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Quarterly Technical Progress Report

International Power Institute

Quarterly Report for the Period
October-December 1997

Julius E. Coles
Director
International Power Institute
Morehouse College
Atlanta, GA

Date: April 2, 1998

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International Power Institute's Quarterly Technical Report for October-December 1997

Pre-Cooperative Agreement Activities

The International Power Institute (IPI) held a meeting in Washington, D.C., on July 30, 1997, to plan the future strategy and activities for IPI. This meeting was attended by the staff of the IPI, the Morehouse College Provost, Department of Energy officials and energy sector representatives. There were a total of 13 people attending this meeting that focused the country/regional focus of IPI and how best to achieve private sector participation in IPI activities. Based on the discussions held, it was decided that South Africa and Mexico would be the countries of initial principal focus for IPI, given the Institute's staff's expertise and the attractiveness of these markets for U.S. investors in energy sector projects. In addition, the meeting concluded that the proposed fundraising program presented during the meeting should be revised and made more "product oriented" and other methods for private sector financing should be explored. (The Executive Summary of this meeting can be found as Attachment A).

Deputy Director Position

The IPI employed Dr. Terry Ferrar as its Deputy Director on a one-year contract after having used him as a consultant to Morehouse College on the establishment of the IPI. Dr. Ferrar had had a wealth of experience in the power sector as an employee of South Electric International, CMS Generation Company, Central and South West Energy Company, Edison Electric and General Public Utilities.

IPI Brochure

The IPI developed a marketing brochure entitled "Morehouse College – International Power Institute," which was finalized in November. This brochure lays out the Mission, Strategy Goals and describes the relationship between IPI and Morehouse College. (A copy of this brochure can be found as an enclosure to this report as Attachment B.)

Collaborative Arrangements Explored

The IPI explored a number of collaborative arrangements with the MCX Environmental Energy Corp./Ener Tech Environmental, Inc., Alliance Energy Group, the Southwire Company and the Oak Ridge National Laboratory to work together in developing projects and technologies for the targeted countries of South Africa and Mexico.

Formation of IPI Advisory Board

The IPI sent out 21 letters to various distinguished officials inviting them to be members of the IPI Advisory Board. The invitees included power company executives, engineering firms, lobbyists, universities, national research laboratories and legal firms working in the power sector. A total of 17 of these executives have accepted IPI'S invitations. (For a listing of the Proposed IPI Advisory Board, see Attachment C.)

Advisory Board Meeting

The first Advisory Board meeting was held in Dallas, Texas on December 9, 1997 during the annual Power Gem meeting. A total of 11 Board members attended this meeting, which reviewed the rationale for the establishment of the IPI, the Department of

Energy Cooperative Agreement, and various IPI initiatives for South Africa, Mexico, Global warming as well as alternative financing strategies. The Advisory Board gave its overall support to the directions and strategy of IPI presented during this Board meeting. (A summary of this meeting can be found as Attachment D.)

African Utility Executives

Members of the staff of IPI participated in an U.S. Trade and Development Agency and Department of Energy sponsored briefing for 20 African electric utility executives in Washington on December 2, 1997. IPI made a presentation on its mission, strategy and goals for working with developing countries in the power sector. In addition, IPI co-hosted with the Capstone Corporation and the Parallax Company a luncheon for these executives at the Annual Power Gem Conference on December 8 to explore marketing and investment opportunities for IPI in Africa as a whole.

South Africa Exploratory Visit

IPI staff began to explore with Eskom International officials the possibility for a collaborative relationship between each other and to plan a visit to South Africa by IPI staff in January 1998.

August 11

EXECUTIVE SUMMARY**INTERNATIONAL POWER INSTITUTE****JULY 30, 1997****WASHINGTON, D.C.****PLANNING COMMITTEE MEETING**

This report summarizes a July 30th, six hour Planning Committee meeting held on the International Power Institute in Washington D.C. The nature of the meeting was free-flow interaction, and the participants are identified in an attachment to this summary.

The meeting began with presentations from the Provost of Morehouse College, Dr. John Hopps, and the Director of the Center for International Programs at Morehouse, Mr. Julius E. Coles. These presentations described Morehouse as an institution dedicated to producing leaders, and an institution committed to affecting change. They stressed their concern that Morehouse and its student body must be involved in real world issues, and this is the reason that the International Power Institute was synergistic with Morehouse College's overall goals.

Ferrar then gave some brief comments that the International Power Institute must be transaction oriented, if it is to be effective. He argued that "change follows transactions." Until a power or infra-structure facility is built, no real benefits are realized. Supporting Dr. Hopps' position that the International Power Institute must facilitate American industry involvement in developing countries, Ferrar stressed that private sector participation in the work of the Institute was essential.

Dr. Sun, from the Department of Energy, made extensive comments regarding the importance of coordination with other institutions, such as the national laboratories, other universities, and private research firms. This position was supported by all participants, and added to by Mr. Goodwin and Mr. Lookadoo.

The meeting agenda was focused upon two key issues:

First, what countries should the Institute target for its first years of operation?

Second, what is the best method of achieving private sector participation?

The morning session was effectively devoted to the issue of target country identification. The question of evaluation criteria for country selection was heavily debated. Consideration of size of market, existing presence of American firms, possible technology applications, and the overall potential value added that the Institute could aspire to achieve were addressed.

While the list of countries discussed by the Committee was extensive, the general conclusion was that South Africa was clearly the preferred target country for the Institute's initial work. South Africa is a country that Morehouse has extensive relationships with, it is a country where American firms have relatively little presence, the geography (i.e. travel time and expense) suggests that a cost-sharing private sector effort may be attractive, and its banking/legal systems are adequately advanced to permit capital intensive project development. It is also a country of political importance to the United States.

The second country suggested as a target for the Institute was Mexico. The logic of the argument for this country was presented primarily by Mr. O'Brien. In essence, he made the pragmatic point that the cost of exploring this country's opportunities would be minimal, given its proximity and existing relationships of Committee members. The opportunity for a "quick project" could be evaluated without a significant expenditure of Institute resources, and Morehouse has existing relationships that could be built upon.

Other countries looked at briefly included Cuba, Uganda, India, Hungary, Poland, Vietnam, Kazakhstan, Czech Republic, and Uganda. If Mexico falls out as a second target country, the participants felt that Uganda offered some possibilities for further exploration.

The afternoon session was devoted to a discussion of methods to achieve private-sector participation in the Institute, and in particular private-sector financing to compliment the Department of Energy's support. Since the group concurred with the argument that "change follows transaction," the importance of private sector involvement in the Institute both validates its purpose and strengthens its credibility.

This discussion turned to a review of private-sector funding approaches. The debate centered on three funding options as follows:

First, funding based on "dues" for membership.

Second, funding based on "products."

Third, funding based on level of participation in the Institute's activities.

A draft proposal for a dues-based funding plan was presented by Ferrar. While the interaction among Committee members varied, the consensus was that the business plan and dues structure needed to be revised and made more "product oriented." The Committee did not believe that the industry would respond to another trade-association type organization, and as expressed by Mr. Riordan "we need to clearly define our value added to receive industry support." As the discussion continued, at the urging of Mr. Goodwin, Mr. Heaton, and further urging by Mr. Riordan, it became clear that alternative dues structures needed to be explored.

The formation of a Finance Committee, a Permanent Advisory Committee, press conference, and brochure were also discussed. It was suggested that once a financing structure was selected, it should be "field tested" by interviews and correspondence for validation before being adopted.

The Meeting concluded at approximately 2:30 PM. While this report is necessarily a summary, all participants in of the Committee provided valuable insights as to how the Institute could contribute to the American power industry and developing countries.

attachments: Agenda, and Attendance List

AGENDA

INTERNATIONAL POWER INSTITUTE PLANNING COMMITTEE MEETING

July 30, 1997

9:00 AM

Introductions
Opening Remarks

Dr. John H. Hopps, Jr.
Provost & Sr. Vice President for
Academic Affairs, Morehouse

Overview of Morehouse
International Programs

Mr. Julius E. Coles
Director of Morehouse College
Center for International Programs

IPI Program Overview

Dr. Terry A. Ferrar
Deputy Director, IPI

Update on recent IPI
Developments

John Hopps, Julius Coles,
Terry Ferrar

Group Discussion :

IPI Goals
Criteria for Selection of Target Countries
Structure of Funding
Other Topics

3:00 PM

Adjournment

**INTERNATIONAL POWER INSTITUTE
PLANNING COMMITTEE
JULY 30, 1997
WASHINGTON D.C.**

ATTENDANCE LIST

Dr. John Hopps, Jr.
Provost
Morehouse College

Mr. Julius E. Coles
Director
Center for International Programs
Morehouse College

Dr. Terry A. Ferrar
Deputy
Director
International Power Institute

Dr. Rene Males
President
Strategic Decision, Inc.

Mr. Robert Riordan
Executive Vice President
International Relations
Black & Veatch International

Mr. Lee Goodwin, Esq.
Reid & Priest LLP

Dr. Sun Chun
Senior Executive Advisor
Office of Fossil Energy
U.S. Department of Energy

Mr. Frank O'Brien III
President
Associated Energy Group, Inc.

Mr. Phillip Lookadoo, Esq.
Reid & Priest LLP

Mr. Eldon Heaton
President
Energy Development Corporation

Mr. Sharrieff Mustakeem
President & CEO
MCX Environmental Energy

Mr. Jim Kelly
Chairman
MCX Environmental Energy

Mr. Earl Hillard, Jr.
Director of Government
Relations
Morehouse College

DEAR (First Name):

As promised, please find enclosed an Executive Summary on our International Power Institute Planning Committee meeting. This report is synoptic, and it is not intended to be a complete recital of all the valuable discussion that transpired at our meeting. However, please be assured that all of your comments are being taken into account, as we proceed with our planing and execution of the Institute's program.

Thank you for your participation, and I will be keeping you informed as we proceed. Of course, I would invite your comments on this report, or any other thoughts you may have on this Institute initiative.

Sincerely,

Terry A. Ferrar

enclosure

PROPOSED IPI ADVISORY BOARD

Mr. Erroll B. Davis, Jr.
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Wisconsin Power Limited Company
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Hillsboro Beach, FL 33062

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President and CEO
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220 West Sixth Street
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Mr. Philip Badger, Manager
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Carrollton, GA 30119

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PROPOSED IPI ADVISORY BOARD

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Summary of the First
Advisory Board Meeting
for the
International Power Institute held in
Dallas, Texas on December 9, 1997

I. Welcoming Remarks - Dr. John H. Hopps, Jr., Provost and Senior Vice President

Dr. Hopps warmly welcomed all of the Advisory Board at the International Power Institute (IPI) to the Board's first meeting and noted how pleased he was to be attending this very important meeting for the IPI. He expressed the receptiveness of the Institute's staff to the suggestion that might come out of the meeting. He then reviewed the history of the College, its involvement in international activities, Morehouse Alumni who have excelled internationally and the rationale for the establishment of the IPI and its location at Morehouse College. Dr. Hopps also pointed out the service orientation of Morehouse and its reputation of developing several leaders to work on global problems.

He noted the College's and the IPI's strong interest in Africa and he stated that he felt that the IPI was one of the several mechanisms through which Morehouse feels that it could be a catalyst for positive change. He noted his desire for the IPI to be an "honest broker" and help to forge a partnership between U.S. firms and the developing world. In addition, he stated the IPI will play a major role in facilitating transactions for the implementation of power development projects and in ensuring that such projects are tailored to each country's cultural, political, economic, national goals and private.

II. Introduction of Advisory Board Members - Dr. John H. Hopps, Senior Vice President and Senior Vice President

Dr. Hopps introduced the staff of IPI, including Julius E. Coles, Director and Dr. Terry A. Ferrar, Deputy Director and told the Board members about their backgrounds. He then called upon each Board member to introduce themselves and to give a brief overview of their various companies. Members of the Board present included: Michael Montgomery, Executive Vice President of Law Engineering; Margie Lewis, President of Parallax, Inc.; René Males, President of Strategic Decisions; John A. Achenbauch, representing Steve Dean, President of DAI Engineers and Consultants; Sharieff Mustakeem, President of MCX Environmental Energy Corp; Robert Riordian, Executive Vice President for International Relations, Black and Veatch International; Erroll Davis, Chairman, CEO and President of Wisconsin Power Ltd. Co.; and Frank O'Brien, III, President of the Associated Energy Group, Inc.

III. Rationale for the Establishment of IPI - Julius E. Coles, Director of IPI

Mr. Coles stated that Morehouse College has had a long tradition of an interest and involvement in international affairs and development issues. He further noted the College's faculty, staff and students have traveled extensively and done research around the world. He stated Morehouse College was approached by Dr. Terry Ferrar in 1995 with the idea of establishing the International Power Institute. The College was very receptive to this idea and began to explore this concept in greater detail with Dr. Ferrar and the Department of Energy. The Department of Energy was also quite receptive to this idea for they had long felt that the U.S. Electric Power had had only modest success in expanding its extensive technology and expertise to the developing world. He noted that they further believed that this lack of success was due not to a lack of technological competitiveness but rather to a failure of the U.S. electric power industry to fully understand the languages, policies and cultures in these countries. In addition, he stated Morehouse College and the Department of Energy felt that there was an important role that a respected college like Morehouse might play in helping to develop long term relationships and bonds of trust between the U.S. energy sector and developing countries. Finally, he stated that it was felt that the College by not being driven by short-term profit incentives as private companies must be, it could build and maintain such relationships to the mutual benefit of the involved countries and the U.S. power industry. Therefore, it was out of this mutual interest that the cooperative agreement grant was finally approved by the Department of Energy in September 1997.

IV. Brief Summary of the Department of Energy Grant Julius E. Coles, Director

Mr. Coles noted that the Department of Energy has given Morehouse College a grant of \$404,194 to establish the International Power Institute to carry out the following objectives:

“... to work in a collaborative relationship with private industry, study the economic, political and cultural environments in targeted developing countries and to make appropriate technology based recommendations for and provide facilitation of electric power projects. It is anticipated that such projects will ultimately be implemented by affiliates of the IPI from within the U.S. commercial power industry.”

The specific tasks as defined for the IPI are: Identify appropriate electric power technologies for developing countries; identify strategies for the sustainable development of electric power in developing countries; serve as a consultant on the identification and implementation of appropriate electric power technologies between the developing countries and IPI partners within the U.S. power industry; and establish markets for U.S. technologies.

Dr. Ferrar discussed four "initiatives" that the Institute has been pursuing:

INITIATIVE #1: SOUTH AND SOUTHERN AFRICA

This initiative includes the anticipated travel of Dr. Hopps, Mr. Coles, and Dr. Ferrar to South Africa in the middle of January. The purpose of this trip will be to meet with industry, government (country, regional, and local), and utility leaders. Additionally, the PowerGen Fall Southern African Conference will be discussed. The contingent on this trip might include, PowerGen officials, Oak Ridge National Laboratory, and perhaps others. The objectives of the trip will be to introduce IPI and begin the identification of project opportunities and joint venture partners.

INITIATIVE #2: MEXICO

It was stated that this initiative in many ways offered the most immediate opportunities. Indeed five projects have been identified in varying degrees of detail. Frank O'Brien and his Alliance Energy Group have brought four projects to IPI, and Dr. Ferrar had identified another. In all cases these projects are positioned for immediate attention by the Institute. Dr. Ferrar stated that the mandate of the Institute is to find the resources to move on these interesting opportunities with the realistic expectation financial "closure" will result on one, but likely no more than half of them.

INITIATIVE #3: GLOBAL WARMING

With the World's attention on this topic, there is powerful agreement that this issue will be a dominant concern of the World's power industry for the next decade. Dr. Ferrar stated that he has been in direct contact with the Edison Electric Institute and the Global Climate Coalition - - and most recently with the U.S. Department of Energy - regarding this subject. The general direction that can be ascertained is that to move forward with the Kyoto Treaty Proposal, the United States and other developed countries must make a material effort to assist developing countries. In this respect, it is in the IPI's (and the United States') best interest to work to improve the efficiency, and emissions characteristics of power projects in developing nations. IPI is well positioned to accomplish this objective. Dr. Ferrar suggested that Dr. René Males, with his extensive experience in environmental policy and technology be requested to work as a board member for this assignment, and Dr. Males accepted this responsibility.

INITIATIVE #4: MISCELLANEOUS

Dr. Ferrar outlined a number of activities regarding the interactions he has had with foundations, other potential industry partners, relations with Morehouse

faculty, and his continuing discussions with the U.S. Department of Energy, the Trade and Development Agency, the South African Embassy, and others. He also discussed the Southern Africa PowerGen Conference that will be led by the IPI. The Board endorsed this initiative, and authorized IPI to proceed with the PowerGen discussions.

V. Alternative Financing Strategies

On the subject of financing of the Institute, the Board reached a general consensus on the need for the IPI to get "Project Focused" support. While other financing was discussed – e.g. membership dues – they were not considered to be a good financing scheme at this time. However, Erroll Davis suggested that Board or other industry officials might be solicited for a voluntary, "one-time" contribution. This recommendation was well received by other Board members.

It was further stressed by the Board that foundation support should be sought. In this respect, Dr. Ferrar noted that the IPI was trying to set up a meeting with the Turner Foundation.

VI. Conclusion

The Board concluded its meeting by offering its overall support for the work the IPI has done to date and gave their encouragement to the staff to continue to operate within the broad guidelines discussed during this meeting.