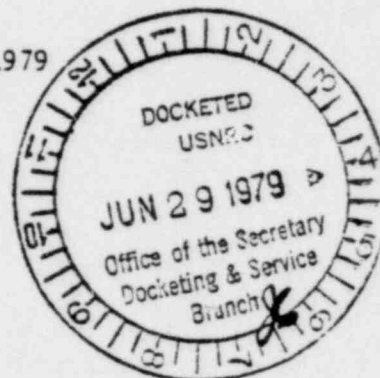Republika ng Pilipinas
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11 June 1979

Mr. Samuel J. Chilk
Secretary of the Commission

Attn: Docketing and Service Branch
Nuclear Regulatory Commission
Washington, D.C. 20555
U.S.A.

Dear Mr. Chilk:

This is in response to Mr. Minogue's 21 May letter concerning selection
and training of nuclear power plant (NPP) personnel.

My immediate concern is the safety of NPPs in developing countries. Since
many of these countries must look to the US for leadership in nuclear technology,
NRC standards are a vital concern. Consequently the following comments are
offered for your consideration.

My experience, both in the States and in developing countries, indicates
that qualifications needed in NPP operating personnel have been seriously under-
estimated. Considering their responsibilities, it seems that NPP operators
might well receive treatment and meet requirements comparable to those for airline
pilots.

Two systematic problems appear to be at the root of our troubles. First,
the top management of utilities generally seem to have failed to fully recognize
their responsibilities. Second, (and closely related) the utilities seem to
have relied too heavily on the NRC and the reactor manufacturers.

The Three Mile Island (TMI) accident is a good example of personnel problems.
For example, to "valve out" the auxiliary feedwater pumps was a gross error but
to operate for weeks in that condition bespeaks a basic lack of concern about
safety. Again, to trip the reactor coolant pumps when conditions for natural
circulation had not been established was a serious error; to fail to restart the
pumps when the hot leg temperature went off-scale with the cold leg temperature
dropping indicates a lack of basic understanding of the system. The list could
be extended.

It is important to recognize that the problem is with the system; it is not
merely a matter of individuals. GPU is generally recognized as one of our
strongest utilities. Herman Dieckamp, the GPU President, certainly is experienced
in nuclear matters and (I believe) quite competent. It is reported that the
TMI crew on duty at the time of the accident is highly regarded. Nevertheless, it
is manifest that insufficient emphasis was placed on safety.
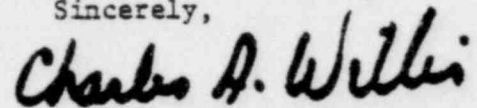
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TMI provides an excellent opportunity to rectify the situation because the accident was so highly publicized and because the public was protected from radiological injury while the utility was not protected from economic loss. At this time, very little added impetus is needed to achieve the needed improvements.

The problem is at the top. Attempts to upgrade the lower level personnel will meet with little success without management support. The operators, maintenance personnel, shift supervisors, etc. cannot be expected to meet stringent requirements if they are treated like fork-lift operators. Also the people at the plant cannot be expected to emphasize safety if management does not recognize the need for such emphasis.

It is not clear just what action the NRC should take. One possibility is a series of seminars specifically for nuclear utility presidents, directors and other members of top management. Another possibility is the licensing of utility chief executive officers. There is little question, however, as to where the emphasis should be.

It seems that the NRC should move with caution in offering guidance about the qualifications and training of lower level personnel. Surely the NRC should develop firm justifications for its recommendations in this area. Where requirements are simple matters of judgment, considerable flexibility should be available. NUREG reports might be better than Reg. Guides at this time.

Sincerely,

Charles A. Willis

CHARLES A. WILLIS
Nuclear Reactor Safety Expert