

## SITT - A DIFFERENT LOOK

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### ABSTRACT

The need to accelerate the transition of technological innovations to the American industrial sector remains a national imperative. The training of technology transfer professionals with entrepreneurial objectives is an essential component of the effort to meet this mandate. This paper presents the particulars of a two year experimental project designed for this purpose.

The Summer Institute in Technology Transfer (SITT), hosted by the University of South Carolina Aiken, blends strategic corporate needs for accelerating the transfer of technologies developed in a Federal Laboratory setting with academic resources available through the South Carolina Universities Resources Educational Foundation (SCUREF).

### BACKGROUND

As a result of the 1989 change in contractors at the Department of Energy (DOE) Savannah River Site from the Dupont Company to Westinghouse Savannah River Corporation (WSRC) certain strategic corporate operational modifications have taken place. Significant among these has been the decision to bring the activities taking place within Savannah River Site into a closer working alliance with South Carolina's institutions of higher education. Fundamental to this process was the creation of the South Carolina Universities Research Education Foundation (SCUREF). This is a consortium of five South Carolina Universities: Clemson, The Medical University of SC, South Carolina State College, The University of South Carolina-Aiken, and the University of South Carolina-Columbia. In 1990 these institutions entered into a cost-sharing research and education partnership with DOE and WSRC. The purpose is to encourage participation of local educational institutions in the ultimate goal of increasing the number of graduates skilled in math, science and technology, particularly those fields pertinent to waste management and environmental restoration. SCUREF projects formally begin as "Statement of Need" (SON). Those approved for funding by DOE and WSRC are then assigned to one of the SCUREF schools as Task Orders.

This policy change, initiated by the Department of Energy, paralleled a Westinghouse corporate decision placing priority on the development of new technologies. As a result, invention activity among the scientists at the Savannah River Site expanded at a pace so formidable that imaginative means were required to process the avalanche of invention disclosures which evolved.

In seeking a solution for handling the disclosures, numerous meetings with members of the Westinghouse Technology Transfer department and representatives from the SCUREF institutions were held. From the ideas generated during these sessions, an operational partnership was forged.

The SITT SON called for proposals to establish an experimental summer project designed to train selected students in technology transfer procedures. Using specific disclosures created by the scientific personnel at Westinghouse Savannah River Company, the participants were to select, examine, research, recommend and prepare marketing analysis reports for action by the Westinghouse Savannah River Site, Office of Technology Transfer. Based on responses to the Statement of Need, the University of South Carolina Aiken was granted authorization to establish a ten week Summer Institute on

Technology Transfer (SITT). The initial year of this summer institute was held on the campus of the University of South Carolina Aiken from June 4, 1990 to August 10, 1990.

A examination of the "outcomes" of this initial project was conducted by a SITT Research Coordinator and submitted to the Westinghouse Savannah River Company. Conclusions suggest that from each of the project segments, the specific results exceeded expectations.

Calling for only a few selected changes, a decision was made to support a subsequent summer institute. The second year SON stated:

"The first Summer Institute for Technology Transfer (SITT) was conducted at USCA under the auspices of the SCUREF Technology Transfer Council in the Summer 1990. This pilot program was successful. The 1991 SITT is needed to repeat these successes and to improve the cost effectiveness of the process."

Within the parameters outlined in the SON, the University of South Carolina Aiken was again authorized to administer and operate SITT II. The second year institute was conducted from June 1, 1990 to August 2, 1990 at a reduced operating budget of 20.6%.

### DESIGN

The blueprint for the summer institute can be drawn in the following discrete compartments:

#### Faculty Selection

Faculty for the first year were drawn primarily from volunteers employed in each of the SCUREF institutions. Due to a very tight time line between authorization and implementation, only a limited opportunity existed for institutional involvement in selecting the faculty participants. The faculty who elected to become involved, provided the critical leadership and expertise necessary for the initial year of this experimental project. On the staff were professors representing the following disciplines; sociology, strategic management, operations research, and marketing. Responsibilities for the faculty included contributing to the orientation training program and daily supervision of one of the task groups.

Faculty participating in the second years program were designated early enough to assist with the recruitment and selection of participants, to assist in logistic issues, to provide training support and to provide insight into the evaluative procedures. For additional compensation, two faculty member with specific qualifications performed explicit functions

for the institute. These included in depth training for the participants during the orientation program and continuing responsibility as consultants to ensure research and writing continuity among the task groups.

### Student Selection

The initial year students were selected primarily on academic qualities and faculty recommendation. While this proved to be effective, demonstrated leadership skills were added to the criteria for the second year. This decision was predicated on the increased expectations for the participants in their group roles.

### Training

Following an orientation program much of the training can realistically be considered "on-the-job". A two week orientation program led by members of the SITT faculty was programmed in the initial year of SITT. Each faculty member has responsibility for a particular segment. Examples of assigned topics were lectures and demonstrations relating to market analysis procedures, issues relating to marketing demographics, research protocols, hypothetical case studies, lectures on technology transfer matters and the development of group cohesiveness. Included during this period were four days designated exclusively for a preliminary evaluation and selection of the disclosures which were to be researched by the participants.

The training continued throughout the summer in the small groups established to facilitate the research process. Each group was led by a member of the faculty who served as an educational resource to the participants.

An examination of comments received as a part of the evaluation process indicated that the orientation period was too long with some unnecessary redundancy and a few extraneous activities.

Reacting to these recommendations, the second year institute reduced the orientation time to a total of four days and limited the selection of disclosures to one-half a day. The participant evaluations supported these changes.

## **OPERATIONAL PROCESSES**

Both years the work week was 40 hours. Offices were open and research activity undertaken from 8:30 a.m. to 5:00 p.m. Monday through Thursday. Thursday evening there was a required dinner meeting followed by a public lecture by a guest speaker on a topic relevant to technology transfer issues. On Friday morning from 8:30 to approximately 11:30 a mandatory technology training seminar, exclusively for the SITT participants and faculty, was conducted by the previous evenings featured speaker.

The participants were divided into three groups the first year and four the second year. Each group was provided *exclusive* office spaces with computers, telephones, adequate filing space, desks and office supplies.

## **RESULTS**

During the first operational year 133 disclosures which had been reviewed by the Westinghouse Patent Committee were forwarded for screening by the 15 student participants.

They prioritized these into four groups representing those assumed to have the clearest potential for patentability, those perceived to have medium potential, those with projected low potential and finally those thought to have no possibility. From this examination, the students selected 57 inventions (approximately 43%) as candidates for further examination.

To demonstrate to the participants how the process actually works within a corporate setting, the Westinghouse patent committee deliberated in open session over a different group of disclosures. This session was followed by a joint deliberation on the 133 forwarded disclosures. The outcome was a mutually agreed upon list of 59 disclosures from the original group of 133 to be examined during the summer by the SITT participants.

From the 59 disclosures, 52 reports were produced. The SITT participants determined that 30 disclosures had sufficient potential for further evaluation. Following is the Westinghouse disposition of the 52 inventions as of December 1991:

Prior-art search in progress	1
Patent application filed	20
Patent awarded	1
Patent application authorized	1
Patent allowed	2
Considering Copyright	4
Abandoned	23

A significant change was made in the selection process for the second year of SITT. Instead of the participants selecting the disclosures to be examined, they were preselected by the Westinghouse Patent Committee and forwarded to the Institute. 80 Westinghouse pre-screened disclosures were forwarded for examination. Prior to actual research, 8 were pulled for administrative purposes, the remaining 72 remained active and were researched. The status of these disclosures as of December 1991 is as follows:

Recommended for patenting with intentions to pursue licensing	13
Recommended for patent statutory invention registration	9
Software programs recommended for copyright with intent to license	4
Found to have potential commercial marketability are being held for further technical development	14
Abandoned	32

## **CONCLUSION**

The measurable results of this Summer Institute in Technology Transfer support conclusively the cost effectiveness of a project of this type. The less tangible outcomes such as academic curricular development, student involvement with technology transfer activities, career openings for participants, the establishment of professional contacts by students and direct exposure to the complexities of waste management and environmental remediation issues confirm the value of the Summer Institute on Technology Transfer.