

INTERNATIONAL ATOMIC ENERGY AGENCY
TECHNICAL ASSISTANCE IN
QUALITY ASSURANCE AND NON-DESTRUCTIVE TESTING

PHILIPPINES

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FIELD REPORT NO. 1

10 July to 10 August 1979

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COUNTRY - Republic of the Philippines
NAME OF EXPERT - WILLIAM G. ALBERT
POST TITLE - Expert in Quality Assurance and
Non-Destructive Testing
PERIOD COVERED - 10 July to 10 August 1979

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A. TECHNICAL MATTERS

(1) Progress:

Review of the Philippine regulatory program, discussions with Philippine Atomic Energy Commission (PAEC) staff and participation in site inspection activity have provided a basis for establishing an initial program of work essentially directed towards the improvement of regulatory capability. The program activities are outlined in paragraph (7) below.

(2) Recommendations: Nil

(3) Accomplishments:

The week of July 23rd was spent at the PNPP-1 site. Two construction problems (welding of size 11 reinforcing steel without preheat and curing concrete test cylinders at ambient temperature) were called to the attention of the PAEC for necessary corrective action. Another question regarding control of low-hydrogen weld rod will be further examined during the next site visit.

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On another matter, a letter was sent to the USNRC requesting that Mr. H.E. Book, a participant in the Radiation Protection Congress to be held in November, remain in the Philippines for an additional two working days in order to consult on PAEC problems associated with the licensing and control of tritium.

(4) Working Relations:

During the past three weeks, the majority of my contacts have been with the staff members of the Department of Nuclear Regulations and Safeguards (DNRS). The Nuclear Research Chief of DNRS and my counterpart, Dr. C.R. Aleta, has been largely engaged with the hearings being conducted on PNPP-1. Mr. C.A. Willis is also engaged in attending these hearings but has been available during non-office hours for technical briefings and discussions.

Dr. R.J. Palabrica has returned from Vienna and resumed his duties as head of the Nuclear Training Department. Consequently, the working relationship with that department has been fairly well defined. Most supporting and clerical services are provided by DNRS.

(5) Fellowships:

DNRS has commenced preparing a proposal under the Agency's fellowship program. This proposal is for a program of training which will qualify one or two PAEC-DNRS individuals to act as

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examiners for reactor operators. This would be another step towards the goal of providing DNRS with a cadre of personnel sufficiently trained in reactor operation that they can perform the functions of:

- Examination and certification of reactor operators.
- Provision of round-the-clock monitoring of PNPP-1 operations. (PAEC appears to be committed to providing such coverage because of statements made at the hearings on PNPP-1).
- Conducting inspections of pre-operational test programs, maintenance programs, in-service inspection programs, low power and start-up testing, refueling operations and management programs including QA.

Comments were prepared on the first draft of the proposal and discussions held with DNRS on how the proposed program should be structured. The immediate proposal would require approximately seven months training for two men. It is possible that the proposed training could not be done consecutively. In my opinion, training in one of the US simulator facilities should be a key element although it will be expensive unless arrangements can be made to utilize NRC or other government owned facilities.

(6) Equipment: Nil

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(7) Programme of Work:

Initially, my work program will be directed towards assistance in the areas of regulatory inspection methods, and later towards regulatory inspection programs. The progress towards program development is as follows:

- a. Regulatory Inspection: A need for training in the process of conducting effective regulatory inspections is evident. Course material is under preparation and I expect to start classroom work on 15 August. I also consider my direct involvement in inspections at the PNPP-1 site to be a part of such training so classroom discussions can be followed by direct examples. This program is apparently one of the activities visualized when PAEC sought an Expert in the area of Quality Assurance, since regulatory inspections are essentially a QA audit function.
- b. Non-destructive Testing: A program for assistance in non-destructive testing (NDT) has yet to be completely defined. However, from initial discussions with C.R. Aleta and R. Palabrica, it appears that NDT should be approached as part of a future program of job specific training for regulatory inspectors. That is, the various types of NDT activity would be included in a series of short courses in what the regulatory inspector should know about construction practices. This series of courses will not be defined until

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I can develop a better appreciation of specific PAEC needs in this regard.

Some individuals in PAEC have expressed a concern about the fact that there is no certifying authority for NDT technicians in the Philippines. A few have suggested that PAEC should act in this capacity. In any event, a means of certifying NDT technicians is probably needed in the country. However, the existence or non-existence of a certification authority would have little effect on PNPP-1, since the higher rated NDT technicians at the site are apparently certified to ASNT standards in the US or similar standards of the U.K.

Any advice or information on how NDT certification is handled (or mis-handled) in other developing countries would be appreciated.

In the near future, I have agreed to conduct a seminar on the use of NDT in the nuclear industry and special problems encountered. PAEC intends to invite individuals from petroleum and other industries to the session(s).

c. Regulatory Inspection Programs.

PAEC has a need to define regulatory inspection programs and develop the necessary regulatory inspection procedures for construction, pre-operational testing, power testing, and operation of PNPP-1. I will be involved in the development

of such programs by providing guidance on how to utilize available materials such as existing procedures, NRC modules and various standards. However, this activity will no doubt require an effort measured in man years. Therefore, I do not propose to be directly involved in either the writing or management but will limit my activities to providing a review, scoping and consulting function for PAEC-DNRS.

B. GENERAL

(1) Local Conditions and Recent Events.

Mr. C.A. Willis has been following the current hearings and is in a much better position to report on the status and import of these sessions. Although work on PNPP-1 has been officially suspended pending the outcome of the hearings, some limited work is underway. During the week spent at the PNPP-1 site, major concrete placement was either underway or in preparation at four locations. One placement was in excess of a 1000 cubic meters.

In general, I found that quality services and equipment at the site were comparable to U.S. nuclear power plants in the same stage of construction.

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The most obvious threat to quality work at the site is a prolonged work suspension which results in: (1) the loss of skilled labor, (2) the loss of management and supervisory personnel familiar with the work and (3) eventually the deterioration and weathering of partially completed structures. Of these, the loss of skilled labor is the most immediate and most significant problem.

(2) Working Conditions

PAEC readily meets all transportation needs. Although most of their vehicles are older and subject to maintenance problems, they have routinely assigned the better vehicles (with drivers) for the use of IAEA Experts.

My assigned office space and furnishings are good by PAEC standards. However, the installation of a telephone and the direct assignment of a part time secretary would provide for more efficient use of my time.

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