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DIRECTORATE STATUS

FROM: KAMEN, Dean: FIRST

TO: DR. D.A. BROMLEY

DATE OF
CORRESPONDENCE: 01/06/92

SUBJECT: HE IS FORWARDING THE FINANCIAL OVERVIEW DR. BROMLEY
REQUESTED. INCLUDED ARE SIX ADDITIONAL INVITATIONS
TO THE DINNER EVENT IN FEBRUARY.

DIRECTORATE STAFF
ASSIGNED: ASSIGNED:

ACTION STAFF
REQUIRED: ACTION:

SENDER'S DUE DATE:
OSTP DUE DATE: STAFF DUE DATE
DATE COMPLETED: DATE COMPLETED/DEPT:

COPIES TO: D. Allan Bromley
INTERNATIONAL/POLICY

WHITE HOUSE TRACKING #: CONTACT PERSON:
REMARKS: PHONE: EXT:

OSTP RECEIVED: 01/07/92
FILE: P-EDUCATION

DEPT RECEIVED:

CENTRAL FILES:



FIRST



FOUNDATION FOR INSPIRATION AND RECOGNITION OF SCIENCE AND TECHNOLOGY

340 Commercial Street • Manchester, New Hampshire 03101 • (603) 666-3906 • FAX (603) 666-3905

Dr. D. Allan Bromley
Science Advisor to the President
Executive Office of the White House
Washington, D.C. 20506

92 JAN 7 P 2:14

January 6, 1992

OSTP
MAIL ROOM

Dear Dr. Bromley:

As requested, here is the financial overview of the request we have pending with the National Science Foundation. It would be great to make a public announcement of the funding at the upcoming event if possible.

I am forwarding the full documentation for the funding request along with six additional invitations to the dinner and event in February. We will send you a detailed itinerary of the two day event by the end of the week.

Sincerely,

Dean Kamen

cc: Richard A. Osborne

Withdrawal/Redaction Sheet

(George Bush Library)

Document No. and Type	Subject/Title of Document	Date	Restriction	Class.
01. Form	Proposal to the National Science Foundation (19 pp.)	7/25/91	(b)(4)	

Collection:

Record Group: Bush Presidential Records
Office: Science and Technology Policy, Office of (OSTP)
Series: Bromley, D. Allan, Files
Subseries: Education Files
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File Location: Education: General [4 of 4] [1992]

Date Closed:	1/14/2010	OA/ID Number:	62032-006
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AR Case #:		MR Case #:	
AR Disposition:		MR Disposition:	
AR Disposition Date:		MR Disposition Date:	

RESTRICTION CODES

Presidential Records Act - [44 U.S.C. 2204(a)]

P-1 National Security Classified Information [(a)(1) of the PRA]
 P-2 Relating to the appointment to Federal office [(a)(2) of the PRA]
 P-3 Release would violate a Federal statute [(a)(3) of the PRA]
 P-4 Release would disclose trade secrets or confidential commercial or financial information [(a)(4) of the PRA]
 P-5 Release would disclose confidential advice between the President and his advisors, or between such advisors [(a)(5) of the PRA]
 P-6 Release would constitute a clearly unwarranted invasion of personal privacy [(a)(6) of the PRA]

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 (b)(8) Release would disclose information concerning the regulation of financial institutions [(b)(8) of the FOIA]
 (b)(9) Release would disclose geological or geophysical information



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A. Summary of Current and Pending Support.

A pilot of this proposed project was successfully carried out in Manchester, NH during the spring. Over 1,000 students from three junior high schools and one elementary school participated in the pilot. Modest support was made possible by local industry and other sources. Activities proposed here represent expanding the pilot into a national program within a three year time table. NSTA has endorsed the program and will provide services on a subcontract basis to distribute the program to participating school administrators, teachers, and students. A major portion of the of the operating costs, and all the students awards will be supported through corporations participating in the program. The funds sought from NSF will help defray the start-up costs during the first three years of the program. In total, the effort represents a national coalition between business, education, and government officials dedicated to finding innovative ways to get more children, from all backgrounds, "hooked" on science.

II. Project Description

A. **Project Objectives**

1. Needs Addressed

(a). Problem

The focal problem addressed by this project is the serious lack of programs dedicated to motivating students across all segments of America's society to become more proactive in pursuing knowledge in science and mathematics during their pre-college years. The consequences of this void is that most students will continue to view science and mathematics unfavorably and continue to perceive technical careers as less than desirable.

As Paul Tsongas stated in An Economic Call To Arms, " ... the desire to learn is fundamentally as critical as the opportunity to learn. No amount of money, no accumulation of technical equipment, can overcome a child's sense that learning

really doesn't matter that much." Unfortunately, this mindset is very prevalent when it comes to science and math.

Numerous national reports, such as A Nation At Risk, have documented the trends, concerns, and implications. Enrollment in advanced science and math courses by high school students is low, unless the course is required. While almost 80% of high school students take a course in biology because it is a graduation requirement, only 40% take a chemistry course, and only 20% take physics as electives. Even when required it appears that students are not putting a sincere effort to learn the subject matter. In Fulfilling the Promise: Biology Education in the Nation's Schools, the National Research Council reported that a 1988 biology test taken by 12,000 American high school students yielded a startling result - half of the students who had not taken a biology course did better on the test than 40% of those students who had.

While the issues of curriculum and teacher training are valid concerns, the founders and supporters of FIRST believe that one of the overriding issues is one of student interest and demand. The lack of demand is also evident in the participation levels in science related activities and programs on an extracurricular basis, which reflects a very small percentage of the student population in schools. Such programs are typically viewed as "nerdy" or just for the "gifted" students. Such views need to be changed.

Enrollment in science courses at the high school level is low, except when required. Because of graduation requirements, about 80% of high school students take a course in biology. But only 40% take chemistry, and fewer than 20% take physics. In every other industrialized nation in the world, most students study all three of these subjects and more. The failure of our students to voluntarily take advanced courses in science and math clearly suggests a demand problem exists. The Human Resources committee on the Council on Competitiveness reported in August, 1990, "Over 20% of American junior high schools are equipped with computers, compared to 3% in Japan, suggesting that Americas education problems do not result from a lack of materials or supplies. Rather, they are rooted in human resources management and societal attitudes.

Surveys of American students show that they dislike science, and that this attitude begins at about the 6th or 7th grade. While peer pressure may be a factor that

influences the negative attitudes, adults (including parents) show abysmal understanding of, or interest in, science and mathematics, or the technology they produce. Unfortunately, these attitudes are often passed on to children, either directly through the home, or through the media. Numerous national reports, starting with A Nation at Risk have documented the problem identified here. In response to those reports, the February 1991 report of the FCCSET Committee on Education and Human Resources, entitled, By The Year 2000: First in the World, cites the most "significant challenges", including:

"Declines in American student performance relative to international peers."

"Insufficient numbers of students pursuing education and training to fill critical scientific and technical jobs."

"Low levels of scientific literacy among the American public."

"Underrepresentation of women, minorities, and persons with disabilities in science courses and careers."

According to the FCCSET report, "85% of the net new entrants into the American workforce between now and the year 2000 will be women, minorities, persons with disabilities, and foreign nationals." The implications are a clear threat America's ability to replenish its resource pool of scientists and engineers.

(b). Significance

Our workers lack technical skills and the science base of knowledge needed to acquire those skills. Evidence for the latter comes from data on export/import comparisons, patent applications, productivity measures, high technology activity, etc. For example, even though the U.S. invented the video tape recorder, there are no U.S.-owned companies now making such recorders. Almost half of U.S. patents issued last year were to foreign companies or individuals.

The significance of improved motivation to sustain an interest in science is reflected in all six National Education Goals, but is especially relevant to Goal 4: "By the year 2000, U.S. students will be first in the world in science and mathematics achievement."

and Goal 5: "By the year 2000, every adult American will be literate and will possess the knowledge and skills necessary to compete in a global economy and exercise the rights and responsibilities of citizenship."

These goals cannot be achieved through traditional attempts at motivation used in schools. They will require new and creative ways of capturing, and holding, the interests of young people. Surveys have shown that children's interest in science and math deteriorates around the time they are approaching, or in, middle schools. Hence, this program is targeted at grades 5 through 8.

2. Alternative Solutions

Currently, two traditional methods of motivation are used in the American educational system: punishment and reward. Punishment, in the modern system comes in the form of bad or failing grades for behavior, absenteeism, or other activities that are unrelated to actual learning. Unfortunately, that system tends to demotivate the students while reinforcing negative attitudes.

The reward system that is prevalent in American schools is effective for some students. However, its effectiveness is severely limited in that it serves to motivate only the already motivated students. The recognition and awards that come from excellent school work will not inspire the general student population to become scientific literate.

What is needed is a quantum jump in student interest, and the motivating strategies must be connected to the American culture, if they are to succeed. We live in an age of media, where marketing, public relations, and major public events provide opportunities to shape not only what people think, but how they think. The expert use of marketing and media has convinced millions of Americans to revere sport stars as "gods" and the human body a temple. Unfortunately, misapplied marketing and media has also encouraged millions of Americans to turn their minds into landfills.

The artform of marketing coupled with the power of media has created an insatiable desire for instant gratification within our society. Without debating the good, or bad, aspects of that desire, we must recognize that America's youth fully embrace it. What is proposed here is that we utilize the tools, techniques, and talents of marketing and

media to create interest in science and mathematics among our youth, and turn more of them into science and math enthusiasts who will seek careers in fields related to those subjects.

One might argue that if we just put more money into improving teachers or curriculum materials, the better teaching and materials would provide the needed motivation to encourage young people to learn more. However, we already spend approximately \$200 billion per year on pre-college public education. To leverage this expenditure to produce greater interest would certainly take some large fraction of the total cost. Would it be 5%, some \$10 billion? Or even more? Such a cost is prohibitive when we realize that the FCCSET report allocates only \$0.66 billion among all federal agencies for pre-college science and math education, for Fiscal Year 1992 Teacher programs and curriculum development programs will consume most of these funds. Thus, what is included at the Federal level, by itself, cannot affect the most crucial variable in the education equation: student interest and initiative. Unless a national alliance is formed between all interested constituents to address the motivation issues, there remains the very real possibility that curriculum changes and school reforms underway will fall on deaf ears in terms of student receptivity.

c. Proposed Solutions

This project proposes (1) to use a new kind of organization designed to compliment and reinforce the educational reform efforts of education and business by (2) using the methods of American marketing and media to create widespread interest in , excitement about, and popular demand for, science and technology.

The Foundation for the Inspiration and Recognition of Science and Technology (FIRST) is a national coalition of leaders from business, education, and government that was created specifically to address the lack of interest or enthusiasm by American youth and adults in regard to science and technology through effective marketing and promotional initiatives.

FIRST Points, represents an innovative motivational program designed to provide teachers with a student reward system that the students will relate to, and be motivated by. FIRST will recruit national corporations, local businesses, and universities to contribute products, services or scholarships as prizes. FIRST will then assign a point

value to each prize. Teachers will have overall discretion for how and why they would reward their students with points. It is a program designed to stimulate broader interest in science and math, not just reward the "A" students. Points for improved performance, extra effort, and individual initiatives beyond normal classroom activities are encouraged. Students earn points and can trade them in for small prizes they want, or they can save them until they have a sufficient number of points to get one of the larger prizes. In total, the teachers are provided a contemporary reward tool that will incent the students, and the students will be rewarded for improvement with rewards that they want.

2. Project Design.

a. Strategies

FIRST POINTS

There are three problems associated with initiating a program involving rewards in the form of points for participation or achievement by students. The first concerns the generally negative image such tangible rewards might have to the education community; the second concerns the willingness of businesses, companies, and universities to participate, and the third concerns the scale of the program and how something of such large scale can be effectively carried out.

The problem of acceptance will be most difficult with educators. Business and industry are well accustomed to using tangible product incentives in all kinds of contests to spur demand. Educators regard learning as having intrinsic value, so that an external reward program can appear to demean or commercialize what dedicated teachers regard as a very noble profession. The program must respect this point of view and simply argue, we believe correctly, that FIRST Points is a powerful teacher's tool that will reinforce lesson plans by making students more proactive in the process, and by make the learning process in science and math more fun and exciting.

FIRST Points will not provide permanent motivation to young people; but we predict that it will get larger numbers more deeply involved to the point that they discover the

intrinsic value of learning science and technology. After that they won't need such external rewards, and the prize of knowledge becomes a reward unto itself.

Apart from the rational arguments in favor of this approach, the image problem may remain. The appearance can also be damaging. We propose to address that problem through the quality of advisors and partners in the project. The Superintendent of the Manchester, NH, schools has agreed to serve on the project advisory board. We have also identified other extraordinary leaders, each willing to serve and to stand behind the idea, like Dr. Roland Schmitt, former Director of the National Science Board, and now President of RPI, and Governor Judd Gregg of the state of New Hampshire.

The Board of Directors of the National Science Teachers Association has formally endorsed FIRST, and will participate in the FIRST Points program in a subcontracting capacity. . The NSTA has offered to produce and distribute the FIRST POINTS catalog, and they will distribute FIRST POINTS to science and math teachers using their U.S. Registry of Science and Mathematics teachers mailing list (which contains the names of 535,000 teachers. The NSTA will also actively participate in maintaining quality control of the program to insure that the program fulfills its' intended purpose.

FIRST was created because organizations like NSTA do not have the established relationships with the public relations and marketing components of American business and industry. As clearly shown from the Board of Directors of FIRST, and from the list of Advisors for the FIRST POINTS project, FIRST has direct access to CEO's of major U.S. corporations, universities, and business organizations. FIRST has presented the entire FIRST game plan to the board of the Council on Competitiveness. As a result, we received very positive feedback and offers to support FIRST by various members of the executive board of the council, including Mr. George Fisher, head of the council, and Chairman of Motorola, Inc. FIRST has has established a strong base of supporters within government, including Dr. Erich Bloch, Dr. Allan Bromley, and Governor John Sununu. FIRST will continue to contact business, industry, and higher education executives and secure commitments to participate in the various program components. As the Grantee, FIRST will oversee the participation of groups like the NSTA in project activities.

b. Resources Needed

The FIRST POINTS program will require significant human and material resources. The fundamental problem of facilitation must be done by FIRST, since it has the high level contacts with industry and education. Facilitation requires staff to travel and work with public relations, and advertising staff, at major firms throughout the U.S. Also, contacts must be made and maintained between FIRST and CEO's at major corporations, major research universities, and units of local, state and the federal government. Access to teachers is required, and through the teachers access to students of science, math and technology. Access to retail businesses in shopping malls must be maintained, and FIRST must have staff to assure this element of the project. Since FIRST was created with these kinds of functions in mind, and no other existing organization has this kind of capability, the needed resources are clearly present in the project.

3. Monitoring and Evaluation Plan

The project oversight provided by the President/CEO, and Board of Directors of FIRST, and the advisory board to FIRST Points will be supplemented by the NSTA Board of Directors, which will carefully monitor and evaluate the effectiveness of the FIRST POINTS program and other FIRST programs in which it participates.

Evaluation of the project has several elements. Achievement of project milestones are monitored by the advisory board through receipt of periodic reports. Participation in the project component projects, in terms of penetration of the target populations will be maintained through analyses of those participation rates. Quality control of details involved in execution will be completed through NSTA for teacher and student materials, and through the FIRST board for prizes and corporate participant. Records can be maintained by advertising and PR firms on the extent to which FIRST POINTS activities are reported through the media of TV, radio and print. The actual effects on citizen involvement or student motivation can only be reflected by monitoring enrollments and interest shown in science courses and activities. Educational researchers at universities will be encouraged to look at such factors and to create experimental designs to assess FIRST POINTS effects on a number of variables.

a. Anticipated Outcomes

The project intends to increase interest, enthusiasm, and excitement about science and technology among youth and adults in the U.S. We expect to see larger numbers of young women and minority children participating and succeeding in science and mathematics because of the motivation these programs provide. As a point of information, three of the four grand prize winners in the pilot study were females, two of which openly acknowledged little interest in math and science prior to the program being implemented.

How will we know that we have achieved the anticipated outcomes? Fortunately, or unfortunately, as the case may be, confirmation will be easily apparent. Our nation faces such a serious economic and national security crisis in education and attitude toward science and technology. Results will be easily determined by evidence of attitude change on the part of students, parents, and citizens in general. We expect to use an expert survey and evaluation consultant (Iris Weiss of Horizon Research, Inc., Chapel Hill NC) to prepare, sample, and analyze attitudes of a national sample of our population, sampled by age, socioeconomic status, occupation, etc., both before the program begins, and at points throughout the first three years of the program, with the analyses confirming attitudinal changes. Other measures will look at participation rates in schools.

c. Reports

Project reports will take the form of published papers in NSTA magazines for the student components, and in national media and advertising magazines for the media public relations components. Formalized reports to the Foundation will be provided at the end of each milestone, as the project progresses. Survey and attitude data will be summarized and reported on separately by Horizon Research.

4. Organization and Management Plan

The organization and management plan is relatively straightforward. This will be a cooperative project between FIRST, NSTA, the Government, and corporate America.

b. Expertise and Resources

The expertise and resources brought by FIRST, NSTA, the business and corporate partners, and others in this project are immense. They constitute a huge fraction of the total human and material resources of the United States. The project is truly a national, cooperative effort aimed at a worthy goal.

c. Roles and Responsibilities

The roles and responsibilities of various partners in this project have been previously detailed. Basically, each partner has responsibility for the area in which they can offer the greater expertise or resources. The project is organized around win-win situations designed to strengthen each of the various partners and their relationships with each other.

d. Income-Producing Activities

Income will be produced in this project. Most such income will be expended in project activities. For example, the FIRST POINTS catalog will, in effect, be an advertising vehicle for different products, businesses, corporations, colleges, and universities. Funds collected in such ways will initially be used principally for printing and distribution costs of the catalogs, or to create additional prizes. As the project continues, and the number of schools and students participating increases, ad rates for the catalog can be increased. Excess funds will be applied to other FIRST programs intended to market and promote science. Since the project is expected to phase out all foundation support by the end of the 4th year, considerable revenue mechanisms must be nurtured.

5. Utilization.

Since this project has, as its principal aim, the goal of motivating young people and adults to learn and participate in science and technology, there will be no curriculum products, per se. Rather, it is a program that will enhance the effectiveness of the existing curriculum in all schools that participate.

F. Work Plan

1. Goals

FIRST Points was created specifically to stimulate broad interest in science and mathematics courses and careers across all segments of America's pre-college population. The FIRST Points program is designed to:

- create a demand for these subjects among the masses, not just the "A" students,
- recruit larger numbers of the underrepresented students population (i.e. females, minorities, and persons with disabilities),
- serve as a "hook" to get students more interested in science and mathematics,
- change the attitude of students toward these subjects by changing the image of science and mathematics and the individuals that pursue science and math related careers,
- build self-confidence, and
- provide teachers with a tool (booklet and teacher guides) that encourages the development of problem solving skills among students.

FIRST Points will get kids interested in science and math by providing short term incentives. Students will continue to improve and pursue these subjects once they discover that science and math are fun, applicable and rewarding. Long term, students will realize that the real reward was not the prizes, but the knowledge gained and the self confidence derived as a result of their efforts.

2. Tasks/Time Requirements

Over a three year period, we proposed to:

- develop, test, and implement the program in over 30% of the student population in grades 5 through 8
- conduct and publish formative evaluations every four months
- develop and sustain a bimonthly newsletter for participating teachers and students

PHASE ONE (1/92 - 12/92)

FIRST Points Advisory Board (Dr. Roland Schmitt, President of RPI; Bill Aldridge, Executive Director of the NSTA; NSTA Executive Board member; Dr. Eugene Ross, Superintendent of Manchester School District; School Coordinator; Teacher; Student; Marketing Expert; Business Representative) meets to develop strategic plan

Conduct focus studies among teachers and students

FIRST recruits 75 sponsors (15 per region, 5 regions) based on Advisory Board recommendations and Focus study findings

Development and preparation of the FIRST Points materials by scientists, and teachers:

- Booklet
- Teachers Guide and Surveys
- Brochures
- Secondary signage (i.e. posters, decals, etc.)

Recruit 1,700 schools to participate by direct mailing to teachers, principals, superintendents and state boards of education.

Select participating schools based on response to direct mailing, Advisory Board recommendations, and location of sponsors

Present FIRST Points program at major educational and business meetings.

Field test in 1,700 schools consisting of 8500 teachers and 1,000,000 students

Develop and sustain bimonthly newsletter for students and teachers

Evaluate program every four months and publish results.

PHASE TWO (1/93 - 12/93)

Phase Two will be an extension of Phase One except the program will be implemented in 4,000 schools consisting of 20,000 teachers and 2.4 million students. Each year the content of the booklets and teacher guides may be changed.

PHASE THREE: (1/94 - 12/94)

Phase Three will an extension of Phase One except the program will be implemented in 6,000 schools consisting of 30,000 teachers and 3.6 million students.

b. Facilities, Equipment and Materials Needed

Facilities and equipment will be funded by the private sector (i.e. participating corporations)

G. Financial Agreements**1. Cost Sharing**

As can be seen in the budget pages, the general financial aspects of the project over 3 years is as follows:

NSF Request: \$5,087,900

Private Sector: \$12,365,312 + \$42 million in student awards (prizes)

In-Kind Sharing: \$75,000

Total Project Costs: \$17,528,212 + \$42 million in student awards (prizes)

The approximate percentage of NSF funds for this project is 9%, with 91% of the project being supported by the private sector or grantee in-kind services.

For the NSF, the approximate cost per student is : \$2.14 for Year One; \$0.70 for Year Two; and, \$0.63 for Year Three.

2. Project Continuation after Federal Support Ends

It is expected that by Year Four, upon the demonstration of the effectiveness of FIRST Points, the program will be self-sustaining based on corporate sponsorship.

DR. VIKKI C. HOWARD

PERSONAL	Born 1956; raised in Reform, Alabama; spouse of Jeffrey A. Carlisle; 3 stepchildren
ADDRESS	The Technology Center, 340 Commercial Street, Manchester, New Hampshire 03101
EDUCATION	D.V.M., 1986, College of Veterinary Medicine, Mississippi State University Special interest in marketing/practice management B.S., 1980, Mississippi University for Women, Columbus, Mississippi Special interest in medical illustration
CAREER	Program Director, Foundation for the Inspiration and Recognition of Science and Technology Marketing Consultant, nVIEW Corporation, Newport News, Virginia Veterinarian, Massachusetts veterinary hospitals Project Leader, Computer Aided Diagnostics, Mississippi State University College spokesperson, College of Veterinary Medicine, Mississippi State University
AWARDS, HONORS	Who's Who in Veterinary Medicine Dean's List Scholar President of Alpha Epsilon Delta Recipient of the Townsend Award for Outstanding Student in the School of Arts and Sciences Recipient of other numerous awards and scholarships in college and veterinary school
NARRATIVE	In the fall of 1990, Dr. Howard elected to leave her veterinary medicine practice to accept the position of Program Director for the Foundation for the Inspiration and Recognition of Science and Technology (FIRST). Continuing her strong educational background in science with an avid interest in marketing, Dr. Howard brings added strength to the management team of FIRST. Dr. Howard also serves as an attractive role model to females and children coming from a disadvantaged environment. Despite being reared in an impoverished environment, Dr. Howard persevered and graduated 4th in class from Mississippi State University, College of Veterinary Medicine. Dr. Howard's outside interests include gardening and acrylic painting. She also serves on the Board of Directors of a local, interactive science center in Manchester, New Hampshire.

Richard A. Osborne

Personal Born 1949; raised in Connecticut; one of six children

Address The Technology Center, 340 Commercial Street; Manchester, NH 03101

Education BS Marketing '74, and MBA Finance, '77 - University of Connecticut

Career President and CEO, FIRST
President, Osborne & Associates
Project Manager, GE Corporate Marketing
Director Of Corporate Planning, Raymark Corporation
Manager of Marketing, Planning and Adminsitration, Raymark Corp.
Earlier career path through sales and marketing management

**Awards/
Honors** Elected into Beta Gamma Sigma,
National Business School Honor Society, 1974

Narrative Richard (Dick) Osborne left a private general management consulting practice to assume the challenge of launching the Foundation for Inspiration and Recognition of Science and Technolgy (FIRST) in May, 1991. Highly respected for his marketing expertise and creative mind, Dick consulted to senior managment in GE, E.I. DuPont, along with many other companies. From 1985 to 1989, Dick was on GE's Corporate Marketing Staff where he worked closely with senior level line and staff officers to improve the effectiveness of marketing and to help the company become more responsive to the customer base.

Prior to GE, Dick was with Raymark Corporation where he held reposnsibility for directing the corporate planning activities. Dick advanced to that role through sales and marketing management positions. Dick and his wife, Sandra, have been married for twenty years. They have two sons, Daniel (15) and Rick (13).

Dick's outside interests include youth development programs. Dick has served as President for YMCA programs encouraging father and son interaction; as Vice President of Little League Operations; and as Director of a local P.A.L. baseball program.

DEAN KAMEN

PERSONAL	Born 1951; raised in Long Island, New York; one of four children of Jack (illustrator/artist) and Evelyn Kamen (teacher/school administrator)
ADDRESS	The Technology Center, 340 Commercial Street, Manchester, New Hampshire 03101
EDUCATION	Attended Worcester Polytechnic Institute and Harvard University
OCCUPATION	Physicist, Entrepreneur, Inventor and Industrialist
CAREER	President, Independent Prototype, 1971 to present Founder and President of Auto-Syringe, Inc., 1976 to 1982 Founder and President, DEKA R & D, 1982 to present Founder, Foundation for the Inspiration and Recognition of Science and Technology, 1989 Founder, Science Enrichment Encounters, 1985 Chairman, Enstrom Helicopter Corporation, 1985 to 1990 Chairman, Teletrol Energy Management Systems, 1986 to present President, Advanced Medical Development, 1990 to present
AWARDS, HONORS	New Hampshire High Tech Entrepreneur of the Year, 1988 Connecticut Campaign Against Cooley's Anemia, 1978
PATENTS	More than 30 patents in a variety of medical and technological fields

NARRATIVE

Dean Kamen, a native New Yorker, has throughout his lifetime devoted his creative genius toward improving the quality of human life. Currently, his primary focus is the invention of medical devices and the development of a nonprofit organization he founded in 1989 under the guidance of John Sununu, Former Governor of New Hampshire. Mr. Kamen created the Foundation for the Inspiration of Science and Technology (FIRST), which simply stated, uses the techniques of consumer marketing firms to inspire children to excel in science and mathematics. Bringing together more than 100 leaders from business, government and education, Mr. Kamen has turned a concept into a reality. His passion for science education is also reflected in another related endeavor called Science Enrichment Encounters, a hands-on science center in Manchester, New Hampshire.

At the age of 17, Mr. Kamen invented a switching device, that was used in light shows for events in Times Square, New York. He also constructed the first light show at the Hayden Planetarium in New York. While in college pursuing a technical degree, Mr. Kamen invented an insulin infusion pump that led to the founding of Auto-Syringe Inc. He later sold the company to a major healthcare corporation for an undisclosed amount in the millions. Mr. Kamen then founded DEKA R & D Corporation, based in Manchester, New Hampshire, to continue his pursue of the development of medical devices. In addition to DEKA, he owns several businesses ranging from helicopter to environmental control companies.

Mr. Kamen has been featured in numerous publications and major network shows, and his inventions have been cited in over 50 professional journals.

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Paul E. Tsongas. A Call to Economic Arms Tsongas Committee, 1991

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As of December, 1990

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Raytheon Company

Lexington, Massachusetts

Wheelabrator Technologies

Danvers, Massachusetts

FIRST EXECUTIVE SUMMARY

Founded in 1989, FIRST is a truly innovative effort to reverse America's plunge toward scientific and technological illiteracy, and non-competitiveness. FIRST approaches this quest as a job of marketing and motivating - in essence, to create a greater demand for science and math knowledge and learning among students. The ultimate mission is to lead young people to see science as fun, exciting, and rewarding; to recognize the importance of technological advance as a cornerstone of America's growth and global leadership; and to recognize the importance of scientific literacy as an essential component of cultural literacy and social responsibility in the future.

The unique perspective that FIRST brings to the table is straightforward, logical, and compelling. In 1989, America invested over \$480 billion in educating our students. Business and other philanthropic support added over \$5 billion more to the equation. With a smaller student population than twenty years ago, we are spending more per student than ever. In our schools, we have significantly more computers and other sophisticated teaching and learning tools. Relative to our global competitors, America lacks neither money nor tools in terms of what we offer our students. The American education system is not confronted with a supply problem.

We are suffering from a demand problem - particularly in science and mathematics education. During the 1960's, America produced more science and engineering graduates per capita than any other country. Today, the percent of male graduates in the U.S. receiving engineering degrees is about one-half that of Japan, and only slightly higher than in Germany. While we have more females and minorities pursuing similar degrees compared to our global competitors, as a percent of the population they remain grossly underrepresented.

In focus groups of students conducted around the country, science and math were consistently described as dull, boring, and incomprehensible to normal people. Scientists were described as eccentric, introverted, antisocial nerds who are either bald or never used a comb. They are perceived as living an isolated existence, seldom interacting with anyone, preferring computers and calculators to people. With that kind of mental picture being all too often reinforced in our media, one does not have to be a rocket scientist to understand that science and math are suffering as much from an image problem as from a curriculum problem.

To borrow a phrase from the business world, science and math teachers are losing the battle for market share of the child's mind. If science and math were consumer products, we would expect to see lower brand awareness, less shelf space, and declining sales. In essence that is exactly what has occurred. With the pervasive, negative attitudes associated with math and science, the best designed curriculum and most sophisticated teaching techniques and tools may not help reverse the decline. An old adage warns us, we can lead a horse to water, however, the horse may not drink. FIRST's objective is to make the next generation thirsty for science and math knowledge.

FIRST will target members of the next generation while their minds are still open and their attitudes can still be influenced. This will be done through the use of games and contests, celebrities, state of the art marketing and media techniques, hands on science exhibits, imaginative teaching materials, and the creation of real heroes. FIRST will pursue its targeted audience wherever they are, whether that be in the classroom, in the shopping mall, or in front of the television. FIRST's approach will be media-wise and market-driven. FIRST will employ the same marketing tools that distract our youth, to attract our youth to science and math. A number of prototype programs have been formed. The programs are designed to attract and hold media attention as well as hit the hot buttons of America's youth. One program, FIRST Points, has been successfully test marketed with very positive results.

In form, FIRST is structured as a non-profit organization. In function, FIRST is a marketing and promotions company whose products are science, math, and technology. Our intent is to continuously

reinvest revenues FIRST generates back into the company; in the form of new programs, more prizes, more scholarships, the construction and maintenance of a Science and Engineering Hall of Fame, and a hands-on science center with a continuously changing array of exhibits. Our primary audience is America's youth, but our programs are also intended to increase science literacy throughout our society. Our investors and partners will be corporate America, the government, and academia. All constituencies will derive both immediate and long term benefits from FIRST's success.

The strategic plan for FIRST has a set goal to be self-funding by the end of the third full year in operation. The funds needed to support FIRST will be generated through the marketing and advertisement budgets of corporate America, once the pilots are successfully tested and introduced on a mass market scale. As envisioned, the sponsors of FIRST programs will be deriving focused and uniquely valuable market exposure, even as they advance a vital social agenda. In a classic phrase, they will do well by doing good.

In the near term, FIRST must raise the seed capital needed to cover the start-up operating and development costs for the first three years. As a non-profit, we are actively seeking grants and donations. As a business, we are also actively seeking several strategic partners, from corporate America, willing to make a significant investment in FIRST. In return, we would provide those investors with an opportunity to become more intimately involved in charting, steering, and navigating a successful course for FIRST.

FIRST's approach is distinctive a) because our focus is motivation, b) because our thrust is to create an attitudinal shift and market demand for science and math knowledge outside of the classroom as well as inside, and c) because FIRST is a business venture wherein the partners in business and education will derive fair value and mutual benefits from the relationship. FIRST intends to draw heavily on the marketing expertise of corporate sponsors, while tapping the real world authority they bring to understanding the relationship between man's quality of life and technology. From the educational community, we will be working in partnership with experts in education, science, and math. FIRST has established a strong base of support and a solid working relationship with the National Science Teachers Association and the National Science Foundation. FIRST has also developed a strong, and growing base of support from respected leaders in government.

How will FIRST measure success? To the extent that FIRST succeeds, more students across all segments of our population will be pursuing training in science and math related fields. America's next generation will routinely count the heroes of science and technology among the role models they possess. The attitude of the next generation will be more favorable in terms of the adjectives used to describe science and math. The quality of America's future work force will be improved with a more technically skilled talent pool for companies to employ. The nation's leadership position in science and technology will be reinforced, our competitive position will be strengthened, and our society will be more scientifically literate.

Is it really possible to inspire and motivate children to develop a sustained intellectual curiosity about science and technology by reinforcing lessons within the classroom, with marketing programs and promotions outside of the classroom. Will the marketing techniques used to create demand for sneakers, clothes, and hamburgers work equally well in creating demand for science and math? The founders of FIRST believe it is not only possible, but absolutely necessary. America needs to create a national institution that can creatively channel some of the vast skills and resources of business, foundations, government, and education in a shared "partnership" mission of promoting the products of science, math, and technology as if our future depended on it.

FIRST INCENTIVE AND RECOGNITION PROGRAMS

FIRST Points

An incentive-based program allowing teachers to provide students with tangible rewards for improvement in science and mathematics.

FIRST ABCs

A series of creative problem-solving contests, called FIRST ABCs (Applied Brainpower Competition series), providing a unique arena in which corporations, colleges, or secondary schools can compete in a challenging, but fun-filled competitive setting.

FIRST in Class

A teacher incentive program providing superior teachers with recognition and monetary awards while capturing their exceptional teaching skills on videos which will be distributed to schools nationwide.

Science Circuit

An instructional video library featuring superstar celebrities that will lend excitement and relevance to the application of everyday science.

FIRST Place

A nationwide network of kiosks, in shopping malls and other locations, consisting of science and math computer games that rewards its players with merchandise coupons and FIRST Points.

Science Journeys Boxed to Go

A variety of packaged field trips with turn-key science lessons explaining a scientific theory that applies to the site the students will visit.

Cereal Thrillers

A lab experiment in a cereal box awarding prizes to the best explanations on how the results of the experiment applies to everyday life.

The National Challenge

A program challenging America's youth to solve "unsolvable" programs of mathematics and win a million dollar prize.

The FIRST Prize

An American version of the Nobel Prize creating real world heroes in science, math and technology.

The FIRST Forum

A unique platform for the public sector and the industrial community to express and explore their views on the costs and benefits of technology.

The Science and Engineering Hall of Fame

A child-oriented Hall of Fame for great American men and women that "humanizes" and honors their scientific contributions to society.

The Hands-On Science Center

An interactive science center and playground for children of all ages linked to the Hall of Fame. An offshoot is the FIRST Wonders on Wheels (WOW) which would bring interactive science exhibits to schools.

DEAN KAMEN. INVENTOR, ENTREPRENEUR

Kamen is irked that every child knows Ronald McDonald, but that no one knows the name of a living scientist.

Dean Kamen, 39, is founder of DEKA, a medical research and development company in Manchester. In addition to renovating several millyard buildings for varied uses, he was instrumental in establishing a "hands-on" science museum for children called the Science Enrichment Encounters (SEE) center. Recently, he has been organizing the Foundation for the Inspiration and Recognition of Science and Technology (FIRST), an organization that brings together leaders from business and education in an effort to teach children that science can be fun, prestigious and financially rewarding. Kamen should know: Years ago, while still in college, he invented an insulin infusion pump that eventually made him a millionaire.

Why did you organize the Foundation for the Inspiration and Recognition of Science and Technology (FIRST)?

It's obvious that we're dead last in the industrial world in competence in science among young people. As the current generation of qualified people who are running industry and educational institutions goes away, this country will become a third-world country with an unacceptable standard of living.

We spend more on education than anyone in the world; we have more public television with great shows . . . we have more libraries. Last year we spent \$468 billion on education in the U.S. and major foundations gave away more than \$5 billion. I look at all that and said, "Well if they're already spending all that money, and foundations are giving all that money, and there are all of these institutions, what's the problem?" The problem is that nobody watches public TV, nobody goes to the museums . . . Who cares that we spend \$468 billion on education when 33 percent of the kids in the U.S. dropped out of high school?

The answer is we don't have a supply problem for education. We have a demand problem. There was a time in this country when people thought being intelligent was important, was prestigious, was a way to earn a good living, was a solution to problems. We now have a culture where the average kid thinks the way to make big money is to be an athlete, a rock star, or a Hollywood actor. In thinking about all this I went down to my little science center, and I started asking everyone who came into the place—parents and kids—if they could name a living scientist. Not a single one could.

Every kid knows who Ronald McDonald is, so why can't anyone tell me the name of a living scientist, someone who

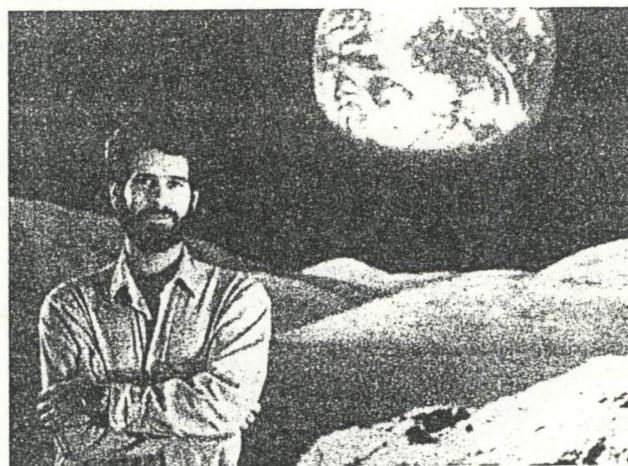
has improved the quality of life?

That's the problem. If you don't give kids a role model, if you don't give them the idea that academics is fun, exciting and important, no matter how well you teach it or how much money you pour down the well, nobody's drinking.

How does FIRST propose to get kids interested in science?

Simple. Companies get a lot more attention than the schools do. McDonald's last year spent \$900 million on promotions. That's an enormous amount of money, but compared to \$468 billion that the U.S. spends on education, it's a quarter of one percent. For \$900 million, one quarter of one percent of what we spend on education, McDonald's made sure that every single kid knows who Ronald McDonald is—that's a very efficient organization.

These giant marketing organizations have demonstrated that they can get to kids with [relatively] small amounts of money. They can create demand, they can create fads. Why can't we allow them to use the talents they have to support instead of compete or conflict with the educational institutions?



So I went to the National Science Foundation and said, "Why don't you work with these [business people]? You establish some academic standards, some programs, some exciting things that will give these [business] people the material that they can combine with their marketing techniques and their control of the media, and give them a way to augment their marketing programs.

Let's create FIRST—a new institution, a middle ground. Put some people from the National Academy on its board, some Nobel laureates and some people from the National

Science Teachers Association on the board. Put some people from marketing, media and promotions on the board.

Does FIRST recognize that in our culture science is a male-dominated field? How can we attract the best and brightest children to science regardless of sex, race or class?

Stereotypes of scientists means that they are always men. Girls, by the time they are teenagers, are generally proud to say, "I don't know math or chemistry," as if this somehow enhances them. We still have a little cultural bias where the average kid won't admit he can't read. There is a stigma there. But girls will happily point out that they aren't good at math.

Can we expect to see commercials in the near future that show scientists as role models?

Yes. That's among the many things we're working on. There's a lot more we are going to do to appeal to kids than commercials. We're trying to get into the mainstream culture. Through marketing programs of some of these major companies, we're going to have the companies do things that make kids aware and give them incentives to do well in academic pursuits.

Is FIRST being well received by the business community?

Yes. Some of the members are NYNEX, Merck, Chiat/Day, and other companies that I think would want to announce their involvement.

"We don't have a supply problem for education. We have a demand problem. There was a time in this country when people thought being intelligent was important [and] was a way to earn a good living."

- Dean Kamen

What role should business play when state and local government start considering cuts to education?

We're already spending \$468 billion a year on education. Whether they add or take away \$20 billion, if we're putting out the dumbest high school graduates in the civilized world, it doesn't make sense to me to focus on

where you are going to get another \$20 billion to pour down a hole that has demonstrated that it is a bottomless pit that doesn't work.

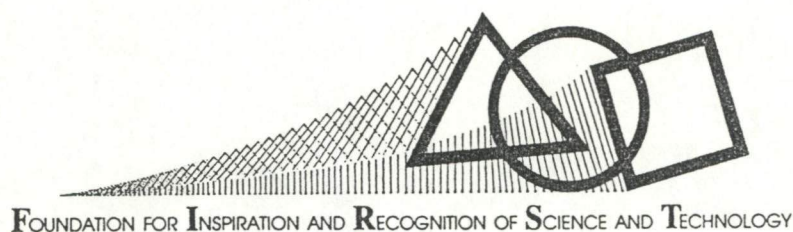
My focus is more on taking kids and making them want to learn. You have to wonder whether there is a strong correlation between dollars spent and results. The answer I think, as in every other human endeavor, is if someone really wants to do something, fundamentally wants to accomplish it, they will. There is no role model, nowadays, that tells kids that you'll be prestigious and financially secure if you become intellectually and academically superior.

Have you gone to the Christa McAuliffe Planetarium?

Very recently, and I think they will hopefully work with us. Again, the planetarium is a tool to teach children. Our goal is to attract the kids to the planetarium and other resources like the Boston Museum of Science.

Our goal is to make sure that next year, for instance, instead of having 30,000 kids visit the Boston Museum of Science and have it begging for public funds, that 3 million kids will be lined up at the door to get in. Our goal is to create the demand. ■

Interview by Barbara Benham



340 Commercial Street
Manchester, NH 03101

(603) 666-3906
FAX (603) 666-3905



STATE OF CONNECTICUT
DEPARTMENT OF EDUCATION



*Set up date
to meet with
him*

July 16, 1991

Mr. Richard A. Osborne
President and CEO
FIRST
340 Commercial Street
Manchester, New Hampshire 03101

Dear Dick:

Thanks for your note and the congratulations on our new grant. We're pretty excited about it!

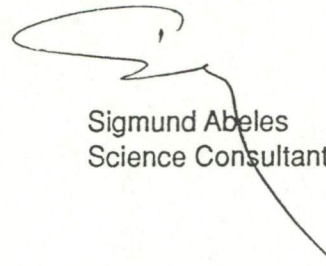
Yes, I would like to work with you and FIRST in bringing your programs to Connecticut. I am interested in the idea of developing some controllable pilots, possibly with some of the school districts that will be participating in Project CONSTRUCT.

Do you ever get back to Connecticut? Could we meet to discuss this idea in greater depth here or in some other mutually convenient spot? I would like to very much.

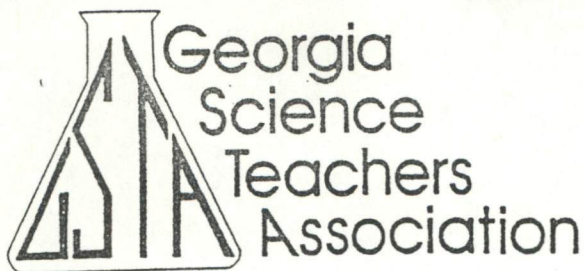
If you will give me a call at (203) 566-4825, we can set something up. Meantime, thanks for your good wishes. I shall look forward to hearing from you.

Please say hello to Dean and Vikki.

Sincerely,



Sigmund Abeles
Science Consultant



July 25, 1991

Richard Osborne
President & Chief Executive Office
340 Commercial Street
Manchester, New Hampshire 03101

Dear Sir;

I attended the Summer CAGS meeting and listened very enthusiastically to Dean Kamen speak. I did not receive any hand-outs and would very much like any information you have on the program so that I can include it in my report to the GSTA board. I was very excited to hear of such a program and have already been talking it up with teachers in Georgia. We are having a board meeting the last week in August and would appreciate anything you could that would help these teachers understand the program. Would it be possible to use the video that was shown to us?

Thanks for your help and once again, the presentation of the program was greatly enjoyed and very motivating.

Sincerely,

Mary Wilde

Mary Wilde, GSTA

Please Send information to:

Mary Wilde, GSTA
1007 Walt Banks Road
Peachtree City, Ga. 30269

Derry
Cooperative
School
District #1

N.H. Administrative Unit #10
DAVID M. BROWN
Superintendent of Schools
G. DAVID JACK
Assistant Superintendent

July 22, 1991

Richard A. Osborne
President & Chief Executive Officer
FIRST
340 Commercial St.
Manchester, NH 03101

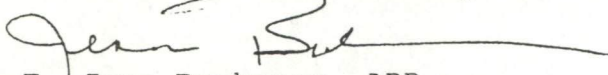
Dear Mr. Osborne:

I believe our meeting the week before was very productive and I came away knowing that FIRST must be a part of our new program. As we get further into constructing the finite details, we should get together again to talk about specifics. You and Dr. Howard apparently share our enthusiasm for innovation.

Last Friday I met with Bill Zelif and he was very enthusiastic about this project. I was intending to stop into your office, but unfortunately you were not in. We also met with Dennis Smith, Lamar Alexander's District I representative and likewise he was very impressed with our educational restructuring initiative.

Looking forward to meeting with you and Dr. Howard in the near future and invite you to share with us an adventure into uncharted educational territory.

Yours for a 21st Century Learning Community,


E. Jean Buchanan, APR

Council on Competitiveness

January 28, 1991

Dean Kamen
Foundation for Inspiration and
Recognition of Science and Technology
Technology Center
340 Commercial Street
Manchester, NH 03101

Dear Dean:

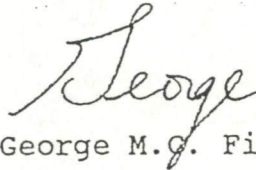
It was a pleasure to meet you and learn about the innovative projects you have proposed for FIRST. I share your concern that too many young Americans have missed the excitement, importance, and sheer fun of science and mathematics.

Thank you for arranging the meeting with John Sununu. His support of FIRST is uncontestable and is a credit to your efforts. We are in the process of outlining our agenda for the January 31 and March 26 Executive Committee meetings, and Kent will let you know our plans as soon as they are finalized.

Should you have any further comments or ideas to discuss, please do not hesitate to call on myself or Kent.

I look forward to seeing you again.

Sincerely,



George M.C. Fisher



STATE OF NEW HAMPSHIRE

OFFICE OF THE GOVERNOR

JUDD GREGG, GOVERNOR

June 12, 1991

Mr. Dean Kamen
FIRST
340 Commercial Street
Manchester, New Hampshire 03101

Dear Dean:

Just a quick note to follow up on your letter of May 24, 1991, regarding the appointment of Dick Osborne as President and CEO of FIRST.

I thoroughly enjoyed my recent visit to Manchester to help announce the FIRST awards. I think it's obvious this program sets the right tone in order to get our children thinking positively about the value of education and knowledge. I congratulate you for your accomplishment. Please be sure to let Dick know I'd be happy to provide whatever assistance we can at the state level to make his transition as pleasurable and as efficient as possible.

I was pleased to read the enclosed editorial from the Union Leader which I think hits it right on the head (and I note judging by the picture in the editorial you mean business!).

Again, I congratulate you for your commitment and accomplishments with FIRST and look forward to helping you continue this success.

Sincerely,


Judd Gregg
Governor

JG/bgj





JOHN H. SUNUNU
GOVERNOR

STATE OF NEW HAMPSHIRE
OFFICE OF THE GOVERNOR

STATE HOUSE · CONCORD, NEW HAMPSHIRE 03301-4990

January 4, 1989

Dean Kamen, Chairman
Organizing Committee
U.S. FIRST
340 Commercial Street
Manchester, NH 03101

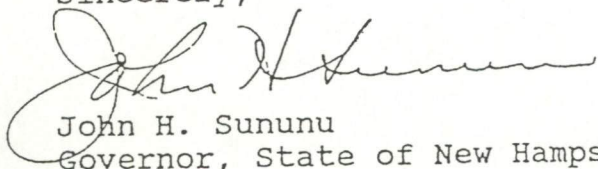
Dear Dean,

As Governor of New Hampshire, I am proud that U.S. FIRST, a center so important to our nation's future, is to be located in this state. I am proud, but not surprised: New Hampshire has long been a state in which the importance of the partnership between government and industry is well understood. Manchester, New Hampshire, was once the center of the textile industry for the entire world. It played a key role in making the United States a major world force during the Industrial Revolution. It is a fitting home for a center which will help to keep this country in the forefront of the Technological Revolution.

The United States has consistently produced the best science and technology in the world. It is well acknowledged that our position and strength as a nation depends on the continuance of this tradition of excellence. Leaders of government, industry, the academic community, and numerous foundations and philanthropic organizations have long been aware of this fact and have dedicated significant resources to insuring the future of American science and technology. However, until now, there has been no national focal point to coordinate and recognize their efforts, to inspire our youth, or to celebrate our national "heroes" of science.

This endeavor is needed, timely, and makes a great deal of sense. As you know, I have fully endorsed this project as Governor, and will continue to do so. I look forward to seeing you at the dedication ceremony!

Sincerely,



John H. Sununu
Governor, State of New Hampshire

THE BURROUGHS WELLCOME FUND

3030 CORNWALLIS ROAD, RESEARCH TRIANGLE PARK, NC 27709 • (919) 248-4136



June 27, 1991

Dean Kamen
Foundation for Inspiration and
Recognition of Science and Technology
340 Commercial Street
Manchester, NH 03101

Dear Dean:

Many thanks for the June 13 update of FIRST. I've been watching your progress with keen interest. You are steadily transforming your dream into a reality! The FIRST points program seems to be coming along nicely. Your initial study was very successful and I know the larger scale expansion in New Hampshire bodes well for success. It is a little premature to pursue, but this might be something Burroughs Wellcome Company could consider locally in North Carolina. I have shared your information with Mr. Mike Freeman in our Corporate Affairs Department, who is heading up a task force to study the Company's present and future support of K-12 science education. The task force is expected to issue its recommendations this fall.

By the time you receive this letter, the FIRST team will have addressed the Executive Committee of the Council on Competitiveness in Washington. I'll be anxious to hear the outcome of the meeting.

Thanks so much for keeping me informed.

Sincerely,

Martha

Martha G. Peck, M.Sc.
Executive Director

MGP/vjs(mpg)*

540 No. Commercial St.
Manchester
New Hampshire
03101-1120
USA
telephone
(603) 669 9971
fax (603) 669 0930

Mr. Dean Kamen
Chairman
FIRST
Technology Center
340 Commercial Street
Manchester, NH 03101

July 18, 1991

Dear Dean,

Recently I was appointed to the Board of Trustees of the Charles Edison Fund in West Orange, New Jersey. This is a tax-exempt foundation operated exclusively for educational and charitable purposes; the funds coming from the estate of Thomas Edison's son Charles. Over the years they have contributed considerable amounts of money to medical research and educational institutions with an emphasis on science and industry.

At our recent meeting I learned about the Liberty Science Center in New Jersey and I thought of you and FIRST. Attached is a copy of a paper describing the center. I mentioned FIRST to the group and I believe they would be anxious to hear more about it and perhaps discuss having an Edison presence in the future.

If you are interested in learning more give me a call and I'll see what I can do.

Best regards,



Edward L. Allman
Chairman & President

ELA/jg

OCCIDENTAL PETROLEUM CORPORATION

10889 WILSHIRE BOULEVARD, SUITE 1500

LOS ANGELES, CALIFORNIA 90024

(213) 208-8800

ARMAND HAMMER
CHAIRMAN AND
CHIEF EXECUTIVE OFFICER

August 23, 1989

Mr. Dean Kamen
Foundation for the Inspiration and
Recognition of Science and Technology
Technology Center
340 Commercial Street
Manchester, New Hampshire 03101

Dear Dean:

I should like to acknowledge your kind letter of July 25 to say that
I am pleased to serve as a member of U.S. First's Board of Directors.

I know that you will keep us apprised of your progress with this vital
project that can mean so much to the youth of our country. We must
maintain our position as leaders in science and technology.

With best personal regards,

Sincerely,

A handwritten signature in dark ink, appearing to read "Armand Hammer", written in a cursive style.

AH:fa

Raytheon Company
Executive Offices
141 Spring Street
Lexington MA 02173

617 862 6600
Telex 92 3455
Cable Raytheonex

Raytheon

November 13, 1990

Mr. Dean N. Kamen
Chairman, US FIRST
Foundation for the Inspiration and Recognition
of Science and Technology
Technology Center
340 Commercial Street
Manchester, NH 03101

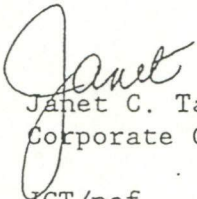
Dear Dean:

I am pleased to forward the enclosed check in the amount of \$20,000 representing Raytheon Company's support of a strategic planning process and an executive search to help solidify the development of FIRST. We are impressed with the approach to science education that is being developed, and we are excited about the creative concepts that you have added to the debate about how to interest young people in science.

I look forward to continuing our involvement as these ideas evolve into realities. We would like to receive a report on the use of our funds that summarizes the results of the strategic planning process and defines the respective roles of the executive to be hired and the board of directors.

We extend best wishes for success!

Sincerely,



Janet C. Taylor, Manager
Corporate Contributions Program

JCT/paf

cc: J. Breiteneicher

THE
HENLEY
GROUP
INC.

11255 NORTH TORREY PINES ROAD
LA JOLLA, CALIFORNIA 92037
(619) 455-9494

July 3, 1990

Mr. John R. Murphy
Project Director
Foundation for the Inspiration and
Recognition of Science and Technology
340 Commercial Street
Manchester, NH 03101

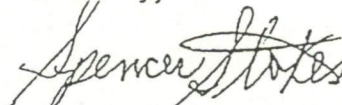
Dear Mr. Murphy:

I am writing in response to your letter sent to Mr. Michael Dingman at The Henley Group regarding the FIRST project. On behalf of Mr. Dingman and our Henley-related companies, we are delighted to make a two-year, \$40,000 pledge to the Foundation for the Inspiration and Recognition of Science and Technology.

It is our intent to pay this pledge in two equal installments of \$20,000. Since the pledge is being paid from the respective charitable foundations of The Henley Group, Wheelabrator Technologies, and Henley Properties, I am including each of their checks with this letter for a combined total of \$20,000. The second installment payment will be mailed to you in July of 1991.

Certainly we are pleased to provide this support for the wonderful work that is being done by the FIRST project and, most especially, by you and your associates in raising the much-needed funds. Please accept our very best wishes for much continued success.

Sincerely,


Spencer Stokes

SS:md

cc: Michael D. Dingman



Wellcome

Burroughs Wellcome Co.

3030 Cornwallis Road
Research Triangle Park, N.C. 27709

cables & telegrams
Tabloid Raleigh, N.C.
TWX5109270915
tel. 919 248-3000

January 27, 1989

Mr. Dean Kamen
DEKA Research & Development
Fourth Floor
340 Commercial Street
Manchester, NH 03101

Dear Mr. Kamen:

It was a pleasure to receive your description of the proposed U.S. FIRST, a Foundation for the Inspiration and Recognition of Science and Technology. The concept is an excellent one and its scope and implementation very well thought out.

As one who was, in my early days, a teacher of chemistry and physics, and who has been involved in pharmaceutical research for over forty years, I know how important it is to motivate and inspire our young people to pursue careers in science. It has been heart-warming for me to see the joyful response of my colleagues and the young scientists in the laboratory to my winning the Nobel Prize in Physiology or Medicine in 1988. It appears to have provided them with an increased sense of their own worth and dedication.

I think that a Hands-On Science Center and a Hall of Fame for Science and Engineering would go a long way toward interesting young people in science as well as opening the eyes of their parents to the rewards and potential of such a career. I have been disappointed that fewer students now enter the field of science at the universities than did twenty years ago. In this age of scientific discovery and invention this seems like a true anachronism. It is also sad that the public has so little opportunity to acquire the knowledge which will enable them to make intelligent decisions about crucial issues involving our health and environment.

I commend you on having initiated U.S. FIRST and wish you great success in this undertaking.

Sincerely,

Gertrude B. Elion

Gertrude B. Elion, D.Sc.
Scientist Emeritus

GBE:lap

cc: Barton A. Kamen, M.D.

W G Burns
Vice Chairman

NYNEX

January 10, 1989

Mr. Dean Kamen
U. S. FIRST
340 Commercial Street
Manchester, NH 03101

Dear Mr. Kamen:

Thank you for sending the information about U. S. FIRST. NYNEX, indeed, is deeply committed to the continuance of the tradition of excellence in Science and Technology and appreciates your recognition of our efforts.

The U. S. FIRST initiative strikes me as being well thought out, and seems to have in its four major programs key elements that will challenge and/or serve as models for America's youth.

In that regard, NYNEX Foundation is committed to programs that bring as much attention as possible to our educational process--especially in those areas that impact our disadvantaged youth. To the extent that U. S. FIRST will serve as an inspiration to this target group, the Foundation will be keenly interested.

It is my understanding that you are in the process of finalizing your project plans and extend to you and all associated with U. S. FIRST, NYNEX Foundation's best wishes for total success. We look forward to learning more about the opportunities that U. S. FIRST will bring.

Sincerely,



cc: D. B. Reed

Merck Company Foundation

Post Office Box 2000
Rahway, New Jersey
07065-0900
(201) 594-4375

Charles R. Hogen, Jr.
Executive Vice President

December 7, 1989

Mr. Dean Kaman
President
Deka Research & Development Corp.
Technology Center
340 Commercial Street
Manchester, NH 03101

Dear Dean:

Thank you for taking the time to travel all the way to New Jersey to discuss your vision for FIRST. I found our lengthy discussion very stimulating and refreshing. As a Foundation executive, I see dozens of proposals every month which address the crisis in pre-college education in this country. None of them are as practical, reality-based, and market driven as FIRST. In short, I think you have an idea that is worth developing.

As you know from the public pronouncements of our Chairman, Dr. Vagelos, Merck shares your deep concern with the malaise that afflicts the quality of math and science education in the U.S. Dr. Vagelos has called for a national initiative, comparable to the Manhattan Project, to improve science education in our country. FIRST represents a radical, innovative approach which has the potential of making a real impact on this growing problem.

In that context, Merck is prepared to assist FIRST during its formative stage in the following ways:

1. We will pay a consultant to write a professional business plan for FIRST. This will give form and direction to your many fascinating ideas. Hopefully, this document will enable you to market the FIRST concept to other corporations, foundations and potential marketing partners.
2. We will help you with introductions to public affairs officials at Coca-Cola, IBM and the McDonald's Corporation - all of whom are prime prospects for sponsorship of FIRST.

Mr. Dean Kaman
Page 2
December 7, 1989

3. We will provide a challenge grant of \$10,000 in start-up funds for FIRST in 1990, provided you are able to secure matching funds from two other corporations.

I hope you are encouraged by this vote of confidence, Dean. We are obviously very enthusiastic about the potential of FIRST and look forward to working with you to bring this brilliant concept to reality.

When President Bush speaks of "a thousand points of light" he is referring to people like you. The only difference is your light has a thousand watts!

Sincerely,

A handwritten signature in dark ink, appearing to read "C. H. Hagen". The signature is stylized with a large, looped "C" and a long, sweeping underline.

lfw

cc: A. D. Angel

STATE OF NEW HAMPSHIRE

OFFICE OF THE GOVERNOR

JUDD GREGG, GOVERNOR



October 8, 1991

Dr. D. Allan Bromley
Science Advisor to the President
Executive Office of the White House
Washington, DC 20506

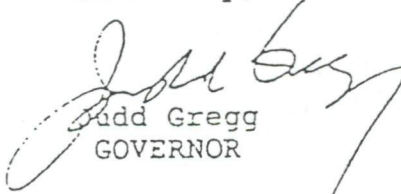
Dear Dr. Bromley:

The purpose of this letter is to express my full endorsement of U.S. FIRST, and to strongly encourage you to support the current grant request for FIRST Points that is under review in the National Science Foundation.

Having directly participated in the FIRST Points pilot program, I can attest to the excitement and the positive impact the FIRST Points program has on the school system and students that participated. The program motivates the students and inspires the teachers. It fosters a true partnership between education and business, where both sides benefit.

As a national organization, U.S. FIRST fills a critical void, beyond the FIRST Points program. By focusing on the creation of demand for science and math knowledge, it serves as a powerful ally to the school reforms and teacher training programs that are underway. Dean Kamen refers to US FIRST as the "Olympic Committee for Smarts." I think it fits and know it is needed. The faster US FIRST can bring all their programs to life, the more our schools, our students, and our society will benefit.

Sincerely,


Judd Gregg
GOVERNOR

JG:p

The FIRST Points Program

**A few words from our
most important asset.**

The student.

NSTA National Science Teachers Association

1742 Connecticut Avenue, NW
Washington, DC 20009-1171
FAX 202-328-0974
202-328-5800

Bill G. Aldridge
Executive Director

Bill G. Aldridge, Executive Director

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Sept. 24, 1991

Mr. Richard A. Osborne
President and Chief Executive Officer
U.S. FIRST
340 Commercial Street
Manchester, NH 03101

Dear Mr. Osborne:

The purpose of this letter is to advise you that the board of directors of the National Science Teachers Association has unanimously endorsed the FIRST Points program and desires to work closely with U.S. FIRST to bring this innovative program into primary and secondary schools across America.

The wonderful success of the pilot project conducted last spring in New Hampshire is very impressive. The compelling logic of using Corporate America to help create demand for science education among our youth by linking a student incentive program with popular products that are part of the everyday culture, represents a powerful tool to inspire kids to work harder and to enjoy science more. This program will enhance the effectiveness of many other changes underway as we seek to improve the quality of science education.

Please extend our thanks to Dean Kamen for the lively and inspiring presentation of U.S. FIRST at the NSTA state directors and affiliated groups meeting. As you know approximately 60,000 teachers across America were represented there. Most came away very encouraged to learn of U.S. FIRST and anxious to bring FIRST Points into schools in their part of the country.

Sincerely,



Bill G. Aldridge
Executive Director



FIRST Points Student Survey

Thanks for participating in the test study of the FIRST Points program. The following survey allows you an opportunity to let us know if we succeeded. Please fill out the form and give it to your teacher. You may use the back of this page if needed.

Your Name: (Optional) Cari Chapman

School Name: Jewett St. School

City: Manchester, NH

1. What did you like about the program?

It made me look forward to actually doing Science.

2. Did you show an increased interest in science or math? Please give examples.

In Science I did. I wanted to get it done, in a fun way.

3. Did your grades in science and math improve? How much?

Yes, from a 56 in Science to a 100 in Science.

4. What do you think about the prizes?

I think the prizes were great.

5. What would you change about the program?

Nothing except the prizes, like the limo ride and stuff; just switch some around.

6. Would you participate in the program next year?

Definitely!

FIRST Points Student Survey

Thanks for participating in the test study of the FIRST Points program. The following survey allows you an opportunity to let us know if we succeeded. Please fill out the form and give it to your teacher. You may use the back of this page if needed.

Your Name: (Optional) _____

School Name: Southside Jr High School

City: Manchester N.H.

1. What did you like about the program?

*I liked getting the PB Max candy bars though
were good.*

2. Did you show an increased interest in science or math? Please give examples.

*I earned point in science by finding a special
part in a frog tadpole when we were dissecting frogs.*

3. Did your grades in science and math improve? How much?

*In science because I did a lot of extra work I go from
an F to a C+ I hope a lot of people did to.*

4. What do you think about the prizes?

*I liked the prizes but all I got was PB Max they are
good I never tried them until First Points and there great*

5. What would you change about the program?

nothing

6. Would you participate in the program next year?

yes

FIRST Points Student Survey

Thanks for participating in the test study of the FIRST Points program. The following survey allows you an opportunity to let us know if we succeeded. Please fill out the form and give it to your teacher. You may use the back of this page if needed.

Your Name: (Optional) Stephanie Lamer

School Name: Joanett Str. School

City: Manhasset, N.Y.

1. What did you like about the program?

People try there hardest and we get prizes for it

2. Did you show an increased interest in science or math? Please give examples.

I understand them much more.

3. Did your grades in science and math improve? How much?

Yes. by one grade (B-A)

4. What do you think about the prizes?

I liked them all except Mc Donald said I couldn't get anything there unless I used there

page.

5. What would you change about the program?

I think they should share it with neighboring cities.

6. Would you participate in the program next year?

Yes! but I can't because I'm moving to Grobbstown.

~~Let's participate~~

FIRST Points Student Survey

Thanks for participating in the test study of the FIRST Points program. The following survey allows you an opportunity to let us know if we succeeded. Please fill out the form and give it to your teacher. You may use the back of this page if needed.

Your Name: (Optional) Katie Kratsikes

School Name: Convent St. School

City: Manchester N.H. 03103

1. What did you like about the program? I like the fact that you can get points just for trying to do better in Math/Science and the part when you get prizes.

2. Did you show an increased interest in science or math? Please give examples.

yes/like on fractions and on /mimi (a project we are doing in school) and on decimals.

3. Did your grades in science and math improve? How much?

yes/ ~~from~~ from 50% to 80% or Science/ from not ^{expected} to C, good.

4. What do you think about the prizes? I think that we should have prizes like free 5.00 in tokens to Chuck's Chopped, or Family pass to Canobie Lake park, or /free family meal at pizza places.

5. What would you change about the program? -

Nothing

just better Like prizes.

6. Would you participate in the program next year?

Yes

Thank you for a wonderful program

FIRST Points

Recognition and reward for good effort and hard work.

First Points is an innovative incentive system that allows science and math teachers to reward improved student effort and performance in a contemporary way that children will embrace on a national scale.

The sad truth is that trying to convince students that hard work today will pay off in twenty years is a proverbial exercise in futility. It is also true that grades do not represent a positive motivating force to most of our youth, particularly in science and math. The carrot of an "A" carries with it the threat of being socially outcast as a nerd. We need to shatter that perspective and find creative ways to make the subjects fun, stimulating, and rewarding.

Every day our youth are inundated with countless messages from Corporate America luring them to buy their products. FIRST Points was created to link the need of educators to create mass demand for science and math knowledge, the desire of the business world to reach our youth and create demand for products. By redirecting a portion of advertising and promotions budgets into FIRST Points, the companies will reach the audience they want, but in a manner that is positive. In effect, the program represents a true partnership of mutual benefit between business and education.

U.S. FIRST will serve as a national, third party platform to avoid any problems of excessive commercialization, while insuring the business community derives value. The teachers do not promote any specific prize or company, they simply award points. The students are provided with a catalogue of prizes available they can choose from and the point values needed for the prizes.

As a reward program linked to the individual's effort versus potential, First Points is not designed to only reward the "A" students. It is designed to motivate all students. While the total number of points the teachers may issue will be a function of student population, the teachers are allowed wide latitude in awarding points. In this way, they can focus on the behavior they deem most important given their unique perspective and classroom situations. For example, in an inner city a teacher may find it necessary to use points to reduce absenteeism as a starting point. A teacher in another school may decide to recognize improvement in grades, improvement in classroom participation, or extra credit work.

The initial pilot was completed in 1991 in four schools, grades six through eight. Over 1,000 students participated in the trial. The enthusiasm for the program among students, teachers, and administrators exceeded expectations. Previously

unmotivated and disinterested students suddenly were seeking extra credit work. Adjectives used to describe science and math class went from negative to positive. Over 60% of the teachers cited the program as very effective in motivating underperforming students. Over 60% of the students earned prizes. A significant number of students cited their grades improving from "F" to "C" or better. One of the four grand prize winners was previously a "D" student.

While spinoffs of this concept could be conducted on a local community basis, there is truth in the old adage that there is strength in numbers. United, science and math teachers can deliver an audience of 40 million students every day for 180 days a year. As the program spreads the prizes will get bigger. Imagine school winners, competing for state titles(prizes), and state winners for national recognition, prizes, and scholarships. Imagine high school students earning a predetermined number of points during their four years in high school receiving scholarship aid, regardless of the earning power of their parents. Today most aid is geared toward those in need. FIRST Points will aid those who perform. Even the federal government has agreed to participate on a national scale, with prizes like a week at NASA Space Camp to the state champions.

The executive board of the National Science Teachers Association and their affiliated state organizations, have unanimously endorsed FIRST Points and are working directly with us to bring the program into primary and secondary schools across America. To ensure that educational value is delivered, a national advisory panel is being assembled to oversee the program. Evaluations will be conducted to assess the impact and effectiveness of the program.

U.S. FIRST is entertaining discussions and negotiations with companies to determine which ones will participate and at what level. Participation can vary geographically, from national, to regional, to state involvement. Participation can vary according to age group, as the prizes in elementary schools will obviously be different than those in high school. Participation can also be limited to a predefined number of prizes for a given sponsor. Exclusive contracts on a product category basis are available.

FIRST Points Student Survey

Thanks for participating in the test study of the FIRST Points program. The following survey allows you an opportunity to let us know if we succeeded. Please fill out the form and give it to your teacher. You may use the back of this page if needed.

Your Name: (Optional) Kimberly A. Iller

School Name: South side Jr High

City: Manchester

1. What did you like about the program? that fact that it wasn't mandatory.

2. Did you show an increased interest in science or math? Please give examples. No.

3. Did your grades in science and math improve? How much? Yes, from An F to C

4. What do you think about the prizes? Groovy.

5. What would you change about the program? Nope.

6. Would you participate in the program next year? yup.

FIRST Points Student Survey

Thanks for participating in the test study of the FIRST Points program. The following survey allows you an opportunity to let us know if we succeeded. Please fill out the form and give it to your teacher. You may use the back of this page if needed.

Your Name: (Optional) Jason Cote

School Name: Southside JHS

City: Manchester, NH

1. What did you like about the program?

The way we competed against our friends to see who could get the most stamps + best prizes.

2. Did you show an increased interest in science or math? Please give examples.

yes, It let me work on my art as well as figuring out problems on tests, quizzes + extra credit.

3. Did your grades in science and math improve? How much?

Yes. They increased from a C to a B+.

which is good because I didn't have Pre-Algebra last year

4. What do you think about the prizes?

They were, OK. but they could have more prizes, hancuts don't really excite me.

5. What would you change about the program?

The prizes and the amt. of stamps given to the teachers.

6. Would you participate in the program next year?

Yes.

The Board of Directors of U.S. FIRST,
and the Council On Competitiveness,
request the pleasure of your company at the

1992 FIRST Encounters Dinner

Thursday, February 13, 1992
Cocktails at 6:30, Dinner at 7:30

Guest Speaker

Dr. Allan Bromley
Science Advisor to the President
Office of Science and Technology Policy

and at the inaugural

FIRST Encounters Championship
(The Pro Am Sport of Design Engineering)

Hosted by **Dr. Woodie Flowers**
MIT Professor of Teaching Innovation and
Host of Scientific American Frontiers

Thursday, February 13, 1992 12 PM - 5 PM
Friday, February 14, 1992 8 AM - 12 PM

Manchester, New Hampshire
RSVP by January 15, 1992 (603) 666-3906



U.S. FIRST

For Inspiration and Recognition of Science and Technology