution is not considered an Inventor. Further, a technician who merely helps reduce the invention to practice, i.e. to a working model, is not an inventor. Please address any questions regarding Inventorship to the ARDEC Legal Office.

ii. IDEAS database

The IDEAS database is an in-house capability to capture all technical ideas from the workforce through an easy to use webpage. The PICA website hosts the IDEAS database on the Science and Technology (S&T) portal. The database allows for the capturing, editing and forwarding of concepts to a subject matter expert (SME) for review and comment. The SME will perform a blind review of the innovation, without knowing the identity of the Inventor(s). In addition, innovations entered into the IDEAS database will match Inventor(s) with an Idea Catalyst if so desired.

The database will prompt innovators for all pertinent invention data that provides a fully documented audit trail of the invention record. The Inventor can upload any electronic files related to the invention including drawings, prior art searches and patent disclosure forms. This system provides a convenient method to automate much of the patenting process for those ideas where the submitter requests the option to pursue a patent.

The IDEAS database can be found at :

https://picac2ocsprod1.pica.army.mil/portal/page?_pageid=804,2021073&_dad=portal&_schema=PORTAL

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iii. Prior Art Searching and Retention

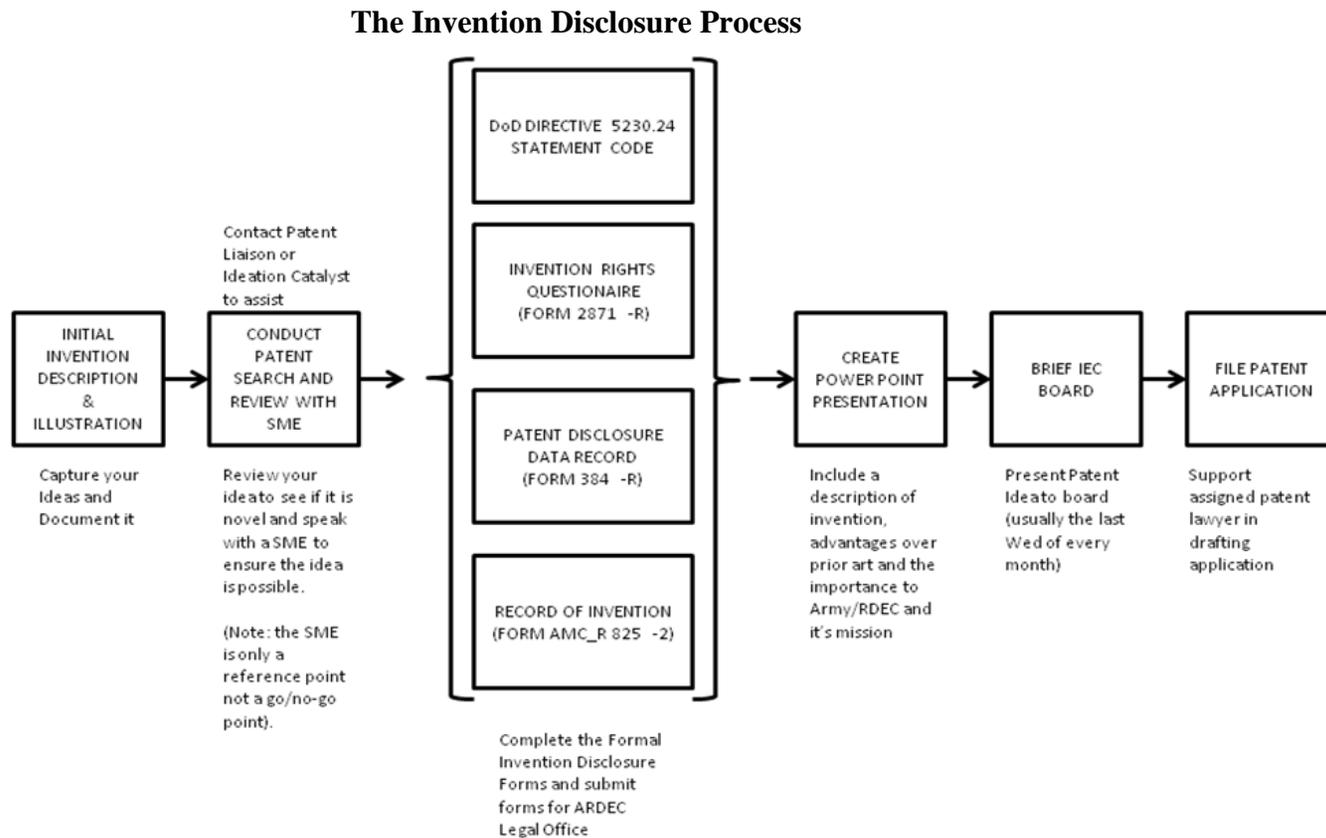
Inventors should conduct a prior art search, at minimum, at the beginning of a project, as new design problems arise, and when preparing to submit an Invention Disclosure. Prior art may include patent, articles, publications, presentations, any outside disclosures, etc. These can bear on the problem, existing solutions in use, other solutions or attempts at solutions, examples of the novel aspects or elements the invention have appeared in a structurally and functionally analogous manner to how they appear in the invention(think broadly), examples of how non-novel, but material aspects or elements of your invention are known to be used. Copies of any prior art should be kept in a prior art repository and will both aid in your R&D and provide an invaluable starting point for your patent attorney's prior art search. Basic information on conduction prior art searches is contained in section 9(b)i of this document.

It is also advantageous for each division to keep a record of invention disclosures and patents applied for and awarded, as a reference.

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8. The Invention Disclosure Process Map



Please also see ARDEC 305- Invention Disclosure Procedure, available on the ARDEC Process Asset Library (PAL)

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Invention Disclosure Guidelines

9. Invention Disclosure Process

a. Identify Patentable Subject Matter

Inventors, managers and others in the chain of command should all be aware of criteria for patentability and should help identify patentable subject matter at conception or as soon after as possible. When potentially patentable subject matter is identified managers should assist in initiating the invention disclosure process.

b. Preliminary Steps

i. Conduct a Prior Art Search (Recommended)

An invention's novelty and non-obvious is assessed against the state of technology which is publicly available (prior art). Conducting a search of this prior art facilitates a more accurate assessment of the patentability of the invention and provides a basis to better focus the invention disclosure on the inventions innovative elements. Web searches and web based patent searches may be conducted – e.g. all have access to the USPTO published application and patent data bases; the google.com/patents data base; and freepatentsonline.com, among others. For more advanced search assistance, Patent Liaisons or Innovation Catalysts can assist inventors in using the available Goldfire search terminals.

A. Goldfire Terminal Software

Goldfire Software is an advanced search engine and project management tool that allows the user to conduct research using grammar based searches rather than key words. It contains an updated database of all US, Europe, Asian, and Australian patents, along with a database of scientific principles; which, can all be searched using grammar. Further Goldfire has the capability to create searchable data bases based on user requirements, such as public drives, personal folders or targeted web page collects. Finally, Goldfire has a group of management tools to aid in targeting root cause, developing project strategies, employ innovation techniques and project presentation tools for generating reports.

B. Online Searches

The internet is a valuable resource to search for prior art. You can use Google or other search engines to conduct an initial keyword search and market survey. This can yield similar products, publications, and frequently related patents. You can then search deeper for patents using sites such as:

<http://www.google.com/patents>
<http://www.patentstorm.us/>
<http://www.freepatentsonline.com/>
<http://www.uspto.gov/>

Each site has its particular strengths. You can also search for scholarly articles on such sites as <http://scholar.google.com/>, or freepatentsonline.com if you click the Non-patent literature box.

The USPTO also has a patent class/subclass system similar to the Dewey decimal system by which you can also search. A patent may have several classes/subclasses relating to its features and problem solved. The USPTO website has a useful video on the subject at <http://www.uspto.gov/web/offices/ac/ido/ptdl/CBT/>

ii. Prepare an Initial Documentation of the Invention (Recommended)

Once the identification of the invention is made, the inventors may prepare a brief initial documentation of the invention derived from their lab notebook entries. An initial invention description is a brief description and simple sketch highlighting the novelty and importance of the idea as well as who contributed to it. This description should answer four fundamental questions:

- What does the invention do or solve?
- What makes it different from what is already available (Novelty)?
- What is the benefit, to the US Gov, ARDEC and/or the User?
- Who are the inventors and what did they each contribute?

In the description number the important functional elements of the invention on the drawing and refer to them when writing the description of the invention. Make note if a co-inventor only contributed to a portion of the invention (in the event that portion is withdrawn from the application). This summary of the invention is useful for capturing the invention history as close to conception as possible and serves as a basis for prior art searches. See example below:

Photo-Luminescent Capacitor for Aiming Post Patent

Description of Invention:

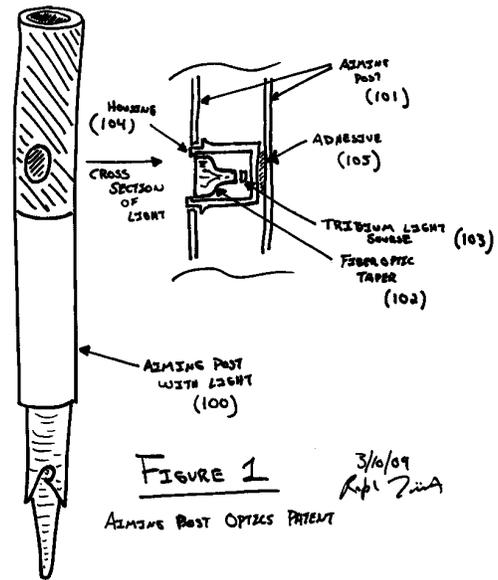
The invention is a method to illuminate an aiming post light with an internal light source. An aiming post light is typically a light attached to the side of an aiming post (101). This light is illuminated by luminescent materials such as Tritium or an electric light source such as an LED (102). The purpose of the aiming post system (100) is to give a spot designator for a soldier to aim a weapon system such as artillery and mortars. This invention utilizes a luminescent material (103) such as Strontium. This material is commonly known as a "glow in the dark" material. This type of material is capable of giving off light for over 6 hours after being charged by a light source. The invention utilizes this material along with a LED and an electronic light sensor (104). The light sensor monitors the light output from the luminescent material if it drops below a desired level the light sensor triggers a transistor (105) or other circuitry to turn on the LED for a set amount of time or until the luminescent material is outputting a set level of light. The circuit then turns off the LED and monitors the luminescent material and repeats the cycle. This allows the luminescent material to act as a light capacitor.

This is a benefit to the user because the aiming post lights need to operate 24 hours a day for up to 2 years in the field. Due to the low power draw of the components and the LED light outputs this circuit is capable of continuously running for longer than the two year time frame. This would eliminate the need to replace batteries in the field. Another benefit is the circuit can be incorporated inside the aiming post, decreasing the size of the light source the light. This is a benefit because it will reduce the number of items carried by the user.

Date: 4/3/09

Inventor:

Ralph Tillinghast (Contribution, Full concept as described above)



c. Reduction To Practice

To file a patent for a concept it must either be reduced to practice or documented in enough detail to make it obvious that someone skilled in the art could reduce the concept to practice. Resources are available to aid in reducing the invention to practice and/or construct prototypes. Data that shows at least proof of principle is desirable. For chemical inventions, the inventor should at least have ranges in mind which will enable the invention to be made. See appendix A for resources to help reduce to practice.

d. Patent Disclosure

What is a patent disclosure and what is the right way to disclose an invention?

The disclosure is an important initial step in the patent application process. It includes the written description of the invention, its design and uses, the history of the invention as well as determination of invention rights.

The Inventor needs to complete several disclosure forms. These forms are on the ARDEC legal web site <https://picac2w5.pica.army.mil/legal/legalforms.asp>. If assistance is required to complete these forms, the Inventor can contact their Patent Liaison or the ARDEC Legal Office.

Submit completed and signed forms to the Patent Paralegal in the ARDEC Legal Office to process. In addition, update the IDEAS database with prior art search and all disclosure forms.

Below are the three required forms as well as guidance on what to consider when completing these forms:

i. Invention Rights Questionnaire (Form 2871-R)

This form is for determining the rights in the invention between the Government and the Inventor in case the inventor claims that the invention does not relate to his/her job, was done on his/her own time, and never involved the use of any USG resources.

If there is no issue, i.e. the invention is a USG invention and the inventor will be assigning the rights to the invention to the Government, Complete Part A only.

ii. Patent Disclosure Data Record (Form 384-R)

This form is to describe and explain the invention. The description must ultimately be complete enough so that “a person of ordinary skill in the art of the invention can make and use the invention described without undue experimentation.” Write as though communicating to another engineer everything needed in order to reproduce the invention. Include any drawings necessary to provide a clear explanation – number the key parts of the drawings and explain how those parts provide the desired functionality (referring to the particular part numbers for clarity).

Compare the invention to any closest known comparable technology, (Prior art), including recent developments and consider other uses for core invention.

As stated above, prior art searches can be done through the US Patent and Trademark Office website <http://www.uspto.gov/>, as well as, using Gold Fire Terminal patent search tools. The ARDEC Legal Office and Patent Liaisons can assist with prior art searches.

The Disclosure Data Record can be in narrative form or can answer the below questions individually. Ideally it can start with background of the problem and technology area, then discuss the prior art, summarize the inventors approach, and finally go into detail on the invention. At least one black and white depiction should be included and additional depictions, schematics, flow diagrams etc. should be included to fully describe your invention. Highlight the objectives of your invention and the novel aspects that achieve those objectives.

The questions answered/information provided in this form includes:

1. What problem does your invention solve? How long has the problem existed?
2. What old ways are available for solving the problem?
3. Why were the old ways unsatisfactory for solving the problem?
4. What are the new results and advantages of your invention?
5. Describe your invention. Include:
 - a. Reproduction of drawings or sketches – number all elements.

- b. Name, reference, and describe function of numbered elements.
 - c. List changes, additions, or improvements over the old ways.
 - d. Indicate briefly, alternate methods of construction or composition.
 - e. For basic inventions – note scientific principle upon which it is based, if known.
6. State sequence of operation of your invention, if applicable and not already included under (5).

Your objective is to provide as sufficient a representation of the invention and prior art as you can, so the patent attorney and the Invention Evaluation Committee (IEC) can make a well-informed decision on patentability and suitability for patent prosecution. Don't leave out unfavorable prior art or outside disclosures. It is better to know of its existence up front rather than after a substantial investment of time and resources.

A good example of a disclosure is available in the Patent Guide published by the Office of the Command Counsel for U.S. Army Materiel Command, available at:
<http://www.redstone.army.mil/legal/PatentGuide.pdf>.

iii. Record of Invention (AMC 1255)

This form is for addressing how the innovation was documented and disclosed, allowing for complete traceability of the innovation's evolution.

The questions answered in this form include:

1. Who are the Inventors? (Include the individual contribution of each inventor)
2. Important dates in the development of the invention as listed on the form
3. What Individuals have first-hand knowledge of and of the features of the invention history?
4. Level of success of testing
5. List repositories of invention data
6. List any publications or disclosures made outside the government
7. List any known patents or other prior art related to the invention
8. Describe the nature of any R&D relationships with non-government parties.

To clarify entries, short narratives may be attached.

10. Patent Ownership

a. Who owns the patent?

The Government owns all patent rights to inventions made by Government employees in the course of their official duties, or made during work hours, or with the use of Government facilities, equipment, materials or funds. The Government also owns patent rights to inventions made with a contribution of item or services by other Government employees on official duty, or those job function(s) directly relates to the invention or reduction of practice thereof.

If there is a Government co-Inventor, and a non-Government co-Inventor, the Government Inventor is obligated to submit an invention disclosure to the ARDEC legal department even if an outside co-inventor has already submitted a disclosure to their organization.

On a number of occasions, particularly in dealing with contractors, there has been a failure to report inventions to the Legal Office in accordance with Army Regulation 27-60. Just as contractor employees are obligated to report inventions made in the course of their employment to their employers, Federal employees are obligated to report inventions to the Army acting on behalf of the United States Government.

As mentioned before, federal employees, as employees, are required to report any and all discoveries or inventions made, using the Invention Rights Questionnaire (Form 2871-R). As an example if an employee invents a *golf-training device* on his own time, that employee is required to complete Form 2871-R and have it reviewed by the legal department.

b. How are questions regarding Inventorship handled?

If an Inventor is named in the disclosure documents, he/she will be asked to sign legal documents, such as a declaration of Inventorship or an assignment as part of the patent application process. These are legal documents and all information therein must be valid.

Unless there is no question, never execute such legal papers without first consulting with an ARDEC patent attorney (located in the ARDEC Legal Office, building 3). **NDA's must be reviewed by ARDEC legal prior to ARDEC employees signing them.**

If an Inventor has reason to suspect that a patent is being filed and they are not presented with legal papers requiring signature then their contribution is likely not being acknowledged. This unrecognized inventor should contact one of ARDEC's patent attorneys immediately – correct inventorship is a requirement for any patent filing.

Finally, if an Inventor is not clear or has doubt whether an invention was actually made or who qualifies as an Inventor, please contact the ARDEC Legal Office to discuss the matter.

Additional information regarding Patents is available in the Patent Guide published by the Office of the Command Counsel for U.S. Army Materiel Command – available at <http://www.redstone.army.mil/legal/PatentGuide.pdf>.

11. Invention Evaluation Committee (IEC)

a. Deciding which inventions to file for patent protection?

ARDEC, like all major Army research, engineering and development facilities, has a committee composed of representatives from the ARDEC Legal Office, senior technical experts and ARDEC management called the Invention Evaluation Committee, who review and evaluate each invention for patent filing and gives it a priority. The inventor must present their invention to this committee, such that the review and prioritization can be effectively completed and a filing determination made.

The committee membership includes Senior Leadership representatives from the following areas:

- ARDEC's Director of Technology; Chair of the IEC Committee
- ARDEC Senior Research Scientist(s)
- ARDEC Business Interface/Technology Transfer Office (see AR 70-57, regarding Patent Licensing and CRADA responsibilities)
- Enterprise & Systems Integration Ctr. (ESIC)
- Munitions Engineering Technology Ctr. (METC)
- Weapons & Software Engineering Ctr. (WSEC)
- Quality Engineering & Systems Assurance Directorate (QESA)
- Legal – including an ARDEC Patent Attorney and ARDEC's IP Paralegal

There are eight functions represented on the committee and at least five of the functions must be represented at any given meeting to form a quorum. If a quorum is not present, the meeting must be rescheduled until a quorum is present.

Note: The IEC may periodically evaluate a patent disclosure for filing as a patent application from an Army function other than ARDEC. In such a circumstance, a senior manager from that function will be asked to join the committee and participate in the evaluation and voting.

In order to receive a docket number and placement on the IEC agenda, an Inventor must complete all patent disclosure forms and submit the forms to the Patent Paralegal. The Patent Paralegal will work with the inventor to create an abstract of the invention for IEC members to review prior to the meeting. *Please note that the creation of a docket number is merely a holder in the review queue and does not offer any patent protection.*

b. Formal Invention Review

The Inventor(s) will appear at the scheduled IEC meeting to present their invention. Once the Inventor receives a docket number and a scheduled time to present, they should begin creating a briefing for the IEC. Briefings for the IEC should address the following:

- Description of the Invention – highlighting the point of novelty over the prior art
- Advantages over Prior Art
- Importance to Army/RDEC mission
- Potential for commercialization and licensing, if applicable
- If the invention is a basic development, highlight the scientific breakthrough
- Status of the development – conceptual, reduced to practice, or proven
- Source(s) of funding for ongoing development
- Any planned next steps
- Foreign patent consideration for commercialization/licensing

The IEC members will consider the invention, evaluating the importance of the invention to the Government.

The IEC will vote whether or not to approve an invention for patent filing, or to send the Inventor back to collect more data on their invention or to do more development work (to prove the concept or efficacy). If approved, the IEC will set a priority to ensure first filing of the most vital patent applications first.

If the IEC approves an invention, patent counsel will process the patent application – in the order of the priorities set by the committee.

c. What happens after the IEC approves an invention for patent filing?

The ARDEC Legal Office will forward the Inventor the formal assignment documents conveying the title of the invention to the Government. Once the Inventor returns these forms to the ARDEC Legal Office, they will begin preparing the patent application for filing with the US Patent and Trademark Office, based upon the priority assigned to the application and the backlog of applications awaiting filing at the time.

For most patent applications, due to their technical nature, the Inventor should expect to work closely with the ARDEC patent attorney. The Inventor may be asked to provide significant background and additional information – including technical data and drawings.

d. What happens if the IEC does not approve an invention for patent filing?

If the committee declines to authorize the filing of a patent application with respect to a particular inventor's disclosure that inventor may request that the committee reevaluate his or her disclosure. Such a request must be made to ARDEC's Patent Paralegal, who will reschedule the inventor for a subsequent representation to the IEC and who will flag the disclosure as a resubmitted for reconsideration. It is suggested that prior to that representation, the inventor consult with the ARDEC Legal Office to ensure that the representation is as clear and focused as possible.

In the event of a second rejection for patent filing by the IEC, the inventor can appeal to the ARDEC Director. The inventor, detailing the invention and the reasons why the U.S. Army should file as a patent application, must write a memo to the AREDEC Director. The ARDEC Director then consults and works with the IEC and the ARDEC Director will make a decision, which will be final.

In the event that the government has insufficient interest in an invention to warrant filing, the title to the invention can be left with the inventor(s), subject to the government retaining a non-exclusive, irrevocable, royalty-free license in the invention with power to grant licenses for all government purposes. The inventor(s) may then file for any US or international patents that they may desire, of course paying for such filings themselves.

Appendix A - ARDEC Facilities to Foster Innovation

ARDEC facilities are available to all ARDEC personnel to aid in reducing an invention to practice and/or to construct prototypes. Facilities include, but are not limited to the following:

1. ARDEC Innovation Facility, Building 79

The ARDEC Innovation Facility in BLD 79 serves as the central general purpose innovation facility for ARDEC. It provides innovation assistance from early stage idea generation to a safe environment in which to develop a working version of an idea. The facility has an upper floor for meetings and office space and a basement capability for idea elaboration development. Some of the tools available are:

- Meeting area
- Virtual office
- Targeted innovation training
- Goldfire and Goldfire Server control
- NI LabView
- NI Dataloggers
- Stereolithography printer
- Circuit board printer
- Light innovation equipment development and assembly

2. Collaboration Innovation Lab, Building 31, Room 200

The Collaboration Innovation Lab provides assistance for idea development and is a showcase for new innovative products. The lab has various tools and devices available for anyone to use or borrow at no cost to aid in the construction of prototypes. Some of these tools include but not limited to:

- 3D Scanner
- Graphics Station (Corel Draw, Photoshop, Dreamweaver and Wacom screen)

- NI LabView
- NI Circuit Design software
- Circuit Card Printer
- Thermal Camera
- Power Supplies, Oscilloscopes, Meters and other Gauges
- 3D Printers
- Solid modeling (Pro/E)
- FEA Workstation
- Wood Working Tools
- Vacuum and traditional Molding equipment
- Micro Controller Development kits (Parrelex, Pic and others)
- Mobile App Development Station (Win, Driod and Apple)
- GoldFire Station

The Lab also contains a selection of reference books and magazines to aid in the development of ideas along with collections of other various electrical and mechanical components for developing prototypes.

3. Prototype Integration Facility (B-3150)

The PIF provides materials and manufacturing engineering experience to help designers transition into low-rate production. Assistance with materials selection to reduce costs and failures, joining/welding technology, powder metallurgy, polymer composites, coatings, materials characterization and “Design for Manufacture” are provided to in-house teams, OGAs, academia and industry.

- Work Cells for machining
- Water jet and Laser Cutting
- Solid Modeling and transition to Level-2 & Level-3 Drawings
- Pro/E, CAD, FEA, various software packages
- Powder Metallurgy & Nanotechnology – powder manufacture
- Field Assisted Sintering of novel materials
- Flexible, Printed Electronic Circuits
- Complete Polymer Composite Fabrication

- Materials Characterization: microscopy, hardness, mechanical testing, X-ray diffraction, composition analysis
- Stereolithography and 3-D printing
- Corrosion Testing (Salt Fog, Environmental Exposure)
- Welding, Metal Casting
- Additive Manufacturing (Directed Laser Metal Sintering) – *future capability*

4. Other Facilities

For more information on ARDEC facilities, visit the following web site:

<https://picac2w5.pica.army.mil/Facilities/>