BEST COPY

THE BABCOCK & WILCOX COMPANY
POWER GENERATION GROUP

(3)

To: J. H. MacMillan, Vice President
Nuclear Power Generation Division

From: L. E. Kosiba, Manager
Customer Service Department, NPGD (3469)

BDS 443.3

Cust.

File No. or Ref.

Subj. TMI-2 Top Ten Lessons Learned

Date June 11, 1979

This letter to cover one customer and one project only.

1. Our total product (hardware, software and services) was not adequate to prevent a long-duration loss of control of the plant and most severe damage to the core. We need to make changes in our total product — hardware, service, instructional, and software in order to compete with those who have not had a comparable accident.

2. The training of operators was not sufficient to assure proper management of the plant.

3. Our support to the operators during the incident was not sufficaintly effective to converge to controlled conditions. Corrective action needed in communication and organization. Note - Our telephone off hours set-up was an irritant and contributed delay/confusion.

4. The education and training of our people (site and home office) was not sufficient and needs to be upgradad to manage real time incident support.

5. The design of the control room demonstrated its inadequacy by contributing to the confusion of the operators. By design I include having the needad instruments, not having excess unneeded instruments to distract operators, having proper contrast of instruments important to safety of the plant, allowing for communication, etc.

6. The design of the plant was not adequately communicated to operations. (Operations includes B&W people, customer and even NRC). We need a current and comprehensive document that communicates how the plant responds to upsets and casualties for use by plant operators, service personnel of B&W and also to assure consistant understandinz among design engineer disciplines — safety/controls analysis, systems engineers (I&C/fluid) and components.

7. Our knowledge and control/influence of BOP systems was not adequate to provide for achieving the reliable/predictable performance of our NSS needed to be competitive.

GPU 213
Ex. _____ For ID
Deft's 5-18-81 J.R. Danyo

8. Our use of operating experience was not adequate as demonstrated by the failure to perceive the warnings implicit in September 1977 Davis-Besse depressurization (and earlier SMUD) and take strong actions promptly to prevent occurrence of more severe incidents.

9. Availability of design data for operating plants (NSS and BOP) is not sufficiently accessible, assured current and usable to facilitate real time support.

10. The systems engineer function (fluid and I&C) was erratic in developing procedures in response to TMI-2. On successive shifts people filled this function from varied organizational units - IP&C, Systems & Equipment, CSD, R&D - with the result that procedures prepared varied or were inconsistent in format, content, standard.

REK:vp