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MEMORANDUM FOR IN-HOUSE PUBLICATIONS

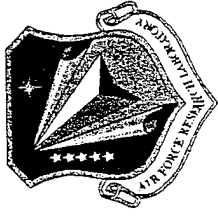
FROM: PROI (TI) (STINFO)

13 Apr 98

SUBJECT: Authorization for Release of Technical Information, Control Number: AFRL-PR-ED-TP-1998-074
Keith McFall "COTAR Opening Remarks IHRPT"
(Statement A)



HPHS
SEMI-ANNUAL REVIEW 1



COTR OPENING REMARKS

IHPRPT

K. MCFALL

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Introduction



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- IHPRPT is a joint DOD-NASA-Industry program to increase US rocket propulsion capability by the year 2010.
 - Technology development goals are selected by a government-industry panel, the IHPRPT steering committee.
 - Planning began in 1992 and was finalized in 1996.
 - IHPRPT consists of three phases with 2000, 2005 & 2010 end dates.
 - The HPHS program is an IHPRPT effort supporting Phase I.



IHPRPT Goal



- HPHS effort addresses the Phase I Electro-Static Propulsion Goal
- The Goal is derived from the basic system performance metrics.
 - Thrust, Power, Life, Dry Mass, Specific Impulse
- Current Goal: 20% increase in system total impulse/wet mass
 - $I_{\text{tot}} = m_{\text{dot}} t_{\text{life}} I_{\text{sp}} g : (\text{N-s})$
 - $M_{\text{wet}} = M_{\text{dry}} + (1+f_{\text{tank}}) m_{\text{dot}} t_{\text{life}} : (\text{kg})$
 - The Goal is a strong function of I_{sp}
 - It is estimated that the HPHS performance level will approach that needed to meet the goal
- Contract SOW conforms to a previous set of IHPRPT requirements
 - Thruster & PPU Efficiency, Life, and Cost
- Current Goal was established by the steering committee during FY97



Contract Requirements and IHPRPT Goal



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- Contractor demonstrates Hall system meeting SOW requirements.
 - Performance data will be used to evaluate system capability versus the Phase I Goal.
 - Technology development is the primary focus. To reduce program cost, use of modeling and non-flight type components in demonstrating IHPRPT compliance is acceptable when technology development is not required.



Concluding Remarks



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- The HPHS is an IHRPT program.
 - The program should result in a system that addresses both SOW performance requirements and the IHRPT Total Impulse / Wet Mass goal.
 - While the IHRPT goal and SOW performance requirements are not identical, it seems that both can be addressed without significantly affecting the effort.