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August 6, 1996

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

Gentlemen:

Subject: **Docket Nos. 50-264, 50-361 and 50-362
Optical Storage of Plant Records
San Onofre Nuclear Generating Station
Units 1, 2, and 3**

Southern California Edison (SCE) is currently implementing an Electronic Document Management System at the San Onofre Nuclear Generating Station (SONGS) to improve the handling of documentation and to speed the distribution of controlled documents to end users. As a part of this system, digitized images of plant quality records will be stored on optical disks. These stored "images" will be retrieved via workstations throughout the plant. Once installed, tested, and with appropriate revisions to procedures, SONGS will no longer capture records on microfilm.

SCE has followed the guidance provided in Generic Letter 88-18, "Plant Record Storage on Optical Disks," for the development and implementation of an optical storage system. This information is being provided pursuant to 10 CFR 50.4(b)7 in accordance with the generic letter.

The following discusses the specific line items in Generic Letter 88-18.

The optical disk technology does not allow deletion-or modification of record images.

The optical storage technology SCE is using is commonly referred to as WORM technology - Write Once, Read Many. Once an image file is written to the optical disk, it cannot be deleted from the disk. Once written, the image file cannot be modified.

The image of each record is written onto two optical disks.

Each image file is written to two optical disks. The optical disk storage system is composed of two independent, yet mirrored disk drive systems. Each captured image is written, at the same time, to both disk drive systems. In the event of loss of one optical disk system, the other disk system will provide full functionality and access to stored images.

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The legibility of each record is verified to ensure that the image is legible on both disks.

After the document has been scanned and saved to a magnetic file, the image is verified visually by document management personnel. Index information is then input and verified, and the image is written to the optical disks, both of which verify electronically that the written optical disk files match the image-verified magnetic file. The write verification is performed by the drive controller. The data is written to the disk during one revolution and is read back on the next revolution. The data must be read back correctly without any assistance from integral error correction code. This test checks for data corruption anywhere in the data transfer/recording process. In the event the data is not read back correctly, the file is written to a new sector and the verification procedure is completed again. This process confirms that the data can be read back correctly over the life of the disk.

If, for any reason, a legible image of the record can not be made, the hard copy record will be maintained as the record copy.

One optical disk is stored in the document imaging system for on-line retrieval.

Both of the independent optical disk storage systems are connected to the document management system for on-line retrieval. These systems are mirrored and constantly maintained in synchronization. In the unlikely event of loss of one disk storage system, the other system will provide full functionality and data.

The second (backup) optical disk is stored in a records storage facility meeting the requirements of ANSI N45.2.9-1974 for single copy storage or in a separate remote location.

The two optical disk storage systems reside in separate remote locations. Each reside in air conditioned, humidity controlled and fire protected areas. The primary disk storage system is located in an area that has backup air conditioning, backup power, and the disk drive is powered by an uninterruptable power supply (UPS). Fully-written optical disks will be stored under the same conditions in proximity to the disk drives.

To ensure permanent retention of records, the records stored on an optical disk are acceptably copied onto a new optical disk before the manufacturer's certified useful life of the original disk is exceeded. This includes verification of the records so copied.

The current manufacturer's certified life expectancy is 35 years. If, at the end of that period the life expectancy has not been increased, or if for any reason the life expectancy is decreased, the information on the optical disks will be copied onto new optical disks or to other media which may be approved for use at such time. Verification of copied data will be performed at that time to ensure data integrity.

Periodic random inspections of images stored on optical disks are performed to verify that there has been no degradation of image quality.

An electronic random inspection program will be developed which constantly samples stored images on disk. Sufficient random inspections will be performed such that each record will be electronically inspected once per year in the first year. Based on that experience, a future sample size will be determined. At a minimum, inspections of randomly selected optical disks will be performed annually until such time as the National Archives accepts the use of optical disks for archival records. Such random inspection schedules may be modified if standards or guidelines for optical storage are issued by the National Archives and Records Administration.

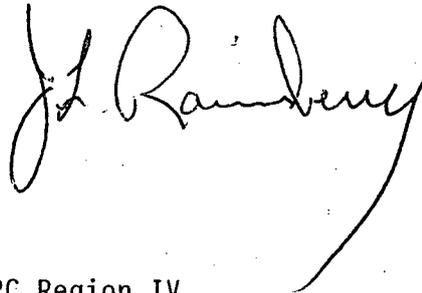
If the optical disk document imaging system in use is to be replaced by an incompatible new system, the records stored in the old system's disks are acceptably converted into the new system before the old system is taken out of service. This includes verification of the records so copied.

Should the optical disk storage system be replaced by a system incompatible with existing optical storage disks, the files representing the images stored on the disk will be copied onto acceptable media and data integrity verified.

SCE has received concurrence from internal legal staff regarding the legality of this action at both the state and federal court level. Approval has also been obtained from the Federal Energy Regulatory Commission, California Public Utilities Commission, and the American Nuclear Insurers.

If you have any questions regarding this letter, please let me know.

Sincerely,



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