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SUBJECT: Provides summary of results of review re potential concerns
about certain computer software used at WNP-2. O

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WASHINGTON PUBLIC POWER SUPPLY SYSTEM

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October 2, 1995
GO2-95-203

Docket No. 50-397

U.S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington, D.C. 20555

Gentlemen:

Subject: **WNP-2, OPERATING LICENSE NPF-21
RESPONSE TO REQUEST FOR INFORMATION ABOUT COMPUTER
SOFTWARE AT THE WASHINGTON PUBLIC POWER SUPPLY SYSTEM
NUCLEAR PROJECT WNP-2 (TAC NO. M90960)**

Reference: Letter GI2-95-174, dated August 2, 1995, JW Clifford (NRC) to JV Parrish (SS),
"Request for Information (RAI) About Computer Software At The Washington
Public Power Supply System (WPPSS) Nuclear Project No. 2 (WNP-2) (TAC
No. M90960)"

A summary of the results of a review relating to the potential concerns about certain computer
software being used at WNP-2 is attached in response to the referenced request.

Should you have any questions or desire additional information regarding this matter, please call
me or D. A. Swank at (509) 377-4563.

Sincerely,



J. V. Parrish (Mail Drop 1023)
Vice President, Nuclear Operations

CJF/ml
Attachment

100009

cc: LJ Callan - NRC RIV
KE Perkins, Jr. - NRC RIV, Walnut Creek Field Office
NS Reynolds - Winston & Strawn
JW Clifford - NRC
DL Williams - BPA/399
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ATTACHMENT

BACKGROUND

WNP-2 uses a customized version of the "Passport" software to maintain personnel radiation exposure and training records, and to manage work activities. The customized version of the "Passport" software is not able to provide the records of reviews and approvals of changes to safety-related data required under the WNP-2 quality assurance program. Consequently, safety-related data describing WNP-2 systems, structures, and components is developed and controlled by an administrative process utilizing a "non-Passport" database, which in aggregate provides the appropriate control features. These data are uploaded on a daily basis into the "Passport" database for use by other parts of the "Passport" software in managing work activities. Thus, WNP-2 uses two separate programs to manage safety-related data, rather than depending solely on "Passport".

Our response to the questions below pertains only to the customized version of "Passport," since we are not currently using the commercial version. WNP-2 is planning to adopt the commercial version because the customized version has proven to be difficult to maintain and upgrade. The commercial version also will not be able to provide the controls required by the WNP-2 quality assurance program, and WNP-2 will continue to utilize the same "non-Passport" software and administrative processes to control generation, review, and approval of safety-related data as is presently being used.

RESPONSE TO REQUEST FOR INFORMATION

The request for additional information is addressed below.

QUESTION NO. 1 Is the "Passport" software utilized at your nuclear power station?

RESPONSE: Yes. WNP-2 uses a customized version of the "Passport" software to maintain personnel radiation exposure and training records, and to manage work activities.

QUESTION NO. 2 Is the "Passport" software utilized in safety-related applications?

RESPONSE: Yes. The customized version of the "Passport" software is used to manage both safety-related and non-safety-related work activities, and thereby is used in a safety-related application. Radiation exposure and training records are maintained as quality assurance records, but that does not constitute a safety-related application.

QUESTION NO. 3 Do controls exist to preclude inconsistent data within the "Passport" databases?

RESPONSE: Yes. The design of the customized "Passport" software includes controls to

preclude inconsistent data from the relational database.

The customized "Passport" software includes a relational database which contains the training and radiation exposure records, and some of the data describing WNP-2 systems, structures, and components. The software allows development of individual work task files distinct from the relational database to govern work activities. Such work task files can be developed for a single equipment item, e.g., replacing a specific filter, or for several separate equipment items, e.g., lubricating similar fans.

Work task files generally require more information than is provided automatically from the relational database. The additional information is provided by manual input by the terminal operator as part of developing an individual work task file. In some cases, a work activity affecting a safety-related item is not itself safety-related, e.g., erection of scaffolding to facilitate performance of work on safety-related equipment. The customized "Passport" software therefore allows an authorized person to manually change certain data automatically provided from the relational database to the terminal screen as well as to add necessary information. However, the software design includes controls to prevent safety-related data added or altered by manual input from changing data fields in the relational database. Data added or altered by manual input remains in individual work task files developed to manage a specific work activity. This arrangement will not change when the commercial version of "Passport" is adopted.

In summary, the design of the customized "Passport" software is such that inconsistent data could not exist in the relational database, but appropriate differences could exist between individual work task files and between the relational database and individual work task files.

QUESTION NO. 4 Do referential integrity problems exist in "Passport" that could affect safety-related applications?

RESPONSE: No. Referential integrity problems do not exist in the customized "Passport" software. However, we have identified a work control process problem unrelated to the "Passport" database, as outlined below.

"Non-Passport" software automatically checks all in-process work task files to determine if any of the files utilize data that has been changed by the upload from the "non-Passport" database. If work task files for single equipment items are determined to be affected, the "non-Passport" software causes the customized "Passport" software to automatically put the individual files on "HOLD," pending resolution of the inconsistency by authorized personnel. However, it has been discovered that this feature is functional only for files affecting single equipment items, and the "non-Passport" software is not currently capable of causing work task files affecting multiple equipment items to be put on "HOLD". This work control process problem is a result of a deficiency in the "non-Passport" software, and does not affect the content of the "Passport" relational database.

The extent of the work control process problem is not known at this time, although the total number of work task files applicable to multiple equipment items is much smaller than those applicable to single equipment items.

QUESTION NO. 5 Describe any corrective actions implemented as a result of your review.

RESPONSE: No corrective action has been implemented as of the date of this letter. However, changes necessary to address the work control process deficiency discussed above will be made by December 1, 1995. Work tasks affecting multiple safety-related equipment items that were completed since the "non-Passport" software was changed in early 1995 to cause the customized "Passport" software to put a "HOLD" on files affected by safety related data changes will be reviewed to verify that the operability of the safety-related equipment has not been adversely affected by the deficiency identified in the response to Question No. 4.