

A Bibliography for the Satellite Power System (SPS) Concept Development and Evaluation Program

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Office of Energy Research
Solar Power Satellite Project Division
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DOE/NASA
Satellite Power System
Concept Development
and
Evaluation Program

FOREWORD

This bibliography is the final publication in the Department of Energy and the National Aeronautics and Space Administration series on the Satellite Power System Concept Development and Evaluation Program. The Satellite Power System Concept was initially developed by Peter Glaser in 1968. Commencing in 1977 and continuing through 1980, a comprehensive assessment of this concept was conducted using a Reference System as a "straw man", and encompassed systems definition and engineering aspects; environmental assessment of microwave health and ecology, risks to space workers and atmospheric effects; a societal assessment covering resource requirements (land and materials), international and institutional issues; and a comparative assessment of the SPS Reference System relative to other advanced energy technologies such as fusion and improved current energy technologies.

The National Aeronautics and Space Administration and its contractors investigated various system design concepts and initiated some preliminary work in critical technological and engineering areas. The Department of Energy, assisted by several national laboratories, other government organizations such as the Environmental Protection Agency and the Institute for Telecommunications Sciences, and independent contractors performed the environmental, societal, and comparative assessments.

This bibliography, prepared by Martin Abromavage, Rosa Calzadilla and Mark Murray, includes the many reports written during the three-year SPS Concept Development and Evaluation Program. A large quantity of professional papers were also written by both contributing and independent investigators in the United States and abroad.

It is hoped that this bibliography will be useful to those who are interested in the concept of collecting energy in space and using it on Earth.

F. A. Koomanoff, Director
Solar Power Satellite Projects Division
Office of Energy Research

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INTRODUCTION AND USERS' GUIDE

The Satellite Power System Concept Development and Evaluation Program (SPS-CDEP) jointly conducted by the U. S. Department of Energy (DOE) and the National Aeronautics and Space Administration (NASA) was completed in late 1980. A large number of reports were prepared under the auspices of the SPS Project Division, Office of Energy Research, during the three-year program. Many domestic and foreign organizations (industries, governments, and professional and trade groups) also studied the SPS energy concept independently and prepared reports and papers on the subject. Literally hundreds of professional papers on SPS have appeared in engineering and scientific journals, and popular magazines and newspapers have reported extensively on SPS.

The results of the three-year CDEP have been reported by the Department of Energy and NASA. Reports also are being prepared independently by the Congress' Office of Technology Assessment (OTA) and the National Research Council (NRC) of the National Academy of Sciences, but are not yet complete.

All reports prepared under the auspices of DOE and NASA during the CDEP are traceable and available to the public, and are listed here. Some especially important reports prepared by NASA and its contractors prior to 1978 also are included. Citation cards also are included for the OTA and NRC reports expected to be completed by mid - 1981, as is a card for the final comparative assessment report prepared for SPS-CDEP which is expected to be available in the early spring of 1981.

A sampling of professional papers is included to illustrate the wide interest in SPS among scientists and engineers. Those which are cited should not be regarded as more noteworthy than others which may have been prepared but not included here.

Two rules were followed in preparing this bibliography. Each report or paper had to be on file in the SPS Project Division, and each had to be traceable to a source readily available to the public. Reports with restrictions on distribution and copyrighted papers not traceable to a publishing source were therefore excluded.

Finally, a note about cited authors is appropriate. Many investigators who contributed significant work during SPS-CDEP may not be listed. There are several reasons for this. Government regulations concerning acknowledgements have changed from time to time, and in some cases individuals who contributed to reports through subcontracts with national laboratories or prime contractors could not be listed among principal authors. Some organizations issue reports as corporate documents without listing individual authors. Conference and workshop proceedings may include papers by dozens of contributors, but a citation to the entire document usually attributes the work to the editors of the proceedings. Thus the author index should not be regarded as an exclusive list of important contributors to SPS-CDEP.

Subject Categories

Reports and articles are categorized in fifteen subject areas. The areas were selected according to major interest in aspects of SPS illustrated during the CDEP. The CDEP, like any assessment process, had to be wide-ranging and well-integrated in order to be successful. For example, investigators concerned with microwave power generation and transmission had to be aware of its environmental implications. Those concerned with societal assessment had to be aware of microwave exposure rules and regulations. Thus the issue of microwave biologic effects may be addressed in reports in all three categories, but with different emphasis on aspects of the issue.

<u>CATEGORY</u>	<u>EMPHASIS</u>
AE - Atmospheric Effects	Effects which SPS activities might have on the atmosphere from near the earth's surface to geostationary earth orbit altitudes, including effects due to ionospheric heating.
BE - Biologic Effects	Potential health and safety effects on humans, animals and plants which might be produced directly by SPS activities or indirectly by support activities (mining, manufacturing, etc.), including effects due to ionizing radiation in space.
CA - Comparative Analysis	Information which is useful for comparing SPS performance, cost and residual effects with other selected current and emerging energy technologies.

<u>CATEGORY</u>	<u>EMPHASIS</u>
EA - Energy Alternatives and Policy	Information which provides a useful perspective of SPS and several other energy technologies vis-a-vis national and international energy concerns.
EC - Electromagnetic Compatibility	Telecommunications interference effects and other systems performance degradations potentially caused by radio wave propagation disturbances or direct energy coupling with SPS microwave energy, except for interference due to ionospheric heating.
EE - Environmental Effects	A wide range of potential environmental effects which might be produced by SPS. Documents generally cover generic environmental issues or more than one particular type of effect.
EF - Economics and Finances	Documents which primarily discuss costs of fully developing an operational SPS and methods for financing operations. Does not include socio-economic effects which might accompany the development and operation of SPS.
PP - Program Plans	Plans and planning concepts for SPS/CDEP and other selected energy alternatives.
PT - Power Generation and Transmission	Technical reports and papers which principally address engineering concepts, designs, theoretical and experimental analysis and the engineering economics of generating and transmitting useful energy from space to earth. Does not include terrestrial power transmission and generation.
RM - Resources and Materials	Reports and papers identifying, inventorying and evaluating the need for and potential effects on resources and materials which may be required to fully develop SPS, including land.
SA - Systems Analyses	Documents which present either brief overview analyses or descriptions of SPS, or provide somewhat detailed evaluations of SPS and its broad characteristics. Does not include engineering evaluations of specific SPS components.

CATEGORY

EMPHASIS

SE - Systems Engineering

Engineering reports on particular SPS components, characteristics, parameters and technology issues, including rectenna engineering but excluding space transportation.

SI - Social Issues

Reports and articles concerning significant social issues, international concerns and interests, institutional concerns and issues and public concerns and interest in and about SPS.

ST - Space Transportation

Technical and scientific information on SPS space transportation requirements, concepts (including earth-to-space and return), operating scenarios and economics, and similar information on other space ventures germane to SPS.

SU - Space Utilization

Principally a collection of papers from the technical and scientific space community on the potential, benefits and adverse effects which might accompany society's exploitation of space.

Relationships between Subject Categories

The nature of conceptual programs and evaluation processes makes it virtually impossible to classify documents according to distinct categories. Program work must be integrated and coordinated among participating groups in order to be effective, and it follows that many reports resulting from the work could be classified in a number of different ways. The judgments used for classifying documents included in this bibliography were based mainly on the principal content or intent of a particular document, but some arbitrary classification was occasionally necessary. The chief criterion in these cases was to classify the document in the most definitive category. For example, a document which might include substantial information on microwave biologic effects and was somewhat less definitive on other environmental issues was classified in the Biologic Effects category rather than in the broader Environmental Effects category.

The foregoing suggests the user should not concentrate on only one particular category of documents in using this bibliography. While it would be worthwhile to concentrate initially on a particular category of interest, a

review of related subject categories is encouraged to ensure a comprehensive understanding of SPS/CDEP. Related categories are listed in each section of this bibliography for convenience.

Key Words

Key words are listed for each citation. A maximum of six key words is provided for each document. A list of key words is included for each subject category and page numbers are provided for each citation for which the key word applies in each category. A universal system of key words is not used. They were selected to portray specific SPS/CDEP issues and interests, and should not be used to correlate with other bibliographies. It should be recognized that the practical limit of six key words should not lead the user to presume that no other information is included in a particular document. The six key words do highlight the most definitive information in a document, however.

Acquisition Number and Sources

Acquisition numbers are included for each citation. Multiple acquisition numbers should be used (where listed) when requesting documents from identified sources.

ATMOSPHERIC EFFECTS (CATEGORY AE)

Documents in this subject category cover potential atmospheric effects which might be produced by SPS launch and space vehicle exhaust effluents, microwave power transmission and rectenna operations. The effects of the atmosphere on SPS parameters also are included in this category, as are documents which describe atmospheric characteristics and effects of other space activities on the atmosphere.

KEY WORDS:	PAGE NUMBER:
Analysis Methods	5, 6, 10, 13, 14, 15, 16, 17, 18
Astronomy	8
Atmospheric Models	3, 5, 7, 10, 16, 18, 19
Biologic Effects	11
Climate Effects	3, 4, 5, 6, 11, 12, 14, 15, 16
Construction Effects	3
Ecology Impacts	10
Electric Charge	7, 8
Exhaust Emissions	3, 5, 6, 7, 8, 13, 14, 15, 16, 17, 18, 19
Experiments	4, 6, 9, 11, 12, 13, 14, 18, 19
Frequency Scaling	9, 14, 17
Geophysics	7, 8
Heater Facilities	4, 9, 14
Heating Effects	3, 10, 17
Heating Theory	9, 10, 17
Interference Effects	4, 9, 10, 11, 13, 14, 17
Ionosphere Heating	4, 9, 10, 11, 14, 17, 18
Ionosphere Predictions	3, 4, 5, 9, 10, 11, 15, 17, 18, 19
Laser Transmission	5
Launch Effects	6, 10, 13, 14, 16
Lightning	15
Magnetosphere Effects	4, 7, 8, 12, 15
Mesospheric Effects	6
Microwave Heating	3, 4, 8
Microwave Propagation	8, 12
Models	7, 8
Particulate Exhausts	11, 14
Physical Processes	3, 4, 5, 7, 12, 13, 15, 16, 18, 19
Pilot Signal	11
Plasma Effects	4, 5, 7, 9

**(Atmospheric Effects -
Category AE continued)**

KEY WORDS:	PAGE NUMBER:
Plasmasphere Effects	15
Power Losses	5, 11, 15
Propellant Characteristics	7, 11, 14
Rectenna Heating	3, 12
Rectenna Protection	15
Reflected Light	8
Satellite Drag	8
Space Shuttle	10, 11
Stratospheric Effects	6, 11
Transportation Effects	3, 5, 6, 13, 14, 15, 16, 18, 19
Troposphere Effects	10
Weather Effects	5, 15

RELATED CATEGORIES:

Electromagnetic Compatibility (EC)

Environmental Effects (EE)

Power Generation and Transmission (PT)

Systems Engineering (SE)

Space Transportation (ST)

SUBJECT: ATMOSPHERIC EFFECTS			SPSPO INDEX NO: AE-4	
AUTHOR(S): Allen, N. C.				
AUTHOR AFFILIATION: NASA Johnson Space Center				
TITLE: A Preliminary Study of Possible Weather Effects due to Solar Power Satellite Rectenna Operation				
DATE: February 1977		VOLUMES:	PAGES: 37	REFERENCES: 19
ACQUISITION NO: JSC-12519			SOURCE: 4	
KEY WORDS: Climate Effects Microwave Heating Construction Effects Rectenna Heating Heating Effects				

SUBJECT: ATMOSPHERIC EFFECTS			SPSPO INDEX NO: AE-19	
AUTHOR(S): Ames Research Center				
AUTHOR AFFILIATION: National Aeronautics and Space Administration				
TITLE: Environmental Impacts of the Satellite Power System (SPS) on the Middle Atmosphere				
DATE: October 1980		VOLUMES:	PAGES: 36	REFERENCES: 68
ACQUISITION NO: DOE/ER/110035-01			SOURCE: 5	
KEY WORDS: Atmospheric Models Ionosphere Predictions Climate Effects Physical Processes Exhaust Emissions Transportation Effects				

SUBJECT: ATMOSPHERIC EFFECTS		SPSPO INDEX NO: AE-24	
AUTHOR(S): (1) Basu, S. (2) Klobuchar, J. A. (2) Johnson, A. L. (3) Rush, C. M.			
AUTHOR AFFILIATION: (1) Emmanuel College (3) U. S. Department of Commerce (2) U. S. Air Force			
TITLE: Preliminary Results of Scintillation Measurements Associated with Ionosphere Heating and Possible Implications for the Solar Power Satellite			
DATE: August 1980	VOLUMES:	PAGES: 4	REFERENCES: 25
ACQUISITION NO: 0094-8276/80/0080L-0880			SOURCE: 36
KEY WORDS: Experiments Interference Effects Heater Facilities Ionosphere Heating Heating Effects Microwave Heating			

SUBJECT: ATMOSPHERIC EFFECTS		SPSPO INDEX NO: AE-17	
AUTHOR(S): Bauer, E. (Ed.)			
AUTHOR AFFILIATION: La Jolla Institute			
TITLE: Proceedings of the Workshop on the Modification of the Upper Atmosphere by Satellite Power System (SPS) Propulsion Effluents			
DATE: June 1980	VOLUMES:	PAGES: 136	REFERENCES: 133
ACQUISITION NO: CONF-7906180			SOURCE: 5
KEY WORDS: Climate Effects Magnetosphere Effects Experiments Physical Processes Ionosphere Predictions Plasma Effects			

SUBJECT: ATMOSPHERIC EFFECTS			SPSPO INDEX NO: AE-16	
AUTHOR(S): Bernhardt, P. A. Price, K. M. da Rosa, A. V.				
AUTHOR AFFILIATION: Stanford University				
TITLE: Ionospheric Modification by Rocket Effluents				
DATE: June 1980	VOLUMES:	PAGES: 66	REFERENCES: 23	
ACQUISITION NO: ANL/EES-TM-100			SOURCE: 5	
KEY WORDS: Atmospheric Models Physical Processes Exhaust Emissions Plasma Effects Ionosphere Predictions Transportation Effects				

SUBJECT: ATMOSPHERIC EFFECTS			SPSPO INDEX NO: AE-29	
AUTHOR(S): Beverly, R. E.				
AUTHOR AFFILIATION: Rockwell International				
TITLE: Satellite Power Systems (SPS) Laser Studies; Volume II: Meteorological Effects on Laser Beam Propagation and Direct Solar Pumped Lasers for the SPS				
DATE: November 1980	VOLUMES:	PAGES: 141	REFERENCES: 31	
ACQUISITION NO: NASA CR 3347 NAS 8 - 32475			SOURCE: 4	
KEY WORDS: Analysis Methods Physical Processes Climate Effects Power Losses Laser Transmission Weather Effects				

SUBJECT: ATMOSPHERIC EFFECTS			SPSPO INDEX NO: AE-11	
AUTHOR(S): Brubaker, K. L.				
AUTHOR AFFILIATION: Argonne National Laboratory				
TITLE: Proceedings of the Workshop on Stratospheric and Mesospheric Impacts of Satellite Power Systems (SPS)				
DATE: December 1979	VOLUMES:	PAGES: 112	REFERENCES: 43	
ACQUISITION NO: CONF-7809197			SOURCE: 5	
KEY WORDS: <div style="display: flex; justify-content: space-between;"> <div> Climate Effects Exhaust Emissions Launch Effects </div> <div> Mesospheric Effects Stratospheric Effects Transportation Effects </div> </div>				

SUBJECT: ATMOSPHERIC EFFECTS			SPSPO INDEX NO: AE-30	
AUTHOR(S): Chacko, C. C. Mendillo, M.				
AUTHOR AFFILIATION: Boston University				
TITLE: A Search of Archived Data Sources For Rocket Exhaust-Induced Modifications of the Ionosphere				
DATE: September 1980	VOLUMES:	PAGES: 49	REFERENCES: 23	
ACQUISITION NO: ANL/EES-TM-122			SOURCE: 5	
KEY WORDS: <div style="display: flex; justify-content: space-between;"> <div> Analysis Methods Exhaust Emissions Experiments </div> </div>				

SUBJECT: ATMOSPHERIC EFFECTS		SPSPO INDEX NO: AE-18	
AUTHOR(S): Chiu, Y. T. Luhmann, J. G. Schulz, M.			
AUTHOR AFFILIATION: The Aerospace Corporation			
TITLE: Magnetospheric Effects of Ion and Atom Injections by the Satellite Power System			
DATE: July 1980	VOLUMES:	PAGES: 118	REFERENCES: 61
ACQUISITION NO: ANL/EES-TM-94			SOURCE: 5
KEY WORDS: Atmospheric Models Exhaust Emissions Magnetosphere Effects		Physical Processes Plasma Effects Propellant Characteristics	

SUBJECT: ATMOSPHERIC EFFECTS		SPSPO INDEX NO: AE-32	
AUTHOR(S): Criswell, D. R. De, B. R.			
AUTHOR AFFILIATION: Lunar Science Institute			
TITLE: Intense Localized Photoelectric Charging in the Lunar Sunset Terminator Region - 2. Supercharging at the Progression of Sunset			
DATE: March 1977	VOLUMES:	PAGES: 3	REFERENCES: 5
ACQUISITION NO: 6A 0968			SOURCE: 36
KEY WORDS: Electric Charge Geophysics Models			

SUBJECT ATMOSPHERIC EFFECTS			SPSPO INDEX NO: AE-33	
AUTHOR(S): De, B. R. Criswell, D. R.				
AUTHOR AFFILIATION: Lunar Science Institute				
TITLE: Intense Localized Photoelectric Charging in the Lunar Sunset Terminator Region - 1. Development of Potentials and Fields				
DATE: March 1977	VOLUMES:	PAGES: 6	REFERENCES: 15	
ACQUISITION NO: 6A0967			SOURCE: 36	
KEY WORDS: Electric Charge Geophysics Models				

SUBJECT: ATMOSPHERIC EFFECTS			SPSPO INDEX NO: AE-10	
AUTHOR(S): Douglas, M. Warshaw, H. LaQuey, R. DeForest, S. Lindsey, C.				
AUTHOR AFFILIATION: Maya Development Corporation				
TITLE: Identification and Preliminary Discussion of Potential Interaction of Space Power Satellites with the Earth's Magnetosphere				
DATE: May 1977	VOLUMES:	PAGES: 154	REFERENCES: 39	
ACQUISITION NO: 77-1-1 NAS7-100 JPL 954663			SOURCE: 4	
KEY WORDS: Astronomy Microwave Propagation Exhaust Emissions Reflected Light Magnetosphere Effects Satellite Drag				

SUBJECT: ATMOSPHERIC EFFECTS			SPSPO INDEX NO: AE-1	
AUTHOR(S): Duncan, L. M. Gordon, W. E.				
AUTHOR AFFILIATION: Rice University				
TITLE: Ionosphere/Microwave Beam Interaction Study				
DATE: September 1977	VOLUMES:	PAGES: 117	REFERENCES: 9	
ACQUISITION NO: NAS9-15212 DRL No. T-1349 DRD No. MA-183TA			SOURCE: 4	
KEY WORDS: Experiments Heater Facilities Frequency Scaling Ionosphere Heating Interference Effects Ionosphere Predictions				

SUBJECT: ATMOSPHERIC EFFECTS			SPSPO INDEX NO: AE-5	
AUTHOR(S): Duncan, L. M. Zinn, J.				
AUTHOR AFFILIATION: Los Alamos Scientific Laboratory				
TITLE: Ionosphere-Microwave Interactions for Solar Power Satellite				
DATE: March 1978	VOLUMES:	PAGES: 38	REFERENCES: 19	
ACQUISITION NO: LA-UR-78-758			SOURCE: 5	
KEY WORDS: Experiments Ionosphere Heating Heating Effects Ionosphere Predictions Heating Theory Plasma Effects				

SUBJECT: ATMOSPHERIC EFFECTS			SPSPO INDEX NO: AE-25	
AUTHOR(S): (1) Duncan, L. M. (2) Behnke, R. A.				
AUTHOR AFFILIATION: (1) Rice University (2) National Astronomy and Ionospheric Center				
TITLE: Observations of Self-Focusing Electromagnetic Waves in the Ionosphere				
DATE: October 1978	VOLUMES:	PAGES: 4	REFERENCES: 10	
ACQUISITION NO: Physical Review Letters, Vol. 41, No. 14, pp. 998-1001			SOURCE: 36	
KEY WORDS: Heating Effects Heating Theory Interference Effects Ionosphere Heating Ionosphere Predictions				

SUBJECT: ATMOSPHERIC EFFECTS			SPSPO INDEX NO: AE-9	
AUTHOR(S): Goldford, A. I.				
AUTHOR AFFILIATION: Science Applications, Inc.				
TITLE: Proceedings of the Heavy Lift Launch Vehicle Tropospheric Effects Workshop				
DATE: December 1979	VOLUMES:	PAGES: 104	REFERENCES: 5 Bibliography	
ACQUISITION NO: CONF-7809192			SOURCE: 5	
KEY WORDS: Analysis Methods Atmospheric Models Ecology Impacts Launch Effects Space Shuttle Troposphere Effects				

SUBJECT: ATMOSPHERIC EFFECTS			SPSPO INDEX NO: AE-2	
AUTHOR(S): Gordon, W. E. Duncan, L. M.				
AUTHOR AFFILIATION: Rice University				
TITLE: Ionosphere/Microwave Beam Interaction Study Statement of Work				
DATE: July 1978	VOLUMES:	PAGES: 47	REFERENCES: 35	
ACQUISITION NO: NAS9-15212 DRL No. T-1349 DRD No. MA-183TA			SOURCE: 4	
KEY WORDS: Experiments Interference Effects Ionosphere Heating Ionosphere Predictions Pilot Signal Power Losses				

SUBJECT: ATMOSPHERIC EFFECTS			SPSPO INDEX NO: AE-3	
AUTHOR(S): Johnson Space Center				
AUTHOR AFFILIATION: National Aeronautics and Space Administration				
TITLE: Proceedings of the Space Shuttle Environmental Assessment Workshop on Stratospheric Effects				
DATE: September 1976	VOLUMES:	PAGES: 213	REFERENCES: 156	
ACQUISITION NO: JSC-11633			SOURCE: 4	
KEY WORDS: Biologic Effects Climate Effects Particulate Exhausts Propellant Characteristics Space Shuttle Stratospheric Effects				

SUBJECT: ATMOSPHERIC EFFECTS			SPSPO INDEX NO: AE-7	
AUTHOR(S): Lee, J. L.				
AUTHOR AFFILIATION: Argonne National Laboratory				
TITLE: Proceedings of the Workshop on Meteorological Effects of Satellite Power System Rectenna Operation and Related Microwave Transmission Problems				
DATE: December 1979	VOLUMES:	PAGES: 48	REFERENCES: 16	
ACQUISITION NO: CONF-7808114			SOURCE: 5	
KEY WORDS: Climate Effects Microwave Propagation Physical Processes Rectenna Heating				

SUBJECT: ATMOSPHERIC EFFECTS			SPSPO INDEX NO: AE-14	
AUTHOR(S): (1) Markson, R. (2) Muir, M.				
AUTHOR AFFILIATION: (1) Massachusetts Institute of Technology (2) University of Natal (South Africa)				
TITLE: Solar Wind Control of the Earth's Electric Field				
DATE: May 1980	VOLUMES:	PAGES: 12	REFERENCES: 90	
ACQUISITION NO: 0036-8075/80/0530-0979			SOURCE: 7	
KEY WORDS: Climate Effects Experiments Physical Processes				

SUBJECT: ATMOSPHERIC EFFECTS			SPSPO INDEX NO: AE-6
AUTHOR(S): Mendillo, M. (1) Hermiter, B. (1) Rote, D. M. (2)			
AUTHOR AFFILIATION: (1) Boston University (2) Argonne National Laboratory			
TITLE: Modification of the Aerospace Environment by Large Space Vehicles			
DATE: January 1979	VOLUMES:	PAGES: 7	REFERENCES: 17
ACQUISITION NO: 79-0391			SOURCE: 2
KEY WORDS: Exhaust Emissions Physical Processes Satellite Power System Transportation Effects			

SUBJECT: ATMOSPHERIC EFFECTS			SPSPO INDEX NO: AE-21
AUTHOR(S): Mendillo, M. (Ed.) Baumgardner, B. (Ed.)			
AUTHOR AFFILIATION: Boston University			
TITLE: Proceedings of the Workshop/Symposium on the Preliminary Evaluation of the Ionospheric Disturbances Associated with the HEAO-C Launch, with Applications to the SPS Environmental Assessment.			
DATE: August 1980	VOLUMES:	PAGES: 258	REFERENCES: 89
ACQUISITION NO: CONF-7911108			SOURCE: 5
KEY WORDS: Analysis Methods Experiments Interference Effects Launch Effects			

SUBJECT: ATMOSPHERIC EFFECTS			SPSPO INDEX NO: AE-23	
AUTHOR(S): National Telecommunications and Information Administration				
AUTHOR AFFILIATION: U. S. Department of Commerce				
TITLE: Environmental Assessment for the Satellite Power System - Concept Development and Evaluation Program - Effects of Ionospheric Heating on Telecommunications				
DATE: August 1980		VOLUMES:	PAGES: 94	REFERENCES: 42
ACQUISITION NO: DOE/ER/10003-T2			SOURCE: 5	
KEY WORDS: Analysis Methods Heater Facilities Experiments Interference Effects Frequency Sealing Ionosphere Heating				

SUBJECT: ATMOSPHERIC EFFECTS			SPSPO INDEX NO: AE-12	
AUTHOR(S): Radke, L. F. Hegg, D. A. Eltgroth, M.W. Hobbs, P.V.				
AUTHOR AFFILIATION: University of Washington				
TITLE: Measurements of the Particles and Gases in the Ground Cloud from an Atlas/Centaur Rocket				
DATE: February, 1979		VOLUMES:	PAGES: 70	REFERENCES: 6
ACQUISITION NO: By Title			SOURCE: 5	
KEY WORDS: Climate Effects Particulate Exhausts Exhaust Emissions Propellant Characteristics Launch Effects Transportation Effects				

SUBJECT: ATMOSPHERIC EFFECTS			SPSPO INDEX NO: AE-28	
AUTHOR(S): Rice University				
AUTHOR AFFILIATION: Rice University				
TITLE: Electrostatic Protection of the Solar Power Satellite and Rectenna; Part II-Lightning Protection of the Rectenna.				
DATE: November 1980		VOLUMES:	PAGES: 122	REFERENCES: None
ACQUISITION NO: NASA CR 3345 NAS 8 - 33023			SOURCE: 4	
KEY WORDS: Analysis Methods Power Losses Lightning Rectenna Protection Physical Processes Weather Effects				

SUBJECT: ATMOSPHERIC EFFECTS			SPSPO INDEX NO: AE-8	
AUTHOR(S): Rote, D. M.				
AUTHOR AFFILIATION: Argonne National Laboratory				
TITLE: Proceedings of the Workshop on Ionospheric and Magnetospheric Effects of the Satellite Power Systems (SPS)				
DATE: December 1979		VOLUMES:	PAGES: 97	REFERENCES: 29
ACQUISITION NO: CONF-7808115			SOURCE: 5	
KEY WORDS: Climate Effects Plasmasphere Effects Exhaust Emissions Transportation Effects Ionosphere Predictions Magnetosphere Effects				

SUBJECT: ATMOSPHERIC EFFECTS			SPSPO INDEX NO: AE-15	
AUTHOR(S): Rote, D. M. Lee, J. L. Brubaker, K. L. Valentino, A. R.				
AUTHOR AFFILIATION: Argonne National Laboratory				
TITLE: An Assessment of the Atmospheric Effects of a Satellite Power System				
DATE: December 1979	VOLUMES:	PAGES: 29	REFERENCES: 36	
ACQUISITION NO: By Title (Second Miami International Conference on Alternative Energy Sources)			SOURCE: 37	
KEY WORDS: Atmospheric Models Launch Effects Climate Effects Physical Processes Exhaust Emissions Transportation Effects				

SUBJECT: ATMOSPHERIC EFFECTS			SPSPO INDEX NO: AE-27	
AUTHOR(S): Rote, D. M. Brubaker, K. L. Lee, J. L.				
AUTHOR AFFILIATION: Argonne National Laboratory				
TITLE: Environmental Assessment for the Satellite Power System - Concept Development and Evaluation Program - Atmospheric Effects				
DATE: November 1980	VOLUMES:	PAGES: 126	REFERENCES: 144	
ACQUISITION NO: DOE/ER-0090			SOURCE: 5	
KEY WORDS: Atmospheric Models Launch Effects Climate Effects Physical Processes Exhaust Emissions Transportation Effects				

SUBJECT: ATMOSPHERIC EFFECTS			SPSPO INDEX NO: AE-22
AUTHOR(S): Rush, C. M. Carroll, J. C. Violette, E. J. Allen, K. C. Espeland, R. H.			
AUTHOR AFFILIATION: U. S. Department of Commerce			
TITLE: Impact of SPS Heating on VLF, LF, and MF Telecommunications Systems Ascertained by Experimental Means			
DATE: July 1980	VOLUMES:	PAGES: 105	REFERENCES: 15
ACQUISITION NO: DOE/ER/10003-T1			SOURCE: 5
KEY WORDS: Analysis Methods Heating Effects Experiments Interference Effects Frequency Scaling Ionosphere Heating			

SUBJECT: ATMOSPHERIC EFFECTS			SPSPO INDEX NO: AE-26
AUTHOR(S): Showen, R. L.			
AUTHOR AFFILIATION: SRI International			
TITLE: Measurements of Possible D- and E- Region Telecommunications Effects During Ionospheric Heating			
DATE: November 1980	VOLUMES:	PAGES: 38	REFERENCES: None
ACQUISITION NO: Contract NT79RAC96007			SOURCE: 13
KEY WORDS: Heating Effects Ionosphere Heating Heating Theory Ionosphere Predictions Interference Effects			

SUBJECT: ATMOSPHERIC EFFECTS			SPSPO INDEX NO: AE-31							
AUTHOR(S): Zinn, J. Sutherland, C. D.										
AUTHOR AFFILIATION: Los Alamos Scientific Laboratory										
TITLE: Effects of Rocket Exhaust Products in the Thermosphere and Ionosphere										
DATE: 1980		VOLUMES:		PAGES: 24						
				REFERENCES: 20						
ACQUISITION NO: 0191-9067/80/010109-24 Space Solar Power Review, Vol. 1, pp. 109-132				SOURCE: 33						
KEY WORDS: <table border="0" style="width: 100%;"> <tr> <td style="width: 50%;">Atmospheric Models</td> <td style="width: 50%;">Ionosphere Heating</td> </tr> <tr> <td>Exhaust Emissions</td> <td>Physical Processes</td> </tr> <tr> <td>Experiments</td> <td>Transportation Effects</td> </tr> </table>					Atmospheric Models	Ionosphere Heating	Exhaust Emissions	Physical Processes	Experiments	Transportation Effects
Atmospheric Models	Ionosphere Heating									
Exhaust Emissions	Physical Processes									
Experiments	Transportation Effects									

SUBJECT: ATMOSPHERIC EFFECTS			SPSPO INDEX NO: AE-13							
AUTHOR(S): Zinn, J. Sutherland, C. D.										
AUTHOR AFFILIATION: Los Alamos Scientific Laboratory										
TITLE: Effects of Rocket Exhaust Products in the Thermosphere and Ionosphere										
DATE: February 1980		VOLUMES:		PAGES: 22						
				REFERENCES: 20						
ACQUISITION NO: LA-8233-MS				SOURCE: 5						
KEY WORDS: <table border="0" style="width: 100%;"> <tr> <td style="width: 50%;">Analysis Methods</td> <td style="width: 50%;">Ionosphere Predictions</td> </tr> <tr> <td>Atmospheric Models</td> <td>Launch Effects</td> </tr> <tr> <td>Exhaust Emissions</td> <td>Transportation Effects</td> </tr> </table>					Analysis Methods	Ionosphere Predictions	Atmospheric Models	Launch Effects	Exhaust Emissions	Transportation Effects
Analysis Methods	Ionosphere Predictions									
Atmospheric Models	Launch Effects									
Exhaust Emissions	Transportation Effects									

SUBJECT: ATMOSPHERIC EFFECTS			SPSPO INDEX NO: AE-20	
AUTHOR(S): (1) Zinn, J. (1) Stone, S. N. (2) Behnke, R. A. (1) Sutherland, C. D. (1) Duncan, L. M.				
AUTHOR AFFILIATION: (1) Los Alamos Scientific Laboratory (2) Arecibo Observatory				
TITLE: Ionospheric Effects of Rocket Exhaust Products (HEAO-C, Skylab and SPS-HLLV)				
DATE: October 1980	VOLUMES:	PAGES: 32	REFERENCES: 28	
ACQUISITION NO: DOE/ER-0082			SOURCE: 5	
KEY WORDS: Atmospheric Models Ionosphere Predictions Exhaust Emissions Physical Processes Experiments Transportation Effects				

BIOLOGIC EFFECTS (CATEGORY BE)

Document in this category cover potential biologic effects which might be produced by solar energy or SPS microwave energy in space or on earth, and biologic effects which might be produced by SPS launch and space vehicles, electric transmission lines, or SPS-related industrial and manufacturing processes. Health, safety and other biologic effects (e.g., physiological, behavioral, etc.) on humans, animals and plants are included. Biologic and occupational safety issues related to working in the space ionizing radiation environment are included. They describe and evaluate what is known about the radiation environment in space, its effects on humans and space equipment, and possible ameliorative measures which may be useful in controlling such effects.

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Category BE continued)

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RELATED CATEGORIES:

Atmospheric Effects (AE)

Environmental Effects (EE)

Power Generation and Transmission (PT)

Systems Analyses (SA)

Social Issues (SI)

Space Transportation (ST)

SUBJECT: BIOLOGIC EFFECTS			SPSPO INDEX NO: BE-50	
AUTHOR(S): Gary, N. E. Westerdahl, B. B.				
AUTHOR AFFILIATION: University of California				
TITLE: Environmental Assessment for the Satellite Power System (SPS): Studies of Honey Bees Exposed to 2.45 GHz Continuous-Wave Electromagnetic Energy				
DATE: December 1980		VOLUMES:		PAGES: 149
				REFERENCES: 55
ACQUISITION NO: DOE/ER-0095				SOURCE: 5
KEY WORDS: Behavior Effects Experimental Data Growth and Development Insects Microwave Research				

SUBJECT: BIOLOGIC EFFECTS			SPSPO INDEX NO: BE-12	
AUTHOR(S): Baranski, S. (1) Czerski, P. (2)				
AUTHOR AFFILIATION: (1) Institute of Aviation Medicine (Warsaw) (2) Institute of Mother and Child (Warsaw)				
TITLE: Biological Effects of Microwaves				
DATE: 1976		VOLUMES:		PAGES: 234
				REFERENCES: 614
ACQUISITION NO: Library of Congress 74-7837 ISBN: 0-87933-145-3				SOURCE: 23
KEY WORDS: Experimental Data Exposure Microwave Occupational Exposure Standards Theory				

SUBJECT: BIOLOGIC EFFECTS			SPSPO INDEX NO: BE-13
AUTHOR(S): Benedick, M. H.			
AUTHOR AFFILIATION: IIT Research Institute			
TITLE: Blood-Brain Barrier Workshop			
DATE: May 1979	VOLUMES:	PAGES: 16	REFERENCES: 25
ACQUISITION NO: IITRI - E6456 NMRDC - N00014-79-M-005			SOURCE: 5
KEY WORDS: Blood-Brain Barrier Data Review Measurement Methods Microwave			

SUBJECT: BIOLOGIC EFFECTS			SPSPO INDEX NO: BE-33
AUTHOR(S): Bridges, J. E.			
AUTHOR AFFILIATION: IIT Research Institute			
TITLE: Biological Effects of High Voltage Electric Fields			
DATE: November 1975	VOLUMES:	PAGES: 190	REFERENCES: 92
ACQUISITION NO: EPRI 381-1			SOURCE: 26
KEY WORDS: Data Review Dosimetry Extremely Low Frequency Occupational Exposure Public Health Research			

SUBJECT: BIOLOGIC EFFECTS			SPSPO INDEX NO: BE-17
AUTHOR(S): Brodeur, P.			
AUTHOR AFFILIATION: New Yorker Magazine			
TITLE: The Zapping of America			
DATE: 1977	VOLUMES:	PAGES: 343	REFERENCES: 75
ACQUISITION NO: By Title			SOURCE: 32
KEY WORDS: Data Review Public Concern Microwave Public Health Occupational Exposure Regulation			

SUBJECT: BIOLOGIC EFFECTS			SPSPO INDEX NO: BE-7
AUTHOR(S): Cleary, S. F.			
AUTHOR AFFILIATION: Virginia Commonwealth University			
TITLE: Survey of Microwave and Radio Frequency Biological Effects and Mechanisms			
DATE: June 1977	VOLUMES:	PAGES: 33	REFERENCES: 72
ACQUISITION NO: By Title			SOURCE: 17
KEY WORDS: Data Review Thermal Effects Microwave Theory			

SUBJECT: BIOLOGIC EFFECTS			SPSPO INDEX NO: BE-41	
AUTHOR(S): Committee on Commerce, Science and Transportation				
AUTHOR AFFILIATION: U. S. Senate				
TITLE: Report on Radiation Health and Safety				
DATE: December 1978	VOLUMES:	PAGES: 106	REFERENCES: None	
ACQUISITION NO: 34-949			SOURCE: 20	
KEY WORDS: Ionizing Radiation Public Health Microwave Regulation Occupational Exposure Research				

SUBJECT: BIOLOGIC EFFECTS			SPSPO INDEX NO: BE-15	
AUTHOR(S): Committee on Commerce, Science and Transportation				
AUTHOR AFFILIATION: United States Senate				
TITLE: Microwave Irradiation of the U. S. Embassy in Moscow				
DATE: April 1979	VOLUMES:	PAGES: 26	REFERENCES: None	
ACQUISITION NO: 96USC-43-949			SOURCE: 20	
KEY WORDS: Data Review Occupational Exposure Exposure Public Concern Microwave				

SUBJECT: BIOLOGIC EFFECTS			SPSPO INDEX NO: BE-43	
AUTHOR(S): Committee on Governmental Affairs				
AUTHOR AFFILIATION: U. S. Senate				
TITLE: Federal Regulation of Radiation Health and Safety: Organizational Problems and Possible Remedies				
DATE: August 1978		VOLUMES:	PAGES: 180	REFERENCES: None
ACQUISITION NO: 31-471-0			SOURCE: 20	
KEY WORDS: Exposure Occupational Exposure Ionizing Radiation Public Health Microwave Regulation				

SUBJECT: BIOLOGIC EFFECTS			SPSPO INDEX NO: BE-2	
AUTHOR(S): Community and Economic Development Division				
AUTHOR AFFILIATION: (U.S.) General Accounting Office				
TITLE: Efforts by the Environmental Protection Agency to Protec the Public from Environmental Nonionizing Radiation Exposure				
DATE: March 1978		VOLUMES:	PAGES: 11	REFERENCES: None
ACQUISITION NO: B-166506			SOURCE: 9	
KEY WORDS: Exposure Research Measurements Standards Regulation				

SUBJECT: BIOLOGIC EFFECTS			SPSPO INDEX NO: BE-44	
AUTHOR(S): Comptroller General of the U. S.				
AUTHOR AFFILIATION: U. S. General Accounting Office				
TITLE: More Protection from Microwave Radiation Hazards Needed				
DATE: November 1978	VOLUMES:	PAGES: 80	REFERENCES: Bibliography	
ACQUISITION NO: HRD-79-7			SOURCE: 9	
KEY WORDS: Microwave Regulation Occupational Exposure Standards Public Health				

SUBJECT: BIOLOGIC EFFECTS			SPSPO INDEX NO: BE-52	
AUTHOR(S): Curtis, S. B. Schimmerling, W.				
AUTHOR AFFILIATION: Lawrence Berkeley Laboratory				
TITLE: Workshop on the Radiation Environment of the Satellite Power System				
DATE: December 1979	VOLUMES:	PAGES: 261	REFERENCES: 134	
ACQUISITION NO: CONF-7809164			SOURCE: 5	
KEY WORDS: Charged Particles Radiation Exposure Geophysics Shielding Ionizing Radiation Space Instruments				

SUBJECT: BIOLOGIC EFFECTS			SPSPO INDEX NO: BE-20
AUTHOR(S): Electromagnetic Radiation Management Advisory Council			
AUTHOR AFFILIATION: Office of Telecommunications Policy			
TITLE: Program for Control of Electromagnetic Pollution of the Environment: The Assessment of Biological Hazards of Nonionizing Electromagnetic Radiation			
DATE: December 1971	VOLUMES:	PAGES: 42	REFERENCES: 9
ACQUISITION NO: By Title			SOURCE: 5
KEY WORDS: Dosimetry Microwave Public Concern		Public Health Research Standards	

SUBJECT: BIOLOGIC EFFECTS			SPSPO INDEX NO: BE-25
AUTHOR(S): Electromagnetic Radiation Management Advisory Council			
AUTHOR AFFILIATION: Office of Telecommunications Policy			
TITLE: Program for Control of Electromagnetic Pollution of the Environment: The Assessment of Biological Hazards of Nonionizing Electromagnetic Radiation			
DATE: March 1973	VOLUMES:	PAGES: 44	REFERENCES: 9
ACQUISITION NO: By Title			SOURCE: 5
KEY WORDS: Dosimetry Microwave Public Concern		Public Health Research Standards	

SUBJECT: BIOLOGIC EFFECTS			SPSPO INDEX NO: BE-24	
AUTHOR(S): Electromagnetic Radiation Management Advisory Council				
AUTHOR AFFILIATION: Office of Telecommunications Policy				
TITLE: Program for Control of Electromagnetic Pollution of the Environment: The Assessment of Biological Hazards of Nonionizing Electromagnetic Radiation.				
DATE: May 1974		VOLUMES:	PAGES: 45	REFERENCES: 105
ACQUISITION NO: By Title				SOURCE: 5
KEY WORDS: Dosimetry Microwave Public Concern			Public Health Research Standards	

SUBJECT: BIOLOGIC EFFECTS			SPSPO INDEX NO: BE-23	
AUTHOR(S): Electromagnetic Radiation Management Advisory Council				
AUTHOR AFFILIATION: Office of Telecommunications Policy				
TITLE: Program for Control of Electromagnetic Pollution of the Environment: The Assessment of Biological Hazards of Nonionizing Electromagnetic Radiation.				
DATE: April 1975		VOLUMES:	PAGES: 32	REFERENCES: 245
ACQUISITION NO: By Title				SOURCE: 5
KEY WORDS: Dosimetry Microwave Public Concern			Public Health Research Standards	

SUBJECT: BIOLOGIC EFFECTS			SPSPO INDEX NO: BE-29
AUTHOR(S): Electromagnetic Radiation Management Advisory Council			
AUTHOR AFFILIATION: Office of Telecommunications Policy			
TITLE: Program for Control of Electromagnetic Pollution of the Environment: The Assessment of Biological Hazards of Nonionizing Electromagnetic Radiation			
DATE: June 1976	VOLUMES:	PAGES: 213	REFERENCES: Bibliography
ACQUISITION NO: By Title			SOURCE: 5
KEY WORDS: <div style="display: flex; justify-content: space-between;"> <div> Data Review Microwave Public Health </div> <div> Regulation Research Standards </div> </div>			

SUBJECT: BIOLOGIC EFFECTS			SPSPO INDEX NO: BE-32
AUTHOR(S): Environmental Health Directorate			
AUTHOR AFFILIATION: Minister of National Health and Welfare (Canada)			
TITLE: Health Aspects of Radio Frequency and Microwave Radiation Exposure Part 1.			
DATE: November 1977	VOLUMES:	PAGES: 80	REFERENCES: 115
ACQUISITION NO: 77-EHD-13			SOURCE: 16
KEY WORDS: <div style="display: flex; justify-content: space-between;"> <div> Data Review Human Absorption Measurement Methods </div> <div> Microwave Public Health Theory </div> </div>			

SUBJECT: BIOLOGIC EFFECTS			SPSPO INDEX NO: BE-27
AUTHOR(S): Environmental Health Directorate			
AUTHOR AFFILIATION: Minister of National Health and Welfare (Canada)			
TITLE: Health Aspects of Radio Frequency and Microwave Radiation Exposure, Part 2			
DATE: March 1978	VOLUMES:	PAGES: 115	REFERENCES: 313
ACQUISITION NO: 78-EHD-22			SOURCE: 16
KEY WORDS: Behavior Effects Regulation Data Review Research Microwave Standards			

SUBJECT: BIOLOGIC EFFECTS			SPSPO INDEX NO: BE-45
AUTHOR(S): Environmental Protection Agency			
AUTHOR AFFILIATION: U. S. Environmental Protection Agency			
TITLE: Environmental Assessment for the Satellite Power System - Concept Development and Evaluation Program - Microwave Health and Ecological Effects			
DATE: November 1980	VOLUMES:	PAGES: 143	REFERENCES: Bibliography
ACQUISITION NO: DOE/ER/10035-2			SOURCE: 5
KEY WORDS: Data Review Occupational Exposure Exposure Public Health Microwave Regulation			

SUBJECT:, BIOLOGIC EFFECTS			SPSPO INDEX NO: BE-22	
AUTHOR(S): Formanek, V. C. Gauger, J. R. Emerle, E.				
AUTHOR AFFILIATION: IIT Research Institute				
TITLE: Susceptibility of Cardiac Pacemakers to Modulated ELF Magnetic Fields				
DATE: June 1977	VOLUMES:	PAGES: 34	REFERENCES: 6	
ACQUISITION NO: IITRI - E6357-TR-5			SOURCE: 5	
KEY WORDS: Experimental Data Extremely Low Frequency Measurement Methods Public Health Research Transmission Line				

SUBJECT: BIOLOGIC EFFECTS			SPSPO INDEX NO: BE-10	
AUTHOR(S): Gandhi, O. P.				
AUTHOR AFFILIATION: University of Utah				
TITLE: 2450 MHz Microwave Absorption in Large and Small Animals and its Biochemical Effects on Birds and Reptiles				
DATE: February 1978	VOLUMES: 1	PAGES: 99	REFERENCES: 22	
ACQUISITION NO: NAS2-9555 UTEC ND 78-015			SOURCE: 4	
KEY WORDS: Avian Species Behavior Effects Dosimetry Reptiles Specific Absorption Thermal Effects				

SUBJECT: BIOLOGIC EFFECTS			SPSPO INDEX NO: BE-40	
AUTHOR(S): Gordon, Z. V.				
AUTHOR AFFILIATION: Israel Program for Scientific Translations, Ltd.				
TITLE: Biological Effect of Microwaves in Occupational Hygiene (Translated from Russian)				
DATE: 1970		VOLUMES:		PAGES: 102
				REFERENCES: Bibliography
ACQUISITION NO: TT70-50087 NASA TTF-633				SOURCE: 5
KEY WORDS: Data Review Exposure Human Absorption Mammal Studies Microwave Occupational Exposure				

SUBJECT: BIOLOGIC EFFECTS			SPSPO INDEX NO: BE-21	
AUTHOR(S): Gould, J. L. Kirschvink, J. L. Deffeyes, K. S.				
AUTHOR AFFILIATION: Princeton University				
TITLE: Bees Have Magnetic Remanence				
DATE: April 1978		VOLUMES:		PAGES: 3
				REFERENCES: 20
ACQUISITION NO: 0036-8075/78/0915-1026				SOURCE: 2
KEY WORDS: Behavior Effects Experimental Data Insects Research Theory				

SUBJECT: BIOLOGIC EFFECTS			SPSPO INDEX NO: BE-34
AUTHOR(S): Gould, James L.			
AUTHOR AFFILIATION: Princeton University			
TITLE: The Case for Magnetic Sensitivity in Birds and Bees (Such as It Is)			
DATE: May-June 1980	VOLUMES:	PAGES: 12	REFERENCES: 42
ACQUISITION NO: ISSN-0003-0996			SOURCE: 35
KEY WORDS: Avian Species Behavior Effects Experimental Data		Exposure Research Theory	

SUBJECT: BIOLOGIC EFFECTS			SPSPO INDEX NO: BE-42
AUTHOR(S): Guy, A. W. Webb, M. D. McDougall, J. A.			
AUTHOR AFFILIATION: University of Washington			
TITLE: R F Radiation Absorption Patterns: Human and Animal Modeling Data			
DATE: September 1977	VOLUMES:	PAGES: 77	REFERENCES: 11
ACQUISITION NO: DHEW (NIOSH) 77-183			SOURCE: 20
KEY WORDS: Data Review Dosimetry Human Absorption		Measurement Methods Research Specific Absorption	

SUBJECT: BIOLOGIC EFFECTS			SPSPO INDEX NO: BE-14	
AUTHOR(S): Ham, W. T. Sloney, D. H.				
AUTHOR AFFILIATION: Electric Power Research Institute				
TITLE: Physiological Effects of Redirected Solar Radiation				
DATE: August 1978	VOLUMES:	PAGES: 56	REFERENCES: 27	
ACQUISITION NO: EPRI ER-651			SOURCE: 26	
KEY WORDS: Data Review Public Health Exposure Solar Effects Infrared Ultraviolet				

SUBJECT: BIOLOGIC EFFECTS			SPSPO INDEX NO: BE-38	
AUTHOR(S): Hazzard, D. G.				
AUTHOR AFFILIATION: U. S. Public Health Service				
TITLE: Symposium on Biological Effects and Measurement of Radio Frequency/ Microwaves				
DATE: February 1977	VOLUMES:	PAGES: 387	REFERENCES: 282	
ACQUISITION NO: FDA-77-8026			SOURCE: 5	
KEY WORDS: Behavior Effects Measurement Methods Dosimetry Occupational Exposure Mammal Studies Research				

SUBJECT: BIOLOGIC EFFECTS			SPSPO INDEX NO: BE-8							
AUTHOR(S): International Radiation Protection Association										
AUTHOR AFFILIATION: International Radiation Protection Association										
TITLE: Overviews on Non-Ionizing Radiation										
DATE: April 1977		VOLUMES:	PAGES: 75	REFERENCES: 165						
ACQUISITION NO: By Title			SOURCE: 20							
KEY WORDS: <table border="0" style="width: 100%;"> <tr> <td>Data Review</td> <td>Public Health</td> </tr> <tr> <td>Lasers</td> <td>Standards</td> </tr> <tr> <td>Microwave</td> <td>Ultrasonics</td> </tr> </table>					Data Review	Public Health	Lasers	Standards	Microwave	Ultrasonics
Data Review	Public Health									
Lasers	Standards									
Microwave	Ultrasonics									

SUBJECT: BIOLOGIC EFFECTS			SPSPO INDEX NO: BE-37							
AUTHOR(S): Ishimaru, A; (Ed)										
AUTHOR AFFILIATION: The American Geophysical Union										
TITLE: Biological Effects of EM Waves										
DATE: November - December 1979		VOLUMES:	PAGES: 354	REFERENCES: 707						
ACQUISITION NO: RASCAD 14 (6S) 1S-351S (1979) ISSN 0048-6604			SOURCE: 36							
KEY WORDS: <table border="0" style="width: 100%;"> <tr> <td>Behavior Effects</td> <td>Mammal Studies</td> </tr> <tr> <td>Blood-Brain Barrier</td> <td>Measurement Methods</td> </tr> <tr> <td>Extremely Low Frequency</td> <td>Microwave</td> </tr> </table>					Behavior Effects	Mammal Studies	Blood-Brain Barrier	Measurement Methods	Extremely Low Frequency	Microwave
Behavior Effects	Mammal Studies									
Blood-Brain Barrier	Measurement Methods									
Extremely Low Frequency	Microwave									

SUBJECT: BIOLOGIC EFFECTS			SPSPO INDEX NO: BE-39	
AUTHOR(S): (1) Johnson, C. C. (Ed.) (2) Shore, M. L. (Ed.)				
AUTHOR AFFILIATION: (1) University of Utah (2) Bureau of Radiological Health				
TITLE: Biological Effects of Electromagnetic Waves				
DATE: October 1975	VOLUMES: 2	PAGES: 955	REFERENCES: 1089	
ACQUISITION NO: FDA-77-8010 (Vol. 1) FAD-77-8011 (Vol. 2)			SOURCE: 5	
KEY WORDS: Behavior Effects Measurement Methods Dosimetry Microwave Mammal Studies Research				

SUBJECT: BIOLOGIC EFFECTS			SPSPO INDEX NO: BE-48	
AUTHOR(S): Johnson Space Center				
AUTHOR AFFILIATION: National Aeronautics and Space Administration				
TITLE: Assessment of Zero Gravity Effects on Space Worker Health and Safety				
DATE: November 1980	VOLUMES:	PAGES: 122	REFERENCES: 63	
ACQUISITION NO: DOE/ER/10025-TI			SOURCE: 5	
KEY WORDS: Data Review Space Flight Mitigating Strategy Space Workers Occupational Exposure Zero Gravity				

SUBJECT: BIOLOGIC EFFECTS			SPSPO INDEX NO: BE-49
AUTHOR(S): Justesen, D. R.			
AUTHOR AFFILIATION: U. S. Veterans Administration			
TITLE: Diathermy Versus the Microwaves and Other Radio Frequency Radiations: A Rose by Another Name is a Cabbage			
DATE: May-June 1977	VOLUMES:	PAGES: 10	REFERENCES: 31
ACQUISITION NO: By Title, Radio Science, Vol. 12, No. 3, pp. 355-364			SOURCE: 36
KEY WORDS: Data Review Public Health Human Absorption Research Microwave Theory			

SUBJECT: BIOLOGIC EFFECTS			SPSPO INDEX NO: BE-9
AUTHOR(S): Justesen, D. R. (1) Hjeresen, D. L. (2) Ragan, H. A. (2) Hinds, W. T. (2) Rogers, L. E. (2) Phillips, R. D. (2) Guy, A. W. (3)			
AUTHOR AFFILIATION: (1) Veterans Administration (3) University of (2) Pacific Northwest Laboratory Washington			
TITLE: Compilation and Assessment of Microwave Bioeffects			
DATE: May 1978	VOLUMES:	PAGES: 90	REFERENCES: 129
ACQUISITION NO: PNL-2634 (Rev.)			SOURCE: 13
KEY WORDS: Data Review Microwave Theory			

SUBJECT: BIOLOGIC EFFECTS			SPSPO INDEX NO: BE-54	
AUTHOR(S): Lawrence Berkeley Laboratory				
AUTHOR AFFILIATION: Lawrence Berkeley Laboratory				
TITLE: Ionizing Radiation Risks to Satellite Power Systems (SPS) Workers in Space				
DATE: December 1980	VOLUMES:	PAGES: 58	REFERENCES: 58	
ACQUISITION NO: DOE/ER-0094			SOURCE: 5	
KEY WORDS: Charged Particles Health Risks Cosmic Rays Radiation Exposure Dose Levels Shielding				

SUBJECT: BIOLOGIC EFFECTS			SPSPO INDEX NO: BE-19	
AUTHOR(S): Mallalieu, R. C.				
AUTHOR AFFILIATION: The Johns Hopkins University				
TITLE: A Model of the Microwave Intensity Distribution within the US Embassy in Moscow, 1966 to 1977				
DATE: August 1980	VOLUMES:	PAGES: 81	REFERENCES: 53	
ACQUISITION NO: FS-80-166			SOURCE: 5	
KEY WORDS: Dosimetry Microwave Exposure Occupational Exposure Human Absorption Public Health				

SUBJECT: BIOLOGIC EFFECTS			SPSPO INDEX NO: BE-4	
AUTHOR(S): Massey, K. A.				
AUTHOR AFFILIATION: Natural Resources Defense Council				
TITLE: The Challenge of Nonionizing Radiation: A Proposal for Legislation				
DATE: 1979		VOLUMES:		PAGES: 85
				REFERENCES: None
ACQUISITION NO: Duke Law Journal Vol. 1979: 105				SOURCE: 14
KEY WORDS: Data Review Extremely Low Frequency Microwave Regulation				

SUBJECT: BIOLOGIC EFFECTS			SPSPO INDEX NO: BE-35	
AUTHOR(S): Michaelson, S. M.				
AUTHOR AFFILIATION: University of Rochester				
TITLE: Analysis of Studies Related to Biologic Effects and Health Implications of Exposure to Power Frequencies				
DATE: 1979		VOLUMES:		PAGES: 16
				REFERENCES: 43
ACQUISITION NO: 0191-5398/79/030217-16				SOURCE: 33
KEY WORDS: Data Review Extremely Low Frequency Measurement Methods Research Standards Theory				

SUBJECT: BIOLOGIC EFFECTS			SPSPO INDEX NO: BE-28
AUTHOR(S): National Research Council			
AUTHOR AFFILIATION: National Academy of Sciences			
TITLE: Analysis of the Exposure Levels and Potential Biologic Effects of the PAVE PAWS Radar System			
DATE: 1979	VOLUMES:	PAGES: 102	REFERENCES: 170
ACQUISITION NO: By Title			SOURCE: 27
KEY WORDS: Exposure Human Absorption Microwave		Public Concern Public Health Theory	

SUBJECT: BIOLOGIC EFFECTS			SPSPO INDEX NO: BE-30
AUTHOR(S): National Telecommunications and Information Administration			
AUTHOR AFFILIATION: U. S. Department of Commerce			
TITLE: Fifth Report on Program for Control of Electromagnetic Pollution of the Environment: The Assessment of Biological Hazards of Nonionizing Electromagnetic Radiation.			
DATE: March 1979	VOLUMES:	PAGES: 266	REFERENCES: Bibliography
ACQUISITION NO: NTIA 79-19			SOURCE: 5
KEY WORDS: Dosimetry Microwave Public Concern		Public Health Research Standards	

SUBJECT: BIOLOGIC EFFECTS			SPSPO INDEX NO: BE-31	
AUTHOR(S): Ozerski, P. Ostrowski, K. Shore, M. L. Silverman, C. Suess, M. J. Waldeskog, B.				
AUTHOR AFFILIATION: World Health Organization U. S. Dept. Health, Education and Welfare			Minister, Health and Social Welfare (Poland)	
TITLE: Biologic Effects and Health Hazards of Microwave Radiation				
DATE: October 1974	VOLUMES:	PAGES: 350	REFERENCES: 556	
ACQUISITION NO: 05-609-4			SOURCE: 34	
KEY WORDS: Data Review Exposure Measurement Methods Occupational Exposure Public Health Research				

SUBJECT: BIOLOGIC EFFECTS			SPSPO INDEX NO: BE-53	
AUTHOR(S): Poon, P. T. Y. Baker, L. R. Kuo, T. J.				
AUTHOR AFFILIATION: Jet Propulsion Laboratory				
TITLE: Preliminary Examination of Satellite Power System (SPS) Occupational Health Impacts				
DATE: October 1978	VOLUMES:	PAGES: 40	REFERENCES: 12	
ACQUISITION NO: 900-820 Rev. A.			SOURCE: 4	
KEY WORDS: Health Risks Ionizing Radiation Radiation Exposure				

SUBJECT: BIOLOGIC EFFECTS			SPSPO INDEX NO: BE-6	
AUTHOR(S): Radiation Protection Bureau				
AUTHOR AFFILIATION: Canadian Department of Health and Welfare				
TITLE: Recommended Installation and Safety Procedures for All Open Beam Microwave Devices				
DATE: July 1976	VOLUMES:	PAGES: 21	REFERENCES: None	
ACQUISITION NO: RPB-SC-11			SOURCE: 16	
KEY WORDS: Microwave Mitigating Strategy Occupational Exposure Public Health Standards				

SUBJECT: BIOLOGIC EFFECTS			SPSPO INDEX NO: BE-47	
AUTHOR(S): Repacholi, M. H.				
AUTHOR AFFILIATION: Department of Health and Welfare (Canada)				
TITLE: Proposed Exposure Limits for Microwave and Radiofrequency Radiations in Canada				
DATE: 1978	VOLUMES:	PAGES: 13	REFERENCES: 51	
ACQUISITION NO: By Title; Journal of Microwave Power, 13 (2)			SOURCE: 39	
KEY WORDS: Data Review Microwave Occupational Exposure Regulation Specific Absorbtion Standards				

SUBJECT: BIOLOGIC EFFECTS			SPSPO INDEX NO: BE-3	
AUTHOR(S): Rish, W. R. Morgan, M. G.				
AUTHOR AFFILIATION: Carnegie-Mellon University				
TITLE: Regulating Possible Health Effects from AC Transmission Line Electro-magnetic Fields				
DATE: October 1979	VOLUMES:	PAGES: 12	REFERENCES: 47	
ACQUISITION NO: 0018-9219/79/1000-1416			SOURCE: 6	
KEY WORDS: Data Review Exposure Extremely Low Frequency Mitigating Strategy Regulation Transmission Line				

SUBJECT: BIOLOGIC EFFECTS			SPSPO INDEX NO: BE-36	
AUTHOR(S): (1) Rogers, L. E. (2) Lee, J. M. (1) Gilbert, R. O. (2) Bracken, T. D.				
AUTHOR AFFILIATION: (1) Battelle Pacific Northwest Laboratories (2) Bonneville Power Administration				
TITLE: BPA 1100 kV Transmission System Development-Environment Studies				
DATE: February 1979	VOLUMES:	PAGES: 9	REFERENCES: 20	
ACQUISITION NO: 1979 IEEE Winter PES			SOURCE: 6	
KEY WORDS: Avian Species Experimental Data Extremely Low Frequency Mammal Studies Transmission Line Vegetation Effects				

SUBJECT: BIOLOGIC EFFECTS			SPSPO INDEX NO: BE-16	
AUTHOR(S): Ruderman, M. A. MacDonald, G. J.				
AUTHOR AFFILIATION: SRI International				
TITLE: On the Interaction of Non-Ionizing Radiation with People				
DATE: February 1980	VOLUMES:	PAGES: 40	REFERENCES: 24	
ACQUISITION NO: J S R - 79-14			SOURCE: 5	
KEY WORDS: Blood-Brain Barrier Human Absorption Data Review Theory Experimental Data Thermal Effects				

SUBJECT: BIOLOGIC EFFECTS			SPSPO INDEX NO: BE-5	
AUTHOR(S): Schiefelbein, S.				
AUTHOR AFFILIATION: Saturday Review Magazine				
TITLE: The Invisible Threat				
DATE: September 1979	VOLUMES:	PAGES: 5	REFERENCES: None	
ACQUISITION NO: Saturday Review Vol. 6, No. 18 pp. 16-20			SOURCE: 15	
KEY WORDS: Data Review Microwave Exposure Public Concern Extremely Low Frequency Transmission Line				

SUBJECT: BIOLOGIC EFFECTS			SPSPO INDEX NO: BE-18	
AUTHOR(S): Steneck, N. H. Kane, G. L. Cook, H. J. Vander, A. J.				
AUTHOR AFFILIATION: University of Michigan				
TITLE: The Origins of U. S. Safety Standards for Microwave Radiation				
DATE: June 13, 1980	VOLUMES:	PAGES: 8	REFERENCES: 54	
ACQUISITION NO: Science - Vol. 208. No. No. 4449			SOURCE: 7	
KEY WORDS: Exposure Microwave Occupational Exposure Public Concern Public Health Regulation				

SUBJECT: BIOLOGIC EFFECTS			SPSPO INDEX NO: BE-26	
AUTHOR(S): Valentino, A. R.				
AUTHOR AFFILIATION: IIT Research Institute				
TITLE: A Tutorial: Non-Ionizing Electromagnetic Fields-Biological Effects Terminology				
DATE: 1979	VOLUMES:	PAGES: 4	REFERENCES: 5	
ACQUISITION NO: 0191-5398/79/020155-04			SOURCE: 33	
KEY WORDS: Dosimetry Exposure Extremely Low Frequency Microwave Regulation Standards				

SUBJECT: BIOLOGIC EFFECTS			SPSPO INDEX NO: BE-51	
AUTHOR(S): Watts, J. W. Wright, J. J.				
AUTHOR AFFILIATION: NASA Marshall Space Flight Center				
TITLE: Charged Particle Radiation Environment for the Spacelab and Other Missions in Low Earth Orbit				
DATE: June 1975	VOLUMES:	PAGES: 68	REFERENCES: 17	
ACQUISITION NO: NASA TM X-64936			SOURCE: 4	
KEY WORDS: Cosmic Rays Proton Flux Dose Levels Solar Flares Electron Flux Spacelab				

SUBJECT: BIOLOGIC EFFECTS			SPSPO INDEX NO: BE-55	
AUTHOR(S): White, M.				
AUTHOR AFFILIATION: Lawrence Berkeley Laboratory				
TITLE: Effects on Biological Systems of Reflected Light from the Satellite Power System				
DATE: March 1981	VOLUMES:	PAGES: 54	REFERENCES: 19	
ACQUISITION NO: Not Available			SOURCE: 5	
KEY WORDS: Data Review Mammal Studies Eye Hazards Reflected Light Growth and Development Vegetation Effects				

SUBJECT: BIOLOGIC EFFECTS		SPSPO INDEX NO: BE-11	
AUTHOR(S): Yamaura, I.			
AUTHOR AFFILIATION: Electrotechnical Laboratory (Japan)			
TITLE: Measurements of 1.8 - 2.6 GHz Microwave Attenuation in the Human Torso			
DATE: August 1977	VOLUMES:	PAGES: 4	REFERENCES: 8
ACQUISITION NO: MTT-25, No. 8			SOURCE: 6
KEY WORDS: Experimental Data Microwave Human Absorption Research Measurement Methods			

COMPARATIVE ASSESSMENT (CATEGORY CA)

Documents in this category include information which is useful for comparing various energy options with the SPS concept. Existing energy options are included as are emerging energy technologies. Some documents characterize technologies, while others only provide information on certain aspects of a technology (such as performance or related environmental effects, for example). Methods which have been developed for comparing options also are included.

KEY WORDS:	PAGE NUMBER:
Applications	54, 57, 58, 60, 64
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**(Comparative Assessment
Category CA continued)**

KEY WORDS:

**Terrestrial Solar
Waste Heat**

PAGE NUMBER:

**53, 54, 55, 56, 57, 58, 59, 62, 64, 65, 66, 67
63**

RELATED CATEGORIES:

**Energy Alternatives and Policy (EA)
All other categories include information on SPS**

SUBJECT: COMPARATIVE ASSESSMENT			SPSPO INDEX NO: CA-29	
AUTHOR(S): Argonne National Laboratory				
AUTHOR AFFILIATION: Argonne National Laboratory				
TITLE: Comparative Health and Safety Assessment of the Satellite Power System and Other Electrical Generation Alternatives				
DATE: December 1980		VOLUMES:	PAGES: 154	REFERENCES: 133
ACQUISITION NO: DOE/ER-0091			SOURCE: 5	
KEY WORDS: Central Solar Fossil Systems Health Effects Nuclear Systems Safety Terrestrial Solar				

SUBJECT: COMPARATIVE ASSESSMENT			SPSPO INDEX NO: CA-31	
AUTHOR(S): Argonne National Laboratory				
AUTHOR AFFILIATION: Argonne National Laboratory				
TITLE: <i>NOT AVAILABLE - Final Comparative Assessment of SPS and Six Other Energy Technologies expected to be published in March 1981</i>				
DATE:		VOLUMES:	PAGES:	REFERENCES:
ACQUISITION NO:			SOURCE: 5	
KEY WORDS:				

SUBJECT: COMPARATIVE ASSESSMENT		SPSPO INDEX NO: CA-27	
AUTHOR(S): (1) Ayres, R. U. (4) Arnold, J. (2) Ridker, R. G. (1) Tayi, G. (3) Watson, W. D.			
AUTHOR AFFILIATION: (1) Carnegie-Mellon University (3) U.S. Geological Survey (2) Resources for the Future, Inc. (4) Variflex Corporation			
TITLE: Alternative Future Scenarios for the SPS Comparative Assessment			
DATE: August 1980	VOLUMES:	PAGES: 151	REFERENCES: 58
ACQUISITION NO: ANL/EES-TM-120			SOURCE: 5
KEY WORDS: Applications Models Economics Methodology			

SUBJECT: COMPARATIVE ASSESSMENT		SPSPO INDEX NO: CA-5	
AUTHOR(S): Bell, C. R.			
AUTHOR AFFILIATION: Jet Propulsion Laboratory			
TITLE: Assessment of a Solar Photovoltaic Power Conversion System for Central Station Application			
DATE: June 1975	VOLUMES:	PAGES: 57	REFERENCES: 22
ACQUISITION NO: 900-702 EM 342 294			SOURCE: 4
KEY WORDS: Central Solar Solar Performance Photovoltaic Terrestrial Solar Solar Energy			

SUBJECT: COMPARATIVE ASSESSMENT			SPSPO INDEX NO: CA-22	
AUTHOR(S): Caputo, R. S.				
AUTHOR AFFILIATION: Jet Propulsion Laboratory				
TITLE: An Initial Study of Solar Power Plants Using A Distributed Network of Point Focusing Collectors				
DATE: July 1975	VOLUMES:	PAGES: 122	REFERENCES: 14	
ACQUISITION NO: JPL 900-724 EM 342-308			SOURCE: 4	
KEY WORDS: Central Solar Economics Solar Performance Terrestrial Solar				

SUBJECT: COMPARATIVE ASSESSMENT			SPSPO INDEX NO: CA-1	
AUTHOR(S): Caputo, R. S.				
AUTHOR AFFILIATION: Jet Propulsion Laboratory				
TITLE: An Initial Comparative Assessment of Orbital and Terrestrial Central Power Systems				
DATE: March 1977	VOLUMES:	PAGES: 119	REFERENCES: 60	
ACQUISITION NO: 900-780			SOURCE: 4	
KEY WORDS: Economics Environmental Effects Health Effects Methodology Resources Solar Energy				

SUBJECT: COMPARATIVE ASSESSMENT			SPSPO INDEX NO: CA-12	
AUTHOR(S): Cirillo, R. R. Levine, E. P. Cho, B. S. Monarch, M. R.				
AUTHOR AFFILIATION: Argonne National Laboratory				
TITLE: Comparative Analysis of Net Energy Balance of Satellite Power Systems (SPS) and Other Energy Systems				
DATE: April 1980	VOLUMES:	PAGES: 136	REFERENCES: 74	
ACQUISITION NO: DOE/ER-0056			SOURCE: 5	
KEY WORDS: Energy Conversion Nuclear Systems Fossil Systems Photovoltaic Net Energy Terrestrial Solar				

SUBJECT: COMPARATIVE ASSESSMENT			SPSPO INDEX NO: CA-21	
AUTHOR(S): Claverie, M. J. Dupas, A. P.				
AUTHOR AFFILIATION: Centre National de la Recherche Scientifique				
TITLE: Preliminary Evaluation of Ground and Space Solar Electricity Market in 2025				
DATE: October 1978	VOLUMES:	PAGES: 19	REFERENCES: 8	
ACQUISITION NO: IAF78-187			SOURCE: 42	
KEY WORDS: Central Solar Solar Energy Economics Solar Performance Photovoltaic Terrestrial Solar				

SUBJECT: COMPARATIVE ASSESSMENT			SPSPO INDEX NO: CA-28	
AUTHOR(S): Claverie, M. J. Dupas, A. P.				
AUTHOR AFFILIATION: Centre National de la Recherche Scientifique				
TITLE: Terrestrial Versus Space Baseload Solar Electricity				
DATE: September 1979	VOLUMES:	PAGES: 22	REFERENCES: 18	
ACQUISITION NO: IAF 79-172			SOURCE: 42	
KEY WORDS: Central Solar Economics Land Use Photovoltaics Storage Terrestrial Solar				

SUBJECT: COMPARATIVE ASSESSMENT			SPSPO INDEX NO: CA-8	
AUTHOR(S): Coates, V. T.				
AUTHOR AFFILIATION: George Washington University				
TITLE: A Handbook of Technology Assessment				
DATE: March 1978	VOLUMES:	PAGES: 102	REFERENCES: 25	
ACQUISITION NO: TID-28503			SOURCE: 5	
KEY WORDS: Applications Economics Methodology Models Solar Energy				

SUBJECT: COMPARATIVE ASSESSMENT			SPSPO INDEX NO: CA-17	
AUTHOR(S): Crowley, J. H. Ziegler, E. J.				
AUTHOR AFFILIATION: Argonne National Laboratory				
TITLE: Satellite Power Systems (SPS) Cost Review				
DATE: May 1980		VOLUMES:		PAGES: 88
				REFERENCES: 26
ACQUISITION NO: DOE/TIC-11190				SOURCE: 5
KEY WORDS: Economics Photovoltaic Resources				

SUBJECT: COMPARATIVE ASSESSMENT			SPSPO INDEX NO: CA-23	
AUTHOR(S): Doane, J. W. O'Toole, R. P.				
AUTHOR AFFILIATION: Jet Propulsion Laboratory				
TITLE: Baseline Economic Analysis for Solar and Conventional Central Power Plants				
DATE: November 1975		VOLUMES:		PAGES: 28
				REFERENCES: 12
ACQUISITION NO: JPL 900-727 EM 342-323				SOURCE: 4
KEY WORDS: Applications Central Solar Economics Methodology Models Terrestrial Solar				

SUBJECT: COMPARATIVE ASSESSMENT			SPSPO INDEX NO: CA-18
AUTHOR(S): Drucker, H.			
AUTHOR AFFILIATION: Pacific Northwest Laboratory			
TITLE: Pacific Northwest Laboratory Annual Report for 1979 to the DOE Assistant Secretary for Environment; Part 1, Biomedical Sciences			
DATE: February 1980	VOLUMES:	PAGES: 338	REFERENCES: Bibliography
ACQUISITION NO: PNL-3300			SOURCE: 5
KEY WORDS: Environmental Effects Fossil Systems Health Effects Nuclear Systems			

SUBJECT: COMPARATIVE ASSESSMENT			SPSPO INDEX NO: CA-9
AUTHOR(S): Energy Research and Development Administration			
AUTHOR AFFILIATION: Energy Research and Development Administration			
TITLE: Solar Energy in America's Future			
DATE: March 1977	VOLUMES:	PAGES: 127	REFERENCES: Bibliography
ACQUISITION NO: DSE-115/1			SOURCE: 5
KEY WORDS: Economics Environmental Effects Net Energy Photovoltaics Resources Terrestrial Solar			

SUBJECT: COMPARATIVE ASSESSMENT			SPSPO INDEX NO: CA-25	
AUTHOR(S): Fujita, T.				
AUTHOR AFFILIATION: Jet Propulsion Laboratory				
TITLE: Preliminary Data on Electrical Energy Storage Systems Utility Applications				
DATE: April 1976		VOLUMES:	PAGES: 48	REFERENCES: 9
ACQUISITION NO: JPL 900-738 EM 342-333			SOURCE: 4	
KEY WORDS: Economics Energy Conversion Storage Systems				

SUBJECT: COMPARATIVE ASSESSMENT			SPSPO INDEX NO: CA-19	
AUTHOR(S): Gallagher, J. M. Carasso, M.		Barany, R. Zimmermann, R. G.		
AUTHOR AFFILIATION: Bechtel Corporation				
TITLE: Direct Requirements of Capital, Manpower, Materials and Equipment for Selected Energy Futures				
DATE: April 1976		VOLUMES:	PAGES: 131	REFERENCES: None
ACQUISITION NO: ERDA Contract E (49-1)-3794			SOURCE: 13	
KEY WORDS: Methodology Models Nuclear Systems Resources				

SUBJECT: COMPARATIVE ASSESSMENT			SPSPO INDEX NO: CA-11	
AUTHOR(S): Habegger, L. J. Gasper, J. R. Brown, C. D.				
AUTHOR AFFILIATION: Argonne National Laboratory				
TITLE: Health and Safety: Preliminary Comparative Assessment of the Satellite Power System (SPS) and Other Energy Alternatives				
DATE: April 1980	VOLUMES:	PAGES: 123	REFERENCES: 69	
ACQUISITION NO: DOE/ER-0053			SOURCE: 5	
KEY WORDS: Central Solar Fossil Systems Health Effects Nuclear Systems Safety Terrestrial Solar				

SUBJECT: COMPARATIVE ASSESSMENT			SPSPO INDEX NO: CA-20	
AUTHOR(S): Energy Analysis, Institute for				
AUTHOR AFFILIATION: Oak Ridge Associated Universities				
TITLE: Net Energy Analysis of Five Energy Systems				
DATE: April 1977	VOLUMES:	PAGES: 55	REFERENCES: 11	
ACQUISITION NO: ORAU/IEA (R)-77-12			SOURCE: 13	
KEY WORDS: Economics Fossil Systems Methodology Net Energy				

SUBJECT: COMPARATIVE ASSESSMENT			SPSPO INDEX NO: CA-13	
AUTHOR(S): Newsom, D. E. Wolsko, T. D.				
AUTHOR AFFILIATION: Argonne National Laboratory				
TITLE: Preliminary Comparative Assessment of Land Use for the Satellite Power System (SPS) and Alternative Electric Energy Technologies				
DATE: April 1980	VOLUMES:	PAGES: 22	REFERENCES: 17	
ACQUISITION NO: DOE/ER-0054			SOURCE: 5	
KEY WORDS: Fossil Systems Nuclear Systems Land Use Photovoltaic Methodology Terrestrial Solar				

SUBJECT: COMPARATIVE ASSESSMENT			SPSPO INDEX NO: CA-15	
AUTHOR(S): Samsa, M. E.				
AUTHOR AFFILIATION: Argonne National Laboratory				
TITLE: Selection of Alternative Central-Station Technologies for the Satellite Power System (SPS) Comparative Assessment				
DATE: April 1980	VOLUMES:	PAGES: 15	REFERENCES: None	
ACQUISITION NO: DOE/ER-0052			SOURCE: 5	
KEY WORDS: Applications Fossil Systems Economics Nuclear Systems Environmental Effects Photovoltaic				

SUBJECT: COMPARATIVE ASSESSMENT		SPSPO INDEX NO: CA-4	
AUTHOR(S): Selcuk, M. K.			
AUTHOR AFFILIATION: Jet Propulsion Laboratory			
TITLE: Preliminary Assessment of Flat Plate Collector Solar Thermal Power Plants			
DATE: March 1975	VOLUMES:	PAGES: 104	REFERENCES: 76
ACQUISITION NO: 900-692 EM 342-283			SOURCE: 4
KEY WORDS: Economics Net Energy Plate Collectors Solar Energy Terrestrial Solar			

SUBJECT: COMPARATIVE ASSESSMENT		SPSPO INDEX NO: CA-7	
AUTHOR(S): Selcuk, M. K.			
AUTHOR AFFILIATION: Jet Propulsion Laboratory			
TITLE: A Preliminary Technical and Economic Assessment of Solar Power Plants Using Line Concentrators			
DATE: July 1975	VOLUMES:	PAGES: 71	REFERENCES: 34
ACQUISITION NO: 900-704 EM 342-302			SOURCE: 4
KEY WORDS: Economics Line Collectors Net Energy Solar Energy Solar Performance Terrestrial Solar			

SUBJECT: COMPARATIVE ASSESSMENT			SPSPO INDEX NO: CA-6	
AUTHOR(S): Selcuk, M. K.				
AUTHOR AFFILIATION: Jet Propulsion Laboratory				
TITLE: Survey of Several Central Receiver Solar Thermal Power Plant Design Concepts				
DATE: August 1975		VOLUMES:	PAGES: 82	REFERENCES: 20
ACQUISITION NO: 900-714 EM 342-311			SOURCE: 4	
KEY WORDS: Economics Energy Conversion Heliostats Power Tower Solar Performance Terrestrial Solar				

SUBJECT: COMPARATIVE ASSESSMENT			SPSPO INDEX NO: CA-3	
AUTHOR(S): Smith, K. R. Weyant, J. Holdren, J. P.				
AUTHOR AFFILIATION: Jet Propulsion Laboratory				
TITLE: Evaluation of Conventional Power Systems				
DATE: July 1975		VOLUMES:	PAGES: 187	REFERENCES: 236
ACQUISITION NO: ERG-75-5			SOURCE: 4	
KEY WORDS: Economics Environmental Effects Fossil Systems Health Effects Nuclear Systems Resources				

SUBJECT: COMPARATIVE ASSESSMENT			SPSPO INDEX NO: CA-26	
AUTHOR(S): TRW Energy Systems Planning Division				
AUTHOR AFFILIATION: TRW, Inc.				
TITLE: Characterization of Alternative Electric Generation Technologies for the SPS Comparative Assessment				
DATE: August 1980	VOLUMES: 2	PAGES: 282	REFERENCES: 81	
ACQUISITION NO: ANL/EES-TM-121 V. 1, Summary, 28 pp. V. 2, Technologies, 254 pp.			SOURCE: 5	
KEY WORDS: Central Solar Fossil Systems Economics Nuclear Systems Environmental Effects Terrestrial Solar				

SUBJECT: COMPARATIVE ASSESSMENT			SPSPO INDEX NO: CA-14	
AUTHOR(S): Wolsko, T. D. Habegger, L. J. Samsa, M. E. Buehring, W. Hub, K. Stenehjem, E. J. Cirillo, R. R. Newsom, D. E. Whitfield, R. Gasper, J. R.				
AUTHOR AFFILIATION: Argonne National Laboratory				
TITLE: A Methodology for the Comparative Assessment of the Satellite Power System (SPS) and Alternative Technologies				
DATE: January 1980	VOLUMES:	PAGES: 72	REFERENCES: 63	
ACQUISITION NO: DOE/ER-0051			SOURCE: 5	
KEY WORDS: Economics Resources Environmental Effects Societal Effects Health Effects Solar Performance				

SUBJECT: COMPARATIVE ASSESSMENT			SPSPO INDEX NO: CA-30	
AUTHOR(S): Wolsko, T. D. Gasper, J. R. Levine, E. P. Tanzman, E. Brown, C. D. Habegger, L. J. Newsom, D. E. Van Kuiken, J. Cirillo, R. R. Hub, K. Samsa, M. E. Whitfield, R.				
AUTHOR AFFILIATION: Argonne National Laboratory				
TITLE: A Preliminary Assessment of the Satellite Power System (SPS) and Six Other Energy Technologies				
DATE: April 1980	VOLUMES:	PAGES: 189	REFERENCES: 145	
ACQUISITION NO: ANL/AA-20			SOURCE: 5	
KEY WORDS: Atmospheric Effects Fossil Systems Economics Nuclear Systems Environmental Effects Solar Energy				

ENERGY ALTERNATIVES AND POLICY (CATEGORY EA)

This category is a collection of reports and papers that deals with (1) SPS as a future energy alternative, (2) the role of SPS in national and/or international energy policy matters, or (3) other major energy technologies of interest to the development of SPS and their relationships with energy alternatives and policy.

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KEY WORDS:

Wind Conversion

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RELATED CATEGORIES:

Comparative Analysis (CA)

Social Issues (SI)

All other categories include information on SPS

SUBJECT: ENERGY ALTERNATIVES AND POLICY			SPSPO INDEX NO: EA-1	
AUTHOR(S): American Institute of Aeronautics and Astronautics				
AUTHOR AFFILIATION: American Institute of Aeronautics and Astronautics				
TITLE: Solar Power Satellites				
DATE: January 1979	VOLUMES:	PAGES: 4	REFERENCES: None	
ACQUISITION NO: Astronautics and Aeronautics January 1979 pp. 14-17			SOURCE: 2	
KEY WORDS: <div style="display: flex; justify-content: space-between;"> <div> Concepts Energy Options Feasibility </div> <div> Recommendations Risks Technology Requirements </div> </div>				

SUBJECT: ENERGY ALTERNATIVES AND POLICY			SPSPO INDEX NO: EA-9	
AUTHOR(S): Babcock, W. H. Siegel, S. B. Swanson, C. A.				
AUTHOR AFFILIATION: PRC Energy Analysis Company				
TITLE: Energy Demands, 1972 - 2000				
DATE: April 1979	VOLUMES:	PAGES: 150	REFERENCES: 21	
ACQUISITION NO: HCP/R4024-01			SOURCE: 5	
KEY WORDS: <div style="display: flex; justify-content: space-between;"> <div> Energy Options Fossil Fuels Geothermal </div> <div> Hydroelectric Nuclear Power Solar Power </div> </div>				

SUBJECT: ENERGY ALTERNATIVES AND POLICY		SPSPO INDEX NO: EA-7	
AUTHOR(S): Energy Research and Development Administration			
AUTHOR AFFILIATION: Energy Research and Development Administration			
TITLE: Proceedings of the Public Meeting to Review the Status of the Inexhaustible Energy Resources Study			
DATE: July 1977	VOLUMES:	PAGES: 52	REFERENCES: None
ACQUISITION NO: CONF-770715			SOURCE: 5
KEY WORDS: Economics Inexhaustible Resources Political Process Social Issues Technology Requirements			

SUBJECT: ENERGY ALTERNATIVES AND POLICY		SPSPO INDEX NO: EA-12	
AUTHOR(S): General Accounting Office			
AUTHOR AFFILIATION: U. S. General Accounting Office			
TITLE: Net Energy Analysis: Little Progress and Many Problems			
DATE: August 1977	VOLUMES:	PAGES: 15	REFERENCES: None
ACQUISITION NO: EMD-77-57			SOURCE: 9
KEY WORDS: Energy Options Energy Ratio Net Energy Analysis Policy Analysis			

SUBJECT: ENERGY ALTERNATIVES AND POLICY		SPSPO INDEX NO: EA-8	
AUTHOR(S): Glaser, P. E.			
AUTHOR AFFILIATION: Arthur D. Little, Inc.			
TITLE: Satellite Solar Power--An Option for Power Generation on Earth			
DATE: June 1977	VOLUMES:	PAGES: 25	REFERENCES: 11
ACQUISITION NO: By Title (World Electrotechnical Congress, Moscow)		SOURCE: 23	
KEY WORDS: Concepts Economics Energy Options Environmental Effects Solar Power			

SUBJECT: ENERGY ALTERNATIVES AND POLICY		SPSPO INDEX NO: EA-13	
AUTHOR(S): Grey, J.			
AUTHOR AFFILIATION: American Institute of Aeronautics and Astronautics			
TITLE: Energy Since the Oil War			
DATE: November 1975	VOLUMES:	PAGES: 37	REFERENCES: 25
ACQUISITION NO: By Title, Aeronautics and Astronautics		SOURCE: 2	
KEY WORDS: Energy Options Fossil Fuels Inexhaustible Resources Nuclear Power Policy Analysis Solar Power			

SUBJECT: ENERGY ALTERNATIVES AND POLICY			SPSPO INDEX NO: EA-10	
AUTHOR(S): Herendeen, R. A.				
AUTHOR AFFILIATION: University of Illinois				
TITLE: Two Technologies Near the Net Energy Limit: Gasohol and Solar Satellite Power Station				
DATE: August 1978	VOLUMES:	PAGES: 18	REFERENCES: 20	
ACQUISITION NO: By Title			SOURCE: 28	
KEY WORDS: Net Energy Analysis				

SUBJECT: ENERGY ALTERNATIVES AND POLICY			SPSPO INDEX NO: EA-3	
AUTHOR(S): Herendeen, R. A. Kary, T. Rebitzer, J.				
AUTHOR AFFILIATION: University of Illinois				
TITLE: Energy Analysis of the Solar Power Satellite				
DATE: 3 August 1979	VOLUMES:	PAGES: 4	REFERENCES: 26	
ACQUISITION NO: 0036-8075/79/0803-0451 Science, Vol. 205, No. 4405			SOURCE: 7	
KEY WORDS: Energy Options Energy Ratio Net Energy Analysis				

SUBJECT: ENERGY ALTERNATIVES AND POLICY			SPSPO INDEX NO: EA-14
AUTHOR(S): Kassing, D. Reinhartz, K. K.			
AUTHOR AFFILIATION: European Space Technology and Engineering Center			
TITLE: Energy for Europe from Space			
DATE: 1978	VOLUMES:	PAGES: 9	REFERENCES: 20
ACQUISITION NO: By Title, ESA Journal, Vol. 2, pp. 179-187			SOURCE: 1
KEY WORDS: Concepts Economics Energy Options International Interest Solar Power			

SUBJECT: ENERGY ALTERNATIVES AND POLICY			SPSPO INDEX NO: EA-5
AUTHOR(S): Levinson, R. J.			
AUTHOR AFFILIATION: Polytechnic Institute of New York			
TITLE: Orbital Power Generation			
DATE: November 1977	VOLUMES:	PAGES: 6	REFERENCES: 2
ACQUISITION NO: The Polytechnic Engineer Vol. XVIII, No. 1 pp. 48-52, 56			SOURCE: 11
KEY WORDS: Concepts Energy Options Solar Power Technology Requirements			

SUBJECT: ENERGY ALTERNATIVES AND POLICY			SPSPO INDEX NO: EA-15	
AUTHOR(S): Leon, H. I. Gorman, R. Dawley, R.				
AUTHOR AFFILIATION: TRW Systems Group				
TITLE: Solar Energy Options for Electric Utilities				
DATE: April 1976	VOLUMES:	PAGES: 3	REFERENCES: 4	
ACQUISITION NO: PB6-231			SOURCE: 13	
KEY WORDS: Comparative Methods Ocean Conversion Solar Conversion			Utility Decisions Wind Conversion	

SUBJECT: ENERGY ALTERNATIVES AND POLICY			SPSPO INDEX NO: EA-6	
AUTHOR(S): Machol, R. E.				
AUTHOR AFFILIATION: Northwestern University				
TITLE: Solar Energy - A Subjective Assessment for NASA				
DATE: March 1977	VOLUMES:	PAGES: 23	REFERENCES: None	
ACQUISITION NO: By Title			SOURCE: 4	
KEY WORDS: Economics Solar Power Technology Requirements				

SUBJECT: ENERGY ALTERNATIVES AND POLICY			SPSPO INDEX NO: EA-11
AUTHOR(S): Myers, D. H.			
AUTHOR AFFILIATION: U. S. Department of Energy			
TITLE: The Energy Research and Development Program of the United States			
DATE: December 1978	VOLUMES:	PAGES: 25	REFERENCES: None
ACQUISITION NO: By Title; Anglo-American Workshop on Energy and Aerospace, London			SOURCE: 2
KEY WORDS: Energy Options Nuclear Power Feasibility Policy Analysis Issues Solar Power			

SUBJECT: ENERGY ALTERNATIVES AND POLICY			SPSPO INDEX NO: EA-2
AUTHOR(S): Smith, M.S.			
AUTHOR AFFILIATION: Congressional Research Service Library of Congress			
TITLE: Solar Energy from Space: Satellite Power Stations			
DATE: March 1979	VOLUMES:	PAGES: 12	REFERENCES: 21
ACQUISITION NO: Issue Brief No. IB 78012			SOURCE: 3
KEY WORDS: Concepts Legislation Feasibility Policy Analysis Issues Technology Requirements			

ELECTROMAGNETIC COMPATIBILITY (CATEGORY EC)

This category is concerned with reports and papers which address the possibility that SPS might produce electromagnetic incompatibilities (radio interference) with other electric or electronic systems in any portion of the frequency spectrum, and mitigating practices which might be useful in the event that interference problems were encountered.

KEY WORDS:

PAGE NUMBER:

Aeronamy	81, 82
Antenna Characteristics	81, 82, 83
Astronomy	82
Energy Distribution	82, 83, 84
Equipment Susceptibility	81, 83, 85
Field Enhancement	82
Harmonics	81, 82, 83, 85
Ionosphere Effects	84, 85
Measurements	81, 82, 83, 84
Mitigation	81, 82, 84
Noise Interference	84
Rules and Regulations	81, 82, 84
Sidebands	83, 84, 85
Spurious Emissions	82, 83, 84
Troposphere Effects	85

RELATED CATEGORIES:

Atmospheric Effects (AE)

Environmental Effects (EE)

Power Generation and Transmission (PT)

Systems Engineering (SE)

SUBJECT: ELECTROMAGNETIC COMPATIBILITY			SPSPO INDEX NO: EC-7
AUTHOR(S): Anderson, B. Lovell, B.			
AUTHOR AFFILIATION: University of Manchester (England)			
TITLE: Effect of Solar Power Satellite Transmissions on Radio Astronomical Research			
DATE: December 1978	VOLUMES:	PAGES: 11	REFERENCES: 6
ACQUISITION NO: By Title; Anglo-American Workshop on Energy and Aerospace, Royal Aeronautical Society (London)			SOURCE: 2
KEY WORDS: Astronomy Equipment Susceptibility Rules and Regulations			

SUBJECT: ELECTROMAGNETIC COMPATIBILITY			SPSPO INDEX NO: EC-9
AUTHOR(S): Davis, K. A. (1) Morrison, E. L. (2) Grant, W. B. (2) Juroshek, J. R. (2)			
AUTHOR AFFILIATION: Pacific Northwest Laboratory (1) Institute for Telecommunications Sciences (2)			
TITLE: Environmental Assessment for the Satellite Power System Concept Development and Evaluation Program-Electromagnetic Systems Compatibility.			
DATE: January 1981	VOLUMES:	PAGES: 91	REFERENCES: 30
ACQUISITION NO: DOE/ER-0096			SOURCE: 5
KEY WORDS: Antenna Characteristics Equipment Susceptibility Harmonics Measurements Mitigation Rules and Regulations			

SUBJECT: ELECTROMAGNETIC COMPATIBILITY			SPSPO INDEX NO: EC-3							
AUTHOR(S): National Research Council										
AUTHOR AFFILIATION: National Academy of Sciences										
TITLE: Radiation Intensity of the PAVE PAWS Radar System										
DATE:	1979	VOLUMES:	PAGES: 46	REFERENCES: 5						
ACQUISITION NO: Contract F49620-78-C-0118				SOURCE: 27						
KEY WORDS: <table border="0"> <tr> <td>Antenna Characteristics</td> <td>Measurements</td> </tr> <tr> <td>Energy Distribution</td> <td>Sidebands</td> </tr> <tr> <td>Harmonics</td> <td>Spurious Emissions</td> </tr> </table>					Antenna Characteristics	Measurements	Energy Distribution	Sidebands	Harmonics	Spurious Emissions
Antenna Characteristics	Measurements									
Energy Distribution	Sidebands									
Harmonics	Spurious Emissions									

SUBJECT: ELECTROMAGNETIC COMPATIBILITY			SPSPO INDEX NO: EC-4							
AUTHOR(S): Ott, R. H. Morrison, E. L. Grant, W. B.										
AUTHOR AFFILIATION: U. S. Department of Commerce										
TITLE: Antenna Patterns for the Solar Power Satellite										
DATE:	January 1979	VOLUMES:	PAGES: 21	REFERENCES: 12						
ACQUISITION NO: NTIA-TM-79-5				SOURCE: 5						
KEY WORDS: <table border="0"> <tr> <td>Antenna Characteristics</td> <td>Harmonics</td> </tr> <tr> <td>Energy Distribution</td> <td>Sidebands</td> </tr> <tr> <td>Equipment Susceptibility</td> <td>Spurious Emissions</td> </tr> </table>					Antenna Characteristics	Harmonics	Energy Distribution	Sidebands	Equipment Susceptibility	Spurious Emissions
Antenna Characteristics	Harmonics									
Energy Distribution	Sidebands									
Equipment Susceptibility	Spurious Emissions									

SUBJECT: ELECTROMAGNETIC COMPATIBILITY			SPSPO INDEX NO: EC-1	
AUTHOR(S): Pacific Northwest Laboratory				
AUTHOR AFFILIATION: Pacific Northwest Laboratory				
TITLE: Initial Assessment--Electromagnetic Compatibility Aspects of Proposed SPS Microwave Power Transmission System (MPTS) Operations				
DATE: February 1978		VOLUMES:	PAGES: 133	REFERENCES: Bibliography
ACQUISITION NO: PNL-2482			SOURCE: 13	
KEY WORDS: Energy Distribution Ionosphere Effects Mitigation			Rules and Regulations Sidebands Spurious Emissions	

SUBJECT: ELECTROMAGNETIC COMPATIBILITY			SPSPO INDEX NO: EC-8	
AUTHOR(S): Spaulding, A. D.				
AUTHOR AFFILIATION: U. S. Department of Commerce				
TITLE: Man-Made Noise: The Problem and Recommended Steps Toward Solution				
DATE: April 1976		VOLUMES:	PAGES: 185	REFERENCES: 166
ACQUISITION NO: OT-76-85			SOURCE: 5	
KEY WORDS: Measurements Mitigation Noise Interference			Rules and Regulations Spurious Emissions	

SUBJECT: ELECTROMAGNETIC COMPATIBILITY			SPSPO INDEX NO: EC-2
AUTHOR(S): Telecommunications Sciences, Institute of			
AUTHOR AFFILIATION: U. S. Department of Commerce			
TITLE: Electromagnetic Compatibility, Tropospheric and Ionospheric Aspects of SPS MPTS Operations			
DATE: March 1978	VOLUMES:	PAGES: 34	REFERENCES: 22
ACQUISITION NO: PNL-2616			SOURCE: 13
KEY WORDS: Equipment Susceptibility Harmonics Ionosphere Effects		Sidebands Troposphere Effects	

ENVIRONMENTAL EFFECTS (CATEGORY EE)

Reports, articles and papers in this category cover all environmental concerns about SPS, and generally do not emphasize one particular environmental issue. Multiple issues and inter-relationships between potential effects of SPS on the environment are included in most citations.

KEY WORDS:	PAGE NUMBER:
Air Quality	92, 93, 94, 95, 98, 100
Atmospheric Effects	89, 90, 91, 92, 94, 96, 99
Atmospheric Heating	89
Ecosystem Impacts	90, 92, 93, 97, 98, 100
Electromagnetic Compatibility	89, 91, 92, 94, 97, 98, 99
Health Maintenance	93, 95, 97, 98, 100
Hearing Effects	96
Ionospheric Effects	89, 90, 91, 92, 94, 99
Ionospheric Perturbations	89
Land Use	92, 93, 94, 95, 98
Laser Effects	89, 90
Microwave Effects	89, 91, 92, 94, 98, 99
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Nuclear Effects	97
Occupational Effects	90, 91, 93, 95, 96, 98, 100
Operations Effects	90, 94, 95, 96, 97, 98, 99
Ozone	97
Photovoltaics	93, 98
Public Welfare	96, 99
Reflected Light	90, 96
Safety Issues	90, 92, 93, 97, 98
Societal Effects	91, 92, 98
Solid Waste	93, 95, 97
Space Effects	89, 90, 91, 92, 95, 99, 100
Space Habitat	95
Space Health	91, 95
Terrestrial Effects	89, 91, 92, 94
Water Resources	92, 93, 94, 95
Wildlife Effects	89, 94, 96

(Environmental Effects
Category EE Continued)

RELATED CATEGORIES:

Atmospheric Effects (AE)

Biologic Effects (BE)

Electromagnetic Compatibility (EC)

Power Generation and Transmission (PT)

Systems Analyses (SA)

Systems Engineering (SE)

Space Transportation (ST)

SUBJECT: ENVIRONMENTAL EFFECTS		SPSPO INDEX NO: EE-22	
AUTHOR(S): (1) Abromavage, M. M. (2) Valentino, A. R.			
AUTHOR AFFILIATION: (1) IIT Research Institute (2) Argonne National Laboratory			
TITLE: Environmental Assessment for the Satellite Power System Concept Development and Evaluation Program			
DATE: January 1981	VOLUMES:	PAGES: 8	REFERENCES: 8
ACQUISITION NO: 81-0244			SOURCE: 2
KEY WORDS: Atmospheric Effects Microwave Effects Electromagnetic Compatibility Space Health Ionospheric Effects Terrestrial Effects			

SUBJECT: ENVIRONMENTAL EFFECTS		SPSPO INDEX NO: EE-3	
AUTHOR(S): Beverly, R. E.			
AUTHOR AFFILIATION: None			
TITLE: Satellite Power System (SPS) Laser Environmental Impact Study			
DATE: February 1979	VOLUMES:	PAGES: 138	REFERENCES: 139
ACQUISITION NO: NAS8-32475			SOURCE: 4
KEY WORDS: Atmospheric Heating Wildlife Effects Ionospheric Perturbations Laser Effects			

SUBJECT: ENVIRONMENTAL EFFECTS			SPSPO INDEX NO: EE-19
AUTHOR(S): Beverly, R. E.			
AUTHOR AFFILIATION: Rockwell International			
TITLE: Satellite Power Systems (SPS) Laser Studies; Volume I: Laser Environmental Impact Study			
DATE: November 1980	VOLUMES:	PAGES: 85	REFERENCES: 139
ACQUISITION NO: NASA CR 3346 NAS 8-32475			SOURCE: 4
KEY WORDS: Atmospheric Effects Laser Effects Ecosystem Impacts Operations Effects Ionospheric Effects Safety Issues			

SUBJECT: ENVIRONMENTAL EFFECTS			SPSPO INDEX NO: EE-10
AUTHOR(S): Boeing Aerospace Company			
AUTHOR AFFILIATION: Boeing Aerospace Company			
TITLE: Satellite Power System (SPS) Brightness Due to Reflected Sunlight			
DATE: October 1980	VOLUMES:	PAGES: 73	REFERENCES: 8
ACQUISITION NO: DOE/ER-0081			SOURCE: 5
KEY WORDS: Operations Effects Reflected Light Space Effects			

SUBJECT: ENVIRONMENTAL EFFECTS			SPSPO INDEX NO: EE-7	
AUTHOR(S): Dickinson, R. M.				
AUTHOR AFFILIATION: Jet Propulsion Laboratory				
TITLE: Satellite Power System (SPS) Microwave Subsystem Impacts and Benefits				
DATE: September 1977	VOLUMES:	PAGES: 104	REFERENCES: 37	
ACQUISITION NO: 900-800			SOURCE: 4	
KEY WORDS: Electromagnetic Compatibility Occupational Effects Ionospheric Effects Space Health Microwave Effects Terrestrial Effects				

SUBJECT: ENVIRONMENTAL EFFECTS			SPSPO INDEX NO: EE-6	
AUTHOR(S): Energy, U.S. Department of				
AUTHOR AFFILIATION: U.S. Department of Energy				
TITLE: Preliminary Environmental Assessment for the Satellite Power System (SPS)				
DATE: October 1978	VOLUMES: 2	PAGES: 218	REFERENCES: 122	
ACQUISITION NO: DOE/ER-0021/1; V. 1, Summary (46 pp) DOE/ER-0021/2; V. 2, Details (172 pp)			SOURCE: 5	
KEY WORDS: Atmospheric Effects Microwave Effects Electromagnetic Compatibility Space Effects Ionospheric Effects Terrestrial Effects				

SUBJECT: ENVIRONMENTAL EFFECTS			SPSPO INDEX NO: EE-5
AUTHOR(S): Energy, U.S. Department of			
AUTHOR AFFILIATION: U.S. Department of Energy			
TITLE: Preliminary Environmental Assessment for the Satellite Power System (SPS), Revision 1			
DATE: January 1980	VOLUMES: 2	PAGES: 252	REFERENCES: 199
ACQUISITION NO: DOE/ER-0036/1; V. 1, Summary (52 pp) DOE/ER-0036/1; V. 2, Details(200 pp)			SOURCE: 5
KEY WORDS: Atmospheric Effects Electromagnetic Compatibility Ionospheric Effects Microwave Effects Space Effects Terrestrial Effects			

SUBJECT: ENVIRONMENTAL EFFECTS			SPSPO INDEX NO: EE-11
AUTHOR(S): Energy Research and Development Administration			
AUTHOR AFFILIATION: Energy Research and Development Administration			
TITLE: Solar Program Assessment: Environmental Factors for Solar Thermal Electric			
DATE: March 1977	VOLUMES:	PAGES: 73	REFERENCES: 24
ACQUISITION NO: ERDA 77-47/4			SOURCE: 20
KEY WORDS: Air Quality Ecosystem Impacts Land Use Safety Issues Societal Effects Water Resources			

SUBJECT: ENVIRONMENTAL EFFECTS			SPSPO INDEX NO: EE-12
AUTHOR(S): Energy Research and Development Administration			
AUTHOR AFFILIATION: Energy Research and Development Administration			
TITLE: Solar Program Assessment: Environmental Factors for Photovoltaics			
DATE: March 1977	VOLUMES:	PAGES: 62	REFERENCES: 47
ACQUISITION NO: ERDA 77-47/3			SOURCE: 20
KEY WORDS: <div style="display: flex; justify-content: space-between;"> <div> Air Quality Health Maintenance Land Use </div> <div> Occupational Effects Photovoltaics Solid Waste </div> </div>			

SUBJECT: ENVIRONMENTAL EFFECTS			SPSPO INDEX NO: EE-18
AUTHOR(S): Energy Research and Development Administration			
AUTHOR AFFILIATION: Energy Research and Development Administration			
TITLE: Solar Program Assessment: Environmental Factors for Solar Total Energy Systems			
DATE: March 1977	VOLUMES:	PAGES: 68	REFERENCES: 17
ACQUISITION NO: ERDA 77-47/5			SOURCE: 20
KEY WORDS: <div style="display: flex; justify-content: space-between;"> <div> Air Quality Ecosystem Impacts Land Use </div> <div> Safety Issues Solid Waste Water Resources </div> </div>			

SUBJECT: ENVIRONMENTAL EFFECTS			SPSPO INDEX NO: EE-9						
AUTHOR(S): Environmental Resources Group									
AUTHOR AFFILIATION: Environmental Resources Group									
TITLE: Prototype Environmental Assessment of the Impacts of Siting and Constructing a Satellite Power System (SPS) Ground Receiving Station (GRS)									
DATE: August 1980	VOLUMES:	PAGES: 269	REFERENCES: Bibliography						
ACQUISITION NO: DOE/ER-0072			SOURCE: 5						
KEY WORDS: <table border="0"> <tr> <td>Air Quality</td> <td>Terrestrial Effects</td> </tr> <tr> <td>Land Use</td> <td>Water Resources</td> </tr> <tr> <td>Noise</td> <td>Wildlife Effects</td> </tr> </table>				Air Quality	Terrestrial Effects	Land Use	Water Resources	Noise	Wildlife Effects
Air Quality	Terrestrial Effects								
Land Use	Water Resources								
Noise	Wildlife Effects								

SUBJECT: ENVIRONMENTAL EFFECTS			SPSPO INDEX NO: EE-8						
AUTHOR(S): <table border="0"> <tr> <td>Halverson, S. L. (1)</td> <td>Davis, K. (3)</td> </tr> <tr> <td>Rote, D. M. (1)</td> <td>White, M. (4)</td> </tr> <tr> <td>Rush, C. M. (2)</td> <td>Cahill, D. F. (5)</td> </tr> </table>				Halverson, S. L. (1)	Davis, K. (3)	Rote, D. M. (1)	White, M. (4)	Rush, C. M. (2)	Cahill, D. F. (5)
Halverson, S. L. (1)	Davis, K. (3)								
Rote, D. M. (1)	White, M. (4)								
Rush, C. M. (2)	Cahill, D. F. (5)								
AUTHOR AFFILIATION: (1) Argonne National Laboratory; (2) Institute for Telecommunications Sciences; (3) Pacific Northwest Laboratory; (4) Lawrence Berkeley Laboratory; (5) U. S. Environmental Protection Agency									
TITLE: Preliminary Assessment of the Environmental Impacts of the Satellite Power System (SPS)									
DATE: December 1978	VOLUMES:	PAGES: 17	REFERENCES: 3						
ACQUISITION NO: By Title (Anglo-American Workshop on Energy and Aerospace, Royal Aeronautical Society, London)			SOURCE: 2						
KEY WORDS: <table border="0"> <tr> <td>Atmospheric Effects</td> <td>Microwave Effects</td> </tr> <tr> <td>Electromagnetic Compatibility</td> <td>Operations Effects</td> </tr> <tr> <td>Ionospheric Effects</td> <td>Terrestrial Effects</td> </tr> </table>				Atmospheric Effects	Microwave Effects	Electromagnetic Compatibility	Operations Effects	Ionospheric Effects	Terrestrial Effects
Atmospheric Effects	Microwave Effects								
Electromagnetic Compatibility	Operations Effects								
Ionospheric Effects	Terrestrial Effects								

SUBJECT: ENVIRONMENTAL EFFECTS		SPSPO INDEX NO: EE-2	
AUTHOR(S): Livingston, L. E.			
AUTHOR AFFILIATION: NASA Johnson Space Center			
TITLE: Visibility of Solar Power Satellites from the Earth			
DATE: February 1979	VOLUMES:	PAGES: 15	REFERENCES: None
ACQUISITION NO: JSC-14715			SOURCE: 4
KEY WORDS: Operations Effects Reflected Light			

SUBJECT: ENVIRONMENTAL EFFECTS		SPSPO INDEX NO: EE-20	
AUTHOR(S): Pearsons, K. S. White, P. H. Wilby, J. F.			
AUTHOR AFFILIATION: Bolt, Berenek and Newman, Inc.			
TITLE: An Evaluation of the Noise Impact of Satellite Power System.			
DATE: December 1980	VOLUMES:	PAGES: 126	REFERENCES: 35
ACQUISITION NO: LBL-11978			SOURCE: 5
KEY WORDS: Atmospheric Effects Hearing Effects Noise Occupational Effects Public Welfare Wildlife Effects			

SUBJECT: ENVIRONMENTAL EFFECTS			SPSPO INDEX NO: EE-17	
AUTHOR(S): Poch, L. A. Wolsko, T. D.				
AUTHOR AFFILIATION: Argonne National Laboratory				
TITLE: A Review of the Nuclear Waste Disposal Problem				
DATE: October 1979	VOLUMES:	PAGES: 17	REFERENCES: 12	
ACQUISITION NO: ANL/EES-TM-68			SOURCE: 5	
KEY WORDS: Nuclear Effects Operations Effects Safety Issues Solid Waste				

SUBJECT: ENVIRONMENTAL EFFECTS			SPSPO INDEX NO: EE-14	
AUTHOR(S): Scott-Walton, B. Clark, K. M. Holt, B. R. Jones, D. C. Kaplan S. D. Krebs, J. S. Polson, P. Shepherd, R. A. Young, J. R.				
AUTHOR AFFILIATION: SRI International				
TITLE: Potential Environmental Effects of 765-kV Transmission Lines: Views Before the New York State Public Service Commission, Cases 26529 and 26559, 1976-1978				
DATE: November 1979	VOLUMES:	PAGES: 125	REFERENCES: Bibliography	
ACQUISITION NO: DOE/EV-0056			SOURCE: 5	
KEY WORDS: Ecosystem Impacts Electromagnetic Compatibility Health Maintenance Noise Ozone Safety Issues				

SUBJECT: ENVIRONMENTAL EFFECTS			SPSPO INDEX NO: EE-15	
AUTHOR(S): Smith, P.L. Gatzke, A.E. McCreary, S.T.				
AUTHOR AFFILIATION: Lawrence Berkeley Laboratory				
TITLE: Land Use and Environmental Impacts of Decentralized Solar Energy Use				
DATE: January 1980		VOLUMES:		PAGES: 307
				REFERENCES: 125
ACQUISITION NO: DOE/EV-0067				SOURCE: 5
KEY WORDS: <div style="display: flex; justify-content: space-between;"> <div> Air Quality Health Maintenance Land Use </div> <div> Photovoltaics Safety Issues Societal Effects </div> </div>				

SUBJECT: ENVIRONMENTAL EFFECTS			SPSPO INDEX NO: EE-13	
AUTHOR(S): SRI International				
AUTHOR AFFILIATION: SRI International				
TITLE: Final Environmental Impact Statement - Operation of the PAVE PAWS Radar System at Otis Air Force Base, MA.				
DATE: May 1979		VOLUMES: 2		PAGES: 853
				REFERENCES: Bibliography
ACQUISITION NO: AD-A069200 (Vol. 1) AD-A069201 (Vol. 2)				SOURCE: 5
KEY WORDS: <div style="display: flex; justify-content: space-between;"> <div> Ecosystem Impacts Electromagnetic Compatibility Health Maintenance </div> <div> Microwave Effects Occupational Effects Operations Effects </div> </div>				

SUBJECT: ENVIRONMENTAL EFFECTS			SPSPO INDEX NO: EE-16
AUTHOR(S): Valentino, A. R.			
AUTHOR AFFILIATION: Argonne National Laboratory			
TITLE: Environmental Assessment for the Satellite Power System (SPS) Concept Development and Evaluation Program (CDEP)			
DATE: August 1980	VOLUMES:	PAGES: 127	REFERENCES: 81
ACQUISITION NO: DOE/ER-0069			SOURCE: 5
KEY WORDS: <div style="display: flex; justify-content: space-between;"> <div> Atmospheric Effects Electromagnetic Compatibility Ionospheric Effects </div> <div> Microwave Effects Operations Effects Space Health </div> </div>			

SUBJECT: ENVIRONMENTAL EFFECTS			SPSPO INDEX NO: EE-21
AUTHOR(S): (1) Valentino, A. R. (2) Abromavage, M. M.			
AUTHOR AFFILIATION: (1) Argonne National Laboratory (2) IIT Research Institute			
TITLE: Environmental Assessment of the Satellite Power System Microwave Power Transmission System			
DATE: December 1980	VOLUMES:	PAGES: 4	REFERENCES: 4
ACQUISITION NO: By Title; National Telecommunications Conference (Houston)			SOURCE: 6
KEY WORDS: <div style="display: flex; justify-content: space-between;"> <div> Atmospheric Heating Electromagnetic Compatibility Ionospheric Effects </div> <div> Microwave Effects Occupational Effects Public Welfare </div> </div>			

SUBJECT: ENVIRONMENTAL EFFECTS		SPSPO INDEX NO: EE-23	
AUTHOR(S): White, M. R.			
AUTHOR AFFILIATION: Lawrence Berkeley Laboratory			
TITLE: Environmental Assessment for the Satellite Power System Concept Development and Evaluation Program - Nonmicrowave Health and Ecological Effects			
DATE: November 1980	VOLUMES:	PAGES: 86	REFERENCES: 51
ACQUISITION NO: DOE/ER-0089			SOURCE: 5
KEY WORDS: Air Quality Ecosystem Impacts Heath Maintenance Noise Occupational Effects Space Effects			

ECONOMICS AND FINANCES (CATEGORY EF)

This category of documents includes reports and papers which deal with the costs and economics involved in the development of SPS, and possible ways in which the development program might be financed in the future. Market potential, production costs and economic risks are included.

KEY WORDS:	PAGE NUMBER:
Consumption Patterns	103
Cost Model	104, 105
Cost Uncertainty	104, 105, 106, 107, 108
Demand Rates	103, 105
Disposal Costs	103
Emerging Technologies	103, 105, 106
Energy Costs	105, 106, 108
Energy Policy	103
Financial Requirements	106, 107, 108
Maintenance Cost	104, 105, 108
Market Potential	103
Operations Costs	104, 105, 106, 107
Production Cost	104, 105, 106, 107, 108
Returns	106, 107
Risks	104, 105, 106, 107
Rewards	106
Satellite Salvage	103
Uncertainties	105, 108

RELATED CATEGORIES:

Comparative Analyses (CA)
Energy Alternatives and Policy (EA)
Resources and Materials (RM)
Systems Analyses (SA)
Social Issues (SI)

SUBJECT: ECONOMICS AND FINANCES			SPSPO INDEX NO: EF-1	
AUTHOR(S): ECON, Inc.				
AUTHOR AFFILIATION: ECON, Inc				
TITLE: A Study of Some Economic Factors Relating to the Development and Implementation of a Satellite Power System				
DATE: January 1978	VOLUMES:	PAGES: 74	REFERENCES: None	
ACQUISITION NO: NAS8-32698 77-146-1			SOURCE: 4	
KEY WORDS: Consumption Patterns Demand Rates Emerging Technologies Energy Policy Market Potential				

SUBJECT: ECONOMICS AND FINANCES			SPSPO INDEX NO: EF-10	
AUTHOR(S): ECON, Inc.				
AUTHOR AFFILIATION: ECON, Inc.				
TITLE: Satellite Power System Salvage and Disposal Alternatives				
DATE: November 1980	VOLUMES:	PAGES: 90	REFERENCES: 8	
ACQUISITION NO: NASA CR 3349 NAS 8 - 33783			SOURCE: 4	
KEY WORDS: Disposal Costs Satellite Salvage				

SUBJECT: ECONOMICS AND FINANCES			SPSPO INDEX NO: EF-2
AUTHOR(S): Hazelrigg, G. A.			
AUTHOR AFFILIATION: ECON, Incorporated			
TITLE: Space-Based Solar Power Conversion and Delivery Systems Study			
DATE: June 1976	VOLUMES: 2	PAGES: 160	REFERENCES: 15
ACQUISITION NO: NAS8-31308 76-145-2 Vol. 1 - Summary (32 pp.) Vol. 2 - Economic Analysis (128 pp.)			SOURCE: 4
KEY WORDS: Cost Model Cost Uncertainty Maintenance Cost Operations Cost Production Cost			

SUBJECT: ECONOMICS AND FINANCES			SPSPO INDEX NO: EF-7
AUTHOR(S): Hazelrigg, G. A.			
AUTHOR AFFILIATION: ECON, Incorporated			
TITLE: The Economic Viability of Pursuing a Space Power System Concept			
DATE: March-April 1977	VOLUMES:	PAGES: 9	REFERENCES: 3
ACQUISITION NO: By Title, AIAA Journal of Energy			SOURCE: 2
KEY WORDS: Cost Model Cost Uncertainty Maintenance Costs Operations Costs Production Cost Risks			

SUBJECT: ECONOMICS AND FINANCES			SPSPO INDEX NO: EF-5	
AUTHOR(S): Hazelrigg, G. A.				
AUTHOR AFFILIATION: ECON, Inc.				
TITLE: Costing the Satellite Power System				
DATE: November 1978	VOLUMES:	PAGES: 21	REFERENCES: 6	
ACQUISITION NO: AAS 78-166			SOURCE: 30	
KEY WORDS: Cost Uncertainty Emerging Technologies Operations Costs		Production Cost Risks Uncertainties		

SUBJECT: ECONOMICS AND FINANCES			SPSPO INDEX NO: EF-8	
AUTHOR(S): (1) Hub, K. (2) Rowland, B. (1) Conley, L. (1) Stephenson, M. (2) Buehring, W.				
AUTHOR AFFILIATION: (1) Argonne National Laboratory (2) University of Wisconsin				
TITLE: Social Cost Studies Program - Electrical Utility Generating System Reliability Analysis Code, SYSREL				
DATE: September 1975	VOLUMES:	PAGES: 151	REFERENCES: 5	
ACQUISITION NO: ANL/AA-4			SOURCE: 5	
KEY WORDS: Cost Model Cost Uncertainty Demand Rates		Energy Costs Maintenance Cost Operations Cost		

SUBJECT: ECONOMICS AND FINANCES			SPSPO INDEX NO: EF-3	
AUTHOR(S): Kierolff, H. E.				
AUTHOR AFFILIATION: PRC Energy Analysis Company				
TITLE: Satellite Power System (SPS) Financial/Management Scenarios				
DATE: October 1978	VOLUMES:	PAGES: 62	REFERENCES: 27	
ACQUISITION NO: HCP/R-4024-13			SOURCE: 5	
KEY WORDS: Risks Returns Rewards Uncertainties				

SUBJECT: ECONOMICS AND FINANCES			SPSPO INDEX NO: EF-9	
AUTHOR(S): Nansen, R. H. Johnson, O. E.				
AUTHOR AFFILIATION: Boeing Aerospace Corporation				
TITLE: Economic Aspects of Energy From Space				
DATE: October 1979	VOLUMES:	PAGES: 26	REFERENCES: None	
ACQUISITION NO: 79-236			SOURCE: 2	
KEY WORDS: Cost Uncertainty Emerging Technologies Energy Costs Financial Requirements Operations Cost Production Cost				

SUBJECT: ECONOMICS AND FINANCES			SPSPO INDEX NO: EF-6
AUTHOR(S): Rossin, A. D. Rieck, T. A.			
AUTHOR AFFILIATION: Commonwealth Edison Company			
TITLE: Economics of Nuclear Power			
DATE: August 1978	VOLUMES:	PAGES: 8	REFERENCES: 24
ACQUISITION NO: 0036-8075/78/0818-0582501			SOURCE: 7
KEY WORDS: Cost Uncertainty Production Cost Financial Requirements Returns Operations Costs Risks			

SUBJECT: ECONOMICS AND FINANCES			SPSPO INDEX NO: EF-4
AUTHOR(S): Vajk, J. P.			
AUTHOR AFFILIATION: Science Applications, Inc.			
TITLE: Satellite Power System (SPS) Financial/Management Scenarios			
DATE: October 1978	VOLUMES:	PAGES: 73	REFERENCES: 16
ACQUISITION NO: HCP/R-4024-03			SOURCE: 5
KEY WORDS: Financial Requirements			

SUBJECT: ECONOMICS AND FINANCES			SPSPO INDEX NO: EF-11
AUTHOR(S): Woodcock, G. R.			
AUTHOR AFFILIATION: Boeing Aerospace Company			
TITLE: SPS Cost Considerations			
DATE: July-August 1978	VOLUMES:	PAGES: 7	REFERENCES: None
ACQUISITION NO: By Title; Journal of Energy, Vol. 2, No. 4, pp. 196-202			SOURCE: 2
KEY WORDS: Cost Uncertainty Energy Costs Financial Requirements		Maintenance Cost Production Cost Uncertainties	

PROGRAM PLANS (CATEGORY PP)

Program plans developed for the overall SPS Concept Development and Evaluation Program and its various elements are included in this category. Not all plans were implemented, and some future planning is included. Plans for some other energy technologies are listed, as they are pertinent to assessing the SPS energy concept.

KEY WORDS:	PAGE NUMBER:
Assessment Concept	111
Atmospheric Effects	114, 116
Biomass	113
Comparative Assessment	112, 113, 114, 115
Concept Definition	112
Concept Selection	111
Cost Analysis	111
Decision Process	115
Ecology	116
Environmental Assessment	112, 114, 115, 116
Environmental Integration	111
Environmental Objectives	111, 112, 113, 117
Health Effects	116, 117
Key Issues	111, 112, 113
Lessons Learned	115
Microwave Effects	116
Ocean Thermal	113
Photovoltaics	112, 113
Program Objectives	115
Reference System	111, 114
Resources	117
Safety Effects	112, 113, 117
Societal Assessment	114, 116
Socio-Economics	112, 115, 117
Solar Thermal	112, 113
Space Technology	115
Space Transportation	111, 115

(Program Plans -
Category PP continued)

KEY WORDS:	PAGE NUMBER:
System Operations	116, 117
Systems Definition	112, 114, 115
Technology Requirements	116
Wind Energy	113

RELATED CATEGORIES:

Atmospheric Effects (AE)
Biologic Effects (BE)
Comparative Analyses (CA)
Electromagnetic Compatibility (EC)
Environmental Effects (EE)
Systems Analyses (SA)
Systems Engineering (SE)
Social Issues (SI)
Space Transportation (ST)

SUBJECT: PROGRAM PLANS			SPSPO INDEX NO: PP-5	
AUTHOR(S): Energy, U.S. Department of National Aeronautics and Space Administration				
AUTHOR AFFILIATION: U.S. Department of Energy National Aeronautics and Space Administration				
TITLE: Satellite Power System (SPS) Concept Development and Evaluation Program Plan (July 1977 - August 1980)				
DATE: February 1978		VOLUMES:		PAGES: 55
				REFERENCES: 16
ACQUISITION NO: DOE/ET-0034				SOURCE: 5
KEY WORDS: Comparative Assessment Socio-Economics Concept Definition Systems Definition Environmental Assessment				

SUBJECT: PROGRAM PLANS			SPSPO INDEX NO: PP-13	
AUTHOR(S): Energy, U.S. Department of Energy				
AUTHOR AFFILIATION: U.S. Department of Energy				
TITLE: Environmental Development Plan (EDP) for Solar Thermal Power Systems				
DATE: March 1978		VOLUMES:		PAGES: 60
				REFERENCES: Bibliography
ACQUISITION NO: DOE/EDP-0004				SOURCE: 5
KEY WORDS: Environmental Assessment Photovoltaics Environmental Objectives Safety Effects Key Issues Solar Thermal				

SUBJECT: PROGRAM PLANS			SPSPO INDEX NO: PP-12
AUTHOR(S): Energy, U.S. Department of			
AUTHOR AFFILIATION: U.S. Department of Energy			
TITLE: Environmental Development Plan (EDP) for Photovoltaics			
DATE: March 1978	VOLUMES:	PAGES: 51	REFERENCES: Bibliography
ACQUISITION NO: DOE/EDP-0003			SOURCE: 5
KEY WORDS: Environmental Assessment Photovoltaics Environmental Objectives Safety Effects Key Issues Solar Thermal			

SUBJECT: PROGRAM PLANS			SPSPO INDEX NO: PP-3
AUTHOR(S): Energy, U.S. Department of			
AUTHOR AFFILIATION: U.S. Department of Energy			
TITLE: Guide to Solar Energy Programs			
DATE: March 1978	VOLUMES:	PAGES: 66	REFERENCES: None
ACQUISITION NO: DOE/ET-0036			SOURCE: 13
KEY WORDS: Biomass Solar Thermal Ocean Thermal Wind Energy Photovoltaics			

SUBJECT: PROGRAM PLANS			SPSPO INDEX NO: PP-6	
AUTHOR(S): Energy, U.S. Department of				
AUTHOR AFFILIATION: U.S. Department of Energy				
TITLE: Satellite Power System (SPS) Program Summary				
DATE: December 1978	VOLUMES:	PAGES: 110	REFERENCES: 10	
ACQUISITION NO: DOE/ER-0022			SOURCE: 5	
KEY WORDS: Comparative Assessment Environmental Assessment Societal Assessment Systems Definition				

SUBJECT: PROGRAM PLANS			SPSPO INDEX NO: PP-9	
AUTHOR(S): Energy, U.S. Department of				
AUTHOR AFFILIATION: U.S. Department of Energy				
TITLE: Satellite Power System (SPS) FY 79 Program Summary				
DATE: January 1980	VOLUMES:	PAGES: 208	REFERENCES: None	
ACQUISITION NO: DOE/ER-0037			SOURCE: 5	
KEY WORDS: Atmospheric Effects Comparative Assessment Environmental Assessment Reference System Societal Assessment Systems Definition				

SUBJECT: PROGRAM PLANS			SPSPO INDEX NO: PP-10	
AUTHOR(S): Energy Research and Development Administration National Aeronautics and Space Administration				
AUTHOR AFFILIATION: Energy Research and Development Administration National Aeronautics and Space Administration				
TITLE: SPS Concept Development and Evaluation Program Plan				
DATE: May 1977	VOLUMES: 2	PAGES: 209	REFERENCES: 28	
ACQUISITION NO: NMI 1052.200			SOURCE: 4	
KEY WORDS: Comparative Assessment Environmental Assessment Program Objectives Socio-Economic Space Technology Systems Definition				

SUBJECT: PROGRAM PLANS			SPSPO INDEX NO: PP-8	
AUTHOR(S): Logsdon, J. M.				
AUTHOR AFFILIATION: George Washington University				
TITLE: The Apollo Decision and Its Lessons for Policy-Makers				
DATE: January 1970	VOLUMES:	PAGES: 36	REFERENCES: 43	
ACQUISITION NO: Grant 09-010-030			SOURCE: 4	
KEY WORDS: Decision Process Lessons Learned Space Transportation				

SUBJECT: PROGRAM PLANS			SPSPO INDEX NO: PP-11	
AUTHOR(S): Newsom, B. D.				
AUTHOR AFFILIATION: Bernard D. Newsom and Associates				
TITLE: Research Plan for Study of Biological and Ecological Effects of the Solar Power Satellite Transmission System				
DATE: August 1978	VOLUMES:	PAGES: 254	REFERENCES: 74	
ACQUISITION NO: NASA-CR-3044 NAS2-9655			SOURCE: 4	
KEY WORDS: Ecology Environmental Assessment Microwave Effects				

SUBJECT: PROGRAM PLANS			SPSPO INDEX NO: PP-7	
AUTHOR(S): Universities Space Research Association				
AUTHOR AFFILIATION: Universities Space Research Association				
TITLE: Report of the Solar-Power Satellite Task Group				
DATE: March 1978	VOLUMES:	PAGES: 25	REFERENCES: None	
ACQUISITION NO: By Title			SOURCE: 19	
KEY WORDS: Atmospheric Effects Environmental Assessment Health Effects Societal Assessment System Operations Technology Requirements				

SUBJECT: PROGRAM PLANS			SPSPO INDEX NO: PP-4	
AUTHOR(S): Wei, M. S.				
AUTHOR AFFILIATION: PRC Energy Analysis Company				
TITLE: Interim Environmental Guidelines Update for Satellite Power System (SPS) Concept Development and Evaluation				
DATE: December 1978		VOLUMES:	PAGES: 59	REFERENCES: 89
ACQUISITION NO: PRC EG-77-C-01-4024			SOURCE: 5	
KEY WORDS: Environmental Objectives Health Effects Resources <div style="float: right; text-align: right;"> Safety Effects Socio-Economics System Operations </div>				

POWER GENERATION AND TRANSMISSION (CATEGORY PT)

Research, development, experimentation and evaluation of engineering concepts and preliminary design of SPS power generation and transmission equipment is included in this category. All aspects of the transmitting system are included, such as the electrical characteristics of the space transmitting antenna, but the receiving system (rectenna) is excluded as a principal topic. Environmental effects are described in some documents.

KEY WORDS:	PAGE NUMBER:
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Photoklystron	122, 130, 131
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Pointing Error	128, 137
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Power Density	129, 132, 137
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RELATED CATEGORIES:

Atmospheric Effects (AE)
Electromagnetic Compatibility (EC)
Environmental Effects (EE)
Photovoltaics (PV)
Systems Analyses (SA)
Systems Engineering (SE)
Space Utilization (SU)

SUBJECT: POWER GENERATION AND TRANSMISSION			SPSPO INDEX NO: PT-18	
AUTHOR(S): Bain, C. N.				
AUTHOR AFFILIATION: PRC Energy Analysis Company				
TITLE: Potential of Laser for SPS Power Transmission				
DATE: October 1978	VOLUMES:	PAGES: 97	REFERENCES: 80	
ACQUISITION NO: HCP/R-4024-07			SOURCE: 5	
KEY WORDS: <div style="display: flex; justify-content: space-between;"> <div> Economics Efficiency Laser Power </div> <div> Propagation Solar Conversion Technology </div> </div>				

SUBJECT: POWER GENERATION AND TRANSMISSION			SPSPO INDEX NO: PT-6	
AUTHOR(S): Bain, C. N.				
AUTHOR AFFILIATION: PRC Energy Analysis Company				
TITLE: Power from Space by Laser				
DATE: March 1979	VOLUMES:	PAGES: 13	REFERENCES: 47 Bibliography	
ACQUISITION NO: Astronautics and Aeronautics Vol. 17, No. 3 pp. 28-40			SOURCE: 2	
KEY WORDS: <div style="display: flex; justify-content: space-between;"> <div> Economics Efficiency Laser Power </div> <div> Technology Waste Heat </div> </div>				

SUBJECT: POWER GENERATION AND TRANSMISSION			SPSPO INDEX NO: PT-5	
AUTHOR(S): Billman, K. W.				
AUTHOR AFFILIATION: NASA Ames Research Center				
TITLE: Radiation Energy Conversion in Space				
DATE: March 1979	VOLUMES:	PAGES: 9	REFERENCES: 4	
ACQUISITION NO: Astronautics and Aeronautics Vol. 17, No. 3 pp. 18-26			SOURCE: 2	
KEY WORDS: Laser Power Thermal Systems Solar Conversion Space Reflectors				

SUBJECT: POWER GENERATION AND TRANSMISSION			SPSPO INDEX NO: PT-7	
AUTHOR(S): Boeing Aerospace Company				
AUTHOR AFFILIATION: Boeing Aerospace Company				
TITLE: Systems Definition Space Based Power Conversion Systems				
DATE: March 1977	VOLUMES: 2	PAGES: 117	REFERENCES: None	
ACQUISITION NO: NAS8-31628 DPD Item MA-04 D 180-20309-1(Summary), 27 pp. D 180-20309-2(Technical Report), 90 pp.			SOURCE: 4	
KEY WORDS: Economics Technology Photovoltaics Thermal Systems Solar Conversion				

SUBJECT: POWER GENERATION AND TRANSMISSION			SPSPO INDEX NO: PT-29	
AUTHOR(S): Boeing Aerospace Company				
AUTHOR AFFILIATION: Boeing Aerospace Company				
TITLE: Solar Power Satellite System Definition Study, Laser SPS Analysis				
DATE: June 1980		VOLUMES:	PAGES: 96	REFERENCES: 9
ACQUISITION NO: D180-25969-3 NAS 9-15636			SOURCE: 4	
KEY WORDS: Atmospheric Effects Laser Power Efficiency Propagation Laser Alternatives Receiver System				

SUBJECT: POWER GENERATION AND TRANSMISSION			SPSPO INDEX NO: PT-30	
AUTHOR(S): Boeing Aerospace Company				
AUTHOR AFFILIATION: Boeing Aerospace Company				
TITLE: Solar Power Satellite System Definition Study, Solid State SPS Analysis				
DATE: June 1980		VOLUMES:	PAGES: 76	REFERENCES: None
ACQUISITION NO: D180-25969-4 NAS 9-15636			SOURCE: 4	
KEY WORDS: Antenna Microwave Design Power Amplifier Mechanical System Solid State				

SUBJECT: POWER GENERATION AND TRANSMISSION			SPSPO INDEX NO: PT-14	
AUTHOR(S): Brown, W. C.				
AUTHOR AFFILIATION: Raytheon Company				
TITLE: The Technology and Application of Free-Space Power Transmission by Microwave Beam				
DATE: January 1974	VOLUMES:	PAGES: 15	REFERENCES: 30	
ACQUISITION NO: Proc. IEEE; Vol. 62, No. 1, pp. 11-25			SOURCE: 6	
KEY WORDS: Antenna Design Efficiency Microwave Power Conversion Technology				

SUBJECT: POWER GENERATION AND TRANSMISSION			SPSPO INDEX NO: PT-15	
AUTHOR(S): Brown, W. C. Maynard, O. E.				
AUTHOR AFFILIATION: Raytheon Company				
TITLE: The Adaptation of Free Space Power Transmission Technology to the SSPS Concept				
DATE: April 1975	VOLUMES:	PAGES: 11	REFERENCES: 10	
ACQUISITION NO: AIAA-75-642			SOURCE: 2	
KEY WORDS: Efficiency Experiments Microwave Phase Control Power Conversion Technology				

SUBJECT: POWER GENERATION AND TRANSMISSION			SPSPO INDEX NO: PT-13	
AUTHOR(S): Brown, W. C.				
AUTHOR AFFILIATION: Raytheon Company				
TITLE: Technology Forecast for Free-Space Power Transmission by Microwave Beam				
DATE: June 1976	VOLUMES:	PAGES: 41	REFERENCES: None	
ACQUISITION NO: PT-4808(21-4)			SOURCE: 6	
KEY WORDS: Economics Efficiency Frequency Selection Phase Control Reliability Technology				

SUBJECT: POWER GENERATION AND TRANSMISSION			SPSPO INDEX NO: PT-35	
AUTHOR(S): Brown, W. C.				
AUTHOR AFFILIATION: Raytheon Company				
TITLE: Transmission of Power from Space to Earth				
DATE: August 1977	VOLUMES:	PAGES: 11	REFERENCES: 24	
ACQUISITION NO: By Title; New Options in Energy Technology (San Francisco)			SOURCE: 6	
KEY WORDS: Antenna Design Efficiency Experiments Power Amplifier Receiver System				

SUBJECT: POWER GENERATION AND TRANSMISSION			SPSPO INDEX NO: PT-17
AUTHOR(S): Brown, W. C.			
AUTHOR AFFILIATION: Raytheon Company			
TITLE: Electronic and Mechanical Improvment of the Receiving Terminal of a Free-Space Microwave Power Transmission System			
DATE: August 1977	VOLUMES: 1	PAGES: 148	REFERENCES: 31
ACQUISITION NO: NASA CR-135194 PT-4964			SOURCE: 4
KEY WORDS: Antenna Design Efficiency Hardware Mechanical System Technology			

SUBJECT: POWER GENERATION AND TRANSMISSION			SPSPO INDEX NO: PT-3
AUTHOR(S): Brown, W. C.			
AUTHOR AFFILIATION: Raytheon Company			
TITLE: A Profile of Power Transmission by Microwaves			
DATE: May 1979	VOLUMES:	PAGES: 6	REFERENCES: 9
ACQUISITION NO: Astronautics and Aeronautics Vol. 17, No. 5			SOURCE: 2
KEY WORDS: Antenna Efficiency Hardware Microwave Propagation			

SUBJECT: POWER GENERATION AND TRANSMISSION		SPSPO INDEX NO: PT-20	
AUTHOR(S): Dickinson, R. M.			
AUTHOR AFFILIATION: Jet Propulsion Laboratory			
TITLE: Microwave Power Transmitting Phased Array Antenna Research Project Summary Report			
DATE: December 1978	VOLUMES:	PAGES: 74	REFERENCES: 9
ACQUISITION NO: JPL-78-28			SOURCE: 4
KEY WORDS: Antenna Design Experiments Phase Control Power Amplifier Power Density			

SUBJECT: POWER GENERATION AND TRANSMISSION		SPSPO INDEX NO: PT-28	
AUTHOR(S): Dickinson, R. M.			
AUTHOR AFFILIATION: Jet Propulsion Laboratory			
TITLE: Beamed Microwave Power Transmitting and Receiving Subsystems Radiation Characteristics			
DATE: June 1980	VOLUMES:	PAGES: 83	REFERENCES: 30
ACQUISITION NO: JPL 80-11			SOURCE: 4
KEY WORDS: Antenna Design Harmonics Power Amplifier Power Density Radiation Statistics			

SUBJECT: POWER GENERATION AND TRANSMISSION			SPSPO INDEX NO: PT-26	
AUTHOR(S): Fitzsimmons, G. W. Nalos, E. J.				
AUTHOR AFFILIATION: Boeing Aerospace Company				
TITLE: SPS Solid-State Antenna Power Combiner				
DATE: February 1980		VOLUMES:		PAGES: 99
				REFERENCES: 1
ACQUISITION NO: D 180-25895-1 NAS 9-15636A				SOURCE: 4
KEY WORDS: Antenna Design Efficiency Power Amplifier Radiation Statistics Technology				

SUBJECT: POWER GENERATION AND TRANSMISSION			SPSPO INDEX NO: PT-2	
AUTHOR(S): Freeman, J. W. Colson, W. B. Simons, S.				
AUTHOR AFFILIATION: Rice University				
TITLE: New Methods for the Conversion of Solar Energy to Radio Frequency and Laser Power				
DATE: May 1979		VOLUMES:		PAGES: 6
				REFERENCES: 8
ACQUISITION NO: 79-1416				SOURCE: 2
KEY WORDS: Experiments High Voltage Laser Power Photoklystron Power Amplifier Solar Conversion				

SUBJECT: POWER GENERATION AND TRANSMISSION			SPSPO INDEX NO: PT-36	
AUTHOR(S): Freeman, J. W. Brotzen, F. R. Simons, S. Hester, J. Colson, W. B.				
AUTHOR AFFILIATION: Rice University				
TITLE: The Photoklystron				
DATE: 1980	VOLUMES:	PAGES: 10	REFERENCES: 10	
ACQUISITION NO: 0191-9067/80/010145-10 Space Solar Power Review, Vol. 1, pp. 145-154			SOURCE: 33	
KEY WORDS: Design Microwave Experiments Photoklystron Frequency Selection Technology				

SUBJECT: POWER GENERATION AND TRANSMISSION			SPSPO INDEX NO: PT-4	
AUTHOR(S): Fordyce, S. W. (1) Brown, W. C. (2)				
AUTHOR AFFILIATION: (1) National Aeronautics and Space Administration (2) Raytheon Company				
TITLE: Applications of Free-Space Microwave Power Transmission				
DATE: September 1979	VOLUMES:	PAGES: 6	REFERENCES: 8	
ACQUISITION NO: Astronautics and Aeronautics Vol. 17, No. 9 pp. 54-61			SOURCE: 2	
KEY WORDS: Antenna Propagation Broadcast Technology Microwave				

SUBJECT: POWER GENERATION AND TRANSMISSION			SPSPO INDEX NO: PT-1	
AUTHOR(S): Gibson, M. H. Pollacsek, M. Strijk, S.				
AUTHOR AFFILIATION: European Space Agency				
TITLE: Further Investigation of RF Gain Degradation in High Power Microwave Transistors under Multicarrier Operation				
DATE: 1978		VOLUMES:		PAGES: 7
				REFERENCES: 1
ACQUISITION NO: ESA Journal 78/3, Vol. 2 pp. 207-213				SOURCE: 1
KEY WORDS: Computer Prediction Experiments Gain Degradation High Voltage Power Amplifier Solid State				

SUBJECT: POWER GENERATION AND TRANSMISSION			SPSPO INDEX NO: PT-34	
AUTHOR(S): Kozakoff, D. J. Schuchardt, J. M.				
AUTHOR AFFILIATION: Georgia Institute of Technology				
TITLE: High Accuracy Radiation Efficiency Measurement Techniques				
DATE: January 1981		VOLUMES:		PAGES: 82
				REFERENCES: 17
ACQUISITION NO: NASA CR 3372 NAS 8-33605				SOURCE: 4
KEY WORDS: Antenna Microwave Power Density Propagation Radiation Statistics Technology				

SUBJECT: POWER GENERATION AND TRANSMISSION			SPSPO INDEX NO: PT-19	
AUTHOR(S): Lockheed Missiles and Space Company				
AUTHOR AFFILIATION: Lockheed Missiles and Space Company				
TITLE: Laser Power Conversion System Analysis				
DATE: September 1978		VOLUMES: 2	PAGES: 205	REFERENCES: 56
ACQUISITION NO: NASA-CR-159523			SOURCE: 4	
KEY WORDS: <div style="display: flex; justify-content: space-between;"> <div> Antenna Atmospheric Effects Laser Cost </div> <div> Laser Power Laser Safety Power Conversion </div> </div>				

SUBJECT: POWER GENERATION AND TRANSMISSION			SPSPO INDEX NO: PT-27	
AUTHOR(S): Mathematical Sciences Northwest, Inc.				
AUTHOR AFFILIATION: Mathematical Sciences Northwest, Inc.				
TITLE: Study, Optimization, and Design of a Laser Heat Engine				
DATE: January 1978		VOLUMES:	PAGES: 158	REFERENCES: 74
ACQUISITION NO: MSNW 78 - 1082 - 1			SOURCE: 4	
KEY WORDS: <div style="display: flex; justify-content: space-between;"> <div> Design Efficiency Laser Alternatives </div> <div> Laser Power </div> </div>				

SUBJECT: POWER GENERATION AND TRANSMISSION			SPSPO INDEX NO: PT-8	
AUTHOR(S): Stevens, G. H. (1) Leininger, G. (2)				
AUTHOR AFFILIATION: (1) NASA Lewis Research Center (2) University of Toledo				
TITLE: Statistics of the Radiated Field of a Space-to-Earth Microwave Power Transfer System				
DATE: None		VOLUMES:	PAGES: 36	REFERENCES: 23
ACQUISITION NO: NASA TM X-73684 E-9217			SOURCE: 4	
KEY WORDS: Microwave Phase Error Pointing Error Power Density Radiation Statistics				

SUBJECT: POWER GENERATION AND TRANSMISSION			SPSPO INDEX NO: PT-9	
AUTHOR(S) Stevens, G. H. Schuh, R.				
AUTHOR AFFILIATION: NASA Lewis Research Center				
TITLE: Space-to-Earth Power Transmission System				
DATE: None		VOLUMES:	PAGES: 139	REFERENCES: 30
ACQUISITION NO: NASA TM X-73489 E-8885			SOURCE: 4	
KEY WORDS: Economics Interference Phase Control Solar Conversion Technology				

SUBJECT: POWER GENERATION AND TRANSMISSION			SPSPO INDEX NO: PT-21	
AUTHOR(S): Taussig, R. Christiansen, W. Bruzzone, C. Neice, S. Quimbly, D. Cassady, P. Nelson, L. Pindroh, A.				
AUTHOR AFFILIATION: Mathematical Sciences Northwest, Inc.				
TITLE: Design Investigation of Solar Powered Lasers for Space Applications				
DATE: May 1979	VOLUMES:	PAGES: 175	REFERENCES: 82	
ACQUISITION NO: MSNW-79-1087/1090-1			SOURCE: 4	
KEY WORDS: Laser Alternatives Laser Costs Laser Power Power Conversion Solar Conversion Thermal Systems				

SUBJECT: POWER GENERATION AND TRANSMISSION			SPSPO INDEX NO: PT-24	
AUTHOR(S): Walbridge, E. W.				
AUTHOR AFFILIATION: Argonne National Laboratory				
TITLE: Laser Satellite Power Systems				
DATE: January 1980	VOLUMES:	PAGES: 77	REFERENCES: 39	
ACQUISITION NO: ANL/ES-92			SOURCE: 5	
KEY WORDS: Atmospheric Effects Efficiency Frequency Selection Laser Alternatives Laser Power				

RESOURCES AND MATERIALS (CATEGORY RM)

Resources and materials which would be required to fully develop SPS, their source throughout the world and knowledge about current production and likely needs by other ventures are described in documents in this category. Processes for evaluating resource and material needs also are included.

KEY WORDS:

PAGE NUMBER:

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RELATED CATEGORIES:

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Environmental Effects (EE)

Economics and Finances (EF)

Systems Analyses (SA)

Systems Engineering (SE)

Social Issues (SI)

SUBJECT: RESOURCES AND MATERIALS			SPSPO INDEX NO: RM-8
AUTHOR(S): Blackburn, J. B. Bavinger, B. A.			
AUTHOR AFFILIATION: PRC Energy Analysis Company			
TITLE: Satellite Power System (SPS) Mapping of Exclusion Areas for Rectenna Sites			
DATE: October 1978	VOLUMES:	PAGES: 112	REFERENCES: 24
ACQUISITION NO: HCP/R-4024-10			SOURCE: 5
KEY WORDS: Inventory Land Survey Mapping Rectenna Sites Selection Methods			

SUBJECT: RESOURCES AND MATERIALS			SPSPO INDEX NO: RM-1
AUTHOR(S): Culver, D. H. Teeter, R. R. Jamieson, W. M.			
AUTHOR AFFILIATION: Battelle Columbus Laboratories			
TITLE: A Methodology for Assessing Systems Materials Requirements			
DATE: January 1980	VOLUMES:	PAGES: 40	REFERENCES: 27
ACQUISITION NO: DOE/ER-0040			SOURCE: 5
KEY WORDS: Assessment Methods Inventory Production			

SUBJECT: RESOURCES AND MATERIALS			SPSPO INDEX NO: RM-9							
AUTHOR(S): Kotin, A. D.										
AUTHOR AFFILIATION: Allan D. Kotin Economic Consultants										
TITLE: Satellite Power System (SPS) Resource Requirements (Critical Materials, Energy and Land)										
DATE: October 1978		VOLUMES:		PAGES: 128						
				REFERENCES: 87						
ACQUISITION NO: HCP/R-4024-02				SOURCE: 5						
KEY WORDS: <table border="0" style="width: 100%;"> <tr> <td style="width: 50%;">Assessment Methods</td> <td style="width: 50%;">Materials Constraints</td> </tr> <tr> <td>Energy Use</td> <td>Material Requirements</td> </tr> <tr> <td>Land Survey</td> <td></td> </tr> </table>					Assessment Methods	Materials Constraints	Energy Use	Material Requirements	Land Survey	
Assessment Methods	Materials Constraints									
Energy Use	Material Requirements									
Land Survey										

SUBJECT: RESOURCES AND MATERIALS			SPSPO INDEX NO: RM-3							
AUTHOR(S): <table border="0" style="width: 100%;"> <tr> <td style="width: 50%;">Litchfield, J. W.</td> <td style="width: 50%;">Hartley, J. N.</td> </tr> <tr> <td>Watts, R. L.</td> <td>Bloomster, C. H.</td> </tr> <tr> <td>Gurwell, W. E.</td> <td></td> </tr> </table>					Litchfield, J. W.	Hartley, J. N.	Watts, R. L.	Bloomster, C. H.	Gurwell, W. E.	
Litchfield, J. W.	Hartley, J. N.									
Watts, R. L.	Bloomster, C. H.									
Gurwell, W. E.										
AUTHOR AFFILIATION: Pacific Northwest Laboratory										
TITLE: A Methodology for Identifying Materials Constraints to Implementation of Solar Energy Technologies										
DATE: July 1978		VOLUMES:		PAGES: 84						
				REFERENCES: 36						
ACQUISITION NO: PNL-2711				SOURCE: 13						
KEY WORDS: <table border="0" style="width: 100%;"> <tr> <td style="width: 50%;">Design Characterizations</td> <td style="width: 50%;">Process Conversion</td> </tr> <tr> <td>Inventory</td> <td>Production</td> </tr> <tr> <td>Problem Identification</td> <td>Selection Methods</td> </tr> </table>					Design Characterizations	Process Conversion	Inventory	Production	Problem Identification	Selection Methods
Design Characterizations	Process Conversion									
Inventory	Production									
Problem Identification	Selection Methods									

SUBJECT: RESOURCES AND MATERIALS			SPSPO INDEX NO: RM-4	
AUTHOR(S): Livingston, F. R. Baker, L.R. Poon, P. T. Y. Kuo, T. J.				
AUTHOR AFFILIATION: Jet Propulsion Laboratory				
TITLE: Satellite Power System (SPS) Preliminary Resource Assessment				
DATE: August 1978		VOLUMES:		PAGES: 81
				REFERENCES: 22
ACQUISITION NO: 900-805 (Rev. A)			SOURCE: 4	
KEY WORDS: Energy Payback Fuels Land Manpower Rectenna Sites Water				

SUBJECT: RESOURCES AND MATERIALS			SPSPO INDEX NO: RM-5	
AUTHOR(S): Reeber, R. R.				
AUTHOR AFFILIATION: U.S. Department of Energy				
TITLE: An Overview: The Materials/Energy Tradeoff				
DATE: June 1978		VOLUMES:		PAGES: 9
				REFERENCES: 35
ACQUISITION NO: By Title: National Symposium on Critical and Strategic Materials			SOURCE: 25	
KEY WORDS: Assessment Methods Economics Energy Payback Materials Extraction Materials Processing				

SUBJECT: RESOURCES AND MATERIALS			SPSPO INDEX NO: RM-11	
AUTHOR(S): Rice University				
AUTHOR AFFILIATION: Rice University				
TITLE: Satellite Power System (SPS) Rectenna Siting: Availability and Distribution of Nominally Eligible Sites				
DATE: November 1980		VOLUMES:	PAGES: 280	REFERENCES: 36
ACQUISITION NO: DOE/ER/10041-T10				SOURCE: 5
KEY WORDS: Assessment Methods Inventory Land Survey Mapping Rectenna Sites Selection Methods				

SUBJECT: RESOURCES AND MATERIALS			SPSPO INDEX NO: RM-10	
AUTHOR(S): Rosi, F. D.				
AUTHOR AFFILIATION: University of Virginia				
TITLE: A Survey of the Market, Supply and Availability of Gallium				
DATE: July 1980		VOLUMES:	PAGES: 20	REFERENCES: 17
ACQUISITION NO: DOE/ER-0063				SOURCE: 5
KEY WORDS: Inventory Materials Processing Materials Requirements Production				

SYSTEMS ANALYSES (CATEGORY SA)

This category of documents includes reports and papers dealing with SPS and other energy technologies in a broad sense. Most documents address more than one key issue or concern relating to one or more technologies rather than concentrating on individual issues. As a result, the shorter reports provide summaries rather than in-depth analyses of energy technologies, and the longer reports cover a wide range of topics.

KEY WORDS:

PAGE NUMBER:

Comparative Assessment	149, 153, 161, 162, 168
Concept Definition	151, 155, 160, 161, 164, 165, 167, 171
Concept Review	149, 151, 152, 153, 154, 156, 157, 158, 161, 162, 163, 165, 168, 169, 170, 171
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KEY WORDS:

Technology Requirements

Transmission System

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163, 164, 165, 166, 169, 170**

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All Other Categories

SUBJECT: SYSTEMS ANALYSES			SPSPO INDEX NO: SA-20
AUTHOR(S): Alabama, University of			
AUTHOR AFFILIATION: University of Alabama (Huntsville)			
TITLE: The Final Proceedings of the Solar Power Satellite Program Review			
DATE: July 1980	VOLUMES:	PAGES: 700	REFERENCES: None
ACQUISITION NO: CONF-800491			SOURCE: 5
KEY WORDS: Comparative Assessment Satellite Structures Concept Review Social Impacts Environment Transmission System			

SUBJECT: SYSTEMS ANALYSES			SPSPO INDEX NO: SA-44
AUTHOR(S): Argonne National Laboratory			
AUTHOR AFFILIATION: Argonne National Laboratory			
TITLE: Survey and Documentation of Emerging Technologies for the Satellite Power System (SPS)			
DATE: January 1981	VOLUMES:	PAGES: 130	REFERENCES: 115
ACQUISITION NO: DOE/ER-0097			SOURCE: 5
KEY WORDS: Concept Review Space Transportation Economics Technology Requirements Energy Conversion Transmission System			

SUBJECT: SYSTEMS ANALYSES			SPSPO INDEX NO: SA-29	
AUTHOR(S): Billman, K. W. (Ed.)				
AUTHOR AFFILIATION: Ames Research Center				
TITLE: Radiation Energy Conversion in Space				
DATE: 1978	VOLUMES:	PAGES: 688	REFERENCES: 791	
ACQUISITION NO: ISBN 0-915928-26-4 Progress in Astronautics and Aeronautics, Volume 61			SOURCE: 2	
KEY WORDS: Energy Conversion Space Transportation Laser Power Transmission System Microwave Transmission				

SUBJECT: SYSTEMS ANALYSES			SPSPO INDEX NO: SA-36	
AUTHOR(S): Billman, K. W. Gilbreath, W. P. Bowen, S. W.				
AUTHOR AFFILIATION: NASA Ames Research Center				
TITLE: Space Reflector Technology and Its System Implications				
DATE: February 1979	VOLUMES:	PAGES: 17	REFERENCES: 18	
ACQUISITION NO: 79-0545			SOURCE: 2	
KEY WORDS: Costs Satellite Structures Energy Conversion Space Reflector Environment Space Transportation				

SUBJECT: SYSTEMS ANALYSES			SPSPO INDEX NO: SA-11	
AUTHOR(S): Brown, W. C.				
AUTHOR AFFILIATION: Raytheon Company				
TITLE: Satellite Power Stations: A New Source of Energy?				
DATE: March 1973	VOLUMES:	PAGES: 10	REFERENCES: 30	
ACQUISITION NO: Spectrum; Vol. 10, No. 3, pp. 38-47			SOURCE: 6	
KEY WORDS: <div style="display: flex; justify-content: space-between;"> <div> Concept Review Economics Energy Conversion </div> <div> Environment Transmission System </div> </div>				

SUBJECT: SYSTEMS ANALYSES			SPSPO INDEX NO: SA-3	
AUTHOR(S): Cantafio, L.J. Chobotov, V. A. Wolfe, M. G.				
AUTHOR AFFILIATION: Aerospace Corporation				
TITLE: Photovoltaic, Gravitationally-Stabilized Solid-State Satellite Solar Power Station (GSS ⁴ PS)				
DATE: March 1977	VOLUMES:	PAGES: 15	REFERENCES: 32	
ACQUISITION NO: AIAA-77-511			SOURCE: 2	
KEY WORDS: <div style="display: flex; justify-content: space-between;"> <div> Power Distribution Satellite Stability Satellite Structures </div> <div> Solid State Space Assembly </div> </div>				

SUBJECT: SYSTEMS ANALYSES			SPSPO INDEX NO: SA-17	
AUTHOR(S): Energy, U.S. Department of				
AUTHOR AFFILIATION: U.S. Department of Energy				
TITLE: Satellite Power Systems (SPS) Concept Development and Evaluation Program Preliminary Assessment				
DATE: September 1979	VOLUMES:	PAGES: 14	REFERENCES: 22	
ACQUISITION NO: DOE/ER-0041			SOURCE: 5	
KEY WORDS: Comparative Assessment Concept Review Environment		Key Issues Social Impacts Technology Requirements		

SUBJECT: SYSTEMS ANALYSES			SPSPO INDEX NO: SA-24	
AUTHOR(S): Energy, U. S. Department of				
AUTHOR AFFILIATION: U. S. Department of Energy				
TITLE: Program Assessment Report Statement of Findings				
DATE: November 1980	VOLUMES:	PAGES: 76	REFERENCES: 50	
ACQUISITION NO: DOE/ER-0085			SOURCE: 5	
KEY WORDS: Comparative Assessment Concept Review Environment		Key Issues Social Impacts Space Transportation		

SUBJECT: SYSTEMS ANALYSES			SPSPO INDEX NO: SA-2
AUTHOR(S): Energy Research and Development Administration			
AUTHOR AFFILIATION: Energy Research and Development Administration			
TITLE: Final Report of the ERDA Task Group on Satellite Power Stations			
DATE: November 1976	VOLUMES:	PAGES: 29	REFERENCES: None
ACQUISITION NO: ERDA-76/148			SOURCE: 13
KEY WORDS: Concept Review Economics Environment Key Issues			

SUBJECT: SYSTEMS ANALYSES			SPSPO INDEX NO: SA-33
AUTHOR(S): Glaser, P. E.			
AUTHOR AFFILIATION: Arthur D. Little, Inc.			
TITLE: Power From The Sun: Its Future			
DATE: November 1968	VOLUMES:	PAGES: 5	REFERENCES: 15
ACQUISITION NO: By Title, Vol. 162, No. 3856			SOURCE: 7
KEY WORDS: Concept Review Ground Receiver Satellite Structures Space Transportation Technology Requirements Transmission System			

SUBJECT: SYSTEMS ANALYSES			SPSPO INDEX NO: SA-15	
AUTHOR(S): Glaser, P. E. (1) Ralph, E. L. (4) Maynard, O. E. (2) Mackovciak, J. (3)				
AUTHOR AFFILIATION: (1) A. D. Little, Inc. (3) Grumman Aerospace Corp. (2) Raytheon Co. (4) Textron Inc.				
TITLE: Feasibility Study of Satellite Solar Power Station				
DATE: February 1974	VOLUMES:	PAGES: 199	REFERENCES: 72	
ACQUISITION NO: NASA CR-2357			SOURCE: 4	
KEY WORDS: Concept Definition Key Issues Economics Satellite Structures Environment Technology Requirements				

SUBJECT: SYSTEMS ANALYSES			SPSPO INDEX NO: SA-28	
AUTHOR(S): Glaser, P. E.				
AUTHOR AFFILIATION: A. D. Little, Inc.				
TITLE: Perspectives on Satellite Solar Power				
DATE: January 1977	VOLUMES:	PAGES: 12	REFERENCES: 31	
ACQUISITION NO: By Title; AIAA 13th Annual Meeting (Washington, D. C.)			SOURCE: 2	
KEY WORDS: Concept Definition Space Transportation Energy Conversion Technology Requirements Power Distribution Transmission System				

SUBJECT: SYSTEMS ANALYSES			SPSPO INDEX NO: SA-34	
AUTHOR(S): Glaser, P. E.				
AUTHOR AFFILIATION: Arthur D. Little, Inc.				
TITLE: Solar Power From Satellites				
DATE: February 1977	VOLUMES:	PAGES: 7	REFERENCES: 15	
ACQUISITION NO: By Title; Physics Today			SOURCE: 36	
KEY WORDS: Concept Review Satellite Structures Energy Conversion Space Assembly Microwave Transmission Space Transportation				

SUBJECT: SYSTEMS ANALYSES			SPSPO INDEX NO: SA-41	
AUTHOR(S): Glaser, P. E.				
AUTHOR AFFILIATION: Arthur D. Little, Inc.				
TITLE: The Development of Solar Power Satellites				
DATE: 1979	VOLUMES:	PAGES: 48	REFERENCES: 49	
ACQUISITION NO: ISBN-0-12-014902-8			SOURCE: 40	
KEY WORDS: Concept Review Resource Analysis Economics Social Impacts Environment Technology Requirements				

SUBJECT: SYSTEMS ANALYSES			SPSPO INDEX NO: SA-5	
AUTHOR(S): Glaser, P. E. (1) Hanley, G. M. (2) Nansen, R. H. (3) Kline, R. L. (4)				
AUTHOR AFFILIATION: (1) Arthur D. Little, Inc. (3) Boeing Aerospace Company (2) Rockwell, International (4) Grumman Aerospace Company				
TITLE: First Steps to the Solar Power Satellite				
DATE: May 1979		VOLUMES:		PAGES: 7
			REFERENCES: None	
ACQUISITION NO: 0018-9235/0500-0052			SOURCE: 6	
KEY WORDS: Concept Review Space Assembly Energy Conversion Transmission System Laser Power				

SUBJECT: SYSTEMS ANALYSES			SPSPO INDEX NO: SA-38	
AUTHOR(S): Glaser, P. E.				
AUTHOR AFFILIATION: Arthur D. Little, Inc.				
TITLE: The Earth Benefits of Solar Power Satellites				
DATE: 1980		VOLUMES:		PAGES: 30
			REFERENCES: 36	
ACQUISITION NO: 0191-9067/80/010009-30 Space Solar Power Review, Vol. 1, pp. 9-38			SOURCE: 33	
KEY WORDS: Concept Review Laser Power Economics Microwave Transmission Environment Social Impacts				

SUBJECT: SYSTEMS ANALYSES			SPSPO INDEX NO: SA-40
AUTHOR(S): Hanley, G. M.			
AUTHOR AFFILIATION: Rockwell International			
TITLE: Rockwell Satellite Power System (SPS) Concept Definition Studies			
DATE: 1980	VOLUMES:	PAGES: 17	REFERENCES: 2
ACQUISITION NO: 0191-9067/80/010079-17 Space Solar Power Review, Vol. 1, pp. 79-95			SOURCE: 33
KEY WORDS: <div style="display: flex; justify-content: space-between;"> <div> Concept Review Energy Conversion Power Distribution </div> <div> Satellite Structures Space Assembly Space Transportation </div> </div>			

SUBJECT: SYSTEMS ANALYSES			SPSPO INDEX NO: SA-10
AUTHOR(S): Hazelrigg, G. A. (1) Adornato, R. J. (2) Wendell, C. A. (3) Glaser, P. E. (4)			
AUTHOR AFFILIATION: (1) ECON, Inc. (3) Raytheon Company (2) Grumman Aerospace Corp. (4) A. D. Little, Inc.			
TITLE: Space-Based Solar Power Conversion and Delivery Systems Study			
DATE: March 1977	VOLUMES: 5	PAGES: 812	REFERENCES: 72
ACQUISITION NO: V.1-Summary(40 pp.) V.2-Orbit Analysis(257 pp.) V.3-Power System(185 pp.) V.4-Energy Conversion(68 pp.) NAS8-31308 77-145-1			SOURCE: V.5-Economics (262 pp.) 4
KEY WORDS: <div style="display: flex; justify-content: space-between;"> <div> Economics Energy Conversion Orbital Operations </div> <div> Space Assembly Technology Requirements Transmission System </div> </div>			

SUBJECT: SYSTEMS ANALYSES			SPSPO INDEX NO: SA-9	
AUTHOR(S): Johnson Space Center				
AUTHOR AFFILIATION: National Aeronautics and Space Administration				
TITLE: Solar Power Satellite Concept Evaluation Activities Report				
DATE: July 1977	VOLUMES: 2	PAGES: 1274	REFERENCES: 125	
ACQUISITION NO: JSC-12973			SOURCE: 4	
KEY WORDS: Economics Energy Conversion Environment Space Assembly Space Transportation Transmission System				

SUBJECT: SYSTEMS ANALYSES			SPSPO INDEX NO: SA-1	
AUTHOR(S): Jones, W. S. Hunter, M. W.				
AUTHOR AFFILIATION: Lockheed Missiles and Space Company				
TITLE: Solar Power Satellites: The Laser Option				
DATE: March 1979	VOLUMES:	PAGES: 2	REFERENCES: None	
ACQUISITION NO: Astronautics and Aeronautics Vol 17, No. 3 pp. 59, 67			SOURCE: 2	
KEY WORDS: Concept Definition Laser Power Space Reflector				

SUBJECT: SYSTEMS ANALYSES			SPSPO INDEX NO: SA-21
AUTHOR(S): Koomanoff, F. A.			
AUTHOR AFFILIATION: U. S. Department of Energy			
TITLE: Status of the Satellite Power System (SPS) Concept Development and Evaluation Program			
DATE: December 1978	VOLUMES:	PAGES: 17	REFERENCES: None
ACQUISITION NO: By Title; Anglo-American Workshop on Energy and Aerospace (London)			SOURCE: 2
KEY WORDS: <div style="display: flex; justify-content: space-between;"> <div> Concept Review Environment Key Issues </div> <div> Resource Analysis Satellite Structures Social Impacts </div> </div>			

SUBJECT: SYSTEMS ANALYSES			SPSPO INDEX NO: SA-22
AUTHOR(S): Koomanoff, F. A. (1) Sandahl, C. A. (2)			
AUTHOR AFFILIATION: (1) U. S. Department of Energy (2) Argonne National Laboratory			
TITLE: Status of Satellite Power System Concept Development and Evaluation Program			
DATE: September 1979	VOLUMES:	PAGES: 17	REFERENCES: 22
ACQUISITION NO: By Title (30th Congress of the International Astronautical Federation Munich, FRG)			SOURCE: 42
KEY WORDS: <div style="display: flex; justify-content: space-between;"> <div> Comparative Assessment Concept Definition Environment </div> <div> Key Issues Satellite Structures Social Impacts </div> </div>			

SUBJECT: SYSTEMS ANALYSES			SPSPO INDEX NO: SA-27
AUTHOR(S): Koomanoff, F. A. (1) Sandahl, C. A. (2)			
AUTHOR AFFILIATION: (1) U. S. Department of Energy (2) Argonne National Laboratory			
TITLE: Status of the Satellite Power System Concept Development and Evaluation Program			
DATE: 1980	VOLUMES:	PAGES: 11	REFERENCES: 22
ACQUISITION NO: 0191-9067/80/010067, Space Solar Power Review			SOURCE: 33
KEY WORDS: Comparative Assessment Key Issues Concept Review Social Impacts Environment Technology Requirements			

SUBJECT: SYSTEMS ANALYSES			SPSPO INDEX NO: SA-23
AUTHOR(S): Koomanoff, F. A.			
AUTHOR AFFILIATION: U. S. Department of Energy			
TITLE: Satellite Power System Concept Development and Evaluation Program Findings			
DATE: September 1980	VOLUMES:	PAGES: 33	REFERENCES: 11
ACQUISITION NO: By Title; 31st Congress of the International Astronautical Federation (Tokyo)			SOURCE: 42
KEY WORDS: Concept Review Key Issues Economics Social Impacts Environment Space Transportation			

SUBJECT: SYSTEMS ANALYSES			SPSPO INDEX NO: SA-18
AUTHOR(S): Marshall Space Flight Center			
AUTHOR AFFILIATION: National Aeronautics and Space Administration			
TITLE: Satellite Power System Engineering and Economic Analysis			
DATE: November 1976	VOLUMES:	PAGES: 280	REFERENCES: 26
ACQUISITION NO: NASA-TM-X-73344			SOURCE: 4
KEY WORDS: Concept Definition Economics Ground Receiver Power Distribution Resource Analysis Transmission System			

SUBJECT: SYSTEMS ANALYSES			SPSPO INDEX NO: SA-12
AUTHOR(S): McRae, W. V.			
AUTHOR AFFILIATION: Rockwell International			
TITLE: Satellite Power System (SPS) Feasibility Study Final Report			
DATE: December 1976	VOLUMES: 2	PAGES: 237	REFERENCES: None
ACQUISITION NO: V.1 - Summary; SD76-SA-0239-1 (27 pp.) V.2 - Analysis; SD76-SA-0239-2 (210 pp.)			SOURCE: 4
KEY WORDS: Concept Definition Economics Energy Conversion Satellite Structures Space Assembly Space Transportation			

SUBJECT: SYSTEMS ANALYSES			SPSPO INDEX NO: SA-35	
AUTHOR(S): Moses, H.				
AUTHOR AFFILIATION: U. S. Department of Energy				
TITLE: Impacts of Satellite Power System Technology				
DATE: 1979	VOLUMES:	PAGES: 11	REFERENCES: 15	
ACQUISITION NO: By Title; Energy, Vol. 4, pp. 799-809			SOURCE: 33	
KEY WORDS: Concept Review Environment Key Issues Social Impacts				

SUBJECT: SYSTEMS ANALYSES			SPSPO INDEX NO: SA-43	
AUTHOR(S): National Aeronautics and Space Administration				
AUTHOR AFFILIATION: National Aeronautics and Space Administration				
TITLE: Satellite Power System Concept Development and Evaluation Program Technical Assessment Report				
DATE: December 1980	VOLUMES:	PAGES: 113	REFERENCES: 79	
ACQUISITION NO: DOE/ER/10035-03			SOURCE: 5	
KEY WORDS: Concept Definition Energy Conversion Ground Receiver Satellite Structures Space Transportation Transmission System				

SUBJECT: SYSTEMS ANALYSES			SPSPO INDEX NO: SA-46
AUTHOR(S): National Research Council			
AUTHOR AFFILIATION: National Academy of Sciences			
TITLE: <i>NOT AVAILABLE - Committee Report on SPS expected to be published in Mid-1981</i>			
DATE:	VOLUMES:	PAGES:	REFERENCES:
ACQUISITION NO:			SOURCE: 27
KEY WORDS:			

SUBJECT: SYSTEMS ANALYSES			SPSPO INDEX NO: SA-13
AUTHOR(S): Rice University			
AUTHOR AFFILIATION: Rice University			
TITLE: Space Solar Power Research Program			
DATE: December 1977	VOLUMES:	PAGES: 63	REFERENCES: None
ACQUISITION NO: By Title			SOURCE: 19
KEY WORDS: Economics Environment Social Impacts Space Environment Transmission System			

SUBJECT: SYSTEMS ANALYSES			SPSPO INDEX NO: SA-31
AUTHOR(S): Rockwell International			
AUTHOR AFFILIATION: Rockwell International			
TITLE: Satellite Power Systems (SPS) Concept Definition Study Final Report			
DATE: August 1980	VOLUMES: 4	PAGES: 724	REFERENCES: 135
ACQUISITION NO: SSD 80-0108-1,2,4,7 NAS 8-32475 V.1, Summary, 51 pp. V.3, Operations, 67 pp. V.2, Analyses, 340 pp. V.7, Requirements, 266 pp.			SOURCE: 4
KEY WORDS: Concept Definition Satellite Structures Orbital Operations Space Assembly Microwave Transmission Technology Requirements			

SUBJECT: SYSTEMS ANALYSES			SPSPO INDEX NO: SA-32
AUTHOR(S): Rockwell International			
AUTHOR AFFILIATION: Rockwell International			
TITLE: Satellite Power Systems (SPS) Concept Definition Study Final Report			
DATE: October 1980	VOLUMES: 4	PAGES: 792	REFERENCES: 2
ACQUISITION NO: SSD80-0108-3, 5, 6-1, 6-2 NAS 8-32475 V.3, Transportation, 87 pp. V.6-1, Costs, 88 pp. V.5, Integration, 220 pp. V.6-2, Appendix, 397 pp.			SOURCE: 4
KEY WORDS: Concept Definition Space Transportation Costs Technology Requirements Key Issues			

SUBJECT: SYSTEMS ANALYSES			SPSPO INDEX NO: SA-37
AUTHOR(S): Schwenk, F. C.			
AUTHOR AFFILIATION: National Aeronautics and Space Administration			
TITLE: The SPS Concept-An Overview of Status and Outlook			
DATE: August 1980	VOLUMES:	PAGES: 7	REFERENCES: 10
ACQUISITION NO: 809267			SOURCE: 2
KEY WORDS: Comparative Assessment Concept Review Environment		Key Issues Social Impacts Space Transportation	

SUBJECT: SYSTEMS ANALYSES			SPSPO INDEX NO: SA-45
AUTHOR(S): Technology Assessment, Office of			
AUTHOR AFFILIATION: U. S. Congress			
TITLE: <i>NOT AVAILABLE - Report on SPS expected to be published in Spring, 1981</i>			
DATE:	VOLUMES:	PAGES:	REFERENCES:
ACQUISITION NO:			SOURCE: 20
KEY WORDS:			

SUBJECT: SYSTEMS ANALYSES			SPSPO INDEX NO: SA-42	
AUTHOR(S): Vanke, V. A. Lopukhin, V. M. Savvin, V. L.				
AUTHOR AFFILIATION: M. W. Lomonosov State University (Moscow)				
TITLE: Satellite Solar Power Stations				
DATE: December 1977	VOLUMES:	PAGES: 13	REFERENCES: 91	
ACQUISITION NO: ISSN:0038-5670			SOURCE: 41	
KEY WORDS: Concept Review Economics Energy Conversion Microwave Transmission				

SUBJECT: SYSTEMS ANALYSES			SPSPO INDEX NO: SA-6	
AUTHOR(S): Wolfe, M. G.				
AUTHOR AFFILIATION: Aerospace Corporation				
TITLE: Application of Stationkept Array Concepts to Satellite Solar Power Station Design				
DATE: November 1976	VOLUMES: 2	PAGES: 199	REFERENCES: 8	
ACQUISITION NO: NA8-31842 ATR-76(7575)-1 Vol. 1 - Summary (32 pp.) Vol. 2 - Analysis (167 pp.)			SOURCE: 4	
KEY WORDS: Power Distribution Satellite Stability Satellite Structures Space Assembly Technology Requirements Transmission System				

SUBJECT: SYSTEMS ANALYSES			SPSPO INDEX NO: SA-7
AUTHOR(S): Woodcock, G. R.			
AUTHOR AFFILIATION: Boeing Aerospace Company			
TITLE: Satellite Power Systems for Large-Scale Power Generation			
DATE: October 1976	VOLUMES:	PAGES: 11	REFERENCES: 8
ACQUISITION NO: By Title; 27th Congress of the International Astronautical Federation (Anaheim)			SOURCE: 42
KEY WORDS: Concept Review Satellite Structures Energy Conversion Space Transportation Power Distribution Transmission System			

SUBJECT: SYSTEMS ANALYSES			SPSPO INDEX NO: SA-25
AUTHOR(S): Woodcock, G. R.			
AUTHOR AFFILIATION: Boeing Aerospace Company			
TITLE: Solar Satellites-Space Key to Our Power Future			
DATE: July-August 1977	VOLUMES:	PAGES: 15	REFERENCES: None
ACQUISITION NO: By Title; Astronautics and Aeronautics			SOURCE: 2
KEY WORDS: Concept Review Satellite Structures Energy Conversion Space Assembly Orbital Operations Space Transportation			

SUBJECT: SYSTEMS ANALYSES			SPSPO INDEX NO: SA-19	
AUTHOR(S): Woodcock, G. R.				
AUTHOR AFFILIATION: Boeing Aerospace Company				
TITLE: Large-Scale Space Operations for Solar Power Satellites				
DATE: August 1977	VOLUMES:	PAGES: 15	REFERENCES: 9	
ACQUISITION NO:		By Title (New Options in Energy Technology, San Francisco, 1977)		SOURCE: 2
KEY WORDS: Concept Review Satellite Structures Space Assembly Space Transportation				

SUBJECT: SYSTEMS ANALYSES			SPSPO INDEX NO: SA-26	
AUTHOR(S): Woodcock, G.				
AUTHOR AFFILIATION: Boeing Aerospace Company				
TITLE: Solar Power Satellite Systems Definition				
DATE: December 1978	VOLUMES:	PAGES: 47	REFERENCES: None	
ACQUISITION NO:		By Title (AIAA-RAS Conference on Energy and Aerospace, London)		SOURCE: 2
KEY WORDS: Concept Definition Energy Conversion Ground Receiver Satellite Structures Space Assembly Technology Requirements				

SYSTEMS ENGINEERING (CATEGORY SE)

Documents in this category deal with the engineering aspects of the satellite structure which would be assembled in space and the receiving antenna complex which would be built on earth as a part of SPS. Other issues, such as the space-to-earth transmission path, are discussed only to the extent that they may be important factors in engineering principles and design. Note also that reports and papers concentrating on power generation and transmission are listed in a separate category.

KEY WORDS:	PAGE NUMBER:
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Category SE continued)

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All Other Categories

SUBJECT: SYSTEMS ENGINEERING			SPSPO INDEX NO: SE-26	
AUTHOR(S): Alabama, University of				
AUTHOR AFFILIATION: University of Alabama				
TITLE: The Final Report of the SPS Energy Conversion and Power Management Workshop				
DATE: June 1980	VOLUMES:	PAGES: 102	REFERENCES: None	
ACQUISITION NO: By Title, NAS 8-33132			SOURCE: 4	
KEY WORDS: Energy Collection Power Distribution Energy Conversion Solar Collector Photovoltaic				

SUBJECT: SYSTEMS ENGINEERING			SPSPO INDEX NO: SE-33	
AUTHOR(S): Andryczyk, R. Foldes, P. Chestek, J. Kaupang, B. M.				
AUTHOR AFFILIATION: General Electric Company				
TITLE: Solar Power Satellite Ground Stations				
DATE: July 1979	VOLUMES:	PAGES: 5	REFERENCES: None	
ACQUISITION NO: 0018-9235/79/0700-0051			SOURCE: 6	
KEY WORDS: Converter Station Power Conversion Dipole Assembly Rectenna Power Blocks				

SUBJECT: SYSTEMS ENGINEERING			SPSPO INDEX NO: SE-31
AUTHOR(S): Argonne National Laboratory			
AUTHOR AFFILIATION: Argonne National Laboratory			
TITLE: Design Requirements for Orbit Maintenance of SPS Elements			
DATE: November 1980	VOLUMES:	PAGES: 68	REFERENCES: 6
ACQUISITION NO: DOE/ER-0087			SOURCE: 5
KEY WORDS: Failure Analysis Orbit Maintenance Satellite Control Space Transportation			

SUBJECT: SYSTEMS ENGINEERING			SPSPO INDEX NO: SE-36
AUTHOR(S): Bekey, I. Blocker, W.			
AUTHOR AFFILIATION: Aerospace Corporation			
TITLE: High Efficiency Low Cost Solar Cell Power			
DATE: November 1978	VOLUMES:	PAGES: 7	REFERENCES: 12
ACQUISITION NO: By Title; Astronautics and Aeronautics, pp. 32-38			SOURCE: 2
KEY WORDS: Array Design Cell Design Concentrators Efficiency Performance			

SUBJECT: SYSTEMS ENGINEERING			SPSPO INDEX NO: SE-15
AUTHOR(S): Boeing Aerospace Company			
AUTHOR AFFILIATION: Boeing Aerospace Company			
TITLE: Satellite Power System System Definition Study, Parts I and II			
DATE: December 1977	VOLUMES: 7	PAGES: 1317	REFERENCES: None
ACQUISITION NO: D180228-1,2,3,4,5,6,8 NAS9-15196 DRL T-1346 DRD MA-664T			SOURCE: 4
KEY WORDS: Satellite Structure Space Construction Space Transportation		System Uncertainties Systems Definition Transmission System	

SUBJECT: SYSTEMS ENGINEERING			SPSPO INDEX NO: SE-3
AUTHOR(S): Boeing Aerospace Company			
AUTHOR AFFILIATION: Boeing Aerospace Company			
TITLE: Solar Power Satellite System Definition Study Phase I Final Report			
DATE: February-April 1979	VOLUMES: 4	PAGES: 1001	REFERENCES: 4
ACQUISITION NO: D180-25037-1 (Summary), 27 pp D180-25037-2 (Analyses/Tradeoffs), 537 pp. D180-25037-3 (System Description), 348 pp. D180-25037-4 (Solar Cell Annealing), 89 pp.			SOURCE: 4
KEY WORDS: Laser Annealing Satellite Control Satellite Structure		Space Construction Space Transportation System Definition	

SUBJECT: SYSTEMS ENGINEERING			SPSPO INDEX NO: SE-4
AUTHOR(S): Boeing Aerospace Company			
AUTHOR AFFILIATION: Boeing Aerospace Company			
TITLE: Solar Power Satellite System Definition Study, Part III, Preferred Concept			
DATE: March 1978	VOLUMES:	PAGES: 357	REFERENCES: None
ACQUISITION NO: NAS9-15196 DRL T-1346 DRD MA-664T D 180-24071-1		SOURCE: 4	
KEY WORDS: Energy Collection Energy Conversion Ground Station		Power Distribution Satellite Structure Transmission System	

SUBJECT: SYSTEMS ENGINEERING			SPSPO INDEX NO: SE-24
AUTHOR(S): Boeing Aerospace Company			
AUTHOR AFFILIATION: Boeing Aerospace Company			
TITLE: Solar Power Satellite System Definition Study, Phase II			
DATE: November 1979	VOLUMES: 4	PAGES: 1272	REFERENCES: 32
ACQUISITION NO: D180-25461-1,2,3,4, Vol. I, Summary, 37 pp. Vol.II, Description, 340 pp.		SOURCE: 4 Vol.III, Synthesis, 599 pp. Vol.IV, Analysis, 296 pp.	
KEY WORDS: Energy Collection Energy Conversion Ground Station		Satellite Structure Space Construction Space Transportation	

SUBJECT: SYSTEMS ENGINEERING			SPSPO INDEX NO: SE-30
AUTHOR(S): Bresters, A. R.			
AUTHOR AFFILIATION: Hydronamic B. V.			
TITLE: Study on Infrastructure Considerations for Microwave Energy Ground Receiving Stations (SPS - Offshore Rectenna Siting Study in West-Europe)			
DATE: November 1980	VOLUMES: 2	PAGES: 136	REFERENCES: 3
ACQUISITION NO: ESTEC 4382/80/NL/PP (SC) V. 1, Summary, 25 pp. V.2, Final Report, 111 pp.			SOURCE: 1
KEY WORDS: Antenna Offshore Rectenna Energy Collection Rectenna Alternatives Ground Station Rectenna Design			

SUBJECT: SYSTEMS ENGINEERING			SPSPO INDEX NO: SE-23
AUTHOR(S): Brown and Root Development, Inc.			
AUTHOR AFFILIATION: Brown and Root Development, Inc.			
TITLE: Offshore Space Center			
DATE: October 1979	VOLUMES:	PAGES: 43	REFERENCES: None
ACQUISITION NO: EF-0082			SOURCE: 4
KEY WORDS: Rectenna Alternatives Rectenna Design Rectenna Constructability Rectenna Maintainability Rectenna Costs Rectenna Materials			

SUBJECT: SYSTEMS ENGINEERING			SPSPO INDEX NO: SE-27	
AUTHOR(S): Chan, C. H.				
AUTHOR AFFILIATION: Marshall Space Flight Center				
TITLE: Pilot Signals for Large Active Retro-Directive Arrays				
DATE: August 1980	VOLUMES:	PAGES: 18	REFERENCES: 7	
ACQUISITION NO: NASA-TM-78310			SOURCE: 5	
KEY WORDS: Array Control Pilot Beam Command Signals Pointing Control Frequency Offset Transmission Path				

SUBJECT: SYSTEMS ENGINEERING			SPSPO INDEX NO: SE-25	
AUTHOR(S): Chie, C. M. Kantak, A. V. Lindsey, W. C. Scholtz, R. A.				
AUTHOR AFFILIATION: LinCom Corporation				
TITLE: SPS Reference Phase Control System - Final Report for Phase III				
DATE: January 1980	VOLUMES: 4	PAGES: 308	REFERENCES: 28	
ACQUISITION NO: TR 0180-0779, NAS 9-15782 Vol. I, Summary, 49 pp. Vol. III, Simulation, 89 pp. Vol. II, Analysis, 106 pp. Vol. IV, Ground Base, 64 pp.			SOURCE: 4	
KEY WORDS: Antenna Errors Ground Station Array Control Pilot Beam Command Signals Pointing Control				

SUBJECT: SYSTEMS ENGINEERING			SPSPO INDEX NO: SE-1	
AUTHOR(S): Dunn, B. D. Collins, D. S.				
AUTHOR AFFILIATION: European Space Agency				
TITLE: Materials Investigation for a Failed Spacecraft Antenna				
DATE: 1978		VOLUMES:		PAGES: 13
				REFERENCES: 5
ACQUISITION NO: ESA Journal 78/3, Vol 2. pp. 223-235				SOURCE: 1
KEY WORDS: Antenna Debonding Failure Analysis Fatigue Vibration Test				

SUBJECT: SYSTEMS ENGINEERING			SPSPO INDEX NO: SE-11	
AUTHOR(S): Energy, U.S. Department of National Aeronautics and Space Administration				
AUTHOR AFFILIATION: U.S. Department of Energy National Aeronautics and Space Administration				
TITLE: Satellite Power System Concept Development and Evaluation Program Reference System Report				
DATE: October 1978		VOLUMES:		PAGES: 310
				REFERENCES: Bibliography
ACQUISITION NO: DOE/ER-0023				SOURCE: 5
KEY WORDS: Power Distribution Satellite Control Satellite Structure Space Transportation System Definition Transmission System				

SUBJECT: SYSTEMS ENGINEERING			SPSPO INDEX NO: SE-7	
AUTHOR(S): Glaser, P. E.				
AUTHOR AFFILIATION: Arthur D. Little, Inc.				
TITLE: Method and Apparatus for Converting Solar Radiation to Electrical Power				
DATE: December 1973		VOLUMES:		PAGES: 11
				REFERENCES: 7
ACQUISITION NO: U.S. Patent 3,781,647			SOURCE: 22	
KEY WORDS: <div style="display: flex; justify-content: space-between;"> <div> Antenna Energy Collection Ground Station </div> <div> Satellite Structure Transmission Path Transmission System </div> </div>				

SUBJECT: SYSTEMS ENGINEERING			SPSPO INDEX NO: SE-35	
AUTHOR(S): Glaser, P. E. Almgren, D. W. Csigi, K. Gaudet, A. D.				
AUTHOR AFFILIATION: Arthur D. Little, Inc.				
TITLE: Evaluation of Solar Cells and Arrays for Potential Solar Power Satellite Applications				
DATE: March 1970		VOLUMES:		PAGES: 75
				REFERENCES: 42
ACQUISITION NO: NASA 9-15294			SOURCE: 4	
KEY WORDS: <div style="display: flex; justify-content: space-between;"> <div> Array Design Cell Design Economics </div> <div> Federal Programs Industrial Capacity Manufacturing Process </div> </div>				

SUBJECT: SYSTEMS ENGINEERING			SPSPO INDEX NO: SE-13	
AUTHOR(S): Gorman, D. Lord, C. Skidmore, R. Grant, C. Rombach, J. Thomas, R. Kyrias, G. Salis, M.				
AUTHOR AFFILIATION: Martin Marietta Corporation				
TITLE: Orbital Assembly and Maintenance Study				
DATE: August 1975		VOLUMES:		PAGES: 25
				REFERENCES: None
ACQUISITION NO: MCR-75-319 NAS9-14319				SOURCE: 4
KEY WORDS: Antenna Transmission System Satellite Maintainability Space Construction				

SUBJECT: SYSTEMS ENGINEERING			SPSPO INDEX NO: SE-10	
AUTHOR(S): Grumman Aerospace Corporation				
AUTHOR AFFILIATION: Grumman Aerospace Corporation				
TITLE: Orbital Construction Demonstration Study				
DATE: June 1977		VOLUMES: 3		PAGES: 551
				REFERENCES: 104
ACQUISITION NO: NSS-OC-RPO-12 V.1 - Summary (61 pp.) V.2 - Technical (339 pp.) V.3 - Requirements (91 pp.)				SOURCE: 4
KEY WORDS: Antenna Space Automation Satellite Control Space Construction Satellite Structure				

SUBJECT: SYSTEMS ENGINEERING			SPSPO INDEX NO: SE-17	
AUTHOR(S): Guttman, R. J. (Editor)				
AUTHOR AFFILIATION: Rensselaer Polytechnic Institute				
TITLE: Solar Power Satellites Design Considerations for Solar Collection and Conversion, Power Beam Phase Control and Rectenna Subsystems				
DATE: June 1978	VOLUMES: 1	PAGES: 145	REFERENCES: 50	
ACQUISITION NO: NAS9-15453			SOURCE: 4	
KEY WORDS: <div style="display: flex; justify-content: space-between;"> <div> Antenna Energy Collection Energy Conversion </div> <div> Pilot Beam Rectenna Design Transmission System </div> </div>				

SUBJECT: SYSTEMS ENGINEERING			SPSPO INDEX NO: SE-19	
AUTHOR(S): Guttmann, R. J. Borrego, J. M.				
AUTHOR AFFILIATION: Rensselaer Polytechnic Institute				
TITLE: Solar Power Satellite Rectenna Design Study: Directional Receiving Elements and Parallel-Series Combining Analysis				
DATE: December 1978	VOLUMES:	PAGES: 116	REFERENCES: 21	
ACQUISITION NO: NAS9-15453			SOURCE: 4	
KEY WORDS: <div style="display: flex; justify-content: space-between;"> <div> Ground Station Power Distribution Rectenna Alternatives </div> <div> Rectenna Costs Rectenna Design </div> </div>				

SUBJECT: SYSTEMS ENGINEERING			SPSPO INDEX NO: SE-14	
AUTHOR(S): Hanley, G. M.				
AUTHOR AFFILIATION: Rockwell International				
TITLE: Satellite Power System (SPS) Concept Definition Study Key Issue Identification and Assessment				
DATE: August 1977	VOLUMES:	PAGES: 34	REFERENCES: None	
ACQUISITION NO: SD 77-AP-0103-2			SOURCE: 4	
KEY WORDS: Energy Conversion Ground Station Satellite Maintainability Space Construction Space Transportation Transmission System				

SUBJECT: SYSTEMS ENGINEERING			SPSPO INDEX NO: SE-8	
AUTHOR(S): Hanley, G. M.				
AUTHOR AFFILIATION: Rockwell International				
TITLE: Satellite Power Systems (SPS) Concept Definition Study Final Report				
DATE: April 1978	VOLUMES: 7	PAGES: 1323	REFERENCES: None	
SD 78-AP-0023 V.2-Requirements(86 pp) V.6-Technology ACQUISITION NO: V.3-Evolution(289 pp.) (129 pp.) V.1-Summary(77 pp.) V.4-Design(188 pp.) V.7-Economics V.5-Transportation and Operations(168 pp.) (299 pp.)			SOURCE: 4	
KEY WORDS: Energy Conversion Ground Station Power Distribution Satellite Structure Space Transportation Transmission System				

SUBJECT: SYSTEMS ENGINEERING			SPSPO INDEX NO: SE-9
AUTHOR(S): Hanley, G. M.			
AUTHOR AFFILIATION: Rockwell International			
TITLE: Satellite Power Systems (SPS) Concept Definition Study - Point Design Definition Update			
DATE: July 1978	VOLUMES:	PAGES: 107	REFERENCES: None
ACQUISITION NO: SD78-AP-0113 NAS8-32475 DPD 558			SOURCE: 4
KEY WORDS: Ground Station Power Distribution Satellite Control		Satellite Materials Satellite Structure Transmission System	

SUBJECT: SYSTEMS ENGINEERING			SPSPO INDEX NO: SE-16
AUTHOR(S): Hanley, G. M.			
AUTHOR AFFILIATION: Rockwell International			
TITLE: Satellite Power Systems (SPS) Concept Definition Study Final Report			
DATE: March 1979	VOLUMES: 9	PAGES: 1336	REFERENCES: 3
ACQUISITION NO: SSD 79-0010-1 through -7 NAS8-32475 DPD558 MA-04			SOURCE: 4
KEY WORDS: Ground Station Satellite Structure Space Construction		Space Transportation Systems Definition Transmission System	

SUBJECT: SYSTEMS ENGINEERING			SPSPO INDEX NO: SE-22
AUTHOR(S): Huie, H. H.			
AUTHOR AFFILIATION: Marshall Space Flight Center			
TITLE: Test of Concentrator Solar Array Model for SEPS			
DATE: May 1979	VOLUMES:	PAGES: 78	REFERENCES: None
ACQUISITION NO: NASA TM-78230			SOURCE: 4
KEY WORDS: Concentrators Photovoltaics Energy Collection Energy Conversion			

SUBJECT: SYSTEMS ENGINEERING			SPSPO INDEX NO: SE-18
AUTHOR(S): Hung, J. C. Peebles, P. Z.			
AUTHOR AFFILIATION: University of Tennessee			
TITLE: Accuracy Analysis of Pointing Control System of Solar Power Satellite			
DATE: December 1978	VOLUMES:	PAGES: 67	REFERENCES: None
ACQUISITION NO: NAS8-33065			SOURCE: 4
KEY WORDS: Antenna Errors Pilot Beam Array Control Pointing Control Command Signals Satellite Structure			

SUBJECT: SYSTEMS ENGINEERING			SPSPO INDEX NO: SE-6
AUTHOR(S): Jet Propulsion Laboratory			
AUTHOR AFFILIATION: National Aeronautics and Space Administration			
TITLE: Machine Intelligence and Robotics: Report of the NASA Study Group			
DATE: September 1979	VOLUMES:	PAGES: 19	REFERENCES: None
ACQUISITION NO: JPL-730-51			SOURCE: 4
KEY WORDS: Machine Intelligence Satellite Control Space Automation Space Construction			

SUBJECT: SYSTEMS ENGINEERING			SPSPO INDEX NO: SE-5
AUTHOR(S): Johnson, R. W.			
AUTHOR AFFILIATION: Grumman Aerospace Corporation			
TITLE: Solar Power Satellite: Putting It Together			
DATE: September 1979	VOLUMES:	PAGES: 4	REFERENCES: None
ACQUISITION NO: 0018-9235/79/0900-0037			SOURCE: 6
KEY WORDS: Orbit Position Satellite Materials Satellite Structure Space Construction Space Transportation			

SUBJECT: SYSTEMS ENGINEERING			SPSPO INDEX NO: SE-20
AUTHOR(S): Reiff, P. H. Freeman, J. W. Cooke, D. L.			
AUTHOR AFFILIATION: Rice University			
TITLE: Environmental Protection of the Solar Power Satellite			
DATE: 1979	VOLUMES:	PAGES: 23	REFERENCES: 25
ACQUISITION NO: By Title, Progress in Astronautics and Aeronautics, Vol. 71			SOURCE: 2
KEY WORDS: Electrostatic Protection Satellite Materials Satellite Structure			

SUBJECT: SYSTEMS ENGINEERING			SPSPO INDEX NO: SE-28
AUTHOR(S): Rice University			
AUTHOR AFFILIATION: Rice University			
TITLE: Solar Power Satellite Offshore Rectenna Study			
DATE: November 1980	VOLUMES:	PAGES: 257	REFERENCES: 6
ACQUISITION NO: NASA CR 3348 NAS 8-33023			SOURCE: 4
KEY WORDS: Antenna Energy Collection Ground Station Offshore Rectenna Rectenna Costs Rectenna Design			

SUBJECT: SYSTEMS ENGINEERING			SPSPO INDEX NO: SE-37						
AUTHOR(S): Rice University									
AUTHOR AFFILIATION: Rice University									
TITLE: Electrostatic Protection of the Solar Power Satellite and Rectenna; Part I: Protection of the Solar Power Satellite									
DATE: November 1980	VOLUMES:	PAGES: 34	REFERENCES: 26						
ACQUISITION NO: NASA CR 3344 NAS 8 - 33023			SOURCE: 4						
KEY WORDS: <table border="0" style="width: 100%;"> <tr> <td style="width: 50%;">Charged Particles</td> <td style="width: 50%;">Mitigation</td> </tr> <tr> <td>Electric Charge</td> <td>Models</td> </tr> <tr> <td>Geophysics</td> <td>Shielding</td> </tr> </table>				Charged Particles	Mitigation	Electric Charge	Models	Geophysics	Shielding
Charged Particles	Mitigation								
Electric Charge	Models								
Geophysics	Shielding								

SUBJECT: SYSTEMS ENGINEERING			SPSPO INDEX NO: SE-12						
AUTHOR(S): Taylor, R. B.									
AUTHOR AFFILIATION: Bovay Engineers, Inc.									
TITLE: Feasibility Study for Various Approaches to the Structural Design and Arrangement of the Ground Rectenna for the Proposed Satellite									
DATE: May 1977	VOLUMES:	PAGES: 72	REFERENCES: None						
ACQUISITION NO: Contract NAS9-15280			SOURCE: 4						
KEY WORDS: <table border="0" style="width: 100%;"> <tr> <td style="width: 50%;">Rectenna Constructability</td> <td style="width: 50%;">Rectenna Heat</td> </tr> <tr> <td>Rectenna Costs</td> <td>Rectenna Maintainability</td> </tr> <tr> <td>Rectenna Design</td> <td>Rectenna Materials</td> </tr> </table>				Rectenna Constructability	Rectenna Heat	Rectenna Costs	Rectenna Maintainability	Rectenna Design	Rectenna Materials
Rectenna Constructability	Rectenna Heat								
Rectenna Costs	Rectenna Maintainability								
Rectenna Design	Rectenna Materials								

SOCIAL ISSUES (CATEGORY SI)

Reports and other documents in this category cover a wide range of social issues and questions about the SPS concept, and describe the elements of the SPS Social Assessment CDEP and its results. The social implications of all key issues are described.

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Energy Alternatives and Policy (EA)
Environmental Effects (EE)
Economics and Finances (EF)
Power Generation and Transmission (PT)
Resources and Materials (RM)
Systems Engineering (SE)

SUBJECT: SOCIAL ISSUES			SPSPO INDEX NO: SI-34	
AUTHOR(S): Arthur D. Little, Inc.				
AUTHOR AFFILIATION: Arthur D. Little, Inc.				
TITLE: Impacts and Benefits of a Satellite Power System on the Electric Utility Industry				
DATE: July 1977	VOLUMES:	PAGES: 128	REFERENCES: None	
ACQUISITION NO: C-80020 JPL 954639			SOURCE: 4	
KEY WORDS: Liability Ownership Pricing Reliability Stability				

SUBJECT: SOCIAL ISSUES			SPSPO INDEX NO: SI-35	
AUTHOR(S): Asbury, J. G. Mueller, R. O.				
AUTHOR AFFILIATION: Argonne National Laboratory				
TITLE: Solar Energy and Electric Utilities: Should They Be Interfaced?				
DATE: February 1977	VOLUMES:	PAGES: 6	REFERENCES: 16	
ACQUISITION NO: By Title; Science, Vol. 195, pp.445-450			SOURCE: 7	
KEY WORDS: Economics Ownership Power Conversion Pricing System Capacity System Storage				

SUBJECT: SOCIAL ISSUES			SPSPO INDEX NO: SI-2	
AUTHOR(S): Bachrach, A.				
AUTHOR AFFILIATION: Environmental/Resources Group				
TITLE: Satellite Power System (SPS) Public Acceptance				
DATE: October 1978	VOLUMES:	PAGES: 78	REFERENCES: 186	
ACQUISITION NO: HCP/R-4024-04			SOURCE: 5	
KEY WORDS: Environmental Concerns International Concerns Key Issues Public Acceptance Public Outreach				

SUBJECT: SOCIAL ISSUES			SPSPO INDEX NO: SI-11	
AUTHOR(S): Bain, C. N.				
AUTHOR AFFILIATION: PRC Energy Analysis Company				
TITLE: Satellite Power System (SPS) Military Implications				
DATE: October 1978	VOLUMES:	PAGES: 44	REFERENCES: 19	
ACQUISITION NO: HCP/R-4024-11			SOURCE: 5	
KEY WORDS: International Concerns Military Issues Satellite Vulnerability				

SUBJECT: SOCIAL ISSUES			SPSPO INDEX NO: SI-4	
AUTHOR(S): Baldwin, T. E. Hill, L. G. Santini, D. J. Stenehjem, E. J.				
AUTHOR AFFILIATION: PRC Energy Analysis Company				
TITLE: Economic and Demographic Issues Related to Deployment of the Satellite Power System (SPS)				
DATE: October 1978	VOLUMES:	PAGES: 69	REFERENCES: Bibliography	
ACQUISITION NO: ANL/EES-TM-23			SOURCE: 5	
KEY WORDS: Demographics Economics Industry Land Use Population Public Acceptance				

SUBJECT: SOCIAL ISSUES			SPSPO INDEX NO: SI-14	
AUTHOR(S): Bloomquist, C. E. Daurio, A. P. Shotland, S.				
AUTHOR AFFILIATION: PRC Energy Analysis Company				
TITLE: Satellite Power System (SPS) Preliminary Societal Assessment				
DATE: May 1979	VOLUMES:	PAGES: 60	REFERENCES: 12	
ACQUISITION NO: HCP/R-4024-01/14			SOURCE: 5	
KEY WORDS: Economics Environmental Concerns Institutional Concerns International Concerns Population Resource Use				

SUBJECT: SOCIAL ISSUES			SPSPO INDEX NO: SI-23
AUTHOR(S): Bohn, J. G. Patmore, J. W. Zaininger, H. W.			
AUTHOR AFFILIATION: Systems Control, Inc.			
TITLE: Satellite Power System: Utility Impact Study			
DATE: September 1980	VOLUMES:	PAGES: 72	REFERENCES: 37
ACQUISITION NO: EPRI AP-1548 TPS 79-752			SOURCE: 26
KEY WORDS: Economics Financial Regulation Institutional Concerns Power Regulation			

SUBJECT: SOCIAL ISSUES			SPSPO INDEX NO: SI-27
AUTHOR(S): (1) Bronfman, B. H. (1) Carnes, S. A. (1) Schweitzer, M. (1) Peelle, E. (2) Enk, G.			
AUTHOR AFFILIATION: (1) Oak Ridge National Laboratory (2) Institute on Man and Science			
TITLE: The Decentralized Solar Energy Technology Assessment Program: Review of Activities			
DATE: May 1980	VOLUMES:	PAGES: 104	REFERENCES: 44
ACQUISITION NO: ORNL/TM-7189			SOURCE: 13
KEY WORDS: Decentralization Demographics Institutional Concerns Terrestrial Solar			

SUBJECT: SOCIAL ISSUES			SPSPO INDEX NO: SI-6	
AUTHOR(S): Christol, C. Q.				
AUTHOR AFFILIATION: PRC Energy Analysis Company				
TITLE: Satellite Power System (SPS) International Agreements				
DATE: October 1978	VOLUMES:	PAGES: 287	REFERENCES: Bibliography	
ACQUISITION NO: HCP/R-4024-08			SOURCE: 5	
KEY WORDS: Damage Liability Environmental Concerns International Concerns Microwave Standards Radio Spectrum Space Law				

SUBJECT: SOCIAL ISSUES			SPSPO INDEX NO: SI-5	
AUTHOR(S): Citizens' Energy Project				
AUTHOR AFFILIATION: Citizens' Energy Project				
TITLE: Satellite Power System Program Summary Series				
DATE: 1978	VOLUMES:	PAGES: 69	REFERENCES: None	
ACQUISITION NO: By Title, 22 White Papers			SOURCE: 31	
KEY WORDS: Environmental Concerns International Concerns Key Issues Land Use Military Issues Public Outreach				

SUBJECT: SOCIAL ISSUES			SPSPO INDEX NO: SI-17	
AUTHOR(S): Citizens' Energy Project				
AUTHOR AFFILIATION: Citizens' Energy Project				
TITLE: Solar Space Satellites				
DATE: June 1978	VOLUMES:	PAGES: 8	REFERENCES: 10	
ACQUISITION NO: By Title			SOURCE: 31	
KEY WORDS: Decentralization Institutional Concerns Economics Power Regulation Environmental Concerns Public Acceptance				

SUBJECT: SOCIAL ISSUES			SPSPO INDEX NO: SI-29	
AUTHOR(S): (1) Crist, M. (2) Rabe, J. A. (2) Hill, J. (3) Kotin, A. D.				
AUTHOR AFFILIATION: (1) None (2) Environmental Resources Group (3) Kotin, Regan and Mouchly, Inc.				
TITLE: Satellite Power System (SPS) Utility Integration: Institutional Planning and Operational Issues				
DATE: October 1980	VOLUMES:	PAGES: 200	REFERENCES: Bibliography	
ACQUISITION NO: PRC - EAC R-4015			SOURCE: 5	
KEY WORDS: Economics International Concerns Financial Regulation Power Regulation Institutional Concerns Resource Use				

SUBJECT: SOCIAL ISSUES			SPSPO INDEX NO: SI-30	
AUTHOR(S): (1) Criswell, D. R. (4) O'Leary, B. T. (2) Glaser, P. E. (4) O'Neill, G. K. (3) Mayur, R. (5) Vajk, J. P.				
AUTHOR AFFILIATION: (1) Lunar and Planetary Institute (2) Arthur D. Little, Inc. (3) Urban Development Institute (India) (4) Princeton University (5) Science Applications, Inc.				
TITLE: The Role of Space Technology in the Developing Countries				
DATE: 1980	VOLUMES:	PAGES: 11	REFERENCES: None	
ACQUISITION NO: 0191-9067/80/010097-11 Space Solar Power Review, Vol. 1, pp. 97-107			SOURCE: 33	
KEY WORDS: Economics Population Energy Options Resource Use International Concerns				

SUBJECT: SOCIAL ISSUES			SPSPO INDEX NO: SI-33	
AUTHOR(S): Daurio, A. P.				
AUTHOR AFFILIATION: PRC Energy Analysis Company				
TITLE: Determinants of a Strategy for International Participation in an SPS Program				
DATE: December 1980	VOLUMES:	PAGES: 54	REFERENCES:	
ACQUISITION NO: DOE/ER/10041-T13			SOURCE: 5	
KEY WORDS: Economics International Concerns Energy Options International Interest Financial Regulation Power Regulation				

SUBJECT: SOCIAL ISSUES			SPSPO INDEX NO: SI-22
AUTHOR(S): Duffy-Armstrong, M.			
AUTHOR AFFILIATION: SRI International			
TITLE: A Technology Assessment of Solar Energy Systems: Community Impediments to Implementation of Solar Energy			
DATE: November 1979	VOLUMES:	PAGES: 119	REFERENCES: 35
ACQUISITION NO: DOE/EV-0059			SOURCE: 5
KEY WORDS: Decentralization Industry Economics Institutional Concerns Financial Regulation Terrestrial Solar			

SUBJECT: SOCIAL ISSUES			SPSPO INDEX NO: SI-13
AUTHOR(S): Edler, H. G.			
AUTHOR AFFILIATION: PRC Energy Analysis Company			
TITLE: Satellite Power System (SPS): An Overview of Prospective Organizational Structures in the Solar Power Satellite Field			
DATE: October 1978	VOLUMES:	PAGES: 16	REFERENCES: 15
ACQUISITION NO: TID-29094			SOURCE: 5
KEY WORDS: Economics Power Regulation Financial Regulation International Interest			

SUBJECT: SOCIAL ISSUES			SPSPO INDEX NO: SI-26						
AUTHOR(S): Energy, U. S. Department of									
AUTHOR AFFILIATION: U. S. Department of Energy									
TITLE: Some Questions and Answers About the Satellite Power System (SPS)									
DATE: January 1980	VOLUMES:	PAGES: 44	REFERENCES: 67						
ACQUISITION NO: DOE/ER-0049/1			SOURCE: 5						
KEY WORDS: <table border="0"> <tr> <td>Damage Liability</td> <td>Institutional Concerns</td> </tr> <tr> <td>Economics</td> <td>International Concerns</td> </tr> <tr> <td>Environmental Concerns</td> <td>Land Use</td> </tr> </table>				Damage Liability	Institutional Concerns	Economics	International Concerns	Environmental Concerns	Land Use
Damage Liability	Institutional Concerns								
Economics	International Concerns								
Environmental Concerns	Land Use								

SUBJECT: SOCIAL ISSUES			SPSPO INDEX NO: SI-19						
AUTHOR(S): Forum for the Advancement of Students in Science and Technology, Inc.									
AUTHOR AFFILIATION: Forum for the Advancement of Students in Science and Technology, Inc.									
TITLE: Satellite Power System (SPS) FASST Briefing									
DATE: July 1979	VOLUMES:	PAGES: 76	REFERENCES: None						
ACQUISITION NO: By Title			SOURCE: 38						
KEY WORDS: <table border="0"> <tr> <td>Decentralization</td> <td>International Concerns</td> </tr> <tr> <td>Environmental Concerns</td> <td>Military Issues</td> </tr> <tr> <td>Institutional Concerns</td> <td>Student Interest</td> </tr> </table>				Decentralization	International Concerns	Environmental Concerns	Military Issues	Institutional Concerns	Student Interest
Decentralization	International Concerns								
Environmental Concerns	Military Issues								
Institutional Concerns	Student Interest								

SUBJECT: SOCIAL ISSUES			SPSPO INDEX NO: SI-15
AUTHOR(S): George Washington University			
AUTHOR AFFILIATION: George Washington University			
TITLE: Social Assessment of On-Site Solar Energy			
DATE: April 1979	VOLUMES:	PAGES: 235	REFERENCES: 197
ACQUISITION NO: HCP/R4040-02			SOURCE: 5
KEY WORDS: Decentralization Economics Energy Options Public Acceptance Resource Use Terrestrial Solar			

SUBJECT: SOCIAL ISSUES			SPSPO INDEX NO: SI-24
AUTHOR(S): George Washington University			
AUTHOR AFFILIATION: George Washington University			
TITLE: Energy Implications of an Aging Population			
DATE: August 1980	VOLUMES:	PAGES: 64	REFERENCES: 17
ACQUISITION NO: DOE/ER/10041-01			SOURCE: 5
KEY WORDS: Demographics Economics Population			

SUBJECT: SOCIAL ISSUES			SPSPO INDEX NO: SI-16
AUTHOR(S): Gerlach, L. P.			
AUTHOR AFFILIATION: University of Minnesota			
TITLE: Technological Innovation and Social Exploration in Economic Growth and Energy Development			
DATE: May 1977	VOLUMES:	PAGES: 12	REFERENCES: 42
ACQUISITION NO: 77-558			SOURCE: 2
KEY WORDS: <div style="display: flex; justify-content: space-between;"> <div> Decentralization Economics Energy Options </div> <div> Environmental Concerns Public Acceptance Resource Use </div> </div>			

SUBJECT: SOCIAL ISSUES			SPSPO INDEX NO: SI-7
AUTHOR(S): Gorove, S.			
AUTHOR AFFILIATION: PRC Energy Analysis Company			
TITLE: Satellite Power System (SPS) International Agreements			
DATE: October 1978	VOLUMES: 1	PAGES: 80	REFERENCES: Bibliography
ACQUISITION NO: HCP/R-4024-12			SOURCE: 5
KEY WORDS: <div style="display: flex; justify-content: space-between;"> <div> International Concerns Key Issues Radio Spectrum Space Law </div> </div>			

SUBJECT: SOCIAL ISSUES			SPSPO INDEX NO: SI-12
AUTHOR(S): Hazelrigg, G. A.			
AUTHOR AFFILIATION: ECON Incorporated			
TITLE: Political and Legal Implications of Developing and Operating a Satellite Power System			
DATE: August 1977	VOLUMES:	PAGES: 244	REFERENCES: Bibliography
ACQUISITION NO: 77-195-1 JPL 954652			SOURCE: 4
KEY WORDS: Economics International Concerns Military Issues Power Regulation Satellite Vulnerability Space Law			

SUBJECT: SOCIAL ISSUES			SPSPO INDEX NO: SI-25
AUTHOR(S): Klineberg, S. I.			
AUTHOR AFFILIATION: Rice University			
TITLE: Social Acceptability of Satellite Power Systems (SPS): The Near Term Outlook			
DATE: May 1980	VOLUMES:	PAGES: 58	REFERENCES: Bibliography
ACQUISITION NO: By Title			SOURCE: 13
KEY WORDS: Decentralization Power Regulation Public Acceptance			

SUBJECT: SOCIAL ISSUES			SPSPO INDEX NO: SI-8
AUTHOR(S): Kotin, A. D.			
AUTHOR AFFILIATION: Allan D. Kotin Economic Consultants			
TITLE: Satellite Power System (SPS) State and Local Regulations as Applied to Satellite Power System Microwave Receiving Antenna Facilities			
DATE: October 1978	VOLUMES:	PAGES: 90	REFERENCES: 164
ACQUISITION NO: HCP/R-4024-05			SOURCE: 5
KEY WORDS: Economics Financial Regulation International Concerns Land Use Power Regulation			

SUBJECT: SOCIAL ISSUES			SPSPQ INDEX NO: SI-9
AUTHOR(S): Ladwig, A. David, L.			
AUTHOR AFFILIATION: Forum for the Advancement of Students in Science and Technology (FASST)			
TITLE: Satellite Power System (SPS) Student Participation			
DATE: October 1978	VOLUMES:	PAGES: 91	REFERENCES: 148
ACQUISITION NO: HCP/R-4024-06			SOURCE: 5
KEY WORDS: Public Outreach Student Interest			

SUBJECT: SOCIAL ISSUES			SPSPO INDEX NO: SI-32
AUTHOR(S): Mc Neal, S. R.			
AUTHOR AFFILIATION: PRC Energy Analysis Company			
TITLE: Satellite Power System (SPS) Public Outreach Experiment			
DATE: December 1980	VOLUMES:	PAGES: 66	REFERENCES: 67
ACQUISITION NO: DOE/ER/10041-T11			SOURCE: 5
KEY WORDS: Institutional Concerns International Concerns Public Acceptance Public Outreach Student Interest			

SUBJECT: SOCIAL ISSUES			SPSPO INDEX NO: SI-28
AUTHOR(S): Marsh and McLellen, Inc.			
AUTHOR AFFILIATION: Marsh and McLellen, Inc.			
TITLE: Satellite Power System (SPS) Initial Insurance Evaluation			
DATE: September 1980	VOLUMES:	PAGES: 31	REFERENCES: 11
ACQUISITION NO: DOE/ER/21059-01			SOURCE: 5
KEY WORDS: Damage Liability Economics Institutional Concerns			

SUBJECT: SOCIAL ISSUES			SPSPO INDEX NO: SI-36	
AUTHOR(S): <div style="display: flex; justify-content: space-between;"> <div> Mixon, W. R. (1) Christian, J. E. (1) Jackson, W. L. (1) Pine, G. D. (1) </div> <div> Hagler, H. (2) Shanker, R. (2) Koppelman, L. (2) Greenstein, D. (2) </div> </div>				
AUTHOR AFFILIATION: <div style="display: flex; justify-content: space-between;"> <div>(1)</div> <div>Oak Ridge National Laboratory</div> </div> <div style="display: flex; justify-content: space-between;"> <div>(2)</div> <div>Resource Planning Associates, Inc.</div> </div>				
TITLE: Market Assessment of Fuel Cell Total Energy Systems				
DATE: April 1978	VOLUMES:	PAGES: 99	REFERENCES: 19	
ACQUISITION NO: W-7405-ENG-26			SOURCE: 13	
KEY WORDS: <div style="display: flex; justify-content: space-between;"> <div> Building Uses Commercial Market Economics </div> <div> Energy Analysis Performance Regulation </div> </div>				

SUBJECT: SOCIAL ISSUES			SPSPO INDEX NO: SI-10	
AUTHOR(S): Naisbitt, J.				
AUTHOR AFFILIATION: PRC Energy Analysis Company				
TITLE: Satellite Power System (SPS) Centralization/Decentralization				
DATE: October 1978	VOLUMES:	PAGES: 63	REFERENCES: Bibliography	
ACQUISITION NO: HCP/R-4024-09			SOURCE: 5	
KEY WORDS: <div style="display: flex; justify-content: space-between;"> <div> Economics Energy Options Power Regulation </div> <div> Public Acceptance </div> </div>				

SUBJECT: SOCIAL ISSUES			SPSPO INDEX NO: SI-18
AUTHOR(S): National Space Institute			
AUTHOR AFFILIATION: National Space Institute			
TITLE: Solar Power Satellite Issue Guides			
DATE: October 1978	VOLUMES:	PAGES: 40	REFERENCES: Bibliography
ACQUISITION NO: By Title			SOURCE: 38
KEY WORDS: Environmental Concerns Military Issues Institutional Concerns Satellite Vulnerability International Concerns			

SUBJECT: SOCIAL ISSUES			SPSPO INDEX NO: SI-3
AUTHOR(S): Ozeroff, M. J.			
AUTHOR AFFILIATION: PRC Energy Analysis Corporation			
TITLE: Satellite Power System (SPS) Military Implications			
DATE: October 1978	VOLUMES:	PAGES: 43	REFERENCES: Bibliography
ACQUISITION NO: HCP/R-4024-01			SOURCE: 5
KEY WORDS: International Concerns Military Issues Satellite Vulnerability			

SUBJECT: SOCIAL ISSUES			SPSPO INDEX NO: SI-20	
AUTHOR(S): Poch, L. A. Wolsko, T. D.				
AUTHOR AFFILIATION: Argonne National Laboratory				
TITLE: A Review of the Nuclear Safeguards Problem				
DATE: October 1979	VOLUMES:	PAGES: 19	REFERENCES: 13	
ACQUISITION NO: ANL/EES-TM-67			SOURCE: 5	
KEY WORDS: Institutional Concerns International Concerns Public Acceptance				

SUBJECT: SOCIAL ISSUES			SPSPO INDEX NO: SI-31	
AUTHOR(S): PRC Energy Analysis Company				
AUTHOR AFFILIATION: PRC Energy Analysis Company				
TITLE: Satellite Power System (SPS) Societal Assessment				
DATE: December 1980	VOLUMES:	PAGES: 55	REFERENCES: 31	
ACQUISITION NO: DOE/ER/10041-T12			SOURCE: 5	
KEY WORDS: Economics Energy Options Environmental Concerns Institutional Concerns International Concerns Public Outreach				

SUBJECT: SOCIAL ISSUES			SPSPO INDEX NO: SI-21
AUTHOR(S): Ritschard, R. L.			
AUTHOR AFFILIATION: Lawrence Berkeley Laboratory			
TITLE: Assessment of Solar Energy Within a Community: Summary of Three Community-Level Studies			
DATE: October 1979	VOLUMES:	PAGES: 38	REFERENCES: 3
ACQUISITION NO: DOE/EV-0054			SOURCE: 5
KEY WORDS: Decentralization Economics Institutional Concerns Land Use Public Acceptance Terrestrial Solar			

SUBJECT: SOCIAL ISSUES			SPSPO INDEX NO: SI-1
AUTHOR(S): Ruth, J. Westphal, W.			
AUTHOR AFFILIATION: European Space Agency			
TITLE: Study on European Aspects of Solar Power Satellites			
DATE: June 1979	VOLUMES:	PAGES: 131	REFERENCES: Bibliography
ACQUISITION NO: 3705/78/F/DK(SC)			SOURCE: 1
KEY WORDS: International Interest Western Europe			

SPACE TRANSPORTATION (CATEGORY ST)

Reports in this category deal only with space transportation technology, advancements and concepts and are applicable to space ventures in general.

KEY WORDS:	PAGE NUMBER:
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Chemical Rocket	218, 221
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Thruster Concept	218, 219, 220, 221

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Economics and Finances (EF)
Resources and Materials (RM)
Systems Analyses (SA)
Space Utilization (SU)

SUBJECT: SPACE TRANSPORTATION			SPSPO INDEX NO: ST-6
AUTHOR(S): Alabama, University of			
AUTHOR AFFILIATION: University of Alabama			
TITLE: The Final Report of the SPS Space Transportation Workshop			
DATE: October 1980	VOLUMES:	PAGES: 140	REFERENCES: 9
ACQUISITION NO: By Title, NAS 8 - 33132			SOURCE: 4
KEY WORDS: Cargo Vehicle Heavy Lift Launch Vehicle Electric Vehicle Orbit Transfer Engineering Constraints Personnel Launch Vehicle			

SUBJECT: SPACE TRANSPORTATION			SPSPO INDEX NO: ST-7
AUTHOR(S): Battelle Columbus Laboratories			
AUTHOR AFFILIATION: Battelle Columbus Laboratories			
TITLE: Satellite Power Systems (SPS) Space Transportation Cost Analysis and Evaluation			
DATE: November 1980	VOLUMES:	PAGES: 138	REFERENCES: 10
ACQUISITION NO: DOE/ER-0086			SOURCE: 5
KEY WORDS: Cargo Vehicle Heavy Lift Launch Vehicle Cost Orbit Transport Electric Vehicle Personnel Launch Vehicle			

SUBJECT: SPACE TRANSPORTATION			SPSPO INDEX NO: ST-3
AUTHOR(S): Boeing Aerospace Company			
AUTHOR AFFILIATION: Boeing Aerospace Company			
TITLE: SYSTEMS CONCEPTS FOR STS - Derived Heavy Lift Launch Vehicle Study			
DATE: June 1976	VOLUMES:	PAGES: 14	REFERENCES: None
ACQUISITION NO: NAS 9-14710 DRL-T-1183 DRD-MA48T			SOURCE: 4
KEY WORDS: Cost Payload Space Shuttle Thruster Concept			

SUBJECT: SPACE TRANSPORTATION			SPSPO INDEX NO: ST-2
AUTHOR(S): Helms, I. L. (Editor)			
AUTHOR AFFILIATION: National Aeronautics and Space Administration			
TITLE: Advanced Propulsion Comparison Study			
DATE: April 1973	VOLUMES:	PAGES: 205	REFERENCES: 53
ACQUISITION NO: By Title			SOURCE: 4
KEY WORDS: Chemical Rocket Economics Nuclear Electric Nuclear Rocket Solar Electric Space Shuttle			

SUBJECT: SPACE TRANSPORTATION			SPSPO INDEX NO: ST-10	
AUTHOR(S): (1) Hertzberg, A. (1) Sun, K. (2) Jones, W. S.				
AUTHOR AFFILIATION: (1) University of Washington (2) Lockheed Missiles and Space Company				
TITLE: A Laser Powered Flight Transportation System				
DATE: August 1978		VOLUMES:		PAGES: 30
				REFERENCES: 28
ACQUISITION NO: 78-1484				SOURCE: 2
KEY WORDS: Cost Payload Laser Rocket Thruster Concept Orbit Transport				

SUBJECT: SPACE TRANSPORTATION			SPSPO INDEX NO: ST-11	
AUTHOR(S): Kramer, P. R. Buhler, R. D.				
AUTHOR AFFILIATION: Universitat Stuttgart (Germany)				
TITLE: Hybrid Rocket/Air-Breathing Propulsion for Ballistic Space Transportation - Project ITUSTRA				
DATE: April 1979		VOLUMES:		PAGES: 10
				REFERENCES: 21
ACQUISITION NO: 79-7038				SOURCE: 2
KEY WORDS: Cargo Vehicle Payload Thruster Concept				

SUBJECT: SPACE TRANSPORTATION			SPSPO INDEX NO: ST-1	
AUTHOR(S): Weiss, R. F. Pirri, A.N. Kemp, N. H.				
AUTHOR AFFILIATION: Physical Sciences, Inc.				
TITLE: Laser Propulsion				
DATE: March 1979	VOLUMES:	PAGES: 9	REFERENCES: 30	
ACQUISITION NO: Astronautics and Aeronautics Vol. 17, No. 3 pp. 50-58			SOURCE:	
KEY WORDS: Engineering Constraints Laser Rocket Propellant			Thermal Systems Thruster Concept	

SUBJECT: SPACE TRANSPORTATION			SPSPO INDEX NO: ST-5	
AUTHOR(S): Woodcock, G. R.				
AUTHOR AFFILIATION: Boeing Aerospace Company				
TITLE: Solar Power Satellite System Definition Study, Space Transportation Analysis				
DATE: June 1980	VOLUMES:	PAGES: 150	REFERENCES: 9	
ACQUISITION NO: D180-25969-5 NAS 9-15636			SOURCE: 4	
KEY WORDS: Chemical Rocket Economics Payload			Propellant Space Shuttle Solar Electric	

SUBJECT: SPACE TRANSPORTATION		SPSPO INDEX NO: ST-8	
AUTHOR(S): Wolfe, M. G.			
AUTHOR AFFILIATION: Aerospace Corporation			
TITLE: Satellite Power System (SPS) Transportation Cost Assessment Study			
DATE: January 1981	VOLUMES:	PAGES: 87	REFERENCES: 45
ACQUISITION NO: ATR-81 (7898)-1 NAS Contract PRM-7919687			SOURCE: 27
KEY WORDS: Cargo Vehicle Cost Electric Vehicle		Heavy Lift Launch Vehicle Orbit Transport Personnel Launch Vehicle	

SPACE UTILIZATION (CATEGORY SU)

The space utilization category includes reports and papers concerning a wide range of issues and interests about exploring and using space (including other planets) to fulfill and expand upon man's social needs and goals.

KEY WORDS:	PAGE NUMBER:
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Category SU continued)

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Technology
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Environmental Effects (EE)

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Resources and Materials (RM)

Systems Analyses (SA)

Systems Engineering (SE)

Space Transportation (ST)

SUBJECT: SPACE UTILIZATION			SPSPO INDEX NO: SU-7	
AUTHOR(S): Abdulezer, L.				
AUTHOR AFFILIATION: Polytechnic Institute of New York				
TITLE: Consideration in the Design of Large-Scale Space Habitats				
DATE: November 1977	VOLUMES:	PAGES: 16	REFERENCES: 16	
ACQUISITION NO: The Polytechnic Engineer Vol. XVIII, No. 1 pp. 28-41, 53, 56			SOURCE: 11	
KEY WORDS: <div style="display: flex; justify-content: space-between;"> <div>Habitat Requirements Material Resources Slot Availability</div> <div>Space Colonization Space Properties</div> </div>				

SUBJECT: SPACE UTILIZATION			SPSPO INDEX NO: SU-26	
AUTHOR(S): American Institute of Aeronautics and Astronautics				
AUTHOR AFFILIATION: American Institute of Aeronautics and Astronautics				
TITLE: Projected Space Technologies, Missions and Capabilities in the 2000-2020 Time Period				
DATE: January 1981	VOLUMES:	PAGES: 208	REFERENCES: 85	
ACQUISITION NO: By Title			SOURCE: 2	
KEY WORDS: <div style="display: flex; justify-content: space-between;"> <div>Communications Future Projections Industrialization</div> <div>Manned Flight Material Resources Satellite Uses</div> </div>				

SUBJECT: SPACE UTILIZATION			SPSPO INDEX NO: SU-19	
AUTHOR(S): (1) Arnold, J. R. (Ed.) (2) Duke, M. B. (Ed.)				
AUTHOR AFFILIATION: (1) University of California (San Diego) (2) NASA Johnson Space Center				
TITLE: Summer Workshop on Near-Earth Resources				
DATE: 1978	VOLUMES:	PAGES: 107	REFERENCES: 61	
ACQUISITION NO: NASA Conference Publication 2031			SOURCE: 4	
KEY WORDS: Lunar Mining Material Resources				

SUBJECT: SPACE UTILIZATION			SPSPO INDEX NO: SU-11	
AUTHOR(S): Criswell, D. R.				
AUTHOR AFFILIATION: Lunar and Planetary Institute				
TITLE: Extraterrestrial Materials Processing and Construction				
DATE: September 1978	VOLUMES:	PAGES: 474	REFERENCES: 102	
ACQUISITION NO: By Title			SOURCE: 18	
KEY WORDS: Industrialization Lunar Mining Manufacturing Material Processes Material Resources Process Designs				

SUBJECT: SPACE UTILIZATION			SPSPO INDEX NO: SU-8	
AUTHOR(S): Freedman, R. S.				
AUTHOR AFFILIATION: Polytechnic Institute of New York				
TITLE: Techniques of Optimization Applied to Space Industrialization: An Introduction				
DATE: November 1977	VOLUMES:	PAGES: 5	REFERENCES: 7	
ACQUISITION NO: The Polytechnic Engineer Vol. XVIII, No. 1 pp. 44-47, 56			SOURCE: 11	
KEY WORDS: Industrialization Manufacturing Material Resources Space Properties				

SUBJECT: SPACE UTILIZATION			SPSPO INDEX NO: SU-24	
AUTHOR(S): Galloway, E.				
AUTHOR AFFILIATION: International Institute of Space Law				
TITLE: The Future of Space Law				
DATE: October 1976	VOLUMES:	PAGES: 11	REFERENCES: 35	
ACQUISITION NO: IAF-ISL-76-06; 27th International Astronautical Congress (Anaheim)			SOURCE: 42	
KEY WORDS: International Cooperation Outer Space Treaty Satellite Uses Slot Availability Space Law Spectrum Usage				

SUBJECT: SPACE UTILIZATION			SPSPO INDEX NO: SU-23
AUTHOR(S): Gehrig, J. J.			
AUTHOR AFFILIATION: U. S. Senate Staff			
TITLE: Geostationary Orbit - Technology and Law			
DATE: October 1976	VOLUMES:	PAGES: 30	REFERENCES: 28
ACQUISITION NO: IAF-ISL-76-30; 27th International Astronautical Congress (Anaheim)			SOURCE: 42
KEY WORDS: Communications International Cooperation Satellite Uses		Slot Availability Spectrum Usage	

SUBJECT: SPACE UTILIZATION			SPSPO INDEX NO: SU-10
AUTHOR(S): Gorove, S.			
AUTHOR AFFILIATION: University of Mississippi			
TITLE: The Geostationary Orbit: Issues of Law and Policy			
DATE: July 1979	VOLUMES:	PAGES: 18	REFERENCES: 120
ACQUISITION NO: American Journal of International Law Vol. 73, No. 3 pp. 444-461			SOURCE: 12
KEY WORDS: Bogota Declaration International Cooperation Outer Space Treaty		Slot Availability Space Law Spectrum Usage	

SUBJECT: SPACE UTILIZATION			SPSPO INDEX NO: SU-18
AUTHOR(S): Grey, J. (Ed.)			
AUTHOR AFFILIATION: American Institute of Aeronautics and Astronautics			
TITLE: Space Manufacturing Facilities 2 - Space Colonies			
DATE: September 1977	VOLUMES:	PAGES: 367	REFERENCES: 586
ACQUISITION NO: By Title (Proceedings of the Third Princeton/AIAA Conference)			SOURCE: 2
KEY WORDS: Energy Source Manned Flight Industrialization Space Colonization Lunar Mining Space Transmission			

SUBJECT: SPACE UTILIZATION			SPSPO INDEX NO: SU-20
AUTHOR(S): Grey, J. (Ed.) Krop, C. (Ed.)			
AUTHOR AFFILIATION: American Institute of Aeronautics and Astronautics			
TITLE: Space Manufacturing III			
DATE: October 1979	VOLUMES:	PAGES: 585	REFERENCES: 959
ACQUISITION NO: By Title; Proceedings of the Fourth Princeton/AIAA Conference (May 1979)			SOURCE: 2
KEY WORDS: Economics Industrialization Energy Source Manned Flight Habitat Requirements Space Colonization			

SUBJECT: SPACE UTILIZATION			SPSPO INDEX NO: SU-1
AUTHOR(S): Harford, J. J.			
AUTHOR AFFILIATION: American Institute of Aeronautics and Astronautics			
TITLE: A Rush of Space Programs			
DATE: January 1979	VOLUMES:	PAGES: 10	REFERENCES: None
ACQUISITION NO: Astronautics and Aeronautics January 1979 pp. 56-65			SOURCE: 2
KEY WORDS: International Cooperation Manned Flight National Programs		Satellite Uses Space Experiments Unmanned Exploration	

SUBJECT: SPACE UTILIZATION			SPSPO INDEX NO: SU-3
AUTHOR(S): Hellman, H.			
AUTHOR AFFILIATION: Omni Magazine			
TITLE: Artful Dodger of the Physical World			
DATE: June 1979	VOLUMES:	PAGES: 9	REFERENCES: None
ACQUISITION NO: OMNI, Vol. 1, No. 9 pp. 44-49, 108-110			SOURCE: 10
KEY WORDS: Communications Energy Source Neutrino		Particles Theory	

SUBJECT: SPACE UTILIZATION			SPSPO INDEX NO: SU-9	
AUTHOR(S): Homatas, G.				
AUTHOR AFFILIATION: Polytechnic Institute of New York				
TITLE: Man Powered Flight in a Space Habitat				
DATE: November 1977	VOLUMES:	PAGES: 4	REFERENCES: 5	
ACQUISITION NO: The Polytechnic Engineer Vol. XVIII, No. 1 pp. 42-43, 47, 56			SOURCE: 11	
KEY WORDS: Habitat Requirements Manned Flight				

SUBJECT: SPACE UTILIZATION			SPSPO INDEX NO: SU-5	
AUTHOR(S): Mc Hugh, D.				
AUTHOR AFFILIATION: Polytechnic Institute of New York				
TITLE: Space Industrialization: Redefining the World				
DATE: November 1977	VOLUMES:	PAGES: 14	REFERENCES: 33	
ACQUISITION NO: The Polytechnic Engineer Vol. XVIII, No. 1 pp. 6-17, 55-56			SOURCE: 11	
KEY WORDS: Energy Source Industrialization Manufacturing Space Colonization				

SUBJECT: SPACE UTILIZATION		SPSPO INDEX NO: SU-15	
AUTHOR(S): Marshall Space Flight Center			
AUTHOR AFFILIATION: National Aeronautics and Space Administration			
TITLE: Space Colonization by the Year 2000 -- An Assessment			
DATE: January 1975	VOLUMES:	PAGES: 60	REFERENCES: None
ACQUISITION NO: By Title		SOURCE: 4	
KEY WORDS: Economics Habitat Requirements Space Colonization Space Properties			

SUBJECT: SPACE UTILIZATION		SPSPO INDEX NO: SU-2	
AUTHOR(S): Mokhoff, N.			
AUTHOR AFFILIATION: Institute of Electrical and Electronic Engineers			
TITLE: Communications and Microwave--Orbit and Spectrum Congestion			
DATE: January 1980	VOLUMES:	PAGES: 6	REFERENCES: None
ACQUISITION NO: 0018-9235/80/0100-0038		SOURCE: 6	
KEY WORDS: Interference Effects International Cooperation National Programs Slot Availability Space Transmission Spectrum Usage			

SUBJECT: SPACE UTILIZATION			SPSPO INDEX NO: SU-17
AUTHOR(S): National Aeronautics and Space Administration			
AUTHOR AFFILIATION: National Aeronautics and Space Administration			
TITLE: A Forecast of Space Technology: 1980-2000			
DATE: January 1976	VOLUMES:	PAGES: 312	REFERENCES: 243
ACQUISITION NO: NASA SP-387			SOURCE: 4
KEY WORDS: Economics National Programs Satellite Uses		Space Colonization Technology Unmanned Exploration	

SUBJECT: SPACE UTILIZATION			SPSPO INDEX NO: SU-16
AUTHOR(S): National Research Council			
AUTHOR AFFILIATION: National Academy of Sciences			
TITLE: Materials Processing in Space			
DATE: 1978	VOLUMES:	PAGES: 75	REFERENCES: None
ACQUISITION NO: By Title			SOURCE: 27
KEY WORDS: Industrialization Manufacturing Material Processes		Space Properties Space Shuttle	

SUBJECT: SPACE UTILIZATION			SPSPO INDEX NO: SU-21
AUTHOR(S): O'Neill, G. K.			
AUTHOR AFFILIATION: Princeton University			
TITLE: Space Colonies and Energy Supply to Earth			
DATE: December 1975	VOLUMES:	PAGES: 5	REFERENCES: 23
ACQUISITION NO: By Title; Vol. 190, pp. 943-947			SOURCE: 7
KEY WORDS: Economics Manufacturing Energy Source Satellite Uses Industrialization Space Colonization			

SUBJECT: SPACE UTILIZATION			SPSPO INDEX NO: SU-12
AUTHOR(S): Rather, J. D. G.			
AUTHOR AFFILIATION: W. J. Schafer Associates, Inc.			
TITLE: Space Transportation, Solar Power from Space and Space Industrialization: A Better Way			
DATE: None	VOLUMES:	PAGES: 21	REFERENCES: 7
ACQUISITION NO: By Title			SOURCE: 21
KEY WORDS: Energy Source Space Colonization Industrialization Technology Manned Flight Unmanned Exploration			

SUBJECT: SPACE UTILIZATION			SPSPO INDEX NO: SU-4	
AUTHOR(S): Robinson, G. S.				
AUTHOR AFFILIATION: Omni Magazine				
TITLE: The Matter of Space Law				
DATE: June 1979	VOLUMES:	PAGES: 4	REFERENCES: None	
ACQUISITION NO: OMNI, Vol. 1, No. 9, pp. 76-78, 114			SOURCE: 10	
KEY WORDS: Bogota Declaration International Cooperation Outer Space Treaty Space Colonization Space Law				

SUBJECT: SPACE UTILIZATION			SPSPO INDEX NO: SU-25	
AUTHOR(S): Stine, H.				
AUTHOR AFFILIATION: OMNI Magazine				
TITLE: Industry Goes to Space				
DATE: April 1979	VOLUMES:	PAGES: 8	REFERENCES: None	
ACQUISITION NO: By Title pp. 37-41, 100-102			SOURCE: 10	
KEY WORDS: Economics Energy Source Industrialization Manufacturing Material Resources Technology				

SUBJECT: SPACE UTILIZATION			SPSPO INDEX NO: SU-22	
AUTHOR(S): Turner, G. F.				
AUTHOR AFFILIATION: Lockheed Missiles and Space Company				
TITLE: Electric Power Systems for Space				
DATE: December 1975	VOLUMES:	PAGES: 12	REFERENCES: None	
ACQUISITION NO: By Title, pp. 18-29			SOURCE: 2	
KEY WORDS: Energy Source Satellite Uses Technology				

SUBJECT: SPACE UTILIZATION			SPSPO INDEX NO: SU-13	
AUTHOR(S): Vajk, J. P.				
AUTHOR AFFILIATION: Lawrence Livermore Laboratory				
TITLE: Newworld: A World Dynamics Code for Assessing the Impact of Space Colonization				
DATE: January 1976	VOLUMES:	PAGES: 42	REFERENCES: 2	
ACQUISITION NO: UCID-17003			SOURCE: 13	
KEY WORDS: Computer Model Space Colonization				

SUBJECT: SPACE UTILIZATION		SPSPO INDEX NO: SU-14	
AUTHOR(S): Vajk, J. P.			
AUTHOR AFFILIATION: Science Applications, Inc.			
TITLE: The Impact of Space Colonization on World Dynamics			
DATE: March 1976	VOLUMES:	PAGES: 38	REFERENCES: 28
ACQUISITION NO: Technological Forecasting and Social Change; 9, 361-399 (1976)			SOURCE: 24
KEY WORDS: Computer Model Economics Energy Demands Resources Depletion Space Colonization			

SUBJECT: SPACE UTILIZATION		SPSPO INDEX NO: SU-6	
AUTHOR(S): Ziegler, W.			
AUTHOR AFFILIATION: Polytechnic Institute of New York			
TITLE: Weather Report from L-5			
DATE: November 1977	VOLUMES:	PAGES: 6	REFERENCES: None
ACQUISITION NO: The Polytechnic Engineer Vol. XVIII, No. 1 pp. 22-27			SOURCE: 11
KEY WORDS: Habitat Requirements Space Colonization			

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