Chapter 9

UT-Battelle Takes Over, April-November 2000

The New Regime

1 April 2000 was the day that UT-Battelle took over ORNL from Lockheed Martin. For the first month or so, the tension among the managers and supervisors at the Lab seemed palpable. They speculated as to what changes UT-B was going to make, who would be moved where, and so forth. The ten or twelve people at the top of the Lockheed Martin tree were out (although some were retained in other positions) and their UT-B replacements had been announced. But additional replacements were to be made.

We in ORP, OSHP (industrial hygiene/industrial safety, or IH/IS), and ONS (nuclear safety) already knew about our reorganization. As I noted in the last chapter, it had already been announced that the virtual unknown Carol Scott had been appointed to be head of a new division incorporating our three organizations, called the Operational Safety Services Division (OSSD), although the official union was not to occur until 1 October. Sims was appointed to be her deputy, arguably a half-step demotion for him in status. Mark Kohring, head of ONS, had pitched a big fit -- in writing -- on hearing that he would not only no longer be a division (office) director but would have to answer to Scott, whose qualifications for her position were markedly inferior to his and many others. He was almost fired over this, we heard, but UT-B decided on a more moderate punishment: instead of being reduced one rank, to section head (as the OSHP head was in the reorganization), he was instead demoted two ranks, to group leader. I surmise that they did not dare to fire the head of the nuclear safety organization over a verbal protest of an assignment, especially a demotion. His replacement as section head was a Battelle person from PNNL, I believe.

There were others who were moved up or down or sideways as well to make room for people that UT-B wanted to bring in. Among the most notable new people were two "loaned servants" from Duke Engineering & Services Company, who became the new head and deputy head of RRD. Someone told me that this was to make Battelle's lack of experience in running a reactor facility more palatable to DOE, but it also seemed to indicate a lack of trust in the present RRD management. I was of two minds about it. On the one hand, there appeared to be a management vacuum at RRD's top level since Glovier had "retired" -- first there had been an acting manager, then a new manager who left after less than a year, and then another acting manager. There was also the lamentable safety attitude of RRD management, especially at the section head and group leader level, with some exceptions; strong new management could be a plus. But on the other hand, the noises UT-B had been making so far did not incline one to be optimistic about their commitment to safety -- it seemed that their emphasis would be on production.

A very significant quotation we began to hear at this time was that Dr. William "Bill" Madia (the new UT-B head of ORNL) had said at a meeting "We're all in the same boat, and swimmers will be shot". Everybody I knew interpreted this the same way: that anybody deviating from the party line or viewed as not supporting the team would be fired. Another ominous change was that Steve Stow, the ORNL ethics officer under Lockheed Martin, was now the ORNL "ombudsman" for UT-B. These two titles have different meanings, I believe, with the first implying some sort of independence and authority and the second merely meaning an interceder or representative for a petitioner. This shift was another indication of where ORNL was headed under UT-B.

On 17 April 2000, Mlekodaj, Mei, Geber, Utrera, and I met regarding the AEG situation, especially the work that AEG would be losing by the revision of RP-310 to allow line managers to pick their own reviewers. Mlekodaj said of line management, "We have to kiss their feet"; I contended that there was a middle ground between defiance and groveling. Mei gave us her usual "Be conciliatory, give them a choice" line, but I objected to that -- there were situations in which you could not offer a choice. Mlekodaj

told us to document everything (i.e., to show what our recommendations and their actions were) and not tick anybody off -- to do the reviews, make recommendations, and accept the results. Hunt had told Sims some baloney about how "supertechs" did the operational reviews at other sites, but Mlekodaj informed Sims that the supertechs did only certain reviews of limited scope (like our Level 2 reviews), not all the operational reviews. In particular, one Y-12 rad engineer we knew told Mlekodaj that once their trigger levels were hit, rad engineers, not techs, did the reviews. Someone reported that at Building 3047, an operation involving the removal of a big hot cell antechamber was performed, with levels of several millions of dpm -- and no RPP-310 review.

We also discussed the low level of influence and regard that AEG and RCS seemed to be held in by Sims and Scott. Mlekodaj said that he and Mei tried to keep me in the background because my very name now evoked a "knee-jerk reaction" in some circles. Recently, he noted, a committee (unspecified) was being formed and Sims suggested that I be on it; Kohring, head of ONS, adamantly said no. (I don't believe that I did anything to irritate Kohring personally -- his antagonism, which came as a complete surprise to me, probably had to do with my RORC activities.) I replied to Mlekodaj that I hoped that management would always require an explanation for any such exclusions, because this limited my professional opportunities. Mlekodaj told us that Hunt said he had considered asking Mlekodaj that I be banned from ALARA Working Committee meetings; Mlekodaj said that this was because in discussing an REDC operation at an AWC meeting, I had said that Gary Kelly, REDC complex leader, had overlooked something. Mlekodaj and Mei were both at that meeting and hadn't thought that what I said was insulting to Kelly or RSS, especially since, as Mlekodaj pointed out to Sims, I had said at the same time that Kelly was a capable guy. Mei said she thought that Hunt's objection was to mentioning Kelly's name at all. (However, since we had been talking about REDC, everyone at the meeting would have known who it was anyway.) Mlekodaj concluded by saying that the bad history between RSS and AEG with regard to REDC dated from Hunt's not recalibrating Kelly and Sims' not recalibrating Hunt (with regard to procedure violations, etc.). Someone reminded us that Perkins had been heard to say several years ago that he had been tasked to form a rad engineering group within RSS and that upon hearing that, Mlekodaj had gone to Sims and Sims had spoken to Hunt and quashed it. (But note that as the rest of my narrative shows, clearly RSS was having some success in taking over AEG functions by other means.)

Mei and Mlekodaj told us that at a Reengineering Meeting, the members responded to Mlekodaj's statement that the rad engineers were 3 full-time equivalents by saying that that seemed like a bargain. However, a different committee might come to a different conclusion (i.e., if push came to shove financially, cuts might be viewed as justified). But as noted at this meeting, we had heard even before UT-B took over that there probably would be some layoffs down the road because UT-B had promised DOE to trim $20,000,000 from the budget. After UT-B took over, it was made clear that there would indeed be layoffs. Exactly when was not communicated to us peons, but we expected that the layoffees would get at least two months' notice, as had happened in all past layoffs within memory.

On 2 May 2000, Sims struck up a conversation with me as he passed by. He said that Scott had asked for and gotten her own charge number, because Dave Milan, who held essentially the same position before the reorganization as Scott now had (i.e., manager of the three safety organizations), had taken his budget with him -- although, since his new position was technically in a different area it should have had its own budget and Scott should have gotten the Milan money. Sims also told me that Leah Dever, head of DOE-ORO, told UT-B not to announce the layoffs in July, to take effect in September (i.e., at the end of the fiscal year), but to wait until after the 2000 election in November. Sims said that he himself had seen the Dever letter, which he said was apparently written by "Jeff Smith" for Dever. (I assume that this was the Jeff Smith who was the UT-Battelle vice president for operations). Sims remarked that "It's some letter" (i.e.., that it was surprisingly explicit in what it stated).

Thus, Sims said, UT-B was in a financial bind because they had to carry the future layoffees on the payroll two months longer. To get more money, they were going to raise the internal space (room) charges 17%, which would cost the former ORP an extra $34,000. He remarked that Myint Thein (head of the dosimetry and records section) was bitter about UT-B's plan to scoop up all the "profits" from Thein's people's "Work-for-Others" bioassays for Bechtel Jacobs, since he needed most of that money to add more staff and lab facilities to cover the increased work. (Thein's people had been doing a lot of overtime to keep up thus far, but could not do so indefinitely, as Thein himself told me later.) The CMO division (financial, personnel, and other administrative functions) was taking most of the overhead, not the safety divisions; their chunk of the overhead was huge compared to ESH&Q's. There were now more high managers at ORNL than ever before, even though UT-B was supposed to be cutting costs. Shaking his head, Sims said that the two Duke Engineering persons at HFIR (the new RRD director and his deputy) were costing RRD a total of $750,000 a year – this he had directly from the RRD reactor manager, J. Ed Lee. Sims also said with some satisfaction that Lockheed Martin, corporate parent of Lockheed Martin Energy Research, had earlier made its ORNL high managers pay the DOE fine for a HFIR P-AAA violation (he didn't specify which one) by taking it out of their bonuses. Sims estimated that it cost former ORNL director Trivelpiece $30,000 and another high manager more than $20,000.

Sims told me too that an experienced rad tech -- call him Z -- quit to work for Bechtel Jacobs (BJC), but after only one day asked to return to ORNL and was allowed to do so. Sims said that Z reported that BJC's ways "scared him" and that Z was alarmed at some things BJC asked him to do (i.e., that were counter to good practices). Sims also said that Eugene "Gene" McNeese, director of Chem Tech, was called on the carpet by Madia for something; Sims did not say what it was for, but he said that Kelly Beierschmitt (ES&H vice president and Scott's new boss) had "turned him [McNeese] in". UT-B was mulling over "the look of" our procedures, with the thought being that these would be revised to look just like those of PNNL and BNL (both of which Battelle also ran).

Sims mentioned (as he had previously) his concern about UT-B's wish to turn the ORNL site into a "campus", as though it were a university. UT-B wanted to "take the fences down", get rid of the guard stations, and make access to the site more open. Their thought was that instead of having site people have to clear their visitors' entry a day in advance, the visitors should just be able to walk up -- or even drive up -- to the buildings. The buildings would then be kept locked for security reasons. This went completely counter to the general practice at the site, which was that the perimeter was guarded but the buildings were unlocked, except for individual offices, facilities with expensive or dangerous equipment (like the reactor), etc. Graduate students would still be able to visit the library at 2:00 am if they chose to (and (alas) still be able to walk away with valuable books), but everybody would have to have special keys or keycards to visit individual buildings. If a meeting were called at a building that we had no key for, the host would have to come to an outer door to let us in. Many ESH&Q people would have to have keys that opened virtually every building because of their potential to have to visit any building or facility. But Sims' main concern was that anybody could walk up to the contaminated ponds and like areas. His example was a couple of young kids who might sneak in at night to fish or catch frogs in the ponds. He felt that the UT-B managers to whom he had tried to make this point did not get it -- they were so carried away by their big idea that they did not want to hear any quibbles. He was told so explicitly.

As I noted earlier, I had stopped trying to talk to Sims after he granted the exemption to Chem Tech because I regarded him as a sellout. I was grieved by that because I liked him and I found it too painful to chat with him. But when he initiated the conversation above, I looked upon it as a opportunity to learn something and to give him some information as well. I said that regarding 3019, Thein had told me that his son, an employee of a Chem Tech subcontractor, was given a manual and told to run a radionuclide-calculation computer program (ORIGEN) on which he had no training. Sims had already heard this from Thein. I also told him about Linda Gilpin's observation to me that the younger Thein's ORIGEN results were not quite in accordance with hers because he was using an older bastardized or bootleg version.

The reader should note that DOE later denied to The Oak Ridger (newspaper) that it had sent any "hold off on the layoffs until after the election" letter. But I believe that Sims' information was correct and that he actually did see the letter. Of course, DOE was famous for never making a decision until it saw which way the political winds were blowing, but this was pretty far out there even for them. I conjecture that if the letter was actually composed by a UT-B person, it was because UT-B insisted, wisely, that DOE's demand be put in writing, to protect UT-B later. Subsequent events supported the allegation that DOE directed the long delay in the layoff, although perhaps not UT-B's postponement of the announcement as to who the future layoffees were. I do not know why UT-B did not want to let the people chosen to be laid off know it in advance; some businesses, of course, inform a person he is being laid off and then have a guard escort him immediately to the door, but this had never been the practice at ORNL. The net effect was that all the potential layoffees were to be left in uncertainty all the extra time in October and November, until after the election. But the reader will recall that due to the Florida election results being challenged (the "hanging chads" and all that), the election was not decided on election day, but over two weeks later, during all of which time UT-B was still holding off its announcement.

Besides what Sims told me above, we had heard elsewhere that UT-B was "surtaxing" the divisions, including those supported a lot on overhead, in order to get more operating funds in the near term -- I believe this was even more than the space charge increase because there seemed to be some fishy budget allocations. The safety organizations particularly suffered.

Regarding Z's experience, we almost always had techs seek to come to ORNL from other prime and subcontractor organizations, not the other way around: benefits were better and standards were higher. We had heard some stories about how things were done "out there". But Z had been offered more money by BJC -- I think he was going to be made a supervisor -- which was important because his wife had elected to work part-time and they had two young children. He had been trained well at ORNL, hence his reluctance to do things that went against the grain. I don't mean this as a criticism of BJC, because as I will note later, they did things in the rad engineering area that ORNL was deficient in; besides, we heard in October 2000 that Bechtel Jacobs had 5 or 6 rad techs at MSRE, versus 3 in the days when Chem Tech managed it.). But it did seem that in more routine areas of contamination control, other contractors were allowed to be less rigorous.

On 3 May 2000, Geber forwarded me a message that Madia had sent out. In it, Madia said that during UT-B's first 30 days on the job, they learned that ORNL was facing an overhead budget shortfall of nearly $9 million for the remainder of Fiscal Year 2000. This was "a serious financial challenge that requires us to take immediate actions". He said that the shortfall was the result of two factors. First, ORNL's FY2000 budget, which was developed in the previous year, had anticipated a recovery base substantially higher than was resulting. Second, ORNL had incurred a number of new overhead costs that were not anticipated in the current budget, including higher than planned costs for deactivation of ORNL facilities located at Y-12, unplanned costs for the UT-B contract, and a more than $2 million increase in security costs associated with the new Wackenhut guard contract. Normally, he continued, some of the unanticipated costs would have been defrayed with funds from the ORNL central reserve fund, but this $3.5 million fund was overcommitted by more than $500,000 as of 1 April. UT-B would address the shortfall in various ways. Since both customers and staff had stressed the importance of reducing the 41.7% composite overhead rate, that was the Number 1 priority. UT-B would therefore reduce overhead costs by $5.5 million in various ways, <u>including by reducing overhead costs of various support organizations</u>; additional revenue would be raised by increasing the space chargeback rates by an average of 16%, shifting unsupported craft division staff to "campus revitalization or on-site cleanup activities", and increasing the material handling rate from 12.1% to 13.6%. UT-B would also build back the central reserve fund by "seeking relief from DOE on the various "unfunded mandates" that we have encountered". Unfortunately, this would address only the problem of FY2000, not make ORNL

competitive in future years; high overhead costs "in both support and research organizations", were a key barrier to increasing ORNL's business volume and its impact on DOE missions and programs. "Our strong desire is not to reduce staff, but...we must consider all options to make us financially viable."

We had heard (e.g., from Sims) that UT-B had waived a closeout accounting when they took over from Lockheed Martin; this failure to perform a standard "due diligence" action was one of the first indications to us of Battelle's recklessness. So Geber asked rhetorically on his cover memo for the Madia message above if the information it contained was actually known in advance by UT-B and was "the real reason" for their not insisting on a closeout accounting. The message also bore out what Sims had told me out the space costs, etc.

On 18 July 2000, another message from Madia to all ORNL employees reiterated the message that staff and customers viewed the overhead as too high and this put ORNL at a competitive disadvantage. Thus one of UT-B's key goals for ORNL was to "deliver the maximum amount of R&D per dollar spent by our customers". This seems to be the first appearance of the estimate that UT-B gave for the amount by which costs needed to be reduced: $30 million over two years, out of an estimated annual indirect operating cost of $237 million. Of the $30 million, some $20 million was to be saved the first year by various means and $10 million was to be saved the second year by "planned investments in operational improvements to our business processes and systems". Madia said that "there will undoubtedly be staffing impacts from these actions" and that UT-B intended to identify and announce in September all staffing impacts resulting from the process that was just beginning. An attached chart indicated that the "Organizational Burden" (including ES&H) was to be reduced from $92 million to $82 million from FY2000 to FY2001, while "LDRD"(?) and "Program Development" would not be reduced at all but would stay constant at $15 million and $6.0 million respectively and "Operational Improvements" would actually increase from $0 million to $3.0 million from FY2000 to FY 2001. Note that phrase "planned investments in operational improvements to our business processes and systems"; I believe that by this UT-B actually meant their building program, which I will discuss later.

On 22 September, as promised, Madia sent out a message to all ORNL employees about the "workforce restructuring". He reiterated the need to reduce indirect costs by $20 million and said that it was expected to affect "roughly 300 employees". He announced a two-part staff reduction program: first there would be a voluntary reduction in force (VRIF) phase and then, if the VRIF phase did not result in 300 people leaving, there would be an involuntary reduction in force (IRIF) in late November or early December "after the federal R&D budgets are finalized". While it was true that the federal budgets were often not firmed up as of 1 October, it seemed a stretch to say that the IRIF announcement would have to wait until December on this score alone. The "wait until after the election" scenario seemed much more credible.

On 22 September also, I was forwarded a message that was given by Sims to Scott's other lieutenants. It stated that the OSSD (Scott's mega-division) FY2001 budget shortfall was such that 27 people could not be supported by the budget. This included 17 people in industrial safety/hygiene (OSHP), 6 in ORP, and 4 in ONS (nuclear safety). The reader should be aware that eventually 11 people in OSHP, 5 in ORP, and 4 in ONS were IRIF'd; the 5 in ORP included 3 secretaries (one part-time) and 2 rad engineers. However, Sims told me at the end of the VRIF period in October that one ORP complex leader and at least two rad techs had VRIF'd; not only that, there were still more than 10 subcontract techs in ORP after the layoff. I do not know how many people in OSHP and ONS VRIF'd, if any, but clearly there was some reason for an "overlayoff" in ORP between the ostensible 5 that had to go. The reader should also note that there were somewhere between 3500 and 4500 employees at ORNL at this time (I haven't been able to find out the exact number), so that the total number to be let go, 300, was less than 10% of the total; meanwhile, there were probably no more than 150 people in OSSD, so that the 27 represented almost 20%.

On 29 September, Madia sent another message to ORNL employees, stating that UT-B had submitted its proposed salary package for FY2001. Again he said that before DOE could fully review the proposal, Congress had to adopt the federal FY2001 budget, which his information suggested would be in mid-October. Only then could UT-B determine the cost impacts of the VRIF and determine if there needed to be an IRIF. "Because the data needed to review the proposed salary package" would not be available for about six weeks, UT-B anticipated that it would be late November before DOE could respond. UT-B proposed to defer the approved merit increases until the review had been completed, but would make them retroactive to 1 October. Note that the federal budget approval date of mid-October was realistic, but since the details of the budget were pretty much known before then, it did not appear that UT-B would need to wait over a month beyond that to get the data needed to review costs. Further, note that UT-B did defer the merit increases -- to after the layoffees' last day, i.e., until after 1 December 2000.

Revision of the Radiation Protection Procedures, Part Deux

In the previous revision of RPP-365 (the X-ray machine procedure), AEG's Steve Anderson had initially been the revision author. At the time, he was the main research X-ray machine inspector at ORNL for rad protection and before coming to ORNL, he had been a state nonmedical X-ray machine inspector in Tennessee, an (NRC) agreement state. The X-ray classifications and definitions in RPP-365 had always been consistent with the NRC and ANSI ones; Anderson wanted to preserve that since the users were familiar with them and since the 835 implementation guides were consistent with it. But Hamley, Mei, and somebody higher up wanted to revise the wording to be -- allegedly -- "more consistent with" 835's definition of Radiation Areas. So the procedure had been taken from him and given to Mei and Hamley to revise. It was a source of great bitterness to Anderson that he, supposedly the more technically knowledgeable person, had been overruled in favor of people with less expertise. He told me that it was a principal reason why he left to take another job.

After he left, Steve Hamley was named the X-ray machine inspector. On 7 April 2000, I met with Hamley to resolve comments on RP-365 (formerly RPP-365), of which he was the revision author. He made some mostly editorial wording changes in response to my comments, but refused to make more substantive changes. Although he was in my section, RCS, he was an RSS ally, so I did not press the issue.

I had reminded Geber, Mei, Mlekodaj, etc., on multiple occasions that at the time 835 came out, DOE had said explicitly that not all necessary requirements would be in 835 (a spare and generic document) and that each site would have to come up with additional, case-specific requirements to ensure that the broad requirements of 835 would be met (as was also acknowledged by DOE itself in its 835 implementation guides). Brad Patton of Chem Tech had claimed that most of the requirements in RP-347, Geber's glovebox procedure, were "not driven by a DOE order" and it should be downgraded from a procedure to a guidance document. Further, he said, requirements that were not "DOE requirements" should be made optional (i.e., the verb "should" should be used with them). On 14 April 2000, I pointed out to Geber and Mei yet again that 835 had very generally stated requirements for controls and for design and operational reviews and that DOE sites were supposed to specify the mechanisms by which these ends – the 835 requirements – were to be reached. I noted that specifying these mechanisms, such as who is responsible for reviews and documentation, was thus an 835 requirement and the "extra" site requirements were thus 835-derived shalls. Other requirements might be "just" ORNL requirements, but they also might be necessary for adequate safety even though they were not specifically required by 835. I was thus making the point again that it was a minimalist, inadequate, and arguably un-DOE approach to take only explicit 835 requirements as shalls, or even only 835 and directly 835-derived requirements as shalls.

On 17 April 2000, Mei responded to me. She wrote that her understanding of Safety Analysis Reports (SARs) was that many SARs contained requirements for restrictions as a result of "normal application" of the site rad protection program; that glovebox safety assessments and approvals would be required by RP-347 but the criteria it included for design and operations would be provided as guidance only; and that the

procedure itself (its requirements and guidance) were part of the "mechanisms" to ensure that rad controls were provided and that the proposed design and operation for a glovebox were acceptable. Mei said that the line management of a facility had the ultimate "responsibility and authority" to ensure that all relevant rad controls were applied, but she did feel that ORP needed to be part of the glovebox review team and that our involvement on the design team might be beneficial. She noted that "in today's Lab environment when the operations folks are the ones to appoint safety reviewers", rad protection people "have to be constantly prepared as technical experts and to be ready to deliver good services". Note that ORP involvement in reviewing the design was already required generically by RP-128 (on design reviews) because a glovebox is a device with engineered protection systems and features and is intended to provide a specified minimum level of protection. Mei was mistaken about "operations folks" (line management) appointing safety reviewers, since RP-128 had not been revised, as RP-310 had been, to allow line management to choose its own ORP reviewer(s). Based on that assumption, though, she concluded that the technical reviewer had to please the customer (as per her phrase "deliver good services") -- not just be technically knowledgeable about gloveboxes -- in order to be chosen as a reviewer.

On the same day I replied to her, as follows. In my experience of SARs, anything that was not a regulatory requirement, or was not voluntarily committed to by ORNL or a facility as part of a Work Smart standards set, was either not included in a SAR or was slated for deletion from an SAR. This was particularly true of RRD's approach. "Guidance" was always optional, so mere guidance could not ensure that the desired end would be achieved. An alternative approach to having written requirements would be to have an "expert" be the reviewer (as at PNNL, run by Battelle), but it would work only if the reviewer could impose requirements for the particular case, not just "recommend" measures to line management; if the reviewer could only recommend, then the 835 requirements would not necessarily be met. AEG's and ORP's having to "sell themselves and their services" to O&R divisions was undesirable, especially since some O&R people already thought they could make safety decisions themselves. I noted that when I told a DOE safety review person about all this, he said it sounded like a "fox guarding the henhouse" situation (see below). Finally, I said that Brookhaven (run by Battelle) had on its Web site the same interpretations of "shall" and "should" as ORNL used to have (before this procedure revision) and it said that the rad protection organization "is responsible for providing independent oversight functions in support of the rad protection efforts at BNL". I urged Mei to express more concern about this to higher management.

As I noted earlier, Geber's RP-347, on gloveboxes, received many "take it out" comments. He was able to keep in a reasonable number of shalls and shoulds after the ORNL-wide comment resolution. But although Chem Tech's Patton had "bought off on" the procedure at the end of comment resolution, Chem Tech director McNeese insisted that the procedure be rejected when it went to the DRC, of which McNeese was the "big dog" member. Sims acceded to all changes -- reportedly right there in the DRC meeting. The DRC decided that there were too many changes to be made to get it done in a day or two, so the procedure was temporarily issued as was in order to make the deadline (thus possibly fooling DOE). Sims directed that Geber transform shalls to shoulds and shoulds to mays on a priority basis. Geber made the huge set of changes, but he was unhappy about it. Most of the "shoulds" went into an appendix as "guidance"; Geber said that the result was three 835 shalls, two ORNL shalls, and a few shoulds in the text, with the rest of the material languishing in the optional appendix. So again Chem Tech used its financial muscle and its control of the DRC to eliminate safety requirements that it disliked. From now on, most gloveboxes could and likely would be operated with minimal restrictions on and virtually no oversight of what was done in them.

DOE and DNFSB Oversight Issues

On 10 April 2000, I spoke with a DOE-ORO person by telephone; he was a nuclear safety reviewer whom I knew from the TRU waste project reviews and whose views I respected as well thought out. I explained about the changed safety situation in the rad protection organization and especially about the line organizations' being able to select their own "independent" RP-310 reviewer. He said that the safety

organization within DOE-ORO had also gone into "services" mode, not oversight, as a result of the privatization binge. He said that the DOE safety people had to wait until the contractor screwed up in some way and only then could they act. He could offer little hope, therefore, for DOE to intervene in the RP-310 affair, which he termed a "fox guarding the henhouse" situation and "philosophically bad for safety". He observed that DOE-HQ had decided that a hands-off approach to safety oversight was best and that DOE management was calling the shots but didn't understand the work. He said he would talk with his supervisor and ask him to speak with me.

On 17 April 2000, I spoke by telephone with Herbert Masse of the Defense Nuclear Facilities Safety Board staff (DNFSB, the reader will recall, was the entity set up by Congress to provide safety oversight for defense facilities). I gave him the highlights of the RPP-310 exemption, the RP-310 provision for the independent reviewer to be chosen by management, and the problem I was having with the nonresponse by the Employee Concerns people. He said that he would be coming to Oak Ridge to look at Building 3019 and might have somebody look at RP-310; he also said he would talk to Paul Gubanc, the DNFSB rep for 3019. He stated specifically that having the line manager be able to overrule the safety people was not an ISMS feature. (I believe that Masse was in fact the principal author of DNFSB ISMS document.)

First Meeting with Carol Scott

In May 2000, Mlekodaj arranged for Mei and me to meet with him and Carol Scott. We spoke with her about the various problems we saw in the ORP-line management safety interface. I did most of the talking, since Mlekodaj seemed to have spoken with her already. I pointed out the way that Chem Tech had been able to dictate what RPP-310 said. Scott replied that UT-B would be making changes after assessing the situation. She said that "It will take time to get where UT-B wants to be, but we'll work on it". She said nothing specific about what the changes might be or what the problems were that UT-B already saw. The only thing concrete that I recalled her saying was that UT-B would hold managers responsible for safety. I wondered to myself how that would be any different from the recent Lockheed Martin approach.

Employee Concerns Activities

On 4 April 2000, Buttram replied by E-mail to my 30 March 2000 message, acknowledging my frustration and asking to meet with me. I replied the same day by E-mail that while I appreciated her offer to meet, there appeared to be no point in it because the dragging out of the process indicated to me that management did not wish to resolve the matter. I stated that based on Buttram's not having spoken with Mlekodaj, LMER's slate of Differing Professional Opinion panel candidates, the erosion of safety organization roles, and some alarming statements by new site manager UT-B, I did not think I would get a fair hearing. I also reminded Buttram that when we last talked, she had said she would talk with Steve Stow (the ORNL Ethics Officer) about my concern. I noted that I had expressed doubt at that time that anything would be done since no progress had been made, but that I had, however, agreed that Buttram could speak with Stow. I expressed doubt now because of UT-B's changing Stow's title from "Ethics Officer" to "Ombudsman", but I said that I still wanted to give UT-B a chance. I informed her that I had heard from two DOE safety people who expressed concern about Sims' caving in and about the RP-310 change to allow divisions to choose their own "independent" reviewers. I discussed the potential effects of this, including undue influence by the O&R divisions over the reviews, and the precedent it set. I asked Buttram to resume active consideration of my concern, disregarding my previous request to put it on hold. I thus told Buttram that I expected and hoped for a prompt investigation of my concerns, unlike what had gone on pre-UT-B. So if Employee Concerns had been dragging their feet in anticipation of UT-B's taking over, now was their chance to move forward.

On 9 May 2000, Buttram responded by E-mail to my 4 May message, stating that a Differing Professional Opinion process could still be used ("a panel of technical experts"), or the two of us could discuss it with Stow, or we could discuss additional options with Jan Preston, the new UT-B head of the Office of

Independent Oversight (which included assessments for potential P-AAA violations). She invited me to communicate with her, saying that she would not do anything until she heard from me. My take on this was to shake my head -- after all these months, Buttram et al. still hadn't decided how to handle my concerns. But I said okay to talking with Preston. On 24 May 2000, Buttram called me. I reminded her that my statement of concerns had gone to the Employee Concerns office almost seven months before. Now she told me that she had spoken with Preston, who asked if Buttram had spoken with Beierschmitt. Preston said that Buttram should speak with Beierschmitt first; then if Beierschmitt requested it, Preston would do an "assessment". I was surprised at this evasion and asked Buttram if Preston could not be approached independently of the organization of concern (i.e., the ESH&Q organization); true to form, Buttram replied vaguely, apparently not having thought of this before and being totally unaware of any ethical issues. I agreed to speak with Beierschmitt, so Buttram said she would ask him to call me. Note that although I had repeatedly stated to Buttram that my concerns should have a P-AAA review, either she did not mention it to Preston (but then why else approach her?) or Preston sidestepped the issue by directing it higher in my management chain. I believe that this is a no-no for any type of employee concern, but especially for safety concerns involving safety. As usual, Buttram seemed clueless.

I also expressed some concern to Buttram regarding how seriously my concerns would be treated by UT-B management, e.g., Madia's "We're all in the same boat, and swimmers will be shot" comment. I mentioned the HFIR cooling tower contamination issue (see below), in which UT-B management seemed to be trying to sweep issues under the rug. I reminded her that Mei, Mlekodaj, and I had met with Scott the week before regarding the RPP-310 noncompliance problems and I pointed out that Scott did not indicate she would do anything specific about the problems, but simply stated that UT-B "would work on it". I also pointed out that Scott did not ask for a memo or report detailing the problems.

The Ventilation Course

With Mei's and Mlekodaj's permission, I had begun in about February 2000 to organize the ventilation principles course to be given by NFS, a ventilation equipment vendor, for a set total fee. In order to keep the cost down, we invited rad protection people from other companies to attend, charging them their proportional fraction of the cost. I felt that rad tech supervisors and technicians were generally ignorant regarding ventilation, so since they were going to be doing RPP-310 reviews, I thought they could benefit by taking this training. On 18 April 2000, I spoke with Jerry Hunt about sending some of his supervisors and techs to the course. He said haughtily that he would not be sending anyone, adding that RSS would provide its own course if needed. Later, in a response to a suggestion in the ORP Suggestion Box (not from me), he stated that if "we" decided any such training was needed, RSS would provide it as their own course "at far less cost" and would provide it to complex and group leaders only. The principal rad tech trainer, hearing this, scoffed at Hunt's idea that he and his people could come up with a course at less per-person cost than the NFS course and that the RSS course would be of acceptable quality.

On 6-7 June 2000, the ventilation course was held. We had two sessions because so many people wanted to attend. It was a success -- I got good feedback from the students, especially the non-ORNL ones. However, I was later told that one reason for the low performance rating given to Mlekodaj in late 2000 was Hunt's criticism of him for allowing me to organize this course -- on the grounds that it was "inappropriate" for us to have it. I don't know why he thought so, but apparently Scott bought that line. Certainly courses had been put on in and around Oak Ridge, sponsored by various groups but with the attendees each paying their share -- e.g., Mei had organized the MCNP course and someone else had organized an advanced MCNP course -- so I have to think that Hunt was just showing spite in all this.

The ORP-wide Safety Meeting of 23 May 2000

On 23 May 2000, Mlekodaj said that Beierschmitt would attend the ORP quarterly safety meeting later that day. Beierschmitt was supposed to present the "DOELAP" certificate that DOE was awarding to Thein and his people; they had worked very hard to meet the requirements to earn the certificate, but

Beierschmitt decided he didn't want to present it after all. Scott wasn't going to either, so Sims would have to. Sims was reportedly unhappy with this: the implied message was that this achievement was too "small potatoes" for these two new managers to bother to help recognize. Also, Mlekodaj remarked that in the 1970s, overhead covered everything: space, electricity, periodic floor waxing, etc.; now the overhead was over 40% and yet everything was charged for separately (on top of the overhead). He also noted (as Sims too had said) that most of the ORNL corporate fellows (high-ranking researchers) didn't bring in enough research money to cover their activities and so were subsidized by other ORNL money.

At the ORP safety meeting, Beierschmitt gave a talk in which he displayed a tin ear for the sensibilities of his new managees. In introducing himself, he noted that he was "not yet 40"; he sounded proud of it and later I was told that indeed he was. (Apparently he thought of it as completely advantageous and didn't realize that some people might hold his youth and consequent lack of experience against him.) In the substantive part of his talk, which was brief, he said buoyantly that there were only "four bullets" that constituted the laser safety procedure at PNNL. (This was by way of saying that procedures should be simplified and shortened; apparently he didn't realize that some people might regard that as distressingly skimpy for a major safety procedure.) Sims, who had a keen ear for this sort of thing, later stopped by my office to ask if I had noticed this point. Sims also said that Scott had bent his ear for an hour and a half the previous day over the way she was being treated by Beierschmitt, who was universally viewed as arrogant and peremptory. Sims remarked that he thought Scott was now sorry she took the job because she had to work for Beierschmitt and she was beginning to realize that she was intended by management to be only a "funnel" (i.e., a cat's-paw and not a decision maker).

Another Exclusion: The Building 4501 U-233 Conversion Project

In early August 1998, I had met with an engineer on a Building 4501 project, whose purpose was to convert and stabilize some of the U-233 stored in Building 3019. I began to perform some shielding calculations for the project. As on MSRE, I felt that I got along well with "discipline engineers" (i.e., the mechanical engineers, electrical engineers, etc.) on this project, especially this engineer and his colleague who were handling various design aspects of process equipment, shielding, and layout. Geber and I were going to be doing the RP-128 review when the design was nearly finished. This project started off very well from my point of view and the "team" approach seemed to prevail.

But on 25 May 2000, Mei told Mlekodaj and me that Alan Icenhour, the lead engineer on the project, had informed her that the project people wanted to talk directly only with Mei herself. Mei stated that this was because "they" did not want to deal with me. I asked explicitly who "they" were and she was evasive; she said that it was Icenhour who told her about the "no direct contact" order. But it was clear from some of her later statements that "they" were Chem Tech's James Rushton and Richard Faulkner, the former MSRE managers who, now that Bechtel Jacobs had decided to manage the MSRE project themselves, had come to work on the Buildings 3019 and 4501 project(s). I pointed out to Mei that the first RP-128 review and the shielding calcs I did had gone okay with direct project contact, when Icenhour was in charge, and that it was not until after Faulkner came over that the "no contact" order was issued.

Mlekodaj asked if Geber could do the RP-128 and RP-310 reviews for the 4501 work, with direct contact, instead. But Mei replied no, because John Slaten, the RSS complex leader, did not like Geber. (I suspect that Chem Tech's dislike of Geber had a lot to do with it as well.) So she proposed that she act as direct contact and that Geber or I or both do the actual review. Mlekodaj seemed incredulous at this, as I was, and we asked if Mei absolutely could not bring Geber or me to a meeting. She waffled, saying that she could ask to bring us. Mlekodaj asked her if she needed some action or decision on his part; she waffled again, saying that she just wanted his blessing to handle things this way. He decried the inefficiency of this "Team AEG" approach. Still, he ended up blessing it "in order to keep this work", against my advice, and Mei agreed that it was necessary to give in in order "to keep this business". I objected that we were

not "in business" vis-à-vis Chem Tech; we were procedurally required to be involved in design reviews, unlike the RP-310 operational reviews. But Mlekodaj said that "we" (RCS) had to "sell ourselves".

Mlekodaj remarked that not just 3019, but also 4501 were in trouble regarding compliance and satisfying DOE. For example, there had been Radiological Event Reports at 4501 (workmen in a rad area without an RWP, etc.). He added that DOE's Michelle Branton almost started an investigation, but "we" (which I took to mean ORNL) set up a team headed by Hamley that made recommendations for safety improvements to satisfy DOE and thus forestall an investigation. Even so, he observed, stuff still kept happening, so Branton might still get her investigation if this kept up.

Note that Mlekodaj apparently did not speak with Icenhour, Faulkner, Rushton, or Sims about this arrangement before Mei met with us and he blessed this highly irregular and inefficient arrangement. The "I object to seeing his/her face" method could be very effective for line management to shut a knowledgeable safety person out of the information loop: even if the person's supervisor went to the meetings, the supervisor might not be experienced enough to pick up on code or key words that would indicate what the project was up to. This was definitely the case with this project, due to its advanced stage. With regard to the DOE investigation, in my contemporaneous notes I wrote that "maybe they don't want anybody near the project who might make waves or rat to Branton?", which was my impression with regard to what Mlekodaj was saying. I believe, from later events, that that was exactly what the motive was. Finally, it struck me that "sell[-ing] ourselves" was indeed what was now all about: if our principal aim and purpose in life was to sell ourselves, we had gone from being in the rad protection profession to being in "the oldest profession in the world".

In our discussion, I also told Mei and Mlekodaj about two outstanding design items that would also feed into the RP-310 review, i.e., the identification of the worker positions during in-cell work when there was a source and the calculation of doses under such circumstances. I continued to work on the project for a while, but it was very difficult not to be able to attend the design meetings myself and thus to have to rely on Mei's memory and understanding of what was said. Geber was also involved at times and he had the same problem. I do not know who ended up doing the RP-310 review on 4501, but it was not Geber or I.

On 30 August 2000, Mei sent me a copy of an E-mail message she had written to Icenhour, telling him that I could do a calculation he had requested the day before. Mei said she would be attending the 4501 meeting that afternoon and could discuss details. Of course, it would have made more sense for me to have spoken with Icenhour directly, but we were in the "no contact" mode now. (Note that another engineer on the project, who apparently thought the "no contact" decree was ridiculous, ignored it and interfaced directly with me.) The same day, Faulkner wrote to Mei to ask for a copy of the "calculations done last October" (of 1999, by me). Mei sent him a copy of the memo report of the shielding calculations I did for the in-cell portion of the 4501 project, after confirming the source terms with me. Of course back in October, I had carefully documented the calculations and sent the project the memo report -- they had either mislaid their copy or did not want to take the time to dig it out.

<u>My Talks with Beierschmitt and Scott; Scott's Response</u>

On 30 May 2000, Beierschmitt after talking to Buttram. He came across much better over the telephone than he had in the safety meeting. I outlined my concerns to him; he said he would look over the written material I had given Buttram. I reminded Beierschmitt of the expression attributed to Madia, "We're all in the same boat, and swimmers will be shot", and told him that it was universally taken by ORNL personnel to mean that dissent would not be tolerated. Beierschmitt laughed and said that that was not what it meant; what it meant was that everybody would get to weigh in once an issue arose, or a decision needed to be taken, and all viewpoints would be considered, but once the decision had been made, everybody was expected to get on board and support it, not bad-mouth and sabotage it. (He may have brought this up at a management meeting, because not long after this, an explanation appeared in some ORNL general forum

such as the computer announcements.) The next day, Beierschmitt called me again to say that he had looked over the written material and that "there appear to be some rocks that need to be turned over". He stated that he would pursue this with Scott: he would "get her involved".

Always wanting the person I appear to be to be the same as the person I actually am -- wanting especially to be straight with people I care about -- I met with Mei, Mlekodaj, and Geber on 2 June 2000 and told them that I had gone to the Employee Concerns Office the previous year and why. I told them that I had spoken with Beierschmitt and would be speaking with Scott. Mlekodaj observed that Sims had said that "someone" had gone to the Employee Concerns Office with a complaint; I believe that it was at this time that Mlekodaj and Mei told me themselves that Employee Concerns had not spoken to them yet.

On 8 June 2000, as per Beierschmitt's direction to Scott, I met with Scott to relate my safety concerns, including the various retaliatory actions. In my usual practice of putting my ink where my mouth is and being willing to put things in writing, I provided Scott a set of notes to refer to. She also took her own notes. There was too much to get through in one session, so I met with her again on 12 June and on 19 June. I will not repeat all that I told her in person because I have related the particulars elsewhere in this book. In brief, I told her about the Employee Concerns Office's failure to address my concern; the history of the ORNL ALARA program; the RSS-AEG friction and the harassment of AEG people by RSS people, including Hunt; RSS's acting as the voice of the customer and gatekeeper for AEG involvement and their complicity in avoided reviews; what sorts of things DOE had cited contractors for after investigations; some details of 10 CFR 835; how decisions at ORNL were being driven down to the tech level that would require rad engineering approval at other sites; the lack of documentation of neutron shielding calculations by RSS people at REDC; the Geber report; the removal of three safety people from MSRE work; a refusal by the Robotics Division to allow Geber to do an RP-310 review (see below); and most of all, Sims' caving in to line management pressure and why operational control of safety decisions was a bad idea. Thus Scott knew all about the various retaliations and Chem Tech pressure at the time she supposedly decided to lay Geber and me off, i.e., in July 2000.

On 30 June 2000, I sent Scott additional pertinent information by E-mail. Regarding a suspicious incident written up by Chem Tech (see below), I called to Scott's attention to the fact that Chem Tech was allowed to write the report even though Bechtel Jacobs was responsible for the facility, which was counter to DOE and ORNL practice. I noted that a rad tech trainer had told me that some Chem Tech people indicated to him that the true story did not appear in the occurrence report; I stated that I believed that that was true because the report was inconsistent and illogical and no post-incident critique was reported. Regarding the subsequent associated special RP-310 training for Chem Tech (see below), I pointed out to Scott that the training was a corrective action associated with this suspicious incident, that Chem Tech was not charged for this special training session, and that some of the students (supervisors and managers) were confrontational and even hostile to us training leaders. I also pointed out that many were unfamiliar with RP-310 although they supposedly were applying it for years. I noted that the rad tech trainer said that the rad techs received no special training in ventilation, etc., and that he had reservations about the rad techs' making some decisions that they were allowed to make.

Regarding a cleanup project at the Robotics Division's Building 7602, I pointed out again to Scott that the Robotics Division would not allow an RP-310 review by Geber, even though the complex leader actually favored the review and advised that it be done. I explained that this was due to the changes in Table RP-310: Robotics claimed that such a review was not required by the trigger table in RP-310 (since there was no longer a contamination trigger in the procedure), that there was now only a suggestion that a review be performed if conditions were uncertain, and that the meaning of "should" had been changed from "must be done in applicable cases unless exempted" to "recommended but optional". I pointed out to Scott that such a job would undoubtedly be reviewed by rad engineers or the equivalent at other sites; in particular, the use of ventilation and containment would require approval by people trained specially in their use.

Regarding the Chem Tech 4501 U-233 reprocessing project (see above), I told Scott about the no-contact arrangement, emphasizing its inefficiency and its being an example of operating people's dictating conditions of work to the safety people. I asserted that this surrender of independence was contrary to good safety philosophy and expressed the hope that Scott would find this disturbing. Regarding "trolling for business", I related a discussion with an ONS person who said that ONS, like ORP, was supposed to go out and find support for itself, contrary to what a (institutional) safety organization is supposed to do.

In my meetings with Scott, I did nearly all the talking. She is an excellent listener, in that she was obviously paying attention at all times. However, she asked very few questions and made very few remarks. In fact, almost the only remark she made was in response to my quoting my old boss Setaro's citation of the power plant rule of thumb that the safety organization should take about 10% of the total plant budget: Scott said that the ORNL safety organization took about that now. I did not think that could be true because of some figures I had seen in print and some things that Sims had said over the years. Nevertheless, if safety did take 10% at that point, then after the later layoffs it undoubtedly took far less. Also, although I did not realize it at the time I was presenting Geber's and our side of the Robotics/7602 flap (see below), Scott had already heard from Robotics management about it. I knew that she had spent years in the Robotics Division as their safety coordinator (her most recent job, of course), but I did not realize how significant this was. In light of later events, I might as well have saved my ink.

Note that in the rad tech training materials, at least from about 1996 to 2000, there were some general statements about ventilation and containments. But there were no specific guidelines (e.g., as to capture velocities) and no statements about who was to make the call if there was a disagreement between line management and ORP. From my background in engineering, I believed that these things were very important. Besides, in other sites' procedures, there appeared such guidelines and statements or at least the requirement for safety review of such areas. I tried to impress on Scott what an "outlier" we were in this respect, but I don't think she understood. Nor do I think she paid any attention to the implications of the incident that prompted the special RP-310 training, of Chem Tech's saying they would deal only with Mei, or of the institutional safety organization's "trolling for business". She seemed to have bought the UT-B idea of a "new business model" hook, line, and sinker -- and not to realize what it really meant.

On 5 July 2000, Scott acknowledged receipt of my 30 June 2000 memo. Mlekodaj had told me that Scott spoke with him about the RPP-110 issue; he said she seemed to be trying to parse RPP-110 (with respect to the elimination of a RPP-310 shall) so that it could be read to allow an interpretation that Sims could make exceptions to shalls. But then weeks and months went by with no further indication that she was investigating my concerns or that she intended to reply.

Finally, on 22 September 2000, I wrote Buttram and Scott (copy to Beierschmitt and Stow) that I had gone to the "Ethics office" in October 1999 with concerns. (I called it the Ethics office because I was under the impression that the Employee Concerns and Ethics Offices were the same, or at least that one was a subgroup of the other, which I believe was in fact the case.) I noted that after almost a year of no progress I was referred to Scott in June, but Scott had still not replied to me. I asked for a response in writing and also reminded Buttram and Scott that I had urged a review of my concerns by the P-AAA screening committee. I deplored Scott's newly announced decision to put AEG under Hunt in the future, noting Hunt's condoning of procedure violations, his prejudice toward me and AEG (e.g., in the matter of my dose-splitting writeup), his apparent belief that rad tech supervisors were the equal or better of the rad engineers for operational reviews, and his support for rad tech supervisors as gatekeepers for AEG involvement. I said that I feared Hunt would stifle any dissent from AEG. I also pointed out that some design reviews were not being done and that there was a danger that rad techs or their supervisors would be allowed to perform these reviews. I explicitly stated that some other sites had been slammed by DOE

for inadequate work planning and review, so the downgrading of work review qualifications and requirements at ORNL was a risky move. Scott was thus up to date on my concerns.

On 25 September 2000, Steve Stow, the "ombudsman", claimed by E-mail message that the 22 September 2000 E-mail message from me to Buttram and Scott was the first he had heard of me or my concerns. I responded that Buttram had told me that she had discussed this with him. I asked that Stow consider my message an official notification to him of my concerns and that he inform me whether he intended to do anything about them. I offered to provide any information needed and noted that my concerns had not been addressed so far by his organization (including Buttram's group). I heard nothing further from Stow.

On 29 September 2000 -- clearly only as a result of my prompting of the Ethics/Employee Concerns people -- Scott hand-delivered her response to my concerns, in the form of a memo addressed to me. She offered to speak with me further about it and left to allow me to read it. I was told by an informant that Sims had written most of the response for her. (So much for taking a concern about Sims to his boss.)

In her response, Scott thanked me for expressing my concerns to her. Regarding Sims' violation of RPP-110, she declared that RPP-110 allowed him to interpret procedures as he judged best. But she merely asserted this; she did not cite any specific wording (as I had) or rebut any specific argument I had made. Regarding Chem Tech's and RRD's exerting pressure on Sims to violate procedure, she said she had not observed or been made aware of any such pressure: "In my discussions with Dr. Sims, he expressed no feelings of pressure to violate procedures from these divisions or any other divisions". She said that she was "reflecting" (interpreting) my concern about driving decisions down to the tech level and allowing rad tech supervisors to be alternatives to rad engineers for any and all reviews thus: she took it to mean that people outside AEG were not qualified to perform RP-310 reviews. She had determined (how, she didn't say) that others were qualified to perform such reviews, in some cases "even complex reviews that involve shielding". She said she had consulted with Mei "and other radiation safety experts" and determined that this practice was okay. The fact was, she averred, that Lab employees outside AEG had the requisite capabilities (which she didn't specify) "and it is within a line manager's prerogative to employ this expertise in meeting his other obligation to comply with RP-310". Scott also said that the trigger levels in RP-310 "are internal control measures and are not required by any regulation or DOE directive". After interviewing a number of people and reviewing (unspecified) dose records at the Lab, she had concluded that the trigger levels were appropriate and "do not endanger worker safety".

Scott said that everyone she had talked to agreed that there were AEG-RSS difficulties, which she would resolve by putting AEG under Hunt. This was, she observed, in line with "my division organization model of radiation protection purchased-services being primarily located in one section [Hunt's] and overhead-related services in another section [Thein's]". She disagreed with what she said was my contention that "the change to make ALARA reviews a purchase service may cause the AEG to lose nearly all of its independence". She said that for a while now, with DOE approval, the Lab had been moving toward the "philosophy that line managers are responsible and accountable for getting work done and doing so in a safe manner. This change in delivering ALARA engineering reviews is necessary to come into line with Lab policy. There is no reason for it to adversely impact the professionalism of radiation safety experts".

In her conclusion (which I think she probably wrote herself because it was the sort of "motherhood and apple pie" statement that Sims would have avoided), she said that we must all work together to ensure rad safety, that work must be done in a safe and compliant manner, and that "line management -- not the OSSD -- is responsible for ensuring that this occurs. Our role is to assist management. We are all team members and are expected to provide help to get things done". But, she said, "I thoroughly considered your observations in making and reviewing management decisions....I certainly want to encourage you to continue to raise concerns as you see the need". I thought that her "encouragement" to me to raise concerns was rather hypocritical, in light of her tardy response and her total failure to address the

specifics of what I had told her. But given that (as per testimony later) she had already decided to lay me and Geber off over two months earlier, her hypocrisy was even worse than I thought at the time.

ORNL Safety Oversight Issues

On 5 April 2000, I sent a note to Mlekodaj reminding him that UT-B had said that the internal (shadow) safety groups that O&R divisions had would disappear, but we had not heard why. I stated that a non-ES&H ORNL person had just told me that his group was addressed by Stephen Porter, chief UT-B counsel. He told me that Porter stated that Madia thought that a work entity such as a division should act only within the scope of its mission and qualifications. This meant that, e.g., a research division should be doing themselves only work that was related to their research. There should not be people within a division performing safety and human resources work; these specialized functions should be performed by specialty groups such as OSHP and Human Resources. I noted that this was what Mlekodaj had guessed was the case in a previous discussion we had had of the potential dissolution of the shadow safety groups. I cautioned that despite these favorable utterances, the Lab had several divisions that liked to make their own safety decisions at the line management level and thus there were likely to be further instances of rad protection decision making by line management rather than rad protection professionals, as in the case of Lee's authorization of the strainer flashing operation at HFIR and deciding that an RPP-310 review was not necessary. I also noted that there would be an increased push by line management for decisions to be made by the rad techs and their supervisors, who were "on the spot" at the facilities.

Around 11 July 2000, I was talking with an ONS person and told him what I had heard about (1) Madia's allegedly not liking the idea of the shadow safety organizations and his wanting to eliminate them in favor of the central, specialized safety organizations and (2) a proposal to dissolve OSHP completely and have the associated safety services either provided by the shadow safety organizations or purchased. The ONS person and I agreed that this latter idea was not a good safety move. The ONS person said, as had another informant, that Madia's big idea was that responsibility for safety was to be put on the line managers and that he, Madia, would be the enforcer if they screwed up. The ONS person said that this might all take several years but then everyone would be recalibrated to use the safety organizations. I expressed skepticism regarding the effectiveness of this approach, especially because during those several years there might be various unnecessary incidents. The ONS person and I agreed that it wasn't Dr. Madia who would suffer the big uptake or have the tank dropped on his head or be charbroiled while welding (all of which had happened on the Oak Ridge Reservation in the past few years at one or the other of the sites). I opined that in fact line management might get into corner-cutting and covering-up even more than before. The ONS person agreed that that was a possibility. He said that the safety people might get discouraged or be laid off, and have to go to other jobs -- which might result in their being happier.

He also told me that there had been a "Leadership Development Course" held at ORNL, in which ways to reduce overhead by reorganizing ES&H were studied. But no ES&H people were in the class or involved in the training. He advised a participant to have the class leader speak with someone in ES&H about this, volunteering himself, but that did not happen. In telling this later to Geber, I termed the mode of decision making exemplified by the course "leadership by prejudice": the outcome was predetermined, i.e., one pretends to study an issue on which one has already formed an opinion, one identifies problems for the greater organization that are already seen as problems for one's group, and finally one proposes solutions that benefit one's group. I said that line management thought that safety people's work was being done for their benefit, their work, their milestones -- when in fact it was done to protect the worker.

I reiterate what I said frequently to Geber, Mei, Mlekodaj, and anyone else who would listen: safety people's true customers are not line management alone, but (in order of importance) the worker, DOE, the Lab, and line management. I emphasized that making line management happy thus must be a distant fourth to adequately protecting the worker, ensuring that compliance with DOE rules and Orders was achieved and documented, and protecting the Lab's legal, operational, and ethical interests.

Building 3019 and Related Issues

As I noted above, DNFSB's Masse said he would speak with DNFSB site rep Gubanc. I think he did, because of what subsequently occurred. Building 3019 was of course where U-233 was stored in "wells" in the hot cell area, including the U-233 being drawn out of MSRE. U-233 is a fissionable isotope, so the security and other arrangements have to be reliable. Much of the U-233 had been stored there years ago and there was some concern that the packages were degrading. Thus there was an important project being planned to draw packages out of the wells, possibly in random order, and check their integrity.

I spoke with Gubanc some time in July 2000. Then on 31 July, Mlekodaj gave me a copy of an E-mail message from Gubanc. It was addressed to Rushton and Scott of ORNL, to J. Sinclair (a subcontractor to Chem Tech), and to H. Clark of DOE, with copy to Mlekodaj, Beierschmitt, and others. In this memo, Gubanc asked Rushton and Sinclair if the new shielded U-233 container retrieval chamber, its cask, and some filter plugs had been reviewed as per RP-128 (the rad design review procedure) and if a report had been generated. He asked to what RP-310 review levels Phases 1 and 2 of the package inspection campaign had been assigned. He asked Scott to explain how allowing the line manager to select the RP-310 independent reviewer was consistent with "the concept of "independence"", pointing out that while ORP might consult with the line manager regarding the selection, "the choice would seem to [have to] be external to the line if it is really to be independent". Gubanc also pointed out to Scott that he had already expressed concern to Sims et al. about the May 1999 waiver (exemption) of RPP-310 requirements for Chem Tech and asked her to tell him if the waiver was still in effect for the new revision (RP-310). He stated that the waiver designated RSS as the arbiter of what work should receive formal rad review from AEG and he asked what mechanisms were in place to ensure that "an appropriate level of technical rigor and objectivity are exercised". He noted that using rad techs as "forward spotters" might be appropriate but that he had "too often encountered rad techs at other locations going through "heroics"" to avoid true engineering involvement or "delaying their customer's job". I was pleasantly surprised by this memo, since DNFSB seemed to have the clout to get answers to these questions.

On 14 August 2000, Nancy Sweat, 3019 complex leader, sent an E-mail message to Mei, who then referred Sweat to me. Sweat had asked about the reviews to be done at the stages listed in RP-128, what they applied to ("i.e., equipment, components, buildings"), and who did the reviews. I explained by E-mail what was covered and what might not be. I pointed out that Geber had told me that he had not done any RPP-128/RP-128 reviews at 3019 and that I recalled a shielded lifting machine that should have been reviewed but was not. (Note that not only was the review of a shielding device like this required by RP-128, it was also required by 835 to have documentation, as an ALARA measure.) I also discussed who should do the reviews and the qualifications or knowledge that such a person should have. Sweat thanked me for my response. On 15 August she asked me about the term "defense in depth", which was used in RP-128. I again replied. I realized at the time and was also told later that Sweat's inquiries arose from her being "tasked" to find out about what design reviews were required, a direct consequence of Gubanc's inquiry. Without his inquiry, the rad design review would not have been done. Line management and the rad techs were supposed to have been familiar with RP-128, which (as RPP-128) had been in the ORNL rad protection procedures manual for years. But now Chem Tech and its rad techs, like RRD and their techs before them, were confessing their ignorance of the requirements of this procedure.

In early October 2000, I asked Gubanc if he had ever received a reply to his message of 31 July to Chem Tech. He had not. It seemed to me that Chem Tech had just blown off his query. This was remarkable to me, considering how other sites seemed to jump when DNFSB barked, or at least they were careful to respond promptly. Presumably as a result of my new query, on 5 October 2000 Gubanc wrote again to Sinclair, Rushton, and Scott, copy to Clark of DOE. In his new memo, Gubanc referred to a discussion with Sinclair earlier in the day and said that he was hereby "resubmitting" his questions. He pointed out

that he had not received answers to the questions he had put to Rushton and Sinclair and he referred to a previous but incomplete discussion with Scott and asked her to meet again to discuss her organization.

On 13 October 2000, Sinclair responded by E-mail to Gubanc's message of 31 July. He apologized for the delayed response, but gave no explanation for it. He stated that "RadCon [the rad protection organization] has been involved in all aspects of [the subject project]", but he did not "have the complete answer I would like to have with respect to full implementation of the 128 procedure" and the information he was about to give was provided by someone else. He said that the draft ALARA Plan for Phase I was written in 1999, was approved by Billy Starnes (of facility line management), Richard Shoun (the Chem Tech DRCO), and Sweat; that "the specifications about the equipment are included in the draft"; that the "dose rates were estimated using Microshield"; and that a streaming test was done on the chamber with an iridium-192 source. He stated that Geber reviewed the draft and also visited the facility to view the equipment and work area, but "we do not have any documentation from him"; Geber's reviews, he said, took place in June and October 1999 and Geber determined that the RPP-310 review of Phase I should be at Level 3. Sinclair stated that the review level for Phase 2 had not been determined and that the Phase 1 ALARA Plan was being "fine-tuned" and would be reviewed by Geber or another rad engineer before it was finalized. He asserted that Chem Tech had "identified a [project] ALARA Design Review for July [2000] in the approved baseline [budget]" and that it was moved to FY'01 for budget and resource availability issues". He noted that he met with "[Chem Tech] Engineering and RadCon" that week and found that they had not included the filter plug "in the 1999 [ALARA plan?] review". So he had assigned to Sweat the job of "establishing a lead from her organization to take responsibility for executing the procedure in full", an effort that would start "shortly".

Sinclair was conflating the RPP-310 review with the ALARA plan review and the RPP-128 review -- these were three different things that served three different purposes. Geber was not obligated to sign off on a draft ALARA plan and he did comment on the draft, per Sinclair's remarks, despite what Sinclair said about the lack of documentation. Note that the RP-128 review, which should have taken place before the equipment was constructed, was treated as a final step that could be put off until a very late stage in planning, i.e., as a mere documentation of what was already done. Sinclair stated that the filter plug had not been included in the 1999 review -- but I believe that he was referring to the review of the ALARA Plan (whose reference procedure was RPP-310), not the design review (whose reference procedure was RPP-128) -- i.e., there was no 1999 RPP-128 (or RP-128) design review .

Regarding technical issues, the reader should note that the Microshield code did not handle neutrons, only gammas; this was important because where there was a potential for an alpha-neutron reaction (as was important for MSRE work and did not appear to have been ruled out for the U-233 packages) and a potential for a significant scatter path, then the neutron dose rate could dominate, rather than the gamma dose rate. The neutron scatter issue did not appear to have been addressed at all or even contemplated. Also, an Ir-192 gamma source might not have been appropriate for testing a chamber that was supposed to contain a U-233-U-232 source, considering that a U-232 daughter emits a gamma of a much higher energy than the I-192 (2.6 MeV versus ~0.4 MeV). The appropriateness of the use of the Ir-192 source would depend on its source strength, the streaming paths, etc. Apparently no rad engineer was consulted about using Ir-192 for this test; I believe Geber told me that he was not and I think he did not receive a copy of the test report.

On 18 October 2000, I wrote Gubanc about Sinclair's response. I said that after reading the response, I had asked Geber about the draft ALARA Plan and Geber told me that he had commented on three drafts, including the most recent, but he had not been asked to do (nor had he done anything intended to be) part of an RPP-128 review or an RPP-310 review. When Sims granted the RPP-310 exemption to Chem Tech, I had thought that it was mainly for Chem Tech's MSRE and REDC facilities, but I now conjectured that it might have been mainly because of the high-profile 3019 work. I explained that Mei and I had talked on

27 September 1999 with Linda Gilpin of ONS regarding the 3019 project readiness review (i.e., after the RPP-310 exemption memo was issued in May 1999); Mei and I later heard that Betty Slaten was the 3019 reviewer (instead of Geber) under the exemption, but Sinclair did not say so in his 13 October memo to Gubanc (he stated that "Geber or another rad engineer" would review the final Phase I ALARA plan).

I also pointed out to Gubanc that RPP-310 had always required that campaigns not be segmented into parts for the purpose of review, as was being done with the 3019 work. I asked Gubanc if B. Slaten had signed off on the whole campaign before any significant step was done, including the "practice if real sources were used" statement by Sinclair. I noted that Geber had told me that he regarded Phase I and Phase II as being part of the same campaign, which I observed would be appropriate where (1) the sources were essentially the same, (2) the planning was done as a unified effort, (3) the planning and the campaign were executed by the same people, (4) the operations fed one into the other or were similar, etc. I also said that Slaten had asked some questions of Mei about applying RPP-310, i.e., Slaten had not been sure how to interpret it; that I thought that Geber was not consulted regarding the streaming survey; and that the Ir-192 source might not be appropriate for testing a cask to hold U-233 and U-232.

I told Gubanc that rad techs often miss things that rad engineers, being shielding specialists, would catch. I noted that the 4501 people had been more receptive to rad engineering lookover than the 3019 people although both were Chem Tech facilities. Also, Chem Tech had apparently not asked either Mei or Geber about the applicability of RPP-128 to 3019. I did not think that Sweat was competent to make a determination as to whether RPP-128 applied or not; Sweat had asked us questions about RPP-128 several times since Gubanc sent his original memo to Rushton et al. and it was not clear that Sweat was authorized to "identify" a person to do the RP-128 review without reference to RCS (AEG's section) because that would be contrary to RP-128's still-valid requirement that the reviewer should be from RCS or be designated by the RCS head. However, the RCS had ceased to exist as of 1 October 2000 (due to the reorganization of OSSD) and no redefinition of its roles had been made -- i.e., the procedure had not yet been updated to agree with the current organization chart and no memo had been issued to interpret it. I pointed out that Chem Tech's saying that Sweat would line up an RP-128 reviewer, without any reference to involvement by Mei or her boss, was of a piece with my point about the rad techs and their supervisors acting as gatekeepers for rad engineering involvement. The time for a design review was before equipment is fabricated, as RP-128 made clear; Chem Tech had simply decided that they did not need an RP-128 review and scheduled one only because of Gubanc's inquiries. I added that the question of an optimization analysis was also not covered by Sinclair's memo. I recommended that Gubanc himself speak with Geber and Gilpin.

My interactions with Gubanc and his interactions with the Building 3019 people seemed encouraging, but otherwise things continued as usual. In June 2000, when AEG met to discuss RP-310 issues, Mei told us that she, as AEG leader, had been involved in a Level 4 review of a hot cell job. Although the designated "independent ORP reviewer" under RP-310, an RSS person (probably B. Slaten), was supposed to have documented the review as per the procedure, this was not done, or at least Mei never received any memo report of it. I pointed out that if there is no documentation or the reviewers never see it, then there is no record of the conclusions they came to and of the associated commitments by the reviewee project team.

HFIR Beryllium Changeout Work and Other Projects

On 17 May 2000, Mlekodaj told me that Sims said that UT-B and RRD were treating the HFIR cooling tower, which badly needed replacement, as though it were not radioactively contaminated. The problem was that management wanted the replacement to be cheap enough to avoid having to ask for a line item in the Federal budget, but the ES&H costs, starting with the radioactive contamination and the Legionella organism potential, were too significant. (I had heard this statement of the problem made by RRD in RORC meetings as well.) Concerned, Sims had asked Wilbur Harris (RRD DRCO) and Dennis Cope of (Rad)Waste Services if RRD management and waste management respectively knew it was contaminated;

both answered yes. Sims then "fired off a memo to the world", as he put it, summarizing this issue about the tower. I believe that subsequently RRD abandoned the fiction of noncontamination.

On 17 April 2000 too, I met with Utrera regarding the beryllium changeout outage ALARA plan, which he was writing and I was to review. I noted that the deficiencies I had indicated in my review of his previous version had not been remedied at all. Utrera replied that RRD kept changing its mind, so he didn't want to put things in that he would just have to change later. I reported this to Mei.

On 31 August 2000, I received a memorandum from RRD's Mike Farrar, who was heading up the outage project. He noted that as per the RRD-RORC discussion in the recent RORC review meeting for the HB-2 collimator assembly, RRD had determined that there did need to be a review of this assembly as per RP-128, but that it had not been triggered by RRD's relevant administrative procedure and so had been overlooked. So he was requesting that the review be done for the new HFIR beam tube designs (not just the subject collimator assembly). He apologized for the request coming so late, but he expressed confidence that RRD had the calculations and design documentation to satisfy the requirements of the review "quickly". Also, he added, "a level of confidence could be gained" from the ALARA review of the removal and installation of these components that was currently being performed by Utrera. He then listed some eight design change memos that needed to be reviewed and said that the reviews had to be done in time to support the 1 October 2000 outage start date.

I was incensed. It was my pointing out to RRD in an RORC review meeting (see below) that they had not had the review done that prompted them to see if, in fact, they needed to have it done. This was despite our previous similar exercise with the cold source project, my previous comments about the Beam Room modification project in meetings that had taken place months earlier, etc. Now they were saying that the review of eight components (with some duplication, to be sure) had to take place in, realistically, less than a month, on top of all the other outage work I had to do and on top of work for other projects and divisions? I normally was not sarcastic in addressing "customers" directly in writing, but this time I cracked. I wrote back to Farrar: "Okay, so if I understand your message below correctly, you are saying that although the RP-128 review was not requested by RRD in a timely manner, we in ORP should drop all work that we had planned for September in favor of doing the RP-128 review for the beam tubes. Is that right?" Non-sarcastically, I then told him that I had talked with my supervisor about this. I pointed out the we had already done some rescheduling to accommodate the outage. I asked what should have the priority, the outage RP-310/ALARA plan review or the beam tube RP-128 reviews? I told him that I would do my best to meet his schedule, but he would have to be prompt in resolving any major issues that cropped up and he would have to provide me with documentation that I didn't have. In particular, I pointed out that some dose estimates would have to be done, which RRD had not produced so far. I concluded by saying that maintenance patterns, the number of researchers per year, etc., would change from past practice in ways that might significantly impact the doses.

I did manage to get the reviews done, but I was not satisfied with the level of response by RRD -- not all the documentation was provided promptly, I was sent from person to person to person to get information, etc. Not only that, by about mid-September -- with a 1 October start date for the operation -- Utrera still had not rewritten the HFIR outage ALARA plan as he needed to in order to make it adequate. It was still in a rough draft form, with various issues still to be addressed. Neither Mei nor I expected a thesis, but we did expect a plan that was on a par with ALARA plans for previous projects, given the magnitude and complexity of this project. I reported the deficiencies to Mei for the umpteenth time. Although she discussed the matter with Utrera, she did not appear to have given him a flat order to do it right, much less chewed him out. It was odd that she agreed with me that the plan was sketchy but seemed to be helpless to get him to follow her directions even though she was his nominal supervisor. She told me obliquely that she could only reason with him but not order him to do anything, apparently because he was doing what the RRD people told him to do and the ALARA plan was not important to them.

Perhaps two days before the outage, I realized that Utrera was not going to do any more on it. I felt pressured to sign off on the plan by the start of the outage: Mei did not say so, but I knew that RRD would certainly protest any delay in starting. Utrera surprised me by asking who was to schedule the RP-310 review and when -- after all, if he was familiar with RP-310 and had done more than one or two ALARA reviews himself, he would have known that it was RRD's job to do so, although they could delegate the arrangements to him or one of the rad tech supervisors. I explained that to him and noted that (from my knowledge of RRD) RRD would undoubtedly expect him, as the support person, to organize it. He was thus caught short by not having brought it up to RRD or to Mei or me earlier. He had to schedule the meeting, on short notice, for the next-to-last business day before the start of the outage, when RRD and the rad techs were busy. Fortunately, everybody who needed to attend felt it incumbent to attend, since if ever there was a big operation that required a formal rad review, it was this one: it was at an RP-310 Level 5, the highest level.

I was resigned to signing the inadequate document eventually, because AEG and I were under such a cloud and because RRD was entirely capable of having me removed as reviewer at the eleventh hour, for being obstructionist by not rubber-stamping what they had already decided to do. But I was not resigned to allowing the most critical item to be omitted from the plan: a breakdown of the projected doses by work group. Utrera had produced some task-specific dose estimates and had added them to produce a collective dose. However, he had not sorted them out or arranged them so that one could see what the doses to each type of worker would be and thus to estimate what the maximum dose to an individual could be. That is, if you had various types of workers involved in various capacities in various operations, you needed to sort out how much dose a worker type -- say the millwrights -- would get in each task. Once you had that, then you could, e.g., add up all their task doses and divide by the number of millwrights to project an average dose for the project for an individual millwright. You could also add up the highest individual millwright dose in each task to project an upper bound maximum individual millwright dose for the project. These would not be hard and fast numbers, but they would give an idea which worker types and individuals would be getting the most dose, which was important for planning who was to do what and whether additional workers or rad controls might be needed. I had pointed this out to Utrera previously, but he seemed not to "get it" and hadn't done it. So in the last hours before the meeting, I took his data and sorted it out and produced the various sums laboriously. My printer conked out just minutes before I had to leave for the meeting, so Geber undertook to print the final table out for me on viewgraphs and bring it to the meeting. (He even reformatted it a bit so it was more legible, bless his heart.) For those who are interested, the reactor operators were projected to receive 13.9 man-rem, the rad techs 5.4 man-rem, the millwrights 2.43 man-rem, and the divers 2.68 man-rem; with other groups, the total was 31.5 man-rem, for about a 75% increase in the typical total ORNL annual collective dose.

So I was able to present the data myself during the course of the meeting. I was complimented on it by J. Ed Lee of RRD, who asked for a copy of it for a presentation he himself was to give. I thought that the labor representatives leaned forward and paid closer attention to see if any of their worker groups were among the highest-dose groups; I was happy to see that, because of course they were supposed to look out for their guys and because I wanted the workers to look upon AEG as their friend and protector. There were representatives of other non-RRD divisions too (e.g., instrumentation) who were seeing this data for the first time and were only now being informed as to the projected doses to their people.

Utrera and RRD committed explicitly during the meeting to revising the ALARA plan to include any new and unanticipated operation or task that came up during the outage but was not covered in the plan. This would help ensure that all dose incurred in the course of the outage was accounted for in one place and it would be clear at the end how much dose the outage had "cost" prospectively. Not only was any new operation or task to be discussed and its dose estimates included, I was to review the revision for it as part of my RP-310 review of the whole project and I was to sign the RWP for it. At the end of the meeting,

Utrera produced an RP-310 signoff sheet, as though the participants were expected to sign off immediately. Again, I saw that Utrera did not "get it". Some of the participants expressed surprise at his action and refused to sign yet because there were still some outstanding questions. RRD went ahead and started the outage -- we agreed on this in the meeting because the initial few tasks in the outage were, as I pointed out to the non-RRD participants, routine and so need not be covered under the review. (And I would like to point out that this was a customer-friendly but not safety-diminishing thing to do.)

A few days later, after Utrera had made some but not all of the changes, I did sign the ALARA plan, albeit with misgivings. I noted explicitly in my review documentation memo the commitment made in the meeting by RRD and Utrera to include any new tasks and their associated doses.

Several weeks later, Utrera told me about just such an unanticipated job. He brought over an RWP for me to sign as reviewer. He also brought a drawing of the neutron beam outlet face at which the operation was to be done. I discussed the job with him and pointed out to him that he hadn't done any dose estimates. I also noted several planning problems, including several statements he made that, from my engineering knowledge and RORC experience, did not make sense. Utrera glossed over these, but stated that he would add the job to the ALARA plan. I again feared retaliation against me and AEG if I didn't sign, so I signed. But I told Mei and Hunt (now Mei's boss) about the various planning deficiencies, noting particularly that Utrera did not appear to be inclined to meet all the commitments made in the review meeting.

Somebody at RRD then raised a question as to the compliance of RRD and RSS with RP-310, in that Utrera was preparing and signing RWPs that, because they were part of an operation at the RP-310 or above level, should have been signed by me. Trying to be helpful, I pointed out by E-mail to Hunt et al. a way that Scott (as rad protection head) could provide a temporary variance to RP-310 and then the procedure could be quickly revised to get RRD out of the bind. I dislike legalistic solutions and RRD had of course gotten itself into this bind by their hastiness and failure to plan, but I thought that helping them get out of the procedural jam they were in would create a win-win situation for everyone and they would be "wised up" for the future. But then Hunt stunned me by sending RRD a message in which he put forward my solution but also proposed that as an alternative solution I could be removed as the "independent ORP reviewer" and Utrera could be appointed as both support and reviewer (except that he could not then be the preparer of RWPs, which job would fall back on the rad tech organization). RRD opted to change reviewers under the RP-310 provision allowing them to pick their own reviewer.

So after being the ALARA rep to HFIR for almost 11 years and after only a few weeks under the Hunt regime, I was replaced by Utrera. I protested by E-mail to Hunt, pointing out that Utrera was not "independent" in any meaningful sense and that the commitments RRD and Utrera had made in the RP-310 review meeting were already falling by the wayside. I pointed out that in the unanticipated job case, Utrera had not done a dose estimate, etc., so that there was reason to believe that he was deferring to RRD's need for haste. All this protest was to no avail, however. Hunt replied to me by saying that if Utrera "fails to perform his assignment as a reviewer at HFIR", he expected Mei to sort him out. He also said that support personnel were "no longer assigned to facilities but to projects/tasks" (which was news to me) and that the assignment of Utrera to this project was completely independent of any "concurrent or future assignments within RRD". (So much for continuity of coverage and familiarity with the facility.)

I was still supposed to do any RP-128 design reviews, such as one (avoided until I pointed it out) that involved a tour of the beam face area. I found that part of the description of this area given to me from memory by Utrera in the recent RP-310 review was incorrect and that my expressed reservation about the layout actually was correct. I told Mei about this because it was imperative that she realize Utrera's limitations in engineering-type matters. Note that despite my emphatic and substantive comments to Hunt and Mei about Utrera's and RRD's planning deficiencies in this job, Hunt did not correct Utrera in any way and Mei felt powerless to do any more than remonstrate mildly. Hunt did not sit down with me and

discuss my concerns about this (e.g., with the RWP and the drawing in front of us). I told my fellow RORC members about this also to raise their awareness of what RRD was up to.

More from the Suggestion Box

On 2 May 2000, a suggestion in the Suggestion Box asked why a senior-level rad tech made $2-$5 per hour less than a pipefitter, electrician, or painter; the suggester said that ORNL wanted the techs to have more education and more responsibility but paid them less than those they were protecting. Hunt did not address the reason for the difference in his response, but said instead that the situation was better than when he was a tech (when he made less than even janitors and laborers) and that most people thought they should make more money. He cautioned the suggester that "we are "not" [sic quotation marks] responsible for the health and safety" of craftspeople -- their line management was, while "we provide technical support". Note that Hunt did not provide the real reason for the pay difference, which was that the craftspeople were unionized while the techs were not. His tone-deafness with regard to personnel relations was again evident. For example, his statement about the situation being better than when he was a tech might have been viewed as patronizing (the old "You have to walk a mile to school? Well, I had to walk five miles! You should be grateful it's not worse!" response). Beyond the pay issue, the idea that ES&H people were not at least partly responsible for the health and safety of the people whose work they covered was likely to be regarded as ethically wrong by many rad protection people -- and as a license not to speak out against line management protection decisions by others.

On 30 June 2000, a suggestion titled "Engineering Controls" appeared. It asked why recommendations and evaluations of "engineering controls" were the responsibility of RCS, especially the rad engineers (AEG). The suggester remarked that the rad engineers "apparently" had special training, certifications, and education that "uniquely" qualified them to make decisions about containment, ventilation, remote handling, and shielding, but rad techs usually were the ones who made these decisions in the field. As usual, it was Hunt rather than Mlekodaj who replied. He said that "the specifics of who gets involved in reviewing work controls are spelled out in RP-310". He also said that "under certain circumstances" it was good to have "an independent look at tasks", particularly high-risk ones, but that in other cases "it's best to have folks who are most familiar with the facilities and the workers make those decisions". He asserted that facility managers are "fairly familiar" with the capabilities of the rad engineering staff (AEG) and "often get them involved when they feel they can add value to the task at hand".

Note again that Hunt did not address the issue of qualifications for making decisions regarding technical issues such as the use of ventilation. He said that the specifics of who gets involved in reviewing work controls were spelled out in RP-310, but of course with the opening up of the reviewer pool and the choice of reviewer left completely up to line management, qualifications were irrelevant. He did not say that it was usually a good idea to have an independent look, but only "under certain circumstances", and he gave no examples or criteria regarding the circumstances. He did not say from whom the independent look should come, rad engineers or rad techs. He referred to "folks familiar with the facilities", but as he and his people had always meant by that the field rad techs, including the complex leaders, it was clear that he did not include rad engineers (even I, who at this point had worked with HFIR people for over 10 years). His contention that facility managers were familiar with rad engineering staff capabilities was untrue, since AEG had found over the years that line people often had little idea of AEG's role and functions -- e.g., often being ignorant about what RPP-310 and RPP-128 said about their involvement -- much less their capabilities. (This was in spite of Mei's many efforts over the years to "sell" AEG's "services" by explaining what AEG did.) It might be true that facility managers would get AEG involved when they felt AEG could add value, but usually the facility managers did not believe that AEG added value (even in AEG's procedurally required functions) or they left it to the rad techs to decide whether to involve AEG or not. In any case, it was certain that before RPP-310 was changed, AEG was excluded many times when we should not have been. So again Hunt talked around the issue, disparaged AEG obliquely, and implicitly asserted the primacy of the rad tech organization in rad control decision making.

On 31 July 2000, Hunt replied to a suggestion I had sent to the Suggestion Box quite a while earlier. Like all my suggestions (but unlike most other people's), the suggestion was "signed", i.e., I included my name in its text. In it, I stated that Hunt had not really answered the suggestion "Engineering Controls" that appeared on 30 June 2000. I said that the original question was about rad techs being the sole ORP voice in specifying rad controls, which was true whenever a rad tech or tech supervisor was chosen as the RP-310 independent reviewer. There was no definition in RP-310 of "independent" or "qualified", so any ORP person could be chosen. It was inconsistent to say that it was best to have people "familiar with the facility" do the independent review, when people familiar with the facility might not be truly independent of its operations. Using a rad tech supervisor or tech not familiar with the facility might not be an improvement over using a rad engineer; using the rad engineer added diversity and breadth since the facility complex leader already was a Level 2 and above reviewer, by RP-310.

In my suggestion, I gave examples of technical decisions that might need to be made. I pointed out that at PNNL and other DOE sites, decisions on, e.g., ventilation were made by rad engineers, not techs or tech supervisors, and even when such decisions were made by techs, the techs had to have special training to make them. I said that ORNL management ought to consider who should make such decisions, etc., at ORNL. I personally had always maintained that RSS should be involved in reviews and that once a job starts, the during-the-job decisions should be left to the techs. But rad engineers usually were more up on lessons learned around the DOE complex than techs or their supervisors were and Hunt's saying, in effect, that an RSS person's review was equivalent to a rad engineer's review was incorrect.

I also addressed the validity of Hunt's implicit assumption that having rad tech training and maybe supervisory training qualified a person to make decisions about engineering controls and optimization, which were included in rad tech training superficially if at all. I suggested that ORNL management consider what qualifications ought to be required to make such decisions and either provide specific training to the rad techs or involve rad engineers as other sites did. I said that ORNL would find it cheaper to involve rad engineers than to develop training and to train all the techs and their supervisors (as would have to be done with a completely open reviewer pool). I said that I didn't think the facility managers were familiar with AEG's capabilities and in any case, facility managers usually left it to RSS to tell them when AEG involvement was required or desirable. Since RCS and RSS were now in competition as reviewers, as ORP management had now arranged things, there was a conflict of interest in having RSS be the gatekeepers for RCS involvement in RP-310 reviews and other radiological support; also, the tech-organization-as-gatekeeper approach was not used at any other DOE site I knew of. I noted that what I said about the need for AEG to be involved in operational (RP-310) reviews was even more true of design (RP-128) reviews. I finally suggested again that ORNL management consider whether their present approach to rad protection reviews really provided for adequate rad control decision making.

I asked that both Hunt and Mlekodaj reply to my suggestion, but as usual only Hunt did. His entire response: "To my knowledge, no RCT (rad tech) has been called upon to do an "independent review" per RP-310". He did not address any of my points; as a management response to a detailed and specific critique, his reply was completely inadequate. But note this regarding the one thing he did say: during the summer of 2000, several rad tech complex leaders did do RP-310 Level 3 reviews. And according to Mei (in December 2000, after Geber and I were laid off), a rad tech – not a rad tech supervisor – did in fact do an independent (RP-310 Level 3) review. I knew that it would happen and it did happen.

On 31 July 2000, a suggestion asking about UT-B's management philosophy was answered by Hunt as follows, quoting from the written record of remarks that Jeff Smith, UT-B's deputy director for operations and the #2 UT-B manager, made in a presentation. Smith said that the UT-B "Management Team" wanted to make improvements in clarity of accountability. He stressed that accountability for performance will "flow though the organizational chain [line management]", e.g., if there was a facility ES&H deficiency,

then it was the line management that was responsible and was held accountable. Smith also stressed that the support organizations (such as ORP) "must provide sufficient and effective assistance to the facilities on the front end and not second-guess line management decisions". He said that support organizations have a core function "to understand and interpret external requirements for ORNL" and a support function "to provide their subject matter capabilities to the line as needed". Hunt merely quoted Smith and did not translate or interpret Smith's remarks as they applied to ORP. But the intent seemed clear: UT-B management was stating officially that ORP was to provide only "assistance" to line management and was not to "second-guess" line management's decisions about safety. These remarks thus reinforced ORP management's statements that the new ORNL safety paradigm was that line management made the safety decisions and the safety organization provided only advice and "interpretation" of DOE requirements, with no implied approval or review authority. This statement should be compared to Sims' quotation of Beierschmitt as saying that Madia would hold line management accountable for safety. It was clear, of course, that somebody had to keep track of safety performance for Madia since he couldn't personally audit and track everything. I wondered who the Madia eyes and ears were to be -- it had not been stated explicitly anywhere yet so far as I could tell.

On 31 July 2000, someone asked via the Suggestion Box how one would do a "critical" rad review without second-guessing line management (see above). Hunt replied that his "guess" would be by "providing effective assistance to facilities on the front end" i.e., he again quoted Smith's presentation. Again, his response did not address the issue raised. On 31 July 2000, another suggestion asked Hunt to explain his answer about (safety) management philosophy "in plain English" (regarding the previous two suggestions). Hunt replied that he did "not much like to interpret what Deputy Lab Directors" said, but his "feeling" from the presentation was that line managers would be held "much more accountable" for their operations but were also "given greater authority to get the support people they needed to keep them out of trouble". He added that there would be no "oversight role" (i.e., second-guessing) for ES&H groups. Hunt thus explicitly said that his interpretation of UT-B's position was that managers would have more say about which safety people were assigned to "support" them. He stressed that this was only his interpretation, as if he were still not sure of UT-B's intentions -- some four months after UT-B took over and much more than four months since UT-B started talking with ORNL supervisors and managers about future plans for the Lab. But he did make it clear that ES&H people would not be performing any oversight of line management's safety actions and decisions. Again, I wondered who would.

Another 31 July 2000 suggestion expressed disagreement with my suggestion (above). (Although Hunt's reply to my suggestion came long after my suggestion was submitted, Hunt responded to this new suggestion in just one day.) The suggester stated that "there is more to air flow and shielding than what is stated in a book or a computer program" and that each job and facility was different. The suggester claimed that "Often only years of hands-on work will give a person the experience and knowledge needed to make difficult decisions" concerning worker safety. He asserted that "Just because you fly a jet fighter on a computer game, does not make you a fighter pilot". He said that he thought that "people doing rad coverage and reviews needs [sic] technical knowledge and field experience" and that if everyone doing reviews had both, they could do reviews regardless of job title. Hunt's reply to this was that there wasn't an "end point" in arguing training versus experience and that he expected that "how we do job planning" might change when UT-B fully implemented their management philosophy. Thus Hunt again did not directly address the issue of qualifications and made a general statement that straddled the issue. In particular, he did not repudiate the implied slight to AEG, since everybody understood that the "book or computer program" and "jet fighter...computer game" comments applied to us. But he did signal that changes were likely in job planning, which we in AEG felt sure meant in RP-310 and AEG's involvement.

On 1 August 2000, a suggestion stated that at Bechtel Jacobs, the techs did not make rad control decisions, their supervisors did. The suggester said that this should be the case at ORNL also, but the complex leaders were lazy about making decisions and thus left them to the techs. The suggester also

stated that the techs did not have enough training to make complicated calls (apparently agreeing with my suggestion). Hunt replied that he disagreed, that "there are decisions best made by the folks doing the work" and others "that usually require additional levels of approval"; he claimed that "these are generally spelled out in the procedures". He added that he did not know how they did things at Bechtel Jacobs. Hunt did not make it clear whom he meant by "folks doing the work", but it seemed clear that he meant line management and the rad techs who covered the jobs. As usual, he was not specific as to which decisions were "best made" by these folks. I was puzzled as who might have made this suggestion: it might have been a tech, since some of them were convinced that their supervisors were do-nothings who sat around all day, but it could also have been an AEG sympathizer.

Another 1 August 2000 suggestion asked why somebody was "continually pitting the rad engineers against the RCTs" (rad techs). Hunt replied that he did not know but he thought of such a person as "noble but misdirected". Here, as in other responses, Hunt did not deplore the RCS-RSS rift and did not urge cooperation, understanding, etc.; in fact, he seemed to be saying that people who stirred up trouble and dissension were "noble" (albeit "misdirected"). I was aghast at the cluelessness of this response -- at some companies, managers who said things like that could find themselves in serious hot water.

A 10 August 2000 suggestion asked about a plan the suggester had heard of to have complex leaders report directly to facility managers, rather than to their own supervisors (the rad tech group leaders). The suggester suggested that this would be a fox guarding the henhouse arrangement, but also implied that thereby three rad tech group leaders could be eliminated, thus saving a nominal $450,000. The suggester facetiously said that the 13 complex leader positions could also be eliminated by having rad techs report directly to the facility manager, "who knows everything about rad controls". He added that under this system very few Radiological Event Reports would be written (implying that the facility manager would control the writing of these reports). Hunt's reply did not address the issue of independence at all. Hunt said that there was a pilot program for "Facility Use Agreements", without explaining to the larger ORP audience what these were. (I myself didn't know.) He said that PNNL had a "similar" system whereby one could call a single number for all services, e.g., for a leaky ceiling or a rad survey of a desk going to Salvage. He opined that the only effect might be a charge number change, which wouldn't be known until the pilot was completed. Hunt thus did not address the fundamental issue of safety management organization that was raised by this suggestion. He implied that ORNL's proposed system would be the same as PNNL's, which did not seem true based on what he said here ("one-stop shopping" is not the same as "reporting directly to the facility manager") and on other information we had about PNNL's rad protection organization. He did not explain what changes might occur. Yet it was important for the safety peons to know what the changes might be, not the least so that they could point out what conclusions based on low-hazard pilot facilities might be erroneous when applied to high-hazard facilities.

Benchmarking MCNP

On 5 May 2000, I met with Don Mueller and Davis Reed of the criticality group (of the former ONS) regarding a job they had for me to do: to check a series of benchmark MCNP computer code calculations and an associated report by Mueller. I remarked to them that people considered that I did rather detailed reviews, to which Mueller replied that they liked that, it being consistent with what they themselves did. This was a chargeout opportunity for me and I did in fact do this work, interfacing with Mueller. We got along well and Reed and Mueller seemed happy with the job I did. It was during this association that Mueller told me about his removal from the MSRE project. This interaction was also significant in terms of my coming to realize what a standup guy he was and of his later doing me a service I can never adequately repay.

RORC and Related Matters

On 18 May 2000, I attended an RORC meeting regarding a beam shutter design change memo. I had told RRD and RORC previously that an RP-128 (rad design) review needed to be done for the beam shutter

and in this meeting I pointed it out again. Several fellow RORC members were supportive of the questions I asked RRD. RRD stated that they did not know about the RP-128/RPP-128 requirement and had "somehow" missed calling out this requirement in their configuration control procedures. On the earlier cold source project, I had reminded RRD that they needed an RPP-128 review for the cold source, but they ignored it until it came up at a later meeting. (Unlike RRD, however, the cold source project engineer (not an RRD person) and his people were very cooperative in doing the review.) The resin project also had had design aspects that were missed, which was pointed out to them at the time of the incident I related in a previous chapter. Etc. So now, regarding the beam shutter change, I did not believe for a minute that the RRD people were ignorant of the RP-128 requirements; I could not credit them with acting in good faith because of their repetitive past history of ignoring such reviews. (The reader should note that, as I mentioned above with regard to the beryllium outage, RRD requested an RP-128 review of the HFIR beam tube design in general on 31 August 2000, i.e., some three months after this May RORC meeting.)

In the late summer or early fall of 2000, when it was rumored that layoffs by UT-B would indeed take place later in the year, Mlekodaj commented to me that due to my high profile as an active raiser of issues I was probably "at the top of their [UT-B's] list". I took it seriously and I told my fellow RORC members that I had been told I was in danger of being laid off, because they would need to be looking for a new member, if so. However, a week or two later, when I referred to this with Mlekodaj, he told me in alarm that he was only joking. So I felt reassured, as I told my fellow RORC members orally. It seemed improbable to me that anybody in AEG would be laid off, because AEG was so small compared to similar organizations at other sites.

Suspicious Radiological Incident and Consequent Special RP-310 Training Session for Chem Tech

Some time in 1999, an incident occurred in which a line supervisor received a reportable internal dose although he supposedly had not entered an airborne radioactivity area. The facility involved, like MSRE, was managed by Bechtel Jacobs, but Chem Tech was doing the operation under contract to them. As facility manager, Bechtel Jacobs was supposed to write the occurrence report, but Chem Tech objected to their draft version. Bechtel Jacobs ended up allowing Chem Tech to write the official version, a questionable practice that was apparently allowed by DOE. (The reader can look up the report: it is ORO-ORNL-X10CHEMTEC-1999-0020 in DOE's occurrence report system.) This incident was of interest to Geber and me not only because of our treatment by Chem Tech, but also because the occurrence report itself was fishy: the root causes did not accord with the "facts" as stated in the report or with the facts as we heard them from others. Chem Tech, presumably to avoid any further scrutiny of its actions, laid it on pretty thick in the area of corrective actions -- actually faux corrective actions, since if the identification of the root cause is wrong, then the corrective actions are not likely to correct the real problem.

In the occurrence report, one of the root causes was said to be that there was not a project procedure governing a dry run. Because of this and other causes identified in the report, Chem Tech listed as a corrective action a training session for its supervisors on RP-310. Chem Tech head McNeese asked ORP to provide this training. So it was decided (by Sims?) that the principal rad tech trainer would do the training, with Mei and me advising as to content. Mei directed me to attend to provide the trainer with moral support and technical backup. As I found out later, Chem Tech did not pay for this training: someone, apparently Sims, decided that it would be paid for by ORP overhead.

On 27 June 2000, the training session was held. The trainer went over the new RP-310 provisions, including the ones that said that line management could choose its own "independent reviewer" and that it was only "suggested" that enhanced line management and ORP oversight during work be provided for infrequent or first-time activities. Several of the Chem Tech folks, including at least one who had had an RER written against him, were cheerfully gloating about the leeway Chem Tech now had to pick its own reviewer, and several others were hostile and bristly toward us. One student defended rad techs as

potential reviewers, but the trainer (who trained the rad techs also) stated stoutly that the rad techs received no special training in ventilation, etc. I nearly choked during the question-and-answer session after the presentation -- it was humiliating to have to describe the new RP-310 state of affairs when everybody seemed to know that we did not agree with it. Talk about eating crow! Mei certainly did not anticipate that the session would turn out this way -- she does not have a mean bone in her body -- and she tried to console me when I told her about it afterward.

ALARA Suggestions

In the summer of 2000, an ALARA suggestion was submitted by an RRD person who questioned RRD's choices of which areas to survey and decon on a more frequent basis than other areas. (Note that this was not a suggestion by an ORP person for the ORP suggestion box, but one from a non-ORP person submitted via the ORNL ALARA suggestion program.) I had already talked with the person about this and had encouraged him to submit the suggestion; I had also talked with a HFIR rad tech and the HFIR complex leader about it. On the basis of the suggestion and these talks, I met with Don Abercrombie, the former resin job task leader who was now an RRD manager. I verified in this meeting that the choices were made rather arbitrarily by Abercrombie himself and were not made on the basis of an evaluation by or with the rad tech complex leader. He confirmed what I had heard: that the extra area surveys and decons were the idea of the new RRD director, in particular the use of operators to do decon in what the director seemed to regard as their generous blocks of available free time while on night shift. I passed on the objections of the suggester, which the rad tech and I basically agreed with. But Abercrombie failed to see the point and refused to reconsider the survey of any of the areas, again citing the RRD director's desire to have more frequent surveys of some areas and implying that the suggestion was inspired by a desire not to do extra work on the part of the operators. I reported all this to Mei, but I realized that due to the upcoming lengthy beryllium changeout outage the issue would soon be moot, at least for a while.

The extra survey plan seemed to have been concocted to show DOE that RRD was taking various HFIR contamination incidents seriously, rather than being something motivated by events or conditions in the particular areas selected. One or two of the areas were chronically contaminated and thus decon would be a continuous rather than intermittent process, as the complex leader agreed. This was not per se a reason not to decon; however, the director appeared not to have considered the extra internal and external dose and radwaste resulting from all these repetitive decontaminations. Also, as I pointed out to Abercrombie, if a contaminated area had nothing to do with the contamination incidents (e.g., if the contamination in none of the events could be connected by proximity or activity to that contaminated area), then cleaning it up would not reduce the number or kind of contaminations. He did not seem to understand this point.

Shield Adequacy Verification for the Quality Division

On 12 July 2000, Utrera and I met with a representative of the Quality division regarding the verification of the adequacy of existing shielding in a building to which they were moving their X-ray and source radiography equipment. Utrera had been trying to do the verification calculations using a lookup table and perhaps Microshield, but due to his work on the HFIR outage, he did not have time to continue. So Mei had me take on the task. Although Utrera was the most junior rad engineer in AEG and I was the most senior, I was getting his leftovers. In this case I didn't mind because the Quality people were nice and, as fellow safety professionals, they had a good attitude.

For those readers versed in shielding, the problem was that the "new" room was not actually newly built but was to be backfitted. The photon scattering out into the hallway -- with the restrooms and water fountain right across the hall from the new room -- was an important consideration, one that could not be adequately handled with lookup tables and Microshield, due to the door gaps. So I used MCNP. The project engineer and the Quality people were thinking of using steel strips or the like for the gaps. I modeled the radiography source (which was the limiting source) and the entire room, including the door and its proposed gaps and shielding strips; I put the source in various positions to check the resulting dose

rates outside all the walls and in the hallway. I showed that the room could be used and the dose rate outside kept down to an acceptable level if the source were kept back into the room a moderate distance.

As was my usual practice, I wrote a detailed memo report for the Quality people and a detailed calculation writeup for my files. Thus, as I liked to put it, "if a truck ran me over tomorrow", other people would still be able to defend the design of the facility based on my files. My attention to documentary detail was something that was held against me later on, but I always believed that it was important to document what one did, if it had to do with a safety measure.

A Note About Doing Calculations

I have mentioned doing calculations for ONS to benchmark some MCNP work, for the Building 4501 folks to determine shielding adequacy and requirements, and for the Quality people to assess shielding adequacy. This was a typical year for me in terms of doing such calculations. But Mei told me in perhaps July or August 2000 that "they" (unspecified higher-ups) said that "other people", such as Linda Gilpin of ONS or folks in the Computational Physics and Engineering Division (CPED), could do the calculations that I had been doing. I protested that statement, noting that in my calculations, I selected dose points (besides any requested ones) so as to provide a good rad protection picture of what was going on and I also made rad protection recommendations that CPED and Gilpin did not have the qualifications to make. As Mei knew and as I was sure that Gilpin and the CPED people would agree, based on my various positive interactions with them, they did good shielding calculations but they were not health physicists and typically were not cognizant of operational issues, such as how some work is actually done. If an operational person said he wanted them to calculate the dose rate at such-and-such a point, they would oblige; me, I would query the person as to what he was going to use the dose rate for, where the worker would be, and so forth, to make sure I was producing a truly appropriate and usable number. The reader will recall the case of the calculations for the HFIR resin box, where the calculations had been done by two different people -- but only to check that the box could be sent as radwaste, not to determine the dose rate to the disconnection worker. Mei said she realized all this, but "they" (the higher-ups) didn't.

I thought, then as now, that the real reason for preferring "no questions asked" calculation-performers was that line management could obtain dose rates and then decide for themselves whether the dose rates and the resulting doses were acceptable or not, without any but tame rad protection people knowing it. This was again the "do it yourself" form of health physics preferred by ORNL line managers.

TRU (Transuranic) Waste Processing Project

In July 2000, I attended another TRU waste facility design meeting. As I noted earlier, some of the other reviewers (many of whom were from out of town) agreed with my questioning the handling methods for the solid TRU-contaminated items, the scattering paths for neutrons, etc. One pair from San Francisco, who worked for a well-known engineering company, gave me their cards and encouraged me to apply for a job there, telling me in effect that the company could always use a good rad design person.

Fetal Protection Activities

When our fetal survey tech left AEG's Source Control subgroup to go back to RSS in early June 2000, I assumed the handling of all aspects of the fetal protection program except the actual surveys; these were done by our other Source Control technicians. I had already revamped the fetal protection procedure because it was not in agreement with the requirements of 10 CFR 835. I made some "data capture" forms so that I could document quickly the important information about each declared pregnancy and nursing mother case. I interviewed each woman regarding her work areas and assignments, using a checklist (one of the data capture forms) and taking from about ten minutes for simple nonrad worker cases to perhaps 30 minutes or more for serious rad worker cases. Then I dispatched our surveyor to check the work area. Finally, I wrote a memo to each woman and her supervisor, summarizing the results and any precautions that should be taken. Usually, of course, there were none, but even many nonrad workers were near

radiation or contamination areas and their situation had to be checked. I was complimented by our new main Source Control technician on how I had revamped the program. That made my day.

However, I was distressed that I had to ask each woman or her supervisor for a charge number for our time. On the one hand, it might seem fair that the division in which the pregnant person was working should pay for the fetal protection activities related to her. But on the other hand, it seemed unfair since the non-rad-work divisions thus had to pay because of potential hazards associated with the rad-work divisions or with the whole site (e.g., from "legacy" waste). There was also the potential for discrimination against fertile females, in that here was a moneysaving reason for a division not to hire somebody who might get pregnant, or even not to allow such people working for subcontractors to occupy space in buildings the division controlled. Beyond that, there was the privacy issue: if there was no reason for even a supervisor to know for a while, we maintained confidentiality. But as I noted earlier, if we had to ask the supervisor for a charge number, he had to be told what it was for. In interviewing one pregnant woman engineer prior to the survey of her area, I explained this. She spontaneously expressed indignation (not at me, but at Lockheed Martin, our employer at the time) because although she was married and this was her second child and so she had no reason not to tell her supervisor, on principle she thought that this should definitely be an overhead-covered charge. I had known her for several years and I respected and liked her, so I was gratified that she recognized the implications of chargeout in fetal protection.

On 2 August 2000, I met with a Chemical and Analytical Services Division hot cell facility manager and some of his people and rad techs with regard to a pregnant chemist who worked at the facility. Her office had been found to have an elevated background. I also spoke with the woman in some detail. The result of this meeting was that waste was moved to lower the background, the local rad techs agreed to keep a close eye on the background in that area, and the woman accepted a slightly elevated background in her work areas. I had the impression that a holistic lookover in a case like this had not been part of past practice. Also, the estimated dose and the other arrangements were documented, as required by 835 and as they had not been in similar cases in the past. In the stressful situation that AEG found itself in, one bright spot for me was the difference I felt that I was making for the better in the fetal protection program.

ALARA Course for Engineers

Geber and I were supposed to resume giving the ALARA Course for Engineers, which we hadn't given in a long time because of the procedures revision and other critical activities. But in August 2000, Mei, for reasons that she would not explain, insisted on auditing it the next time it was given, although she had attended it previously as a student. Due to scheduling problems (e.g., booking an appropriate room), the days and weeks that suited Geber's and my schedule did not suit Mei's. I pointed out to Mei that it would be least problematic if she were the one who could not attend (since Geber and I, after all, had to teach the course). It was clearly time for her to explain why she was so insistent that she had to "sit in". Mei then did offer a limp explanation – i.e., that when Geber and I had offered the course the last time, she was off on a DOELAP audit at another site and she now wanted to "see how the team worked". There appeared to be no point in her losing an entire day to watching us do what we had done before. It was puzzling.

Shortly after this, Mei told me that it would be best to postpone giving the course until October. I asked her if there was a possibility that Hunt, once we started working for him on 1 October, might cancel the course, but Mei replied that she was sure that would not happen because she had already discussed it with him. I had earlier teased Mei about having effectively admitted that AEG would be under Hunt, when she had previously said that was only in the talking stage so far. Now here was another possible Hunt-associated noncommunication from Mei. I thought at the time that the issue with the course was that somebody high up in management wanted Mei to teach it and not me and Geber -- that we were viewed as persons not to be allowed to come into contact with O&R people because we might offend them somehow. It may have been that Mei, having intimations that either Geber or I or both were to be laid off,

was preparing to fill the void and teach the course herself. However, I think she did not actually know this, but rather was directed as to what to do. Obviously, the higher-ups knew something about Geber and me that she probably didn't and we certainly didn't know.

I emphatically did not want to work for Hunt; Mlekodaj was genial and respected other people's expertise and he allowed people to work on improvements as time permitted, while Hunt was of the "my way or the highway" school of management and was narrow-minded. Webster's dictionary says that "narrow-minded" means "lacking in tolerance or breadth of vision". It would be demoralizing to work for such a person. I hoped that I was wrong about Hunt, but was not optimistic about it. Neither was Geber.

The Launching of OSSD and Its Subdivisions

The three safety divisions ONS, ORP, and OSHP were officially to become a single division called the Operational Safety Services Division (OSSD) on 1 October 2000, under Carol Scott. There was some haggling about the name: for a while it was going to be called simply the Operational Safety Division, but Beierschmitt, we heard, insisted on putting the word "Services" in. I thought that was very revealing.

At the 11 September 2000 AEG-RE meeting, Mei told us that 100% percent chargeout was the goal and that we should look alive for chargeout opportunities (such as becoming divisional rad control officers (DRCOs) for other divisions, as Hamley was for the Metals & Ceramics Division). But, she cautioned, if we got some non-ORNL "Work for Others" work and had deadlines to meet, ORNL could not expect us to put ORNL work on a drop-everything-and-work-on-this-first basis. She observed that our ORNL work would still be there, more than we could handle. But if Don Gregory and the complex leaders "compete with us for this work", then we might lose it; she thought the O&R divisions would find it more effective to use us, but they might decide otherwise. Ominously, she told us that the names of those to be laid off by 1 October were to be sent to higher management by the next day. At the 30 October AEG-RE meeting, we were told that Bechtel Jacobs had hired Chem Tech (including Ian Gross) to provide gamma and alpha spec services. When ORP found out about it, Mei pointed out that AEG could do gamma spec too and Myint Thein pointed out that his section could count hotter samples than Chem Tech, but it was too late -- the contract was already in place, without ORP's knowing about it to bid on it. Mei also noted that an RP-128 review might not be done for the Spallation Neutron Source project, in part because Gregory (the principal ORP rep) had opined that ALARA was more of an operational thing and design review was less important and in part because "they" appeared not to want to do a rad design review of the target.

On 19 September 2000, OSSD's first safety meeting was held although we weren't officially OSSD yet. Scott told us, "My background is in safety". Everybody accepted this statement with a straight face, but I am sure that many were reminded that to our knowledge, Scott had never worked in an institutional safety organization. She had been a safety coordinator and I think a DRCO, but although she had some approval authority within her O&R division, Robotics, she did not appear ever to have been what you might call the legal signatory approver for anything, such as release of potentially contaminated objects. (Again, DRCOs were liaisons and did not have the same authority and responsibility as RSOs do at facilities regulated by NRC.) Still, we wanted to hear her out despite our misgivings.

But it was Sims who did the presentation on the upcoming divisional reorganization. The three safety "offices" (divisions) and the 13 ONS, OSHP, and ORP sections would become one division with four sections, thus "removing one layer of management". This arrangement was said to have been chosen so as to align the structure along the lines of purchased versus support services; however, the structure would be based on the draft budget and would be subject to change. There would be one division director (Scott), one deputy division director (Sims), one finance officer, etc. The fire protection group and a NIOSH group would be added later. Hunt's section would be mostly a purchased services organization, while Thein's section would be mostly an "overhead-funded services" organization despite their "Work for Others" work. In the question-and-answer part of the meeting, Sims stated that the charge-out rate was

considered in coming up with the structure; he noted that it was desired to optimize, e.g., the number of secretaries. He said explicitly that the purpose of the reorganization was "to become more competitive". He emphasized that management was shooting for a 1 October reorganization, but that it really depended on the budget, and that management people "have to have DOE approval for the reorganization".

Most of us did not realize it at the time, but the whole point of this and other divisions' reorganizations was to prep ORNL for the upcoming layoff. Sims did not ordinarily use empty catchphrases, especially as code for something else; he, as I have noted, was more likely to be candid to a fault. But in this case, he had his script and it said that the reason to give for the reorganization was "to become more competitive". So he said it. He did not specify with whom it was that we safety people were to compete. Note that ORNL actually did not have to have DOE approval for the reorganization per se, but rather for the layoff. In such a manner did our management mislead us about what was to come.

On 1 October 2000, a new organization chart for OSSD was issued. On it, as advertised, Scott was shown as the director and Sims as deputy director. ORP was dissolved and its three sections became two, headed by Thein and Hunt, with the new RSSS (the former RSS) acquiring AEG. Mlekodaj was effectively demoted from being the section head of RCS to being a group leader in Thein's section, while R. Vince Bishop appeared to have been demoted from a group leader to a peon. OSHP head Ann Shirley was demoted from office head to section head, with associated demotions of her former section heads to, I suppose, group leaders. ONS head M. Kohring was, as I mentioned earlier, demoted from office head to group leader and acting section head; he was later replaced as acting section head by a permanent person brought in from outside by UT-B. But RSSS, the "Radiological Support Services Section", still had the same group structure as before as regards the rad tech part of the organization; one complex leader had decided to take a VRIF (voluntary layoff with extra monetary compensation) and his complex was folded into another complex, leaving 10 complexes. These complexes ranged from 4 to 19 peons, although the latter included 11 subcontractors who, it was said, might not be needed after the Fall 2000 through Spring 2001 HFIR outage was over. This meant that there were now 3 group leaders and 10 complex leaders, i.e., two layers of management, supervising 74 or fewer techs (two VRIF'd, but they may have been replaced by others). Thus there was an average of fewer than 6 peons per chief (complex plus group leaders).

In the OSSD organization chart, there was a box under Hunt at the group leader level marked "Technical Support", but there was no leader name in it, not even Mei's. Under it appeared boxes for "ALARA Support" (the "ALARA Support Group" being the new name for AEG), "Radiological Program Support", "Radiological Training", and "Source Control" (which of course used to be part of AEG). Mei was listed as the supervisor of ALARA Support -- but not of Source Control. Geber, Utrera, and I appeared under ALARA Support, while Gregory, Hamley, and B. Slaten appeared under Radiological Program Support. This was all very confusing, even to Mei, who when asked said that she had not been told much and a lot of it was to be determined. When I pointed out to Mei that her name was not listed as Source Control supervisor and that there was a box ("Technical Support") above the ALARA Support box, she pooh-poohed it. But the thought that there might be a future Technical Support group leader over her and that Source Control was not organizationally tied to her any longer clearly dismayed her.

On 6 October 2000, Mei forwarded to us a memo from Sims to OSSD supervisors. Sims stated that the OSSD budget for FY01 (October 2000 through September 2001) was still uncertain but would be tight. The expectation was that it would be 91% for labor and 9% for materials, travel, etc. He noted that "We [OSSD management?] accepted this situation so we could keep as many people working as reasonable under the circumstances in which we found ourselves". He added that "many of us "skimped" on materials, travel, etc., during the last months of FY00", but asked supervisors to continue to use restraint in spending because "the visibility for these things is high right now and we are accountable".

Also on 6 October 2000, Hunt held a meeting for his new staff (including me) who were not part of his previous section. He said that Scott was making some decisions herself that were formerly left to the section heads. He told us that he understood that Beierschmitt was "not the easiest guy to work for", e.g., that when he wanted to talk to Scott he "jerked her out of meetings" that she was presiding over, even meetings that had been scheduled long before and were being attended by many other people. Hunt distributed a handout titled "Administrative Issues", saying that our chargeout rate (for everybody from tech to professional) was $57/hr, or $80/hr with the 40.7% overhead charge. All ordering of supplies was to be done through his secretary, "the only administrative person we have for 103 employees". In August there had been $3.8 million extra in ORNL "variances", but the other divisions, over the next two months, went on to spend that and at least $4 million more; OSSD, however, did not engage in the "September Jubilee" (the end-of-fiscal-year spending of leftover funds). He said that ORP used to adjust its rates at midyear, but Madia et al. would not allow that this year.

Hunt also said that people told him that the difference between him and Mlekodaj as bosses was that "Ron is easier, but I communicate more". He distributed a handout titled "Expectations". He read from it that one should use the "Golden Rule" when dealing with customers: "Think about how you want someone to act who remodels your kitchen"; one wanted such a person to "provide high quality work, at a reasonable cost, in a reasonable timeframe, and act appropriately". He said that by "act appropriately" he meant "Don't waste their time" and "Do what they ask you to do". He stated that (as my informant had told me earlier) Jeff Smith, Deputy Director for Operations, told the nuclear facilities managers in August that it was their responsibility to operate their facilities safely and that "If the support organizations did not provide the appropriate support, it was their duty to find an organization that could provide such support". Hunt's handout said that "Our [OSSD's] success depends on their [the O&R divisions'] success". He said explicitly to us that "Our main task is to make them [line management] look successful" and "It's not our job to make them look bad, but to make them look good".

During the question-and-answer part of the meeting, I asked about the "Radiological Program Support" box in the OSSD organization chart, noting that many radiological program support elements, such as the fetal protection program, were in the ALARA Support group. Hunt said that the separation was because "the rad engineers [ALARA Support] are supposed to charge out 100%", while the RP Support people (i.e., Gregory, B. Slaten, and Hamley) were largely on overhead. Eventually all of OSSD was to move to Building 5500 (so that our building, 4500S, could be refurbished into new research lab space), but he observed that (as was well known) 5500 had a serious problem with the ventilation system -- it was humid, moldy, etc. He said that it would cost Thein more than $3 million to move his bioassay labs with their hoods, etc., there and it was not certain where the money would come from. Hunt commented that he had used the excess RSS money at the end of the fiscal year (on what, I missed -- but see below), saying that the money came from the customers and he "felt it should be spent on them". He asserted that the reason that Mlekodaj was assigned as group leader of Bishop's old group was to free Bishop to concentrate on the actual computer work; Bishop did not charge out, but his people did, and that there was a question as to how charging would occur now. He said that "it is clear that we [OSSD] will have to pay for computer services", which I took to mean that our own in-division computer people would now be charging us for their time. Mei observed that if Bishop et al. had projects to do (as a "Work for Others" sideline) for others besides OSSD, that would be their priority work, not our stuff.

Hunt said that a procedure was needed for how to conduct an RP-310 review, e.g., how to do a Level 5 HFIR review such as we had had earlier for RRD. He told us that he wanted OSSD to have more input and approval authority for rad worker training because (as the principal rad trainer noted at this meeting) ORP had had initial approval authority but then the ORNL training people would make changes on their own. Hamley discussed EPD use, especially by the Materials and Ceramics Division, with their enthusiasm for EPDs and their willingness to fund increased use; he said that EPD leads Utrera and

Schoenfeld were busy, so that someone else might be needed to help with the EPDs. He announced proudly that a Metals & Ceramics person had already had training on how to reset and issue the EPDs.

This meeting made me feel sick. Hunt in essence had confirmed to us that as we had heard earlier, Beierschmitt, our boss several steps up -- and a person with whom I had shared my concerns -- was an arrogant jerk. Hunt also confirmed that rad techs and rad engineers charged the same, so again one had to wonder why the "customers" always thought the techs were cheaper. He said that the O&R divisions had seriously overspent but high management -- Madia et al. -- hadn't detected the overspending until it was far along. This did not say much for UT-B management's oversight abilities. Further, the deficit had to be made up somehow and the frugal safety organization, with its modest surplus, was an obvious target.

We were told by RSS informants that at the end of the last fiscal year, RSS had had money left over and bought themselves nice jackets from Cabella's with their names embroidered on them; we saw them wearing these jackets. This year, we heard, RSS had used the excess to buy a stove for the break room of the building in which Perkins and other RSS people had their offices, which was "owned" by an O&R division. RSS paid for the stove, but most of the people in the building were not RSS and so were getting a freebie; also, if RSS ever left the building, the stove would stay. I think that this was what Hunt meant by saying that the leftover money -- which his people had earned -- should be "returned" to the customer.

But most of all it made me sick to hear the same kiss-ass slogans coming out of Hunt's mouth that I had heard others say. I knew that he believed in deferring to the customer -- this had been obvious from comments he had made in my various interactions with him over the years -- but that he would so twist our safety mission as to say that "Our main task is to make them [line management] look successful" and "It's not our job to make them look bad, but to make them look good" was nauseating. It was as though we were in charge of their makeup or their wardrobe or their image, and not their safety coverage. Had I been savvier, I would have noticed something else: that we rad engineers were viewed as having to charge out 100%, while the other three non-supervisory non-tech people in his organization (Gregory, Hamley, and Slaten) were to be carried mostly on overhead. This made us vulnerable to being laid off on the basis that we couldn't drum up enough business to support ourselves. AEG had been the ALARA Program staff for many years -- and now many of our functions were being taken from us and given to the other three.

I also didn't pick up on the ramifications of Hunt's statement that a "how to do an RP-310 review" procedure was needed. As I said earlier, we provided mentoring on this and there was a checklist to guide the non-rad-engineering reviewers. But if there is a procedure, then "anybody" can do the review, in theory, as long as he follows the procedure and there is little left to his judgment. Mei had told me within the past year that "they" (the higher-ups) thought that the reviews could be done by less educated and experienced people, e.g., rad techs and even DRCOs, i.e., these people would sign off as the official rad protection reviewer in lieu of a rad engineer or professional health physicist. Also, I saw a statement on one of the new management's issuances to the effect that one should "capture" professionals' knowledge in checklist form so that less qualified (and lower paid) individuals could do the work, thus allegedly freeing the professionals to perform other tasks. Of course, as is obvious, the same work could then be done with fewer professionals, thus saving money. The problem is that the less qualified individual tends to apply the same checklist and solution set to everything and not to recognize situations outside the norms and limitations of the checklist.

On 9 October 2000, Mei forwarded us a memo from Sims to the OSSD supervisors announcing some OSSD appointments. With ORP, OSHP, and ONS consolidated into OSSD, some appointments were made on an OSSD-wide basis. Utrera, the ORP DRCO, would be the OSSD DRCO (despite his supposedly full-time work on the HFIR outage); a person from the environmental protection and waste division would be the OSSD Environmental Protection Officer; Deanna Hatmaker and B. Slaten would continue to be the Quality Assurance Coordinators for Thein's and Hunt's sections respectively, as before;

and B. Slaten would be the OSSD P-AAA Program Officer, a position that would, however, not go into effect until FY01, for unstated reasons. Sims noted that Beierschmitt had suggested that a QA (division) person be named for the latter position, but an OSSD person was used because "the expectation is that for OSSD this won't be as big a deal as it is for the divisions with nuclear facilities". Note that Slaten used to report to Sims and Hunt and now reported to Hunt in her capacity as QAC; presumably in her capacity as OSSD P-AAA PO, she would report to Scott, but Sims did not say so. In any event, she was not independent of OSSD, as a QA division person would have been. (This is not to disparage Slaten's abilities or ethics, but to point out the conflict of interest.)

On 7 November 2000, Mei forwarded to us a memo from Hunt, summarizing what Beierschmitt had said to his division directors and their "direct reports" at a meeting that day. I did not understand most of what was said in this memo, since we peons had not been briefed as to the new jargon being used. Hunt quoted Beierschmitt as saying that UT-B was "facilitating the development and deployment of management systems, which included the development of the "Standards Based Management System" under Fay Frederick (the UT-B head of the training and procedures organization) and the associated ability to "budget by management system" in FY2002. Beierschmitt also said that UT-B would "deploy" the "Integrated Assessment Management System" with its self-assessment section now applying not just to compliance but also to "organizational learning/growth, customer focus, financial, and business processes along with meeting the strategic goals of the Lab". UT-B was also to "continue the cost effective management of the ORNL ESH&Q program", including "an improvement in ESH&Q performance while budget goals are met"; Beierschmitt thought that if ESH&Q could meet the current fiscal year's financial goals, it would not have to take another budget hit in the next fiscal year. Finally, Beierschmitt stated that the primary purpose of these changes was to "align the Lab's strategic planning with our primary customer's (DOE's)"; he felt that ESH&Q should be "designing and deploying management systems that ensure success and ease the Lab's dependence on "experts" to accomplish work". (Underlining mine)

With regard to the Standards Based Management System, I read all I could about it while I was at ORNL, asked my supervisor and section head about it, etc.; I read what ORNL put on the "public" Web after my layoff. But I still could not understand what UT-B meant by it. One would think that it meant that standards would be set and then projects, etc., would be managed in compliance with those standards. However, as UT-B seemed to present it, it was almost as if the opposite were true, i.e., that there were no actual fixed standards or criteria but rather statements of who was in charge of what and perhaps what general goals were to be met, without much specificity in the way of actual performance requirements. I looked at the new "standards" as they came out and still had the same impression.

Regarding the extended self-assessment, it was odd that these things were spoken of as though previously they had not been self-assessed except for compliance -- as if there were not internal audits of, e.g., financial processes. But the inclusion of "customer focus" as a topical area so important that it was included with the other normally audited areas seemed to be a signal. It was amazing that after years of budget shrinkage and new, tight budget goals, UT-B expected an improvement in ESH&Q performance even in the face of further budget shrinkage. (No details were given as to how performance was to be assessed.) It also seemed incredible that if you made your budget goal, you would be safe next year -- our experience, especially since UT-B took over, was that those organizations who were meeting their goals found that their next year's or even same year's money was scooped up to cover the deficits of other organizations. It was news that ORNL's strategic planning was not already aligned with DOE's, since DOE called the shots and set the priorities. DOE seemed to have given UT-B some instructions that had not been shared with the world at large.

One thing that particularly raised a red flag was the part about "ensuring success" and "easing the Lab's dependence on experts to accomplish work". Hamley's talk about customer service had included the word "success" prominently, so I thought that Beierschmitt was not talking about ESH&Q success but success

for the customer (O&R division). Being successful in one area might or might not be incompatible with being successful in another area, but by this time I felt sure that the prime directive would be to ensure customer project success. Also, as I mentioned earlier, Mei had passed on some things she had been told to the effect that UT-B wanted to develop checklists and the like to allow less highly trained or educated people to do work that more highly trained or educated people were doing, e.g., to allow techs to do professional-level work. Again, this implied that the brains of the professionals would be "picked" and then most of them could be gotten rid of, with only a few left to supervise the technicians who were doing the work. This is arguably what happened in ESH&Q, as the layoff statistics would later show.

Performance Reviews and Personnel Files

By early October, I had begun to feel that the stress of being in my job situation was too much and I should be thinking about getting another job. I couldn't find my old resume, so I wanted to copy the ancient one that must be in my personnel file, which I was told was kept in the office of Leila Sutherland, the OSSD human resources person. On 5 October 2000, I asked her if I could see my file. She agreed but said that I could look at it only in her office. Upon perusing the file, I saw that all that was in it were my college transcripts and resume, my performance evaluations, and a few related documents. I reported to Sutherland that two things, at least, appeared to be missing: the various commendatory memos my supervisors had received regarding my performance and the several response statements (Mei's and mine) that had followed my coaching and counseling session. Regarding the commendatory memos, Sutherland said that "if the supervisors don't give them to me to put in, I don't know about them" and added that she knew nothing about the missing response statements.

We were supposed to have performance reviews by 1 October 2000, but Mei told us they were postponed. This went on week after week. I was not worried; I thought performance reviews were a nuisance and I figured that the problem was just that UT-B was deciding how they wanted to handle these reviews. The truth, as I found out later, was that my performance rating was being....um.... adjusted. When Mei and I finally sat down on 24 October, we went over her written assessment. The only negative thing she said was "Janet can work harder on paying attention to interpersonal skills". She told me that my performance rating would be a 4 (on a scale of 1 to 7, with 7 being the maximum). That is, I was being ranked as merely average. Mei told me that she had wanted to give me a higher rating, but she had been overruled. (She did not tell me, as I found out later, that Scott had wanted me to get a 3.) I inferred (incorrectly, as it turned out) that the oft-denied ORNL quota system for performance ratings had kicked in, that only so many 5's and 6's could be given in ORP and they had been given to others. I asked if I really did deserve a higher rating. She seemed surprised by the question. She enumerated all the things I had done over the year, starting with the very time-consuming procedures revision (for which, she noted, I had more procedures to do than almost anyone else and I had commented on most of the others) and ending with my work with MCNP. As she finished, I realized that she was right, that I had done a ton of work, and I exclaimed, "Wow", or some such. She smiled as the light bulb went on in my head.

In the new "360-degree" written performance review as it appeared on the Web, I had put in some "Employee Comments", as was my right. I pointed out that the complete text of what Mei had put into the review and that we had discussed was not shown on the Web -- only a summary appeared. I stated that as I had frequently pointed out to Mei and Mlekodaj and had also stated to Scott, the significant criticisms of me from "customers" such as Chem Tech and RRD were ad hominem in nature and were not really directed to the substance of my work. I gave as my opinion that the criticisms were directed at getting my management to make me soft-pedal my reviews and comments, especially the written ones, in the interest of allowing line management to operate in a noncompliant or quasi-compliant manner when they chose. I agreed that I could be less tactful than the average person, but I did not think that my oral statements were rude or ill-considered. I noted that my oral statements should be compared to, e.g., the statements of other engineers at the recent TRU waste processing facility design review meeting or to the statements of other engineers in meetings at ORNL; that I thought my written comments and review documentation were

courteous and professional by the standard at ORNL; and that I had made a sincere effort to improve my writing from year to year as regards tactfulness. I concluded that while I was willing to work on my interpersonal skills, I had to emphasize that I believed that the underlying issue in all this was whether safety people were allowed to state their best professional judgment and not be afraid to be the messenger at whom potshots might be taken. I added that these statements were not to be taken as criticism of Mei, whom I called "a notably tactful person".

My Approach to DOE and Further Interactions with UT-Battelle

In October 2000, after wrestling with my conscience for months and after having mulled over Scott's 29 September 2000 response to my concerns, I finally decided that it was my duty to get in touch with somebody in DOE (besides the local reps) regarding my safety concerns. I had trouble finding a hot line number to call -- there didn't seem to be one on the DOE Web page that was supposed to be for safety concerns. There was a contact E-mail address on another DOE Web page, so I sent them an inquiry. A DOE-Washington person called and told me that I should speak to my local DOE office -- specifically to Rufus Smith, DOE-ORO's Diversity Programs and Employee Concerns manager. I called Smith and made an appointment to see him.

In early November 2000, I visited Smith in his office in the Federal Building in Oak Ridge. I described to him as briefly as I could my concerns about safety at ORNL and some aspects of how UT-B was managing safety. I specifically mentioned that I thought that the violations should be evaluated to see if they were violations of 10 CFR 835 and 10 CFR 830 (the "Quality" order). He told me that if I wanted to report the concerns formally, I needed to submit them in writing. He also mentioned 10 CFR 708, the DOE whistleblower rule, and I said I would look it up on the Web. This is the rule that covers allegations of discrimination on the basis of whistleblowing, under which one could file a lawsuit. Since I was reporting safety concerns, including the retaliation, I thought that I just have to provide the writeup of the concerns and the retaliation -- my "complaint" -- and DOE would then formally investigate the complaints, including both the safety concerns and the retaliation. However, as it is important for the reader to understand (and as I did not understand until later), DOE treats the safety concerns themselves -- i.e., their significance and validity -- separately from the complaint of retaliation and the DOE whistleblower rule handles only the latter, not the former.

Over about ten days, I produced the writeup of concerns that Smith had requested from me. It took me that long because I did most of it at home, on my own time, with only a little done at work (e.g., checking my files for dates). I hand-delivered it to DOE-ORO on 13 November 2000. It ran to over 70 pages (which UT-B's lawyer later mocked me for). I felt that this was my one chance to address DOE and to present the whole picture, so I put in everything that I thought could or would be relevant to the issues of (1) safety organization and its deformation at ORNL and (2) retaliation against safety people and the tolerance of it by our management. I included a section on the Integrated Safety Management System (ISMS) and how it was being interpreted at ORNL. DOE could not now say they didn't know what was going on at ORNL -- I had just informed them, chapter and verse.

On 22 November 2000 -- which the reader should note was the Wednesday before Thanksgiving -- I received a copy of a letter from Rufus Smith to Madia, stating that I had submitted a complaint DOE with safety concerns and allegations of retaliation. I was startled that DOE had mentioned my name, but then realized that UT-B would have to be told, because DOE needed to have UT-B respond.

Now I realized that busy as I was at work, I needed to finish off my reply to Scott's tardy September response to my June briefings of her regarding my safety concerns. I had not replied to her because, while I was not surprised at the tenor of her response, I was discouraged by it. Then as I began to think of how I would respond to her, I was too busy with work on the HFIR beryllium outage review in September and October. As the weeks then dragged by, I went back and forth as to whether to reply or just to proceed to

the next level, which would be to approach DOE-Washington (which eventually I did and was referred to DOE-ORO, as I said above. But finally, when on the day before Thanksgiving 2000 I found out that Smith had informed UT-B that I had reported safety concerns, I decided that I should make one final reply to Scott. Besides that, it had been long enough since Scott's response for me to be able to write with some detachment. I got started that day. However, I still didn't have enough time during work hours to get all my regular work done, not to mention writing the reply, which would be a long, serious memo. The next day, Thursday, 23 November, was of course Thanksgiving, a holiday; the day after that, Friday, 24 November 2000, was a holiday for us too, but I went in to work nevertheless. I finished off a calculation I had been working on and transmitted the results to the people who needed it. Then over several hours more, I finished off and sent my reply to Scott, with copy to Beierschmitt, Buttram, and Stow.

In my reply, I pointed out that Scott's response to some issues was a mere assertion that they were not issues; that her response to other issues was based on a misunderstanding of what I said; and that there was no response at all to some issues I raised. In particular, I noted that she was not specific as to how RPP-110 allowed Sims to make exceptions to shall requirements, whereas I had been specific as to why it did not allow that. I pointed out that Sims had not rescinded the exception even after Mlekodaj had pointed out the violation and that Scott did not appear to have talked to Swanks, who had never replied to Mlekodaj after Mlekodaj had gone to him with the concern about this violation. With regard to Chem Tech, I told Scott that it was not just my "impression" that they were pressuring Sims, but a factually based belief: Sims had stated to several people that he had to give in due to financial pressure. I pointed out that we in ORP were told explicitly that the customer divisions had to be kept happy or rad protection jobs would be lost. I reminded her about the retaliation by Chem Tech against me and others.

I contradicted her statement that I had claimed that only AEG people were qualified to perform RP-310 reviews; rather, I explained, a person doing such reviews would need to have knowledge not only of radionuclide characteristics and performing surveys and smears, but also, e.g., of how work is to be done, how control systems and equipment function, and how to analyze the use of dose as a resource. That was why the function had originally been assigned to AEG. AEG was also more focussed on lessons learned from other sites. I reminded Scott about the ventilation course: how Hunt had reportedly stated that hosting it was "inappropriate", how he had definitely said that if it was determined that RSS needed such a course, RSS would produce it themselves at far less cost, and how the rad tech trainer had scoffed at that assertion. I noted that Scott had said that people with adequate qualifications (in RSS) were performing the reviews, but she had not stated what those qualifications were, where they were defined, or what she thought the qualifications needed to be. I reiterated that every RSS group and complex leader -- and now every rad tech, by delegation -- would be doing such reviews and that decisions were thus being driven down to the tech level. I pointed out that Scott had not addressed the question of allowing a division to choose its own reviewer or allowing veto power over the choice by even the OSSD director (i.e., Scott herself). I stated that I hoped that she realized the implications of this compromise of independence.

On another point she failed to address, I reiterated that a reason advanced in the Chem Tech RPP-310 exemption for allowing a division to pick its own reviewer was that the reviewer would be familiar with the facility. But, I pointed out, complex leaders less familiar than I with REDC had done reviews there and certainly I was much more familiar with HFIR than Utrera (whom RRD had picked as their RPP-310 reviewer despite a previous written commitment -- see above). I pointed out that in her response, Scott had confused design and operations reviews (RP-128 versus RP-310). I noted that RRD had actually asked Mei whether their complex leader or a rad tech could do the design review of the HFIR Beam Room shielding. The RRD project manager of course knew how complex this shielding was, so, I said, Scott should ask herself why RRD would want a rad tech to do the rad protection design review of it.

Regarding her statement about consulting "Mei and other rad safety experts", I noted that she had not specifically named anybody but Mei and that Mei, excellent though she was, had expertise mostly in

dosimetry. Meanwhile, I said, I was not exactly chopped liver in the rad safety department -- I had been a rad engineer for 24 years, I had prepared a course on ALARA for design and operations engineers, I had been approached to comment on a DOE fetal protection guidance document, etc. I said that while I didn't claim to be a rad safety "expert", if Scott was applying that term to Mei and certain others at ORNL then I might qualify as well. In fact, I told Scott, I had discussed this with Mei and she seemed embarrassed by Scott's calling her an expert. Beyond that, I informed Scott, Mei told me that what Scott had quoted Mei as saying (that "other" people were qualified to perform reviews and that was okay) what not quite what Mei had said -- that is, there was a context to Mei's statement that Scott had omitted. Mei said that she had told Scott that she was uneasy about having complex leaders and rad techs doing the reviews; this was due to the lack of higher-level training they received, as Mei told Scott. Mei told me that she had said the complex leaders and techs might be okay to review some jobs (but not any and all, as Scott had implied).

I pointed out that while some other groups (e.g., CPED, a division that did advanced technical and engineering computations mostly for studies) could do shielding calculations, they were not qualified to judge the adequacy of shielding on a rad protection basis, as I was sure they would tell Scott themselves. I also pointed out that my shielding study for the Quality people had involved an informed placement of the dose points, etc., and that thus my results were more useful and applicable from a rad protection point of view than would have been true for a strictly shielding study.

Because of these considerations, I said that it was important to ensure control of the pool of reviewers as far as a best or optimal set of knowledge was concerned; AEG clearly had better claims to having this set than RSS. I asked that Scott reconsider opening the pool so much wider since it was clear that the widening had been done to fulfill customers' desire for a quick and "soft" review, with no delays and no hard questions asked. About trigger levels, I noted that I had given her detailed reasons why the revised levels were not appropriate and I reminded her of other DOE sites' practice with regard to these levels. I pointed out that Mlekodaj, Mei, and Geber also thought that the revision of the levels was of concern and that the basis of the revision appeared to be RSS' desire to ensure that its customers' decisions about work controls were not subject to close scrutiny by AEG, a truly independent work group. I also expressed distress at Scott's decision to put AEG under Hunt, when he had been demonstrably unfair to us. I stated that I believed that this was a way to put AEG under tighter control and to accommodate O&R divisions. I said that Hunt and Sims might have given Scott different reasons for the AEG-RSS schism than I had, but that they were not disinterested parties; besides, the written record spoke for itself as to which side had conducted the campaign of denigration and marginalization. I concluded that putting AEG under Hunt was unrealistic, both psychologically and functionally.

I pointed out another misstatement by Scott: what I had actually said about making operational reviews a purchased service was that I did not think that there was necessarily a connection between making the reviews a purchased service and having line managers be accountable for safety, i.e., the two were not necessarily tied together so that you had to have one to have the other. Rather, I noted, line managers were using money as a club; charging out (purchased service) gave managers an incentive to avoid getting services they had to pay for individually, and even before chargeout started for AEG there had been significant review avoidance. I took exception to her statement that line management alone, and not OSSD also, was in charge of ensuring that work was done in a safe and compliant manner -- the basis of my exception was that it implied that safety decisions were the line manager's to make. I asserted that if the line manager did not like the safety reviewer's conclusions, he should have to (be procedurally required to) work with the safety organization to resolve the differences, not simply be allowed to ignore their conclusions as he chose. I noted that to allow a line manager to make his own procedural interpretations, pick his own "tame" reviewers", etc., would be to cede him the right to say what was safe and compliant in an area (in this case rad protection) where there were people far more knowledgeable than he; I said of this idea that it was nuts. I reminded Scott that from what the DOE and DNFSB people

ISMS people said, allowing the line manager total discretion was an aberrant interpretation of ISMS. I also pointed out that the line managers had conflicts of interest in balancing safety against job completion.

I pointed that Scott had not addressed the procedural violations by Chem Tech and RRD and the condoning of these violations by Sims and Hunt; she hadn't even said whether she thought these were or were not violations. She also did not comment in any way on my request to her to refer my concerns to the P-AAA people. She did not address the various retaliatory acts, e.g., Chem Tech's rejection of Geber as the AEG rep to REDC solely on the basis of his having authored, at his section head's direction, a report demonstrating REDC violations of RPP-310. Nor did Scott state what would happen to the report, still not "fact-checked" by Chem Tech and so still in draft form. Finally, I pointed out that Scott's statement that my voicing of concerns was "valuable" was belied by the facts. E.g., there was Hunt's recent outrageous and unfair statement (which I heard from an informant) that I had "singlehandedly almost made ORP miss its [RP revision] deadline". I rejected Scott's statement also on the basis of the games played in the performance reviews. I told her that we in AEG now felt cowed, intimidated, and stressed out; that we feared that we would lose our jobs if we spoke out any more; and that actions spoke louder than words and management's actions were having a chilling effect. I concluded by telling Scott that I was referring my concerns back to the Employee concerns people and the ORNL ombudsman, in the hope that they would do what Scott had failed to do.

With the copy I sent to Buttram and Stow (Employee Concerns and ombudsman), I also sent a cover note, referring the concern back to them due to the unsatisfactory nature of Scott's response. I offered to meet with them regarding new information I had about the performance reviews. None of the people who received a copy of my reply (Scott, Beierschmitt, Buttram, and Stow) got back to me the next week (i.e., the last week I worked at ORNL) or later. Scott, by her response to me, fulfilled her paper requirement, but, the reader should note, Employee Concerns never did. I wonder if their last entry in my concerns file was "Concern cancelled by layoff".

I and Others Are Laid Off

Although we had been told that layoffs were imminent, we did not know who the layoffees would be. I did not really think I was at risk: our group was very small and I was the senior person in it, with arguably the best qualifications for the work we did. So when I was laid off, it came as a complete surprise.

On 28 November 2000, the Tuesday after Thanksgiving, at 3:30 pm, I was told to report to Scott's office. I thought that she must want to talk to me about the letter that DOE had sent to Madia the previous week and that we would be further discussing my concerns. However, when I got there, Scott was sitting with Sims and both had grave faces. She got right to the point: she told me that she was sorry to have to tell me that I was being laid off. She then handed me my termination letter and said that my last day would be Friday, 1 December -- three days away.

I felt my face grow red. I didn't feel angry, because I was so surprised, but I remembered thinking that I should not get angry, whatever happened next. I then pointed out -- calmly, as I recall -- that DOE had written Madia about my approach to them and that I still had concerns pending (with Employee Concerns). Scott replied that she knew. I asked something -- I forget what -- and she looked at Sims, who answered for her. My impression was that she did not know what to say and was looking to him to figure it out. I was there perhaps ten minutes.

I did not realize it at that moment, but I was one of a number of OSSD people being called one by one to her office to be given the bad news. Most of them were as surprised as I was. At 3:45 pm, I was crossing the hall from my office to Mei's and I saw Geber go off to Scott's office. I told Mei that I had been laid off. Although she didn't seem surprised, she told me that she had not known in advance who was to be laid off. I think Mlekodaj joined us at this point. Geber returned and told us that he too was pink-slipped.

Mei and Mlekodaj expressed real sadness at losing us. They made it clear that those managers and supervisors who did know who was to be laid off were not allowed to tell the future layoffees, under penalty of severe retribution. This was in contrast to all past ORNL layoffs that I had ever heard of, where the notice was usually about two months and nearly everybody knew if he was going to be laid off or not. We talked for a time. Then Sims, finished with his distasteful task, came and joined us. I was surprised -- surely he would have deduced that some OSSD people might temporarily hate his guts since he had been in at the kill, so to speak. He didn't seem to be aware of any discomfort we might have felt at his presence, but expressed his regret at our layoff.

I began that very day, late as it was, to clean out my files. I felt a responsibility to Mei to leave her with only the stuff she would need and to get rid of any extraneous junk. Also, the files that were my personal technical files, stuff I had brought with me to ORNL and had added to over the years (e.g., my beta and neutron files), had to be packed to go home with me. One would have thought that UT-B would have provided some help because of the short notice, e.g., providing boxes for taking one's books and stuff home and help in carrying them to our cars, but no -- we had to do it all ourselves. Over the next few days, some kind rad tech folks scrounged boxes for us and helped me carry the filled boxes to my car. What with handing over my responsibilities and files to people, finishing off the last of what I had to do as best I could, sorting through all my bookcases and files, and attending to the layoff meetings and checkouts, I had only time to send an E-mail message telling the news to my fellow RORC members -- I never had time to draft and send a formal resignation. Another problem for me was that I had been approved months earlier to go to the Health Physics Society Midyear Topical Meeting in February 2001. Not only was this an opportunity for me to gain points to maintain my certification as a health physicist, I was signed up to give both a talk and a two-hour course on radiological optimization. Now, being laid off, I would have either to pay my way myself or to tell the conference organizers at this late date that I could not attend. If there was a reason to be bitter about not having more notice of the layoff, this was it.

On 30 November, a Thursday, there was a "mandatory" meeting for the 92 or so people being laid off. Geber didn't go because of the press of work. When I arrived, I was struck by the assemblage: very many of us had gray hair and wrinkles. I also was surprised to see some very senior and able people there. For the reader to understand the nature of this layoff, I will point out here that about 15 of these people were union people, craftspeople, who were laid off in strict order of seniority. They had some sort of bumping rights or at least the right to take any open positions immediately at ORNL's sister Oak Ridge sites Y-12 and K-25; most of the non-union people laid off from the craft division (Plant & Equipment Division) also seemed to get jobs there, such as a craft trainer I knew. As several craft people told me on that day and the next, they would be starting new jobs on Monday, 4 December 2000, and would be keeping their seniority and benefits. So they ended up ahead of the game because the severance pay was pure gravy for them. I was happy for the ones I knew because they were good guys. But that left the rest of us, who would have to start from scratch.

At about 4:15 pm on 1 December 2000, a Friday, I finished packing up my things with the help of my friends and went over to the Human Resources offices to give up my keys, my pager, and my badge. Then I got into my car and drove away from the place where I had worked for eleven years.