BUSINESS CONFIDENTIAL

Memorandum

LOCKHEED MARTIN

Lockheed Martin Utility Services, Inc.

Date: February 16, 1996
POEF-150-96-0088

To: Dan Hupp

From: Don Butler Don

Subject: Internal Investigation into Health Physics Management Practices

On Thursday, February 1, 1996, at the direction of General Manager Dale Allen, through Security Group Manager Dan Hupp, and Safety, Safeguards, and Quality Manager Lee Fink, I and Quality Assurance Specialist John Bellows, B/61173 (reporting to Lee Fink), initiated an investigation into allegations of improper conduct on the part of Health Physics supervision. On Friday, February 2, 1996, we were joined in our inquiries by Lockheed Martin Utility Services (LMUS) Ethics Officer/Internal Audit Director Ron Wetherell, B/60666.

The allegations were directed specifically at Health Physics Supervisor Mike Smith, B/60174, by Senior Health Physics Technician Monte (Chris) Kelley, B/60387 to her organization manager, Production Support Organization Manager Sandra Fout, B/58554. The allegations concerned inconsistencies in overtime assignment, misrepresentation of training records to outside auditors, time card fraud, improperly changing an employee's dosage record, and corruption in the maintenance of the DOELAP Thermal Luminescent Dosimeter (TLD) Database. Mike had been placed on Crisis Suspension at 1130 hours, on February 1, 1996, by Sandra Fout, pending the outcome of the investigation.

The following personnel were interviewed during the course of this investigation:

- Research Staff Member John Bowdle, B/55503
- Senior Health Physics Technician Jeff Cunningham, B/60243
- Business Analyst Sally Cunningham, B/58612
- Health Physics Supervisor Rick Dively, B/60306
- Health Physicist Clyde Dulin, B/58488
- Production Support Organization Manager Sandra Fout, B/58554
- Research and Development Associate Rich Ginther, B/60504
- Senior Health Physic Technician Chris Kelley, B/60387

- Technical Trainer Lorrie Graham, B/60180
- Health Physics Administrative Assistant Rob Litten, B/59444
- Electrical Maintenance Group Manager Gary Medukas, B/60233
- Production Control Section Manager Lisa Parker, B/58843
- Health Physics Supervisor Linda Smith, B/58682
- Health Physics Section Manager Mike Smith, B/60174
- Radiological Protection Manager Ron Smith, B/61012
- Health Physicist Jim Thompson, B/60191

ABSTRACT

Several allegations have been made against Mike Smith, in his role as Health Physics Section Manager. They included the following:

- **Improper assignment of overtime.**

  Allegation:

  It was alleged that Jeff Cunningham received large amounts of overtime (455 hours) during calendar year 1995, while Chris Kelley, with the same title and position, received virtually zero.

  Mike's Reply:

  Jeff Cunningham was the subject matter expert for the NVLAP external dosimetry system for the 8800 Series TLD Reader. Bringing that system on line by October 1, 1995, was a major priority, and Jeff was far more qualified to work with the NVLAP system than was Chris.

  Investigators' Conclusions:

  The NVLAP system was the priority for 1995, and Jeff Cunningham was best qualified to work with it. It is a fact that Mike and Jeff were friends, and that fact may have resulted in Jeff receiving more overtime opportunities than usual. On at least one occasion, however, Chris Kelley complained to Equal Employment

Opportunity (EEO) Representative Sally Cunningham about being forced to work overtime on weekends. This allegation thus appears to have weak support, but is neither confirmed nor denied.

- **Misrepresentation of training records for the NVLAP audit of May 1995.**

Allegation:

Training records indicated that, although Chris Kelley had received procedural training on the NVLAP system, she had received no "hands-on" training, and was not qualified to process dosimeters.. After speaking with Mike, however, the auditor, Jan Cussimano, prepared the following information in his report:

> "All of the staff are knowledgeable and have good experience only one staff member other than the Laboratory Technical Supervisor is fully trained and qualified to process dosimeters."

In speaking with this investigative group, Mike identified the "Laboratory Technical Supervisor" as being Jeff Cunningham, and the "one staff member" as being Chris Kelley.

Mike's Reply:

Mike Smith stated that although Chris had received some training, she was "not fully qualified." He did not know what had led the auditor to conclude that she was-"fully trained and qualified."

Investigators' Conclusions:

By Mike's own admission, Chris Kelley was not fully qualified to process dosimeters. It seems probable, however, that the auditor was persuaded otherwise, either by Mike or by Jeff Cunningham. The auditor could have, however, simply been shown the limited training records, and allowed to draw his own conclusions. Gary Medukas stated that he could understand why they passed the audit in regards to training, because, after all, no TLDs were yet being processed through that system, and the auditor appeared to be pleased with the planned training program.

This allegation thus appears to have, at least, a limited amount of support, but is neither confirmed nor denied.

- **Time card fraud on Saturday, September 30, 1995.**

Allegation:

Linda Smith stated that on the morning of Saturday, September 30, 1995, she had worked overtime with Mike and Chris Kelley. Linda said that Mike had arrived on site with her at 0200 hours, and departed from site with her at 1530 hours that afternoon, for a total of 13 1/2 hours worked (Chris arrived late, but verified that she had departed with both Linda and Mike that afternoon). In the interim, however, Mike had spent five hours attending classes at the Chillicothe Branch of Ohio University.

Linda had thought Mike had claimed 17 1/2 hours; in fact, Mike had claimed 13 1/2 hours, which would have been correct if he had spent the entire time on-site.

Mike's Reply:

Mike was unable to say exactly when he did work that day, but stated that he was "not in the habit of overcharging the company." He stated, however, that he had departed plantsite at approximately 0700 hours that morning, and was unsure when he had returned. Mike added that he did not charge the company for time spent attending college classes.

Investigators' Conclusions:

Mike was unable to say exactly what his arrival and departure times had been for that day. If Linda Smith's arrival and departure times are correct, they add up to exactly 13 1/2 hours. Unless Mike returned to work at approximately 1900 hours that evening and worked through the night to make up for the missing five hours, it does appear that the company may have been overcharged.

Rob Litten, however, stated that he had worked with Mike "all night" that night, and Rob's overtime claim for the day was 18 hours. If the two of them had worked together, the fact that Rob claimed 4.5 hours more than Mike might well indicate that Mike had deducted time from his overtime claim to make up for attending class at Ohio University. Ron Smith, although he was not personally

aware of Mike's actual time on site that Saturday, stated that Mike typically worked more hours than he claimed.

As a result, this allegation cannot be confirmed.

- **Improperly changing an employee's dosage on September 8, 1994.**

Allegation:

Linda Smith stated that, on September 8, 1994, Mike had directed her to prepare a correction sheet to change three dosages in the TLD database from 26 shallow/26 deep millirem to 0 shallow/0 deep millirem. The dosages were assigned to Guard Force Officer Jeffery Walburn, B/57795, and Linda alleged that Mike wanted the exposures changed to zero, because, "It's for a court case. It's easier to explain zero than it is 26 (shallow)/26 (deep)." Mike had allegedly gone on to say that he had earlier had a meeting with Clyde Dulin and Gary Medukas regarding the situation with Jeffery, and that the three of them had jointly decided that the change was necessary.

Later, when Linda took legal action to gain a promotion, Attorney Larry Zangrelli took a deposition from Mike regarding the dosage change (we have a copy of the results of that deposition). Mike was shown the "TLD Corrections" form of September 8, 1994, and asked, "Isn't it true that you asked Linda Smith to change the exposure records with respect to Jeffery Warburn (Walburn is the individual's correct name; the attorney mistakenly termed him as Warburn)?" "I have no idea," replied Mike. "You don't remember?" pursued Larry. "No," replied Mike. To prove that she had been so instructed, Linda subsequently checked the database for Jeffery Walburn's information. Upon checking, she observed that the dosage rates had been changed back to the previous readings. The change should have come through Linda, and it never had. Linda had no idea how it might have been changed.

Mike's Reply of February 7, 1996:

Mike stated that he had "no recollection" of being in such a meeting (neither did Clyde Dulin or Gary Medukas). Mike said that he had never changed a dosage due to a court action, and he had never been directed by management to make such a change. He added that he

submitted "thousands" of such change requests during a typical year.

After looking at the dosage figures, however, Mike said that the figures that had been changed from 26 shallow/26 deep millirem to 0 shallow/0 deep millirem, should have, in his opinion, been zeros. Mike said that the reason for this was that the previous 1990 figures, upon which the three subsequent figures had been based, had been contested figures themselves (Gary Medukas and Ron Smith dispute this opinion, stating that there was no justifiable cause for altering the figures).

There was also the fact that these figures had been subsequently changed from zeros back to the previous figures of 26 millirem. Mike stated that, having completed a dosage change, the only way that he would have directed the dosages to be changed back to the previous figures would have been if someone had complained that the manner in which the changes had been made was not consistent with Health Physics policy.

Mike's Reply of February 9, 1996:

When confronted with the TLD exposure readings prepared on September 7 - 9, 1994, Mike Smith stated that although he did not recall the incident, it could have happened. "If I changed these (figures), and it seems that I must've," Mike said, it was not an effort to falsify figures. He stated that had the report of September 7, 1994, been given to him, and he had observed the December 31, 1990 figure of 23 shallow/26 deep millirem, he would have directed the shallow figure of 23 millirem to be changed to 26 millirem, and the subsequent figures of 26 shallow/26 deep millirem that had been estimated from the 1990 figures to be reduced to 0 shallow/0 deep millirem.

Mike went on to say that he would have changed the figures if he had known it involved a court or not, in order to supply correct data. If he had said something like, "It's for a court case. Zero is easier to read," it would have probably been in the context of an off-hand, satirical remark.

Mike stated that he had no information to show why these figures had been subsequently changed back to the previous numbers. He added that he was unable to see any

justification for returning them to their original status, as the original numbers had been in error.

Investigators' Conclusions:

It is difficult to understand why such an improper action would have been taken upon the negligible figure of 26 millirem. If true, such an action represents a act of gross impropriety on the part of Mike. The fact that the figures were subsequently changed back to the previous format further complicates the issue, as it raises the possibility of "cold feet" for the individual responsible for the change.

Although we believe the allegation to be true, we cannot definitively prove it. Our reasons for believing the allegation are as follows, and can be clarified by the following timeline:

TIMELINE

January 31, 1994:	Linda Smith launches a complaint regarding promotion opportunities denied her.
July 26, 1994:	Protective Force Officer Jeffery Walburn alleges inhalation injury in X-326 Process Building
August 15, 1994:	Self-insurance application filed regarding above allegation.
August 17, 1994:	LMUS denies claim with "no specific diagnosis."
September 6, 1994:	LMUS requests approval for USEC to hire Bob Tait as external counsel.
September 7, 1994:	A printout of Jeffery Walburn's dosage history is prepared for Legal Services.
September 8, 1994:	Mike Smith allegedly directs Linda Smith, in the presence of Chris Kelley, to change four of Jeffery's historical dosages.

September 9, 1994: A printout of the sheet detailing the above changes is prepared, and inserted into the information prepared for Legal Services two days earlier.

September 16, 1994: Jeffery requests his medical occupational information from Health Services.

September 23, 1994: USEC approves the hiring of Bob Tait.

September 29, 1994: LMUS schedules doctor's examination for October 18, 1994 (we believe that this examination was for Jeffery Walburn).

November 3, 1994: The information requested on September 16, 1994, is apparently delivered to Jeffery.

November 22, 1994: Mike Smith, Clyde Dulin, and Ed Wagner give depositions regarding Linda Smith's lawsuit

Linda subsequently discovers the dosage figures, changed on September 8, 1994, have been returned to the previous figures.

March, 1995: The March, 1995 database indicates the original figures to be in place.

May 12, 1995: Chris Kelley contacts Sally Cunningham with allegations regarding Health Physics impropriety. The incident involving the dosage change is included in her allegations.

December, 1995: Linda Smith's lawsuit is settled.

- Mike has stated that he would have been the person to have authorized such a change, and, had he been presented with those figures, he would have authorized the change, in order to present valid dosage figures. Site Legal Officer Jim Olsen

advises us, however, that the individual who authorized that alteration of dosage figures due to a legal action could possibly face both criminal and civil sanctions.

- This investigative group was informed that code 10, code 12, and code 15 have distinctive meanings when the changing of dosages is contemplated. Code 10 means that while the "shallow" figure is contested, the "deep" figure in uncontested. Code 12 means that both the "shallow" and "deep" figures are contested. Code 15 means that both the "shallow" and "deep" figures are calculated. When Mike examined the figures in my office on Wednesday, February 7, 1996, he stated that the figures that had been changed to zeros should have been changed to zeros, due to the fact that the 1990 figure, on which the three subsequent dosage figures had been based, had itself been contested. Perhaps he realized that on September 7, 1994, and was simply trying to correct the figures closer to reality. If so, it was an unwise move. The change code on the listing of those figures was 10, indicating that while the "shallow" figure was contested, the "deep" figure was uncontested. Based on the definition of the codes, Mike would have apparently had no justification to change the "deep" figure of the subsequent three dosages to zero. Interestingly enough, when Linda Smith, under Mike's direction, prepared the "TLD Corrections" form, she was told that the figures to be changed to zero were contested, so she entered code 12 beside the 1990 figure. Mike later advised this investigative group that he was unaware of the meaning of code 10, as he only used code 12 (both "shallow" and "deep" estimated) and code 15 (both "shallow" and "deep" calculated). The correction of these figures was discussed with Gary Medukas and Ron Smith, who both said that the existing figures in the database were official figures, and, regardless of the code, should not have been changed when such a request (by Jeffery Walburn) had been made.

- On September 9, 1994, one day after the alleged incident, a report of Jeffery's dosage was prepared. We have photocopies of that report in which the page detailing Jeffery's dosage history

prior to 1990 is dated at the top of the page as September 7, 1994 (the day before the change was made). The page detailing Jeffery's dosage history of 1990 through 1994 is dated September 9, 1994 (the day after the change was made), and has the corrected dosages of the previous day. The remainder of the pages are again dated September 7, 1994. It seems apparent that when the dosage report was prepared on September 7, 1994, someone became concerned about four of the dosages. The next day, September 8, 1994, Chris Kelley and Linda Smith stated that Mike directed Linda Smith to affect changes to those four figures immediately. (Chris Kelley, who was there at the time, has offered to submit to polygraph examination to verify her account of the incident). Once affected, a new page for the 1990 - 1994 dosages was printed on the next day, September 9, 1994. That altered page was then inserted into the report printed on September 7, 1994.

With the assistance of Clyde Dulin, we checked the TLD database for Jeffery Walburn's 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.

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

- **The DOELAP TLD database is corrupted and unreliable.**

  Allegation:

  Chris Kelley stated that the DOELAP TLD database was corrupted by improper Health Physics practices. Lorrie Graham, a former Health Physics Technician, was said to have maintained extra TLD cards on the wall of the X-1000 Dosimetry Laboratory. Chris alleged that when Lorrie was unable to get a reading with the TLD bar code reader from an individual's TLD, she (Lorrie) would simply take a reading from one of the TLD cards on the wall. "Lorrie corrupted the database," stated Chris. 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:

  Lorrie Graham's Entries into the DOELAP TLD Database

  Lorrie Graham stated that, on occasion, problems would develop when a bar code on a dosimeter would not "scan." In such situations, she would take one of the following actions:

  - **TLDs Returned from the Field**

    If the bar code would not "scan", Lorrie would enter the numbers by hand. If the number could not be read (a very rare occurrence), a code would be entered that would allow Lorrie to identify which TLD and which badge required matching.

  - **Preparing TLDs for Reissue**

    When preparing TLDs for reissue, numbers were occasionally illegible. Such TLDs were taken out of service.

  - When preparing TLDs for issue, the computer would on occasion indicate that the bar-code number had already been assigned. When that occurred, the identification number to which the TLD had been assigned would be noted for further correction. To assist in making these corrections, Lorrie acknowledged that she did maintain defective, unassigned TLD cards on the wall of the dosimetry

laboratory. During the processing of temporary TLD information, Lorrie said that the computer would, at times, indicate that the new TLD card numbers had already been assigned (John Bowdle 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, Lorrie 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 Lorrie 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, fewer and fewer corrections were required, until, eventually, all necessary corrections had been made.

Lorrie stated that John Bowdle was aware of this practice, as were others. As it would not result in the misassignment of a dosage rate, she had never been directed to cease the practice.

John Bowdle stated, however, such a practice would simply "multiply the work later on." He said that he had never seen a bar code that was absolutely unreadable for direct entry, even if it wouldn't scan. The idea that the computer might indicate that TLD numbers were already assigned was also questioned by John. In addition, the entry of false TLD numbers corrupted the system. Far from "fewer and fewer corrections" being required, the situation would snowball, making it virtually unmatchable.

John stated that although this practice resulted in missing exposures, it should not have resulted in the false assignment of a dosage.

In short, John said, while this practice would not have resulted in false information being entered, a lot of missing information would have been circulating around within the database. To him, this was simply a poor practice.

Validity of the DOELAP TLD Database

Clyde Dulin described the DOELAP TLD database as being "basically valid." "It is mostly intact," said Clyde, 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 Clyde 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 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. Rob Litten 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 Clyde for exposure records on site employees and subcontractors/ consultants with security badge numbers would approach or exceed a 98% validity.

Investigator's Conclusions:

Clyde Dulin, Jeff Cunningham, Rick Dively, and Ron Smith 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 (Gary Medukas and John Bowdle, 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 Mike Smith's own account, supplemented by the accounts of Gary Medukas, Linda Smith, and Chris Kelley, Mike 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.

Jeff Cunningham 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 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 Lorrie Graham 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) Chris Kelley allegedly advised Sally Cunningham about the questionable dosage change during 1995. Sally did not pursue this information, stating that Chris 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.

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

The remainder of this report is the result of interviews conducted with the above employees, and presented in chronological order.

Sandra Fout (Interviewed February 1, 1996, @ 1210 hours)

Sandra Fout stated that she had first spoken to Chris Kelley about this matter on Wednesday, January 31, 1996. Chris had approached her with a certain amount of hesitation, and had been very emotional and upset during their conversation.

The incident began, basically, as a harassment complaint by Kelley against Mike Smith, her supervisor. Chris believed that Mike had been inconsistent in offering overtime. While Mike's friend Jeff Cunningham had received approximately 455 hours of overtime for calendar year 1995 (and Smith had charged nearly 608 hours himself), Chris had received virtually none. In addition, Mike would avoid talking to Chris, and delivered work instructions to her through intermediaries.

Chris also alleged that on Saturday, September 30, 1995, Mike was working overtime, when he departed plantsite to attend a class at the Chillicothe branch of Ohio University. He was gone for approximately five hours. On the following week, however, Mike's time sheet reflected 13 overtime hours for the preceding Saturday. By Chris's observation, Mike had failed to delete the five hours of absence when computing his overtime.

Mike had also, as of January 29, 1996, placed Chris in the field. Chris had worked in the dosimetry laboratory for nearly two years,

and had enjoyed the work involved far more than she had enjoyed field work.

Then there was the problem of employee harassment against Chris. Chris is an unmarried mother, and had heard fellow employees refer to her child as a "bastard." Health Physics Technician Steve Lummer, B/60491, had described her as being a lesbian for refusing to see him socially.

Sandra Fout realized that a more serious problem might be present when Chris alleged the existence of irregularities in the Health Physics computer database. On one occasion, Mike Smith was said to have approached Health Physics personnel on September 8, 1994, and direct them to alter the dosimetry reading of a plantsite employee on the database. The employee, Guard Force Officer Jeffery Walburn had complained of a burning in his lungs following an incident in the X-326 Material Access Area (MAA) earlier in the year. His dosimeter reading of 26 millirem (a negligible amount), entered into the computer database, was altered, on Mike's direction, to a reading of zero millirem. When Linda Smith, the employee charged with arranging such changes in the database, had asked why the change was being made, Mike allegedly replied that it involved a court case, and that zero sounded better than 26 millirem.

Another allegation involved the "reading" of TLDs. Chris alleged that when the bar code of an employee's TLD could not be "read," the common practice was to hold the TLD bar code reader to a TLD card (contained within a TLD) that was affixed to the wall of the dosimetry laboratory in order to place a reading -- however false -- into the database.

After receiving this information, Sandra Fout assigned Rich Ginther and Lisa Parker to the task of inquiring into the situation. As their inquiries progressed, Sandra determined that, due to the serious nature of the information she was receiving, a security investigation should be initiated.

Rich Ginther and Lisa Parker (Interviewed February 1, 1996, @ 1300 hours)

Rich Ginther and Lisa Parker had been assigned the task of inquiring into Chris Kelley's allegations on Wednesday, January 31, 1996. After speaking to Chris, they spoke with Linda Smith, John Bowdle, and Rob Litten, during which time they felt that they were confirming much of Kelley's account.

John Bowdle (Interviewed February 1, 1996, @ 1400 hours, and again February 8, 1996, @ 1000 hours)

We initially spoke with John Bowdle to confirm the integrity of the Health Physics database. John stated that the database was not equipped with a modem, and that only Chris Kelley, Steve Lummer, and Linda Smith had access to the single password that serviced the database account. The possibility existed, of course, that the password had been shared with other Health Physics personnel, possibly including Mike Smith himself. To preclude the possibility of compromise, I entered a unique password, known only to myself and to Security Section Manager Emery Smith, into the database, and shut down the system until the investigation was complete. This action was authorized by Sandra Fout, and is scheduled to be reactivated on Friday, February 9, 1996.

John Bowdle described the Health Physics database as being "corrupt." It was unreliable due to such acts as the previously mentioned bar code scanning of a defective, unassigned TLD card (affixed to the wall of the dosimetry laboratory) to replace the bar code scanning of an unreadable TLD. Although John had worked on the system on a number of occasions, its validity remained in question.

Chris Kelley (Interviewed February 1, 1996, @ 1500 hours, February 2, 1996, @ 0830 hours, and February 13, 1996 @ 1215 hours)

Chris Kelley became employed on site on February 17, 1992. I was one of her original interviewers, and, from that interview forth, have observed her to be a very highly-strung, emotional individual.

At more than one point during the interview, Chris stated that this current situation has been extremely troubling for her; to the point that, on one occasion, she felt virtually suicidal. She had consoled herself with the thought that "it's not worth killing myself over."

Chris had difficulty with assigning dates to events during the course of this interview. As a result, some variance in dates may thus be apparent.

Chris became pregnant approximately February, 1993. One month later, she was removed from the field, and assigned to the X-1000 Air Laboratory. Upon the birth of her child, Chris was transferred to the dosimeter laboratory by Mike Smith. She received no instructions from Mike regarding this assignment beyond, "relax,

read a book, don't worry about it." When she asked for training to use the Health Physics database, Mike declined.

By Chris's account, Mike did not especially like the dosimetry laboratory. He viewed it as being "prehistoric," and was very rarely ever there. Due to this absence, laboratory employees did virtually as they wished.

Problems resulted from this policy of self-direction. A large backlog of TLDs had built up over time, which caused TLD cards (contained within the TLDs) to be "read" out-of-sequence. This compromised the integrity of the database, and caused problems in "reading" other TLDs. This problem was said to have been "remedied" by former Health Physics Technician Lorrie Graham who obtained readings by holding the TLD bar code scanner to TLD cards affixed to a wall of the laboratory. Attempts to reduce the backlog of TLDs also resulted in such practices as "short-cycling" (failure to verify the entry of TLD information). This practice can result in employee TLD information never being entered into the database at all. "Lorrie corrupted the database," stated Chris.

When confronted with these problems, Chris contacted her friend, Linda Smith, who worked on the second floor of the X-1000 Facility. Linda agreed that these practices were wrong, and, upon being assigned as Acting Supervisor of the laboratory during the Summer of 1994, removed the TLD cards from the wall. She also took other measures to restore the integrity of the database. Linda continued in that position until August, 1994, when Rick Dively was appointed laboratory supervisor.

On September 8, 1994, Mike approached Linda, and directed her to change a dosimetry reading received by Jeffery Walburn during 1990, 1993, and 1994 (Chris was nearby). Earlier that year, Jeffery had been working in the X-326 MAA, when an incident had occurred that caused him to complain of a burning in his lungs. At 26 millirem, the reading was inconsequential, but Mike wanted it altered to zero. Linda asked, "Why?" Mike replied, "This is for a court case. Zeros are easier to read." Linda complied with the directive, and prepared a "TLD Corrections" form detailing the change.

Sometime later, Chris and Linda checked the database, and found that Jeffery's dosimetry reading had been changed back to 26 millirem from zero. They were unable to determine who had affected the change.

Linda Smith had a pending lawsuit against the company, due to her not receiving a promotion. On November 22, 1994 (Chris believed

that date to be correct), the lawsuit required depositions to be taken from members of Health Physics supervision. Chris believed that Clyde Dulin, Mike Smith, and Gary Medukas gave depositions; there were others whose names Chris was unaware of.

An audit associated with the NVLAP external dosimetry authorization for the 8800 Series TLD Reader took place during May, 1995. To prepare for the audit, Mike Smith conducted performance-based training with her during April, 1995, covering the following topics:

April 5, 1995

- **Model 8800 TLD Reader: Glow Curve Evaluation**
  EDT01.02.05, PEC

April 6, 1995

- **External Dosimetry Program and Requirements**
  EDT01.01.01, CLASSROOM
- **Model 8800 TLD Reader: TLD Irradiations**
  EDT01.02.02, PEC
- **Calibrate Model 8800 TLD Reader**
  EDT01.02.03, PEC

This training had been in the form of Performance Evaluation Checklists (PECs) and classroom instruction, with no "hands-on" instruction involved. When the auditor, Jan Cussimano, arrived, Mike Smith directed his employees to briefly introduce themselves, and "disappear". Both employees complied with the directive. Chris was later listed by the auditor as being "fully trained and qualified to process dosimeters." Chris had not given such information to the auditor, and, at that time, it would have been untrue, in her eyes, as she had not received any "hands-on" training.

Mike later said that he was amazed that his group had passed the audit. He then instructed Chris and Linda to file away all dosimetry records for the time period before July 1995, as "we're going to be accountable for July 1995 to the present."

Jeff Cunningham went on vacation toward the end of September 1995. Although he had told Mike Smith that all of his work was on line, Chris found that none of the TLD cards had been prepared for the issuance of the new badges on the NVLAP system change-out, scheduled for October 1, 1995. As of this time, neither Linda nor

Chris had been trained on the TLD issuance process, so they consulted the TLD manuals for several days to prepare the cards. They worked overtime on Saturday, September 29, 1995, and on Sunday, September 30, 1995, preparing the cards. During that time, Mike Smith brought completed certificates of authorization to Linda and Chris for the NVLAP external dosimetry authorization for the 8800 Series TLD Reader. "Sign these," he said. Once they signed the certificates, Mike said, "Now you're legal." Neither employee felt that she had received the necessary training for the system, and training was not completed until the end of the year (Mike Smith stated that there was no procedural requirement for the certificates, and that he had only given them to Chris and Linda to get them "on line").

Mike Smith claimed large amounts of overtime. During Saturday, September 30, 1995, Mike had been working overtime with Linda and Kelley. Chris arrived late, and found Linda and Mike already there. They all departed together that afternoon. During the day, Mike departed plantsite to attend a class at the Chillicothe branch of Ohio University. He returned five hours later. During the following week, Chris was in Mike's office, when she observed his completed time sheet, reflecting 13 hours overtime for the previous Saturday. None of the time spent at the university had been deducted from the overtime claim (Ron Wetherell later verified that Mike's hourly claim for that day had been 13.5 hours overtime).

On Sunday, October 1, 1995, Linda and Chris were again working preparing the new TLD cards. They had been working 16 hours, when Shift Superintendent Marty Redden, B/59059, stopped by, and sent them home as being "unfit for duty." Later that day, Mike Smith and Jeff Cunningham were called in, and had to "spend the night" completing the job. It took until Thursday, October 4, 1995, however, until "everything wasn't chaos."

Although these incidents represented serious problems to Chris, she was also depressed by the treatment she received from Mike Smith as her supervisor. Mike was good friends with Jeff Cunningham, and allowed Jeff to work large amounts of unsupervised overtime. Chris stated that she had observed Jeff -- on overtime -- sitting in the X-1000 Facility, reading motorcycle magazines. In comparison, she rarely received overtime opportunities.

In frustration, Chris contacted Equal Employment Opportunity Associate Sally Cunningham, B/58612, to voice her reaction to these incidents. Nothing ever happened.

Recently, Chris heard rumors that she was to be reassigned to the field from the laboratory. Not wishing to return to the field, she

met with Ron Smith on Friday, January 26, 1996, regarding the rumor. In response, Ron assured her that she was to remain in the laboratory. On the following Monday, January 29, 1996, however, Kelley was assigned to the field by Mike Smith. Documentation verifying the reassignment was dated January 10, 1996. When confronted with the contradiction, Ron replied that, during their conversation of the previous Friday, Chris had expressed no preference in job assignments, and had thus been reassigned.

Linda Smith (Interviewed February 2, 1996, @ 0940 hours, and February 13, 1996, @ 1300 hours)

Linda had originally worked in the dosimetry laboratory with Tom Maggard during the early 1990s. When Tom retired during the Spring of 1993, Health Physics Technician Betsy Irwin and Lorrie Graham were assigned work with Linda.

Linda was directed by supervision to teach Lorrie the process of TLD reading and preparation. Lorrie had problems with Linda, and, to reconcile those problems, Linda was transferred to other duties; Lorrie remaining in the laboratory. During the Spring of 1994, however, Chris began to tell Linda of improper practices going on in the laboratory. The problems revolved about Lorrie's practice of "reading" TLD cards affixed to the dosimetry laboratory wall. Linda investigated, and found about 20 TLD cards affixed to the wall. She removed the badges, and advised Mike Smith of the problem. Nothing was ever done.

In addition, Lorrie was not recording the required calibrations to the TLD recording system; calibrations that might have to be performed several times per day. When these calibration fell drastically behind, Lorrie took an entire day writing calibration sheets to catch up. She also was not recording the badges that she was preparing.

During April, 1994, Linda was reassigned as line supervisor to the laboratory. Upon evaluating the laboratory technicians' work practices, Linda instructed them of the requirements to operate the machinery (wearing gloves, etc.). Lorrie did not like those requirements, and, during the Spring of 1995, bid to a new job, leaving the laboratory.

Upon Lorrie's departure, the TLDs had a backlog of 18 days. Stacks of unresolved Investigation/Situation Reports -- approximately 200 -- were found, dating from 1992 and 1993. The TLD computer program was also badly corrupted.

Linda took a stack of the unresolved reports to Mike Smith for direction. "There goes my aneurism," Mike said. "I'll take care of them." Mike then placed them under his desk, where they remained for several months, until he directed Linda and Kelley to work on them.

To bring some order into dosimetry laboratory operations, Rick Dively was assigned to supervise the laboratory. "It was a nightmare," said Linda. "It really was." Rick developed specific job assignments for the laboratory employees, and instituted a program of log-keeping (this log-keeping was terminated by Mike Smith in September 1995). John Bowdle was brought in to assist in the rectification of the corrupted computer program. Linda found it difficult to seek assistance with these problems, due to Mike Smith's aversion to seeking outside assistance. His motto was, "keep our job in our lab. If we had problems, come to him, not to discuss it with Gary (Medukas) or Mark (Granus)."

On September 8, 1994, Linda was processing TLD cards in the X-1000 Dosimetry Laboratory, when Mike walked in (Chris was nearby). "Kiddo, I need you to do something," he said. "I need corrections sent in on this." Mike then handed her a sheet of paper. "It's for a court case. It's easier to explain zero than it is 26 (shallow)/26 (deep)." Mike went on to say that he had a meeting with Clyde Dulin and Gary Medukas, and they had jointly decided that the change was necessary (Neither Clyde nor Gary have any recollection of having attended such a meeting. Mike stated that if he had directed such a change, a meeting of this type would have been unnecessary). He had a list of TLD readings (for Guard Force Officer Jeffery Walburn) by date, and advised Linda of the dates -- four in all -- on which he wanted readings changed (Mike was responsible for computing these changes). The first reading was to be changed from 23 shallow/26 deep to 26 shallow/26 deep, and the three subsequent readings were to be changed from 26 shallow/26 deep to 0 shallow/0 deep. These changes would have to be placed onto a correction sheet by Linda to enter them into the system. As Linda prepared the "TLD Corrections" form, Chris asked her what the issue was. "Chris," Linda said, "he asked me to do this for a court case." To document the incident, Linda photocopied the form, and retained the copy. She then -- as directed by Mike -- hand-carried the sheet to the X-112 facility to have the information entered into the database. "Clyde Dulin was supposed to have called to make this a rush job," Linda advised the clerk. "Yeah, I know," the clerk replied. When the job was completed, personnel from the X-112 Facility advised Linda by telephone. Linda then returned to the X-112 Facility, picked up the sheet, and a confirmatory print-out, and delivered them to Mike Smith.

Although Linda had been directed to change information on numerous occasions to reflect an estimated reading, she had never been directed to do so for a court case.

Later, when Linda took legal action to gain a promotion, Attorney Larry Zangrelli took depositions from Clyde Dulin, Mike Smith, and Ed Wagner. Under questioning, Clyde denied knowledge of the "bucket dose." Mike was shown the "TLD Corrections" form of September 8, 1994, and asked, "Did you ever require her to change a dose?" "To the best of my knowledge," replied Mike, "No." To prove that she had been so instructed, Linda subsequently checked the database for Jeffery Walburn's information. Upon checking, she observed that the dosage rates had been changed back to the previous readings. The change should have come through Linda, and it never had. Linda had no idea how it might have been changed.

Jeff Cunningham went on vacation during the latter part of September 1995. Prior to departing, he had advised Mike that his job duties, which included preparing TLD cards for the NVLAP system changeout scheduled for October 1, 1995, were up to date.

Later, when Linda and Chris (under Mike's direction) checked the status of the TLD cards, they found that they were short by about 1400 cards. In response, Mike directed them to "get on the machine (the NVLAP external dosimetry authorization for the 8800 Series TLD Reader) and start doing the annealing." Neither Linda nor Chris were trained on the reader, and neither had a password for the program. Mike then entered the system with his password, and instructed them how to load the machine. The bar code labeler wasn't working, so the labels had to be cut out by hand. Rob Litten was also helping them to work on the machine.

During the weekend of Saturday and Sunday, September 30 -- October 1, 1995, both Linda and Chris worked overtime to complete the new badge changeout. Mike Smith was also working overtime that day. They all arrived at 0200 hours. Between 0700 and 0730 hours, Mike departed plantsite to the Chillicothe branch of Ohio University to take a class. He returned between 1230 and 1300 hours. They all eventually departed plantsite together at approximately 1530 hours. During the following week, Linda observed Mike's time sheet, and noted that he had claimed "I think it was 17 1/2 hours," (Ron Wetherell later verified that Mike's hourly claim for that day had been 13.5 hours overtime).

Early the following week, Mike gave certificates of authorization to Linda and Chris to operate the reader. "Oh, gee, I'm certified to run the reader. After three days, now I'm certified." "Yeah," replied Mike, "you're now certified." In comparison, it had taken

Linda six months to become certified on the DOELAP machine. Linda did not receive the training for the NVLAP system until the end of the year.

Linda feels that the database is now as correct as it can be. Residual problems remain, however.

Rick Dively (Interviewed February 2, 1996, @ 1230 hours)

Dively stated that during August 1994, he was placed in charge of the dosimetry laboratory. "Mike was tied up getting the NVLAP certification," said Rick, so he (Rick) was directed to supervise the laboratory. The TLD database was set up to run on a particular sequence, and that sequence, due to the "massive amount of temporaries we were receiving," was not being adhered to. There were simply too many TLDs being utilized. The laboratory personnel were placed onto a work schedule, and assigned specific duties. Steve Lummer was assigned to complete the paperwork regarding the temporary TLDs, Linda Smith to "read" the TLD cards, with Chris Kelley backing Linda up. "Linda knew it (the system) from A to Z," said Dively.

Rick stated that he had heard that TLD badge bar codes had, at one time, been affixed to the wall of the dosimetry laboratory, and utilized for auxiliary bar code reading. It had never occurred during his term of supervision there, and he would not have tolerated such a practice. Rick added that, if such a practice had occurred, it could have caused inaccuracies in the TLD database.

John Bowdle was tasked to refine the computer program; "put patches in place to keep it (the system) running," said Rick. "That system was on its way out."

Rick stated that, at times, dosage rates on the TLD database had to be altered to reflect estimated dosage. Dosage disparities could be observed through an analysis of the glow curves on the TLD card. When a faulty glow curve was observed, documentation of the incident would be delivered to Mike Smith. Mike would review the documentation, determine an estimated dosage, and send the information to Linda Smith or Chris Kelley. Linda or Chris would then prepare correction sheets for submission to the X-112 Computer Facility. At the X-112 Facility, the actual changes to the TLD database would be affected. Such paperwork would be sent to the X-112 Facility on a quarterly basis, and primarily concerned temporary TLDs.

Rick stated that he was unaware of such a change being made on the basis of a pending court case (i.e., the allegation of September 8, 1995). He added that such a change would be unethical.

Rick described a file maintained on the TLD database termed as the "bucket dose." Temporary TLDs issued without a badge number could not be assigned, and were simply placed into a pool, or "bucket." Only if a visitor were to call, state the date that they had been on-site, and request dosage information, could the dosimetry information be potentially recovered.

Rick closed by stating that the figures in the TLD database were probably conservative, if anything.

Jeff Cunningham (Interviewed February 2, 1996, @ 1400 hours)

Jeff Cunningham became employed on-site during March 1991. At that time, he was assigned to the dosimetry laboratory to assist in preparing temporary TLDs. New employees received training in how a TLD worked, and continuing training exercises were held by Mike Smith. Existing procedures were explained, and the operation of the machines was taught on an on-the-job basis. Necessary precautions were explained, such as wearing plastic gloves, and the necessity for the usage of yellow lights in the laboratory to reduce ultra-violet exposure to the teflon' (these measures were covered in the quality control procedures). Working with him were Linda Smith, Tom Maggard, Carl Henderson, and Shelley McClurg.

Jeff was so employed for no more than a year, before being assigned to work on the 8800 Series TLD Reader. For about six months during 1993, Jeff was acting supervisor for the laboratory. Reporting to him were Linda Smith, Roberta Cooke, Lorrie Graham, and Chris Kelley. Following that assignment, Jeff was directed to work on the quarterly TLD exchange, a job that he continues in.

Dosimetry was not "really up to snuff" upon Jeff's arrival in 1991. These problems became more noticeable as Mike Smith began defining acceptable limits, and standards for investigation reports.

One major problem was in the large number of temporary TLDs issued. An employee was able to receive an unlimited amount of TLDs each day, and, during 1993, approximately 300 temporary TLDs per day were issued. Total processing approximated 70,000 - 100,000 TLD readings annually.

In addition, a large backlog of Investigation/Situation Reports to be processed had built up, due to the frequency of personnel

changes. There had also been allegations of negligence in the accumulation of that backlog.

Jeff stated, however, that, during his assignment as Dosimetry Laboratory Supervisor, he had never seen anyone scan an improper TLD with a TLD bar code reader. He had seen TLD cards on the wall, but they were no longer in service. Such scanning practices could lead to an unassignable reading, as well as an improper correction factor, in the database.

Jeff stated that, from time to time, incidents could occur that would require the changing of a dosage in the TLD database. Such incidents typically involved temporary TLDs, due to the extended handling measures. A faulty glow curve could indicate an improper reading, and an estimated value would have to be assigned to bring the reading closer to reality. In such cases, the information would be delivered to Mike Smith for evaluation. Mike would review the documentation, and determine an estimated dosage. The estimated dosage would then be sent to Linda Smith, Lorrie Graham, or Chris Kelley. Linda, Lorrie, or Chris would then prepare correction sheets for submission to the X-112 Computer Facility. At the X-112 Facility, the actual changes to the TLD database would be affected. Jeff was unsure of the frequency of such submissions to the X-112 Facility.

Jeff was also unaware of any dosage change requests being initiated on the basis of a pending court case. Such a request, he added, would "give me an aneurism."

Prior to the NVLAP system change-out, scheduled for October 1, 1995, Jeff stated that he had been preparing TLD cards on a daily basis. The NVLAP system was necessary for Nuclear Regulatory Commission (NRC) compliance, and was a number one priority. As Jeff had previously scheduled vacation for late September, however, he departed on a Caribbean cruise on September 17, 1995, intending to return on September 24, 1995. On September 24, 1995, however, Jeff had an attack of appendicitis. He went on to have his appendix removed, and returned to work on Monday, October 2, 1995. Jeff added that he'd heard that it had not gone entirely smoothly.

Jeff stated that he had been heavily involved in the development of the NVLAP external dosimetry system for the 8800 Series TLD Reader. As he had received training from both HARSHAW and Newport News Shipyards, he was qualified on that basis to be a Subject Matter Expert.

Currently, Chris Kelley, Linda Smith, and Steve Lummer were all qualified on the NVLAP system. Chris and Linda were qualified

prior to the NVLAP audit of May, 1995 (although Chris was nominally qualified, Linda was, in fact, not), with their Performance Evaluation Checklists (PECs) being signed off by Jeff as the trainer, and Mike Smith as the evaluator. Those records were verified by the auditor, Jan Cussimano.

Regarding the availability of overtime, Jeff stated that overtime opportunities would generally be determined by technical expertise and qualifications. Availability was also a factor. In essence, while several individuals might have the same job classification and title, not all might have the necessary expertise and training.

Jeff closed by saying that the NVLAP system is far more sensitive than was the old system. It has the ability to measure for a much more 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."

Rob Litten (Interviewed February 5, 1996, @ 0830 hours)

Rob Litten's work primarily deals with internal dosimetry. He would, however, work with the DOELAP 8000C TLD computerbase when problems occurred. He began working with the database during the late 1980s. Problems observed with that database processing data out-of sequence, running programs twice, etc.

Rob initiated the practice of the "bucket dose," a computer file that receives all unassigned dosages. Such dosages would be available should a visitor contact Health Physics with a visit date, and request information regarding his dosage. Substantial dosages (exceeding 100 millirem), however, would be set aside for investigation, along with many others.

Rob stated that he had heard rumors regarding the practice of "reading" TLD cards affixed to the wall of the dosimetry laboratory. He had never witnessed the practice, but had seen bar codes on the wall of the laboratory. Such a practice, Rob felt, could result in a misassignment.

Rob stated that errors were made in individual dosages, due to damaged TLD cards. In those cases, a correction would be made with an estimated value to bring the dosage rates closer to the actual value. These corrections would be made on the conservative side; over-estimating the value, rather than under-estimating the value. On occasion, dosage readings might be reduced to zero, depending on the validity of the glow curve.

Rob said that the dosage rate of an individual should never be changed due to a pending legal action. He added, however, that 26 millirem (the dosage recorded for Jeffery Walburn on an occasion during the Spring of 1994) was simply insignificant. In fact, dosages of 10 millirem or less, being below the lower limit of detection (LLD), were compared by Rob to being in the "grass" on a radar system. As such, these numbers were often reduced to zero on the database, as their value was meaningless (Ron Smith was unaware of, and disagreed with, this practice). Health Physics personnel apparently base their authority for this practice on Department of Energy (DOE) Order 5480.11, Radiation Protection for Occupational Workers, section 9.f.(1), dated December 21, 1988, which states as follows:

> "When in-vivo and/or in-vitro measurements confirm the retention of radionuclides in the body, with respect to evaluating conformance with the limiting value for occupational exposure, the annual effective dose equivalent due to all radionuclides retained in the body from these intakes shall be assessed for as long as the annual effective dose equivalent is 10 mrem or greater."

Clyde Dulin stated, however, that the above statement applied solely to internal (i.e., urinalysis) dosimetry, not to external (i.e., TLD) dosimetry. He went on to say that dosage readings above the LLD (which was in the single digits, not at ten) should not be reduced to zero.

Rob went on to say that Guard Force Officer Paul Walton, B/58328, had recently requested his dosage records. Rob then asked me if he should release those records to Paul. After ascertaining that the standard practice was to release such records to employees after they signed a release form, I directed him to follow that standard practice, and release the records to the employee.

Regarding training for the NVLAP computerbase, Rob believed that both Chris Kelley and Linda Smith had been trained on the system prior to the NVLAP audit of May 1995 (Linda had not). He said that they had probably been trained on the operation of the system, although they might not have had hands-on training prior to the audit.

Rob stated that on Saturday, September 30, 1995, he had worked overtime to prepare for the NVLAP TLD changeout. Working with him were Chris Kelley, Linda Smith, Mike Smith, and Lois Howard. Most of the employees departed during the afternoon, but Rob and Mike worked late. More assistance was needed, so Angie Litten, Elaine Litten, and Linda Blount were brought in to assist in assembling

TLD badges. Mike Smith went on to work all night long into the morning of Sunday, October 1, 1995 (Ron Wetherell later verified that Mike's hourly claim for that day had been 13.5 hours overtime. and that Rob's hourly claim had been for 18 hours. If both had worked together, it would appear that Mike may indeed have subtracted his time off-site from his hourly claim).

Rob speculated that more overtime was available on the NVLAP system than on the existing TLD database, as the old system was phasing down, and the new system was phasing up. Jeff Cunningham was far more skilled on the new system than were Linda or Chris, and that fact accounted for his higher overtime figures.

Sally Cunningham (Interviewed February 5, 1996, @ 1030 hours)

Sally Cunningham stated that she had met with Chris Kelley on two occasions during 1995. At that time, Sally was handling employee concerns for LMUS.

On her first visit, Chris wanted to know if a supervisor, Mike Smith, could force her to work overtime, against her will. The answer was, of course, "yes." Cunningham suggested that Chris speak with Smith to work the problem out to their mutual benefit.

On her second visit, Chris had concerns regarding favoritism by supervisors toward employees. Chris felt that the former U. S. Navy nuclear personnel were receiving favoritism in promotions and overtime. Jeff Cunningham, a former sailor, was working on a "new TLD system," and no one else was receiving training for it. Chris' concern was that this situation would result in Jeff being placed in line for promotion over the other employees.

In addition, a disabled employee was with her, and that employee had complaints about nicknames being used against him, regarding the disability. He also felt that he had been reassigned, simply due to his disability.

To handle these issues, Sally spoke with Health Physics supervision. She was unable, however, to prove Chris' allegations, although she was able to prove that the disabled individual had not been moved due to his disability.

Chris also spoke of an incident where a supervisor had directed the dosage of an individual to be changed to facilitate a pending legal action. Sally attempted to contact Linda Smith for more information, but Linda never called her back (Linda stated, however, that Sally had never, to her knowledge, made any attempt

to contact her). Sally believed that Chris had later requested that she drop the issue.

Sally stated that Health Physics had employee problems of long duration. During the past five years, a lot of new employees had entered the department, while department managers and division managers were being continually reshuffled. This combination, she felt, had been responsible for a certain amount of the employee unrest.

Ron Smith (Interviewed February 5, 1996, @ 1215 hours)

Ron Smith stated that only a limited amount of information had been entered into the new TLD database. The integrity of that database was sound.

Several problems existed with the old TLD database. Due to past practices of issuing temporary TLDs when a TLD was misplaced, some quarterly dosage readings may be missing. "What has been read from the TLD cards into the TLD database should be correct," Ron stated. There were simply some gaps in historical records. Efforts were currently underway to examine those records back to July 1993 to bring them further into compliance. That responsibility had been assigned to Mike Smith, with a completion date of October 1, 1995. Mike, with the assistance of Clyde Dulin, had successfully researched the majority of those records.

Ron had not heard of the practice of "reading" TLD cards from the wall of the X-1000 Dosimetry Laboratory. He added that he had arrived in late 1994, by which time Lorrie Graham, the employee who had allegedly been involved with the practice, had bid out to training. He said that a large number of unassigned readings were in the database, and that such a practice might account for the size of that number. All doses that were not listed as "zero" should have been investigated by now, Ron stated.

Regarding the NVLAP system verification audit of April, 1995, Ron recalled Mike Smith saying (prior to the audit) that he needed to get his employees trained. Ron had also seen and approved the training material (PECs), and had felt it to be of good quality. He had no personal knowledge of the training taking place, however.

Ron was also familiar with the necessity of being able to correct dosages in the TLD database. He was not, however, familiar with the practice of "zeroing out" dosages of ten millirem or below. He had recently signed a dosage rate for a contractor that was listed as eight millirem, a figure which had obviously not been "zeroed out." He was also not aware of the practice of "zeroing out"

dosages to assist the corporation in a legal action. "You don't play with TLD records," said Ron.

The issue of overtime assignment was then addressed by Ron. Jeff Cunningham and Mike Smith had accrued extensive overtime during 1995, he said, due to their work with the new TLD database. Jeff and Mike had experience with the new system, while dosimetry laboratory employees were more experienced with the old system. This may have led other employees to the conclusion that they were being discriminated against on this issue, without taking into account that only Jeff and Mike had the required expertise to work with the new system.

Ron dismissed the allegation that Mike Smith had made a false overtime claim for his work on September 30, 1995. Mike had, if anything, typically worked more hours than he claimed compensation for.

Regarding recent job reassignments, Ron stated that Chris Kelley and Steve Lummer were the only qualified Health Physics technicians. As Steve had just come in from the field, Chris was assigned to work in that area. Ron had earlier mentioned the assignment possibility to Chris, and she had voiced no preference between field work and laboratory dosimetry. Although the decision had been Ron's, he did not know how a document had been generated two weeks before his decision reflecting the move.

Lorrie Graham (Interviewed February 5, 1996, @ 1400 hours)

Lorrie Graham was assigned to the X-1000 Dosimetry Laboratory in May 1993. Her duties involved the "changing out" of TLD badges, and entering the information into the TLD database. Working with her were Chris Kelley, Linda Smith, Roberta Cooke, Carl Henderson, and Richard Caudill.

Lorrie stated that Mike Smith rarely ever entered the Dosimetry Laboratory. On one occasion, three months passed with Lorrie seeing Mike only during lunch break. Much of her work was thus self-directed.

Part of Lorrie's assignment involved the analysis of glow curves. When a glow curve appeared to be inconsistent, information for an investigation report would be prepared by Lorrie. Upon consolidating the information, Lorrie would deliver the resulting paperwork to Linda Smith, who would evaluate the information, and determine corrective actions.

The problem of entering TLD information "out of sequence" was discussed by Graham. When TLD information was entered out of chronological sequence, the computer database could produce information that would have to be corrected manually. Lorrie stated that during her time at the laboratory, however, TLD cards were processed into the TLD database chronologically, a practice that should have precluded any such sequential problems.

On occasion, problems would develop when a bar code on a dosimeter would not "scan." On those occasions, Lorrie would take one of the following actions:

- **TLDs Returned from the Field**

  If the bar code would not "scan", Lorrie would enter the numbers by hand. If the number could not be read (a very rare occurrence), a code would be entered that would allow Lorrie to identify which TLD and which badge required matching.

- **Preparing TLDs for Reissue**

  When preparing TLDs for reissue, numbers were occasionally illegible. Such TLDs were taken out of service.

- When preparing TLDs for issue; the computer would on occasion indicate that the bar-code number had already been assigned. When that occurred, the identification number to which the TLD had been assigned would be noted for further correction. To assist in making these corrections, Lorrie acknowledged that she did maintain defective, unassigned TLD cards on the wall of the dosimetry laboratory. During the processing of temporary TLD information, Lorrie said that the computer would, at times, indicate that the new TLD card numbers had already been assigned (John Bowdle 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, Lorrie 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 Lorrie 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, fewer and fewer corrections were required, until, eventually, all necessary corrections had been made.

Lorrie stated that John Bowdle was aware of this practice, as were others. As it would not result in the misassignment of a dosage rate, she had never been directed to cease the practice.

John Bowdle stated, however, such a practice would simply "multiply the work later on." He said that he had never seen a bar code that was absolutely unreadable for direct entry, even if it wouldn't scan. The idea that the computer might indicate that TLD numbers were already assigned was also questioned by John. In addition, the entry of false TLD numbers corrupted the system. Far from "fewer and fewer corrections" being required, the situation would snowball, making it virtually unmatchable.

John stated that although this practice resulted in missing exposures, it should not have resulted in the false assignment of a dosage.

In short, John said, while this practice would not have resulted in false information being entered, a lot of missing information would have been circulating around within the database. To him, this was simply a poor practice.

Lorrie closed by saying that she felt that the information in the DOELAP computer database should be basically reliable.

Lorrie departed the Dosimetry Laboratory during the summer of 1994. She went into the field as a Health Physics technician for a time, until she eventually obtained a position in plant training.

Clyde Dulin (Interviewed February 6, 1996, @ 0845 hours)

Clyde Dulin stated that the DOELAP TLD database was basically valid. "It is mostly intact," said Clyde, 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 Clyde 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 to amend the information contained in the DOELAP TLD Database. The vast majority of these dosages (well above 90%) were "zero."

At one time (prior to 1993), assignment of TLD dosages for employees and subcontractors/consultants (File #PRNG26) was a Personnel Department responsibility. During the 1993 timeframe, Personnel Department unilaterally abdicated responsibility, leaving it to the Security Department and Health Physics Department to assume responsibility. This action was not relayed to Security Department or to Health Physics personnel, and was not discovered until approximately nine months after the unilateral decision.

Security Department personnel then began entering the information into the TLD database. Unfortunately, not all personnel information was entered into the computer system.

The Martin Marietta split of July 1993 created further problems for Health Physics documentation. Currently, there are Lockheed Martin Energy Systems, Inc. (LMES) employees who appear on both the LMES and the LMUS computer files; a problematic situation for Health Physics accountability.

During late 1994, the responsibility for entering the demographic data into the PRNG25 file structures became solely a Health Physics responsibility. Rob Litten coordinated this effort for LMUS Health Physics, and provided linkage with 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 Clyde for exposure records on site employees and subcontractors/consultants with security badge numbers would approach or exceed 98% validity.

NVLAP preparation was then coming on line. To operate a more controlled database, a separate Health Physics Visitor Control Center was placed into effect, giving Health Physics ultimate control of the visitor and contractor demographic (and, thus, the dosage) information.

Clyde stated that Rob Litten's practice of reducing dosages of ten millirem or less to zero (based on DOE Order 5480.11, 9.f.(1)) on the TLD database applied to internal dosimetry only. It did not apply to external dosimetry, i.e., TLD dosimetry. Clyde added that dosages gained from external dosimetry above the lower limit of detection (LLD) should never be reduced to zero on the TLD database. He added that the LLD was in the single digits, not ten.

Clyde went on to say that when a dosage was requested to be delivered off-site, there was no policy in place to reduce a dosage to zero. The actual dosage would be released.

Clyde stated that he had no recollection of the meeting described by Linda Smith in which Clyde, Gary Medukas and Mike Smith decided to reduce Jeffery Walburn's dosage from 26 millirem to zero.

To change a dosage reading maintained on the DOELAP database, a "corrections run" would be initiated. Linda Smith, or another dosimetry laboratory clerk, would typically fill out a correction form, and deliver it to the X-112 Computer Facility for entry into the Digital Equipment Corporation (DEC) computer system. Clyde added, however, that it would be possible for himself, Rob Litten, Mike Smith, and the clerks in the dosimetry group to independently issue a correction form to the X-112 Facility for a dosage change. That same individual could also pick up the confirmatory print-out detailing the change from X-112 personnel. Such an action would, of course, be unethical.

Clyde then entered the DEC-10 1022 computer file to find the historical dosage for Jeffery Walburn, as recorded in the March 1995 data for annual personnel dosage reports. Individualized reports with results from the TLD files are sent to employees and contractors on an annual basis, and Jeffery should have received a copy of the dosage listed in this report. His records, recorded on the IHTD20.ID? file, reflected dosages of 26 shallow/26 deep, which were his original readings before the alleged change of September 8, 1994.

Mike Smith (Interviewed February 7, 1996, @ 1230 hours)

Mike was hired into the dosimetry program during late 1990 by former Health Physics Department Manager Steve Warren. "That system has been a series of catastrophes since I've been there," said Mike Smith. "It is an overused, dying system." In addition, "the personnel and knowledge was not great." As time went on, Mike Smith began to devote more of his time to the new NVLAP system to replace the existing system.

During 1994, Lorrie Graham, Chris Kelley, Linda Smith, and Roberta Cooke were working with Mike in Health Physics. "I seem to end up with the problem children." Tom Maggard was the supervisor for the dosimetry laboratory.

Upon Lorrie's departure during mid- 1994, Linda brought a box of approximately 200+ unresolved investigation reports to Mike. These investigations were generated by the technicians, and brought to

Mike for resolution. Between 500 and 1000 such reports were evaluated by Mike per quarter, and it was a large-scale, on-going job.

The sheer volume of these reports prevented Mike from conducting an extensive investigation for each one. On occasion, he would have to change exposure figures, due to an improper reading. The change would be arrived at by finding the largest dose in the employee's history, and using that to estimate a revised dosage. This revised dosage would be a conservative dosage, and would most likely be higher than the actual dosage received.

The subject of the dosage change of September 8, 1994 was then discussed. Jeffery Walburn had three sets of exposure readings of 26 shallow/26 deep, which had been based on a 1990 exposure reading. On September 8, 1994, Mike had allegedly directed these last three sets of readings to be changed to 0 shallow/0 deep, due to a legal action that Jeffery had launched against the corporation. The figures were later -- apparently surreptitiously -- returned to their previous readings. Mike stated that he had no recollection of the incident, nor of a meeting with Clyde Dulin and Gary Medukas in which it was jointly decided that Jeffery Walburn's dosage should be zeroed out to assist the corporation with a pending court case. Neither had he any recollection of having changed those readings back to the previous figures. He stated that he had never directed a dosage change due to a court case under any circumstances. Mike qualified his lack of recollection by saying that he had authorized "thousands" of legitimate dosage changes during calendar year 1995 (far fewer changes are currently necessary). Mike stated that Clyde Dulin, or Linda Smith might have been able to change a dosage on their own. He, himself, would not have known who to contact in the X-112 to affect such a change.

Mike added, however, by looking at the figures, the dosage figures that were zeroed out, in fact, should have been zeros. The reason for that was that the original 1990 figures on which the subsequent figures had been based had been contested themselves (Ron Smith and Gary Medukas strongly disagreed, and said that no justifiable reason existed for changing the figures). The only way that the dosages would have then been returned to their previous figures would have been if someone had said that the changes had not been consistent with policy.

On Saturday, September 30, 1995, Mike was working overtime in preparation for the new badge changeout, which was going into effect on October 1, 1995. During that morning, he had departed plantsite at approximately 0700 hours to attend a class at the Chillicothe Branch of Ohio University. Mike didn't recall what

time he had returned, but he thought he might have worked all night into the following Sunday morning. "I don't have a habit of overcharging the company, if that's what you mean," said Mike. He added that he would not charge the company for time spent attending college.

Mike stated that at the time of the NVLAP audit of 1995, Health Physics had no one qualified on the equipment. Chris Kelley had a limited amount of training (PECs, etc.), but was not fully qualified.

By September, 1995, when Chris Kelley and Linda Smith received external dosimetry authorizations, they were competent to work on the equipment. "They've gone through the basic training," said Mike.

Mike stated that he had not spent much time in the dosimetry laboratory; very little, in fact. The priority had been to "get the new system up and running," and that was where his efforts were directed.

Mike appeared shocked when the allegation concerning the dosage change of September 8, 1994 was mentioned. "Don," he said, "there is no way that I'd cheat at work." Mike later stated that he was shocked, not only that such an incident might occur, but that he might be accused of directing such a thing.

Mike Smith (Interviewed February 9, 1996, @ 1000 hours)

Upon being given a copy of the report prepared on September 7, 1994, Mike Smith stated that he did not recall the situation. He added, however, that had the report been given to him on September 7, 1994, and he had observed the December 31, 1990 figure of 23 shallow/26 deep, he would have directed those figures to be changed to 26 shallow/26 deep, and the subsequent figures of 26 shallow/26 deep that had been estimated from the 1990 figures to be reduced to 0 shallow/0 deep.

Mike Smith stated that he would have changed the figures if he had known it involved a court case or not, in order to supply correct data. If he had said something like, "It's for a court case. Zero is easier to read," it would have probably been in the context of an off-hand, satirical remark.

Mike stated that he had no information to show why these figures had been subsequently changed back to their previous numbers. He added that he was unable to see any justification for returning

them to their original status, as the original numbers had been in error.

Mike Smith (Interviewed February 13, 1996, @ 1445 hours)

Regarding dosage codes, Mike Smith stated that he used code 12 and code 15 almost exclusively. Mike said that code 12 meant that the dosage was estimated, while code 15 meant that the dosage was calculated. Mike was unaware of what code 10 implied.

Mike said that, if initiating a "TLD Corrections" form in person, he would advise dosimetry laboratory personnel of the dosages to be changed, and whether the original dosages were calculated or estimated. Laboratory personnel would then "look up" the code, and place it by the corrected figure on the form.

Mike stated that he had been required to give a deposition during the Fall of 1994. He didn't specifically recall being asked about Jeffery Walburn at the deposition. "No," Mike stated, "if they asked me about Walburn, I didn't remember."

Mike denied that he had lied under oath during the deposition. "Absolutely not," said Mike. "I didn't do this. This is insane. I don't remember lying under oath. I don't remember changing these doses. And I certainly don't remember saying, 'Oops,' and changing them back. This flies in the face of what I've done here for five years."

Mike stated that he felt that Linda Smith, if anyone, would have been the most likely to have changed the dosage figures on Jeffery's historical file back to their previous numbers. Mike stated that on the previous Friday (February 9, 1996), at 2200 hours, Jeff Cunningham told him that Linda was angry at him, because she thought he had lied at the deposition of November 22, 1996. "She thinks I lied at the deposition. She's mad at me, because she thinks I've had a hand in it (Linda's lawsuit)."

Mike added that within the last two weeks, Ron Smith had advised him that, as a result of the settlement of Linda's lawsuit, she had been promoted.

Regarding the NVLAP certification of May, 1995, Mike stated that the "Laboratory Technical Supervisor" mentioned was Jeff Cunningham, and the other "Staff Member" listed as being "fully trained and qualified to process dosimeters" was Chris Kelley.

Gary Medukas (interviewed February 8, 1996 @ 1230 hours)

Gary Medukas stated that he became Health Physics Department Head during October 1993. From that time until the July/August timeframe, Mike Smith reported directly to Gary. "I did a lot of coaching and counselling with Mike," said Gary. "He wasn't very polished as a manager," as he simply hadn't had the experience.

Gary said that Mike Smith spent little time in the dosimetry laboratory and the DOELAP TLD database. Mike's major priority was in bringing the NVLAP dosimetry system on line, and virtually all of his time was spent there.

Gary stated that he "did not give that system (the DOELAP system) very much when it came to accuracy. The system built around that database was not very reliable." The problems revolved around people. Problems developed with reading the old badges, imputing the data, preparing the badges, and the Guard Force interface.

There were multiple issues: lost badges, and badges that were never read. At times, if an employee who was assigned a permanent badge received temporary badges on occasion, both the permanent badge and the temporary badges would be read, giving a false high - and conservative - reading. In addition, missing readings were assigned the highest previous reading, giving a false high - and again conservative - reading.

A bad reading might occur through the use of worn-out TLDs. In addition, the original algorithm placed into the TLDs could not, to Gary's mind, detect some of the material on site. Due to these problems, valid readings were not always gained. In such cases, the highest - and a conservative - previous reading would be assigned to the dosage.

At the time of the May 1995 NVLAP audit, Chris Kelley was not, to Gary's mind, trained to process dosimeters. Jeff Cunningham might have been qualified, but no one else would have been. Gary did not know why the auditor, Jan Cussimano, would have thought otherwise. At the time of the audit, Health Physics was not processing the new badges, and thus Health Physics employees would not have been required to have training completed.

Gary recalled a request for a dose history for Jeffery Walburn being requested. Such information would have been supplied on a POEF letterhead. Gary said that (to his knowledge), whatever information would have been on the database would have been supplied to Jeffery. Corrections could have been made, but he doubted it, as dosages in excess of 500 millirem were recently

released to two employees on a legal request. No attempt was made to correct those figures.

Gary added that he had no recollection of a meeting with Clyde Dulin and Mike Smith in which the issue of Jeffery Walburn's dosage was discussed. Gary stated that he would never direct such a change, and that, after all, "26 (millirem) is a meaningless number." The fact that the dosage was later changed back from 0 - 0 to 26 - 26 also seemed unusual to Gary.

The issue may exist of Linda Smith being former Health Physics Department Manager Mark Granus's mother-in-law, and thus may be holding Mike Smith responsible for Mark's termination. When asked about the significance of this issue, however, Gary stated that Mark Granus had not been on bad terms with Mike Smith upon his (Mark's) departure. Mark did not hold Mike responsible for his termination, as he knew very well who was responsible. In addition, it was unclear what Linda's feelings for Mark were; in short, she probably "thought he was an asshole, but he was a good father." As a result, Gary thought it unlikely that Linda would take measures against Mike out of deference to Mark.

The Medical Department advised the investigative team that Jeffery Walburn had requested his Health Physics records on September 16, 1994. The cover sheet on that request indicates that the requested information was transmitted to Jeffery on November 3, 1994. That request would have been transmitted to the Health Physics Department, but when Gary Medukas checked the records, the response letter could not be located. Gary found that to be "odd."

The question still remains what, if anything, was supplied to the employee per that request. If the database remained the same as of that date, then the employee was provided the altered data.

Jim Thompson (Interviewed February 13, 1996, @ 1345 hours)

Jim Thompson stated that he had personally been involved in the routine changes of dosages. When asked specifically if he would correct data that was being requested by an employee or a court subpoena, he stated that he could imagine "going over these reads" when a court case was involved. "If I'm going to send something out, I'm going to review the data," Jim stated (this is the same position held by Mike Smith. Having said that, Jim had no recollection of the incident of September 8, 1994.

Jim recalled an information request regarding Jeffery Walburn's bioassay data from Industrial Hygiene. He believe the request to

have originated during the latter part of 1994, but didn't recall any request for dosage information, however.

Jim stated that he was the privacy officer for Internal Dosimetry only. Dr. Walter Lyon was the privacy officer for the medical department, and handled those requests on his own.

DFB

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