



Commonwealth Edison

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July 26, 1983

Mr. James G. Keppler, Regional Administrator
- Region III
U.S. Nuclear Regulatory Commission
799 Roosevelt Road
Glen Ellyn, IL 60137

Subject: Dresden Station Units 2 and 4
Quad Cities Station Units 1 and 2
IE Bulletin 79-14, Blume Criteria
Pipe Supports
NRC Docket Nos. 50-237, 50-249,
50-254, and 50-265

Dear Mr. Keppler:

The purpose of this letter is to provide an explanation of the scope of work planned to document certain safety related pipe supports. These supports exist on piping systems which were originally analyzed by a "cookbook" method. This letter discusses the work performed to satisfy IE Bulletin 79-14 and the scope of our planned activities.

79-14 COMPLIANCE

As you know, CECO has an extensive program to implement the requirements of NRC IE Bulletin 79-14. The bulletin requires the following:

- walkdown safety related piping 2-1/2" and larger
- evaluate and reconcile nonconformances
- evaluate operability
- reconcile as-built versus as designed
- restore system to FSAR limits

Under these requirements all piping systems have been analyzed using the original design criteria. Operability evaluations were performed which document system functionality using operability stress limits. All required pipe support evaluations are complete. Design modifications to pipe supports resulting from these evaluations including addition of new supports has been completed and these supports are being installed in accordance with committed schedules. This represents a significant effort involving approximately 4450 supports.

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EVALUATION TECHNIQUE

The final piping evaluation was performed using two methods of analysis. In the first, large bore systems which were originally analyzed by computer, were reanalyzed by computer. In the second, smaller diameter piping systems were analyzed by a combination of "cookbook" (Blume criteria) methods and computer analysis. For these systems the original design was based upon the "cookbook" method. This Blume Criteria is an accepted industry method of qualifying smaller diameter piping systems.

For the first method, documentation existed and a detailed evaluation of as-built to as-designed loads was made by comparing computer generated loads. Necessary modifications were then made.

For the second method only the criteria existed as documentation. The attached flow chart (Attachment 1) illustrates the steps which were taken to evaluate piping using this method. The as-built condition was evaluated against the criteria used to develop the design. Where pipe support span violations occurred, a more detailed evaluation was performed. This involved use of a computer analysis to evaluate the supports bounding the span. Support loads were compared to the typical Blume criteria loads. If the computer loads were less than the Blume loads the support was considered qualified and no further action was taken. If the loads exceeded the Blume "cookbook" loads, modifications or new supports were added to satisfy FSAR criteria.

Implementation of "cookbook" criteria described above in the attached flow chart leads to varying levels of documentation for the pipe supports.

APPROVED METHOD

This method for documenting the IE 79-14 review of piping systems was developed by CECO/EDS and reviewed and commented upon by NRC Region III. The program fully satisfies IE Bulletin 79-14 and incorporates specific concerns raised by Region III such as maintaining rigid piping spans.

NEW PROGRAM SCOPE

The scope of this program can be summarized as follows. It is estimated that detailed documentation will be provided on 240 Blume system supports per unit. This represents approximately 20% of the supports evaluated under the IE 79-14 scope. Based on our 79-14 experience, it is expected that approximately 120 supports per unit will be upgraded. These upgrades are anticipated primarily because the criteria to be used for documentation purposes is considered more stringent than the original design criteria.

CECo's decision was based on the following items. The design work on 79-14 was completed in May, 1983. Until then the actual number of supports in the Blume qualified category was unknown. In reviewing the final documentation packages, CECO decided to initiate the documentation upgrade of these supports since they are a relatively small percentage of the total 79-14 effort. This program will provide a uniform level of documentation for all supports originally evaluated under 79-14.

Attachment 2 provides a list of piping systems that contain these supports. Of all the systems defined only two systems fall into the safe shutdown category. These are the Diesel Generator Service Water and Residual Heat Removal systems. 98 of these 240 supports per unit are located on these two safe shutdown path systems.

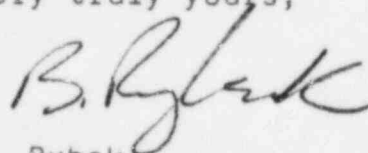
The schedule for completing this documentation effort is provided under Attachment 3.

SUMMARY

CECo has satisfied all requirements of Bulletin 79-14. After reviewing the design results CECO has decided to initiate a program to upgrade the documentation on a small percentage of the 79-14 supports. The estimated number of supports for this effort is expected to be 960 with total project completion scheduled for 1985. This should not be misunderstood as a continuation of the original 79-14 requirements.

If you have any questions regarding this matter, please contact this office.

Very truly yours,



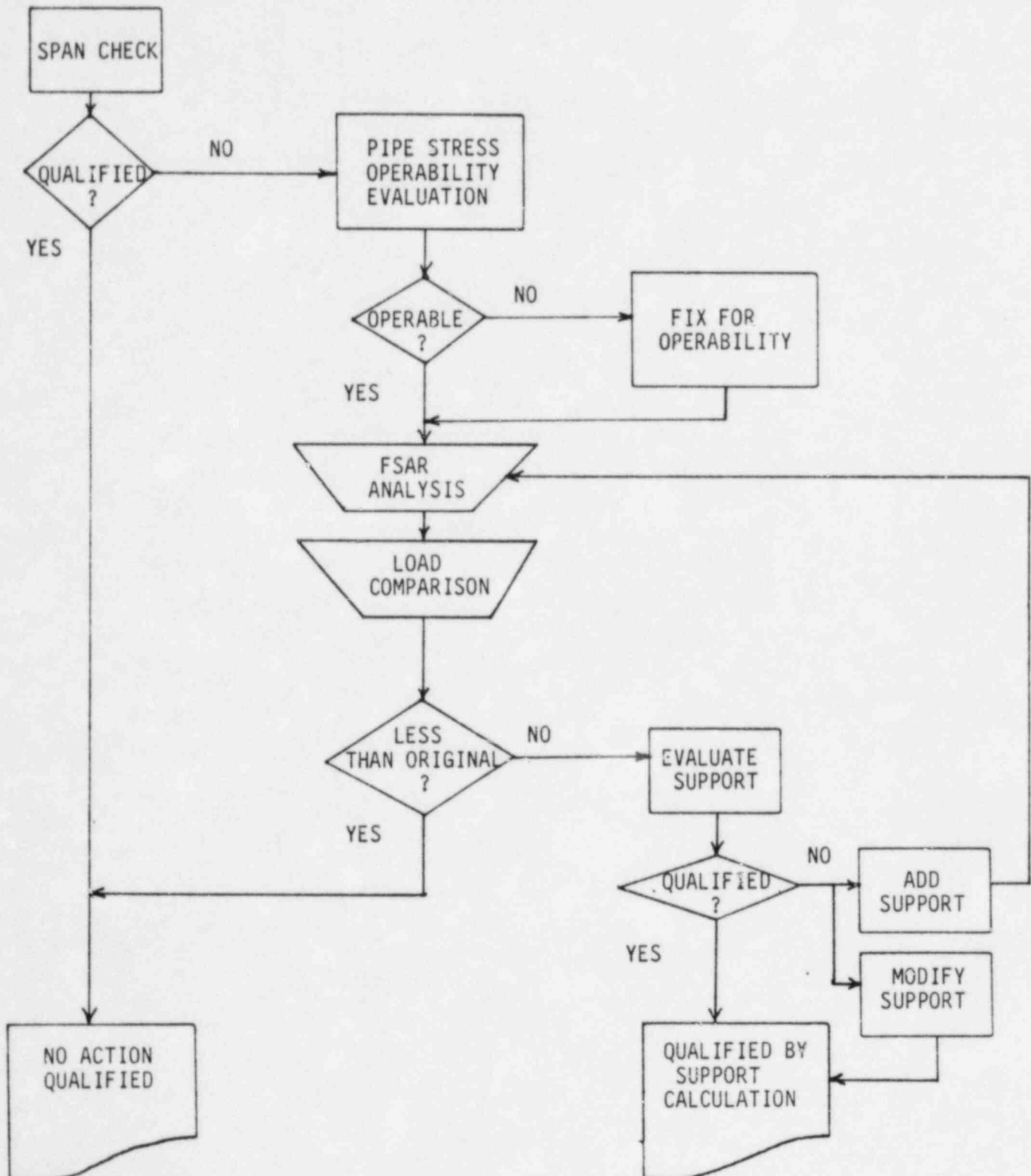
B. Rybak
Nuclear Licensing Administrator

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Attachments

cc: NRC Resident Inspector - Dresden
NRC Resident Inspector - Quad Cities

BLUME CRITERIA
SUPPORT EVALUATION FLOW PATH



ATTACHMENT 2

SYSTEMS WITH "NO-ACTION" SUPPORTS

Quad 1 and 2

Clean and Contaminated Condensate
Control Rod Drive
* Diesel Generator Service Water
High Pressure Coolant Injection
Main Steam
Reactor Building Equipment Drain
Reactor Building Coolant Water
Reactor Core Isolation Cooling
Reactor Water Cleanup
* Residual Heat Removal
Standby Liquid Control
Standby Gas Treatment

Dresden 2 and 3

Core Spray
Control Rod Drive
* Diesel Generator Service Water
Headspray
High Pressure Coolant Injection
Isolation Condenser
Low Pressure Coolant Injection
Pressure Suppression
Reactor Building Cooling Water
Reactor Building Equipment Drain
Reactor Water Cleanup
Shutdown Cooling
Standby Liquid Control
Standby Gas
Turbine Building Equipment Drain
Well Water

* Safe Shutdown