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I. Introduction

A. The ILC and Its Potential Location At Fermilab (Judy)

- The International Linear Collider is a scientific project in the field of high energy physics...
- Which will be supported and financially underwritten by a consortium of countries including Switzerland, Germany, Japan, etc...
- And which has the potential to be located in the United States and, more specifically, in northern Illinois near the Fermilab campus...

B. Origins and Purpose of the Task Force (Doug)

- In February, 2007 Fermilab convened a community-based task force...
- Charge to the Task Force
- The selection of the task force was based on...
- To provide the Lab with the external perspectives of a diverse group of community participants...
- To study in depth and to create a report that would summarize...

C. Purpose of This Report

- Discuss the many implications and potential impacts of bringing the ILC Project to Chicago's collar counties...
- Provide the Lab with a set of recommendations to guide its interactions with local communities and their residents...
- ...(move to community outreach and timing)

D. Statement of What The Task Force Has Come To Recognize Over The Course of This Process

- The task force process has involved a year of becoming better informed, listening to experts in respective areas of the project, interacting, reflecting and critiquing...
- Out of this process there are broad realizations that inform the task force's collective approach to making the recommendations contained in this report. The task force has come to recognize / value...[the kinds of items that follow in the next few bullet points]
- Fermilab, the research conducted there, and the people who work there make a significant contribution to...[scientific discovery, indirectly to technological innovation, very directly to the development of human resources and their location in this region / country, economics of the region] Therefore, there is value in reinvesting in Fermilab...
- The location of the ILC project in this country would be a project worthy of consideration for the nation in that...[potential for discovery and long-term application and its reinvestment in Fermilab]
- Regardless of the future of the ILC at Fermilab, there is a collective recognition of a value in a national investment in... [accelerator-based particle physics / scientific research, etc.]...given that... [issues of national

leadership in a skeptical international community; competitiveness for technology, investment and people]

- Nonetheless, although the task force has come to these realizations, we remain focused on the purpose set before us.... The report lays out a clear, objective, conscientious assessment of the challenges that are posed by locating the ILC on this site and of the considerations that would have to be made in regard to the community and its concerns...
- These include...[one sentence listing of the broad categories that are developed within the report]

II. Bringing the ILC to Fermilab

A. The background and how the desire to locate here arose

- Global decision/consensus that next BIG project in particle physics should be ILC
- Fermilab is the premier particle physics lab in the US
- Experience from locating SSC clearly indicated that a new project should be built at existing laboratory and not a new site
- Fermilab needed a new project since Tevatron will shut down in 2010.
- LHC (large project) is at CERN in Europe, Japan is building JPARC, so worldwide Fermilab seemed the natural choice.
- Interest in Northern Illinois because of existing strong universities, Argonne Nat. Lab, and strong technical capabilities.
- Geology in Northern Illinois is suited for tunnels
- OTHERS TO BE FILLED IN

B. The benefits of locating the project here [particularly big picture benefits in terms of science and the nation]

Some of the potential benefits of bringing the ILC to the US and to Fermilab are...

- Maintaining and advancing American scientific prestige
- Remaining a viable (reliable) partner in the international scientific community
- The invaluable hands on experience for thousands of US scientists, engineers, technologists, and participating industries
- Taking advantage of the existing workforce at Fermilab
- Facilitating American spin-off innovations and future competitive leadership as a bi-product of ILC basic research
- Examples of prior spin-off innovations from basic physics research include: The world wide web, which was born as a bi-product of work at the accelerator in Cern, Switzerland. Basic research in particle physics also resulted in the invention of the transistor and MRI or magnetic resonance imaging technology.
- A local example is that the influence of Fermilab contributed to the establishment of the Illinois Math and Science Academy in this area.
- Also important is the substantial impact that Fermilab has on the economy of our area and our state: In 2006 Fermilab paid \$195 million in total compensation to its employees which became available for expenditure in our local communities. Also, in 2006, the Lab spent \$70 million in procurement purchases from businesses located in the State of Illinois.
- [OTHERS TO BE FILLED IN?]

C. The costs of failing to build ILC and locate the ILC here

- Potential missed opportunity to further recent discoveries and maintain leadership role via the ILC.
- Withdrawal or reduced engagement in the ILC process in general diminishes American autonomy, leadership and standing in the international community and may lead to less direct access / rights to the technological advances associated with the project.
- Will not bring (retain) the scientists, investment and technology here (to the nation and Northern Illinois region).
- Not locating major projects in this country has indirect but serious impact on higher education and developing intellectual capital in this country, especially given CERN already.
- In general, a failure to reinvest in Fermilab as a preeminent center of research has significant economic costs to the nation and region, in terms of jobs and spending.
- Also, there are local costs in terms of removing well-educated, diverse, engaged members of the community through the diminishment of Fermilab.
- The ILC or other projects would lead to additional investment in the area that would not be realized now.
- Not pursuing this project potentially misses an opportunity for the lab to build new ties to the community.
- [OTHERS TO BE FILLED IN?]

D. Major types of community concerns that would have to be weighed and addressed. [Essentially, the categories of the report in brief.]

- Importance of having an open process that engages and respects community input. Recognition of the need to build trust, buy-in and support. Recognition of taking seriously the legitimate concerns and anxieties of the community, and a recognition of the need to address misinformation and misunderstanding. Trust at multiple levels (national, international, community)
- Concerns about the location, impact and aesthetics of off-lab sites within communities. Clarification of responsibilities, authority and rights related to selecting and acquiring property. Involvement of communities in this selection process.
- Addressing property rights and other issues related to local, state and federal law that would impact any aspect of the project. Importance of getting advanced and sustained cooperation among government entities.
- Importance of learning from other major building projects and siting processes, both the successes and failures.
- Environmental impact, including impact on local water supply.

- Health / safety impact, including issues tied to the building phase or concerns about radiation and waste.
- Concerns about disruption in the area and other challenges in relation to the building process.
- Need for local investment and employment, both economically and in terms of other benefits to local communities.
- Need for community outreach and education (relative both to the project and Fermilab) both as a means to bringing about the project and as a by-product of the permanent presence of these off-Fermi sites to be pursued consciously.
- Importance of providing accurate public information about the project, its timing, its benefits, and its costs.

III. Siting the ILC

A. Background

- Siting per se will be the source of most concerns and opposition (i.e., inconvenience from construction, concerns about radiation, proximity to “my house”, etc) even though after some years people will forget it is there.
- The project, siting for the project and the underlying geology have certain unavoidable requirements and characteristics (length o ILC 30/55, periodic surface structures, linearity, north-south orientation, cryogenics, construction access, emergency exiting, etc.). A brief explanation of the geology that lead to the north-south orientation.
- Centering the project on Fermilab’s campus has very significant benefits to the nation, project and the community (i.e., takes advantage of existing facilities---labs, shops, offices, computer systems, etc; provides for management of radioactive materials via exiting facilities and protocols; may be able to use existing accelerators?) (Do these benefits offset the net benefits of other possible sites? If so, make the case here.) One of the assumptions is FNAL has a significant cost advantage over other sites because of the existing infrastructure.

B. Key Community Concerns

Should be a ‘list’ of concerns we feel important but not a prioritized list. Should not appear to be a dictated or finite list.

- Assurance that all viable options for sites have been identified and considered in terms of costs and benefits and that the best site is at FNAL. At the time of this report other US options have not surfaced or been identified. However, a description of how the infrastructure at FNAL and the support structure of the surrounding communities makes FNAL unique. Add to this FNAL’s global reputation and recognition makes it the best possible site.
- All sites would have the tunnel construction cost. FNAL has the administrative and scientific infrastructure already where other sites would have to build them or remodel existing facility. Sites where these could be built would not have the community support facilities needed for a project of this size.
- Recognition that the selection of a site for this project will upset people no matter how extensive and well meaning the education/community relations program may be
- Citizens need to know that FNAL recognizes and understands their concerns and misgivings about the siting
- Need to see that FNAL is doing everything that is humanly possible to minimize the impact of the site of the ILC on the community

- That the concerns of each and every person and community about siting are heard, acknowledged and considered
- There will be community concerns but there will also be individual concerns (i.e., safety issues if the tunnel is in my neighborhood or under my property).
- Who gets to choose the siting/how will this decision be made?
- Identify the corridor and general ovals for the surface facilities as soon as possible.
- Can we accommodate a construction project of this magnitude?
- Need to recognize the ensuring development between now and the actual time of siting
- Issue of total length of tunnel, and making sure that there is transparency about whether it could be extended in the future

C. Recommendations

- Establish the rationale for locating and centering the ILC facility at FNAL
- As the work on site selection (i.e., the corridor) occurs make all information available, have transparent decision making processes, seek community input, show photographs, make experts available, have a website, hold meetings, etc. Since the construction phase is over several years, some of these meetings will need to be held several times.
- Clarify the limitations and requirements for sites
- Openly discuss the pros and cons of FNAL centered sitings
- Work with the neighborhoods and residents adjacent to the service support sites. Blend them in as well as possible. Let them know the sites need not look identical.

IV. Off-Site Facilities (Surface sites and facilities outside the Fermilab campus)

A. Background

- What are off-site facilities?
- Why are they needed?
- Why is the specific number and type of them needed?
- What functions will be performed in these facilities?

B. Key Community Concerns

- How can the off-site facilities' size and impacts be minimized? Why can't everything be underground?
- Will they be safe?
- How will access be controlled?
- How will they be secured?
- If my kid breaks into one of them, will he fall down the big hole? contract radiation poisoning? get electrocuted?
- Will they be a nuisance (noise, trash, light)
- Will they be unattractive? How can they be designed to fit into the community?
- Will they detract from my property value?
- After construction, will they produce a noticeable traffic load on our streets?
- Who decides how large these are and where they will be located?
- How will these off-site facilities and locations be used/impact me/my neighborhood/the community during construction versus normal operations over time?
- Will there be any radioactive material delivered or removed through these access points? (During construction or normal operations).
- What type of equipment and or material will be delivered or removed through these access points and at what frequency?
- Will there be any radioactive material removed through these access points?
- Will these sites be 100% maintained by FNAL?
- Will condemnation of properties be required to proceed or complete these access points?
- What happens if the ILC should cease before completion (SSC)
- What happens once ILC work is complete
- How does the total mass of buildings needed get incorporated into the surrounding communities (very different scales)

C. Recommendations

- Unless this is outlandishly expensive, keep everything underground that can possibly be kept underground, even if this adds to the cost of the project. Can all of the cryogenic facilities be in the tunnel and the surface facilities greatly minimized?

- Manage all radioactive materials via the central location on the FNAL campus
- When the locations of these facilities have been determined, contact landowners before they hear about it in the newspapers.
- Once the locations for the surface sites have been located, sale of the properties within the ovals should be monitored. If possible, first right of refusal should be acquired.
- Additional uses for these off-site locations, how to make them a positive in the community

V. Worker Safety

A. Key Issues

- Radiation

B. Background

- Dictated by OSHA, enforced by DOE, enhanced by Fermilab local requirements. Fermi Frequently exceeds Federal standards.

C. What's most important to the public

- People want to know that their co-workers and neighbors are safe, and not bringing home hazards from the workplace.
- Worker exposure from multiple sources
- Air quality, ventilation

D. Recommendations

- Continue to be vigilant and fully enforce OSHA, Fermilab and recognized international collider work safety standards.
- Make the employee safety handbook readily available as a communication tool with the public.
- Benchmark radiation exposure to something people understand
- Better explain the safety issues that are in place

VI. Public Health and Safety

A. Key Issues

- Radiation
- Pollution

B. Background

- Public has an abiding fear of radiation and a mistrust of government.
- Public will be potentially exposed to radiation, air pollution (dust, VOC, hazardous air pollutants, etc.), water pollution, hazardous waste, noise, light and vibration pollution.

C. What's most important to the public

- Linear Colliders have been built before, so many of the concerns are known factors.
- Community needs to be reassured that the air will be safe, the water will not be polluted, and the quality of life will not be adversely affected.
- Construction traffic, other construction hazards, blasting, noise
- Construction pollution

D. Recommendations

- Maintain openness and transparency in communication with the public.
- Focus on the positive aspects – peace of mind assurances.
- The project should be handled in the same unobtrusive manner as is the present Lab operation.
- Study, understand, and communicate radiation issues.

VII. Environmental Issues

A. Key Issues

- Water table impacts
- Early mitigation of Env. Impacts
- Green Orientation
- Recycling Opportunities (rock)
- Loss of open land, wildlife impacts

B. Background

- Community has distrust of government
- The project extends beyond the borders of Fermi property.
- Public has an increasing concern over dwindling natural resources
- Project reaches into/below the current ground water table.

C. What's most important to the public

- Ground water table impacts,
 - a) during construction,
 - b) after construction, during operation
 - c) water quantity, quality
- Water use by the off-Fermi site facilities during construction and during operation
- Issues regarding air/dust dispersal, trash, sewage, etc., from tunneling operations and project operation, heat transfer, energy usage, etc., from on and off Fermi property.
- Assurance that the potential for damage from earthquake action is extremely minimal.
- What is the finished condition of the tunnels at the end of ILC life?

D. Recommendations

- Stress "green", incorporate "green" practices whenever possible, and communicate same to community, maintaining transparency. LEED certified.
- Incorporate rain gardens and zero water discharge technology wherever possible
- Goal - No permanent impact on water quality and quantity, and communicate and provide viable alternatives if or when it is unavoidable..
- Establish wildlife corridors in the project
- Commit dollars to the preservation and restoration of natural resources
- Take advantage of every recycling opportunity
- Design with the end in mind, plan for decommissioning

VIII. Construction

A. Key Issues

- Perceptions of impact
- Fear of tunneling

B. Background

- Because of the length of the project and previous history of extremely large and complicated construction projects, people dislike any major construction projects in their back yards.

C. What's most important to the public

- NIMBY
- Property value impacts
- Quality of life impacts
- Effect on family pets, animals (e.g., many would spook at tunneling vibrations)
- Communication about the progress of the project, and the scheduling at each house and business as the tunneling operations pass underneath.
- Effect on private wells.

D. Recommendations

- Invite the public down to see the tunneling and other operations, via live participation, videos, TV coverage, school field trips, etc.
- Communicate about the schedule of operations by all media possible
- Ensure dust containment.
- Communicate the methods, operations, impacts, etc., of a tunneling operation to the public before it starts, to allay fears about the effects.

IX. Economics

A. Current Impact

- Construction benefit and costs
- Business for Illinois firms
- Regional Impact
- Human capital presence (nonfinancial)
- Travel and lodging
- Impacts on labor costs/supply

B. Long-Term Impact

- Operations
- Business for Illinois firms
- Benefits for all financial Supporters
- Continued compensation for land tax void
- Employment base
- Intelligence base in the community
- Derivative from construction (material, support facilities)
- Broader impacts of investing in Fermilab as an institution

C. International Governing Model

- Formula for sharing business benefits
- Effect on current and long-term impacts

D. Honesty About Costs

- Redefining labor cost as a benefit
- Proper scope of economic impact studies
- Benefits of science and technology
- Sustainability of human capital

X. Political

XI. Learning Lessons From Past Projects

A. SSC

- Resistance from community
 - Fermocipus
- Why this resistance occurred
- What does this suggest about the future?

B. O'Hare

- Land acquisition
- Similarities to SSC
- Differences from SSC

C. Original Development of Fermilab

- Land acquisition difficulties
- Necessity of a well organized, publicly well understood, land acquisition program
- Standards of conduct must be well defined

D. Deep Tunnel

- Similarities
- Differences
- Property values and the tunnel

E. The Power of Misinformation

XII. Community Engagement and Timing

A. Background:

- Why communication and engagement is important,
- Need for transparency
- How it will affect them personally (some of this is in the document recently published for political staffers about the ILC)
- Reflect back on previous sections
- What happens when you don't do this right, past experiences

Visuals

- Possible site orientation
- Appearance/size/other uses of possible access buildings
- Visuals to understand the science
- Major pieces/parts of the collider itself (including/parts onsite at Fermi vs. parts offsite)

B. Key Community Concerns

(This becomes a summary/restatement)

- Why is the collider here vs. farther west or at another location?
- Property values
- Property rights
- Safety/radiation
- Noise during construction and operation
- Sizes, configurations, aesthetics and locations of access buildings and tunnels
- Feeling informed about the project
- Believing their opinions are sought and heard
- Benefits of project to the community
- Environmental issues & benefits, including carbon footprint of project
- Economic issues, maximizing economic benefits
- How the ILC may/may not affect current operations at Fermilab
- If/how the ILC may affect community access to Fermilab (bike paths, prairies, etc)

C. Recommendations.

1. Identify audiences

Identify various audiences/interest groups/potential stakeholders:

- Local (Local property owners, local communities, Kane and DuPage counties)
- Regional (Northern Illinois)
- State and Federal stakeholders
- International physics community

2. Timing of Communication Efforts

Start early; repeat often.

Communication with the community needs to begin early, be ongoing and frequent. Look for opportunities in project development and planning to engage the community. There may not be one clear good time to talk to the public; instead there may be a number of different types of opportunities staggered throughout the project. Frequency is needed to keep the information in front of the public: People move in and out of the area; people have other priorities; people don't retain information.

3. Communication methods

Community outreach should use diverse outreach tools, media, and venues. Look for multiple opportunities and multiple methods.

- News media (papers, journals, television, radio)
- Video, including perhaps a basic video on the project that can be used at meetings and posted on the website
- YouTube style videos about the science, the ILC project specifically, and Fermilab discoveries
- Website about the project where people can get information, ask questions and have them answered by experts (corrects misinformation)
- Meetings, presentations, stakeholder discussions, community forums
- Letters directly addressed to residents and businesses along and near the ILC path
- Scientist involvement
- Community/educator outreach through Fermilab Education Department
- Outreach to informal locations "where the people are" (parks, fairs, malls, libraries, etc.)
- Periodic update newsletters to local communities

4. Explain the Science/Explain the ILC project

Convey to the community the value of scientific exploration in layman's terms and give examples of discoveries that have come from research. Explain what scientists hope to gain from the ILC project.

Start discussion broadly

Begin science and project discussions in a broad context to provide a framework for comprehending specific details that come later.

Convey science better

Find effective ways to explain to the community the science and the value of scientific exploration. Strive for clarity. Give examples of discoveries and technologies that issued from basic research and from Fermilab in particular. (e.g. recent article on proton therapy at Fermilab)

Explain in laymen's terms

Use common and uncomplicated language to explain complex ideas. Use analogies as appropriate. Avoid jargon. Connect the dots.

Explain uncertainty

Describe for the community the variables and uncertainties that the project entails.

5. Generate Excitement and Identify the Benefits Of the ILC Project

- Community outreach should express enthusiasm and encourage community participation. Convey a sense of wonder. Ignite community interest and a sense of purpose for scientific exploration and discovery.
- Identify benefits of the project for the community, the state, the nation, and the world

6. Address Specific Concerns

Communication needs to address specific concerns of residents, especially safety concerns. The process should:

- Anticipate/identify concerns
- Listen to community concerns
- Respond
- Plan the project to address/mitigate the concerns
- Communicate actions being taken

Questions might include:

- Will the ILC pass under/near my house?
- Noise concerns.
- Property values.
- Property rights.
- Where does radiation come from?
- Will radiation affect the ground water?
- How else might radiation affect my family and me?

7. *Build and Maintain Trust*

Establish and nurture an open working relationship with the community. Be quick and proactive to correct misinformation.

- Maintain an open and transparent process.
- Share information/Never withhold information
- Invite inquiry
- Open communication channels
- Don't minimize or downplay important stuff to the public (like radiation)
- Get factual information to key community issues as early in the process as possible
- When you don't know, say so or find out.
- Recognize power of misinformation: React quickly to correct

8. *Acknowledging past and potential negatives*

Acknowledge past experiences with Kerr-McGee (West Chicago), the Superconducting Supercollider, and the development of Fermilab. Prepare for potential negative reactions to the ILC proposal.

- Acknowledge the West Chicago experience with radioactive thorium and compare it to the proposed ILC activities
- Learn from local opposition to the Superconducting Supercollider (CATCH: Citizens Against the Collider Here)
- Acknowledge the experiences of the creation of Fermilab and compare to proposed project
- Prepare for possible negative reactions to the ILC proposal.
 - Anticipate arguments
 - Listen and acknowledge
 - Share information
 - Invite discussion
 - Explain clearly how community can voice opinions & get involved

XIII. Summary