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This submission is for the attention of

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 Senior Project Manager
 Division of Waste Management and Environmental Protection
 U.S. Nuclear Regulatory Commission
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(24)

It comprises my EIS Scoping Comments for the USEC ACP License Application.

I apologise that it's so late, but I hope it can be attached to the scoping record, as Matt suggested to me in private communication that it could be. Please confirm or deny that it has been attached. I believe its delay is consistent with the amount of extra time I was requesting beforehand. Forgive me, I've been busy.

If it can't be attached to the record, I'd still like to know that the suggestions contained herein have been considered properly in the scoping process.

Please let me know if I need to distribute the document to a service list.

While I have tried to restrict the scope of the document to topics of relevance to the environmental scoping process, I believe some of the material should be of interest to Yawar for the safety review.

Please let me know how I can participate in the safety review.

-e

CC: Matthew Blevins <MXB6@nrc.gov>, Yawar Faraz <YHF@nrc.gov>, Francis Cameron <FXC@nrc.gov>

SISP Better Complete

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USEC ACP EIS Scoping Comments

Ewan Todd

February 11, 2005

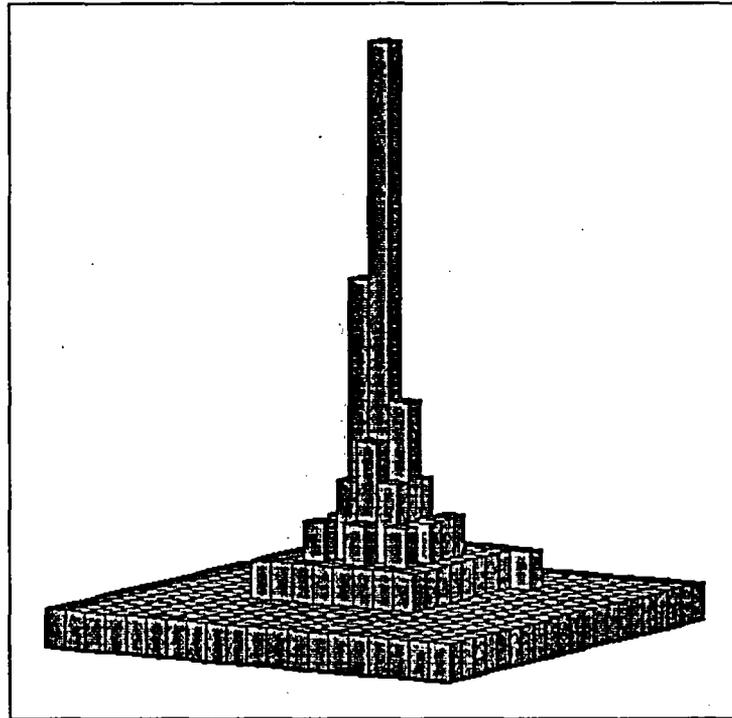


Figure 1: USEC Inc. leads NRC materials licensees in number of violations notices. Each block represents one violator, its height represents the number of violations issued. Violators at the edge have one violation. All 416 violators are represented. Materials licensees with no violations are omitted. The tall one in the middle is USEC Inc. with 15 violations notices, and civil penalties totalling \$378,000. Note: This is based on data from Oct, 2004. Since then, USEC Inc. has added an extra violation, bringing its tally to 16.

1 Introduction

Industrial Heaven

The DOE reservation at Piketon could be an “industrial heaven.” It is ideally suited to development as an industrial park, and would make a very attractive location for a wide range of industrial enterprises.

Consider its amenities:

- Unprecedented rail access,
- Abundant water supply,
- Incredible electricity supply,
- The best toolshops in the land, and
- Excellent road access.

The only obstacle standing in the way of realizing the reservation’s full potential as an industrial park is that it is contaminated by over five decades of nuclear industrial development.

The solution is to implement an accelerated cleanup effort.

Contrary to this vision, USEC Inc’s proposed uranium enrichment plant would close the option of non-nuclear industrial development because of the rigorous security requirements that attend the handling of nuclear materials.

Jobs for Southern Ohio

USEC Inc. has made a very persuasive argument that the ACP would introduce 500 jobs to the region, or even 600 for a 7 MSWU plant. In economically depressed Southern Ohio, it is not at all surprising that this argument has gained significant traction.

However, I invite you to consider that this is based on an investment of \$1.5 billion. Even a casual comparison to the return on investment achieved by the Enterprise Zone program of the State of Ohio reveals that one ought to expect fifteen times as many jobs as this for an investment of \$1.5 billion. In other words, this scale of investment should generate 7000 or 8000 jobs, numbers that really would benefit Southern Ohio.

In fact, if the State of Ohio were to put its weight behind the initiative of cleaning the site up, and promoting its development as an industrial park, it would not be at all unreasonable to expect the site to provide a living for several tens of thousands of people.

Therefore, while nobody contests that the USEC proposal would indeed *provide* 500 jobs, it would also *inhibit* the creation of tens of thousands of jobs.

Structure of this Document

This document is arranged in two parts.

In the first part (see section 2) I have attempted to interpret the statements of USEC's Environmental Review in relation to its unrivalled record of violations against NRC regulations. It also contains sundry comments inspired by the Environmental Review. You will notice that this treatment is unfinished, generally being complete only up to about page 60 of 358. I invite you to imagine what it would look like if it was not only finished, but extended to include the other 700 pages or so of the license application documents.

The second part (see section 3) is a summary of the enforcement notices issued by the NRC to USEC Inc. As illustrated on the cover of this document, USEC Inc. has more violations notices, by a considerable margin, than any other NRC materials licensee. USEC has been ordered by the NRC to pay civil penalties totalling \$378,000. I believe that this exceptional circumstance warrants exceptional scrutiny, even to the point of skepticism, in consideration of USEC's ACP application.

Summary of Recommendations

For the purposes of making this document useful as a reference in assisting the NRC to prepare its Draft Environmental Impact Statement, I include here a summary of my main recommendations to the NRC, in no particular order of priority. This is provided only as a convenience. A close reading of the text will undoubtedly reveal useful points that are not represented here.

- Ensure that 7 MSWU licensing is a separate process (section 2.1)
- Investigate the possibility that the ACP would endanger national security (sections 2.2, 2.14, 2.15)
- Evaluate the cost of tails disposal (section 2.3)
- Investigate whether USEC Inc requires 10% assay (section 2.4)
- Eliminate USEC corporate needs as justification for ACP (section 2.5, 2.26)

- Consider impact of no-action alternative on the *site* (section 2.6)
- Consider scenarios in which the ACP project fails (section 2.7)
- Consider USEC’s documented culture of reluctance to comply with industrial regulations (sections 2.9, 2.23)
- Scrutinize USEC training programs (section 2.10)
- Scenario: the “Domino Effect” (section 2.11)
- Consider human failure in all models (section 2.11)
- Scenarios involving fire and ruptures in process piping (section 2.11)
- Consider scenarios in which USEC violates security regulations (section 2.12)
- Scenario: terror strike – airplane, RPG (section 2.12)
- Scenario: international enrichment freeze (section 2.16)
- Scenarios in which USEC exceeds its 10% assay limit (section 2.17)
- Alternative: Acceleration of Megatons to Megawatts (section 2.18)
- Investigate claim that ACP would store no regulated substances (section 2.19)
- Scenarios involving extreme climate events (section 2.20)
- Scenario: USEC makes purchasing decisions based on thrift (section 2.21)
- Ensure that newly generated waste streams are characterized in advance (section 2.22)
- Alternative: AVLIS, based on U₂₃₄ (section 2.25)
- Investigate the legality of the DOE-USEC agreement (section 2.26)
- Investigate the financial implications of PDGP D&D (section 2.27)
- Order an independent environmental assessment (section 2.31)
- Investigate whether USEC is avoiding the FPPA (section 2.33)
- Include USEC violations history in EIS (section 2.28)
- Lift some redactions in public documents (section 2.13, 2.24, 2.29, 2.34)

The main body of the document follows the table of contents, next.

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2 Comments on USEC Inc's ACP Application Environmental Review

This section comprises the main substance of this document. Here, I have attempted to interpret the statements of USEC's Environmental Review in relation to their unrivalled record of violations against NRC regulations. This section also contains sundry comments inspired by the Environmental Review.

You will notice that this treatment is unfinished, generally being complete only up to about page 60 of 358. I invite you to imagine what it would look like if it was not only finished, but extended to include the other 700 pages or so of the license application documents.

Each subsection starts with a reference to the public version of the Environmental Report. This consists of the page number as recognised in the original PDF document, followed, after a colon, by the page number as it is represented on that page of the Report.

2.1 Conflating 3.5 MSWU with 7 MSWU

Page 19: Intro page 1

USEC says: "The license requested is for the construction and operation of an 3.5 million separative work unit (SWU) plant but this ER has also examined the impacts of an annual capacity of 7 million SWU (four process buildings and support facilities) to facilitate licensing for future expansion from a 3.5 million SWU licensed plant. Thus, the anticipated environmental impacts described in this ER are conservative with respect to the initial construction activities and plant operations authorized by the license currently being requested by USEC. USEC would seek future license amendments, as needed, to authorize additional construction or operation authority, but expects the environmental impacts of such additional activities to be bounded by the analysis in this ER."

This raises the concern that the project will be assessed as a 3.5 million SWU plant, and that USEC will try to "piggy-back" a transition to a 7 million SWU plant on the strength of the results of the current licensing proceeding.

Potentially, this approach introduces the following problems:

- Any licensing for a 7 million SWU plant would be given short thrift, and be executed in a sloppy manner.
- Claims appealing to conclusions established here on the basis of a 3.5 million SWU plant may later be applied incorrectly as claims for a 7 million SWU plant.

To avoid conflation of 3.5 million SWU issues with 7 million SWU issues, USEC should decide whether this application is for a 3.5 million SWU plant or a 7 million SWU plant, and pursue the license accordingly. If USEC feels that it has a better chance of obtaining a license for a 3.5 million SWU plant, I request that any consideration of licensing for a 7 million SWU plant be regarded as a separate and complete license application.

2.2 The Hobson Doctrine: ACP Would Risk National Security

Page 19: Intro page 1

USEC: “Deployment of the ACP is important to advancing the national energy security goals of maintaining a reliable and economical domestic source of enriched uranium. Secretary Spencer Abraham, U.S. Secretary of Energy, has stated: ‘As a clean, affordable and reliable energy source, nuclear energy is important to the nation’s future energy supply ... USEC, and its partners in the nuclear industry, continue to take important steps enhancing national energy security with private sector development of advanced American technology.’”

Comment: Far from “advancing,” and “supporting the national energy security goals,” the ACP would risk our national security. (The Hobson Doctrine, see section 2.14)

2.3 \$7 Million per Year for Disposal of ACP Tails

Page 20: Intro page 2

DOE-USEC Agreement. Summary of USEC’s précis:

1. Oak Ridge demonstration
2. Lead Cascade
3. ACP

Contrast this with the characterisation at <http://www.antenna.nl/wise/uranium/epusecc.html>

- USEC to build centrifuge plant within decade
- Megatons to Megawatts
- DOE to replace out-of-spec uranium

- DOE to take three years' tails

“The Energy Department announced on June 18, 2002, it had signed an agreement with USEC Inc., of Bethesda, Md., for the company to build a new centrifuge uranium enrichment plant in either Kentucky or Ohio within a decade.

“Other terms of the agreement cover the delivery of Russian warhead material under the Megatons to Megawatts program, the continued operation of the Paducah Gaseous Diffusion Plant until the new plant is operational, and the remediation or replacement of out-of-specification uranium transferred to USEC. In exchange for USEC's expected expenses of \$21 million necessary for the latter, the government will take possession of three years worth of depleted uranium tails from the USEC production process.”

Comment. Does this mean that ACP tails disposal is expected to cost \$7 million per year? Is this figure accurate? How does this impact USEC Inc's shaky fiscal predicament?

I recommend that the NRC require USEC Inc. to explain, in detail, how much tails disposal will cost, and to consider the impact of the cost of tails disposal on USEC Inc's ability to pay for the ACP throughout its proposed lifetime, through D&D.

2.4 Does USEC Have Customers for 10% assay U₂₃₅?

Page 21: Intro page 3

10% assay by weight.

Does USEC have any customers that require 10% (wt.) U-235? If not, why request 10%?

If USEC Inc. foresees only customers requiring 5% assay UF₆, its application should be for 5% UF₆. Otherwise, I recommend that USEC Inc. be required to explain why it requires a license for 10% assay.

2.5 Do USEC Inc's Corporate Needs Carry Any Weight?

Page 21: Intro page 3

USEC: “It also meets the corporation's need to replace aging production facilities with more efficient technology.”

Surely USEC's corporate needs have no weight in the proceeding.

2.6 Consider the Impact of the No-Action Alternative on the Site, Not on USEC's Commitments

Page 21: Intro page 3

USEC: "In this ER, the Proposed Action is compared to a range of reasonable alternatives. These alternatives include: the No Action Alternative (i.e., not licensing the ACP) and the siting alternative of Paducah, Kentucky. Since the DOE-USEC Agreement requires that the ACP be sited either at the DOE reservation in Piketon, Ohio, or the Paducah Gaseous Diffusion Plant (PGDP) in Paducah, Kentucky, the only siting alternative considered was PGDP."

I request that we consider the impact of the no-action alternative on the site, not on USEC's commitments. The observation that USEC has agreed to develop a centrifuge plant at one of two locations has no bearing on the question of whether the ACP is more beneficial to the site than no ACP.

2.7 Will the ACP Founder Like AVLIS Did?

Page 21: Intro page 3

USEC doesn't provide any assurance that its centrifuge plans won't go the way of its AVLIS plans.

USEC was defendant in a class action suit by its investors, some time after its initial public offering (IPO). The plaintiffs argued that USEC had fraudulently claimed a big future for AVLIS in the IPO Prospectus, and that when USEC announced, some 9 months after the IPO, that it was scrapping AVLIS, the stock price of USEC dropped from its IPO value of \$14 to a low of around \$5.

I recommend that the NRC consider scenarios in which USEC cancels the ACP project.

2.8 Double-edged Argument: ACP Will Close PGDP

Page 21: Intro page 3

USEC: "UF-6 production will ultimately cease at PGDP if the Proposed Action is approved and becomes operational, resulting in reduced emissions and resource use at PGDP."

Conversely, the acceleration of UF-6 production at Piketon, OH, will result in increased emissions and resource use there. Moreover, UF-6 production will ultimately cease at PGDP

anyway, whether the Proposed Action is approved or not.

2.9 Questions About USEC Inc's "Best Management Practices"

Page 22: Intro page 4

USEC: "Precautions will be taken in accordance with applicable laws and best management practices to avoid accidental releases to the environment (i.e., liquid effluent tanks, holding ponds with oil diversion devices, spill response and equipment, procedures, training, etc)."

For best management practices, see EA-99-080 (see section 3.7), in which USEC Inc. staff stated that a root cause of the violation (failing to report a 2 hour fire with 20 foot flames, and visible holes in UF6 piping) was a reluctance on the part of managers to activate the Emergency Operations Facility because they had been criticised for doing so in the past.

See also EA-99-110 (see section 3.8), The manager of Quality Systems informed his supervisor that the Plant Quality Assurance Plan did not meet the requirements of ASME regulations. He also expressed concern that a plant requirement to perform in-plant surveillances, a non-Quality Assurance Plan activity, was negatively impacting the Quality System Group's ability to perform its activities effectively: auditing vendors, dedicating components, and inspecting new materials.

The manager of Quality Systems was transferred from a managerial position in the Safety, Safeguards, and Quality Department to a non-managerial role in the Training Department.

The NRC determined that USEC Inc. had discriminated against the employee for engaging in protected activities. This was assessed as a severity level II violation.

See also EA-99-256; EA-00-047; EA-00-048 (see section 3.9). A computer that was not authorised for processing classified information was used to develop a classified security contingency plan. The "Corporation deliberately did not immediately report the infraction." USEC Inc. deliberately failed to initiate an assessment and tracking report until 69 days after the infraction. The Corporation discriminated against a security supervisor though the actions of the Security Manager, who said words to the effect that, "if this information leaves this room, I know who was here." This was taken by a security supervisor who was present as a threat against the security supervisor's employment.

USEC has a documented culture of reluctance to comply with NRC, ASME, and ANSI rules and regulations regarding nuclear criticality safety. USEC also has a documented history of discrimination against employees who exercise protected activities. I propose that the NRC would be well advised to investigate the integrity of USEC's proposed "best

management practices.”

2.10 USEC Inc’s Track Record on Training

Page 22: Intro page 4

Regarding training.

See EA-97-267 (see section 3.1), which lists 24 security failures including failing to provide annual training for site police, and failure to provide initial training in nine subject areas for new police, and a Computer Systems Security Officer (CSSO) who didn’t know how to properly dispose of a hard drive that had contained classified information.

See EA-98-012 (see section 3.3), in which four nuclear criticality safety contractors did not receive criticality safety training, three “qualified” permanent nuclear criticality safety engineers didn’t meet minimum requirements for a nuclear criticality safety engineer, and USEC Inc. failed to ensure that training was provided for the nuclear criticality safety manager.

EA-98-249, 250, 251 (see section 3.5) describe a programmatic deficiency in the maintenance and surveillance program for air-operated, safety-related valves. One valve actuator was incorrectly installed and worked “backwards” while the autoclave was operated for two heating and feeding cycles.

Process services staff failed to report sample results to the Cascade Controller as the sample results became available.

Maintenance staff replaced an actuator on an autoclave containment valve, and failed to mark the torque shaft, the actuator housing and the coupling between the shaft and the valve stem, as required in the Safety Analysis Report. Further, maintenance staff did not request an operational check on the repaired actuator.

This history suggests that USEC Inc’s training programs deserve particular scrutiny.

2.11 Scenario for Consideration: “The Domino Effect”

Page 23: Intro page 5

12,000 to 24,000 machines.

There is some concern that this many centrifuges, spinning as fast as they would do, would actually store a vast amount of rotational kinetic energy. One scenario that deserves particular attention is the “domino effect” in which one centrifuge leaves its mount, flies into

the next centrifuge, dislodges it from its mount, and so on. This constitutes an environmental concern because a catastrophic event like this would undoubtedly result in the release of UF6 into the environment.

There are also doubts about whether USEC Inc. can be trusted to manage such a facility safely.

Consider EA-98-249; EA-98-250; EA-98-251 (see section 3.5). 24 of 55 air-operated autoclave containment isolation valves didn't work. At least one worked "backwards." Maintenance staff replaced an actuator on an autoclave containment valve, and failed to mark the torque shaft, the actuator housing and the coupling between the shaft and the valve stem, as required in the Safety Analysis Report. Further, maintenance staff did not request an operational check on the repaired actuator.

Also consider EA-99-080 (see section 3.7). There was fire, twenty-foot flames, thick smoke, large quantities of oil on the floor of first cell of the Side Purge Cascade, and visible holes in the in UF6 gas cascade piping. USEC Inc. didn't declare an Alert. USEC Inc. staff stated that a root cause of the violation was a reluctance on the part of managers to activate the Emergency Operations Facility because they had been criticised for doing so in the past: a "pre-certification cultural issue." USEC Inc. had been required to upgrade Alarm Response Procedures, had failed to do so, and that had contributed to the magnitude and duration of the event.

Is it wise to allow a company to ramp up production to twenty new machines each day if they can't be trusted to fit actuator valves properly? USEC Inc. has a documented record of allowing untrained contractors to work. If 512 such contractors are working such a tight schedule, I propose that it is reasonable to expect quite a few incidents comparable to valves being fitted backwards. It would be reasonable for the NRC to fold in models of human failure that are consistent with USEC's past record. Moreover, it would be reasonable for the NRC to consider the effects of fire and ruptures in process piping, combined with a management culture that is inclined to drag its heels to cover up mistakes and to co-operate with the NRC in a slovenly manner, in any modeling the NRC orders.

2.12 An Irony: USEC has NRC's Worst Security Record; ACP Application Based on Security

Page 23: Intro page 5

There is something ironic about USEC basing its application on an argument of energy security, since USEC has been cited for more security violations alone than any other

company has been cited for security and safety combined.

USEC Inc. has been issued seven enforcement notices for security violations: EA-97-267 (see section 3.1), which lists 24 security failures, EA-97-431 (see section 3.2), which lists 5, EA-99-016 (see section 3.6), EA-99-256, EA-00-047, EA-00-048 (see section 3.9), which details not only a security violation, but also USEC Inc's reluctance to inform the NRC, as well as a case of discrimination against security supervisors for engaging in protected activities, and EA-02-085 (see section 3.11). Of 416 materials licensees that have been issued with NRC enforcement notices, USEC has the most, with 16, followed by Mallinckrodt Inc. with 9, and Westinghouse Electric Inc. with 6.

The NRC would be well advised to consider that USEC Inc. is likely to continue to violate security regulations, and to model the effect of those security breaches. On the strength of its documented history, it would seem to be ill-advised to allow a company whose security practices have been so lax to operate a centrifuge plant.

The ACP would present a significant risk as a terrorist target. I recommend that the NRC consider scenarios involving terrorist attacks with airplanes and with RPGs.

2.13 Redactions in Public Version of License Application Too Heavy

Page 31: 1-7

Why is this map being withheld when there are many even more detailed maps freely available to the public?

I request that the NRC review the license application documents once more to ensure that the public has access to all the information it may reasonably be expected to have access to.

2.14 The Hobson Doctrine

Page 34: 1-10

USEC claims that “[t]he ACP is a crucial step toward advancing the national energy security goal of maintaining a reliable and economical domestic source of enriched uranium. The plant uses American Centrifuge enrichment technology that supports the national energy security goals.”

However, congressman David Hobson (R-Ohio), in his Jan 10th, 2005 editorial in the

Washington Times¹, entitled “Forward thinking on nuclear policy,” says the following.

“Not only are these initiatives an unwise and unnecessary use of limited resources, they also send the wrong signal to the rest of the world. When we want countries such as Iran and North Korea to abandon nuclear weapons development, it is hypocritical for the United States to embark on new weapons and testing initiatives.

“The U.S. needs to lead by example. These new initiatives might actually risk rather than enhance our national security by encouraging other countries’ nuclear weapons initiatives.”

Much of the pressure on Iran and N. Korea stems from their pursuit of centrifuge uranium enrichment. Further, the case for the invasion of Iraq was built largely on aluminum tubes for centrifuges and supplies of yellowcake: Saddam Hussein’s “weapons of mass destruction.” And Libya attained international approval by abandoning its centrifuge program.

Congressman Hobson’s logic applies directly to the ACP. Far from “advancing,” and “supporting the national energy security goals,” the ACP would risk our national security.

2.15 10 CRF 70.40(b)(1) and the Hobson Doctrine

Page 34: 1-10

10 CRF 70.40(b)(1) concerning the “Ineligibility of certain applicants” states that, “a license may not be issued to the Corporation if the Commission determines that the issuance of such a license would be inimical to the common defense and security of the United States.”

I advise the Commission to consider the Hobson doctrine (see section 2.14), and to determine that the issuance of a license for the ACP would be inimical to the common defense and security of the United States, and deny the license.

2.16 The Carnegie Report

Page 34: 1-10

Decision makers around the world are now engaged in a critical debate about the real and present global security risks of all nuclear materials. The Carnegie Report (96 pages) “Universal Compliance: A Strategy for Nuclear Security”, released in June, 2004 recommends: “The United States and the other nuclear-capable states should as an initial step establish a production ‘pause’ in which they suspend operation of all facilities that can produce HEU or weapon-usable plutonium (military and civilian). This would apply to all enrichment and

¹<http://www.washingtontimes.com/commentary/20050109-102912-8962r.htm>

reprocessing activities, including even the production of LEU on a temporary basis.... There is no inherent reason this production pause should disrupt existing fuel supply arrangements. There are sufficient stocks of enriched uranium to fuel existing nuclear reactors for several years.... A uranium enrichment pause should be feasible for at least three to five years.”

Page 81 of the U.S. Congress FY-2005 budget has begun to implement some of the Carnegie Report recommendations by eliminating funding for all new nuclear weapons, including the mini-nuclear “bunker busting bombs”, reducing funding for the “modern Pit Facility” by over \$20 million and providing over \$7 billion for Defense Environmental Management.

I recommend that the NRC consider scenarios in which an international moratorium on uranium enrichment comes in effect.

2.17 USEC Inc. Exceeded its Possession Limit for Enriched Uranium

Page 34: 1-10

USEC is requesting a license for enrichment to 10 wt% U-235.

However, in enforcement actions EA-98-249; EA-98-250; EA-98-251 (see section 3.5), NRC determined that USEC Inc. exceeded its possession limit for enriched uranium: greater than 10 wt%. There is no guarantee that USEC Inc. would respect the conditions of this license, should it be granted, any more than it did its GDP-2 license. I advise the NRC to assume that USEC may indeed attempt to enrich uranium in excess of 10 wt% in any models that are generated in consideration of environmental effects.

2.18 Megatons to Megawatts: An Alternative

Page 35: 1-11

If the Megatons to Megawatts program were accelerated, as John Kerry suggested in the Presidential Debates, and expanded to accommodate the megatons of nations other than Russia, perhaps that would obviate the necessity for a centrifuge plant. I recommend that the NRC consider this as an alternative to licensing the ACP.

2.19 No Regulated Substances Would Be Stored at the ACP?

Page 40: 1-16

How has USEC determined “that no regulated substances would be stored at the ACP in quantities that exceed the threshold levels,” thereby according that no Risk Management Plan (RMP) is required? This claim bears investigation.

2.20 Models Should Account for Climate Change

Page 41: 1-17

Does the USEC analysis of storm water allow for the effects of the extreme climate conditions that are expected to occur over its projected lifetime?

The Scioto River’s 100-year flood plain reaches into the DOE reservation, and just recently Pike County had serious flooding.

In fact, there is reason to believe that climate patterns are changing in ways that are very difficult to predict. For example, while the hurricanes over Florida this season were unusually strong, they weren’t especially anomalous. But there is evidence to suggest that their strength and duration may be subjected to influences that wouldn’t be predicted by a simple extrapolation from the meteorological data of the last century.

The same may be true for tornadoes, Portsmouth was hit by a serious tornado in 1980. It would be reasonable to require that extreme meteorological conditions be modeled to account for conditions significantly in excess of effects that are suggested by data from the last 100 years.

Also, Piketon was affected by the famous New Madrid earthquake of 1811-1812. The New Madrid fault line is in Missouri – it quakes less frequently but more violently than other known faults. The 1811-1812 quake is regarded as the most powerful earthquake in North America since Columbus – obviously pre-Richter – but thought to be something like a 10.0. It gave a good shake to the entire region between Pennsylvania and the Dakotas.

USEC Inc. has a documented record of omitting critical assumptions in its modeling. Consider EA-98-156 (see section 3.4), in which USEC failed to provide an analysis of potential accidents during the 1997 recertification process for Paducah Gaseous Diffusion Plant, thereby violating NRC certification requirements.

The conditions of the 1996 certificate had misjudged the behavior of the gaseous diffusion equipment in the event of an earthquake, having failed, astonishingly, to account for the presence of liquid uranium hexafluoride in the equipment. The equipment in the plant can be

expected to have to withdraw up to several thousand pounds of liquid uranium hexafluoride in the event of even a modest earthquake.

Two buildings were closed down pending modifications to improve the seismic qualities of the infrastructure.

2.21 Does USEC Inc. Have the Integrity to Select Qualified Vendors?

Page 45: 1-21

USEC: “Qualified Vendor”? What assurance is there that USEC has the integrity to select a qualified vendor?

Consider EA-99-110 (see section 3.8): The manager of Quality Systems informed his supervisor that the Plant Quality Assurance Plan did not meet the requirements of ASME regulations. He also expressed concern that a plant requirement to perform in-plant surveillances, a non-Quality Assurance Plan activity, was negatively impacting the Quality System Group’s ability to perform its activities effectively: auditing vendors, dedicating components, and inspecting new materials.

The manager of Quality Systems was transferred from a managerial position in the Safety, Safeguards, and Quality Department to a non-managerial role in the Training Department.

The NRC determined that USEC Inc. had discriminated against the employee for engaging in protected activities. This was assessed as a severity level II violation.

I recommend that the NRC consider scenarios in which USEC Inc. makes purchasing decisions in which thrift is given priority over safety.

2.22 “Newly Generated Waste Streams” Ought to be Characterised in Advance

Page 46: 1-22

USEC: “Upon characterization of newly generated waste streams from the ACP, notification would be made to the OEPA.”

I recommend that the NRC have USEC characterize “newly generated waste streams” in considerable detail.

2.23 USEC Inc. Record on Industry Standard Regulations

Page 52: 1-28

USEC: “When shipments of radioactive materials are made, USEC will comply with DOT packaging, labeling, and routing requirements”

What confidence can we have that USEC will actually meet these requirements. I refer you to EA-98-012 (see section 3.3): ANSI nuclear criticality safety rules about labeling and area postings were not maintained in hallways where dry activated waste was stored on a daily basis, where fissile poly-bottles were stored, where fissile sample container waste solutions were stored on laboratory benches, and where a mobile uranium hexafluoride sample can cart was located.

2.24 Let Us See the Consultation Letters

Page 53: 1-29

Why are the consultation letters redacted? Appendix B is empty.

I request that the NRC make the consultation letters of Appendix B available in the public version of the Environmental Report. In fact, this concern can be extended to all of the redactions in the public version of the licensing documents. Further, I request that all standing redactions be justified with an explanation, to the public, of why the redaction is necessary.

2.25 AVLIS as Alternative, Based on U₂₃₄

Page 57: 2-1

AVLIS, while beyond USEC’s pocket, would be a reasonable alternative to consider. Centrifuge technology, being dependent on the masses of the isotopes U-234, U-235, U-238, and acting to concentrate the lighter isotopes, has the unfortunate consequence of concentrating U-234.

2.26 DOE-USEC Agreement, Possibly Illegal: Inappropriate Basis for Centrifuge License

Page 57: 2-1

I don't believe it is appropriate for the NRC to consider USEC's agreement with the DOE as an argument in favor of licencing a centrifuge plant. Additionally, there is some doubt about the legality of the DOE-USEC agreement, in light of the fact that the DOE neglected its duties under the NHPA in suggesting that USEC ought to locate an enrichment plant at the site of the Hopewell Works, possibly the largest prehistoric circle in the world.

Similarly, the commercial needs of the corporation are not a concern of the NRC. Nor do I believe that congressional mandates about privatization have any bearing on deliberations about whether a centrifuge plant is beneficial for this site.

I request that the NRC investigate fully the legality of the DOE-USEC agreement.

2.27 Financial Implications of Paducah GDP D&D

Page 58: 2-2

USEC: "Decontamination and Decommissioning (D&D) of those facilities currently leased to the United States Enrichment Corporation will begin once the GDP ceases operation (DOE 2004b)"

What effect would D&D at Paducah have on USEC's ability to pay for ACP development and operation?

I recommend that the NRC require USEC Inc. to provide a full, detailed account of how Paducah D&D operations would impact USEC's ability to pay for ACP development and operation

2.28 Include USEC Inc's NRC Violations Record in EIS

Page 58: 2-2

USEC: "The NRC has issued Certificates of Compliance to the United States Enrichment Corporation, a wholly owned subsidiary of USEC, to operate the Paducah and Portsmouth Gaseous Diffusion Plants (Docket Numbers 70-7001 and 70-7002, respectively). Consistent with the requirements in 10 CFR 76.22 and in connection with the issuance of these Certificates, the NRC has determined that USEC is neither owned, controlled, nor dominated by an alien, a foreign corporation, or a foreign government."

If this paragraph appears in the draft EIS, I request that it be juxtaposed with a statement to the effect that "The NRC has also issued sixteen Enforcement Action notices on account of these licenses, including seven security violations and eight safety violations. Three of

those violations concerned discrimination against employees who acted to inform the NRC of transgressions of NRC regulations, and six indicated that USEC has a culture of reluctance to abide by NRC regulations or to report inconsistencies in plant operations to the NRC. Of 416 materials licensees who have been issued Enforcement Action notices, USEC Inc. leads the field by a good margin. Number two in the list is Mallinckrodt Inc. with 9, followed by Westinghouse Electric Inc. with 6. Six licensees have four or five notices. The rest have three or less.”

I would also request that the graphic on the cover of this document be included in the draft EIS, or an NRC-generated analog, together with a comparable caption.

2.29 Let Us See the Environmental Report Figures

Page 59: 2-3

Appendix D, “Environmental Report Figures,” is being withheld.

2.30 Relevance of UDS

Page 59: 2-3

Is Uranium Disposition Services, LLC, subject to NRC oversight? USEC does not state any relevance of the location of the DOE conversion facility for the Proposed Action. I recommend that the NRC require USEC Inc. to elaborate this point.

Does USEC propose to dispose of ACP tails at the UDS facility? USEC Inc. should disclose its plans for tails disposal in full detail, including financial accounting. I recommend that a full, independent survey of the current environmental state be undertaken so that, in the event that the ACP is licensed, USEC is unable to attribute contamination introduced by the ACP to the UDS facility.

2.31 Need for Independent Environmental Assessment

Page 59: 2-3

I recommend that any environmental assessment for the EIS be undertaken by an independent third party, because USEC Inc. cannot be relied upon to do that impartially. USEC Inc. has a documented history of misleading the NRC.

See, for example, EA-99-256; EA-00-047; EA-00-048 (see section 3.9), in which USEC,

Inc. deliberately failed to initiate an assessment and tracking report which would draw the NRC's attention to a violation of regulations. Or EA-99-080 (see section 3.7), in which USEC Inc. failed to classify as an Alert a fire with twenty-foot flames, thick smoke, large quantities of oil on the floor of first cell of the Side Purge Cascade, and visible holes in the in UF6 gas cascade piping. Or EA-98-156 (see section 3.4), in which USEC failed to provide an analysis of potential accidents during the 1997 recertification process for Paducah Gaseous Diffusion Plant, thereby violating NRC certification requirements. Or EA-98-012 (see section 3.3), in which three separate self-assessment programs did not ensure that the nuclear criticality safety program was properly established and implemented. Specifically, in this case, USEC Inc. didn't identify, record or correct "numerous existing physical inconsistencies" between plant operations and safety evaluations and approvals; or incorporate results of previous findings. This resulted in the recurrence of previously identified safety deficiencies.

The text of EA-99-256² (see section 3.9), contains an observation by the NRC that is uniquely poignant: "The deliberate failure to report a violation of NRC requirements to management and the NRC is significant because the regulatory process is based on integrity and candid communication."

USEC Inc's history of self-assessment is poor. I recommend that USEC cannot be entrusted with the responsibility for assessing the environmental state of the site.

2.32 Questions About Ohio National Guard

Page 153: 3-71

"[T]he Ohio Army National Guard employ an additional 374 workers at the DOE reservation."

Is this really good for those 374 workers?

How many Ohio Army National Guard members are located on the site and do any of them do work for USEC? What are they doing on the site in the first place? Is any of their time, which is paid for by taxpayers, expected to be spent guarding or in any way connected with USEC?

Hopefully the firing range on the DOE reservation is for rifle practice and not artillery.

²<http://www.nrc.gov/reading-rm/doc-collections/enforcement/actions/materials/ea99256.html>

2.33 Is USEC Inc. Dodging the FPPA?

Page 177: 4-3

USEC says: "USEC has consulted with the DOA, NRCS, who have determined that the project site is mapped as Urban Land-Omulga Complex, a non-prime soil; therefore, the FPPA does not apply. A copy of the consultation letter is provided in Appendix B of this ER."

Is USEC Inc. dodging the FPPA? Note that Appendix B is withheld from public inspection.

2.34 Redacted Appendices

Several appendices in the public version are redacted. I request that these be reviewed to make absolutely sure that their contents ought to be withheld from public scrutiny.

Page 351: B-1

Appendix B, "Consultation Letters," contains nothing.

Page 356: D-2

Appendix D, "Environmental Report Figures," is being withheld.

Page 358: E-2

Appendix E has been redacted.

Is there anything that can be done to make the application more open?

3 Summary of USEC Inc. Violations as NRC Materials License Holder

This second part is a summary of the enforcement notices issued by the NRC to USEC Inc. As illustrated on the cover of this document, USEC Inc. has more violations notices, by a considerable margin, than any other NRC materials licensee. USEC has been ordered the NRC to pay civil penalties totalling \$378,000. I believe that this exceptional circumstance warrants exceptional scrutiny, even to the point of skepticism, in consideration of USEC's ACP application.

Note also, that these "EA" notices are only issued for violations with severity level III

and over. This summary omits a (presumably substantial) number of violations at severity level IV and below.

The source data is available at <http://www.nrc.gov/reading-rm/doc-collections/enforcement/actions/materials/>

The types of actions and their abbreviations are as follows:

- Notice of Violation for Severity Level I, II, or III violations; (NOV)
- Notice of Violation and Proposed Imposition of Civil Penalty; (NOVCP)
- Order Imposing Civil Penalty; (CPORDER)
- Order Modifying, Suspending, or Revoking License; (ORDER)

3.1 Twenty Four Security Failures

Date:	09/22/1997
Violator:	U.S. Enrichment Corp., KY
NRC Action Number:	EA-97-267
Action Type:	NOV
Severity Level	SL III
Civil Penalty:	
Description:	Failure to comply with the requirements in the security plan.

USEC Inc. was fined \$55,000 for twenty four counts of security failure after an inspection of the Paducah Gaseous Diffusion Plant by the Nuclear Regulatory Commission in May 1997.

The Commission provided four examples in which USEC Inc. had failed to provide the Commission with full and accurate information regarding USEC Inc's Security Plan. More tellingly, though, the Commission detailed twenty instances in which USEC had actually failed to implement its Security Plan.

The four examples in which USEC Inc. misled the NRC are below.

1. USEC didn't tell the NRC that they weren't using a DOE-approved Telecommunications operation.
2. USEC had told the NRC that a security account was closed when, in fact, it was still active.

3. USEC failed to provide the NRC with an accurate list of its communications equipment.
4. USEC failed to indicate that their Security Plan had an inaccurate description of its security communications equipment.

Amazingly, the NRC depends on its licensees for accurate information about the activities of its licensees.

The twenty actual security failures consisted of twelve violations associated with perimeter security, six concerning the storage and control of classified matter, and three associated with the protection of classified matter.

The perimeter security problems included an access barrier that was incorrectly indicated on a map provided in the Security plan, failure to maintain part of the security plan after the lapse of a regulatory oversight agreement, failing to provide annual training for site police, the cessation of monthly security exercises due to "resource constraints," failure to provide initial training in nine subject areas for new police, doing three patrols in a twelve hour period instead of six, failing to equip the police with gas masks, the omission of management details for keys and locks in the master key system, allowing the police lieutenant to open the railroad gates when it should be done by a commander, failing to arrange security escorts for mutual aid responders in the event of an emergency, failing to have Visitor Control coordinate visits to DOE and other NRC facilities containing classified information, and keeping unused security badges in an insecure place.

Concerning the storage and control of classified matter, USEC provided a Lockheed Martin address for classified communications instead of a USEC one, they had restructured the police organization without informing the NRC, they had allowed bar code swiping to replace initialing for the documentation of physical checks of containers, vaults and caages, containers had gone more than the proscribed 90 days without inspection, and they had failed to notify the NRC about these security problems.

The breaches in protection of classified matter centered on a classified computer that was too close to an unclassified communication jack, a Computer Systems Security Officer (CSSO) who didn't know how to properly dispose of a hard drive that had contained classified information, and a classified computer that was too close to an unclassified computer in a trailer.

3.2 Restricted Materials in the Possession of Unauthorized Persons

Date:	12/08/1997
Violator:	U.S. Enrichment Corp., KY
NRC Action Number:	EA-97-431
Action Type:	NOVCP
Severity Level:	SL III
Civil Penalty:	\$55,000
Description:	Security violation.

USEC Inc. was fined \$55,000 for five counts of security violations based on inspections at Paducah Gaseous Diffusion Plant between July and September 1997. This time it concerned failure to control classified documents, drawings and videotapes. Specifically, it's about controlled materials outside controlled access areas.

The first count relates that unauthorised people routinely occupied controlled areas of the engineering department, and that a restricted map was found there. The second count involved some drawings found in a trailer that was routinely occupied by unauthorised people. Similarly, a confidential video tape was found in a trailer that was accessible to unauthorized personnel. In the fourth count, restricted drawings were found in the possession of an unauthorized person. The final count details a restricted procedure that was found in the possession of an unauthorized person.

3.3 USEC Inc. "Failed to Recognise the Existence of a Major Programmatic problem" in the Area of Nuclear Criticality Safety: Sixteen Counts

Date:	03/19/1998
Violator:	U.S. Enrichment Corp., OH
NRC Action Number:	EA-98-012
Action Type:	NOVCP
Severity Level:	SL III
Civil Penalty:	\$55,000
Description:	Criticality safety program breakdown. Failure of two barrier requirements for criticality.

At Portsmouth, between December '97 and Jan '98, the NRC identified 16 problems with USEC Inc's nuclear criticality safety program, the root causes for which "spanned the breadth and depth of the nuclear criticality safety program." The violations "represent a programmatic problem in the development and implementation of the nuclear criticality safety program."

1. Freon coolant system pressure not maintained greater than UF6 and re-circulating cooling water system pressures. Condenser drain valve not maintained open.
2. Four nuclear criticality safety contractors did not receive criticality safety training.
3. Three "qualified" permanent nuclear criticality safety engineers didn't meet minimum requirements for a nuclear criticality safety engineer.
4. USEC Inc. did not ensure that training was provided for the nuclear criticality safety manager.
5. Three self-assessment programs did not ensure that the nuclear criticality safety program was properly established and implemented. Specifically, they didn't identify, record or correct "numerous existing physical inconsistencies" between plant operations and safety evaluations and approvals; or incorporate results of previous findings. This resulted in the recurrence of previously identified safety deficiencies.
6. USEC's safety audits did not correctly determine the effectiveness of the nuclear criticality safety internal assessment programs.
7. USEC Inc. did not develop plant nuclear criticality safety procedures to address responses to criticality safety approval violations.
8. Plant nuclear criticality safety approval procedure used an unapproved procedure.
9. ANSI nuclear criticality safety rules about labeling and area postings were not maintained in hallways where dry activated waste was stored on a daily basis, where fissile poly-bottles were stored, where fissile sample container waste solutions were stored on laboratory benches, and where a mobile uranium hexafluoride sample can cart was located.
10. Contrary to ASME quality assurance regulations, USEC Inc. failed to correct some nuclear criticality safety deficiencies, failed to determine the cause of some significant conditions adverse to quality, or to take corrective actions to prevent recurrence of significant conditions identified in five problem reports.

11. Again, contrary to ASME safety regulations, USEC Inc. failed to identify and correct conditions adverse to quality, regarding operations involving uranium enriched to 1 wt% or higher U-235.
12. Plant staff failed to implement two controls involving container size and verification of container size for a waste storage bottle used to analyse samples.
13. Uranium-bearing HEPA units too close together.
14. Several uncharacterized drums of dry activated waste too close to uranium-bearing contaminated scrap metal.
15. Stored seals too close to one another.
16. Several Blow-Out Prevention Actuators stored on the cascade floor were too close together.

3.4 Analysis Failure: Order to Upgrade the Seismic Robustness of Equipment

Date:	04/22/1998
Violator:	U.S. Enrichment Corp., KY
NRC Action Number:	EA-98-156
Action Type:	ORDER
Severity Level:	
Civil Penalty:	
Description:	USQ concerning releases of UF6 during an accident.

USEC failed to provide an analysis of potential accidents during the 1997 recertification process for Paducah Gaseous Diffusion Plant, thereby violating NRC certification requirements.

The conditions of the 1996 certificate had misjudged the behavior of the gaseous diffusion equipment in the event of an earthquake, having failed, astonishingly, to account for the presence of liquid uranium hexafluoride in the equipment. The equipment in the plant can be expected to have to withdraw up to several thousand pounds of liquid uranium hexafluoride in the event of even a modest earthquake.

Two buildings were closed down pending modifications to improve the seismic qualities of the infrastructure.

3.5 USEC Inc. Exceeded its Possession Limit for Enriched Uranium: Greater than 10%. 24 of 55 Air-operated Autoclave Containment Isolation Valves Didn't Work. At least One Worked "Backwards."

Date:	07/14/1998
Violator:	U.S. Enrichment Corp., OH
NRC Action Number:	EA-98-249; EA-98-250; EA-98-251
Action Type:	NOVCP
Severity Level:	SL III
Civil Penalty:	\$55,000
Description:	Violation involving of TSRs for autoclaves.

Piketon, March - May '98. Programmatic deficiency in the maintenance and surveillance program for air-operated, safety-related valves. If the plant air system was degraded, numerous valves that were tested were found to be incapable of meeting test acceptance criteria. One valve actuator was incorrectly installed and worked "backwards" while the autoclave was operated for two heating and feeding cycles.

One cell contained about 6 kg of uranyl fluoride enriched to about 5.5% U-235, a mass that was greater than the safe mass. Moreover, this mass of uranium was not in a fluorinating environment, and in mode VI it was not pressurized sufficiently with plant air or nitrogen within eight hours, as required.

Process services staff failed to report sample results to the Cascade Controller as the sample results became available.

Maintenance staff replaced an actuator on an autoclave containment valve, and failed to mark the torque shaft, the actuator housing and the coupling between the shaft and the valve stem, as required in the Safety Analysis Report. Further, maintenance staff did not request an operational check on the repaired actuator.

3.6 Classified Data in Unrestricted Area

Date:	03/05/1999
Violator:	U.S. Enrichment Corp., KY
NRC Action Number:	EA-99-016
Action Type:	NOV
Severity Level:	SL III
Civil Penalty:	
Description:	Violation involved failure to maintain control of classified matter at the Paducah facility.

December 1998. At Paducah, an employee whose desk was in an uncontrolled part of the site discovered an unmarked envelope in the desk. The envelope contained controlled data, and had been in the desk for 14 years, having been left there by a retired employee. The employee failed to notify security personnel. The envelope had escaped identification in a recent security sweep to identify and secure legacy classified documents. The NRC didn't propose a civil penalty in this case.

3.7 Fire, Twenty-foot Flames, Thick Smoke, and Large Quantities of Oil on the Floor of First Cell of the Side Purge Cascade. Visible Holes in UF₆ Gas Cascade Piping. USEC Inc. Didn't Declare an Alert.

Date:	06/29/1999
Violator:	U.S. Enrichment Corp., MD
NRC Action Number:	EA-99-080
Action Type:	NOVCP
Severity Level:	SL III
Civil Penalty:	\$55,000
Description:	Failure to classify an emergency situation (a significant building fire) as an alert.

Piketon, December 9, 1998. USEC Inc. staff stated that a root cause of the violation was a reluctance on the part of managers to activate the Emergency Operations Facility because they had been criticised for doing so in the past: a "pre-certification cultural issue." USEC Inc. had been required to upgrade Alarm Response Procedures, had failed to do so, and that had contributed to the magnitude and duration of the event.

3.8 Manager of Quality Systems Transferred to Non-managerial Role for Raising Nuclear Safety Concerns.

Date:	12/20/1999
Violator:	U.S. Enrichment Corp., MD
NRC Action Number:	EA-99-110
Action Type:	NOVCP
Severity Level:	SL II
Civil Penalty:	\$88,000
Description:	Violation based on discrimination against the former Manager of Quality Systems for raising safety concerns.

Paducah, March '99. The manager of Quality Systems informed his supervisor that the Plant Quality Assurance Plan did not meet the requirements of ASME regulations. He also expressed concern that a plant requirement to perform in-plant surveillances, a non-Quality Assurance Plan activity, was negatively impacting the Quality System Group's ability to perform its activities effectively: auditing vendors, dedicating components, and inspecting new materials.

The manager of Quality Systems was transferred from a managerial position in the Safety, Safeguards, and Quality Department to a non-managerial role in the Training Department.

The NRC determined that USEC Inc. had discriminated against the employee for engaging in protected activities. This was assessed as a severity level II violation.

3.9 Deliberate Failure to Report a Security Infraction. Leading an Employee to Believe That He Would Lose His Job If He Reported the Security Infraction.

Date:	01/03/2001
Violator:	U.S. Enrichment Corp., MD
NRC Action Number:	EA-99-256; EA-00-047; EA-00-048
Action Type:	NOV
Severity Level:	SL III
Civil Penalty:	
Description:	On January 3, 2001, a Notice of Violation was issued for a Severity Level III problem involving: (1) creation of classified information on an unclassified computer system and (2) deliberate failure to report the infraction to the NRC Regional Administrator per regulation; and a Severity Level III violation involving the deliberate failure to initiate a corrective action report for the security infraction.

Paducah, August '98. A computer that was not authorized for processing classified information was used to develop a classified security contingency plan. The "Corporation deliberately did not immediately report the infraction." USEC Inc. deliberately failed to initiate an assessment and tracking report until 69 days after the infraction. The Corporation discriminated against a security supervisor though the actions of the Security Manager, who said words to the effect that, "if this information leaves this room, I know who was here." This was taken by a security supervisor who was present as a threat against the security supervisor's employment.

3.10 Loss of Criticality Control for a Large Fissile Deposit in Piping

Date:	01/17/2002
Violator:	U.S. Enrichment Corp., MD
NRC Action Number:	EA-01-285
Action Type:	NOV
Severity Level:	SL III
Civil Penalty:	
Description:	On January 17, 2002, a Notice of Violation was issued for a Severity Level III problem involving the failure to meet the Technical Safety Requirement (TSR) for maintaining criticality control and the failure to prescribe activities affecting quality in a documented procedure appropriate to the circumstances.

Portsmouth, May to September 2001. For up to 4 months, USEC Inc. failed to maintain the correct pressure for a greater than safe mass deposit of uranyl fluoride, and the deposit was not in a fluorinating environment. Surveillances conducted during the period were inadequate to monitor the system pressure and adjust the pressure to the required level. USEC Inc. personnel closed a couple of valves resulting in the failure to identify that the pressure had decreased until late September.

Contrary to ASME quality assurance requirements for nuclear facilities, USEC Inc. failed to adequately describe establishing and maintaining configuration control of cascade cell block valves in a documented procedure.

3.11 Distributing Classified Information to Off-site Locations. Use of Classified Words in Conference Calls Including Personnel Who Had Called From Off-site Locations.

Date:	11/05/2002
Violator:	U.S. Enrichment Corp., MD
NRC Action Number:	EA-02-085
Action Type:	NOVCP
Severity Level:	SL III
Civil Penalty:	\$60,000
Description:	On November 5, 2002, a Notice of Violation and Proposed Imposition of Civil Penalty in the amount of \$60,000 was issued for a Severity Level III problem involving the failure to ensure that classified information was properly stored when not in use or that the material was under the direct control of an authorized individual, and that classified information was generated and telecommunicated on approved systems.

Paducah, May 2002. USEC Inc. failed to ensure that confidential and secret data were stored in a specified container, or to ensure that the material was under direct control of an authorized individual. An assessment and tracking report containing classified information was stored in a computerised database accessible to individuals without proper access.

Six times, USEC Inc. failed to ensure that controlled information was generated and telecommunicated on approved systems: five times during morning conference calls on plant status, classified information was generated and transmitted, and once it was faxed on non-approved systems.