

NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

**FISCAL YEAR 1995 ANNUAL PLAN
FOR ASSISTANCE TO
HISPANIC-SERVING INSTITUTIONS (HSI)**

TABLE OF CONTENTS

	Page
EXECUTIVE SUMMARY	2
PART I (A): SUMMARY OF PLANNED AGENCY AWARDS BY CATEGORY: ..4 FY 1995 Discretionary Awards (\$)	
PART II-A&B: AWARDS AND NARRATIVE INFORMATION	
Research and Development	6
Program Evaluation	12
Training	14
Facilities and Equipment	18
Fellowships, Internships, Traineeships, Recruitment and Intergovernmental Personnel Act (IPA).....	19
Student Tuition Assistance, Scholarships and Other Aid	22
Direct Institutional Subsidies	24
Third-Party Awardees	25
Private-Sector Involvement	27
Administrative Infrastructure	28
PART III: ELIMINATING BARRIERS TO PARTICIPATION BY HSI29 IN FEDERAL PROGRAMS	
PART IV: OTHER ACTIVITIES	30

EXECUTIVE SUMMARY

The National Aeronautics and Space Administration (NASA) has a strong commitment to promoting and facilitating the participation of Hispanic-Serving Institutions (HSI's) in its research and education programs. The selection of a full-time Other Minority Universities (OMU) Program Manager who will work with Hispanic-Serving Institutions, the development of a comprehensive plan for HSI's, and increased participation by NASA managers and Field Installations will all contribute to Hispanics' increased participation in NASA's research and education opportunities. NASA's *Plan to Strengthen Relationships with Hispanic-Serving Institutions* is based on Presidential Executive Order 12900 of February 22, 1994 and Executive Order 12928 of September 16, 1994. On September 24, 1991, Executive Order 12729 mandated that agencies be actively involved in helping advance educational opportunities for Hispanic Americans, including working with individuals and educational, business, and community groups serving Hispanic Americans. NASA, however, took proactive steps to work with HSI's as part of its Other Minority University Program prior to passage of Executive order 12729. The OMU Program focuses the Agency's efforts on underrepresented minorities at HSI, Tribal Colleges and Universities, and other institutions with significant enrollment of underrepresented minorities. NASA employs a comprehensive strategy to accomplish OMU program goals.

The primary objective of NASA's HSI Initiative includes the development and maintenance of programs to involve HSI's with NASA mission goals. NASA's HSI program is carried out in collaboration with all NASA offices through awards in three areas: Individual Principal Investigator's Research Awards; Institutional Research Awards (IRA's); and faculty, teacher and student preparation programs focusing on NASA-related disciplines. In 1994, NASA established IRA's at six HSI's. Through the IRA grant, NASA funds research projects to colleges and universities that currently conduct research in NASA-related fields and have a demonstrated record in graduating underrepresented minorities in the science, engineering, and technology disciplines. The purpose of the IRA's is to strengthen the capacity of minority universities to provide a quality learning environment to underrepresented minorities and increase their opportunity to participate in, and benefit from, federal programs.

NASA will increase the OMU budget from \$13.4 million in FY 1994 to \$30.1 million in FY 1995, a 44.5 percent increase. This increase will enable the Agency to expand and enhance the HSI initiative by increasing opportunities for HSI to participate in the following programs:

- Research Centers - to develop a broad-based competitive aerospace research capability among the Nation's HSI's.
- Institutional Research Awards (IRA) - to design an Internet network (LAN/WAN) among HSI's, HBCU's and other minority institutions for conducting network training and NASA-related research work.

- Faculty Awards for Research (FAR) - to initiate NASA-related research work among underrepresented minority investigators at HSI's.
- Mathematics, Science and Technology Teacher Preparation and Curriculum Enhancement Awards (MASTAP) - the development of diverse and exemplary research-based mathematics, and science and technology teacher preparation projects.
- Pre-College Awards for Excellence (PACE) in Mathematics, Science, Engineering and Technology (MSET) - or pre-college educational programs.
- Graduate Student Researchers Program (GSRP) Underrepresented Minority and Disabled Focus (UMDF) - Graduate fellowships for students pursuing advanced degrees in NASA-related areas.
- Undergraduate Student Researchers Program (USRP {UMDF}) - Undergraduate 4-year scholarships for underrepresented minority and disabled students pursuing degrees in NASA-related fields of science, mathematics, engineering and computer science.

Since participation in the aforementioned opportunities is the result of merit selection through competitive peer reviews, the Agency has not identified the HSI's to receive the awards in FY 1995.

PART I (A): SUMMARY OF PLANNED AGENCY AWARDS BY CATEGORY: FY 1995

Agency: National Aeronautics and Space Administration

Report Prepared By : The Minority University Research and Education Division

For Additional Information Contact: (202) 358-0954

DISCRETIONARY AWARDS (\$)

CATEGORY	AWARDS TO IHE+	AWARDS TO HSI's*	AWARDS TO HSI's (as % of total awards to IHE)
1. Research & Development	\$641,436,722	\$34,116,898	5.3%
2. Program Evaluation			
3. Training	\$43,715,342	\$3,269,134	7.5%
4. Facilities and Equipment	\$19,977,338		
5. Fellowships, Internships, Traineeships, Recruitment, and IPA's		\$1,004,196	
6. Student Tuition Assistance, Scholarships, and Other Aid	\$8,500,000	\$974,196	11.5%
7. Direct Institutional Subsidies			
8. Third-Party Awardees			
9. Private-Sector Involvement			
10. Administrative Infrastructure			
11. Other	\$26,276,898		
TOTAL	\$739,909,300	\$39,364,424	5.3%

Approved:

Dr. Yvonne B. Freeman
Associate Administrator for

(Signature)

Equal Opportunity Programs

+ Institutions of Higher Education

* Hispanic-Serving Institutions

**PART I (B): SUMMARY OF PLANNED AGENCY AWARDS BY CATEGORY: FY
1995**

Legislated or Formula-Driven Awards(\$)

NASA does not have any legislated or formula-driven awards to HSI's.

AWARDS AND NARRATIVE INFORMATION

Research and Development

PART II-A: Discretionary Awards and Activities

1. ACTIVITIES TO BE CONTINUED FROM FY 1994

CALIFORNIA

<u>Institution/Activity</u>	<u>Center</u>	<u>Award</u>
<u>California State University, Los Angeles</u> Predicting Photosynthetic Fluxes from Spectral Reflectance of Leaves and Canopies	HQS	\$96,943
The Use of Decentralized Control in Design of Large Segmented Space Reflectors	HQS	\$400,000
	State Total	\$496,943

FLORIDA

<u>Institution/Activity</u>	<u>Center</u>	<u>Award</u>
<u>Florida International University</u> High Performance Database Management	HQS	\$400,000
NASA University Joint Ventures (JOVE)	MSFC	\$37,000
Theory of the Motion of Meteor Particles in Solid Materials	MSFC	\$72,676
Scattering of Metastable Atoms	GSFC	\$74,143
	State Total	\$583,819

NEW MEXICO

<u>Institution/Activity</u>	<u>Center</u>	<u>Award</u>
<u>New Mexico Highlands University</u> Alliance for Nonlinear Optics	HQS	\$399,969

Automated Control of Laser Spectrometry Utilized in Flow Visualization	ARC	\$14,158
<u>New Mexico State University, Las Cruces</u>		
A New Approach to Modeling the Far-Infrared Radiation in Galaxies	GSFC	\$66,600
A Research Program in the Area of Cosmic Ray Physics	HQS	\$54,000
Construction of Gray Atmosphere Models for Uranus and Neptune	ARC	\$13,002
Continuation of a Cosmic Ray Research Program	HQS	\$362,000
Long Term Changes in Reflectivity and Large Scale Motions	HQS	\$76,795
Operation and Maintenance of National Scientific Balloon Facility and Engineering Support for the NASA Balloon Program	GSFC	\$27,109
Operation and Maintenance of National Scientific Balloon Facility and Engineering Support for the NASA Balloon Program	GSFC	\$13,554,871
Optical and Gamma Ray Study of GRO Phase I Targets	GSFC	\$51,850
Rosat Imaging of Inter-Planetary Network Gamma- Ray Burst	GSFC	\$14,000
Rosat PSPC Observation of Poor Clusters Containing Extended Radio Sources	GSFC	\$40,000
Sounding Rocket Engineering Support	GSFC	\$2,326,878
Studies of Astrophysical Plasmas in Clusters of Galaxies	HQS	\$143,527
Telemetry and Telecommunications Research	GSFC	\$777,000
Transport Collaboration	HQS	\$54,000

University of New Mexico

Glycerol-Induced Hyperhydration	JSC	\$80,000
High Performance Communication VLSI Architectures	GSFC	\$455,000
Layer Silicates and Carbonaceous Materials in Chondrite Interplanetary Dust	HQS	\$78,279
Microbeam Studies of Planetary Materials	HQS	\$221,967
NASA Space Engineering Research Center for VLSI Systems Design	HQS	\$1,450,000
Petrological Analysis of Astrophysical Dust Analog Evolution	HQS	\$38,388
Space Qualified Reed Solomon Encoder/Decoder VLSI	GSFC	\$22,000
	State Total	\$20,321,393

NEW YORK

Institution/Activity	Center	Award
<u>City University of New York, City College</u> Computation of Unsteady Boundary Layers, Calculation and Stability of Supersonic Wakes	LaRC	\$79,988
Controlling the Mobility of a Fluid Particle in Space by Using Remobilizing Surfactants	LeRC	\$50,000
Development, Maturation and Physiology of the Brain-Pituitary	HQS	\$50,000
Electron Collisions with Free Radicals	HQS	\$40,000
Investigation of the Basic Physics of High Efficiency Semiconductor Hot Carrier Solar cells	LeRC	\$148,072
NASA University Joint Ventures (JOVE)	MSFC	\$19,000
Molecular Dynamics of a Fluid-Solid System	LeRC	\$125,000
Posture Load Induced Bone Maintenance	HQS	\$80,000
Remote Sensing Research on Radar	HQS	\$100,000

Studies of Shock Wave Interactions with Homogeneous and Isotropic Turbulence	LaRC	\$50,000
Tunable Solid State Lasers and Optical Imaging	HQS	\$399,492
State Total		\$1,141,552

PUERTO RICO

<u>Institution/Activity</u>	<u>Center</u>	<u>Award</u>
<u>University of Puerto Rico, Humacao</u> NASA University Joint Ventures (JOVE)	MSFC	\$53,607
<u>University of Puerto Rico, Mayaguez</u> Crystal Studies	MSFC	\$25,495
Effects of Massive Riverine Input	HQS	\$183,900
Fabrication of Organic and Polymer Guiding Organic Films from Melt	MSFC	\$43,575
NASA University Joint Ventures (JOVE)	MSFC	\$35,966
Soft X-Ray Optics by Pulsed Laser Deposition	GSFC	\$55,400
Use of a GIS and Remote Sensing Technology	SSC	\$74,876
<u>University of Puerto Rico, Medical Sciences</u> Land Use Patterns and Fecal Contamination in Westeastern Puerto Rico	SSC	\$75,447
Relationship Between Land Use and Health Associate Water Quality Parameters in Rivers in Luquillo Forest	SSC	\$54,973
<u>University of Puerto Rico, Rio Piedras</u> NASA University Joint Ventures (JOVE)	MSFC	\$39,000
Land Management in the Tropics and its Effects on Global Environment	HQS	\$400,000
Experimental Program to Stimulate Competitive Research	HQS	\$1,000,000

Primary Productivity and Remote Sensing of Tropical Vegetation	SSC	\$55,535
State Total		\$2,097,774

TEXAS

<u>Institution/Activity</u>	<u>Center</u>	<u>Award</u>
<u>University of Texas at Brownsville</u>		
Exploiting Structure: Introduction and Motivation	GSFC	\$47,581
<u>University of Texas at El Paso</u>		
A Study of the Gas Purity Sensivity of Viable Polarity Plasma Arc Welded Aluminum Lithium Alloys	MSFC	\$46,049
Automated System Trend Monitoring Based Upon Time Series Analysis	JSC	\$61,613
Characterization of Materials Interaction and Degradation in Space	JSC	\$55,100
Growth Conditions for Surface Oxides on Aluminum Alloys	MSFC	\$66,481
Image Compression Based on Incomplete and Overcomplete Subband Decompositions	LeRC	\$74,753
Intelligent Control: Which Algorithm to Choose	JSC	\$64,902
Interdisciplinary Investigations in Support of Project Di-Mod	ARC	\$20,000
NASA Physics Center		
Reliability of Damaged Space Structures for Vibration Measurements	JSC	\$125,075
<u>University of Texas at San Antonio</u>		
Advanced Propulsions Studies	HQS	\$398,038
Monoclonal Antibodies Directed Against Surface Molecules of Multicell Spheroids	ARC	\$72,903
State Total		\$1,117,316

FY 1994 RESEARCH AND DEVELOPMENT TOTAL

\$25,758,797

1. a. Narrative

The mission of NASA is to contribute materially to the expansion of human knowledge and to the technological advancements in aeronautics, space technology, space science, and space exploration. Continued support in achieving these mission objectives is provided by research that is conducted by universities throughout the country, including 13 HSI's. Participating universities usually conduct research in a basic area applicable to the long-term goals of the various NASA program offices.

NASA's objectives are to have HSI's perform research projects and collaborate with NASA Headquarters and Field Installations. NASA has established relationships with HSI's and will continue the following programs:

NASA/University Joint Venture in Space Science (JOVE) offers direct participation in space science research to a broad segment of faculty and students in the Nation's colleges and universities. The JOVE Initiative establishes research linkages that encourage institutions of higher learning to use the space program as a basis to involve both graduate and undergraduate students. Colleges and universities are also encouraged to establish outreach programs to pre-college students in their regions. NASA makes space science data available to university researchers through an electronic data link, in exchange for the university providing faculty and student time to conduct research. Educational outreach programs are designed by the university to offer space science courses for high school students and summer space camps for student and teacher enrichment.

In FY 1994, representatives of the City College of New York, Florida International University, Texas A&M Corpus Christi, and the University of Puerto Rico (Rio Piedras, Humacao, and Mayaguez campuses) participated in the JOVE Initiative.

Faculty Awards for Research (FAR) is a NASA program that targets HSI's and other minority universities having significant underrepresented minority enrollment, and whose faculty's proposed research emanates from the university's engineering or space science areas. The goal of the FAR program is to achieve NASA's mission while increasing cultural diversity in the NASA-sponsored research community. The FAR Program identifies outstanding and promising underrepresented minority faculty principal investigators, and provides them with research support to provide opportunities to demonstrate creativity, productivity and competitiveness in NASA's mainstream research process.

Institutional Research Awards (IRA's) is a program that provides grants to colleges and universities that currently conduct research in NASA-related fields and have a demonstrated record in graduating underrepresented minorities in science, engineering and technology disciplines. The IRA program is targeted to colleges and universities that do not receive significant NASA funding for research and have significant underrepresented minority enrollments, or which offer graduate degree grant programs in engineering or science.

2. NEW INITIATIVES TO BE CARRIED OUT DURING FY 1995

2. a. Narrative

During FY 1995, NASA plans to continue its strong support of HSI'S initiatives. The Agency plans to promote a stronger competitive process to participate in NASA programs. The primary mechanism for participation in NASA's minority university research and education initiatives will be through competitive peer review and merit selection processes. NASA will issue announcements of opportunity for HSI's to compete for the following programs:

1. IRA - During FY 1995, it is anticipated that NASA will fund up to \$1.5 million for three IRA awards.
2. Research Center Awards - During FY 1995, it is anticipated that NASA will fund up to \$6 million for four new Research Centers.
3. JOVE Awards - During FY 1995, up to \$291,000 will be provided to three HSI's to participate in the JOVE Initiatives.
4. FAR - Up to \$750,000 will be funded for 10 new FAR awards.

PART II-B: Legislated or Formula-Driven Awards and Activities

NASA does not have any legislated or formula-driven awards to HSI's.

AWARDS AND NARRATIVE INFORMATION

Program Evaluation

PART II-A: Discretionary Awards and Activities

1. ACTIVITIES TO BE CONTINUED FROM FY 1994

1. a. Narrative

NASA will continue its oversight function to conduct the program evaluation necessary to manage agencywide programs. The concept of collaborative evaluations by NASA program offices, Field Installations, and industry representatives will be continued and enhanced.

2. NEW INITIATIVES TO BE CARRIED OUT DURING FY 1995

2. a. Narrative

The NASA Other Minority University Program Manager and the Program Analyst (Evaluation and Assessment) will continue to ensure that evaluation and assessment efforts for HSI programs and initiatives are developed and refined during FY 1995. These efforts include research, educational research and university grants managed by the Minority University Research and Education Division (MURED).

Grants receive extensive assessment through ongoing monitoring and review by NASA Technical Monitors. Procedures for collecting and aggregating data on quantifiable outcome metrics are being developed and will be prototyped in FY 1995. For Institutional Development Programs, additional assessment is conducted through annual site visits by a NASA Technical Review Committee and a representative from MURED.

The HSI Research Centers, which are funded in FY 1995, will be monitored on an ongoing basis by NASA Field Installation Technical Monitors and Equal Opportunity Officers. HSI educational research grants provide for self-assessments and for independent evaluators in their project budgets. NASA conducts periodic site visits to assess project accomplishments. During the first year of these Research Centers, NASA Field Installation Technical Monitors and Equal Opportunity Officers will provide technical assistance to identify research opportunities, conduct peer reviews and technical management and oversight of research conducted. In later years, emphasis will be placed on monitoring measurable outcome objectives.

A comprehensive external evaluation of the Graduate Student Researchers Program (UMDF) and the Undergraduate Student Researchers Program (UMDF), including the involvement of students and faculty from HSI's will undergo evaluation during 1995.

PROGRAM EVALUATION

Awards and Narrative Information

PART II-B: Legislated or Formula Driven Awards and Activities

NASA does not have any legislated or formula-driven awards to HSI.

AWARDS AND NARRATIVE INFORMATION

Training

PART II-A: Discretionary Awards and Activities

1. ACTIVITIES TO BE CONTINUED FROM FY 1994

CALIFORNIA

<u>Institution/Activity</u>	<u>Center</u>	<u>Award</u>
<u>California State University at Los Angeles</u> A Program to Improve Transfer Rates of Underrepresented Minority Pre-Engineering Students from California	HQS	\$122,000
<u>National Hispanic University</u> Cientificos Project - Future Hispanic Scientists	HQS	\$98,588
	State Total	\$220,588

NEW MEXICO

<u>Institution/Activity</u>	<u>Center</u>	<u>Award</u>
<u>New Mexico Highlands University</u> National Space Grant College and Fellowship Program	HQS	\$440,000
Integrated Approach to Engineering Education in a Minority Community	HQS	\$180,567
Native American Science and Technology Education Consortium	HQS	\$1,140,161
<u>University of New Mexico</u> NASA Training Project	HQS	\$415,818
	State Total	\$2,176,546

NEW YORK

<u>Institution/Activity</u>	<u>Center</u>	<u>Award</u>
<u>City University of New York, City College</u> Cooperative Research and Education	GSFC	\$241,559
State Total		\$241,559

PUERTO RICO

<u>Institution/Activity</u>	<u>Center</u>	<u>Award</u>
<u>Ana G. Mendez University System</u> Engineering Preparatory College Program	HQS	\$110,000
<u>University of Puerto Rico, Mayaguez</u> Global Change Fellowship Award	HQS	\$22,000
National Space Grant Fellowship Program	HQS	\$150,000
State Total		\$282,000

TEXAS

<u>Institution/Activity</u>	<u>Center</u>	<u>Award</u>
<u>Texas A&M University, Kingsville</u> Minority Education Program K-12 Outreach Efforts	JSC	\$75,542
State Total		\$75,542
FY 1994 TRAINING TOTAL		\$2,996,235

1. a. Narrative

NASA will continue to support training programs which develop resource pools of talented underrepresented minorities, who are U.S. citizens, in NASA-related science, mathematics, engineering and technology. Training is an essential goal for NASA to meet its current and future resources goals. Examples of several NASA training initiatives include:

The NASA Training Project

The NASA Training Project at the University of New Mexico (UNM) utilizes a variety of approaches to increase the availability of high quality engineering and science underrepresented minority students, primarily Hispanics and Native Americans. Its freshmen scholars component conducts outreach, recruitment and retention beyond the central New Mexico area. A mentorship component supports students who successfully complete the freshmen scholars component and who are accepted into the UNM College of Engineering. Underrepresented minority students majoring in education with an expressed interest in teaching secondary mathematics and/or science are enrolled in the Educator Exposure Project. Students who lack the necessary math and science backgrounds to perform at their peak in engineering, mathematics or physics participate in the UNM-NASA engineering summer bridge component. This is a 6- to 8-week residential program for incoming freshmen and sophomores. The UNM-NASA Undergraduate/Graduate bridge component involves 20 NASA students in research with an active research professor and provides college credit which can be applied towards B.S. or M.S. degree requirements.

Integrated Approach to Engineering Education in a Minority Community

NASA funds a grant to New Mexico Highlands University to conduct *An Integrated Approach to Engineering Education in a Minority Community*. This program provides academic enrichment activities in computer science, mathematics, applied science, and hands on computer training to 15 faculty and 35 students from 15 rural northern New Mexico schools. A scientific bulletin board was developed by selected faculty members and students, and the remaining faculty were trained in its use. The project will provide follow-up support to participating schools, through supplemental seminars, training and assistance in solving telecommunication problems.

Cientificos Science Project - Future Hispanic Scientists

NASA supports the *Cientificos Science Project* to prepare Hispanic students for scientific careers. The purpose of the *Cientificos Science Project* is to strengthen the science course offerings at National Hispanic University (NHU), establish laboratories, promote science through community outreach, recruit Hispanic students and prepare Hispanic scientists.

El Ingeniero

NASA supports this educational summer program as a model for research and to expose 7th and 8th graders to the required skills in the field of engineering, and extensive contacts with minority professionals in these disciplines as role models. During the program's six week duration students receive academic training and educational/career counseling, and parents participate in parental involvement workshops. This project has a dual purpose of serving as model for research and providing supportive services to 7th and 8th graders. The research seeks to determine whether projects such as *El Ingeniero* can bring about significant changes in students' attitudes towards secondary science and math education. Further, this exposure, in conjunction with continuing support during the high school years, should increase the number of qualified Hispanic students that will enter engineering and science college majors, with a better chance to successfully complete their college education.

2. NEW INITIATIVES TO BE CARRIED OUT DURING FY 1995

2. a. Narrative

NASA's new initiatives will be implemented through competitive review and selection process. Until these selections are made, it is not possible to identify exact funding to HSI for these new initiatives.

During FY 1995, NASA will continue its strong support of HSI training initiatives. The Agency plans to promote a strong competitive process for HSI to participate in NASA programs. NASA will issue announcements of opportunity for HSI to participate in the following programs:

Mathematics and Science Awards for Teacher and Curriculum Enhancement Programs (MASTAP)

MASTAP supports institutions of higher learning to increase the quality and number of underrepresented minority teachers well-prepared in science and mathematics. The goal of the MASTAP program is to increase the number of state certified underrepresented minority teachers and to improve the mathematics and science literacy among underrepresented minority pre-service and in-service teachers.

NASA anticipates that up to \$600,000 will be awarded for three HSI MASTAP awards.

Pre-College Awards for Excellence in Mathematics, Science, Engineering and Technology (PACE)

PACE supports programs from minority universities to develop minority-focused pre-college mathematics, science, engineering, and technology outreach programs. NASA encourages collaboration between the universities and school districts with substantial enrollments of underrepresented minorities. The primary purpose of PACE is to support educational outreach projects that increase the number and strengthen the skills, knowledge, and interest of underrepresented minorities in public middle and high schools.

NASA anticipates that up to \$400,000 will be funded in FY 1995 for four new PACE awards to HSI.

PART II-B: Legislated or Formula Driven Awards and Activities

NASA does not have any legislated or formula-driven awards to HSI.

AWARDS AND NARRATIVE INFORMATION

Facilities and Equipment

PART II-A: Discretionary Awards and Activities

1. ACTIVITIES TO BE CONTINUED FROM FY 1994

1. a. Narrative

Facilities and equipment required in the conduct of research are provided through the research grant process. In addition, to the degree that it is available from NASA Installations, equipment required by universities in the training of scientists and engineers will be provided to HSI's.

2. NEW INITIATIVES TO BE CARRIED OUT DURING FY 1995

2. a. Narrative

During FY 1995, MURED will develop and coordinate a system for NASA program offices and Field Installations to support HSI's which have pre-college training programs that assist students in the areas of science, math, and technology with computer resources.

Presidential Executive Order 12821, Improving Mathematics and Science Education in Support of the National Education Goals, signed November 16, 1992, by then-President Bush authorizes Federal agencies to directly transfer excess education-related Federal equipment to public and private elementary and secondary schools. HSI's having collaborative efforts with K-12 schools that have predominantly underrepresented minority student enrollment can become eligible to receive computer resources for training and outreach programs. MURED will coordinate this initiative during FY 1995.

PART II-B: Legislated or Formula Driven Awards and Activities

NASA does not have any legislated or formula-driven awards to HSI's .

AWARDS AND NARRATIVE INFORMATION

Fellowships, Internships, Traineeships,
Recruitment, And Ipas

PART II-A: Discretionary Awards and Activities

1. ACTIVITIES TO BE CONTINUED FROM FY 1994

NEW MEXICO

<u>Institution/Activity</u>	<u>Center</u>	<u>Award</u>
<u>New Mexico State University, Las Cruces</u> Graduate Student Researchers Program	HQS	\$22,000
Graduate Student Researchers Program	HQS	\$22,000
Graduate Student Researchers Program	HQS	\$22,000
<u>University of New Mexico</u> Graduate Student Researchers Program	HQS	\$21,915
State Total		\$87,915

PUERTO RICO

<u>Institution/Activity</u>	<u>Center</u>	<u>Award</u>
<u>University of Puerto Rico, Mayaguez</u> Graduate Student Researchers Program	HQS	\$22,000
Graduate Student Researchers Program	HQS	\$22,000
Graduate Student Researchers Program	HQS	\$22,000
Graduate Student Researchers Program	HQS	\$22,000
Graduate Student Researchers Program	HQS	\$22,000
Graduate Student Researchers Program	HQS	\$22,000
Graduate Student Researchers Program	HQS	\$22,000

Graduate Student Researchers Program	HQS	\$14,000
Graduate Student Researchers Program	HQS	\$44,000
<u>University of Puerto Rico, Medical Sciences</u>		
Graduate Student Researchers Program	HQS	\$22,000
<u>University of Puerto Rico, Rio Piedras</u>		
Graduate Student Researchers Program	HQS	\$22,000
Graduate Student Researchers Program	HQS	\$22,000
State Total		\$278,000

TEXAS

<u>Institution/Activity</u>	<u>Center</u>	<u>Award</u>
<u>University of Texas at El Paso</u>		
Graduate Student Researchers Program	HQS	\$22,000
Graduate Student Researchers Program	HQS	\$22,000
Graduate Student Researchers Program	HQS	\$22,000
Graduate Student Researchers Program	HQS	\$22,281
State Total		\$88,281
FY 1994 FELLOWSHIP TOTAL		\$454,196

1. a. Narrative

During FY 1995, NASA will continue to promote programs such as the NASA Summer Faculty Fellowship Program, where HSI faculty members are selected to work on research projects with scientists and engineers at NASA Field Installations. NASA will also encourage student internships at NASA Headquarters and Field Installations to provide research opportunities related to space science and aerospace technology disciplines.

NASA will continue its recruitment efforts to ensure that underrepresented minorities from HSI's participate in research programs. NASA will also continue to encourage the utilization of the Intergovernmental Personnel Act Mobility Program to have NASA scientists and engineers teach in or administer programs at HSI's .

2. NEW INITIATIVES TO BE CARRIED OUT DURING FY 1995

2. a. Narrative

During FY 1995, NASA will promote the involvement of HSI's in the following program:

Graduate Student Researchers Program (GSRP) (Underrepresented Minority and Disabled Focus)

This program offers up to \$22,000 per year for students from underrepresented groups who are pursuing advanced degrees and conducting research in NASA-related fields. Students may enter the program at the beginning of a Masters or Ph.D. program. Currently, an application must be sponsored by the student's graduate department chair or faculty advisor.

Eligibility Requirements:

- U.S. Citizen
- Full-time enrollment at an accredited U.S. college or university graduate program
- African American, Hispanic, Pacific-Islander, Native American or persons with disabilities

During FY 1995, NASA seeks to expand the applicant pool by emphasizing recruitment of students from the Undergraduate Student Researchers Program and other NASA undergraduate scholars programs. Separate criteria will be established to select Masters and Ph.D. candidates, with emphasis at the Masters level on a plan of study and academic record, and at the Ph.D. level on proposed research.

In compliance with the U.S. Congress House Resolution 4624, NASA will develop and increase Ph.D. graduate fellowship programs at HSI's offering Ph.D.'s in NASA-related discipline areas, as well as increase fellowship opportunities for underrepresented minorities and persons with disabilities. Currently, there are 64 Hispanics in this program. The NASA Field Installations will continue to be held accountable for recruiting and selecting students from HSI's.

NASA anticipates that 25 students at HSI's will be selected into the GSRP (UMDF) during FY 1995 for support totaling \$550,000.

PART II-B: Legislated or Formula Driven Awards and Activities

NASA does not have any legislated or formula-driven awards to HSI's.

AWARDS AND NARRATIVE INFORMATION

Student Tuition Assistance, Scholarships,
And Other Aid

PART II-A: Discretionary Awards and Activities

1. ACTIVITIES TO BE CONTINUED FROM FY 1994

NEW MEXICO

<u>Institution/Activity</u>	<u>Center</u>	<u>Award</u>
<u>New Mexico State University, Las Cruces</u> Undergraduate Student Researchers Program	HQS	\$12,000
	State Total	\$12,000

NEW YORK

<u>Institution/Activity</u>	<u>Center</u>	<u>Award</u>
<u>City University of New York, City College</u> Undergraduate Student Researchers Program	HQS	\$24,000
Undergraduate Student Researchers Program	HQS	\$12,000
	State Total	\$36,000

TEXAS

<u>Institution/Activity</u>	<u>Center</u>	<u>Award</u>
<u>University of Texas at El Paso</u> Undergraduate Student Researchers Program	HQS	\$62,033
<u>University of Texas at San Antonio</u> Undergraduate Student Researchers Program	HQS	\$12,000
Undergraduate Student Researchers Program	HQS	\$12,000
	State Total	\$86,033

FY 1994 SCHOLARSHIP TOTAL

\$134,033

FY 1994 GRAND TOTAL

\$29,343,261

1. a. Narrative

Undergraduate Student Researchers Program (USRP) (Underrepresented Minority and Disabled Focus)

This program provides tuition assistance and support for summer research positions for underrepresented minorities and students with disabilities pursuing degrees in NASA-related fields of science, math, engineering and computer science. Grants are awarded for up to 4 years at \$12,000 per year.

Eligibility requirements:

- U.S. Citizen
- African American, Hispanic, Pacific Islander, Native American or persons with disabilities
- High school senior or college freshman at time of application
- Current high school GPA of 3.2 or college GPA of 3.0
- SAT of 1000
- Financial need
- Demonstrated interest in a NASA-related discipline

The first graduates of the program will receive their degrees in 1995. They are targeted to apply for NASA-sponsored graduate fellowships. The program currently has 103 students at 11 HSI's.

2. NEW INITIATIVES TO BE CARRIED OUT DURING FY 1995

2. a. Narrative

During FY 1995, an increased effort will be made to recruit more students through minority-serving institutions, including HSI's. Approximately 80 students are selected into the program each fiscal year. We anticipate 70 of those selected in FY 1995 will attend HSI's with a total funding commitment of \$840,000.

PART II-B: Legislated or Formula-Driven Awards and Activities

NASA does not have any legislated or formula-driven awards to HSI's.

AWARDS AND NARRATIVE INFORMATION

Direct Institutional Subsidies

PART II-A: Discretionary Awards and Activities

NASA does not have any direct institutional subsidies.

PART II-B: Legislated or Formula-Driven Awards and Activities

NASA does not have any legislated or formula-driven awards to HSI's.

AWARDS AND NARRATIVE INFORMATION

Third-Party Awardees

PART II-A: Discretionary Awards and Activities

1. ACTIVITIES TO BE CONTINUED FROM FY 1994

1. a. Narrative

NASA Orientation Workshops at Professional Conferences

During FY 1995, MURED plans to continue to conduct Program Orientation Workshops at several professional conferences such as; the Hispanic Association of Colleges and Universities; the Society of Hispanic Professional Engineers; and the Mexican American Engineering Society. The purpose of these workshops will be to inform representatives of HSI about NASA programs and the requirements to participate and to answer participants questions. Representatives from NASA Headquarters program offices and Field Installations will provide information concerning program operations and proposal development.

Interaction with NASA Installations' Scientists, and Mission and Function

During FY 1994 NASA held several key meetings of HSI's at NASA Installations to encourage the development of linkages between HSI's and Field Installation personnel and to acquaint HSI's with the mission and function of NASA Installations and research and education opportunities at these facilities. Meeting participants were provided with informational briefings and first hand exposure to NASA research and education projects. Participants were provided assistance to further explore education and research opportunities and special areas of interest. In 1995, MURED will continue to conduct meetings at Installations using the same approach.

2. NEW INITIATIVES TO BE CARRIED OUT DURING FY 1995

2. a. Narrative

National Hispanic Education Professional Association

During FY 1995 NASA plans to collaborate with a national Hispanic professional association to conduct Institutional Development Workshops. The goal of these workshops is to acquaint HSI representatives with NASA's research and education programs and opportunities, and requirements for participation. NASA representatives from Headquarters program offices, Field Installations, and recipients of NASA awards will provide information concerning program operations and proposal development. A national Hispanic organization will receive \$200,000 to conduct these workshops.

National Precollege Association

During FY 1995, NASA will provide funds to form a national association of pre-college administrators to promote cooperation and collaboration among its members in developing projects to increase the pool of Hispanic students who pursue engineering and math-based college studies and careers. In addition to developing joint projects, the organization will also share resources and information. This project will receive funding of \$100,000.

PART II-B: Legislated or Formula Driven Awards and Activities

NASA does not have any legislated or formula-driven awards to HSI's.

AWARDS AND NARRATIVE INFORMATION

Private-Sector Involvement

PART II-A: Discretionary Awards and Activities

1. ACTIVITIES TO BE CONTINUED FROM FY 1994

1. a. Narrative

NASA has recognized the complexities of establishing activities which attract the joint interest of the private sector and HSI's. The Office of Equal Opportunity Programs and the Small and Disadvantaged Business and Utilization Office will work closely during the next year to share contracting opportunities with HSI's. Additionally, NASA will continue to encourage private sector and HSI collaboration and meaningful participation.

During FY 1994, NASA will emphasize the interaction of the private sector with HSI's through communications and presentations of the different programs carried out by NASA, such as the newly created HSI Research Center Program. The participation in and encouragement of partnerships between the HSI and the private sector are integral and significant components of the competitive process for selection.

Publicity to NASA's ongoing programs with HSI's will be enhanced through the publication and distribution of descriptive literature within the private sector. It is expected that this publicity will increase the interest and participation of corporate America in the NASA HSI programs.

2. NEW INITIATIVES TO BE CARRIED OUT DURING FY 1995

2. a. Narrative

During FY 1995, NASA will provide funds to form a network of representatives from industry, educational institutions, government and non-profit organizations to explore ways in which these groups can collaborate to increase the pool of Hispanics who pursue science, mathematics, engineering and technology college studies and enter careers in these fields. The final product produced by this group will be a report with findings and recommendations. Networking by members of such a group should also produce other unplanned results such as a joint university private enterprise initiative, scholarships, or improved recruitment. This project will be funded for \$100,000.

During FY 1995, the NASA Economic Development Strategy for Technology Transfer (NEST2) model will be used with HSI's. NEST2 is a partnering plan that incorporates and builds upon the strengths of the NASA Installations and private corporations to enhance the technology transfer and commercialization capabilities of minority institutions. It is

anticipated that NEST2 will act as the impetus for business and community development, and utilize the HSI in partnerships with private industry, or small disadvantaged businesses.

PART II-B: Legislated or Formula-Driven Awards and Activities

NASA does not have any legislated or formula-driven awards to HSI's.

AWARDS AND NARRATIVE INFORMATION

Administrative Infrastructure

PART II-A: Discretionary Awards and Activities

1. ACTIVITIES TO BE CONTINUED FROM FY 1994

1.a. Narrative

There are no specific funds allocated for support of the administrative infrastructure of HSI's, NASA assumes that all of the activities, support, and initiatives referred to in other parts of this plan will contribute indirectly to this important area. This certainly is anticipated through all NASA's minority university institutional research and education awards such as Research Centers, Institutional Research Awards, and Mathematics and Science Awards for Teacher and Curriculum Enhancement Programs.

2. NEW INITIATIVES TO BE CARRIED OUT DURING FY 1995

PART II-B: Legislated or Formula-Driven Awards and Activities

NASA does not have any legislated or formula-driven awards to HSI's.

PART III - ELIMINATING BARRIERS TO PARTICIPATION BY HSI's IN FEDERAL PROGRAMS

NASA does not have any policies or regulations which would prohibit the full participation of any university in NASA programs. To encourage HSI participation, NASA conducts a variety of activities to communicate to HSI's faculty and students the kind of research, education, and employment opportunities that are available through the Agency. NASA remains interested in achieving a diverse, innovative, and skilled technical and scientific workforce; and the Agency is pleased to have partnerships with talented principal investigators and students from HSI's. As a means to ensure against the development of any barriers which would limit HSI participation in Agency activities in FY 1995, NASA will promote the following strategies.

- The recently hired OMU Program Manager will enhance the interactions among NASA Headquarters, Field Installations, and HSI's.
- Whenever feasible, meetings, conferences, reverse site visits, etc., for HSI NASA sponsored programs will be conducted at NASA Installations. Programs will be designed to allow HSI's representatives to learn about the Installations' missions and functions to interact with Installation personnel.
- NASA will endeavor to increase its awareness of HSI capabilities and possible R&D collaboration opportunities related to NASA's mission objectives.
- NASA installation scientists, engineers, Equal Opportunity Officers, and University Affairs Officers plan various HSI campus visits; and they plan to invite HSI's to visit their respective NASA laboratories/Installations.

PART IV - OTHER ACTIVITIES

During FY 1995, the Minority University Research and Education Division and the OMU Program Manager plan to develop initiatives with NASA program offices and Field Installations to form technical assistance teams, and conduct reviews of NASA HSI initiatives to ensure optimum benefits for successful program management.