

## FRA Initiatives And Corporate Commitments

Initiative	Start	Comp	Comments	BoD Committee Assignment
 <b>FRA 1</b> FRA Board of Directors	1/1/07	1/1/07	The Board of Directors was established before the proposal for the M&O contract was submitted. All proposed directors accepted their nominations to the board and have had their first meeting by telephone conference. The first regular meeting of the Board is scheduled for March 6 and 7 at Fermilab.	Executive Committee
 <b>FRA 2</b> Single-Point Accountability	1/1/07	1/1/07	The single point of accountability for Fermi National Accelerator Laboratory is Dr. Robert Zimmer, Chairman of the Board of Fermi Research Alliance and President of the University of Chicago.	Executive Committee
 <b>FRA 3</b> Partner University Resources	1/1/07	1/1/07	All partner universities have met their commitments. Letters of commitment were included with the proposal and have all been honored by the respective universities.	Executive Committee
 <b>FRA 4</b> ILC Program Office	1/1/07	1/1/07	The ILC Program office was originally established in August of 2005. The FRA, LLC proposal continued the office as previously established with all of its personnel and budget intact.	ILC Committee
 <b>FRA 5</b> ILC Illinois Outreach	1/1/07	IP	A community task force has been created with the goal of attracting the ILC to Northern Illinois. This is an on-going activity with scheduled meetings that are held at Fermilab. Accelerator education programs are underway at both the under graduate and graduate levels with our partner universities. An ILC school for the Fermilab staff and User community is scheduled for July 25-27 at Fermilab.	ILC Committee

 <b>6</b> Illinois University Joint Appointments	1/1/07	IP	<p>Joint appointments for engineering are in process at this time. Final details are under negotiation. The search committees are established for additional UC, IIT, NW, and UIC appointments at this time.</p> <p><u>University of Chicago</u>  Director, Center for Particle Astrophysics at Fermilab  Search Committee  Fermilab: John Peoples (chair), Joe Lykken  UChicago: John Carlstrom</p> <p>Particle Phenomenology  Search Committee  Fermilab: Bill Bardeen (chair), Keith Ellis, Andreas Kronfeld  UChicago: Jeff Harvey, Henry Frisch, Carlos Wagner</p> <p><u>Northwestern University</u>  3 appointments - being discussed</p> <p>University of Illinois, Chicago  1 appointment - being discussed</p> <p><u>Illinois Institute of Technology</u>  3 appointments - being discussed</p>	Physics Committee
 <b>7</b> International Fellow Program	1/1/07	IP	<p>This is an ongoing program. In 2005, five fellowships existed, 2 at CDF, 2 at D0 and one at ILC Detector R&amp;D. In 2007, we expect to offer 6 positions – 2 at CDF, 2 at DZero, and 2 for ILC.</p>	Physics Committee
 <b>8</b> Organization and Human Asset Plan	1/1/07	IP	<p>The OHAP is currently being developed as a project that is overseen by the Deputy Director. Currently, a review of job descriptions has been completed. The composition of the workforce has now been documented. A five year resource loaded workforce plan is underway.</p>	Compensation Committee

 <b>9</b> K-12 Educational Outreach	1/1/07	IP	The Education Office continues to expand this program at every opportunity.	Compensation Committee
 <b>10</b> HEP Community Partnership	1/1/07	IP	Partnership building occurs at all times in the laboratory's relationships with the High Energy Physics community and other laboratories. This is an ongoing and continuing effort that will continue for the duration of the contract. More than 50 Argonne and Fermilab employees came together for a collaboration meeting last week (5/18/07) to discuss the two institutions' opportunities for synergy and their plans for the future. The meeting was the second for the two groups, who originally met at Argonne in November.	Physics Committee
 <b>11</b> InterAction Collaboration Enhancements	1/1/07	IP	The Office of Public Affairs collaborates throughout the Office of Science and with other laboratories on a regular basis to enhance approved websites and aid the Office of Science staff in all of its efforts to effectively communicate LHC and ILC developments and news items.	ILC Committee & Administrative/Finance Committee
 <b>12</b> Laboratory Collaboration Council	1/1/07	IP	The first council meeting is scheduled for June 13, 2007. Preliminary meetings have been held between the Directors of Argonne and Fermilab. Further, various members of the senior staff of both organizations have met to begin planning for the operation of this council.	Physics Committee
 <b>13</b> Accelerator Physics Center	1/1/07	IP	The Director of the center has been selected and is resident at the laboratory. The organization is under development at this time.	Physics Committee

 <b>14</b> LHC Physics Center	1/1/07	IP	The Director of the center has been selected and is resident at the laboratory. The organization is under development at this time.	Physics Committee
 <b>15</b> Particle Astrophysics Center	1/1/07	IP	A search committee is actively seeking candidates for the director position of this center.	Physics Committee
 <b>16</b> Partnership in Grid Computation	1/1/07	IP	Continual development of the partnership with UChicago and other universities is part of the overall computing strategy for the laboratory and is underway at this time. Open Science Grid and TeraGrid now have multi-year programs to provide high performance secure national infrastructures and work with a broad range of communities. Partnerships in SciDAQ projects and collaborative activities between Fermilab CD and ANL/UChicago groups are developing resources. Fermilab and UChicago are leaders of a GRID education project.	Administration/Finance Committee
 <b>17</b> Strategic Planning Process Enhancement	1/1/07	IP	The Strategic Plan is underway at this time. The Deputy Director is overseeing this project. A steering group has been formed and tasked to issue a final report by 8/1/2007. In the Fall of 2007, this will be presented to DOE.	Executive Committee
 <b>18</b> Resource Loaded WBS	-	-	This activity is dependent on the completion of the OHAP and Strategic Planning process. Limited progress at this time.	Administrative/Finance Committee
 <b>19</b> Documented R2A2	1/1/07	IP	Documented R2A2s are an essential part of the Strategic planning process and the OHAP. Currently, this activity is in process.	Compensation Committee

 <b>20</b> Space-Utilization and Facility-Reuse Program	1/1/07	IP	This program is underway. The Deputy Director has formed a task force to implement this program. This program is also closely related to the strategic planning effort.	Administration/Finance Committee
 <b>21</b> OPMO Enhancements	1/1/07	IP	Development of a website for Project Management activities is underway. The website will contain sample project plans, interactive training and other support items.	Administrative/Finance Committee
 <b>22</b> Management Dashboard	1/1/07	IP	The task force working on this project has begun meeting and has started the investigation into the selection of a software package that can bring all if the lab's legacy systems together to provide the required reporting and transparency.	Administrative/Finance Committee
 <b>23</b> Office of Quality and Best Practices	1/1/07	1/1/07	The QQBP was established at the start of the new contract. Current activities include the supervision of the EG&G contract and the development of the DOE O 414.1c based QA program. Also, tracking and trending software for management issues is under investigation at this time. In all likelihood, Lotus Notes will be used for this function. Also, the QQBP is involved in the analysis of the Inner Triplet failure at CERN. All other assigned duties are performed as scheduled.	Administrative/Finance Committee
 <b>24</b> EG&G/URS Best Practices	1/1/07	IP	EG&G began their performance on 1/1/07 with the arrival of their on-site manager, Jeff Cotton. They began performing their assessment program as a part of the transition activities. Current projects include the development of the QA program base on DOE O 414.1c, the investigation into reliability centered maintenance and the WFO and CRADA process improvements. EG&G is also instrumental in the startup of an issues tracking system to be used by the QQBP to track lab-wide issues and performance related issues. Further, EG&G will be instrumental is conducting the root cause analysis of the	Administrative/Finance Committee

			Inner Triplet magnet failure that occurred at CERN.	
 <b>FRA25</b> QA Program Enhancements	1/1/07	IP	QA program enhancements are underway. A job posting for an employee to operate the tracking and trending system is underway. Also, an EG&G support person arrives 2/26/07 to assist in writing of the new DOE O 414.1c based QA program. Improvements in the self assessment program are underway and are being discussed with local DOE management.	Administrative/Finance Committee
 <b>FRA26</b> Integrated Assurance Program	1/1/07	2/1/07	The Assurance Council has been formed and is meeting as scheduled. The council has assumed responsibility for advising the Director as to the status of the assurance and improvement programs for the laboratory. The charter has been developed and is under review at this time.	Administrative/Finance Committee
 <b>FRA27</b> Diversity Council	1/1/07	IP	Members are being selected and the charter for the council is under review.	Compensation Committee
 <b>FRA28</b> ES&H Certifications	1/1/07	IP	Certification efforts are underway for both ISO 14001 and OSHA 18001	ES&H Committee

## Commitments at no Cost to the Government

### **A. Director's Discretionary Fund.**

FRA, LLC commits to provide approximately \$500K per year to establish a Director's Discretionary Fund to leverage specific programs, initiatives, and activities at FNAL that enhance the laboratory's scientific and technology programs, enhance the user experience and contribute to employee retention. Examples of specific programs which these funds will support include: employee morale activities, awards and gifts, support for meetings and conferences, support for the FNAL User's Center, and program advocacy.

#### **Resource Donor Type of Resource**

Fermi Research Alliance, LLC Direct Funding

#### **Location of Resource**

Fermi Research Alliance, LLC  
111119<sup>th</sup> St. NW  
Suite 400  
Washington, DC 20036

#### **Estimated Total Value**

**\$2,500,000 over five years**

#### **Date Resource will be Provided**

At start of the contract in annual increments of approximately \$500K

#### **Resource Benefits to FNAL**

1. Conferences and meetings which develop or report results of programs in support of DOE's mission to maintain US preeminence in scientific research.
2. Events, awards and gifts which contribute to FNAL's employee retention programs by enhancing employee morale
3. Support for the FNAL User's Center to enhance the user on-site experience while they are at FNAL conducting research in support of DOE's programs

#### **Resource Liabilities to FNAL**

None anticipated

***B. URA Universities Strategic Collaborative Initiatives.***

URA, Inc., commits to provide approximately \$400K per year to 1) seed R&D projects by providing support for URA university faculty and staff in joint projects with Fermilab, 2) fund sabbatical leaves at Fermilab and extended visits of URA university personnel to Fermilab, and 3) fund activities of URA universities' faculty and staff aimed at public education and outreach in support of DOE programs.

**Resource Donor Type of Resource**

Universities Research Association, Inc. Direct Funding

**Location of Resource**

Universities Research Association, Inc.,  
1111 19th St., N.W., Suite 400,  
Washington, D.C. 20036

**Estimated Total Value**

**\$2,000,000 over five years**

**Date Resource will be Provided**

At start of contract in annual increments of approximately \$400K

**Resource Benefits to FNAL**

1. Innovative R&D projects to develop future science programs at Fermilab in support of DOE's mission to maintain preeminence in high energy physics in the U.S.
2. Personnel who will contribute to the DOE Science and R&D programs at Fermilab at no charge to the Government
3. Education and outreach to the public to develop support for DOE programs as well as to contribute to encouraging young people to pursue careers in science and technology and thereby developing the next generation of scientists and engineers

**Resource Liabilities to FNAL**

None anticipated

**C. FRA University Scholarships for Children of FRA Employees.**

Fermi Research Alliance, LLC, commits to provide \$200K per year to fund scholarships on a competitive basis to full-time FNAL employees' children who are pursuing undergraduate college degrees. The scholarship award of up to \$4,100 per year will be continued for a maximum of four years providing the student remains in a four-year program with satisfactory academic progress.

**Resource Donor Type of Resource**

Fermi Research Alliance, LLC Direct Funding

**Location of Resource**

Fermi Research Alliance, LLC  
111119<sup>th</sup> St. NW  
Suite 400  
Washington, DC 20036

**Estimated Total Value**

**\$1,000,000 over five years**

**Date Resource will be Provided**

At start of contract in annual increments of approximately \$200K

**Resource Benefits to FNAL**

1. This resource commitment provides an additional incentive in recruitment and retention of top scientific and engineering talent, which is commensurate with benefits of university faculty—FNAL's main competitor for top talent.

**Resource Liabilities to FNAL**

None anticipated

***D. Key Personnel Salary Augmentation.***

Fermi Research Alliance, LLC commits to provide approximately \$175K per year to augment DOE-approved salary levels to compete successfully for selected FRA key personnel.

**Resource Donor Type of Resource**

Fermi Research Alliance, LLC Direct Funding

**Location of Resource**

Fermi Research Alliance, LLC  
111119<sup>th</sup> St. NW  
Suite 400  
Washington, DC 20036

**Estimated Total Value**

**\$875,000 over five years**

**Date Resource will be Provided**

At start of contract in annual increments of approximately \$175K

**Resource Benefits to FNAL**

1. This resource commitment provides laboratory management funds to compete more aggressively and successfully for recruitment and retention of the best scientific and managerial talent, especially for those individuals in great demand in industry and in other parts of the research community.

**Resource Liabilities to FNAL**

None anticipated

***E. Laboratory Collaboration Council/Management and Decision Support Dashboard Initiative.***

UChicago commits approximately \$100K per year to support activities associated with the Laboratory Collaboration Council initiative and the Management and Decision Support Dashboard initiative.

**Resource Donor Type of Resource**

The University of Chicago Direct Funding

**Location of Resource**

The University of Chicago  
5720 S. Woodlawn  
Chicago, IL 60637

**Estimated Total Value**

\$500,000 over five years

**Date Resource will be Provided**

At start of contract in annual increments of approximately \$100K

**Resource Benefits to FNAL**

1. These funds will provide Fermilab's Office of Quality Assurance and Best Practices with additional means and expertise to expedite the implementation of the Dashboard which will provide key DOE and FNAL decision makers and managers near-real time data on laboratory performance to align strategies with operational objectives, actively monitor day-to-day activities, and collaborate more effectively across the enterprise to drive efficiencies towards producing the maximum scientific output from each taxpayer dollar. A more rapid implementation and earlier utilization of benefits from these efforts will provide more operational efficiencies, leading to cost savings for FNAL and DOE.
2. Additionally, FNAL staff will be able to access subject matter experts and lessons learned at Argonne National Laboratory via the Laboratory Collaboration Council.
3. Together these commitments will strengthen and streamline the adoption of best practices at FNAL and assure the highest quality of performance for DOE.

**Resource Liabilities to FNAL**

None anticipated

***F. UChicago Strategic Collaborative Initiatives.***

Uchicago commits approximately \$250K per year for strategic joint appointments, collaborative research projects and joint institutes.

**Resource Donor Type of Resource**

The University of Chicago In-kind contribution

**Location of Resource**

The University of Chicago  
5720 S. Woodlawn  
Chicago, IL 60637

**Estimated Total Value**

**\$1,250,000 over five years**

**Date Resource will be Provided**

At start of contract in annual increments of approximately \$250K

**Resource Benefits to FNAL**

1. These funds will provide the Laboratory Director with flexibility to develop or expedite progress in promising programmatic areas and thus enable the laboratory to achieve certain DOE missions in a more expeditious manner. Prime among these is a joint Uchicago–FNAL appointment to head FNAL’s Center for Particle Astrophysics.
2. Working with the University, FNAL will be better positioned to attract world-class talent. These funds will bolster FNAL’s leadership position in the fields of fundamental particle physics, astrophysics, and accelerator research, creating new ventures and discoveries that push the frontiers of science.

**Resource Liabilities to FNAL**

None anticipated

**G. UChicago Executive Education for Fermilab Staff and Scientists.**

The University of Chicago commits approximately \$50K per year or \$250K over the five-year term of the base contract to working with Fermilab and DOE to create a non-degree executive education program for FNAL professional and scientific staff. This program will build upon and be coordinated with the proposed commitment to ANL to establish an executive program at ANL through the University's Graduate School of Business.

**Resource Donor Type of Resource**

The University of Chicago In-kind Contribution

**Location of Resource**

The University of Chicago  
5720 S. Woodlawn  
Chicago, IL 60637

**Estimated Total Value**

**\$250,000 over five years**

**Date Resource will be Provided**

At start of contract in annual increments of approximately \$50K

**Resource Benefits to FNAL**

1. The benefit to DOE is an increased management capability. Administrative efficiency will lead to cost savings that can be applied to scientific programs. This will allow more mission-critical work to be accomplished.

**Resource Liabilities to FNAL**

None anticipated

#### **H. University of Illinois Strategic Collaborative Initiatives.**

The University of Illinois branches at Urbana–Champaign (UIUC) and Chicago (UIC) commit to provide resources for collaborative initiatives in programs that support DOE’s mission at Fermilab. UIUC will provide support for one joint appointment at a senior level. The cost of the position would be shared equally with FNAL but the benefit to the laboratory would be  $\frac{3}{4}$  FTE per year. The appointment will be in place for three of the five years of the initial contract and will have a value to the laboratory of approximately \$180K over the five-year contract period. In addition, UIUC commits resources to support one research assistant per year in support of emerging collaborative research projects between UIUC and FNAL scientific staff. The value of this resource is approximately \$50K per year or \$250K over the initial five-year contract period. UIC will provide adjunct faculty positions to help build a stronger connection between FNAL and UIC. UIC also commits to making available to FNAL R&D programs their analytical equipment at the UIC Research Resources Center at a discounted rate. UIC will support two joint appointments when the decision is made to site the ILC in Illinois.

#### **Resource Donor Type of Resource**

The University of Illinois In-kind contributions

#### **Location of Resource**

The University of Illinois  
364 Henry Administration Building  
506 South Wright Street  
Urbana, IL 61801-3689

#### **Estimated Total Value**

\$430,000 over five years

#### **Date Resource will be Provided**

The joint appointment will commence during the initial five-year period and not later than 24 months after the start of the contract so that three years are supported. The research assistant support will become available at the start of the contract.

#### **Resource Benefits to FNAL**

1. These funds will provide the Laboratory Director with flexibility to develop or expedite progress in promising programmatic areas and thus enable the laboratory to achieve certain DOE missions in a more expeditious manner. Working with the University, FNAL will be better positioned to attract world-class talent through joint and adjunct appointments. These funds will bolster FNAL’s leadership position in the fields of fundamental particle physics and accelerator research, creating new ventures and discoveries that push the frontiers of science.
2. These resources support incentives that assist FNAL management to attract and retain scientists who are the leaders in particle physics research by offering an academic appointment at a prestigious university combined with a staff position at a national laboratory.
3. Technical staff and equipment provided at reduced cost provide resources for support of R&D programs at the laboratory at

no or reduced cost to the Government.

**Resource Liabilities to FNAL**

None anticipated

***I. Northern Illinois University Strategic Collaborative Initiatives.***

Northern Illinois University commits the resources to support one FNAL–NIU joint appointment for three years in the field of Accelerator Physics. Two thirds of the work performed will be in support of DOE programs at FNAL while the laboratory will fund only one third of the salary. The value of this commitment to the DOE mission is approximately \$50K per year, a total of \$150K during the initial five-year contract period.

**Resource Donor Type of Resource**

Northern Illinois University In-kind contribution

**Location of Resource**

Northern Illinois University  
Dekalb, Illinois 60115

**Estimated Total Value**

**\$150,000 over five years**

**Date Resource will be Provided**

The resource will be provided during the initial five-year contract period and not later than 24 months after start of the contract so that three years of a joint appointment are supported.

**Resource Benefits to FNAL**

1. These funds will provide the Laboratory Director with flexibility to develop or expedite progress in promising programmatic areas and thus enable the laboratory to achieve certain DOE missions in a more expeditious manner.
2. Working with the University, FNAL will be better positioned to attract world-class talent. These funds will bolster FNAL's leadership position in the field of accelerator science, helping to create new ventures and discoveries that push the frontiers of science.

**Resource Liabilities to FNAL**

None anticipated

***J. Northern Illinois University Scholarship Program For Children of FRA Employees.***

Northern Illinois University commits the resources to grant two full scholarships per year to the children of FRA employees. The value at \$14K per year per student is \$28K per year or \$140K over the initial five-year contract period.

**Resource Donor Type of Resource**

Northern Illinois University In-kind contribution

**Location of Resource**

Northern Illinois University  
Dekalb, Illinois 60115

**Estimated Total Value**

**\$140,000 over five years**

**Date Resource will be Provided**

At start of contract in annual increments of \$28K

**Resource Benefits to FNAL**

1. This resource commitment provides an additional incentive in recruitment and retention of top scientific and engineering talent, which is commensurate with benefits of university faculty—FNAL's main competitor for top talent.

**Resource Liabilities to FNAL**

None anticipated

### ***K. Northern Illinois University-FNAL Joint Education Programs.***

Northern Illinois University commits the resources to develop a joint Ph.D. program in accelerator physics and a joint Masters degree program in RF engineering. The value of these programs is fully dependent on how many students are enrolled in the programs during the term of the contract. During the research studies phase of the Ph.D. program, an estimate of the contribution would be approximately one half FTE per student. Nevertheless, we do not assign a monetary value to this very valuable program because of the inherent variability of its value. This is a long-term investment in strengthening NIU ties to FNAL and contributing to the future of accelerator technology. NIU will also commit to two full tuition waivers for graduate students each year, who are working on FNAL programs. This has a value of \$30K per year or \$150K over the initial five-year term of the contract.

#### **Resource Donor Type of Resource**

Northern Illinois University In-kind contribution

#### **Location of Resource**

Northern Illinois University  
Dekalb, Illinois 60115

#### **Estimated Total Value**

**\$150,000 over five years**

#### **Date Resource will be Provided**

At start of contract in annual increments of approximately \$30K

#### **Resource Benefits to FNAL**

1. There is a great need for and shortage of accelerator physicists to support the needs of the Office of Science missions related to accelerator science. Educating, recruiting, and hiring talented accelerator scientists are priorities for the DOE missions at FNAL and elsewhere in the U.S. The development of a joint Ph.D. program in accelerator science serves to train the next generation of accelerator scientists and at the same time provides the research efforts of these students working on R&D problems in support of FNAL programs.
2. RF engineering is a necessary core competency related to the key technology of superconducting RF for the ILC. Training the next generation of engineers and recruiting them to work in support of the ILC is a high priority.
3. The graduate tuition waiver program provides an incentive for graduate students to work in DOE mission-related research at FNAL and contributes to attracting top young scientific talent to FNAL and DOE programs.

#### **Resource Liabilities to FNAL**

None anticipated

***L. Northern Illinois University-FNAL Joint Scintillator R&D Facility.***

Northern Illinois University will maintain and locate a plastic co-extruder at FNAL and support its operation with one half FTE of technician effort. The estimated value of this commitment of equipment and personnel is \$125K per year or \$625K over the five years of the initial contract.

**Resource Donor Type of Resource**

Northern Illinois University In-kind contribution

**Location of Resource**

Northern Illinois University  
Dekalb, Illinois 60115

**Estimated Total Value**

**\$625,000 over five years**

**Date Resource will be Provided**

At start of contract in annual increments of approximately \$125K

**Resource Benefits to FNAL**

1. Scintillating fiber technology is one of the enabling technologies of high energy physics particle detectors used extensively, for example, in the DZero collider detector and future detectors such as MINERvA. FNAL maintains a core competence in the use and development of this technology for particle physics experiments and other applications.
2. The location at FNAL and use of the NIU co-extruder in DOE mission-related R&D at FNAL will reduce the cost of these R&D programs to the Government and maximize the output of these programs per dollar invested.

**Resource Liabilities to FNAL**

None anticipated

***M. Northwestern University Scholarships for Children of FRA Employees.***

Northwestern University commits the resources to grant scholarships to provide tuition support to the children of FRA employees for a total of \$25K per year.

**Resource Donor Type of Resource**

Northwestern University In-kind contribution

**Location of Resource**

Northwestern University  
633 Clark Street  
Evanston, IL 60208

**Estimated Total Value**

**\$125,000 over five years**

**Date Resource will be Provided**

At start of contract in annual increments of \$25K

**Resource Benefits to FNAL**

1. This resource commitment provides an additional incentive in recruitment and retention of top scientific and engineering talent, which is commensurate with benefits of university faculty—FNAL's main competitor for top talent.

**Resource Liabilities to FNAL**

None anticipated

#### ***N. Northwestern University Strategic Collaborative Initiatives.***

Northwestern University commits to provide support for strategic joint appointments and collaborative research projects with FNAL scientists. Two joint Northwestern-FNAL junior or senior positions will be supported. The support for these positions will be shared equally between the two institutions but  $\frac{3}{4}$  of the effort will be devoted to DOE missions at FNAL. The contribution from the university, one quarter of an FTE per joint appointment for at least three years, has an estimated value of \$350K over the five years of the initial contract period. In addition, start-up funds to support the research programs of these scientists at FNAL will be provided with a value of at least \$400K. The University will also grant two full one-year leaves of absence for faculty members to perform dedicated work in support of DOE's missions at FNAL. The University support for these scientists would be \$200K over the initial five-year term of the contract.

#### **Resource Donor Type of Resource**

Northwestern University In-kind contribution

#### **Location of Resource**

Northwestern University  
633 Clark Street  
Evanston, IL 60208

#### **Estimated Total Value**

**\$950,000 over five years**

#### **Date Resource will be Provided**

The joint appointments will commence during the initial five-year contract period and not later than 24 months after the start of the contract so that three years will be supported. The leaves of absence will be granted so that they are completed during the initial five-year contract period.

#### **Resource Benefits to FNAL**

1. Since Fermilab would otherwise have a need to hire equivalent staff to carry out DOE programs at FNAL, this program reduces the cost to the Government of these programs. These funds will provide the Laboratory Director with flexibility to develop or expedite progress in promising programmatic areas and thus enable the laboratory to achieve certain DOE missions in a more expeditious manner.
2. Working with the University, FNAL will be better positioned to attract world-class talent. These funds will bolster FNAL's leadership position in the fields of fundamental particle physics, astrophysics and accelerator research, creating new ventures and discoveries that push the frontiers of science.

#### **Resource Liabilities to FNAL**

None anticipated

**O. Northwestern University Executive Education for Fermilab Staff and Scientists.** Northwestern University will grant partial tuition wavers (30%) for executive training programs offered by the Kellogg School of Business for up to six FNAL managers per year. This represents a commitment of \$15K per year or \$75K over the five-year period of the initial contract.

**Resource Donor Type of Resource**

Northwestern University In-kind Contribution

**Location of Resource**

Northwestern University  
633 Clark Street  
Evanston, IL 60208

**Estimated Total Value**

\$75,000 over five years

**Date Resource will be Provided**

At start of contract in annual increments of approximately \$15K

**Resource Benefits to FNAL**

1. The benefit to DOE is an increased management capability. Continuous improvement in management will be key to achieving efficiencies throughout the organization.
2. Administrative efficiency will lead to cost savings that can be applied to scientific programs allowing more mission-critical work to be accomplished.

**Resource Liabilities to FNAL**

None anticipated

***P. Illinois Institute of Technology Strategic Collaborative Initiatives.***

IIT commits to supporting three joint IIT-FNAL appointments, one senior, and two junior faculty appointments. On average these appointments will be filled for three years out of the five-year initial term of the contract. The support for these positions will be shared equally between the two institutions but three quarters of the effort will be devoted to DOE missions at FNAL. This contribution from the University has an estimated value of \$350K over the five years of the initial contract period. In addition, the University will grant one full one-year leave of absence for a faculty member to perform dedicated work in support of DOE's missions at FNAL. FNAL would provide one third of the support and Northwestern would provide two thirds of the support. The estimated value of two thirds of an FTE contribution to FNAL programs is approximately \$150K over the five-year initial term of the contract.

**Resource Donor Type of Resource**

Illinois Institute of Technology In-kind contribution

**Location of Resource**

Illinois Institute of Technology  
3300 South Federal Street  
Chicago, IL 60616-3793

**Estimated Total Value**

**\$500,000 over five years**

**Date Resource will be Provided**

The joint appointments will commence during the initial five-year contract period and not later than 24 months after the start of the contract so that three years will be supported. The leave of absence will be granted so that it is completed during the initial five-year contract period.

**Resource Benefits to FNAL**

1. Since Fermilab would otherwise have a need to hire equivalent staff to carry out DOE programs at FNAL, this program reduces the cost to the Government of these programs. These funds will provide the Laboratory Director with flexibility to develop or expedite progress in promising programmatic areas and thus enable the laboratory to achieve certain DOE missions in a more expeditious manner.
2. Working with the University, FNAL will be better positioned to attract world-class talent. These funds will bolster FNAL's leadership position in the fields of fundamental particle physics, astrophysics and accelerator research, creating new ventures and discoveries that push the frontiers of science.

**Resource Liabilities to FNAL**

None anticipated

***Q. Illinois Institute of Technology Scholarships for Children of FRA Employees.***

Illinois Institute of Technology commits the resources to grant five scholarships to provide 50% tuition support to the children of FRA employees. The value at \$10K per year per student is approximately \$50K per year or \$250K over the initial five-year contract period.

**Resource Donor Type of Resource**

Illinois Institute of Technology In-kind contribution

**Location of Resource**

Illinois Institute of Technology  
3300 South Federal Street  
Chicago, IL 60616-3793

**Estimated Total Value**

**\$250,000 over five years**

**Date Resource will be Provided**

At start of contract in annual increments of approximately \$50K

**Resource Benefits to FNAL**

1. This resource commitment provides an additional incentive in recruitment and retention of top scientific and engineering talent, which is commensurate with benefits of university faculty—FNAL's main competitor for top talent.

**Resource Liabilities to FNAL**

None anticipated

**R. Illinois Institute of Technology Executive Education for Fermilab Staff and Scientists.** Illinois Institute of Technology commits to provide one FTE-year of faculty effort, with a value of approximately \$150K over the five-year period of the initial contract, to design specific courses for FNAL staff in the diverse areas where IIT has specific competencies. In addition, IIT commits to supporting management and technical training courses for FNAL professional and scientific staff with tuition discounts up \$30K per year or \$150K over the five-year period of the initial contract.

**Resource Donor Type of Resource**

Illinois Institute of Technology In-kind Contribution

**Location of Resource**

Illinois Institute of Technology  
3300 South Federal Street  
Chicago, IL 60616-3793

**Estimated Total Value**

**\$300,000 over five years**

**Date Resource will be Provided**

At start of contract in approximately equal annual increments

**Resource Benefits to FNAL**

1. The benefit to DOE is an increased management capability deriving from expanded skills of FNAL staff. Administrative efficiency will lead to cost savings that can be applied to scientific programs. This will allow more mission-critical work to be accomplished.

**Resource Liabilities to FNAL**

None anticipated

**S. Preliminary Assessment of Maintenance and Work Control Practices.**

EG&G/URS commits four subject matter experts to perform a preliminary assessment of maintenance and work control practices. Deliverables include a brief report and presentation to assist OQBP in developing plans and preparing for implementation of best practices. EG&G will suggest a path for FNAL to implement an industry best-practice that has evolved in this arena—adoption of a reliability-centered maintenance (RCM) program with an accompanying wireless (paperless) network to interface with the existing Computerized Maintenance Management System (CMMS) application. Implementation of this at EG&G operated facilities, such as NASA’s Marshall Space Flight Center (MSFC), has netted a cost reduction in the areas of required replacement parts and elimination of over 95,000 paper work orders per year.

**Resource Donor Type of Resource**

EG&G/URS Personnel

**Location of Resource**

EG&G  
200 Orchard Ridge Drive, Suite 100  
Gaithersburg, MD 20878

**Estimated Total Value**

\$43,000

**Date Resource will be Provided**

Following announcement of award, before beginning of period of performance

**Resource Benefits to FNAL**

1. Proper implementation of RCM combines the best of the four (4) maintenance methods used today: reactive (corrective), time-based (preventative), condition-based, and proactive (predictive). FNAL should be able to reap short-term benefits from reducing reactive and time-based maintenance and longer-term benefits from proper execution of condition-based and proactive maintenance. Managed properly, the benefits derived from the short-term benefits should offset the cost of implementing the changes required to fully implement RCM.
2. Over the life of the contract FNAL should be able to reduce costs associated with maintenance and work control and increase reliability of utility systems that provide required services to scientific endeavors.

**Resource Liabilities to FNAL**

None anticipated

Donors by Commitment Type	Resource Name	Total 5-Year Commitment (\$K)
<b>Mission Support</b>		
FRA	A. Director's Discretionary Fund	\$2,500
URA	B. Strategic Collaborative Initiatives	\$2,000
FRA	D. Key Personnel Salary Augmentation	\$875
UChicago	F. Strategic Collaborative Initiatives	\$1,250
University of Illinois	H. Strategic Collaborative Initiatives	\$430
Northern Illinois University	I. Strategic Collaborative Initiatives	\$150
Northern Illinois University	L. Joint Scintillator R&D Facility	\$625
Northwestern University	N. Strategic Collaborative Initiatives	\$950
Illinois Institute of Technology	P. Strategic Collaborative Initiatives	\$500
<b>Business Operations</b>		
UChicago	E. Laboratory Collaboration Council / Management and Decision Support Dashboard Initiative	\$500
EG&G/URS	S. Preliminary Assessment of Maintenance and Work Control Practices	\$43
<b>Education Commitments</b>		
FRA	C. Scholarships for Children of FRA Employees	\$1,000
UChicago	G. Executive Education for FNAL Staff and Scientists	\$250
Northern Illinois University	J. Scholarships for Children of FRA Employees	\$140
Northern Illinois University	K. Joint Education Programs	\$150
Northwestern University	M. Scholarships for Children of FRA Employees	\$125
Northwestern University	O. Executive Education for FNAL Staff and Scientists	\$75
Illinois Institute of Technology	Q. Scholarships for Children of FRA Employees	\$250
Illinois Institute of Technology	R. Education for Fermilab Staff and Scientists	\$300
<b>Total Value of Commitments</b>		<b>\$12,113</b>