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SEP 30 1982

NOTE TO: R. Vollmer

THRU: W. Johnston

FROM: W. Haass

SUBJECT: NRC STATEMENT OF QA OBJECTIVES

The thought under item 1 of the Haass to Vollmer memo (September 8, 1982) regarding F. Forscher's concerns is that an inspection system could be set up for NRC that defines a number of discrete areas of inspection. Examples would be installation of cabling, cadweld splicing, concrete production, fabrication of piping, etc. The total number of these discrete areas of inspection could number a thousand or more for the design and construction of a nuclear power plant. NRC would select a sample of the total population for evaluation, and, based on a Poisson frequency distribution and the results of the inspections conducted over 2 or 3 years, could determine that the applicant's QA program provided a 95% level of acceptable work with a confidence level of 90%, as an example. This result would then be compared to the previously established Commission objective for QA program effectivity to determine whether the applicant's program met the Commission's requirements.

Such an approach would at least establish a target for applicants to meet and thereby would result in a more deliberate and structured inspection program rather than the audit, spot-check type of approach now used. It seems to me that this thought merits further review and analysis by IE.

/s/

Walt Haass

Attachment:
Sample Nomograph

L-4-1 Pt. 5
QAB

OFFICE	DE:QAB	DE:AD:NOE					
SURNAME	WHaass:aj	WJohnston					
DATE	9/27/82	9/29/82					

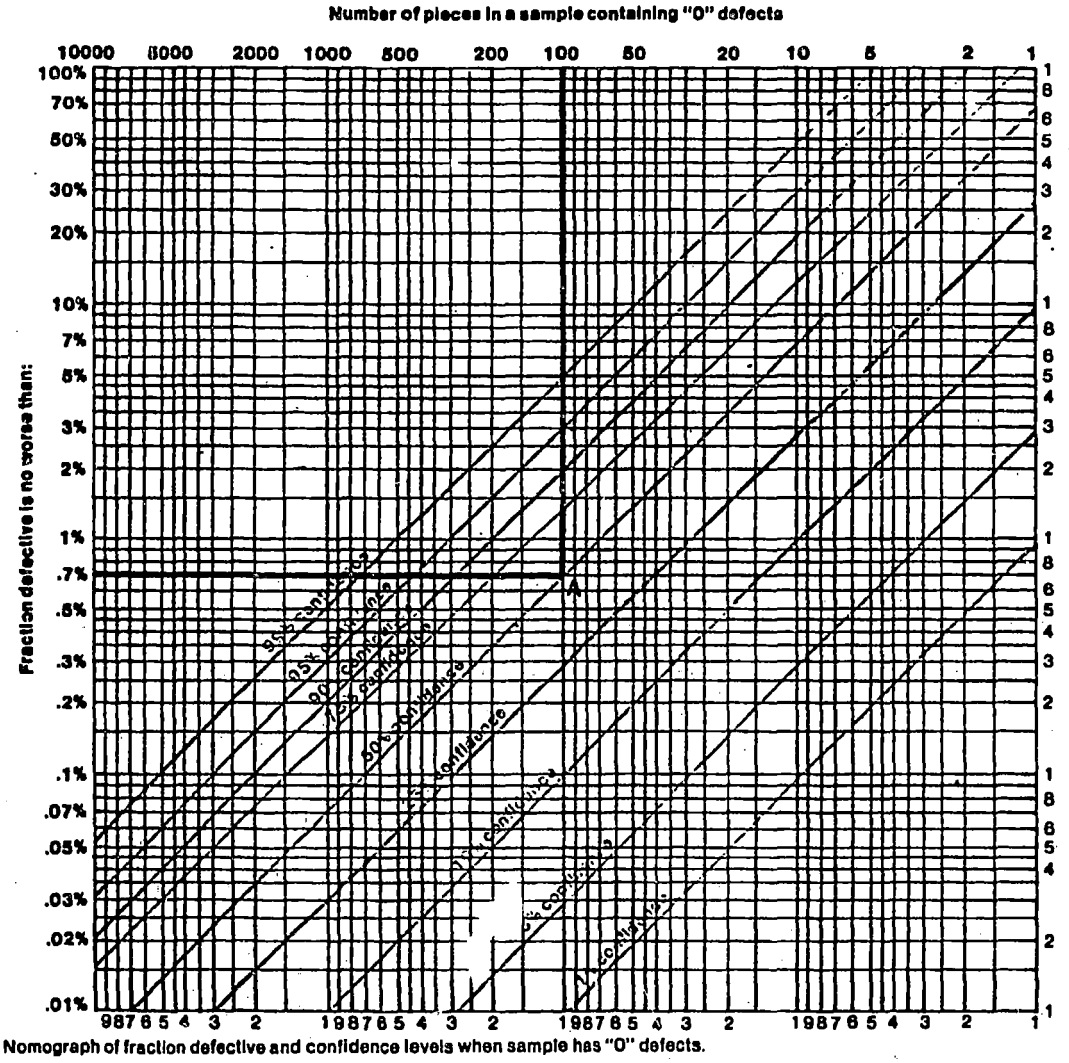
Nomograph for sample with zero defects

A nomograph of the Poisson frequency distribution can determine the fraction defective and associated confidence level of a population on the basis of a defect free sample.

■ Example:

A sample of 100 pieces has been evaluated and there were no defects found. With the aid of the nomograph a variety of statements can be made about the fraction defective lot.

At the top of the nomograph find the vertical line headed 100. To find the percent of defects in the worst case with a 50 percent confidence follow the vertical line downward to the point of intersection with the 50 percent confidence line (Point A). From point A follow the horizontal line to the left until you find its point of intersection with the vertical scale. The intersection is at 0.7 percent. With 50 percent confidence you can expect a fraction defective that is no worse than 0.7 percent. ■



Nomograph of fraction defective and confidence levels when sample has "0" defects.