

法規名稱：(終)(AD.1991.07.05) IMPLEMENTING ARRANGEMENT #4 TO THE AGREEMENT FOR TECHNICAL COOPERATION IN METEOROLOGY AND FORECAST SYSTEMS DEVELOPMENT BETWEEN THE COORDINATION COUNCIL FOR NORTH AMERICAN AFFAIRS AND THE AMERICAN INSTITUTE IN TAIWAN FOR CONTINUING SYSTEM

終止日期：民國 81 年 06 月 30 日

#### ARTICLE I - SCOPE

This Implementing Arrangement describes the cooperative scientific and technical activities to be undertaken by the American Institute in Taiwan (AIT) and its designated representative, the Forecast Systems Laboratory (FSL) of the Environmental Research Laboratories (ERL) of the National Oceanic and Atmospheric Administration (NOAA), to continue system development of the Forecast System being developed by the Joint Forecast Systems Project between the Central Weather Bureau (CWB) of Taiwan, the designated representative of the Coordination Council for North American Affairs (CCNAA), and NOAA/FSL.

#### ARTICLE II - AUTHORIZATION

The activities described in this Implementing Arrangement will be carried out under the general terms and conditions established by the Agreement between AIT and CCNAA for Technical Cooperation in Meteorology and Forecast Systems Development. This Implementing Arrangement is hereby attached to that Agreement and becomes part of the Agreement.

#### ARTICLE III - SERVICES

The Forecast System is comprised of two primary subsystems: a Central Facility and the Forecaster Workstation Subsystem, as well as communication and interfaces with existing sources of meteorological data and with distribution circuits that disseminate forecasts and warnings to various users.

A detailed description of the Forecast System is provided in the Project Implementation Plan that was prepared as part of Implementing Arrangement #1 of this Agreement. Implementing Arrangeme-

nt #2 provided for planning and initial development of the Forecast System Central Facility and for radar upgrades. Implementing Arrangement #3 began the system development and technology transfer activities.

The activities described in this Implementing Arrangement will provide both technical assistance and advisory support to CWB in the system development. In addition, CWB will continue to participate in FSL's ongoing R & D program directed toward the development of a UNIX-based forecaster workstation. A prototype system will be installed at CWB and FSL will support the installation of the system software and the evaluation of the prototype system. In addition, initial training will be provided to allow the use and evaluation of this system. These activities, described in more detail in the Statement of Work, will include the following:

- Development of the Prototype Forecast Workstation - Development of the CWB forecaster workstation will include both the continuing enhancement of the workstation and the modifications to tailor the system for CWB's needs. This will include three activities.

The first will be the completion of the prototype workstation. Much of this work will be done by the CWB staff who were part of the CWB workstation team at FSL, during Implementing Arrangement #3. The FSL effort will include support to CWB staff in these tasks and the providing of training to allow the new CWB workstation team at FSL to undertake similar tasks.

The second activity will be to complete a design plan for the Operational Workstation.

The third activity will initiate the development of the operational system.

- Central Facility Support and Development - Implementing Arrangement #3 focused on the transfer of technology from FSL to CWB. The key central facility activities in Implementing Arrangement #4 will be to modify the existing system in order to

establish the prototype system and to incorporate improvements that are recognized as essential to the CWB operational system.

In Implementing Arrangement #3, software from the FSL Central Facility was moved to a single machine to serve as the preliminary CWB Central Facility. Modifications are needed to integrate this software into the CWB environment. This integration process was started by CWB and FSL staff in Boulder during Implementing Arrangement #3 and will continue at CWB once the system hardware is installed there.

At the same time, work will begin on modifications to the Central Facility for the operational system. Three activities have been identified. The first will be improvements to the existing central facility software. The second activity will be scientific support to the CWB work in improving the use of conventional radar data. In the third activity, FSL will support CWB staff in their central facility developmental work.

- CWB Training Program - The integration of the Forecast System into CWB forecast operations will significantly improve forecast capabilities. It will, however, have a major impact on operational activities within CWB and proper training of CWB staff is essential. A training plan was prepared as part of Implementing Arrangement #3 and the initial aspects of this plan will be implemented during this period.

Initial training activities will be those necessary to allow the test and evaluation of the prototype system. forecaster training will be coordinated with training provided by the U-CAR COMET Program. CWB forecasters will learn new forecasting techniques in COMET-provided classes and then spend several weeks working with FSL Forecasters developing operational workstation skills.

Training of operations staff will also be required. We suggest that the team leader of the operations staff spend several weeks in Boulder this fall or early winter. an FSL staff member would then work with the team leader in training other o-

perations staff once the prototype system is operational at CWB.

- Support the Start-up Operation of the System - The forecast workstation system is a complex computer and data communication system. The successful use of the workstation system as part of the system evaluation is recognized as a key milestone in the development and successful integration of the system into CWB operations.

FSL has had the opportunity to set up similar systems at several different user sites and at major scientific conferences . FSL will participate in the start-up and initial operation of the system in Taipei and will provide documentation on existing FSL practices.

#### ARTICLE IV- FINANCIAL PROVISIONS

- A. In accordance with the Agreement, NOAA/FSL is undertaking this work on behalf of AIT for CCNAA. CCNAA will reimburse AIT, and its designated representative NOAA/FSL, for all costs incurred in association with this Implementing Arrangement.
- B. The total cost for activities described in this Implementing Arrangement is mutually agreed to be US\$500,000. It is also agreed that fifty percent of the funds will be transferred in advance, with the remaining 50 percent transferred within 30 days of the acceptance of the final report by CCNAA, and its designated representative, CWB.

#### ARTICLE V - INTELLECTUAL PROPERTY CONSIDERATIONS

No intellectual property considerations are expected to arise in conjunction with activities described in this Implementing Arrangement. Existing system designs and computer software for FSL Forecast System are public domain. Reports, specifications, and computer software prepared under the terms of this Implementing Arrangement will also be public domain once they have been approved in final form by NOAA, AIT, CCNAA, and the CWB .

ARTICLE VI- EFFECTIVE, AMENDMENT, AND TERMINATION

This Implementing Arrangement is effective on the date of the last signature hereafter. This Implementing Arrangement may be amended and/or terminated in accordance with the terms of the Agreement. The estimated completion date for activities described in this Implementing Arrangement is June 30, 1992.

FOR THE AMERICAN INSTITUTE

IN TAIWAN

(Signed)

Clarke N. Ellis

Deputy Managing Director

Date: May 30, 1991

FOR THE COORDINATION

COUNCIL

FOR NORTH AMERICAN AFFAIRS

(Signed)

Mou-shih Ding

Representative

Date: July 5, 1991