FORM PTO-1619A Expires 06/30/99	03-27-2003 U.S. Department of Commerce Patent and Trademark Office	
OMB 0651-0027	Patent and Trademark Once PATENT	
	102401433	
5-24-0,2- RECORI	DATION FORM COVER SHEET PATENTS ONLY	
TO: The Commissioner of Patents and Tradema Submission Type	arks: Please record the attached original document(s) or copy(ies). Conveyance Type	
	Assignment Security Agreement	
Resubmission (Non-Recordation)	License Change of Name	
Correction of PTO Error	Merger Other	
Corrective Document	U.S. Government	
Reel # Frame #	(For Use ONLY by U.S. Government Agencies)	
Conveying Party(ies)	Mark if additional names of conveying parties attached Execution Date	
Name (line 1) Richard M. Lloyd	Month Day Ye 02/28/2003	
Name (line 2)	Execution Date	
Second Party Name (line 1)	Month Day Ye	
Name (line 2)		
Receiving Party	Mark if additional names of receiving parties attached	
Name (line 1) Raytheon Company	If document to be recorded is an assignment and the receiving party is not	
Name (line 2)	domiciled in the United States, an appointment of a domestic	
Address (line 1) 141 Spring Street	, representative is attached (Designation must be a separate document from	
Address (line 2)	Assignment.)	
Address (line 3) Lexington	Massachusetts     02421       State/Country     Zip Code	
City Domestic Representative Name and		
Name		
Address (line 1)		
Address (line 2)		
Address (line 3)		
Address (line 4)		
1	FOR OFFICE USE ONLY	
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/2003 DBYRNE 00000130 10162498 28021 40.00 DP		

FORM PTO-1619B Expires 06/30/99 OMB 0651-0027	Page 2	U.S. Department of Commerce Patent and Trademark Office PATENT
Correspondent Name and Address	Area Code and Telephone Number	(781) 890-5678
Name R. Stephen Rosenholm		
Address (line 1) Iandiorio & Teska		
Address (line 2) 260 Bear Hill Road		
Address (line 3) Waltham, MA 02451		
Address (line 4)		
Pages Enter the total number of paging including any attachments.	ges of the attached conveyance docume	nt #
Application Number(s) or Patent Num		dditional numbers attached
Enter either the Patent Application Number or the Patent Application Number(s)		or the same property). Number(s)
10/162,498		
If this document is being filed together with a new Pate was	ent Application, enter the date the patent applicati	on Month Day Year
Patent Cooperation Treaty (PCT)	PCT PCT	PCT
Enter PCT application number only if a U.S. Application Number has not been assigned.	PCT PCT	PCT
Number of Properties Enter the total	number of properties involved. #	1
Fee Amount Fee Amount	for Properties Listed (37 CFR 3.41): \$	40.00
Method of Payment: Enclo Deposit Account	osed 🚺 Deposit Account	
(Enter for payment by deposit account or if ad	ditional fees can be charged to the Deposit Account Number: #	09-0002
	Authorization to charge additional fees:	Yes 🖌 No 🔄
Statement and Signature		
	elief, the foregoing information is true an original document. Charges to deposit a	
R. Stephen Rosenholm Name of Person Signing	Signature	<u>)     //C5</u> Date

PATENT REEL: 013877 FRAME: 0802

## ASSIGNMENT

WHEREAS, I, the signatory hereto, have invented an improvement entitled KINETIC ENERGY ROD WARHEAD WITH OPTIMAL PENETRATORS (Raytheon Case No. PD01E066) which is the subject of an application for United States Patent, Serial No. 10/162,498, filed on June 4, 2002 and have executed an application for United States patent based thereon on the date set forth below;

WHEREAS, RAYTHEON COMPANY, of Lexington, Massachusetts 02421, U.S.A., a corporation duly organized and existing under and by virtue of the laws of the State of Delaware, U.S.A., is desirous of acquiring certain rights thereunder;

NOW, THEREFORE, for one dollar and other good and valuable consideration, receipt of all of which is hereby acknowledged, I have agreed to and do hereby sell, assign and transfer unto said corporation the entire right, title and interest, in and throughout the world, in and to said invention, said application and any and all patents (including extensions thereof) of any country, which have been or may be granted on said invention or any part thereof, or on said application or any divisional, continuing, substitute or reissue application based in whole thereon, or based upon said invention, and without limiting the generality of the foregoing, I also do hereby sell, assign and transfer unto said corporation all my rights under the International Convention and all other treaties of like purpose, in respect of said invention and application, and I authorize said corporation to apply for patents on said invention or any part thereof, in all countries, claiming the priority of the filing date of said application in the United States of America under the provisions of said International Convention or any such other treaty;

TO BE HELD AND ENJOYED by said corporation, its successors and assigns to the full ends of the respective terms for which said patents or any of them have been or may be granted, as fully and entirely as the same would have been held and enjoyed by me had no sale, assignment or transfer of said right, title or interest been made;

AND I do hereby authorize and request the Commissioner of Patents of the United States of America and the corresponding Office of each country foreign thereto to issue any and all United States and foreign patents which may be granted upon said applications or any of them in the United States and all other countries, or upon said invention or any part thereof, to said corporation, its successors or assigns.

AND I hereby agree for myself and for my heirs, executors and administrators, to execute without additional consideration any further lawful documents and any further assurances, and any applications for patents of any country, that might be deemed necessary by said corporation, its successors or assigns, fully to secure to said corporation its successors or assigns, its interest as aforesaid in and to said invention or any part thereof, and in and to said several patents or any of them, all, however, at the expense of said corporation, its successors or assigns.

AND I hereby covenant for myself and my legal representatives, and agree with said corporation, it successors and assigns, that I have granted no right or license to make, use or sell said invention to anyone except said corporation, that prior to the execution of this our right, title and interest in said invention had not been otherwise encumbered, and that I have not executed and will not execute any instrument in conflict herewith.

ichard M. Lloyd

## ACKNOWLEDGMENT

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Commonwealth of Massachusetts County of  $M_1$  liesex

On this 25th day of february, 2003, before me, a Notary Public within this state, personally appeared the above-named Richard M. Lloyd, personally known by me to be the identified person named in and who executed the foregoing instrument, and subscribed the same in my presence, and acknowledged that he executed the same as his voluntary and free act and deed.

Julihuro

[Notary's seal here]

Notary Public My commission expires: 10/24/08

Raytheon Case No. PD01E066

**RECORDED: 03/24/2003**