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USNRC

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

'84 JAN 13 A11:15

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

OFFICE OF SECRETARY
DOCKETING & SERVICE
BRANCH

In the Matter of)

THE REGENTS OF THE UNIVERSITY OF)
CALIFORNIA)

(UCLA Research Reactor))
_____)

Docket No. 50-142
(Proposed Renewal of Facility
License Number R-71)

AFFIDAVIT OF NEILL C. OSTRANDER

I, Neill C. Ostrander, do depose and state as follows:

1. I am employed by the University of California as Manager of the Nuclear Energy Laboratory (NEL) and have been in this position since September 1974.
2. I am responsible for the day to day operation of the NEL and the supervision of the staff which operates and maintains the reactor, maintains the records and administers to the needs of the students who use the facility.
3. Included in these responsibilities is the supervision of inventory records for the SNM at the NEL and for periodically reporting SNM inventory to the NRC.
4. In order to resolve the apparent discrepancy in the fuel inventory as reported by UCLA and by NRC inspectors in certain security inspection reports I prepared the annotations to the "Exhibit G" inventory listing (attached hereto) which was submitted as an attachment supporting "University's Response to CBG's Comments on Fuel Inventory", dated September 9, 1983.
5. "Exhibit G" which is titled "SPECIAL NUCLEAR MATERIAL INVENTORY (gms)" is a SNM inventory which was prepared by the NEL staff in the course of conducting the inventory in December, 1974. Except for the 19+ grams of "old scrap" overlooked at that time, the inventory accounted for all SNM at the NEL: fuel in the reactor core, "fresh" fuel in storage, spent fuel in the storage pits, Pu-Be neutron sources and other SNM, including "scrap" fuel plates. The gram weights for the fuel assemblies were obtained from the shipping documents provided by the manufacturer of the fuel. I and the NEL staff regard this annotated inventory as accurate although I would not report gram weights to an accuracy of 1/100 gram as has been done in the "Exhibit G" inventory.

6. With reference to this "Exhibit G" inventory I note the following:

(a) UCLA's original fuel loading was acquired in the early 1960's. In 1971, UCLA acquired an additional "fresh core" (actually 20 fuel elements). Five of the new (that is, 1971) fuel elements were loaded into the core in the early 1970's as noted on the attachment (the "Exhibit G" inventory) by their serial numbers in the left-hand "reactor" core column. The remaining 24 fuel elements were stored as "fresh" (right-hand column) until 1982 when 15 elements were transferred off-site.

(b) As can be seen, the U-235 content of the fuel element varies from 151 to 162 grams per element, or an average of approximately 156 grams per element (approximately 14.2 grams per plate). By contrast, the U-235 content of the fuel acquired in the early 1960's was less than 150 grams per fuel element and actually averaged about 13.3 grams per plate. Two fuel elements were inadvertently omitted from the listing in the left column of in-core fuel; they have been added back in at the bottom of the column to give the total U-235 content of the core, before burn-up, in 1974.

(c) The 4.7 kg amount (Item C at the bottom of the page) clearly includes the Pu-Be neutron sources measured at their gram-equivalent weights.

(d) No changes in actual fuel inventory occurred at the NEL between the December, 1974 inventory and the October, 1978 security inspection by the NRC, except a small amount of burn-up. However, the inventory report for June 1975 restored the 19+ grams of "old scrap" which had been overlooked in the December, 1974 inventory.

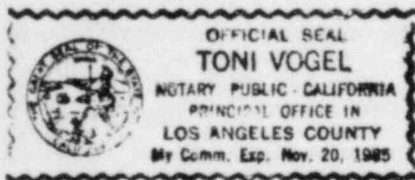
I swear the above is true and correct to the best of my knowledge and belief.

Neill C. Ostrander
Neill C. Ostrander

Subscribed and sworn to before me
this 9th day of January, 1984.

Toni Vogel
Notary Public

My Commission expires: Nov 20, 1985



SPECIAL NUCLEAR MATERIAL INVENTORY
(gms)

A. Reactor	B. Pits	A/B. Unknowns Reactor/Pits	C. Fuel Storage Non Exempt Inventory
142.78	148.87	146.54	160.40
147.95	148.32	145.34	161.28
145.83	149.18	144.37	157.43
152.07 - # 29 **	145.40	146.11	160.83
149.18	591.77	148.86	156.36
141.81	146.54	731.22	154.23
156.07 - # 24	738.31	584.68	154.89
149.04			156.16
146.41			156.64
159.56 - # 26			156.08
144.89			156.29
155.64 - # 28			156.06
147.29			157.17
145.24			156.68
144.89			154.81
146.40			152.94
146.76			154.80
145.32			151.62
2971.88			152.38
159.29 - # 27			153.68
584.68 old (4 elements)			154.41
145.37 old.			153.43
3556.47 Total Core			154.88
			161.82
			3745.27

** serial numbers of "New" fuel,
"Fresh Core" acquired in 1971

old scrap 19.16
New scrap can = 421.36
New scrap plates = 154.54
Uranyl nitrate = 250*
Pu = (2)(32) 2.5 = 160

A. Reactor Exempt Inventory = $2971.88 + 4/5 (731.22) = 3556.86$ gms.*

B. Storage Pits Exempt Inventory = $591.77 + 1/5 (731.22) = 738.01$ gms.*

Total Exempt Inventory = 4294.87 gms.*

C. Fuel Storage Total Non Exempt = $3745.27 + 421.31 + 154.54 + 250 + 160 = 4731.12$ gms.
+ 19.12

D. Total SNM Inventory = 9025.99

Removed
April 1981

* These numbers do not take into account burn-up, radiative capture or loss due to chemical manipulations.

"EXHIBIT G"
CBG Exhibit, Reproduced from
original copy for Improved
Legibility.

N.C. Ostrander
9-9-83

UNITED STATES OF AMERICA
NUCLEAR REGULATORY COMMISSION

BEFORE THE ATOMIC SAFETY AND LICENSING BOARD

RECEIVED
USNRC

In the Matter of)
THE REGENTS OF THE UNIVERSITY)
OF CALIFORNIA)
(UCLA Research Reactor))

Docket No. 50-1421:15
(Proposed Renewal of Facility
License Number R-71)

OFFICE OF SECRETARY
DOCKETING & SERVICE
BRANCH

CERTIFICATE OF SERVICE

I hereby certify that copies of the attached: AFFIDAVIT OF
NEILL C. OSTRANDER

in the above-captioned proceeding have been served on the following by
deposit in the United States mail, first class, postage prepaid, addressed
as indicated, on this date: January 10, 1984

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THE REGENTS OF THE UNIVERSITY
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