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That altered page was then inserted into the report printed on September 7, 1994.

With the assistance of [REDACTED], we checked the TLD database for [REDACTED] dosage figures as reported in the March 1995 report. In that report, the dosage figures had been returned to the original 26 shallow/26 deep millirem dosages. Why those figures were subsequently changed back to their previous readings is still unexplained.

[REDACTED], of Legal Services, was able to confirm that the information generated on September 7 - 9, 1994, had not been supplied to [REDACTED]. [REDACTED] has also reviewed Industrial Commission records related to the [REDACTED] compensation case. Upon reviewing the files of the Third Party Administrator, [REDACTED] Compensation Services, no copies of the TLD records in question were found. In addition, [REDACTED] has confirmed with [REDACTED] that TLD Records are only sent to the Site Legal Officer, the external legal service, or to Simon Compensation Services. Since [REDACTED] only sends to those entities, and since neither the external legal service nor Simon has received copies, it appears that the TLD records created on September 7 - 9, 1994, have not been delivered to [REDACTED].

The DOELAP TLD database is corrupted and unreliable.

Allegation:

[REDACTED] stated that the DOELAP TLD database was corrupted by improper Health Physics practices. [REDACTED] a former Health Physics Technician, was said to have maintained extra TLD cards on the wall of the X-1000 Dosimetry Laboratory. [REDACTED] alleged that when [REDACTED] was unable to get a reading with the TLD bar code reader from an individual's TLD, [REDACTED] would simply take a reading from one of the TLD cards on the wall. This allegation gave the impression that a large number of false dosages could be listed on the TLD database, seriously affecting the validity of the database.

Reply:

On occasion, when a bar code on a dosimeter would not "scan," [REDACTED] said that she would enter the badge identification number by hand. Further, if the badge

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identification number was illegible, she said that she would note the identification number to which the TLD had been assigned, and set it aside for further correction (the dose, however, would already have been recorded).

To assist in making these corrections, [redacted] acknowledged that she did maintain defective, unassigned TLD cards on the wall of the dosimetry laboratory. During the processing of temporary TLD information, [redacted] said that the computer would, at times, indicate that the new TLD card numbers had already been assigned [redacted] stated, however, that this section of the computer program would not have been "smart enough" to know if the TLD card numbers had been assigned or not). In that case, [redacted] said that she would scan one of the TLD cards on the wall to enter a number into the system which would automatically be "kicked out" of the system the next time that the card was processed.

In essence, this practice allowed [redacted] to make necessary corrections at a later date. When the number was "kicked out," it served as a "flag" for further correction the next time that the badge was processed. As time went on, [redacted] said that fewer and fewer corrections were required, until, eventually, all necessary corrections had been made.

[redacted] stated, however, that such a practice would simply "multiply the work later on." The entry of false TLD numbers would corrupt the system, and a lot of missing information would have been circulating around within the database. [redacted] noted, however, that although this practice would result in missing exposures, it should not result in the false assignment of a dosage.

[redacted] described the DOELAP TLD database as being "basically valid." "It is mostly intact," said [redacted] for site employees and subcontractors who were assigned security badge numbers by the Security Department. Visitors receiving temporary badges without a "CC" or a "J" contractor/consultant security badge would not, however, be on the database, as there was no identifier attached. Such doses would be held in the "bucket file" of unassignables, created under the direction of [redacted] during the 1990 - 1991 timeframe to assure that data would not be lost. This file was researched, and the results of that research were turned over to Dosimetry Laboratory personnel toward the end of fiscal year 1995

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to amend the information contained in the DOELAP TLD Database. The vast majority of these dosages (well above 90%) were "zero."

During late 1994, the responsibility for entering the demographic data into the PRNG25 file structures became solely a Health Physics responsibility. [REDACTED] coordinated this effort for LMUS Health Physics, and provided linkage with Lockheed Martin Energy Systems, Inc. (LMES) Health Physics for a similar effort. During that time, demographic data dealing with current and "near-history" records was substantially recovered. Today, an "educated guess" by [REDACTED] for exposure records on site employees and subcontractors/ consultants with security badge numbers would approach or exceed a 98% validity.

Investigator's Conclusions:

[REDACTED] describe the DOELAP TLD database as being basically reliable, erring on the conservative side, if anything. While a number of unassignables obviously exist, several experienced Health Physics personnel believe that the database is quite sound [REDACTED] however, maintained strong reservations about the validity of the DOELAP TLD Database).

The function of this database is now relegated to that of a historical file. Thus, while this allegation does contain some truth, the original assessment of large numbers of misassignments has, to say the least, not been proven.

It is obvious that the dosimetry laboratory has had very limited supervision. By [REDACTED] own account, supplemented by the accounts of [REDACTED] [REDACTED] was rarely ever in the laboratory. This may have contributed to the problems of the database getting out of control.

In conclusion, the absolute validity of the DOELAP TLD Database cannot, at this time, be verified.

[REDACTED] was closely involved with implementing the new NVLAP TLD Dosimetry system. He described the system as being far more sensitive than the old DOELAP system. It has the ability to measure for a much more

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detailed evaluation than had the old system, and supports the NRC certification. He added that, while the validity of the old DOELAP system was "not that good," as it had a lot of "unassigns," the validity of the new NVLAP system is "good, and getting better."

Management Recommendations

As a result of this investigation, several items have come to the investigative group's attention:

- 1) Management needs to give specific direction regarding the changing of dosage figures. Poor understanding of dosage codes 10, 12, 15, etc., and little guidance on "correcting" information to be released to an employee or a court subpoena will, otherwise, continue to be a problem.
- 2) Management needs to establish TLD database change controls.
- 3) Management needs to establish an audit trail of pre- and post-data involving dosage changes.
- 4) Differing opinions as to the validity of the historical DOELAP TLD Database may require management to obtain an independent evaluation. In particular, the actions taken by [REDACTED] are questioned, with some "experts" believing minimal corruption has been caused, while other "experts" believe otherwise.
- 5) No individual operator accountability was established in the dosimetry laboratory, as all employees shared the same password.
- 6) [REDACTED] allegedly advised [REDACTED] about the questionable dosage change during 1995. [REDACTED] did not pursue this information, stating that [REDACTED] had asked her to drop the issue. Obviously, an issue of this magnitude should not have been dropped, regardless of the request to do so.
- 7) General filing conditions in the Health Physics operating area were very poor (i.e., investigation reports, TLD cards, etc.). This is a Records Management issue also that needs to be addressed.

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These are problems that must be addressed to avoid a repeat of the incident of September 8, 1994.