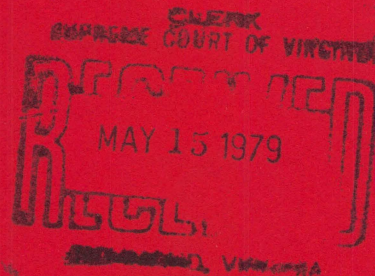


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IN THE
SUPREME COURT OF VIRGINIA
At Richmond

Record No. 781323

STATE TAX COMMISSIONER OF
THE COMMONWEALTH OF VIRGINIA,

Appellant,

v.

FLOW RESEARCH ANIMALS, INC.,

Appellee.

JOINT APPENDIX

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IN THE
SUPREME COURT OF VIRGINIA
At Richmond

Record No. 781323

STATE TAX COMMISSIONER OF
THE COMMONWEALTH OF VIRGINIA,

Appellant,

v.

FLOW RESEARCH ANIMALS, INC.,

Appellee.

JOINT APPENDIX

I.

APPLICATION FOR CORRECTION OF ERRONEOUS
ASSESSMENTS - Filed November 14, 1972

IN THE CIRCUIT COURT
OF THE COUNTY OF
PULASKI, COMMONWEALTH OF VIRGINIA

FLOW RESEARCH ANIMALS, INC.,)
a Virginia Corporation)
Plaintiff)
v.)
STATE TAX COMMISSIONER)
OF THE COMMONWEALTH OF)
VIRGINIA)
Defendant,)

APPLICATION FOR
CORRECTION OF
ERRONEOUS ASSESSMENT

2474

TO THE HONORABLE JUDGE OF THE CIRCUIT COURT OF THE COUNTY
OF PULASKI:

Plaintiff respectfully represents unto the Court:

1. That plaintiff is a Corporation duly organized and validly existing under the laws of the Commonwealth of Virginia with its principal place of business in the City of Dublin, County of Pulaski, Commonwealth of Virginia.
2. That defendant assessed plaintiff the following amounts for the periods stated as State and Local Use Tax deficiencies, plus interest, by Assessment dated December 31, 1970:

September, 1966 - June, 1968 (State Use Tax)	\$ 4,642.11
September, 1966 - June, 1968 (State Use Tax interest)	278.53
July, 1966 - September, 1970 (State Use Tax)	7,748.97
July, 1966 - September, 1970 (State Use Tax interest)	464.94
July, 1966 - September, 1970 (Local Use Tax)	3,314.55
July, 1966 - September, 1970 (Local Use Tax interest)	198.87
Total	\$16,647.97

Filed in the Clerk's Office the 17 day of March, 1971
Teste: *W. J. G. G. G. G.*, Clerk
Nrit Tax \$ 5.00
Fee 25.00
Deposit
Total Paid \$ 30.00
D. C.

3. That plaintiff has paid to defendant under protest the full amount of said \$16,647.97 Assessment.
4. That plaintiff was at all pertinent times herein engaged in the business of breeding, raising, processing and otherwise producing laboratory animals for sale to persons or entities engaged in bio-medical research.
5. That plaintiff at all pertinent times herein purchased animal food, bedding materials, supplies and medications consumed by the aforementioned animals during the breeding, raising and production process.
6. That the above-mentioned Assessment dated December 31, 1970 of defendant was based solely upon audit of plaintiff's business records and the calculation of State and Local Use Tax due on account of the purchase by plaintiff of the aforementioned food, bedding materials, supplies and medications consumed by the said animals.
7. That Section 58-441.6 of the Virginia Sales and Use Tax Act at all times pertinent herein read, in pertinent part, as follows:

"58-441.6 Exclusions and exemptions. - The terms "sale at retail," "lease or rental," "distribution," "use," "storage" and "consumption" shall not include industrial materials for future processing, manufacturing, refining, or conversion into articles of tangible personal property for resale where such industrial materials either enter into the production of or become a component part of the finished product;..."

8. That Section 58-441.6(c) of the Virginia Sales and Use Tax Act at all times pertinent herein read, in pertinent part, as follows:

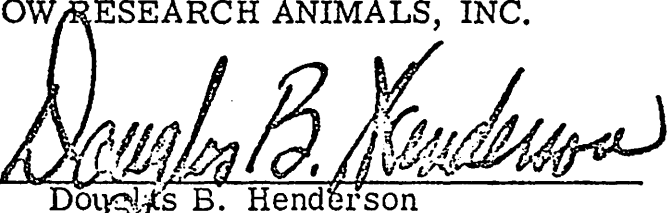
"In addition to the exclusions or exemptions set out in the next paragraph such terms shall not include the following:

(c) Commercial feeds, . . . chemicals, . . . , and all other agricultural supplies provided the same are sold to and purchased by farmers for use in agricultural production for market. "

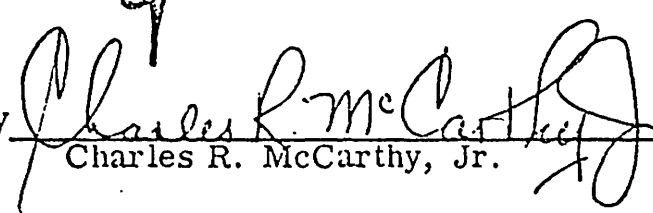
9. That the aforementioned Assessment is erroneous because the purchases subjected to tax by defendant were exempt from the Virginia Use Tax pursuant to said Section 58-441. 6 or Section 58-441. 6(c) of the Virginia Sales and Use T x Act, or both of said Sections.
10. That the erroneous Assessment was not caused by the willful failure or refusal of plaintiff to furnish defendant or any other tax-assessing authority, with the necessary information, as required by law.
11. That this Court has jurisdiction of the subject matter hereof by virtue of Section 58-1130 of the Virginia Sales and Use Tax Act.
12. That plaintiff respectfully requests that this Court order the Attorney for the Commonwealth to defend this Application or order defendant to appoint counsel for that purpose.
13. Plaintiff prays this Court for the correction of said erroneous Assessment and the refund by defendant to plaintiff of all sums paid thereunder and such other further and additional relief, legal or equitable, as this Court shall deem proper.

FLOW RESEARCH ANIMALS, INC.

By


Douglas B. Henderson

By


Charles R. McCarthy, Jr.

II.

ANSWER OF THE STATE TAX COMMISSIONER
Filed - November 30, 1972

IN THE CIRCUIT COURT
OF THE COUNTY OF
PULASKI, COMMONWEALTH OF VIRGINIA

FLOW RESEARCH ANIMALS, INC.,	Plaintiff
v.	
STATE TAX COMMISSIONER OF THE COMMONWEALTH OF VIRGINIA	Defendant

A N S W E R

Now comes the defendant, State Tax Commissioner for the Commonwealth of Virginia, and answers the complaint filed against him herein and says:

1. The defendant admits the allegations in paragraphs 1, 2 and 3 of the complaint.

2. The defendant admits the allegations in paragraphs 4 and 5 of the complaint, except to the extent that they imply that breeding and raising laboratory animals constitute processing or agricultural production.

3. The defendant admits that a portion of the assessment dated December 31, 1970, covered bedding materials, supplies and medications consumed by the laboratory animals.

4. The defendant admits the allegation of paragraph 7 of the complaint.

5. The defendant admits the allegation of paragraph 8 except to the extent that subsection (c) of § 58-441.6 is quoted in a misleading fashion.

6. The defendant denies the allegations in paragraph 9.

Received and filed, this the 30 day of Nov. 1971.
Mr. J. B. [illegible] Clerk

7. The defendant admits the allegations of paragraphs 10 and 11 of the complaint.

8. The defendant asserts that the Attorney for the Commonwealth is not the proper counsel for this cause.

And now, having fully answered, the defendant prays that he be dismissed with costs in his behalf expended.

COMMONWEALTH OF VIRGINIA

W. H. FORST
State Tax Commissioner

By Sally T. Warthen
Assistant Attorney General

Andrew P. Miller
Attorney General of Virginia

Mrs. Sally T. Warthen
Assistant Attorney General
P. O. Box 6-L
Richmond, Virginia 23282

CERTIFICATION

I hereby certify that the original of the foregoing Answer has been mailed to the Clerk of this Court for filing and a true copy thereof has been likewise mailed to Douglas B. Henderson, Esquire, and Charles R. McCarthy, Jr., Esquire, Schramm, Raddue & Seed, 1775 "K" Street, N.W., Suite 600, Washington, D. C. 20006, counsel for plaintiff, on this 29 day of November, 1972.

Sally T. Warthen
Assistant Attorney General

III.

WRITTEN OPINION OF TRIAL COURT
Dated - October 24, 1977

TWENTY-SEVENTH JUDICIAL CIRCUIT

JUDGES:

JACK M. MATTHEWS
Galax, Virginia

KENNETH I. DEVORE
Christiansburg, Virginia

R. WILLIAM ARTHUR
Wytheville, Virginia



OCT 26 1977

P. O. BOX 389

CHRISTIANSBURG, VIRGINIA 24073

October 24, 1977

COUNTIES:

Carroll
Floyd
Grayson
Montgomery
Pulaski
Wythe

CITIES:

Galax
Radford

Mr. Glenn R. Moore
Assistant Attorney General
Office of the Attorney General
Supreme Court Building
1101 East Broad Street
Richmond, Virginia 23219

Mr. Charles R. McCarthy, Jr.
Attorney at Law
Suite 800
1019 - 19th Street, N. W.
Washington, D. C. 20036

Mr. Robert J. Ingram
Gilmer, Sadler, Ingram, Sutherland
and Hutton
Attorneys at Law
P. O. Box 878
Pulaski, Virginia 24301

Re: Flow Research Animals, Inc.
v.
State Tax Commissioner

Gentlemen:

I have and thank you for your Briefs in reference to the above matter now pending in the Circuit Court of Pulaski County.

I have carefully gone over the file in this matter and your Briefs, and am mindful of the Rule that Statutes granting tax exemptions are construed strictly against the taxpayer. I am of the opinion that from the evidence in this case, the petitioner's operation is industrial in nature and that the petitioner would have the benefit of Section 58-441.6 of the 1950 Code of Virginia, as amended.

Mr. Moore
Mr. Ingram
Mr. McCarthy
October 24, 1977
Page 2

If the petitioner will prepare a sketch of an Order, and send it to Mr. Moore, I would appreciate it, and with kindest personal regards, I remain

Very truly yours,

A handwritten signature in black ink, appearing to read "Kenneth I. Devore". The signature is written in a cursive style with a long horizontal stroke extending to the right.

Kenneth I. Devore

KID:lhc
cc

IV.

FINAL ORDER
Entered - June 14, 1978.

VIRGINIA: IN THE CIRCUIT COURT OF THE COUNTY OF PULASKI

FLOW RESEARCH ANIMALS, INC.,)

Plaintiff)

v.)

STATE TAX COMMISSIONER)
OF THE COMMONWEALTH OF VIRGINIA,)

Defendant)

ORDER

Old File No. 3/71

This case having come on for trial before this Court on the 27th day of May, 1977, upon plaintiff's cause of action properly commenced, and the same having been duly matured; and plaintiff and defendant having appeared in person and by their respective counsel, who, by general agreement submitted all issues of fact and law in controversy to this Court without intervention of a jury; and the Court, having heard and considered the evidence of the respective parties, the arguments of their legal counsel, and being particularly mindful of the rule that statutes granting tax exemptions are construed strictly against the taxpayer.

And, nonetheless, it appearing to the Court from the evidence that the proposed findings of fact submitted by plaintiff are substantially correct; that the defendant's characterization of these facts comports thereto when it termed them "essentially accurate"; that plaintiff's operations are industrial in nature; and that the plaintiff should have the benefit of Section 58-441.6 of the Code of Virginia of 1950, as amended.

It is hereby ADJUDGED AND ORDERED, that plaintiff, Flow Research Animals, Inc., is exempt from the Virginia Sales and Use tax with respect to purchases by plaintiff of animal food, bedding materials, supplies and medication consumed by laboratory animals produced by plaintiff for sale, pursuant to the provisions of the Code of Virginia of 1950, as amended, Section

58-441.6, based upon the facts extant for the period from July, 1966 through September, 1970.

12421
28:
And it is further ADJUDGED and ORDERED that judgment be entered in favor of plaintiff, Flow Research Animals, Inc., and against defendant, State Tax Commissioner, in the amount of Eleven Thousand, Six Hundred Ninety and 88/100 Dollars (\$11,690.88), representing State and Local use tax deficiencies and interest assessed by defendant and paid by plaintiff under protest for the period from July, 1966 through September, 1970, plus interest at the statutory rate from the date of judgment.

And it is further ADJUDGED and ORDERED that the Clerk of this Court shall forthwith forward a certified copy of this Order to the State Tax Commissioner, pursuant to § 58-1134 of the Code of Virginia (1950), as amended.

And it is further ADJUDGED and ORDERED that the transcript of the evidence be made a part of the record in this matter.

And it is further ADJUDGED and ORDERED that this case be, and it hereby is, dismissed and stricken from the docket of this Court.

Enter this Order this 14th day of June, 1978.

K. L. ...
Judge

REQUESTED:

GILMER, SADLER, INGRAM, SUTHERLAND & HUTTON

BY

Ron Ingram

Of Counsel

DUNAWAY, MCCARTHY & DYE, P.C.

BY

Charles R. McCarthy

Of Counsel

SEEN AND OBJECTED TO:

John M. McConnell

Assistant Attorney General

Ent. 6-14-78
b6 b7C 32, 1, 522

V.

PLAINTIFF'S PROPOSED FINDINGS OF FACT
pp. 1-17

IN THE CIRCUIT COURT OF PULASKI COUNTY

IN THE MATTER OF)
)
FLOW RESEARCH ANIMALS, INC.)
)
PLAINTIFF)
)
v.)
)
STATE TAX COMMISSIONER OF)
THE COMMONWEALTH OF VIRGINIA)
)
DEFENDANT)

PLAINTIFF'S PROPOSED FINDINGS OF FACT AND BRIEF
OF PERTINENT POINTS OF LAW

A. Proposed Findings of Fact

Plaintiff, considering the facts set forth to be agreed upon or proven, respectfully requests the Court to make the following findings of fact:

1. Plaintiff taxpayer, Flow Research Animals, Inc. (now known as the Flow Dublin Division of Flow Laboratories, Inc.) during all relevant times was a corporation, incorporated in the Commonwealth of Virginia. (T. 17)

2. Defendant assessed taxpayer the following amounts for the periods stated as State and Local Use Tax deficiencies, plus interest, by Assessment dated December 31, 1970:

September, 1966 - June, 1968 (State Use Tax)	\$4,642.11
September, 1966 - June, 1968 (State Use Tax Interest)	278.53
July, 1966 - September, 1970 (State Use Tax)	7,748.97
July, 1966 - September, 1970 (State Use Tax Interest)	464.94
July, 1966 - September, 1970 (Local Use Tax)	3,314.55
July, 1966 - September, 1970 (Local Use Tax Interest)	<u>198.87</u>
TOTAL	\$16,647.97

(Application for Correction of Erroneous Assessment, Paragraph 2; Defendant's Answer, Paragraph 1).

3. Taxpayer has paid to defendant under protest the full amount of said \$16,647.97 assessment. (Application, Paragraph 3; Defendant's Answer, Paragraph 1).

Received and filed, this the 21st
day of September, 1977
Henry H. H. H. Clerk
Pulaski

4. At all pertinent times herein taxpayer engaged in the business of breeding, raising, processing and otherwise producing laboratory animals and products of animal origin, such as blood agar plates, blood (animal) and certain raw materials such as sera and media, for sale to persons or entities engaged in various and sundry aspects of biomedical research. (Application, Paragraph 4; Defendant's Answer, Paragraph 2; T. 35, 42-44).

5. Taxpayer at all relevant times herein purchased animal food, bedding materials, cartons, chemicals, supplies, and medications consumed by the aforementioned animals during the breeding, raising and production process. (Application, Paragraph 5; Defendant's Answer, Paragraph 2).

6. The above-mentioned Assessment, levied on the aforementioned items, dated December 31, 1970, of defendant was based solely upon audit of taxpayer's business records. Calculations were made by the State Sales and Use Tax Division, by reason of purchases by taxpayer of the aforementioned food, bedding materials, supplies and medications consumed by the said laboratory animals. (Application, Paragraph 6, Defendant's Answer, Paragraph 3).

7. Prior to the time of assessment, taxpayer did not pay a sales and use tax on its operations, believing that its activities were exempt and having been so advised by the previous owner. (T. 29).

8. The Dublin facility was purchased from Dublin Laboratory Animals, the previous owner, in 1967 by Flow Laboratories, Inc. (Flow), a biological-biomedical products company.

9. The facility was acquired in order to expand Flow's production of a product line used in viral research. Prior to the purchase, Flow produced only "en vitro" (artificial or test tube) life systems used for the growth of viruses. The acquisition of the Dublin facility allowed Flow to produce another product line, the "en vivo" (living) system, also used in viral research. (T. 18-19).

10. In 1968, Flow owned two other industrial type laboratory animal operations (one in New York and the other in Maryland). All three operations encountered financial difficulties, (T. 20-21), and were consolidated with the Dublin facility. Losses continued until 1971-1972, when the taxpayer started approaching a "break-even" operation (T. 21), and subsequently began making a modest profit. (T. 22).

11. Flow's belief that the Dublin operation was exempt from taxation figured prominently in its decision to consolidate the three operations into one in Dublin, Virginia. Because it was experiencing extreme financial difficulties with these operations, cost effectiveness was a very important consideration. For such a marginal operation, a two or three percent additional cost factor is a most significant element. (T. 29-30).

12. Since the 1967 acquisition, there has been a significant amount of growth in the Dublin facility's production. The facility has increased in basic size and in production percentages. Today the value of all the products produced in Dublin is about \$1.8 million. (T. 22, 24, 35). Over the years, its number of employees has ranged between 80 and 100 people, (T. 27), in a highly labor intensive industry. (T. 64, 69).

13. In 1966, although taxpayer produced a multiple product line, there was a greater emphasis on the production of laboratory animals, which then accounted for approximately 90% of taxpayer's business. As of 1970, laboratory animals accounted for only 75% of the business. The overall product line, however, has remained relatively constant. Only the constituent elements of particular products have changed in their respective percentages of overall production. (T. 26, 37-38, 44-45).

14. With regard to animal production, per se, the laboratory animal industry is a separate, distinct and distinguishable area altogether from "agriculture", the "raising of farm animals", or normal and common animal husbandry. (T. 52).

15. The business is very complex, unique and highly sophisticated. (T. 51).

16. The animals themselves must meet very definite specifications both in breeding and raising. These are largely dictated by the researcher or research institution that purchases the animal product. They are very well defined and generally universally accepted by name, by genetics, and by the raising techniques employed. (T. 51-52).

17. The animal production process is highly dissimilar to normal or ordinary animal production. For instance, animals produced at taxpayer's facility are bred according to international genetic standards, written protocols and procedures generated internally or provided to taxpayer by its customers. (T. 57-58). In some cases, customer contracts contain specifications relating to how the animals are to be bred, reared, processed, shipped, sold, et al., in order to fulfill their particular and unique research requirements. (T. 59).

18. In order to satisfy the foregoing exacting standards, taxpayer must employ trained and experienced personnel, who operate under strict specifications. Many of the employees are certified laboratory animal technicians. The facility periodically conducts a national training course sponsored by the American Association of Laboratory Animal Science, and students of the course are given a nationwide on-site and written examination in order to qualify. (T. 64, 69).

19. All employees of the facility are required to keep their areas and themselves as sterile as possible, in order to provide maximum protection for the animals. All technicians wear surgical jackets and masks when handling the animals, in order to maintain a sterile environment for the animals. The facility creates an ultra-clean environment and every precaution is taken to protect the animals from any exposure to outside contamination, bacteria, virus, dust or whatever, which could invalidate the research ultimately conducted upon and through such animals. (T. 68).

20. Taxpayer's products are sold to laboratory scientists, pharmaceutical companies and research institutions such as Sloan-Kettering Research Institute in New York, Ontario Cancer Institute in Toronto, Canada, the National Institutes of Health, A.H. Robbins in Richmond Virginia, and Merck & Company, and government institutions and laboratories. (T. 56).

21. For example, various species of rodents produced at the facility include the Sprague Dawley rat, the ICR mouse, and the C-3-H and CDF-1 mice. (T. 52, 57). These rodents are all specially bred and processed at the facility according to the exacting specifications mentioned above, and pursuant to several basic protocols (such as the "inbred system" and the "scientific random system"). (T. 57). By producing animals

in this manner, the purchaser of Flow's product, a researcher in some part of the world, will know exactly the manner in which that particular rodent has been bred and processed in this particular and well-defined worldwide industry. (T. 53). A mouse produced by taxpayer would have a wholesale price more than ten times that of an ordinary pet shop mouse. (T. 54).

22. Such a customer could not accept a rodent from any other than a reputable industrial producer, such as the taxpayer, for to do so would expose the customer-researcher to the risk of invalid scientific conclusions caused by uncertain variables, outside the ambit of the chosen species. For this reason, if, for instance, a rodent were to be obtained from other than a scientific organization, such as a pet shop or an individual owner, it would not have been bred and processed by a suitable facility with trained personnel guaranteed to possess any of the basic characteristics needed for the validity of the particular research program (T. 55); and the bacteria burden (flora) the animal would be carrying would be unknown and thus uncertain. (T. 61-62). Thus, taxpayer's reputation is essential to its success. (T. 62-63).

23. For a typical example of such precise production standards, taxpayer has a contract with the National Cancer Institute to produce at least 312,000 "CDF-1" mice each year. The CDF-1 mouse has long been produced by taxpayer. It exemplifies the typical manner in which the animals at taxpayer's facility are bred, raised and conditioned. (T. 58-59, 67).

24. The major advantage in utilizing such types of rodents in research is that they are the least expensive animal which possess the particular characteristics necessary

for the valid performance of such research. Because they are cheaper than other types of laboratory animals, they can be used in enormous quantities. Additionally, their life expectancy is only two years; therefore, an entire life expectancy is only two years; therefore, an entire lifetime study can be telescoped in a two-year period. As the research progresses in logical steps, other laboratory animals possessing other specifically suited characteristics are brought in. (T. 55-56).

25. The CDF-1 hybrid mouse, for a good example, is the result of cross breeding between two pure inbred parental strains of mice (white BALB/c female mice and grayish colored DBA/2 male mice). (T. 57). The resulting offspring (chocolate in color) possess typical hybrid vigor and viability which renders them superior to either of their parents for certain types of research. By contract, the taxpayer must get the parents from an approved genetic source (T. 122), so as to preserve the strain of the laboratory species ultimately produced for its customers. (T. 59-60, 72, 82, 125; Plaintiff's Exhibit No. 3).

26. This CDF-1 mouse is useful in certain research applications due to the aforementioned characteristics and genetic and physiological uniformity and the ability to accept and carry several strains of tumor transplants. Any interbreeding between CDF-1 animals would result in the immediate and complete loss of this genetic uniformity among the offspring of such breeding. Hence the continued production of CDF-1 mice is dependent upon continued cross-mating between members of the two inbred mouse strains. The successful production of CDF-1 mice also depends largely upon the ability to maintain desirable environmental factors and husbandry practices within the mouse colony by detailed, written protocols. (Plaintiff's Exhibit No. 3).

27. As an illustration of the complex and sophisticated processing which takes place in the case of this typical species, all incoming breeders (DBA/2 and BALB/c mice) are initially caged in an isolation room. The entrance into this area is achieved by passage along clean corridor routes only. The future breeders are housed with eight individuals to the cage and provided with bedding and feed as approved and used in other sectors of the hybrid colony. Information cards are attached to the observation cages so that groups of animals can be identified as to strain, colony of origin, age and the date they were accepted into the isolation room. Clean cages with fresh bedding are provided each week. The water jars and lids are renewed at appropriate times to coincide with changes in the administration of chemicals and medications. The temperature of the room is maintained between 70 and 74 degrees F., with a relative humidity between 45 and 60 percent. The mice are individually treated with Cornell Dusting Powder for the control of ectoparasites. The first water provided contains the antibiotic Cosa-Terramycin. Subsequently, the drinking water contains Piperazine Dihydrochloride to control endoparasites. At the end of the second week the mice are examined and the acceptable individuals are relocated to the breeding room where they are established in mating cages. Mice exhibiting signs of illness or general poor condition are culled out and discarded. (Plaintiff's Exhibit No. 3).

28. The newly established mating cages containing one DBA/2 male and four BALB/c females receive water to which Furacin soluble powder has been added. The mating cages are inspected at least twice each week to detect the presence of pregnant females. When a pregnant female is fifteen or more

days into gestation, she is removed and placed by herself into an isolation cage. She gives birth to her young in the isolation of the maternity cage and the family remains basically undisturbed until the suckling young are at least nine days old. Then the family unit is transferred to a clean, sanitized cage. The females that have raised their young are returned directly to the original breeding cage from which they came. The breeding mice are normally retired and replaced with new breeders when they have been mated for 35 weeks. If any breeders show symptoms of illness, or display generally poor conditions and/or poor reproduction performance, those animals are culled out and disposed of prior to their scheduled retirement age. Breeders that have been culled from mating cages that have been established three months or less are replaced by new breeders. Mice culled from breeding units established longer than three months are not replaced in those mating cages. (Plaintiff's Exhibit No. 3).

29. The CDF/1 offspring are weaned from their mothers at approximately four weeks of age. The weanlings are separated according to sex and placed into the larger mouse cages in groups of twenty. They are shipped when they reach a minimum weight of eighteen grams. The cages of weanlings are provided, for the first week after weaning, with drinking water to which Furacin has been added to aid in establishing the young mice on the solid diet so that they may more rapidly achieve the shipping weight. The holding cages for weanlings are maintained in the production room of origin until the mice are packed for shipment. The animals are weighed, dusted with Cornell powder and packed into shipping containers within the production room. (Plaintiff's Exhibit No. 3).

30. Parasite control programs are continued in the hybrid production colony by dusting the breeding mice every third week. Heavy pregnant females and females with suckling young are excluded from this dusting; however, these females are dusted at time of return to the harem cage. Feed, medicated by the incorporation of Piperazine Dihydrochloride into the formula at the time of milling, is fed to all cages of mice (except the weanling holding cages) on a recurring cyclic program. (Plaintiff's Exhibit No. 3).

31. Taxpayer's operations have to have volume, and reliable, quality production. (T. 64). It produces and sells approximately 650,000 rodent units per year. In 1970, it sold approximately 300,000 units annually. (T. 56). The production in such huge quantity, with quality, obviously entails extensive protocols and procedures; and trained and experienced production personnel (T. 64), functioning in an assembly or production line fashion. (T. 64).

32. The production of laboratory species is a highly complex and sophisticated process. Animals must produce on schedule and in a cost-effective manner. The rat and mouse have a short pregnancy cycle of only three weeks. They nurse three weeks. Consequently, the animal is weaned when it is 21 days of age. (T. 65). Every breeding female rat at the facility nursing a litter is also pregnant with another litter. By operating in this manner, the facility can obtain up to eight litters per year from one female. (T. 64/65).

33. Taxpayer has many rodent production rooms, in mainly two different buildings. A typical production room has plastic, solid bottom cages, containing a male and female and a litter. (T. 67). Every cage is enshrouded by a filter cover, which is made of paper material that filters the air. (T. 68).

Employees enter the room in their surgical dress to perform procedures dictated by and detailed in written instructions. (T. 67-70).

34. This sophistication can be carried to the extent of breeding and raising laboratory species in a "barrier system" cage. This means that the rodents are raised in germ-free or nearly germ-free isolators. They are even delivered by Caesarean section. The feed and bedding is autoclaved going into the cage. (T. 71).

35. Cage washing is central to taxpayer's operation. The cages are cleaned, all bottles are cleaned, new water is put into the bottles, and new bedding is placed in the animals' cages. (T. 75-76).

36. It is imperative in an animal processing facility such as taxpayer's, that the environment remains free of disease, contamination, illness, and sickness. Otherwise, the facility would become a total disaster and the ultimate product produced at the facility would be contaminated. Thus, the customers research could be invalidated. (T. 77).

37. Accordingly, it is imperative that the facility maintains these strict quality control standards on all animals it produces for sale. Representative samplings of the various colonies are taken periodically, by age, sex, etc., and subject to necropsy and a complete appraisal by a resident veterinarian who is in charge of the clinical veterinarian medicine at the taxpayer's facility. Blood counts are taken. In addition, sera is sent out for testing for such things as viruses; and bacteriological screens are done on the blood to see if the animals are harboring harmful bacteria, or have been exposed to any virus; or to see if they have any sub-clinical ailments of any kind; or have experienced any physical

lesions that might be detected. (T. 73-74).

38. A good example of the lengths to which this exotic animal processing is carried is manifest in the water the rodents are given. The animals are provided with special water, since they cannot be allowed to drink from the ordinary public water supply. This is such because the water must contain eleven parts per million chlorine (an industry standard): The ordinary public water supply usually contains only one part per million chlorine. (T. 70, 75-76).

39. When the rodents have been completely processed at the facility and are ready to be shipped to the researcher, they are placed in specially designed shipping cartons. The cartons contain two floors, and have filters on the outside to further protect the animals against contaminated air and dust, and to provide additional warmth during shipping. (T. 77-78). The cartons contain bedding and food, in addition.

40. Likewise, the animals are shipped by specially equipped trucks, some of which have a dual air-conditioning system; in the event one system is inoperative, it is necessary that there is a back-up system. The trucks are absolutely temperature-controlled (heat and air-conditioning) in order to maintain the proper environment during shipment. Such laboratory bred and processed animals are very fragile and cannot cope with minor things such as temperature changes. It is thus imperative that the environment in which the animals were raised is maintained until they reach their ultimate destinations. This characteristic is a major and clarion distinction from a natural type animal of the same species. (T. 78).

41. The animals are taken to their final destinations either by truck and/or by plane, where they are flown to various customers throughout the world. (T. 78).

42. With regard to the larger animals processed by taxpayer, the canine caging facility houses beagles, common mongrel dogs (CMD's), foxhounds, and Newfoundland hounds, among others. (T. 87, 95).

43. Beagles are gang-housed so that when they come into estrus (ready to breed), (once every six months), it is known that the whole group will be coming into heat. (T. 87-88). On some occasions, beagles are even artificially inseminated. (T. 128).

44. While the beagle colony is delivering its puppies, the animals are kept in a special facility, similar to a maternity ward for humans. They are housed in individual isolation units during the time from delivery until the puppies are weaned. (T. 88).

45. The dogs in the regular beagle colony are exercised in special cages. The cages have expanded metal bottoms so that the animals are not touching the outside ground, but may still enjoy the sunshine and environment of being in the outdoors. (T. 88).

46. Researchers want beagles that are free of the well-known canine diseases. The dogs are subjected to special tests, blood samplings, counts, and chemistries, etc., on a periodic basis, and a vaccination program, while they are being raised and processed at the facility, in order to insure that they are free from disease. This is known as "monitoring" the animals. Dogs are bred so that only the best of the colony are mated in order to produce good research specimens. (T. 89-90).

47. One group of canines housed at the facility developed a respiratory disease that interfered with the processing of puppies in this colony. The facility isolated the disease and found it to be a virus, related to one of the para-influenza organisms in humans. The facility developed a

48. The dogs are bathed and cleaned on a regular basis. They are dipped in a solution which controls external parasites, in order to maintain tightly controlled health procedures. (T. 92).

49. The dogs are fed with a mechanism on a pulley that can be hoisted out of the range of the animals. Thus there is a minimal chance of contamination of their food with extraneous matter. (T. 92).

50. The canine's cages have expandable metal floors in order that the animals do not live in their excreta. The floors are rinsed through by a mechanized sewage system that cleans the entire area, and flushes it to a ditch that goes into a closed septic system. (T. 92).

51. Foxhounds are not bred at the facility, but are held and observed under a contract with the National Heart, Lung and Blood Institute as part of their cardiovascular study. These particular foxhounds have all had cardiovascular surgery, which includes heart transplants, arterial grafts, catheters, pacemakers and the like. The dogs are kept at the facility for observation, in order to provide a somewhat normal lifestyle for the animals. This is done in order that the research being conducted can reflect as normal a life as possible, so it may be compared with the life of a human who might have the same surgery. Periodically, the foxhounds are sent back to the National Heart, Lung and Blood Institute for additional altering and testing. While these dogs ostensibly look like ordinary foxhounds, they have all had radical alterations of some sort. (T. 93-94).

52. The facility also houses a colony of Newfoundland hounds which have been specifically bred to produce an inborn heart anomaly, a genetic aortic stenosis. These dogs are part of the National Heart, Lung and Blood Institute's heart study program. The facility's part in this study is to carefully select and breed (by artificial insemination) the males and females of the colony with the genetic trait. It is necessary to artificially inseminate these species because their specifically bred "heart conditions" prevent natural coitus. Better than 85 percent of the offspring have this congenital inborn murmur in varying degrees so as to provide the conditions necessary for the specific heart research. (T. 94-95, 125-126).

53. Another of the larger animals which is bred and processed at the plaintiff's facility is sheep. The sheep are bred and processed primarily for blood used in various of the plaintiff's sera products. Periodically, the sheep are selected from the colony, tagged, identified and removed from the herd for bleeding. They are then taken to a special area of the facility where their necks are shaved. The shaven area is sterilized, and the external jugular vein is punctured. The blood is retained in a closed, vacuated, sterile container, so that there is no chance for contamination. The sheep are bled about every two weeks and this product is incorporated into other finished products. The blood is washed in alsever's solution and broken down into defibrinated (not subject to clotting), whole blood, to be used in research. (T. 97-100, 111-112).

54. Other animals are also bled by taxpayer, such as goats, calves, horses, guinea pigs, rabbits, newborn chicks, and sometimes mice and rats. From the animal blood base, taxpayer manufactures a whole myriad of sera based products, including the mass production of agar plates, and other types of media for the growth and cultivation of bacteria. Blood and

blood cells are also used as an end point indicator in serological reactions, and as an absorptive agent. (T. 97-99, 104-106, 108-11, 113-114).

55. In addition to the aforementioned processing and production activities of the taxpayer, it also conducts contract research. Such on-site research is conducted under contract at the facility, by the taxpayer's personnel. The results are then forwarded on to the institution with whom they have contracted, wherever it may be located. The animals used in this type of research are housed in cages in which the feed they receive contains various levels of some specific drug then being tested. The object of the research is to determine the safety of or potential deleterious effects at the various levels of drugs administered to the animals under controlled conditions under which all the rodents used in the project are subjected to the same conditions. In this type of activity the contract furnishes the facility with the study protocols and requirements. The facility must adhere to these strict study requirements, and trained personnel of the taxpayer must take great pains to see that a controlled environment is strictly maintained under rigid supervision. (T. 101-104).

56. To operate its facility, taxpayer purchases tons of animal food and bedding (by the train carload). The annual cost of the food, bedding, chemicals and associated supplies during the pertinent time period was in the neighborhood of \$125,000 to \$150,000. (T. 130-131).

57. Defendant admits that the animals produced and processed by taxpayer are not for human consumption. (T. 172).

58. Defendant admits that taxpayer is part of the broad business community classified as industry. (T. 33; Plaintiff's Exhibit No. 1).

20

59. Defendant's only witness, Mr. Russell C. Whitehead, Jr., Supervisor, Audit Section, Sales and Use Tax Division, Virginia Department of Taxation, admits that if taxpayer's operations constitute industrial production or processing, then the food, bedding, chemicals and other supplies would be exempt from the sales and use tax as production items. (T. 167-168).

60. Defendant's only witness acknowledges that he has never visited and/or observed taxpayer's operations, and could therefore have easily misunderstood or been grossly ignorant of taxpayer's myriad, sophisticated processing and production activities. (T. 162, 164).

61. Dr. F. W. Clayton, a staff officer with the National Academy of Science in Washington, D.C. testified as an independent expert on animal husbandry and animal rearing for the taxpayer. (T. 135, 138). Dr. Clayton stated that the production of laboratory animals is an "industry" that has evolved a long way and has become very sophisticated. It is totally distinguishable from normal animal husbandry of the "barnyard" variety. (T. 140).

62. Dr. Clayton also testified that in addition to careful breeding, the second most important factor in distinguishing the processing of laboratory animals from normal animal husbandry is the maintenance of a disease free environment. A disease free environment must be maintained in order to conduct research and not kill the other research animals being similarly maintained. Some diseases are transmissible from animals to man and some research people have died from animal borne infections. With a diseased environment, the scientific data ultimately produced by the customer would be invalid, according to this expert witness. (T. 140-141, 141-143, 145-146).

VI.

DEFENDANT'S REPLY MEMORANDUM
p. 1

V I R G I N I A:

IN THE CIRCUIT COURT OF PULASKI COUNTY

FLOW RESEARCH ANIMALS, INC.

Plaintiff,

v.

STATE TAX COMMISSIONER

Defendant.

DEFENDANT'S REPLY MEMORANDUM

PRELIMINARY STATEMENT

The defendant (hereinafter, "department") acknowledges that plaintiff's (hereinafter, "Flow Research") characterization of the facts in this matter is essentially accurate. The issue in this case is whether the department erroneously assessed a use tax upon Flow Research's purchases of animal feed, bedding materials, supplies and medication consumed by laboratory animals which Flow Research bred and raised for sale. (plaintiff's Application for Correction of Erroneous Assessment, paragraphs 4, 5, and 6.) Consequently, any evidence regarding Flow Research's production of animal related products is irrelevant, for purposes of this application.

By its very terms the application submitted by Flow Research maintains that the department assessed the tax for the bedding material, supplies, medication and food consumed by laboratory animal produced for sale. Thus, the appli-

VII.

ASSIGNMENTS OF ERROR

VIRGINIA:

*In the Supreme Court of Virginia held at the Supreme Court Building in the
City of Richmond on Thursday the 5th day of April, 1979.*

State Tax Commissioner of
the Commonwealth of Virginia,

Appellant,

against Record No. 781323
Circuit Court No. 3171

Flow Research Animals, Inc.,

Appellee.

From the Circuit Court of Pulaski County

Upon the petition of the State Tax Commissioner of the Commonwealth of Virginia an appeal and suspension of judgment is awarded him from a judgment rendered by the Circuit Court of Pulaski County on the 14th day of June, 1978, in a certain application for correction of erroneous assessment proceeding then therein depending, wherein Flow Research Animals, Inc., was plaintiff and the petitioner was defendant; no bond being required.

This appeal, however, is limited to the consideration of assignments of error Nos. 2, 4 and 5 which read as follows:

2. The trial court erred in its holding that those items of tangible personal property not ingested by the laboratory animals (bedding materials and cages as contrasted with food and medication) were exempt under the language of § 58-441.6 relied upon by Flow Research in its application ("industrial materials . . . [which] enter into the production of or become a component part of the finished product . . .").

4. The trial court erred in its holding (or its failure to address) that Flow Research's animal breeding and raising activities constituted manufacturing, processing, refining, or conversion (in the industrial sense).

VIRGINIA:

*In the Supreme Court of Virginia held at the Supreme Court Building in the
City of Richmond on the day of*

State Tax Commissioner of
the Commonwealth of Virginia,

Appellant,

against Record No. 781323
Circuit Court No. 3171

Flow Research Animals, Inc.,

Appellee.

5. The trial court erred in its holding that Flow Research's activities were "industrial" in nature, as contemplated by § 58-441.6.

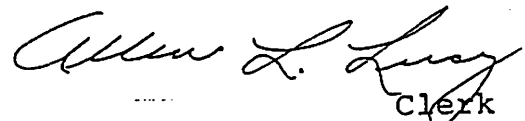
On further consideration whereof, it is ordered that the parts of the record to be printed or reproduced in the appendix are to be limited

to those parts of the record germane to assignments of error Nos. 2, 4 and 5, and the briefs to be filed shall be limited to such discussion as is relevant to the assignments of error upon which this appeal is awarded.

The petition for appeal is refused as to the remaining assignments of error.

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Teste:

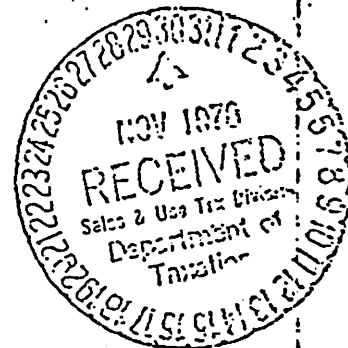
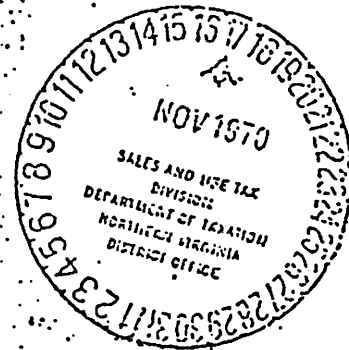

Clerk

VIII.

PLAINTIFF'S EXHIBIT
#1 - #8

COMMONWEALTH OF VIRGINIA
DEPARTMENT OF TAXATION
RICHMOND

November 13, 1970



Mr. Joseph E. Hall, President
Flow Research Animals, Inc.
Post Office Box 1065
Dublin, Virginia 24084

Dear Mr. Hall:

Reference is made to your letter of October 21, 1970 concerning the application of the Virginia Retail Sales and Use Tax Act to Flow Research Animals, Incorporated.

The General Assembly of Virginia in enacting the Virginia Retail Sales and Use Tax Act enacted into law a sales and use tax statute with limited exemptions. These limited exemptions must be strictly construed.

It is not enough that a person produces a product for market, such a person to enjoy the exemptions under the Act must fall within a certain class of activity. A person must be a farmer to enjoy the agricultural exemption, or he must be a manufacturer to enjoy the production exemption. A manufacturer cannot claim an agricultural exemption any more than a farmer can claim an exemption as a manufacturer. Flow Research Animals, Incorporated produces laboratory animals. It is not a farmer and it is not a manufacturer.

Laboratory animals such as dogs are not livestock and the mere feeding of animals is not manufacturing. Animal food is not industrial material. In Colbert Mill and Feed Company, v. Oklahoma Tax Commissioner, it was held that cattle food sold to the owner of cattle was not sold for use in processing or preparing for sale so as to become a recognizable, integral part of the finished product. Couched in simple language the feeding of animals is not manufacturing, processing, or conversion of industrial materials into a product.

Mr. Joseph E. Hall, President

-2-

November 13, 1970

We do not deny that Flow Research Animals, Incorporated is a part of the broad business community classified as industry, but is it a manufacturer?

A farmer is one who farms and Flow Research Animals, Incorporated does not farm. The raising of dogs is not farming; a dog is not an agricultural product nor is a dog classified as livestock. If Flow Research Animals, Incorporated was raising chickens for sale or horses for sale, Flow Research Animals, Incorporated would be classed as a farmer with respect to the raising of the chickens or horses and would be entitled to the agricultural exemption. This, however, is not the case, and I am compelled to say again that Flow Research Animals, Incorporated is not entitled to an exemption on the purchase of animal food, bedding, or medications. An opinion exempting such property would indeed be a liberal interpretation of the Act.

With best wishes, I am

Sincerely yours,

J. M. A. T.

Director, Sales and Use Tax Division

SWC/a

cc: Mr. James B. Morris
Supervisor
Bristol District Office

✓ Mr. Roy Dameron
Supervisor
Northern Virginia District Office

F 0128



(A)

DEPARTMENT OF HEALTH, EDUCATION, AND WELFARE		CONTRACT NO. 263-77-C-0183		PAGE 1 of 6	
NEGOTIATED CONTRACT		NEGOTIATED PURSUANT TO 42 USC 241(h) and 41 USC 252(c)(10)		TYPE OF CONTRACT Fixed Price	
ISSUING OFFICE National Institutes of Health Negotiated Contracts Unit, PB Building 13, Room 2N-12 Bethesda, Maryland 20014		CONTRACT FOR Production and Supply of 312,000 Hybrid Mice			
CONTRACTOR (Name and Address) Flow Laboratories, Inc. P. O. Box 1065 Attention: Dr. William A. Knapp, Jr. Dublin, Virginia 24084		ACCOUNTING AND APPROPRIATION DATA 7-0422741.109008			
PLACE OF PERFORMANCE Dublin, Virginia		CONTRACT AMOUNT \$219,960.00			
MAIL VOUCHERS TO National Institutes of Health Contracts Section, DFM Building 31, Room B1B-10 Bethesda, Maryland 20014		SPONSOR National Cancer Institute National Institutes of Health		EFFECTIVE DATE FEB 1 1977	
				EXPIRATION DATE As soon as possible but not later than	
CONTRACTOR REPRESENTS					
1. That it <input type="checkbox"/> is, <input checked="" type="checkbox"/> is not, a small business concern. If he is a small business concern and is not the manufacturer of the supplies to be furnished hereunder, he also represents that all such supplies <input type="checkbox"/> will, <input type="checkbox"/> will not, be manufactured or produced by a small business concern in the United States, its possessions, or Puerto Rico. (A small business concern for the purpose of Government procurement is a concern, including its affiliates, which is independently owned and operated, is not dominant in the field of operation in which it is contracting and can further qualify under the criteria concerning number of employees, average annual receipts, or other criteria, as prescribed by the Small Business Administration.) (See Code of Federal Regulations, Title 13, Part 121, as amended, which contains detailed definitions and related procedures.)					
2. That it is a <input type="checkbox"/> REGULAR DEALER IN, <input checked="" type="checkbox"/> MANUFACTURER OF, the supplies covered by this contract					
3. That it is an <input type="checkbox"/> INDIVIDUAL, <input type="checkbox"/> STATE OR LOCAL AGENCY, <input type="checkbox"/> PARTNERSHIP, <input type="checkbox"/> JOINT VENTURE, <input type="checkbox"/> NON-PROFIT, <input type="checkbox"/> EDUCATIONAL INSTITUTION, <input checked="" type="checkbox"/> CORPORATION organized and existing under the laws of the state of Maryland.					
AH/sg					
The Contractor agrees to furnish and deliver all supplies and perform all the services set forth in the attached Special Provisions, for the consideration stated herein. The rights and obligations of the parties to this contract shall be subject to and governed by the Special Provisions and the General Provisions. To the extent of any inconsistency between the Special Provisions or the General Provisions and any specifications or other provisions which are made a part of this contract, by reference or otherwise, the Special Provisions and the General Provisions shall control. To the extent of any inconsistency between the Special Provisions and the General Provisions, the Special Provisions shall control.					
IN WITNESS WHEREOF, the parties hereto have executed this contract on the day and year last specified below.					
Flow Laboratories, Inc. NAME OF CONTRACTOR		UNITED STATES OF AMERICA Accepted as modified by letter dated January 21, 1977 (copy attached)			
BY SIGNATURE OF AUTHORIZED INDIVIDUAL		BY SIGNATURE OF CONTRACTING OFFICER			
William A. Knapp, Jr. TYPED NAME		Nancy Rainey TYPED NAME			
TITLE Vice President		1/31/77 DATE			
January 3, 1977 DATE					

Amended #2

THIS CONTRACT CONSISTS OF:

1. COVER PAGE HEW-555

2. SPECIAL PROVISIONS HEW-556

ARTICLE I	Description of Work
ARTICLE II	Delivery
ARTICLE III	Price Schedule and Payment
ARTICLE IV	Renewal Option
ARTICLE V	Project Officer
ARTICLE VI	Project Director
ARTICLE VII	Disposition of Breeding Animals

3. Minimum Specifications for the Production of Hybrid Mice in a Controlled Environment or Barrier Environment for the Division of Cancer Treatment of the National Cancer Institute.
4. Contractor's Representations and Certifications submitted with proposal and incorporated by reference.
5. Protection of Human Subjects Certification, HEW-596 (8-72) submitted with proposal and incorporated by reference.
6. Report Forms (NIH-1581-2 and NIH-1581-1 (Rev. 3/72)) incorporated by reference.
7. General Provisions, Standard Form 32 (April 75 Edition)
8. Addendum to General Provisions (Supply Contract, Standard Form 32, April 75 Edition) Rev. March 8, 1976
9. Preference for U.S. Flag Air Carriers (Revised 8/76)
10. Additional Special Provisions (Rev. 8/68) Negotiated Fixed Price Contract for Animals
11. Technical Direction
12. Contractor's Technical Proposal incorporated by reference and made a part hereof.

ARTICLE I
Description of Work

- A. Independently and not as an agent of the Government, the Contractor shall produce and supply approximately 312,000 hybrid mice (B6D2F₁ and/or CD2F₁ and or comparable hybrid) derived from Government-furnished breeding stock, as directed by the Project Officer, and of a quality acceptable to the Project Officer. The quantity specified refers to combined numbers of B6D2F₁ and/or CD2F₁ and/or comparable hybrid mice. The Government Project Officer and the Contractor shall determine the mix of quantities of each hybrid. These animals shall be reared in accordance with the "Minimum Specifications for the Production of Hybrid Mice in a Controlled Conventional Environment or Barrier Environment for the Division of Cancer Treatment of the National Cancer Institute" and Contractor's Technical Proposal (dated January 3, 1977) incorporated hereunder by reference.
- B. Both weekly and monthly reports must be submitted by the contractor directly to the Mammalian Genetics and Animal Production Section (MG & APS). Report Forms (NIH-1581-2 and NIH-1581-1) are incorporated by reference.
- C. All work under this contract will be performed under the general guidance and direction of the Project Officer, whose position is defined in Article V.

ARTICLE II
Delivery

The Contractor agrees to deliver all of the animals as soon as possible, in accordance with delivery schedule mutually agreed by the Contractor and the Project Officer, but in no event extending beyond January 31, 1978.

Deliveries shall be made FOB Destination (See ARTICLE III) to consignees designated by the Government, who shall have the right as agents of the Government, after consultation with the Project Officer, to reject animals that arrive in unsatisfactory condition or fail to survive the quarantine period; provided they can demonstrate that the animals had proper care, from delivery to consignee through the quarantine period, in accordance with accepted animal husbandry practices. If more than 10 percent of the animals in a consignment die before the end of the quarantine period, the entire consignment shall be rejected without expense to the Government.

ARTICLE III
Price Schedule & Payment

Feb. 1, 1977 thru Jan. 31, 1978

- A. Initial twelve month period of performance _____
(specific dates to be inserted by the Government at time of contract award).

For all animals accepted on its behalf, the Government will pay the Contractor at the following rates:

(1)	3,000/week; or	\$ _____/each
(2)	4,000/week; or	\$ _____/each
(3)	5,000/week; or	\$ <u>.665</u> /each
(4)	6,000/week	\$ <u>.650</u> /each

Plus actual transportation and insurance charges as follows:

- (a) Actual transportation costs to delivery points beyond a fifty-mile radius of the Contractor's facility.
- (b) Delivery may be made by Contractor-furnished conveyance beyond the initial no charge 50 mile radius when such method is in the best interest of the Government. In this event, shipping charges shall be \$.042 per animal for all mice delivered beyond this 50 mile radius but within a 400 mile radius from the Contractor's breeding facility. This charge shall increase to \$.05 per animal for all mice delivered beyond a 400 mile radius. Prior approval of the Project Officer must be obtained for each shipment when this method of transport is to be utilized.
- (c) Cost of transportation insurance provided shipments are insured for no more than actual value and it is the Contractor's established policy and consistent practice to incur such costs.

The total cost to the Government, including transportation and insurance costs, shall not exceed \$ 219,950.00 Title to

animals shall vest in the Government on acceptance by the consignee. Until then, responsibility rests with the Contractor.

Partial payments will be made monthly on receipt of invoices showing the number of animals accepted by consignees during the billing period, with transportation and insurance charges shown as separate items and supported by paid receipts.

- B. Successive twelve month period of performance _____
(specific dates to be inserted by the Government at time of renewal, if renewed).

For all animals accepted on its behalf, the Government will pay the Contractor at the following rates:

(1)	3,000/week; or	\$ _____/each
(2)	4,000/week; or	\$ _____/each
(3)	5,000/week; or	\$.695 /each
(4)	6,000/week	\$.680 /each

Plus actual transportation and insurance charges as follows:

- (a) Actual transportation costs to delivery points beyond a fifty-mile radius of the Contractor's facility.
- (b) Delivery may be made by Contractor-furnished conveyance beyond the initial no charge 50 mile radius when such method is in the best interest of the Government. In this event, shipping charges shall be \$.045 per animal for all mice delivered beyond 50 mile radius but within a 400 mile radius from the Contractor's breeding facility. This charge shall increase to \$.052 per animal for all mice delivered beyond a 400 mile radius. Prior approval of the Project Officer must be obtained for each shipment when this method of transport is to be utilized.
- (c) Cost of transportation insurance provided shipments are insured for no more than actual value and it is the Contractor's established policy and consistent practice to incur such costs.

The total cost to the Government, including transportation and insurance costs, shall not exceed \$ _____. Title to animals shall vest in the Government on acceptance by the consignee. Until then, responsibility rests with the Contractor.

SPECIAL PROVISIONS	CONTRACT NO.	PAGE <u>6</u> OF <u>6</u> PAGES
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Partial payments will be made monthly on receipt of invoices showing the number of animals accepted by consignees during the billing period with transportation and insurance charges shown as separate items and supported by paid receipts.

ARTICLE IV Renewal Option

This contract covers a twelve month period of contract performance and contains a "hard option" for one successive twelve month period of contract performance. Since the prices for the successive twelve month period were negotiated at the time of initial contract award, the renewal option, if exercised, will be on a unilateral basis by the Government with no further negotiations with the contractor.

ARTICLE V Project Officer

- A. Dr. Joseph G. Mayo *, National Cancer Institute, National Institutes of Health, will represent the Government in technical direction of contract performance when the term "Project Officer" is used. His guidance and direction, however, shall not effect any change in the total amount or delivery period of this contract. Such changes shall be made only by action of the Contracting Officer. (See attachment entitled "TECHNICAL DIRECTION," which is made part hereof for definition and explanation of technical direction).

ARTICLE VI Project Director

The performance of the work required by this contract shall be conducted for the Contractor under the direction of Mr. D. Wayne Farmer. The Government reserves the right to disapprove any successor to the named Project Director.

ARTICLE VII Disposition of Breeding Animals

In consideration of the fact that breeding animals are supplied by the Government, said breeding animals shall remain the property of the Government throughout their tenure in the facility of the Contractor. The disposal of these breeding animals shall be in accordance with instructions issued by the Project Officer. From time to time, the Project Officer may request that retired breeding animals be shipped to various destinations at no cost other than the shipping cost.

* Assistant Project Officer - Mr. Clarence Rucker

MINIMUM SPECIFICATIONS FOR THE PRODUCTION OF HYBRID MICE IN A CONTROLLED CONVENTIONAL ENVIRONMENT OR BARRIER ENVIRONMENT FOR THE DIVISIONS OF CANCER TREATMENT OF THE NATIONAL CANCER INSTITUTE.

General

Organizations submitting proposals shall have had a minimum of two continuous years of experience in the production of laboratory mice for the commercial market or, in the case of an institutional production activity, the activity shall have been conducted on a charge-back basis with institutional users.

The two years of continuous experience shall be current and shall include the production and sale of a minimum of 1500 mice per week during each week of the two-year period noted above.

The physical plant, caging equipment, mechanical equipment and husbandry practices shall be in accordance with the Animal Welfare Act, PL 89-544 as amended by PL 91-579, the Guide for Laboratory Animal Facilities and Care, I.L.A.R. Standards for the Breeding, Care and Management of Laboratory Mice and this Protocol. In the event of any conflict, the more stringent requirement shall prevail.

Facilities and Equipment

The rooms assigned for this production shall not contain other animal species or other mouse strains.

A minimum of two rooms shall be available for this production plus a turn-over room for cycling breeders once the colony level is attained. No room shall exceed 600 square feet of floor space.

The number of rooms required for this production will be determined by the breeder level. This decision will be made by the Project Officer.

All walls and floors shall be of masonry construction. Ceilings must be of a smooth continuous surface. All joint areas and cracks shall be sealed.

All rooms shall measure temperature and relative humidity.

The air-handling system shall maintain temperatures between 72-76° F and relative humidity between 45 - 60%.

One hundred percent fresh air is desirable, however, 50 percent recirculation is permitted but shall pass through filters before it is recycled.

The facility shall be equipped with a mechanical cage and ancillary equipment washers. The washer shall have a minimum of three cycles (recirculated detergent wash, recirculated rinse, fresh water rinse). The minimum temperature for the wash cycle shall be 140° F and the minimum temperature

for the rinse cycles shall be 160° F recirculated rinse and 180° F fresh rinse. A complete processing cycle shall be a minimum of three minutes. Correct usage of this equipment must be evident at the time of response.

The facility shall have chlorinated water at a level of 9 - 10 ppm at the sink tap from which water bottles are filled..

A separate quarantine room shall be provided for receiving incoming breeders and holding such animals for a minimum of two (2) weeks for observation purposes.

Breeding Procedures

The Government will supply both male and female breeders for the appropriate hybrid on a weekly basis. The number to be supplied will be determined by the Project Officer.

After the two week quarantine period, breeders shall be mated either 1x1, 1x4, or 1x5. The exact ratio will be determined by the Project Officer. With all matings other than 1x1, individual pregnants shall be isolated into a separate cage for birthing and rearing litters. After weaning of the litter (4-5 weeks old) the female shall be returned to her original mating cage.

Caging

All cages shall be of either plastic or stainless steel construction.

Cage unit is defined as consisting of a cage, cage lid, water bottle with holed lid and sipper tube (stainless steel) food holder (if used as a separate item, stainless steel) and a cage filter device. The filtering device shall either be cloth-bonnet or molded rigid type. Filter must be approved by the Project Officer.

Weaned mice shall be housed in cage units providing a minimum of 9 square inches per mouse with a maximum of 20 mice per cage.

The breeding and isolation cages shall be no smaller than the standard 7 1/2 x 11 1/2 x 5 "shoe-box" cage. Any exceptions must be approved by the Project Officer.

Quality Control

The contractor shall have the capability of checking for endo and ecto parasites.

Contractor shall submit serum and fecal samples as directed by Project Officer for monitoring purposes. The capability of collecting and processing such samples shall be evidenced.

Inspections and Records

A minimum of two site visits will be made yearly by either the Project Officer or Alternate Project Officer or both.

Both weekly and monthly reports must be submitted to the MG&APS. The forms for submitting these reports will be supplied by MG&APS.

Shipment of Animals

Animals are to be shipped at a weight of 18 grams. Upon arrival at the research facility, the mice will be quarantined for one week. Any mice not weighing 18 grams after this one week period will be sacrificed and the shipper will not be reimbursed for such mice.

All mice shall be shipped in 100% screen wire lined boxes as approved by the Project Officer. Such boxes shall be non-reusable or non-returnable. Animals shall be shipped by air or by the contractor's controlled environment vehicle. Delivery by the contractor's vehicle must be approved by the Project Officer.

No mice shall be returned after leaving the contractor's facility.

The contractor shall be reimbursed only for those animals that are usable after they have been quarantined for one week at the designated research facility.

The contractor will be expected to provide filter material on all shipping boxes as requested by the Project Officer. This is the customary practice during the colder months.

The contractor will receive telephone instructions weekly from MG&APS as to where each shipment is to be made.

Husbandry Practices

1. All cage units shall be cleaned and washed at least once weekly.
2. All cage racks shall be washed at least once weekly.
3. Personnel assigned to this project shall have no contact with other animal colonies.
4. Personnel shall wear face masks, head covers, separate shoes for the animal room area and separate uniforms in this area.
5. Head covers and uniforms shall be changed daily.
6. The type of feed and bedding to be used must be approved by the Project Officer.
7. Feed removed from a cage to be cleaned shall be discarded.
8. Any and all medications shall receive prior approval of the Project Officer.

All technical procedures shall be monitored and approved by the Project Officer.

Any changes in procedures once the contract has started shall be approved by the Project Officer. Examples: diet, cage size, personnel, water chlorination.

The Project Officer shall be notified immediately of any signs of disease in the colony or at the facility.

TECHNICAL DIRECTION

Performance of the work under this contract shall be subject to the technical direction of the Project Officer. The term "Technical Direction" is defined to include, without limitation, the following:

- a. Directions to the Contractor which redirect the contract effort, shift work emphasis between work areas or tasks, require pursuit of certain lines of inquiry, fill in details or otherwise serve to accomplish contractual statement of work.
- b. Provision of information to the Contractor which assists in the interpretation of drawings, specifications or technical portions of the work description.
- c. Review and, where required by the contract, approval of technical reports, drawings, specifications and technical information to be delivered by the Contractor to the Government under the contract.

Technical direction must be within the general scope of work stated in the contract. The Project Officer does not have the authority to and may not issue any technical direction which (i) constitutes an assignment of additional work outside the general scope of the contract; (ii) constitutes a change as defined in the contract clause entitled "Changes;" (iii) in any manner causes an increase or decrease in the total estimated contract cost, the fixed fee or the time required for contract performance; or (iv) changes any of the expressed terms, conditions, or specifications of the contract.

All technical directions shall be issued in writing by the Project Officer or shall be confirmed by him in writing within five (5) working days after issuance.

The Contractor shall proceed promptly with the performance of technical directions duly issued by the Project Officer in the manner prescribed by this article and within his authority under the provisions of this article.

If, in the opinion of the Contractor, any instruction or direction issued by the Project Officer is within one of the categories as defined in (i) through (iv) above, the Contractor shall not proceed but shall notify the Contracting Officer in writing within five (5) working days after the receipt of any such instruction or direction and shall request the Contracting Officer to modify the contract accordingly. Upon receiving such notification from the Contractor, the Contracting Officer shall issue an appropriate contract modification or advise the Contractor in writing that, in his opinion, the technical direction is within the scope of this article and does not constitute a change under the Changes Clause of the contract. The Contractor shall thereupon proceed immediately with the direction given. A failure of the parties to agree upon the nature of the instruction or direction or upon the contract action to be taken with respect thereto shall be subject to the provisions of the contract clause entitled "Disputes."

Negotiated Fixed-Price Contract for Animals

ANIMAL WELFARE

1. The Contractor agrees to comply with the provisions of the Laboratory Animal Welfare Act (P.L. 89-544, 7 USC 2131-54) wherein they are applicable for contract activities.

TERMINATION FOR CONVENIENCE OF THE GOVERNMENT

2. The Contracting Officer, by written notice, may terminate this contract, in whole or in part, when it is in the best interest of the Government. If this contract is for supplies and is so terminated, the Contractor shall be compensated in accordance with Part 1-8 of the Federal Procurement Regulation (41 CFR 1-8), in effect on his contract's date. To the extent that this contract is for services and is so terminated, the Government shall be liable only for payment in accordance with the payment provisions of this contract for services rendered prior to the effective date of termination.

ANTI-RIOT PROVISION

3. The Contractor agrees that no part of the funds derived from this contract shall be used to provide payments, assistance, or services, in any form, with respect to any individual convicted in any Federal, State, or local court of competent jurisdiction, of inciting, promoting, or carrying on a riot, or any group activity resulting in material damage to property or injury to persons, found to be in violation of Federal, State, or local laws designed to protect persons or property in the community concerned.

CERTIFICATION OF NONSEGREGATED FACILITIES

4. (Applicable to contracts, subcontracts, and agreements with applicants who are themselves performing Federally assisted construction contracts, exceeding \$10,000 which are not exempt from the provisions of the Equal Opportunity Clause.)

By the submission of this bid, the bidder, offeror, applicant, or contractor certifies that he does not maintain or provide for his employees any segregated facilities at any of his establishments, and that he does not permit his employees to perform their services at any location, under his control, where segregated facilities are maintained. He certifies further that he will not maintain or provide for his employees any segregated facilities at any of his establishments, and that he will not permit his employees to perform their services at any location, under his control, where segregated facilities are maintained. The bidder, offeror, applicant, or subcontractor agrees that a breach of this certification is a violation of the Equal Opportunity clause in this contract. As used in this certification, the term "segregated facilities" means any waiting rooms,

work areas, rest rooms and wash rooms, restaurants and other eating areas, time clocks, locker rooms, and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing facilities provided for employees which are segregated by explicit directive or are in fact segregated on the basis of race, creed, color, or national origin, because of habit, local custom, or otherwise. He further agrees that (except where he has obtained identical certifications from proposed subcontractors for specific time periods) he will obtain identical certifications from proposed subcontractors prior to the award of subcontracts exceeding \$10,000 which are not exempt from the provisions of the Equal Opportunity clause; that he will retain such certifications in his files; and that he will forward the following notice to such proposed subcontractors (except where the proposed subcontractors have submitted identical certifications for specific time periods):

NOTICE TO PROSPECTIVE SUBCONTRACTORS OF REQUIREMENT FOR
CERTIFICATIONS OF NONSEGREGATED FACILITIES

A Certification of Nonsegregated Facilities, as required by the May 9, 1967 order (32 F.P. 7439, May 19, 1967) on Elimination of Segregated Facilities, by the Secretary of Labor, must be submitted prior to the award of a subcontract exceeding \$10,000 which is not exempt from the provisions of the Equal Opportunity clause. The certification may be submitted either for each subcontract or for all subcontracts during a period (i.e., quarterly, semi-annually, or annually). (FPR 1-12.803-7(d)(1).

NOTE: The penalty for making false statements in offers is prescribed in 18 U.S.C. 1001.

5. CONTINGENT FEE:

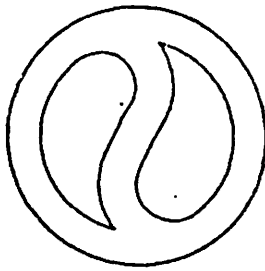
(a) He ☐ has, ☐ has not, employed or retained any company or person (other than a full-time, bona fide employee working solely for the offeror) to solicit or secure this contract, and (b) he ☐ has, ☐ has not, paid or agreed to pay any company or person (other than a full-time, bona fide employee working solely for the offeror) any fee, commission, percentage, or brokerage fee contingent upon or resulting from the award of this contract; and agrees to furnish information relating to (a) and (b) above, as requested by the Contracting Officer. (For interpretation of the representation, including the term "bona fide employee," see Code of Federal Regulations, Title 41, Subpart 1-1.5)

If this representation is answered in the affirmative, Standard Form 119, Contractor's Statement of Contingent or Other Fees for Soliciting or Securing or Resulting from Award of Contract, is hereby prescribed and may be obtained from the Contracting Officer.

AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT

1

1. AMENDMENT/ORDER DATE/TITLE NO. <u>1</u>		2. EFFECTIVE DATE <u>12-8-76</u>	3. REQUISITION/PURCHASE REQUEST NO.	4. PROJECT NO. (If applicable)
ISSUED BY National Institutes of Health, DHEN Negotiated Contracts Unit, PR Building 13, Room 2N-12 Bethesda, Maryland 20014		6. ADMINISTERED BY (If other than block 5) CODE		
7. CONTRACTOR NAME AND ADDRESS COUNCIL FACILITY CODE Flow Laboratories, Inc. P. O. Box 1065 Dublin, Virginia 24084		8. AMENDMENT OF SOLICITATION NO. <u>263-77-P(62)-0044</u> DATED <u>11-19-76</u> (See block 9) MODIFICATION OF CONTRACT/ORDER NO. _____ DATED _____ (See block 11)		
9. THIS BLOCK APPLIES ONLY TO AMENDMENTS OF SOLICITATIONS <input type="checkbox"/> Have numbered solicitation is amended as set forth in block 12. The hour and date specified for receipt of offers <input type="checkbox"/> is extended, <input checked="" type="checkbox"/> is not extended. Offerors must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation, or as amended, by one of the following methods: (a) By signing and returning <u>3</u> copies of this amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGEMENT TO BE RECEIVED AT THE ISSUING OFFICE PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If, by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided such telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.				
10. ACCOUNTING AND APPROPRIATION DATA (If required)				
11. THIS BLOCK APPLIES ONLY TO MODIFICATIONS OF CONTRACTS/ORDERS (a) <input type="checkbox"/> This Change Order is issued pursuant to _____ The Changes set forth in block 12 are made to the above numbered contract/order. (b) <input type="checkbox"/> The above numbered contract/order is modified to reflect the administrative changes (such as changes in paying office, appropriation data, etc.) set forth in block 12. (c) <input type="checkbox"/> This Supplemental Agreement is entered into pursuant to authority of _____ <input type="checkbox"/> modifies the above numbered contract as set forth in block 12.				
12. DESCRIPTION OF AMENDMENT/MODIFICATION <u>HYBRID MICE</u> Amend Page One (A) of Solicitation transmittal letter, dated November 19, 1976, to read as follows: Amend Paragraph 1 to read: <u>Notice of Partial Small Business Set-Aside</u> Restriction. A portion of the Bids or Proposals under this procurement are solicited from small business concerns and is to be awarded to one or more small business concerns. This action is based on a determination by the contracting officer, alone or in conjunction with a representative of the small business administration, that it is in the interest of maintaining or mobilizing the nations full productive capacity, in the interest of war or national defense programs, or in the interest of assuring that a fair proportion of government procurement is placed with small business concerns. Amend last sentence on Page One (A) to read: <u>THIS IS A 50% SET-ASIDE FOR SMALL BUSINESS CONCERNS ONLY.</u> AH/sa Except as provided herein, all terms and conditions of the document referenced in block 8, as heretofore changed, remain unchanged and in full force and effect.				
13. <input type="checkbox"/> CONTRACTOR/OFFEROR IS NOT REQUIRED TO SIGN THIS DOCUMENT <input checked="" type="checkbox"/> CONTRACTOR/OFFEROR IS REQUIRED TO SIGN THIS DOCUMENT AND RETURN <u>3</u> COPIES TO ISSUING OFFICE				
14. NAME OF CONTRACTOR/OFFEROR BY <u>William A. Knapp, Jr.</u> (Signature of person authorized to sign)		17. UNITED STATES OF AMERICA BY <u>Vernon Rainey</u> (Signature of Contracting Officer)		
15. NAME AND TITLE OF SIGNER (Type or print) William A. Knapp, Jr. Vice President	16. DATE SIGNED 12-20-76	18. NAME OF CONTRACTING OFFICER (Type or print) Vernon Rainey	19. DATE SIGNED 1/31/77	



Flow Laboratories

P.O. Box 2226 • 1710 Chapman Avenue, Rockville, Maryland 2085 U.S.A.
Cable Address: Flowrock, Rockville, Maryland • Tel (301) 881-2900 • Telex No. 89-8358

January 21, 1977

Mrs. Ada Hines
Contracts Negotiator
Building 13, Room 2N12
National Institutes of Health
Bethesda, Maryland 20014

Re: RFP No. 263-77-P(62)-0044

Dear Mrs. Hines:

This letter will confirm our telephone conversation of January 19, 1977, in which I quoted the following prices:

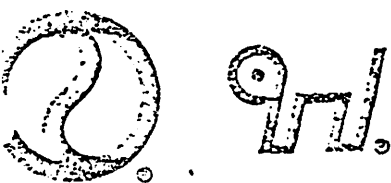
Initial Twelve-Month Period of Performance	6,000/week \$.645/Unit
Successive Twelve-Month Period of Performance	\$.675/Unit

These new figures correct and supercede those appearing on pages 4 and 5 of 6 pages (Special Provisions), Article III, of our Business Proposal, dated January 3, 1977.

Sincerely,

William A. Knapp, Jr., D.V.M.
Vice President

cc: Wayne Farmer



FLOW LABORATORIES

Flow Research Animals Inc. - a GRC company
P.O. Box No. 1065 · Dublin · Virginia 24084 · Phone 703-674-2351

TO: Animal Production Supervisor DATE: February 3, 1972
Hybrid Colony Supervisor
CDF₁ Mouse Colony Supervisor CC: Knapp
Irwin
SUBJECT: Colony Protocol-CDF₁ Mouse Parks
FILE: Procedures FROM: Black

These procedures are to become effective February 4, 1972, for implementation by February 7, 1972.

The CDF₁ Hybrid Mouse is the result of cross breeding between two pure inbred parental strains of mice. BALB/c female mice are mated with DBA/2 male mice to produce in the first generation (called the F₁) genetically uniform offspring which are the hybrid CDF₁'s. The F₁ offspring possess typical hybrid vigor and viability and in this regard are superior to either of their parents; however, any interbreeding between F₁ animals will result in the immediate and complete loss of genetic uniformity among the offspring of such breeding. Therefore, the continued production of CDF₁ mice is dependent upon continued cross mating between members of the two inbred mouse strains. The CDF₁ mouse is useful in certain research applications due to its genetic and physiological uniformity and the ability to accept and carry several strains of tumor transplants. The successful production of CDF₁ mice also depends largely upon the ability to maintain desirable environmental factors and husbandry practices within the mouse colony. To achieve this desirable combination, the following procedures will be instituted in each sector of the CDF₁ colony.

A. Isolation Rooms-All selected or incoming BALB/c and DBA/2 mice that are to be established as breeders in the production rooms will be initially caged and maintained in an isolation room upon their entrance into the colony. The isolation room is a smaller room that is physically separated from all other rooms in the production building and serves to house future breeders for at least a two week observation period during which time the future breeders undergo a conditioning program. The future breeders should be approximately six weeks of age when they enter the isolation room and the entrance into this area

should be achieved by passage along clean corridor routes only. That is, the mice should not pass through dirty corridor areas and certainly should not pass through established breeding rooms. The future breeders should be transferred from their immediate shipping containers into plastic, standard sized, solid bottom, shoe-box type mouse cages (in which they will be maintained in the isolation room) in an anteroom just outside the isolation room or within the isolation room itself. The emptied shipping containers should be promptly removed from the area by reversing their entrance routing. The future breeders are housed with eight (8) individuals to the cage and provided with bedding and feed as approved and used in other sectors of the hybrid colony. Each cage in the isolation room is also provided with a filter supporting bracket and a filter cover positioned to protect the water jar and the feed bin of that cage. Information cards should be filled out and attached to observation cages so that groups of future breeding animals can be identified as to strain, colony of origin, age and the date they were accepted into the isolation room. In the isolation area, clean cages with fresh bedding will be provided for the mice each week, the water jars and lids will be renewed at appropriate times to coincide with changes in the administration of medications which are part of the conditioning program. Cage lids, filter brackets, and filter covers will be clean and sanitized when initially provided for a set up and will accompany one group of mice through the observation period; being changed from dirty cage to clean along with the mice. This set of accessory cage equipment will then be cleaned and sanitized prior to its reuse. Cages of mice in the isolation room will be inspected twice each week. The temperature of the isolation room should be maintained between 70° to 74° F. and with a relative humidity between 45 to 60%. The conditioning program that the breeders undergo while in the isolation room is as follows:

1. The future breeders will be individually treated with Cornell Dusting Powder when they are transferred from shipping containers to observation cages. The mice will be dusted again (two weeks later) when they are removed from the observation cages and established into mating cages.

2. The first water provided the future breeders as they are established in cages in the isolation room contains Cosa Terramycin added at the rate of six level teaspoons of Terramycin to the gallon of drinking water. The antibiotic solution should be renewed in the drinking jars at the end of three days and the administration of solution

thus extended to one full week at which time the water jars and lids are exchanged for clean ones.

3. The drinking water provided the mice during the second week of their conditioning has Piperazine Dihydrochloride added at the rate of nine grams to the gallon. This medication is continued for a full seven days or up to the time the mice are moved from the isolation room. At the end of the second week the mice are carefully examined and the acceptable individuals are relocated to the breeding room where they will be established in mating cages. Any mice that exhibit definite signs of illness or general poor condition are culled out and discarded before entering a production room.

4. The newly established breeding cages containing one male and four females receive water to which Furacin soluble powder has been added at the rate of ten (10) grams of powder to the gallon of water. The Furacin medication is continued in the breeding room for five days.

B. Mating and Isolation Cages Within a Production Room-

Breeding cages are established by mating one DBA/2 male with four BALB/c female mice. These basic breeding units are numbered consecutively as they are set up and a breeding history card for each mouse in the cage is prepared; there is a card for A, B, C, and D female as well as a male breeding history card. All cards show the cage number as well as the date the breeding cage was established and the productive history of the individual mouse that the card represents. Female history cards travel with the mouse and when females are isolated from the basic breeding cage the card serves to identify which harem cage the female has come from and will be returned to. The mating cages are inspected at least twice each week to detect the presence of pregnant females. When pregnant females are adjudged to be fifteen or more days into gestation, that female mouse is removed from the basic breeding cage and placed by herself into an isolation cage. The appropriate breeding history card accompanies that female and the fact she has been removed from the breeding harem is recorded on the male history card which, of course, stays with the basic mating cage. Isolated pregnant mice are not replaced by other females in the mating cages. The isolated female gives birth to her young in the isolation of maternity cage and the family remains basically undisturbed (food and water,

of course, are provided) until the suckling young are at least nine days old. That is, the mother and litter are not transferred to clean sanitized equipment, nor is the bedding of their cage changed, until the mouselings are nine days of age. When the young mouselings reach nine days of age, this family unit, like the occupants of all other cages in the production room, are transferred to clean, sanitized cage units once each week. The isolated females that have raised their young are returned directly to the original breeding cage from which they came, there is no resting period interposed between weaning of the young and remating. In this hybrid production program the breeding mice should normally be retired and replaced with new breeders when they have been mated for thirty-five (35) weeks. However, if any breeders show symptoms of acute illness, or display generally poor condition and/or poor reproduction performance those animals should be culled out and disposed of prior to their scheduled retirement age. Breeders that have been culled from mating cages that have been established for three months or less should be replaced by new breeders. Mice culled from breeding units established longer than three months should not be replaced in those mating cages.

C. Weaning and Holding of Sales Animals-The CDF₁ offspring are weaned from their mother at approximately four weeks of age, between twenty-seven (27) and thirty-one (31) days of age. The weanlings are separated according to sex and placed into the larger mouse cages (9½" x 5½" x 18") in groups of twenty. The CDF₁'s are shipped when they reach a minimum weight of eighteen grams and this weight range should be attained before the young mice are seven weeks of age. The cages of weanling CDF₁'s are provided, for the first week after weaning, with drinking water to which Furacin has been added to aid in establishing the young mice on the solid diet so they may more rapidly achieve the shipping weight. The holding cages for CDF₁ weanlings are maintained in the production room of origin until the mice are packed for shipment. The animals should be weighed, dusted with Cornell powder and packed into shipping containers within the production room.

D. General Considerations-Parasite control programs should be continued in the hybrid production colony by dusting the breeding mice every third week. Heavy pregnant females and females with suckling young are excluded from this dusting, however, these females will be dusted at time of return to harem cage. Feed, medicated by the incorporation of Piperazine Dihydrochloride into the formula at time of milling, is fed to all cages of mice (except the weanling holding cages) on a recurring cyclic program. The medicated feed is given to the mice for a continuous two week period followed by a return to normal feed for the next two weeks. The medicated feed is repeated the following two weeks with normal

SPECIFICATIONS

100 - GENERAL SPECIFICATIONS

This Request for Proposal is issued to establish a source of supply under contract for the furnishing of a facility for the care, maintenance, and breeding of a BHE strain of stock rat colony. The animals will be bred in accordance with an appropriate schedule to produce 800 animals per year. This contract is for the Human Nutrition Institute, Agricultural Research Service, Beltsville, Maryland.

These animals have been maintained by the Division for many years and have been the subjects of many experiments. Therefore, in order to insure valid comparisons with future experiments, it is essential that the metabolic characteristics and nutritional responses of these animals be preserved. Special procedures will be carried out to maintain the genetic heterogeneity and the relative proportion of various traits within the strain.

Since the animals must be maintained under conditions as identical as possible to those under which they had previously been reared, the successful bidder must guarantee to furnish the following conditions:

1. The contractor shall maintain 100 females and the number of males necessary to fulfill requirements of number 10 below, so as to minimize genetic material. The number of males need not be 100 as with females.
2. The animals will be bred in accordance with an appropriate schedule to produce 800 animals per year.
3. Breeders will be retired and replaced at or about 300 days of age. Insofar as possible two offspring from each pair of breeders will be represented in the succeeding generation.
4. Females will not be bred before they are 100 days old nor after they have passed 270 days.
5. All animals will be fed Purina laboratory chow and will be supplied with distilled water.
6. All rats will receive Piperazine Citrate 3 weeks after weaning for control of pin worms. (20 gms./gallon of water for 2-1/2 days.)
7. Animals rooms will be maintained at $72^{\circ}\text{F} \pm 2^{\circ}$ and relative humidity of $35\% \pm 5\%$. Room light will be on and off in 12-hour cycles.
8. Random matings will be made of animals with no full or half sibling or parent-offspring kinship. Albino males will not be mated to albino females. After young are weaned, females will be given 2 3-week rest before being remated.

Painted E # 4

9. Animals will be delivered to the Human Nutrition Laboratory semi-weekly or as called for by the Contracting Officer's Representative. Animals will be shipped by the most rapid practical method of transportation, in containers designed to eliminate drafts and extremes of temperature. Requests for shipment made by the Contracting Officer's Representative shall be approximately 50 males per month.
10. All breeders will have identification numbers and at our request, animals delivered will be identified as to litter and parentage.
11. Requests for animals in excess of the normal production rate will be made 6 weeks in advance.
12. All females in the colony will be weighed weekly. Males will be weighed monthly.
13. Litters will be counted and weighed at birth. Large litters will be reduced to 10.
14. At or about 300 days of age, one female and one male from each litter reserved for breeders will be killed and autopsied. Cross observations will be recorded, blood collected by cardiac puncture and selected organs (liver, kidney, and thyroid) will be weighed and preserved in 10% buffered formalin. The blood will be collected in heparinized tubes, centrifuged and the plasma drawn off. The plasma and the fixed tissues will be sent to Human Nutrition for further evaluation.
15. The contractor must have a pathologist on his staff or have one available for consultation to maintain a surveillance of the condition of the animals and to supervise the autopsies.
16. Littermates of the autopsied animals will be killed and discarded.
17. Quarterly reports will be submitted to the Contracting Officer's Representative which will include a list of all matings carried out, weekly or monthly weights of the breeders, the number and weights of young born and weaned, and the autopsy reports.
18. The strain referenced under this invitation is the BHE, a strain which was developed in the HN laboratory and which has been maintained for over 25 years. The strain has characteristic lipid metabolisms and carbohydrate sensitivities. The BHE strain was started in 1942 by breeding an albino Yale strain obtained from Columbia University with a black and white hooded strain from Pennsylvania State College. An assortment of albino, brown, gray, black, brown and white, gray and white or black and white rats resulted from the early breedings. Breeding was continued with animals having coat colors of black, black and white (piebald) and albino; animals of all other coat colors were discarded. A closed-colony random-type breeding system was used through approximately 30 generations of animals.

19. Genetic uniformity is presently being maintained by random mating as specified in item 10.

20. At present, approximately 10 females are mated per week. Litter size averages 8-12. Large litters are reduced to 10. Large numbers of females are mated to meet specific requests for large numbers of weanlings. Requests for larger numbers of animals than our normal production will be made 6 weeks in advance. The 1900 animals to be produced include those to be reserved for breeders as well as those to be shipped for research.

21. Deionized water in lieu of distilled water will be acceptable.

22. Animals requested for our research will usually be males, although some studies may require females. Requests will be for weanling rats. Rats will be weaned at 21 days of age providing they weigh 40 grams or more.

Underweight litters may be left with the mother for up to 3 additional days. Litters not weighing 40 grams by 24 days of age will be discarded. Excess animals not required to maintain the required breeding stock may be killed and disposed of.

23. Identification of animals will be by ear notching.

DELIVERY OF THE ANIMALS SHALL BE PREPAID (F.O.B. DESTINATION, WITHIN CONSIGNEE'S PREMISES) TO THE U.S. DEPARTMENT OF AGRICULTURE, AGRICULTURAL RESEARCH SERVICE, HUMAN NUTRITION INSTITUTE, BELTSVILLE, MARYLAND.

SPECIAL CONDITIONS

IMPORTANT: The animals being furnished under this contract for breeding are considered to be of high value to the research operations; however, no exact intrinsic value can be determined. For the purposes of this contract, a value of \$5.00 per animal shall be assigned for any breeding stock animals that are destroyed through negligence or willful intent on the part of the contractor or the contractor's employees. An estimate of the cost of the breeding stock animals destroyed due to the negligence or willful intent on the part of the contractor or the contractor's employees will be made by the Government Representative and the cost, therefore, deducted from any amounts due the contractor under this contract.

The Contracting Officer's Representative under any resultant contract will be Mr. Sheldon Reiser. Mr. Reiser's address and telephone number are as follows:

USDA-ARS
Building 307, Room 313
Agricultural Research Center-East
Beltsville, Maryland 20705
Telephone: 301-344-2396

The BHE
Laboratory
Rat

Consignor and Destination

S U.S. Department of Agriculture

Date

September 16, 1975

BHE

SPECIFICATIONS

100 - GENERAL SPECIFICATIONS

This Request for Proposal is issued to establish a source of supply under contract for the furnishing of a facility for the care, maintenance, and breeding of a BHE strain of stock rat colony. The animals will be bred in accordance with an appropriate schedule to produce 800 animals per year. This contract is for the Human Nutrition Institute, Agricultural Research Service, Beltsville, Maryland.

These animals have been maintained by the Division for many years and have been the subjects of many experiments. Therefore, in order to insure valid comparisons with future experiments, it is essential that the metabolic characteristics and nutritional responses of these animals be preserved. Special procedures will be carried out to maintain the genetic heterogeneity and the relative proportion of various traits within the strain.

Since the animals must be maintained under conditions as identical as possible to those under which they had previously been reared, the successful bidder must guarantee to furnish the following conditions:

1. The contractor shall maintain 100 females and the number of males necessary to fulfill requirements of number 10 below, so as to minimize genetic material. The number of males need not be 100 as with females.
2. The animals will be bred in accordance with an appropriate schedule to produce 800 animals per year.
3. Breeders will be retired and replaced at or about 300 days of age. Insofar as possible two offspring from each pair of breeders will be represented in the succeeding generation.
4. Females will not be bred before they are 100 days old nor after they have passed 270 days.
5. All animals will be fed Purina laboratory chow and will be supplied with distilled water.
6. All rats will receive Piperazine Citrate 3 weeks after weaning for control of pin worms. (20 gms./gallon of water for 2-1/2 days.)
7. Animals rooms will be maintained at $72^{\circ}\text{F} \pm 2^{\circ}$ and relative humidity of $35\% \pm 5\%$. Room light will be on and off in 12-hour cycles.
8. Random matings will be made of animals with no full or half sibling or parent-offspring kinship. Albino males will not be mated to albino females. After young are weaned, females will be given 2 3-week rest before being remated.

Handwritten signature/initials

Animals will be delivered to the Human Nutrition Laboratory semi-regularly or as called for by the Contracting Officer's Representative. Animals will be shipped by the most rapid practical method of transportation, in containers designed to eliminate drafts and extremes of temperature. Requests for shipment made by the Contracting Officer's Representative shall be approximately 50 males per month.

10. All breeders will have identification numbers and at our request, animals delivered will be identified as to litter and parentage.

11. Requests for animals in excess of the normal production rate will be made 6 weeks in advance.

12. All females in the colony will be weighed weekly. Males will be weighed monthly.

13. Litters will be counted and weighed at birth. Large litters will be reduced to 10.

14. At or about 300 days of age, one female and one male from each litter reserved for breeders will be killed and autopsied. Cross observations will be recorded, blood collected by cardiac puncture and selected organs (liver, kidney, and thyroid) will be weighed and preserved in 10% buffered formalin. The blood will be collected in heparinized tubes, centrifuged and the plasma drawn off. The plasma and the fixed tissues will be sent to Human Nutrition for further evaluation.

15. The contractor must have a pathologist on his staff or have one available for consultation to maintain a surveillance of the condition of the animals and to supervise the autopsies.

16. Littermates of the autopsied animals will be killed and discarded.

17. Quarterly reports will be submitted to the Contracting Officer's Representative which will include a list of all matings carried out, weekly or monthly weights of the breeders, the number and weights of young born and weaned, and the autopsy reports.

18. The strain referenced under this invitation is the BHE, a strain which was developed in the HN laboratory and which has been maintained for over 25 years. The strain has characteristic lipid metabolisms and carbohydrate sensitivities. The BHE strain was started in 1942 by breeding an albino Yale strain obtained from Columbia University with a black and white hooded strain from Pennsylvania State College. An assortment of albino, brown, gray, black, brown and white, gray and white or black and white rats resulted from the early breedings. Breeding was continued with animals having coat colors of black, black and white (piebald) and albino; animals of all other coat colors were discarded. A closed-colony random-type breeding system was used through approximately 30 generations of animals.

Genetic uniformity is presently being maintained by random mating as specified in item 10.

20. At present, approximately 10 females are mated per week. Litter size averages 8-12. Large litters are reduced to 10. Large numbers of females are mated to meet specific requests for large numbers of weanlings. Requests for larger numbers of animals than our normal production will be made 6 weeks in advance. The 1900 animals to be produced include those to be reserved for breeders as well as those to be shipped for research.

21. Deionized water in lieu of distilled water will be acceptable.

22. Animals requested for our research will usually be males, although some studies may require females. Requests will be for weanling rats. Rats will be weaned at 21 days of age providing they weigh 40 grams or more.

Underweight litters may be left with the mother for up to 3 additional days. Litters not weighing 40 grams by 24 days of age will be discarded. Excess animals not required to maintain the required breeding stock may be killed and disposed of.

23. Identification of animals will be by ear notching.

DELIVERY OF THE ANIMALS SHALL BE PREPAID (F.O.B. DESTINATION, WITHIN CONSIGNEE'S PREMISES) TO THE U.S. DEPARTMENT OF AGRICULTURE, AGRICULTURAL RESEARCH SERVICE, HUMAN NUTRITION INSTITUTE, BELTSVILLE, MARYLAND.

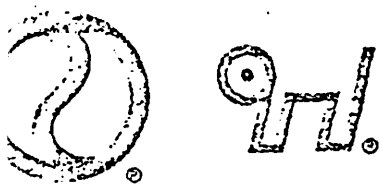
SPECIAL CONDITIONS

IMPORTANT: The animals being furnished under this contract for breeding are considered to be of high value to the research operations; however, no exact intrinsic value can be determined. For the purposes of this contract, a value of \$5.00 per animal shall be assigned for any breeding stock animals that are destroyed through negligence or willful intent on the part of the contractor or the contractor's employees. An estimate of the cost of the breeding stock animals destroyed due to the negligence or willful intent on the part of the contractor or the contractor's employees will be made by the Government Representative and the cost, therefore, deducted from any amounts due the contractor under this contract.

The Contracting Officer's Representative under any resultant contract will be Mr. Sheldon Reiser. Mr. Reiser's address and telephone number are as follows:

USDA-ARS
Building 307, Room 313
Agricultural Research Center-East
Beltsville, Maryland 20705
Telephone: 301-344-2396

Additionally U.S.D.A. has requested that blood samples be taken from animals suitable for use as breeding stock to determine which of these animals are hyperinsulinemic, as this trait is under genetic control and will be perpetuated in offspring - therefore it is desirable to identify and use for breeding stock only animals which have been tested and meet this criteria -



FLOW LABORATORIES

Flow Research Animals Inc. - a GRC company
P.O. Box No. 1065 · Dublin · Virginia 24084 · Phone 703-674-2351

TO: Animal Production Supervisor
C3H Colony Supervisor

DATE: November 15, 1971

CC: Knapp
Irwin
Parks

SUBJECT: Colony Protocol-Dub: C3H/He Mouse

FILE: Procedures

FROM: Black

Procedures dated July 29, 1971, subject; C3H Mouse Production are superseded by these procedures which are to become effective November 15, 1971, for implementation by November 16, 1971.

The Dub: C3H/He must be perpetuated as a pure inbred mouse. The breeding room must, therefore, be separated into four sections, each containing a closely defined and carefully selected mouse population. The functions of each section are as follows:

A. Inbred Nucleus-This sector of the room houses the twelve family lines (mated pairs of C3H) and their immediate offspring that have been selected as foundation stock to perpetuate the strain. Each cage of mated breeders represent a family line and are marked as A family, B family, C family, etc. The numbered cage card clearly indicates the family and generation of mice contained in that cage; cages in the inbred nucleus will always carry a number in the series 0 thru 400. The "King-Queen" cage of each family line will be surrounded by a cluster of three cages (one cage behind and two below the royal cage) with each of these cages containing a mated brother-sister offspring of the King-Queen. These candidate cages contain true litter mates and are selected at weaning time (21 to 24 days) for future breeders to replace the parents when necessary. The King-Queen pair should be replaced by chosen offspring after they have produced eight to ten litters. It is desirable for each pair of candidates to be selected from different litters but no more than two pair should be selected from the same litter. When a pair of candidate offspring is chosen to replace the King-Queen, the choice should be wisely made on the comparative factors of

Plaintiff's Ex. 6

Colony Protocol-Dub: C3H/He Mouse
November 15, 1971

physical appearance, health, and breeding performance as displayed among the candidates under consideration. All offspring matings should be conditioned after placement into the candidate cages by:

1. Addition of S.E.Z. to the drinking water at the rate of 2ml. of S.E.Z. per pint of water which is to be maintained for five days.
2. No medication is given for the next five days at which time the young mice are deprived of food overnight (water is provided) and fed only Yomasian biscuits the next morning. The mice are then changed into clean cage units that afternoon (approximately five hours after receiving the biscuits) and reestablished on regular diet and water at this time.
3. After a week interval on regular diet the mice are provided water to which piperazine Dihydrochloride has been added at the rate of 9 grams to the gallon. This medicated water is continued for seven days and is then removed at the next regular cage cleaning.

After the choice of young candidate breeders is made in the inbred nucleus all the other young mice weaned from this sector of the colony should be mated and moved into the Expansion Colony.

B. Expansion Colony-As available, young mice weaned from the inbred nucleus should be mated brother to sister and established in the expansion colony. Extra male offspring from one royal family line may also be mated with extra female offspring from another royal family line. The cage card should always show the origin of the breeding mice maintained in the expansion colony (note examples of such cage cards with pertinent information recorded). All cages of newly mated young mice that are set up as breeders in the expansion colony should be conditioned according to the same schedule used for newly established candidate cages in the inbred nucleus.

Then there is the need to generate greater numbers of breeding cages in the basic production section, the expansion colony can be expanded by selecting offspring from those breeding cages already in the expansion colony (origin is indicated on cage card) and their offspring are then eligible to be selected as breeders for the basic production section.

Colony Protocol-Dub: C3H/He Mouse
November 15, 1971

The cages in the expansion colony should always carry a number from 401 thru 1000. All offspring born in the expansion colony should be weaned at 19 to 21 days of age. The young mice are sexed and placed in cages in groups of ten. The future breeders are conditioned according to our established program with the following deviation which is necessary because we are dealing with groups of ten mice per cage:

1. S.E.Z. is added to the drinking water for five days at the level of 2ml. per pint. Two drinking jars are provided for each cage.
2. No medication is given for the next five days at which time the young mice are deprived of food overnight (water is provided) and fed only Yomasian biscuits (at least 4 biscuits per cage) the next morning. The mice are then changed into clean cage units that afternoon (approximately five hours after receiving the biscuits) and reestablished on regular diet and water.
3. When the mice are moved from the cage following Yomasian treatment, they are randomly mated (monogamous pairs) and established in their own breeding cage. Piperazine Dihydrochloride is added to the drinking water provided these cages for the next seven days. These cages are located in the basic production area during the Piperazine treatment thus allowing more space in the expansion colony for the continuing selection of young breeders.

C. Basic Production Colony-This sector of the colony differs markedly from the others in that all the mice weaned from the basic production colony go to sales. The sector cannot perpetuate from its own offspring but must depend upon the progeny of the expansion colony for breeders. Breeding pairs should be replaced in the basic production colony when they reach eight months of age. Randomly selected breeders from the expansion colony should be mated at the rate of 36 cages a week to maintain the production from this section. Young mice are weaned from the C3H production colony twice a week at 19 to 21 days of age and are sexed and moved to the sales holding section.

card by a red S following the litter from which selections are actually made.

Now that we have standards by which to select breeding stock it is important that these breeders be properly situated in the breeding rooms to prevent any inbreeding and to insure a random bred production unit. The attached appendixes will show where to select breeders in each breeding room and where placement is made of these select breeders for medication prior to mating.

ICR breeding stock must be replaced by the age of 40 weeks. In order to renew all the breeding stock in the production rooms in this period of time 45 pairs of young breeders must be mated each week in each production room to assure having 45 select pairs for mating 14 male and 14 female must be selected from each section each week as shown on ICR Breeder Rotation Chart.

C. SELECT BREEDER MEDICATION PROGRAM

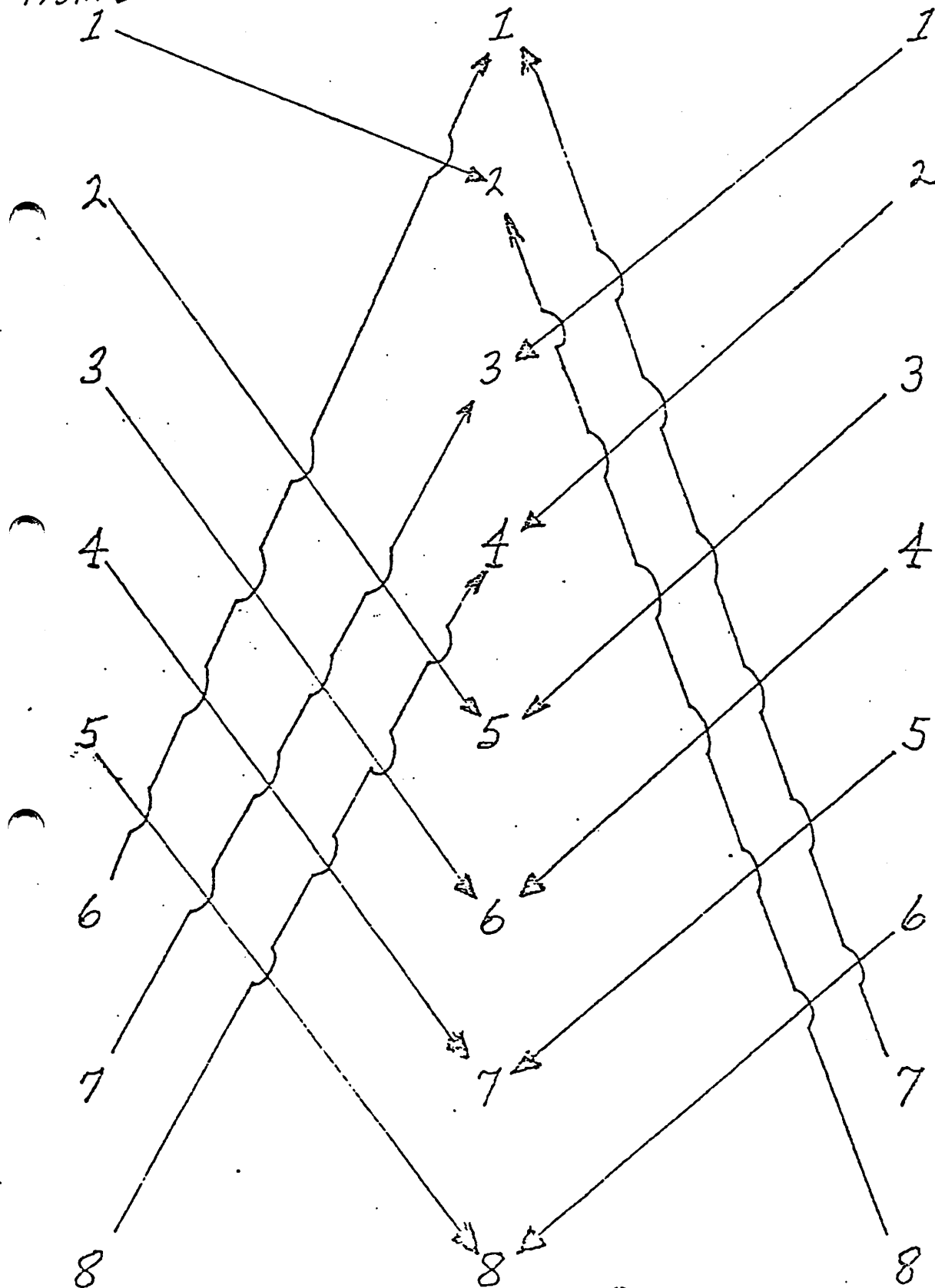
1. At three weeks of age select breeders are given S. E. Z. in their drinking water at the rate of 2cc/pint of water for five to seven days.
2. No medication is given for the next 5 days at which time the future breeders are deprived of food overnight (water is provided) and fed Yomesan biscuits the next morning. That afternoon (about 5 hours later) these animals are changed into clean cages and given regular feed and water for the next 5 days.
3. Drinking water with Piperazine Dihydrochloride added at the rate of 9 grams per gallon will be administered for the next 7 days. At this time the animals are to be mated one to one and placed into the production colony.
4. These select breeders will be dusted with ectoparasites powder as specified by Veterinary Medicine Director.

Breeder Rotation

Males ♂
From section

Move to
section No.

Females ♀
From section



IC. BREEDER- Life Cycle

With Mother

Breeder preparation
Mate

Expect litter #1

Expect litter #2

Expect litter #3

Expect Litter #4

Expect Litter #5

Expect Litter #6

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Expect Litter #7 After this litter hold 2 weeks. IF preg.
Then Transfer preg. sales. IF not preg. then replace.

Expect Litter #8 (see above remark.)

✓

A. BREEDING ROOMS- Breeding cages are established by mating one female ICR mouse with one male ICR mouse. A record card which provides the age of the animals and the date mated is filled out and attached to the cage. Room is provided on this card to record the breeding history which is necessary in selecting new breeders. These breeding cages are inspected and changed once each week, by transferring occupants into a clean sanitized cage with fresh bedding added. Along with this operation several other duties must be performed. Any young mice in the breeding units that have reached weaning age 19 to 21 days of age, must be weaned and sexed. Upon inspection of the breeding pairs any that display symptoms of acute illness, generally poor condition or poor reproduction of performance should be culled and disposed of prior to their scheduled retirement age. A rigid program of parasite control must be carried out at all times. The procedure for control of ecto-parasites is dusting with Cornell powders. Every third week all animals are dusted as their cages are changed. Only those breeders with suckling young are exempted. Each week as young animals are weaned they are dusted before being taken to the holding room. Endoparasites are controlled by colony wide use of piperazine enriched feed and a special conditioning program for all new breeders. Piperazine enriched feed will be fed as directed by the Veterinary Medicine Director. That schedule normally assures that medicated feed is used four times a year.

B. STANDARDS FOR SELECTION OF BREEDERS

1. All litters must have at least 12 young.
2. Actual selection to be made from the third or later litter, after at least two litters have shown the desired criteria.
3. All the young left with the mother after birth must be raised to weaning.
4. No clinical or detected signs or disease or congenital abnormalities in any of the litters raised by the breeding pair.
5. The litters must present a thrifty appearance and the young selected should not be exceptionally large individuals nor should they be runts or very small.
6. The breeding pair must be producing litters in rapid succession-every 3 to 4 weeks.
7. Only two selections of future breeders should be made from the same mating pair. These selections will be indicated on the history

Handwritten: 10/21/68 #7

Protocol for
SPRAGUE-DAWLEY (SD) COLONY

Introduction

The Sprague-Dawley Rat (SD) is an albino, outbred rat. We maintain these animals in monogamously mated pairs in our breeding rooms. Once mated, these animals remain together for their breeding life, which is approximately 40 weeks. If one member of this unit is to be culled, the entire unit is culled and replaced with a new pair of young breeders.

The Sprague-Dawley Rat has a production efficiency of about 1.5 under our method of mating. With 725 breeding pairs per room, we expect at least 1,000 weanlings per breeding room per week. Each female breeders should produce about 7 to 8 litters by the time she reaches retirement age.

The estrus cycle of the rat is approximately five days. Her gestation period is approximately 21 days and young offspring should be weaned at 19 to 21 days of age.

C. Hainth E. # 8

Breeding Rooms

Each SD production room will accomodate approximately 725 breeding pairs. These breeding pairs are to be housed in cages furnished with a cage filter and a support bracket. A quart water bottle with a rubber stopper and a stainless steel sipper tube is used to supply water. Food is provided via a hopper in the cage lid. When correctly assembled, the filter cover completely covers the water bottle, feed hopper, and cage lid, thereby protecting the inhabitants from many harmful airborne particles.

Good production and sound health of the animals is dependant upon proper care and management of the colony. The following tasks are the responsibility of those animal caretakers assigned to the Sprague-Dawley breeding rooms:

Standards for Selection of Breeders:

Selected breeding units must show the following:

1. All litters must have at least 12 young.
2. Actual selection is to be made from the third litter after at least two litters have shown the desired criteria.
3. All the young left with the mother after birth, must be raised to weaning.
4. There should be no clinical or detected signs of disease or congenital abnormalities in any of the litters raised by the breeding pair.
5. The litters must present a thrifty appearance and the young selected should not be exceptionally large or small.
6. The breeding pair must be producing litters in rapid succession, every 4 to 5 weeks.
7. Only two selections of future breeders should be made from the same mating pair. These selections will be indicated on the history card by a red "\$" following the litter from which selections are actually made.

Select Breeder Medication Program

1. Beginning at weaning, administer SEZ in the drinking water at the rate of 8 cc per quart of water for three weeks.
2. Medicate with piperzine dihydrochloride at the rate of 9 gms per gallon for the next week.
3. Mate and place in production colony. Add SEZ at the rate of 8 cc per quart of water and dust with ectoparasite powder.

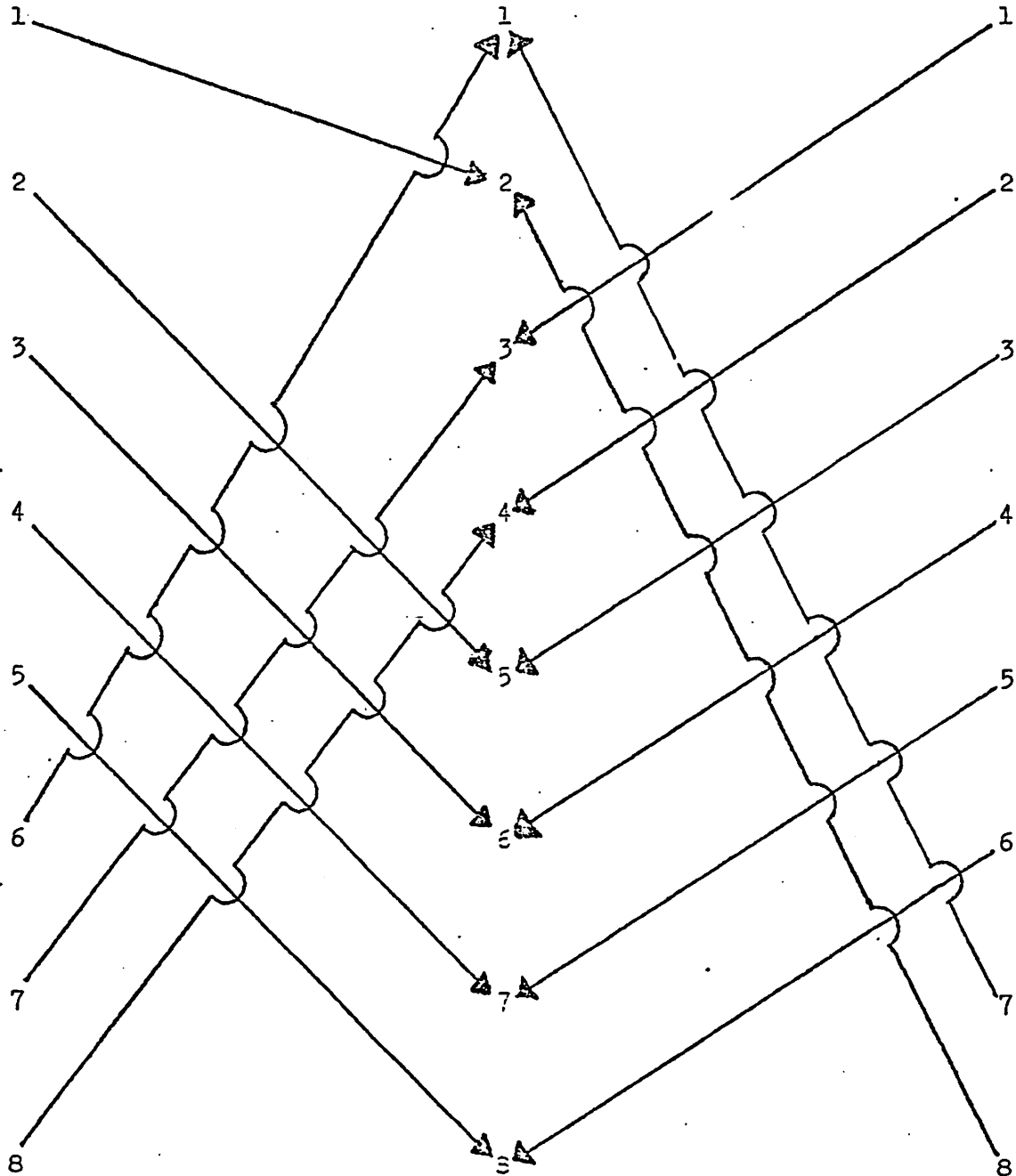
ATTACHMENT I
SPRAGUE-DAWLEY PROTOCOL

Breeder Rotation Chart - This chart to be used with two breeding rooms.

MALES (♂)
from Section No.

Move to
Section No.

FEMALES (♀)
from Section No.



ATTACHMENT III

SPRAGUE-DAWLEY BREEDER SELECTION AND MATING

Room 3

SECTION 1: Select breeders held here are male from
Section 6 and female from Section 7.

SECTION 2: Select breeders held here are male from
Section 1 and female from Section 8.

SECTION 3: Select breeders held here are male from
Section 7 and female from Section 1.

SECTION 4: Select breeders held here are male from
Section 8 and female from Section 2.

Select 4 males and 4 females from
this section each week. Upon se-
lection, mark room number, sex, and
date of weaning on cage and move
male to Room 11.

DIRTY HALLWAY

1. Select 6 males and 6 females each week from each section.
2. Move selected animals to room and section shown on attached chart.
3. Condition select breeders in designated section and at 7 weeks of age mate them and place them only in designated section.

CLEAN HALLWAY

ATTACHMENT IV

SPRAGUE-DAWLEY BREEDER SELECTION AND MATING

Room 4

SECTION 5: Select breeders held here are male from
Section 2 and female from Section 3.

Select 4 males and 4 females from
this section each week. Upon se-
lection, mark room number, sex,
and date of weaning on cage and
move male to Room 5.

SECTION 6: Select breeders held here are male from
Section 3 and female from Section 4.

SECTION 7: Select breeders held here are male from
Section 4 and female from Section 5.

SECTION 8: Select breeders held here are male from
Section 5 and female from Section 6.

1. Select 6 males and 6 females each week from each section.
2. Move selected animals to room and section shown on the attached chart.
3. Condition select breeders in designated section and at 7 weeks of age mate them
and place them only in designated section.

CLEAN HALLWAY

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DIRTY HALLWAY

ATTACHMENT V
SPRAGUE-DAWLEY PROTOCOL

Breeder Life Cycle

- 1
- 2
- 3 With Mother
- 4
- 5
- 6 Breeder Preparation
- 7 Mate
- 8
- 9
- 10
- 11
- 12
- 13 Expect Litter #1
- 14
- 15
- 16
- 17 Expect Litter #2
- 18
- 19
- 20
- 21 Expect Litter #3
- 22
- 23
- 24
- 25 Expect Litter #4
- 26
- 27
- 28
- 29 Expect Litter #5
- 30
- 31
- 32
- 33 Expect Litter #6
- 34
- 35
- 36
- 37 Expect Litter #7 After this litter, hold for 2 weeks. If pregnant, remove the male and place on top shelf to deliver or sell as pregnant. If not pregnant, move to ex-breeder sales or cull.
- 38
- 39
- 40 Expect Litter #8 (SEE ABOVE REMARK)

IX.

DEFENDANT'S EXHIBIT
#A



Defendant's Exhibit #A

COMMONWEALTH of VIRGINIA

Department of Taxation
Richmond 23282

October 21, 1971

SALES AND USE TAX CIRCULAR NO. 1

Industrial Exclusions

This circular is adopted pursuant to the authority granted by Section 58-441.41 of the Code of Virginia and represents the policy of the Department of Taxation since the enactment of the Virginia Retail Sales and Use Tax. It is issued only for information.

1. Section 58-441.6 provides certain exclusions from the terms "sale at retail," "lease or rental," "distribution," "use," "storage," and "consumption." This section is generally referred to as the exemption section.
2. The initial paragraph of Section 58-441.6 refers to industrial exemptions only. Certain items of tangible personal property used in industrial operations are excluded from the definitions of "sale at retail," etc., referred to above. This initial paragraph, which refers to industrial exclusions only, is not applicable to tangible personal property purchased in the operation of mercantile or service businesses.
3. All tangible personal property used or consumed in nonindustrial operations, and not exempted elsewhere, is included in the definitions "sale at retail," etc., and is subject to the Virginia sales or use tax.

Frank W. Lewis

Frank W. Lewis, Director
Sales and Use Tax Division

APPROVED: _____

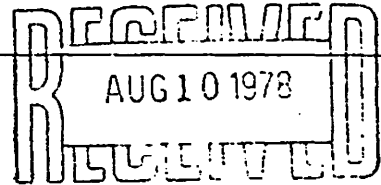
W. H. Forst
W. H. Forst, State Tax Commissioner

Reference: Section 58-441.6 Code of Virginia
Section 1-63 Virginia Retail Sales and Use Tax Rules and Regulations

X.

TRANSCRIPT OF PROCEEDINGS ON May 27, 1977

781323



VIRGINIA:

IN THE CIRCUIT COURT OF PULASKI COUNTY
RICHMOND, VIRGINIA

-----X
In the Matter of:

FLOW RESEARCH ANIMALS, INC.,

Plaintiff,

vs

STATE TAX COMMISSIONER OF THE
COMMONWEALTH OF VIRGINIA,

Defendant.
-----X

Circuit Courtroom,
Pulaski County Courthouse,
Pulaski, Virginia,
Friday, May 27, 1977.

The above-entitled matter came on for hearing,
pursuant to notice, commencing at 9:35 a.m., EDST.

BEFORE: HONORABLE KENNETH I. DEVORE, Presiding Judge.

Subscribed and sworn to before me,

Received and filed, this the 11

day of July, 1977.

Denny J. Albright Clerk

RICHARD B. DAISEY
FREE LANCE
STENOTYPE REPORTER
PRINCETON, WEST VIRGINIA 24740

A P P E A R A N C E S

ROBERT J. INGRAM, ESQ.,

and

JOHN J. GILL, ESQ.,

Gilmer, Sadler, Ingram, Sutherland & Hutton,

P. O. Box 878, Pulaski, Virginia;

and

CHARLES R. MCCARTHY, JR., ESQ.,

Schramm, Raddue, Sedd & McCarthy,

1015 G-20th Street, NW.,

Washington, D. C., appearing on

behalf of the Plaintiff.

THE CLERK: All witnesses are sworn and

testify in this case.

THE COURT: By agreement of the parties

Courtroom at this location

GLENN R. MOORE, ESQ.,

Assistant Attorney General,

8830-1 Three Shopt Road,

Richmond, Virginia, appearing

on behalf of the Defendant.

P R O C E E D I N G S

THE COURT: Mr. Clerk, would you please swear the Reporter?

(Whereupon, Richard B. Daisey was duly sworn by the Clerk of the Court.)

THE COURT: In the matter of Flow Research Animals, Incorporated, a Virginia corporation, against the State Tax Commissioner of Virginia, is the Complainant ready?

MR. INGRAM: Yes.

THE COURT: Is the Defendant ready?

MR. MOORE: We are, your Honor.

THE COURT: Will you swear the witnesses?

THE CLERK: Will everyone who plans to testify in this case please stand and raise your hand?

MR. MOORE: My witness is out of the Courtroom at this moment.

(Whereupon, four witnesses were duly sworn by the Clerk of the Court.)

THE COURT: Gentlemen, do you want to make an opening statement?

MR. INGRAM: I might just make one brief remark, more in the way of introduction, then I think my

colleague will be able to very succinctly address himself to the issue at hand, and I'm sure the representative for the Attorney General's Office will probably have something to say also.

I'm happy and very pleased to have associated with me in the case today Mr. Charles McCarthy of the Washington District of Columbia Bar.

THE COURT: We're glad to have you.

MR. INGRAM: Who incidentally lives in Virginia. And Mr. Jack Gill, who is a member of the New York Bar, but hopefully will be a member of the Virginia Bar. We are all hoping that.

I don't mean to make it sound like we're trying to overwhelm you, Mr. Combs, but these gentlemen I am pleased to work with, and of course Mr. Glen Combs comes to us, we're happy to say, from Richmond today by way of Washington and Lee which is certainly a nice feather in his cap. He has with him, I believe, Mr. Whitehead with the Tax Department, and of course taxes are why we are here. There will provide some

Fortunately we have some good people with us, too, whom you will hear, and just by way of introduction, Mr. Joe Hall, seated on the end, is the

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president of Flow Laboratory Animals. This operation in Dublin with which we are concerned is a part of a larger company, of which Mr. Hall is the president and executive officer. Formerly, however, he was the president of just singularly the operation that we're concerned with here in Dublin.

Seated next to him is Dr. Bill Knapp, who is also associated with that facility in a vice presidential capacity. I believe both of you gentlemen live up in northern Virginia, too.

Then I might swing over to Dr. Avery Irwin, who is on the premises, and you will hear I think some interesting evidence from him about what goes on out there, which we think is a fascinating operation.

And Dr. Fred Clayton, who comes here from the National Institutes of Health, I believe you have been associated with? along, so I won't be worry right now. But basic

DR. CLAYTON: Yes. I have been.

MR. INGRAM: He doesn't have a direct connection, but he I will hope will provide some interesting overview and insight into the nature of the production facilities we have, which I just might say is unique, really, in what is done in Virginia.

There is perhaps one other comparable facility, I believe Hazelton Laboratories up in the northern part of the state. But other than that, these are the only two operations in the State of Virginia, and in fact there are not many elsewhere that do what is done out there, and we hope that we can draw in the course of the evidence some rather strong points on the fact that it is unique and, thus, we feel exempt under the law.

Very briefly I'm going to turn it over to Charlie McCarthy, who will address himself to the exemption paragraph that we think has application in this instance.

OPENING STATEMENT ON BEHALF OF THE PLAINTIFF

MR. MCCARTHY: May it please the Court, basically what we're here for today, and I promise to be brief and move things along, so I won't be wordy right now. But basically we are here for a rather simple principle. We are dealing with Code Section 58.440.6, dealing with what we claim to be the industrial exemption available for what we do.

Basically, your Honor, we're going to be telling you by way of the evidence which we are seeking to

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introduce, and present to the Court, evidence which will demonstrate that the breeding and processing procedures, which we employ at the local Dublin facility, would qualify for treatment as an industrial processing situation.

Succinctly stated, we are doing this by way of attempting to show the Court how it is that we take either by manipulative breeding, and that gets pretty complicated and pretty zany and Space Gordony, but by manipulative breeding and exotic processing, we radically change and convert what would otherwise be, if left unfeathered, a normal animal species into a highly treated, highly processed, highly structured, highly altered species, and it goes the whole gamut from very small rodents to very large, for instance, Newfoundland dogs. We are going to seek to introduce testimony which will go into every step of the process, whereby that which would, if left unfeathered, have grown up to be an animal if turned into a laboratory species, which is very dissimilar, distinct and different from what God put on this earth, if you will.

We're going to show that this is a highly specialized, highly structured, highly scientific process from the aborigines to the fruition, when it reaches

its ultimate customer.

... We're going to show to the Court by the way of evidence how this is, in every sense of the word, an industrial process by which we have, for instance, in this locale, engaged in production of almost \$2 million per year of these species, and how this is broken into different categories, products produced in that facility, and how that product is very much changed and altered. ...

... So we're going to attempt to prove to the Court how this is very different from a natural flow of events, how this could not have occurred had it not been for all of this processing that we do along the way in a highly scientific and highly labor intensive area, so that at the end, what we are selling is very different from that which would have evolved had it not been for all of the different mechanical, industrial steps taken along the way. ...

THE COURT: Thank you, sir. ... and say what the other ... Mr. Combs? ...

... OPENING STATEMENT ON BEHALF OF THE DEFENDANT

... MR. MOORE: Your Honor, my name is Glen Moore. As already indicated, I represent the Commonwealth,

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the State Tax Department in this matter. I'm going to introduced Mr. Russell Whitehead, who is the head of the audit program of the Department of Taxation, who will present the Department's position with respect to this question.

It will probably be helpful if I briefly describe the way the Sales and Use Tax Statute operates. All purchases of tangible personal property, and I realize of course that you are very familiar with the sales tax, in the State of Virginia, are subject to the sales tax, unless there is some exemption.

Exemptions can come in two ways. They can be necessary and essential and provided for by the federal constitution. For example, if Flow Research buys products or orders products from the State of West Virginia, let's say, and has them delivered into Virginia, Virginia can't assert a sales tax on that. It's a transaction of interstate commerce.

However, and let me go ahead and say what the other source of exemptions are, the Sales and Use Tax Act is contained in Section 58-441.1 through about .45 of the Code of Virginia.

Exemptions from the imposition of the Sales

and Use Tax are contained in Section 58-441.6, and as Mr. McCarthy has already pointed out, what we are talking about is an exemption contained in the first paragraph of Section 58-441.6, actually down to the first semicolon in that paragraph. I'll just read this to you and briefly try to explain to you what we think it means.

"The terms sale at retail, lease to retail, or rental, distribution, use, storage

and consumption shall not include the sale, lease, or rental of industrial materials for future

processing, manufacturing, refining, or conversion into articles of

tangible personal property for resale, and wherever such industrial materials either enter into the production of or become

a component part of the finished product, or are used in the production of a finished product. What this essentially means is that if a processor or manufacturer purchases materials to be used in his business, and they fall within this description of industrial materials for future processing, as I just read, then they will not be subject to either the Sales or the Use Tax in Virginia.

The Use Tax is imposed whenever the Sales Tax was not imposed by reason of some exemption or for some other reason, but the reason for the exemption ceases to pertain to the articles.

In the case of interstate commerce, if you bought something interstate commerce, had it delivered into Virginia, anybody would be liable to a Use Tax for the use of that article in Virginia.

As a practical matter, you probably know that if you order something from a store in Charleston and it's delivered here, you probably don't pay Use Tax on it.

The Department of Taxation, as I believe, has an audit program for businesses, and we discover when these sort of transactions occur, and we assess a Use Tax. We identify that what flow persons are selling. The other time that a Use Tax is applied is where someone either wrongfully used or applied for an exemption or said he was exempt from the tax at the time of purchase or correctly said so but for some reason the exemption no longer applies, and the use of the particular object becomes subject to the Use Tax in Virginia.

That's what we have here. We had an

assessment of the Use Tax where Flow Research bought items that were exempt from taxes, and they are going to assert it was always exempt from tax.

The Department of Taxation says it is not, but it doesn't qualify under the Department's construction of this particular statutory language granting the exemption.

So essentially what we have here is a simple question, as Mr. McCarthy said, that is, what Flow Research is processing for the purpose of the term of the statute. The type of product, the raw materials. The Department of Taxation, as I believe Mr. Whitehead will testify, takes the position that the exemption is not available here, and very simply, I believe Mr. Whitehead will testify that what Flow Research is selling here is rats, dogs, other type of laboratory animals that are going to be used for medical research or other purposes. "as that you sell."

The first item that I can see, the first identifiable raw material that you could say went into that rat, was a baby rat, and the baby rat grew up from -- it was fed, given medication, it slept.

I might also add the items we have in

question are feed for animals; supplies, the exact nature of which I am not sure of, but I'm sure that will come out. Medicine that is given to these animals and bedding material.

They assert that they are processing these animals, so that these objects, which they use in their business, are exempt from the tax.

The Tax Department will say, "No. What you are doing is not processing in the industrial sense."

Processing in the industrial sense contemplates assembly line type of procedure, whereby raw materials are treated or combined in a certain way to effect a significant transformation of the raw material in the final product.

The Tax Department very simply says, "You've taken a baby rat, fed the rat, it grew up and what you have was a full grown rat. There is no significant change in this rat that you sell." Essentially the Tax Department, Mr.

Whitehead will say that what they do in the eyes of the Tax Department is just selling at retail in a mercantile type of operation.

There are a few things I would like to

point out about some tax matters. The Supreme Court has established the principle that a tax assessment is prima facie correct. I would go into the cases here. I don't think it's necessary, because we're going to have to brief this at the end of this trial, anyway, and at that time I'll get into my case law authority. But let me just say that I'm asserting this position right now.

The Supreme Court of Virginia has stated that tax assessment is prima facie correct, and the burden is upon the taxpayer to show the assessment had been wrongly made. Secondly, an exemption, since it gives a special treatment to a group or particular taxpayer, is to be strictly construed against the taxpayer.

On the other hand, as you are probably aware, taxing statutes are strictly construed against the Tax Department, against the State. We are talking about an exemption position which is to be strictly construed against the taxpayer, or against the granting of the exemption, I should say.

Finally there is a principle that has been set forth in several cases of the Virginia Supreme Court that an interpretation of a statute by officials charged

with its administration is entitled to great weight, and I would also like to have the Court aware of that concept.

We also have, or I have, discovered cases in other jurisdictions which support the basic position of the Tax Department, that feeding and raising animals from a small animal to a large animal does not constitute processing in the industrial sense.

These cases arose under sales tax laws of other jurisdictions, and naturally the language is somewhat different, but I believe, as you will see when you get a chance to read the briefs and consider this in more detail, that they are sufficiently analogous type statutes to have some bearing on this question before us today.

That is all I have, your Honor.

THE COURT: Thank you very much.

MR. INGRAM: Let me arise to apologize to Mr. Moore. I may have called him Combs. There is a name out here that --

THE COURT: Yes. I did write it down. You did call him Combs.

MR. INGRAM: I apologize.

Another gentleman I failed to introduce is

Mr. Dick Daisey, who has consented to report it.

THE COURT: Do you want to call your first witness?

MR. McCARTHY: I will call Mr. Hall.

Whereupon,

JOSEPH E. HALL

was called as a witness and, after having been first duly sworn by the Clerk, was examined and testified as

follows:

DIRECT EXAMINATION

By Mr. McCarthy: Direct examination.

Q. Would you be kind enough to state for the record your name and address?

A. My name is Joseph E. Hall. I live at 10021 Lochnest Court, Vienna, Virginia, Fairfax County.

Q. Mr. Hall, what is your employment?

A. I'm president of Flow General, Incorporated.

Q. Are you president of any other corporate entities?

A. I'm also president of two subsidiaries of Flow General. I'm president of Flow Laboratories, Incorporated and General Research, Incorporated, both wholly owned subsidiaries of Flow General, Incorporated.

4 Q With regard to Flow Research Animals, what is your connection?

A Flow Research Animals, what was formerly that, is now known as the Flow Dublin Division of Flow Laboratories, Inc.

5 Q When did that change occur?

A Up until about six months ago Flow Dublin, if you will, which it is now known as, was a separate corporate entity, incorporated in the State of Virginia, and about six months ago, as part of an over-all reorganization, it became a division as opposed to a separate corporate entity.

6 Q In other words, the corporate entity lost its identity, but it became a division of Flow?

A Laboratories, Inc.

7 Q Which in turn is a subsidiary of Flow General, the organism on which to grow. A virus will

A That's correct.

8 Q Of which you are president of both.

A That's correct. This system, which is

9 Q In other words, if there was still a Flow Research Animals, which is the Plaintiff in this case, it would be on one level, the parent company of

that would be Flow Laboratories, and you are president of that, and the grandparent of that would be the super corporate structure, Flow General.

A That's correct, sir.

10 Q Are you familiar with the chronology and history of events that evolved, whereby years ago what used to be the Springer-Shelton facility was acquired by Flow?

A Yes. I am.

11 Q How did that come about, Mr. Hall?

A In 1967, I believe it was, Flow Laboratories, a biological-biomedical products company, decided to expand its product line, and just to briefly explain that, Flow Laboratories has always had a line of products which were used in virus research. Now, a virus is a parasite. It needs a living cell, a living organism on which to grow. A virus will not grow on a table top. These living organisms can come in two different forms: One being in a life system, which is called en vivo, and another being in an artificial, in a test tube, or en vitro.

A product line like that we had prior to

1967 was the latter, the test tube system, if you will, the en vitro system. It was decided it would round out the product line very nicely to have the other system, the living system, the animal. For that reason Flow acquired the Shelton-Springer operation in Dublin, Virginia, which was then known as Dublin Laboratory Animals.

12 Q So, in other words, it was to broaden the expanse of your product line that you acquired this facility in Dublin, in order to get into what you call the en vitro business.

A Yes.

13 Q How is it that at this point in time Flow acquired this particular facility?

A I think there were a couple of reasons. One of the reasons, quite honestly, relates to my own personal situation. I then was the treasurer of Flow Laboratories, and very much involved in the management. I'm a native of this part of the country. So I was very interested in having an operation down in this part of the country. So that was one reason.

A Another reason, I guess, just relates to what I said before, that having to do with the desire to expand the product line.

This was a nice, small, compact operation. The people that were involved in it, we felt, were very interesting. So we came.

14 Q After you acquired and named it the Flow Research Animal facility in '67, what happened with regard to the business and the operation of this particular plant?

A When we acquired this in '67 -- first let me say that shortly after we acquired this, we acquired two other industrial type laboratory animal operations, one up in Liberty County, New York, which is north of New York City, and another one up in Montgomery County, Maryland. One was in the business of producing Beagles, the other producing rabbits.

A So within six months we had three different laboratory animal businesses, operations going, if you will.

For numerous reasons relating to the management, I think principally that we had inherited in these acquisitions, these operations encountered financial difficulties.

15 Q Did you personally become involved in the operation?

A In 1968 I was made president of this operation, this operation being Dublin Laboratory Animals or Flow Research Animals, and shortly thereafter we combined the other two industrial laboratory animal operations into the Dublin operation. So at that point in time we had all three consolidated in this area.

16 Q So you folded them all into the Dublin facility.

A Yes.

17 Q Then what happened, Mr. Hall?

A We struggled for several years. We incurred losses of the magnitude of \$250,000-300,000 a year. We were a relatively small company.

18 Q You mean in this facility?

A Yes. In this operation. When we started We were a relatively small company. So that was quite an over-all impact on our total corporate situation. We still operate that facility, but in addition we do. These losses continued in varying degrees, in decreasing degrees, if you will, up until perhaps 1971-72, when we started approaching a break-even situation.

The last couple of years we have operated at

a break-even situation, or at a small, modest profit position.

19 Q In that time period, as it has evolved, has the operation grown or gotten smaller, or how has it gone?

A The operation has grown in a couple of respects. When we acquired the operation, I don't really recall the number, but I would imagine they were probably doing a business in the neighborhood of \$200,000 or \$250,000 a year.

Today the value of all the product we produce here is about \$1.8 million. So there has been a significant growth in that respect.

There has also been a significant growth in terms of the facilities that are employed. When we acquired the operation, they had one facility, which was over adjacent to the airport, the New River Valley Airport.

We still operate that facility, but in addition we occupy 175 acres of what used to be the Arsenal property, which is just off the interstate coming in.

We have renovated perhaps half a dozen of the Arsenal property buildings, so that they suit

our particular purposes.

In those buildings we have things like product production areas, laboratory production areas, office space and that type of thing.

MR. MOORE: Your Honor I would like to point out one thing, and perhaps you should be aware of this. We're concerned with an audit period from 1967 to 1970, and I don't object to this gentleman testifying to all of these matters, but I think you should be aware in determining the facts of the case how they operated between that period is going to be the important consideration.

THE COURT: The application of September of 1966, June of '68 and July of '66 to September of '70.

MR. INGRAM: In response to that we've been under a protest situation ever since then, and of course we have precedent ramifications to any decisions made in connection with that audit period. But I think that Mr. Hall will tell you that the type of operation, except for maybe it's larger in some respects now, is basically the same. So I think you will see the continuity of that tie-in, if you will allow us to develop it a little more.

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MR. MOORE: I have no objection to that, your Honor. I just wanted to point this out to your attention.

THE COURT: Thank you. I guess he's giving me the history of the company.

MR. MCCARTHY: I'm trying to, your Honor, so we all understand where we are.

By Mr. McCarthy:

20 Q You have heard Mr. Moore's comment on my last question. Is there any significant or substantial difference in, say, is there a dichotomy between the period of '66 to '70 and between '70 to the present time, or would you care to comment on that?

A I think there are several dichotomies. Certainly one in terms of the size of the operation, as I pointed out earlier. Number one.

Number two, I think there is a dichotomy in terms of the way things have to be done today, as opposed to the way they had to be done in 1970, as opposed to the way they had to be done in 1966.

This operation is involved in a very sophisticated area or activity. It becomes more sophisticated each day. These sophistications, if you will

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are introduced by scientific requirements, by customer requirements, and so forth.

Then also just one additional comment on that: When we acquired the operation, the emphasis was certainly on laboratory animals. Today laboratory animals is only about 30 per cent of the volume in that operation. So that is something that has evolved over the years.

That change did not take place on January 1 of a particular year. It was just an evolutionary process.

MR. MOORE: In view of the testimony of the witness, I think that since there is such a dichotomy, in order to keep this from being so confusing, we would limit his testimony to how Flow Research operated in the years in question.

THE COURT: I agree with that.

By Mr. McCarthy:

21 Q Has the business operation or product line changed in any way between '66 and '70 and '70 and the present time?

A I'm struggling with that only because I need -- the question puts me, if you will, in certain

windows, what happened in that time period.

I would say that by 1970 we were doing everything we're doing today, but not in the same degree that we're doing it today.

As an example, I would say in 1970 there was probably more emphasis -- I wouldn't say probably -- I'm sure that we produced more laboratory animals then than we do now, in proportion.

Today we produce more other things, once again in proportion, than we did in 1970.

22. Q But were the same things produced, maybe in varying years and cycles in business, maybe the product mixes, the proportion of the product mixes changed but has the over-all product line radically changed or been altered in that time period?

A. I don't think it's radically changed in terms of the product we produce, as opposed to the numbers. The overall number of people employed.

23. Q The numbers changed, but the product line is the same.

A. I believe that's true.

24. Q How about the employment situation? Is that about the same? Do you know how many employees there are

now?

A Yes. Now we employ about 85 people, and over the years that number has ranged between 80 to 100 people.

25 Q Do you know what the payroll is?

A Yes. About one-half million dollars a year.

26 Q What would it have been in '66 to '70?

A In 1970 I can only speculate. But in 1970, considering the inflationary impact, I would guess the payroll was probably maybe \$300,000.

In 1966 I doubt if it was \$100,000.

27 Q In other words, between '66 and '70 it grew, but relatively constant between '69 and now.

A Yes. In terms of the activity, relative and constant. Sales tax credit, because of

28 Q Has it been relatively constant with regard to the over-all number of people employed in that time period?

A It's been relatively constant since 1970. At some point in time, and I really don't know what point in time that was, we reached the 100 employee level, and I think that probably would have been before 1970.

29 Q In other words, if there is any change, the high water mark was reached between the relative time period of this lawsuit, rather than from '70 on.

A Yes.

30 Q Are you familiar, in your capacity then as president of Flow Research Animals, with the origins of the lawsuit that brings us all here today?

A I am very familiar with it. Yes.

31 Q Can you tell me how it evolved, and what occurred?

A The parent company, Flow Laboratories, Inc., was acquired by a company named General Research Corporation. Incidentally, we are still associated with General Research, but it has been reorganized. But we were acquired in 1969. I think that acquisition triggered a Sales Tax audit, because when Flow Laboratories was acquired, also Flow Research Animals was acquired. I think that triggered a Sales Tax audit. In other words, from the beginning of the year. So shortly thereafter there was in fact a Sales Tax audit.

32 Q What had happened? What had you done with regard to Sales and Use Tax prior to that time?

A Prior to that time we had not paid Sales and Use Tax on this operation.

33 Q Can you tell us why?

A We were operating under the belief and understanding, which was the same belief and understanding that Shelton and Springer had, if you will, that we were not subject to the Virginia Sales and Use Tax.

34 Q At that point in time, when you commenced to operate your plant down here and claim the availability of this exemption, what caused you to do that? Did you make a corporate decision? Did you get advice of counsel? Did you rely on somebody to advise you of that?

A What caused us to do that was simply Steve Shelton's understanding that this operation qualified for an exemption under the research exemption, which is provided for in the Code, and Steve's information came from, so Steve told me, "A State Tax official". So that's why we believed that we were not subject to that tax.

35 Q In other words, from the beginning you were under the impression from the previous owner that the activities carrying on were exempt from taxation?

A That's right.

36 Q Did that enter into your decision to

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consolidate what you just told the Court earlier, the three operations into one plant facility down here?

A Absolutely. Simply because, as I did tell the Court earlier, we were having extreme financial difficulties with those operations, and cost was a very important consideration.

Q When you're talking about then, I guess it was a two or three per cent additional cost factor, when you're looking at a marginal operation, that's important.

Q So it was during those time periods, I believe your testimony was, that you were dropping two or \$300,000 a year into the business.

A That's correct.

Q So in 1969, when Flow was acquired by General Research, you believed there was triggered a Sales Tax audit?

A Correct. That audit was \$40,000.

Q What happened then?

A The tax auditors came in. They performed their review, their examination, and they issued a report which contained the tax assessment of some \$15,000 plus. They wrote us a letter notifying us of that. There was an

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exchange of correspondence.

They, in their correspondence, I think cited Oklahoma authority in one instance, held that we in fact were not exempt from the Virginia Sales and Use Tax.

Our reaction to that was one of, I don't know, complete disbelief, if you will, complete disbelief because I have a very firm conviction that we have an industrial operation, and I have a very strong understanding and belief that industrial operations are exempt from this tax.

So when we got that (1) audit and (2) results of that audit, I was completely shocked.

40 Q What if anything did you do then, sir?

A After an exchange of correspondence and spending a lot of money on very expensive lawyers, if you will -- excuse me, sir -- we paid the assessment and protested it, and the amount paid was \$16,647.97.

41 Q What are you referring to now?

A The amount of tax. \$16,647.97. That included interest of \$942.34, and we paid that amount under protest.

42 Q Before the time you got the expensive

lawyers involved in this case, when you were initially appealing the decision of the tax people in Virginia, did you appeal it by way of correspondence, and do you have that correspondence with you today?

A I did appeal it by way of correspondence. I don't have in front of me my correspondence. I have in front of me certain correspondence from the State.

43 Q Was that advising you of their declination of the exemption statute?

A Yes. This particular letter dated November 13th.

44 Q When you were initially doing these exchanges of correspondence and appeals to the State taxing authorities, what kind of background do you have by way of ability which would enable you to carry on this struggle?

THE COURT: Mr. Daisy, have you seen Mr. Do you see. A Prior to joining Flow Laboratories in 1966 I was employed for ten years by Arthur Young & Company, which is one of the International Big Eight, if you will, accounting firms. I'm a certified public accountant, and was just immediately prior to joining Flow, the tax manager of Arthur Young's Washington, D.C., operation. So I have some familiarity with tax law.

45 Q So accordingly you pursued this remedy of seeking to have them reverse their position on a bureaucratic level prior to the time you got the "expensive lawyers" involved.

A That's correct.

46 Q Do you have with you your decline letter of November, 1970?

A Do I have it with me?

47 Q Yes.

A Yes, sir.

48 Q Is that the one in which they rely on Oklahoma authority for their position?

A Yes.

MR. MCCARTHY: Your Honor, I'd like to introduce this into evidence.
THE COURT: Mr. Moore, have you seen it? Do you have any objection? If so, state it, if you know.

A MR. MOORE: I have no objection.

THE COURT: Do you want to introduce it?

MR. MCCARTHY: As Plaintiff's Exhibit No. 1.

THE COURT: (Plaintiff's Exhibit No. 1 was

by Mr. [unclear] marked for identification and

received in evidence.)

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By Mr. McCarthy:

49 Q So after you lost your administrative appeals by way of these correspondence, you then filed under protest. Is that correct?

A We then paid under protest. Yes.

50 Q From that time forward you have paid under protest in the succeeding years. Is that correct?

A That's correct.

MR. McCARTHY: May I have the Court's indulgence just a moment?

THE COURT: Yes.

(Discussion off the record.)

THE COURT: Back on the record.

By Mr. McCarthy:

51 Q Mr. Hall, I have one last question I was reminded of by Mr. Ingram. What are the numbers of animals processed in the Dublin Plant, if you know?

A What are the numbers?

52 Q Yes. What kind of numbers are we talking about? How many animals?

THE COURT: What year are we talking about?

By Mr. McCarthy:

53 Q Is there any difference in the year? Why

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don't you answer the whole thing, from now to '67? Just in round figures, if you know.

A For 1967, are you speaking strictly of animals?

54 Q Okay. Could we go back one step? What is your over-all product line, as you people would see it as a businessman out of the Dublin facility?

A Our over-all product line out of the Dublin facility, biological product consisting of animals or products of animal origin.

55 Q I'm sorry?

A Or products of animal origin.

56 Q First of all, what is your over-all production?

MR. McINTOSH: Yes.

A The value of that production today is about \$1.8 million.

57 Q How is that 1.8 broken up?

A About 30 per cent of that consists of laboratory animals, about ten per cent consists of testing services. We perform for testing services research, really, that we perform for --

MR. MOORE: Excuse me. May I interrupt?

Are you saying now -- I object to this again, because it

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speaks of how Flow Research operates now, and also to point out that the subject of this lawsuit, or certain supplies that are used with respect to raising animals -- first of all, I don't see the relevance of this other operation and, secondly, it hasn't been made clear to me that they actually had this other operation at the time of the audit in question.

MR. McCARTHY: Could I be heard on that? First of all, with regard to what is in dispute in the audit, we're talking about bedding, food, chemicals and medicine, basically, and carton facilities.

THE COURT: Isn't that for the years set forth in your application?

MR. McCARTHY: Yes.

THE COURT: I wonder if we could stick to that, then? -- out from the start, say, right?

MR. McCARTHY: I was going to take the witness through that, and all the way back through, so you will know exactly where it is now and where it was all throughout. I think his testimony up to this time, your Honor, has been that the product line has been constant. The only difference has been the over-all percentages have been changed in the flows during that

time period.

Secondly, your Honor, since all the materials that are produced by the Dublin Plant have their geneses in animals, it doesn't matter really what the end product is, if its origin is some refinement from animals. That's our position.

Consequently, we need to get into bedding and chemicals and medicine, because they were necessary to preserve that animal to use in the ultimate industrial use that we rendered it.

THE COURT: What I'm interested in hearing is what happened up until 1970, because that's what the application is for. It doesn't mention any of these

By Mr. McCarthy: Have they any question.

58 Q Mr. Hall, how is the over-all product mix in 1970 different from the mix, say, today?

A A much larger proportion of the total production in 1970 consisted of laboratory animals.

59 Q I think before you were interrupted by Mr. Moore, you were saying that today the production of laboratory animals, per se, constitutes approximately 40 per cent of your over-all --

A Thirty per cent, sir.

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60 Q What percentage would you guess it was made up of in 1970?

A Seventy to seventy five per cent.

61 Q With regard to the balance of your over-all product line, what components make up that?

A Research services, as I started to mention.

MR. MOORE: I object. Maybe I'm out of line on this, but in their motion or application for correction of erroneous assessment, in Paragraph 4 they say that the Plaintiff was at all times engaged in the business of breeding, raising, processing and otherwise producing animals for sale to persons or entities engaged in biomedical research. It doesn't mention any of these other activities and I don't believe they are in question.

I think it's just the raising of the animals in question. And just the supplies that went into the raising of these animals.

THE COURT: I agree with you 100 per cent. I'll sustain the objection.

MR. MCCARTHY: Your Honor, could I be heard?

THE COURT: Yes.

MR. MCCARTHY: Our position is still the

same. We basically say the end product may be a plate. It may be a blood sample. It may be any number of things. But basically you have to raise the laboratory animal in order to produce that. Maybe it may leave our plant facility in the form of a finished product mouse, but maybe it might leave the plant in the form of a bottle of blood or a plate. But basically it's the same situation.

MR. MOORE: I don't believe those items are in issue in this lawsuit.

THE COURT: I think he's using that as an example.

Couldn't we get down to the meat of the situation? I think we're going around the horn, in my opinion.

MR. INGRAM: Your Honor, if I may just interject there, there is a point to this, in that we're trying, and we think in our own minds we're satisfied that we are looking at an industrial operation. We're trying to show you and hopefully in the form of competent evidence the scope of what is done at the place, which they said is non-exempt.

The evolution and the continuation of what is done even from the time frame is an adherence to the

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normal industrial changes that all of us have.

So we do think it's relevant, in that it gives you the whole gist --

THE COURT: Are we getting to that, Mr. Ingram? We're going from 1970 up to 1977, and the question is 1966 to 1970.

MR. MOORE: Let me make sure I understand your determination in this matter. You said it's permissible for them to produce testimony with respect to other activities they may engage in, other than raising animals for sale?

THE COURT: From what I understood from the explanation from both attorneys, it was that they were going to put on the evidence as to raising these animals, dogs, rats, mice, or whatever it might be.

MR. INGRAM: You're precisely correct. This is a problem we're having with the Tax Department. It's an oversimplification of the operation we have. It's not that simple. This is what we hope to show, the reason we came here today. If Mr. Moore would be a little patient, I think he, like I in the last few days, will probably learn more about the scope of what might just seem to be

raising a few rats and dogs.

We think it's a very relevant and probably the primary distinction that needs to be made in this case, and hopefully the Tax Department as well.

THE COURT: I think Mr. Moore has been very patient. I would have objected some several times if I was down in what I call "the pit", where you gentlemen are now.

MR. MOORE: My problem with this is that the scope of the question, as it sets forth in the application in Paragraph 4, is just raising animals.

The application doesn't appear to address the question of whether or not the production of blood is subject to the sales tax.

MR. MCCARTHY: Your Honor, this is the point of this whole controversy. We've been trying to convince the taxing authority in the State for four years that we don't end up with a mouse or rat. It's not nearly that simple. We may end up with something that is radically changed and altered, that looks like an agar plate, that looks like a bottle of blood.

Basically you have to raise the animal to get to that point. But they've always taken the

position that because we raise animals, we raise animals, and that's not nearly the case.

THE COURT: But your allegation in your application in Paragraph 4, as Mr. Moore pointed out, the Plaintiff is engaged in the business of breeding, raising and processing and otherwise producing laboratory animals.

MR. McCARTHY: That's what we're saying.

THE COURT: Let's get down to that. Couldn't we do that?

Go ahead.

MR. McCARTHY: But a part of our case is an end product, We consider that processing of animals.

THE COURT: I'm going to listen to that, the end product.

By Mr. McCarthy: said at Rockville, April 62

Q With regard to the end product of 1970, Mr. Hall, what was it? What was the product mix?

A Number one, the laboratory animals. I hope you don't ask me the proportions here, because quite honestly in 1970 I don't have them in mind.

Number two, things like blood agar plates,

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things like blood itself, animal blood.

If I may just refer to a note very briefly --

MR. MOORE: Your Honor, I just want to object again, and I wish, if you are going to allow this testimony, that you would note my exception to any testimony other than raising the animals and selling animals, which seems to me to be what is alleged in Paragraph 4 that they do.

THE COURT: I'll note your exception.

MR. MCCARTHY: Thank you, your Honor.

By Mr. McCarthy:

63 Q Would you finish your answer, Mr. Hall?

67 A We have one other product, if you will, out of this operation. That is to produce certain raw materials which are used in the production facility of Flow Laboratories, which are located in Rockville, Maryland.

THE COURT: Let's stick to Dublin from 1966 to 1970.

A THE WITNESS: But, your Honor, these are produced here and shipped up there, where they are made into a final product.

THE COURT: You keep talking in the present.

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Let's talk in the past.

THE WITNESS: No. I'm speaking of 1970, sir.

By Mr. McCarthy:

64 Q In 1970, as I understand your testimony, your business consisted of what you would consider component parts of animal production.

A Yes, sir.. Absolutely.

65 Q Of blood and blood products.

A Yes, sir.

66 Q Of scientific research and of, what, sera and media production?

A Yes, sir.

67 Q Of those components, are there any others that you know of?

A No. For one, a question of survival.

68 Q If you were to have to guess as to the over-all business mix in, say, 1966 to 1970, what would it be?

A In 1966 I think that the laboratory animals were the dominant product, certainly in the neighborhood of 90 per cent, if you will, of the business.

In 1970 I'm estimating they were down to

75 per cent.

Q In 1970 the animals, per se, they were laboratory animals?

A Yes.

69 Q If they were 75 per cent of your over-all business mix, what would the other component parts have constituted?

A I don't understand the question.

70 Q What were the other percentages, the constituent parts of the over-all business mix? Just a guess.

A I'd say I think we were talking four or five years, and I would say roughly five per cent each.

71 Q Why is it that a multiple business product line has evolved in the Dublin facility?

A Number one, a question of survival. As I indicated earlier, after we had been into this operation for about a year, we were in very deep trouble. Something had to give. Something had to be done differently.

So that was one reason certainly for going into the multiple product business, if you will.

Number two, all of the other products, repeating myself, I think, are natural additions, if you

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will, to a pure laboratory animal product line, because you're using those same parts, those same pieces, those same liquids. That's just the way you produce them. You produce them in the animal, and then they go into the product.

MR. MCCARTHY: That's all I have.

THE COURT: Mr. Moore?

CROSS EXAMINATION

By Mr. Moore:

72 Q Mr. Hall, I just have a couple of questions. Mr. McCarthy introduced this letter that you received from the Tax Commissioner.

A Yes.

73 Q That letter was probably the final denial of the exemption that you were claiming, at least the official denial.

You're not asserting that that letter -- you wouldn't assert there were no other meetings in connection with this exemption or no other discussions as to why you qualified for the exemption?

A That's correct.

74 Q So you wouldn't represent to the Court that that is the summary, the total, complete reason for

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why the exemption was not granted.

A I don't feel competent to reply to that question. I can only look at the record. The letter said the exemption was not granted.

75 Q I understand that. But the reasons why the exemption was not granted have been discussed a number of times with various people in the Tax Department. Am I correct in stating that?

A Yes, sir.

MR. MOORE: That's all I have.

THE COURT: Thank you, sir.

(Witness excused)

MR. McCARTHY: I'd like to call Dr. William Knapp.

Dr. Knapp has certain slides that he was going to use, to be more demonstrative in his testimony. Could he set up the slide projector now?

THE COURT: Yes.

MR. McCARTHY: Where would your Honor like it?

MR. MOORE: Your Honor, could Mr. McCarthy establish the relevance of this testimony?

MR. McCARTHY: Yes, sir. These are actual

pictures taken at the Dublin Plant facility, and I thought it would show the Court exactly what is going on in a more efficient and economical way.

Q MR. MOORE: When were the pictures taken?

A DR. KNAPP: Some were taken during the time frame that we had.

Q MR. MCCARTHY: When you testify, would you distinguish anything that didn't exist in '66 to '70, if that's your objection?

A DR. KNAPP: In substance, many of the things we do have not changed, even though the pictures were made in the last several years.

Q MR. MOORE: I don't have any objection to that, if he can explain what actually did exist at that time.

THE COURT: Let's take about a five-minute recess while he sets that up.

(A brief recess was taken.)

THE COURT: Back on the record.

Whereupon,

DR. WILLIAM A. KNAPP, JR.

was called as a witness and, after having been first duly sworn by the Clerk, was examined and testified as

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follows:

DIRECT EXAMINATION

By Mr. McCarthy:

76 Q State your name for the record, please, and your address.

A My name is William A. Knapp, Jr. I live at 2422 Winchester Circle, Vienna, Virginia.

77 Q Dr. Knapp, are you employed by Flow Laboratories?

A Yes. I am.

78 Q What is your employment capacity?

A I am a vice president of Flow Laboratories and general manager of Flow Dublin operations.

79 Q Prior to the time that Flow Research Animals was folded into the parent company, were you president of Flow Research Animals?

A Yes. I was.

80 Q What is your education and work background prior to coming to the Flow family?

A I'm a doctor of veterinary medicine. I graduated from the University of Georgia School of Veterinary Medicine.

I have a background in practice, private

veterinary practice, animal nutrition, toxicology and animal production.

81 Q Where were you employed prior to Flow?

A Prior to joining Flow I was associated with Hazelton Laboratories, Vienna, Virginia.

82 Q Was that in the relatively similar capacity as you are working now?

A Yes. I headed up their animal production operations, and during that period was associate director of the Division of Toxicology, as well. So it was a similar or analogous situation.

83 Q How many years of experience do you have in the area of animal production?

A Since 1962.

84 Q Since 1962 to the present? In other words, sixteen years?

A Yes.

85 Q You then are well familiar with the breeding and processing practices employed not only by you, but in the industry. Is that correct?

A That's correct.

86 Q Would you be kind enough to explain to the Court and to me what particular unique or

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extraordinary or different sort of breeding practices are presently employed by Flow Dublin, in the breeding of rodent type animal species?

Q If you would, if your testimony today is any different from the way it would be between '66 and '70, distinguish it as we go along, to keep Mr. Moore happy.

A I don't think there would be any significant difference. In an effort to do the best I can to paint a picture here, the business that we're in is a very complex, a very difficult, a very sophisticated kind of operation, and it is unique in industry, in business, because of the complexities.

Q So, I want to distinguish very clearly the difference between what we do and the mere raising of animals at the farm level, or raising rabbits as a backyard hobby, or as a pet shop situation. They're not analogous at all.

A We're dealing with a very sophisticated animal that has to be very well defined. It has to meet very definite specifications by the researcher, or the research institution that receives them. They are defined by name, by genetics, by the raising techniques

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that are pretty much standard in the research industry and in the production industry of which we are a part.

I hope to develop this more in detail.

87 Q You say of the industry of which you are a part. Is there a large industry in this particular area of raising laboratory species?

A The laboratory animal industry, and it's referred to as that, and it exists as a body of not only individuals, but talent and science and art, is a separate area altogether from agriculture or some other animal pursuit.

88 Q If we are to limit the scope of your comments to the rodent business, what are we talking about between, say, '66 and '70, or if it's any different from now?

A As far as the rodents concerned, you mean by definition, what we raise, their character?

89 Q Yes.

A We raise the Sprague Dawley rat. We have that as a product that we sell. We have the ICR mouse. We have the C-3-H and the Balb/C mice.

90 Q These products that you just described, for instance, if you're talking about a Sprague Dawley

rat, if I were in the business of performing laboratory experiments, and if I were in Hong Kong and I would buy a Sprague Dawley Rat, would I have something that would be unique and mean something different and dissimilar from all the other rats I might be able to find in Hong Kong?

A To any researcher anywhere, in Hong Kong, if he ordered from any supplier a Sprague Dawley Rat, it would have a meaning to everyone in the research industry and him, and he could get it from any place. Wherever he could get it, it would be a well-defined rat.

91 Q Would the same be applicable and true to the other species, Doctor, that you have just recited in your testimony?

A That's correct.

92 Q For instance, if a researcher were to order, say, a C-3-H Mouse, and instead of getting a C-3-H got another kind of garden variety mouse, would they be comparably priced?

A They would not be comparably priced necessarily, nor would another type mouse or mouse strain do the same thing.

93 Q If I were to go to a pet shop and buy a mouse of the same weight, size and ostensible appearance of

a C-3-H mouse, and buy a C-3-H mouse from you, what would be the difference in price?

A There would be a considerable difference in price.

94 Q How much? What do you get for a C-3-H mouse, for instance?

A \$1.65, depending on the age and weight, or \$1.80.

95 Q What would a comparably priced pet shop mouse cost?

A We have to deal in wholesale prices. That's wholesale. Wholesale price to a pet shop owner would be 15¢ or 20¢.

96 Q 15¢ as opposed to \$1.65.

A Yes.

97 Q Suppose you were to get a pet shop mouse in place of -- if you were a competent researcher, how would that be different from a pet shop mouse of the same weight, size, appearance and what have you? In other words, to everybody in the Courtroom it would look like the same mouse as what you call a C-3-H mouse, but to a researcher would it be different and if so, how?

A A researcher would not accept or even think

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about using a mouse from a pet shop, an individual owner or some non-scientific organization that's actually producing these to standards specified by the government and the researchers themselves. He would not -- he just would not use a mouse obtained from that source.

98 Q First of all, why is a researcher choosing to use his mouse for his research, in all probability? Why would they choose that species, a mouse?

A You mean a mouse in general?

99 Q Yes.

A In an evaluation of the drugs and drug research, this is the least expensive animal to begin drug research with. And then as the work and research progresses in logical steps, other research animals are brought in. But the mouse is the starting point, because you use them in large numbers. They are cheaper than other types of laboratory animals.

100 Q What is the life expectancy of a mouse?

A About two years. And this is a major advantage of mice and rats. They have a very short life span, and you can do a lifetime study in a two-year period.

101 Q So it's ideal because it compresses the

time span.

A Yes.

102 Q If I were to be a laboratory scientist, buying your product, is that where your product is sold?

A Primarily.

103 Q Any place else?

A Pharmaceutical companies, research institutions. You want some names?

104 Q Sure.

A Sloan-Kettering Research Institute in New York. Ontario Cancer Institute in Toronto, Ontario, Canada. A. H. Robbins, Richmond, Virginia. Merck & Company, NIH, government institutions, laboratories.

105 Q What is the expense? What is the magnitude of your sales of these kinds of animals?

A We produce and sell about 650,000 units a year. Units are animals.

106 Q How many did you sell in 1970?

A In 1970, on rodents, I would say -- I'm guessing -- but half that.

107 Q So if you sold 600,000 now, you sold 300,000 items or units.

A Units. Right.

133

108 Q What is a unit?

A Animal, a mouse or a rat. The animal.

109 Q First of all, if you take one of the kinds that you just mentioned, a CDF mouse. What is particular in the breeding of a CDF mouse, that would distinguish it from the ordinary average normal garden variety mouse, or any other species of mouse?

A That particular mouse, it's CDF-1, as we refer to it, is a hybrid mouse. It is produced by breeding a DBA-2 male with a Balb/C female. And we get the CDF-1 hybrid. It is the breeding of two inbred strains to get a hybrid.

110 Q Is there any other way you would breed mice in your production facility?

A Yes. Two other basic systems we utilize.

111 Q What are they, sir?

A An Inbred system and a scientific random system.

112 Q You use these terms like "inbred system" and "scientific random system", and you talk about the fact that CDF mouse is a combination of the Balb/C and DBA mouse. How would you know that? Who says that that's the way it's going to be? What dictates that?

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A Number one, international standards for it. Genetic breeding standards. But more specifically in our case, that particular one is specified in one of our contracts with the National Cancer Institute, for which we produce the CDF-1 mouse.

113 Q In other words, the government imposes those standards in the contract with the purchaser under the contract. Is that it?

A That's right.

114 Q Do the other animals that you have testified to, the rodent type animals, have comparable or similar protocols or procedures with regard to breeding?

A Every animal we produce, it's produced to written protocols and procedures that we generate internally, or by the customer, whoever that may be.

The government or individual customers may specify another type animal, and we'll produce it. But whether it's that way or whether it's on our own production, we have written protocols and procedures.

115 Q When we were talking about this in preparation for your testimony, do you recall that I asked you to bring with you this morning some procedures or protocols which would identify or describe the sort of

breeding manipulative procedures that are employed, and do you have those with you, sir?

A I do.

116 Q Could you identify them for the record?

A This first one is a contract, a present contract with the National Cancer Institute, National Institutes of Health, for CDF-1 hybrid mice.

117 Q What is contained in that, that would --

A It contains the specifications under which these animals are to be reared, processed, shipped, sold, how many per week, etc. All the specifications for it.

118 Q That's contained in the contract itself?

A Yes.

119 Q With your customer.

A Right.

MR. MCCARTHY: Your Honor, I'm going to move that all these go into evidence.

THE COURT: Is there any objection?

MR. MOORE: No, sir.

By Mr. McCarthy:

120 Q Would you describe the second document?

A The second document is a protocol, what we refer to as a protocol, but it's actually a detailed

procedure, generated from the contract in the raising of the CDF-1 Mouse, and how it's to be processed.

The next item is a general specification prepared by the U. S. Department of Agriculture for the production of an animal that they wanted us to handle, and that's the BHE Rat.

Here's a protocol on the C-c-H mouse, a protocol on the ICR mouse, a protocol on the Sprague Dawley rat.

121 Q In addition to the procedures which must be employed in order to qualify a particular rodent for classification as a CDF mouse, in addition to the breeding procedures that are exacted upon you, are there --

THE COURT: Mr. McCarthy, are you going to introduce these?

MR. MCCARTHY: Yes. I'm unfamiliar with your procedures here.

THE COURT: I would say just let the Reporter number these as Plaintiff's Exhibits 2, 3, 4, and right on through.

If this case it would be the same.
[Plaintiff's Exhibits Nos. 2 through 8 inclusive were marked for identification and received in evidence.]

By Mr. McCarthy:

122 Q In addition to these elaborate breeding procedures that are employed by you at the outset of the animal processing procedure, suppose, for instance, through a quirk of outlandish oddities and chance there was produced through, say, the coincidence breeding of a Balb/C and a DBA mouse, and it produced a CDF mouse, or whatever kind of odd coincidence happened, whether or not you want to ignore the law of chance, that was produced; would that be suitable for a laboratory species experimentation just as suitable as your product?

A If I understand the question, if a CDF-1 mouse were produced by breeding the two proper parents --

123 Q Suppose my boy did it in his backyard.

A Just an individual doing this in his backyard, no. The researcher would not use it.

124 Q Isn't it the exact same genetic product you're talking about?

A In this case it would be the exact genetic product, but the researcher would not use it.

125 Q Why?

A Because it would not come from a suitable facility with trained personnel, a proper environment,

what we term the flora of the animal, the bacterial flora, the bacteria burden that that animal would be carrying would not be known.

126 Q How do you provide this documentation to the laboratory scientist?

A The way we rear them, the way we raise them, process them through.

MR. MOORE: Your Honor, I'd like to point out one thing. I don't really strenuously object to his use of the word "process", but I would like to make it clear for the record that whether or not their operation is industrial in nature as such to qualify for the exemption, or whether his processing is the question we're here to decide today.--I realize it's hard in discussing these things to keep from using the word "process"; but I do want to indicate for the record that that is the ultimate question. If procedures are employed by you after the birth

THE COURT: I understand that. Yes, sir.

or dissimilar MR. INGRAM: You don't need to reply to that. It's like saying to an industrialist, "Don't call yourself an industry". I hope the Court will recognize that.

A First of all, we're dealing in a different way. By Mr. McCarthy:

127 Q Are there papers or certificates or anything that go along with the particular species, so that the lab scientist has some assurance that what he has is what he bought?

A No. We don't provide a paper, a certificate with each shipment. That is implied, because we're in the business, we have a reputation, this is what we have been doing, we're recognized as producing research quality animals, and it's an implied -- well, it's our reputation.

128 Q Is it because you employ the procedures and protocols dictated by the customer or the government?

A Right.

129 Q Lastly, have you told us a fair amount about how you breed -- there are three basic breeding types or methods employed in production of laboratory animals. What sort of procedures are employed by you after the birth of this rodent, which would be different or dissimilar to the manner in which, say, my son might raise a rodent in the backyard, or a pet shop owner might raise an animal for ultimate sale?

A First of all, we're dealing in huge numbers. If one is going to produce a litter or a dozen mice or

rats, that's one thing. If you're going to produce half a million, that's another.

It requires a very detailed procedure. It requires trained personnel, experienced personnel.

It is a production line, because we are dealing in numbers, and we have to have reliability of production. That production has to come along because of the kinds of orders that we get.

You have to have a large production, so that if a customer needs 200 mice for a particular study of a sex, age, weight, strain, you've got to be able to provide those.

You can't say, "I don't have 200 of these. I've got only 15. You'll have to get the rest from someone else."

You have to operate -- it is a volume business. We have to have reliability of production.

It's a labor intensive business. It's volume sensitive. We have those factors in every normal business situation, but in addition to that we've got the health of the animal, how it's reacting, the status of its health, etc.

Q What would happen when you said it's a

volume sensitive? Does this mean if an animal doesn't produce in appropriate percentages or statistically, that animal will be discarded?

A Well, this is not the context I was using volume sensitive in, but in answering that question, these animals have to produce on schedule and in an effective manner, or they are discarded as breeders.

The rat and mouse have a very short pregnancy cycle of only three weeks. They nurse three weeks. So the animal is weaned when it's 21 days of age.

Every breeding female we have is nursing a litter and is pregnant with a litter at the same time. We can run seven or eight or so litters per year from one female. Her breeding life is about ten months, if she's good. If she's not good, her breeding life is much shorter.

131 Q When you said, as you did earlier, that you produced in 1970, say, 300,000 units a year, do you have to do that according to -- I guess it's to fulfill contract commitments?

A Well, contract commitments and open sales. Not contract, but our customers calling in.

building, where we produce the CDF-1 mouse. We have a contract to produce at least 312,000 mice, CDF-1 mice, for the National Cancer Institute each year. Generally we produce and they obtain more than that.

(Slide) Another view of the same building. We produce about 6,000 mice a week, shipped out of this building.

(Slide) This is a view of the New River Airport facility, and this is our rodent building and that, too, to the best of my knowledge, is unchanged since the period in question.

(Slide) This is a typical view of inside a mouse production room or facility. We have many such rooms, and in mainly two different buildings. But this is a typical production room.

Here we have in each of these cages, which are plastic, solid bottom cages, a male and female and a litter. Hopefully there is a litter in each one of them. I can't vouch for that. If there isn't, we want to know it.

But this woman is one of our employees in this particular room. It's her job to follow out instructions, carry out procedures, examine these animals,

~~1-14~~

sex them, weigh them, see that they are fed and watered, all according to procedure.

As these animals reach weaning age, they are moved out of this room and into a holding room, where they are placed in various categories, according to sex, weight, age, etc., and prepared for shipment.

134 Q I notice she's dressed up as Dr. Marcus Welby would be. What's the purpose of the surgical garb and the mask?

A The purpose of the dress is to protect the mice from people. All of our people are dressed out in this fashion.

Every cage is covered with a filter cover, which is made of paper material that filters the air. In other words, we create an ultra-clean environment in this cage, and we protect these animals from -- we take every precaution we can to protect them from any exposure to outside contamination, bacteria, virus, dust, whatever. So that's the purpose.

135 Q I notice she's handling what appears to be a mouse, or rat. I can't tell. Is that a very normal procedure, or is that extraordinary, that the animal would

be, say, touched by one of your lab technicians?

A No. As we mentioned earlier, this is a very labor intensive operation, and an animal will be handled several times in its stay.

If it's a sales animal that's going to be sold in three weeks, it is handled several times during the brief stay with us, and of course breeders are handled many, many times.

136 Q Is that person, who I took the liberty of characterizing as a lab technician, getting any particular training or expertise or competence to enable them to do this with some proficiency?

A We have many of our employees who are certified laboratory animal technicians. We provide a course periodically, which is a national course sponsored by the American Association of Laboratory Animal Science, and there are practical and written examinations, again national type examinations, and we have a number of our people that are certified: 1966 to 1973. We have

137 Q When they get certified, do you do the certification, or does some national board?

A No. We do not certify them.

138 Q Is that animal being held for some particular

reason, would you say? What could it possibly be? Is it just posing for --

A. No. She could be doing -- I don't know precisely what she's doing, but she's examining this animal for its state of health, or for determining its state of pregnancy, perhaps, or I can't see it well enough -- it may be a weanling that she's removing to send it down to the holding room.

139 Q Could she be administering a drug to the animal?

A. Could be.

140 Q I notice there is a water spigot of some sort. Is that what that is? Is it what it appears to be?

A. Yes. This is a water spigot.

141 Q Is that animal given water periodically? Is that ordinary water?

A. No. And this is one point that's different from the period in question, 1966 to 1970. We don't use that type watering system any more. I have another slide that will show how we do water them.

142 Q I notice all the cages are hooded. Is that what they call a barrier cage?

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A Not in --

143 Q What is a barrier cage? Could you tell us, if that isn't, what is a barrier cage?

A Some operations have what we refer to in this area as a barrier system, but that is almost a sterile system, where the animals are delivered by Caesarean section. They are raised in germ-free or nearly germ-free isolators. They are kept in almost a sterile environment. The feed and bedding is autoclave going into the bedding, and this type thing. That would be a true barrier.

144 Q That's the absolute. But this is somewhere in between?

A This is the next step from it.

(Slide) This is a litter of mice, the two parents and a litter several days old, perhaps a week.

(Slide) This is a mother rat and her litter, just a younger litter. They are born nude and get their hair later. So this is a nice litter.

If we look inside of a cage, this is what one would see, hopefully.

(Slide) This is one of our employees

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holding a DBA-2 male mouse that we mentioned earlier.

An inbred male.

145 Q Isn't it true that there is sort of a rodent breeding that does in fact breed animals that are forever bald and absent a thymus, or something like that?

A There is a nude mouse.

146 Q That isn't it?

A That's not it. But there is a strain of mice especially developed, for special research purposes, that have no hair whatsoever during their lifetime. This is not one of them.

147 Q What would they be used for? Do you know?

A Basically they are used -- well, I would say for immunological research. They have a defibrinated immunizing technique. They are used for that purpose.

(Slide) This just depicts one of the mice. The DBA-2 is kind of a grayish color.

(Slide) The Balb/C female is white, and these two are bred together and produce a very pretty chocolate brown mouse.

148 Q Not nearly as pretty as the lab technician.

A Well, that's right.

(Slide) Another view of another animal room similar. She's holding a mouse and doing something with it. I don't know what. But just another view.

(Slide) This is the only view of a guinea pig that I have. It's an old shot. But I don't have any additional pictures or more elaborate pictures than this.

149 Q What's being performed here, today?

A. Quality control. As with any product, one has to have a quality control activity or unit, as we do. Our quality control procedures are a little different from those that one might have when producing an inadamant product, like a spark plug or projector, but nevertheless we have to quality control our animals. So we do it in approved ways.

We take the selected animals, a representative sampling of the various colonies, by age, sex, etc., and subject them to necropsies, a complete appraisal by a resident veterinarian who is in charge of our clinical veterinary medicine in this regard, and subjected to a complete necropsing.

We will send off sera for testing for

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viruses. We'll even have a bacteriological screen done on them, to see if they are harboring harmful bacteria, have they been exposed to any virus, do they have any subclinical ailments of one kind or another, any physical lesions that we might detect.

150 Q If you did not perform what you have just testified to, i.e. quality control procedures, and the customer bought what turned out to be tarnished goods, what would happen?

A If a customer received a shipment that was not satisfactory, the shipment was sick on arrival, ill, injured, damaged, whatever, he couldn't use it, he would be issued credit.

151 Q I read in the paper recently about this Canadian study on saccharin. Would this have anything to do with something like that?

A I can't specifically answer the question, because I'm not that involved with the study. I understand from reading, that there is some question about the study itself.

152 Q Do you know what their questions are?

MR. MOORE: Your Honor, can we go on?

MR. MCCARTHY: Very well.

THE WITNESS: (Slide) This is just another shot of our quality control areas. She's doing a blood count. I'm sure she's doing a blood count.

(Slide) Here we're making a bacteriological culture to see if they have any organisms around that we don't really want.

(Slide) This is our cage washing operation. As you might imagine, we have to wash a lot of cages, bottles, tubes. This is a day-long operation, and it's central to our whole operation, actually.

By Mr. McCarthy:

153 Q It would start here, then. Is that right?

A Right.

154 Q And it would end up on some sort of production line down here somewhere?

A Right.

155 Q What would happen to the product then?

A One thing I'd like to mention. These four tanks up above, I mentioned earlier about the water. We cannot feed these rodents ordinary town water from public or Pulaski or any other town.

MR. MOORE: Excuse me. This is a cage

washer you're talking about? You don't sell cages, do you?

THE WITNESS: No. But it's part of our operation.

MR. MOORE: I'm sorry.

THE WITNESS: Well, we have to buy cages and wash them, etc. But these four tanks above contain water that we chlorinate personally with eleven parts per million chlorine, because we cannot allow these animals to have ordinary town drinking water that only has one part per million chlorine, usually. Eleven parts per million chlorine is what's required and what's standard in the industry, and we do this, so we know that these animals are getting this special drinking water. We feed them special food, and they get special care. But this is a cage washing operation. The cages are cleaned, the bottles are cleaned, the water is put in the bottles, the new bedding is put in, and back to the room.

A By Mr. McCarthy:

156 Q What would happen if there wasn't such a facility as this? While it's not a product, obviously, what would happen if you didn't perform this sort of

process within the plant at Dublin?

A If we didn't wash cages at all?

157 Q Or any of it.

A Disease, contamination, illness, sickness, disaster, really.

158 Q In other words, it would taint your ultimate product.

A Yes.

(Slide) This is a shipping carton. This is how our animals are shipped to the customer. The numbers may vary, but this is our standard shipping carton with two floors. It's specially designed, which I won't go into, unless asked. But it is a specially designed carton.

We can put filters on the outside screens to further protect the animals against contaminated air and dust, or provide additional warmth.

159 Q You have brought one of those cages here today, haven't you? Is that one of your slides?

A Yes.

(Slide) Once the animals are ready for shipment, we have a fleet of trucks that are especially equipped. The larger, the largest truck in this slide, is

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equipped with a dual air conditioning system. In case one goes out, we have a backup system. But these are temperature controlled trucks, heat and air conditioning, because we have to maintain this environment for these animals. They are very fragile.

These animals cannot take extremes in temperature, too hot or too cold, which is a major distinction, I suppose, from the natural type animal. So we have to maintain the environment in which they have been raised until they reach their destination, either by truck, or we take them to Roanoke or national airport, and they are flown to various customers in the United States, Canada and at times other countries.

160 Q What's the furthest you have ever taken any of your laboratory animals from Dublin, would you guess?

A We routinely go to Canada. I don't know. I can't answer the question.

161 Q Is that the end of your slides?

A Yes.

162 Q You brought with you this morning, as a sample of the end product produced, as far as the rodent production is concerned, this box, which apparently looks

like it's all ready for shipment. Could you describe that to the Court?

A Yes. This is the way we would ship animals. This happens to be a Balb/C female on top, several, and the CDF-1 hybrid animal on the bottom level. We have bedding and food, and we have a rather simple device to provide them water in shipment. We use a potato, which is about 75 per cent water, so they get water and food, and they've got bedding and they are very secure.

If they're handled properly, they should arrive in good condition.

THE COURT: Mr. Ingram, you can see why, when you watch Looney Tunes on Sunday morning, Old Tom never has a chance, does he?

MR. INGRAM: Good point, your Honor.

CROSS EXAMINATION, through to the present.

By Mr. Moore:

163 Q Dr. Knapp, in your opening description of your past experience, I missed something. When did you say you came down here and began working at the facility?

A I came in March of 1971.

164 Q How do you account for your familiarity with the plant and other facilities from the period of

1966 to 1970?

A Well, actually I was not here in 1970, obviously. I joined in 1971. But it's a continuum, and we carry on the work of the company right along.

Basically we're doing the same thing that one would do.

165 Q Basically, your impression of what occurred at the Dublin facility between 1966 and 1970 is strictly a matter of hearsay.

MR. McCARTHY: Your Honor, I could short circuit this whole line of interrogation by Mr. Moore. The next witness will tie in the slides and tie in all the previous testimony to the relevant time period of '66 to '70, if it's sacrosanct to Mr. Moore. But we have submitted throughout that this witness is familiar with the procedures employed at that time, through to the present.

MR. MOORE: What I'm trying to establish is how he's familiar with the procedure, and it appears to me the only way he is familiar is on the basis of what somebody else told him.

You've got a Flow witness that was there in 1966 to 1970. It seems like he could have had this

witness introduce all this.

THE COURT: You have a good point, Mr. Moore. It would be hearsay.

MR. McCARTHY: We'll tie it all together with the next witness.

MR. MOORE: It doesn't matter all that much to me. I just wanted to be sure.

By Mr. Moore:

166 Q You talk about inbreeding all these rats, mice, and animals that are bred at your facility, about how you developed a strain of these rats. In other words, it took several generations of breeding to actually produce these finished products -- I'm using the wrong term -- produce these animals that are actually suitable for research facilities. From the offspring, do you have to have a strain? What percentage of the actual amount of rats, every animal born at your facility, is eventually sold? Or do we have to call the unsold ones?

A What percentage is actually sold?

167 Q Yes. As much as we can.

A It has to be on the order of 70 to 75 per cent is actually sold.

168 Q You told me how you arrive at these. You

take several generations of breeding to get to a CDF-1 mouse, or whatever, for example. What do you mean? Although all those intermittent mice that are used in this process of arriving at the CDF-1 mouse are all sold?

A No. In that case, not the breeders are sold. Just the offspring are sold.

169 Q I want to know about all mice that are born there. I'm not talking about the one you are going to sell. I'm talking about all the mice that are born there.

A All the mice that are born there we sell the vast majority of, about 70 per cent.

Q The reason we don't sell 100 per cent is for several reasons. One reason is that we have to get our replacement breeders from the offspring. So we have to have replacement breeders.

A Obviously not all animals that are born are saleable, so we have to cull the unsatisfactory animals. So we cannot sell 100 per cent of all that are born. But we do sell as much as we can.

MR. MOORE: I have no further questions.

THE COURT: Stand aside, Doctor.

(Witness excused)

MR. MCCARTHY: I'd like to call Dr. Averty Irwin.

Whereupon,

DR. AVERY M. IRWIN

was called as a witness and, after having been first duly sworn by the Clerk, was examined and testified as follows:

DIRECT EXAMINATION

By Mr. McCarthy:

170 Q Would you be kind enough to state your name and address for the record?

A Yes. It's Averty M. Irwin. The address is Route 1, Box 450, Max Meadows, Virginia.

171 Q Dr. Irwin, are you employed?

A Yes. I am.

172 Q What is your employment capacity?

A I'm employed by Flow Laboratories. I'm local, reside locally and employed only at the Dublin facility.

173 Q What's your title?

A I am staff veterinarian, and also veterinary medical director.

174 Q Prior to the time you became employed

with Flow, would you be kind enough to state for the record what your employment background is, as well as your educational history?

A Immediately before coming to Flow, I was employed by the State of Virginia, in the Department of Agriculture. I was in charge of their regional laboratory at Wytheville, and particularly the diagnostic end of their work there.

175 Q When did you become employed with Flow?

A I was employed by Flow July of 1968. I've been there since July of 1968.

176 Q What was your educational background?

A I was a native of Pennsylvania, and took my preschooling at Penn State, went to the University of Pennsylvania, which is the official medical school in the State of Pennsylvania, and graduated from the University of Pennsylvania School of Veterinary Medicine. That was in 1954.

177 Q Incidentally, to put Mr. Moore at ease, I understand you were employed by Flow, as your testimony indicates, since 1968.

A That's true.

178 Q You were just in the Courtroom and saw the

film clips that Dr. Knapp was so kind to explain.

A --Yes.

179 Q Do you see anything different or dissimilar in those clips than are representative of the time period '66 to '70?

A Let me say this: Many of those slides were taken back there. Not all of them.

I think I can probably pretty well tell which was in that vintage. I am not going to say I can tell exactly the day and the year.

MR. MOORE: I won't require you to do that.

THE WITNESS: We have updated this. The present-day operation is changed by what I would like to say is a progressive improvement in disease control measures.

For example, the chlorinated water tank. We used to use just a portable water source, and this was delivered by one of the faucets on the water table. We still had some undesirable bacteria flora, and we found out, even though they did a good job, by the time it was heated and was delivered at that faucet, we had only a fraction of a percentage of residual chlorine.

We changed that. We improved that.

Examples like that. I can cite them, if you have specific ones.

MR. MOORE: No objection.

By Mr. McCarthy:

180 Q I understand you too have brought some slides today, and rather than take up a lot of the Court's time, could we go into those slides to describe what it is that's being performed and was performed between '66 and '70?

A I'd be glad to do that, and I'll go through as rapidly as I can. If you have any questions specifically, we could stop and take them up then. I'll try to relate those to that period of time. I was there from '68 to present, and I could pretty well define from '68 to '70-71. I can pretty well mark that out. (Slide) This just shows an exterior view of caging. This is for our dog caging, canine caging. This was constructed. This was in existence in '68. We have another building that was under construction in '68, when I came.

I know that at the time that I came there, this housed the beagle colony. We had a closed beagle

colony -- that was the beagles for research that Mr. Hall mentioned -- was brought down to Dublin from Liberty, New York..

Originally this was the housing for that breeding beagle colony. That was at that time.

Since that time we have also housed some CMDs, which are common mongrel dog operations. In the newer one, the beagle or the CMD operation, now resides in this housing.

We now have in there foxhounds. We really by contract house and maintain and monitor a foxhound colony that are owned by National Institutes of Health, and these are dogs that are part of their big cardiovascular program. They are in large part research dogs.

Beagle dogs (Slide) This shows the beagles. This was a picture taken back in '69-70. This shows how we gang house these beagles. They are undoubtedly, I think, you can tell, beagles. The dogs are kept in a large room. We house them together so that by the time they came into estrus or were ready to breed, we could start at one end.

Since you have the estrus cycle in dogs every six months, twice a year, we know that when one

would come into heat, because this was important to us, then very likely right along the whole group should come into heat.

(Slide) This again is an old slide. This shows a supervisor of the beagle colony. He has a dog from that group that has been isolated. This is what we call our whelping facility. This for a dog would be a maternity ward. This is an individual isolation unit, where that dog was isolated and cared for during the time it delivered its puppies, and while it lactated or reared its puppies.

181 Q The previous clips showed gang housing?

A Yes.

(Slide) We have seven to eight of these smaller dogs into one of these larger exercise cages. This is just the outside view. That steel door opens up and you have an indoor portion of this. The inside of the steel door comes down. The dogs are taken inside and protected. You don't have to heat the great outdoors. In good days that is raised and they are outside, and they get the sunshine. They are still isolated. They are not on the ground. They are on expanded metal.

165

(Slide) That shows it.

(Slide) Then part of their cycle -- the idea here, this was a closed colony of well-defined monitored beagles bred to produce more beagles. To maintain that and give them the individual care, they were isolated here individually when pregnant, and stayed there.

Q You said well-defined monitored beagles. What does that mean?

A There again, to be usable, we had to produce beagles that were acceptable to the researcher. The researcher wanted dogs that were free of the well-known canine diseases. He wanted a good, healthy specimen. When I say "monitored", we took blood samples. We have to do hematology on these dogs. We do blood counts and blood chemistries. We have records of a vaccination program. They would be vaccinated against the common canine diseases, which had to be prevented against. Since I say a closed colony, it meant we didn't introduce any stock; with the idea that we weren't going to bring in anything bad. We had to carefully select the future of this colony from the best of the pups

that we produced.

Interesting to note now, we are always in research down here, and we did run into a problem with respiratory disease that was really interfering with the young pup, and the part that pro played. It was a new disease.

We isolated, in short, the aged and found it to be a virus that's related to the SD-5, or one of the para-influencing like organisms in humans.

We proceeded at some cost to make a vaccine that we could immunize, and perpetuate the health of this colony. I'm proud to say this virus isolation resulted in that there is now a commercial product, the para-influencing canine vaccine on the market; you can protect your dog with.

I'm trying to show, while this is a unique closed colony, we do have diseases in common.

Some of the things we have learned and developed have been extrapolated or applicable to the house pet or the common dogs that --

183 Q When you say, Doctor, you developed at some cost a vaccine which is suitable for domestic use, what kind of money are you talking about, in that particular

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vaccine?

A They tell me that it's about a hundred thousand dollars. I take that at hearsay. I don't really get into the finances. I pass that on.

184 Q You're a pure scientist?

A I wouldn't say that. But I'm not a business-type administrator.

MR. MOORE: We're not at issue here with the question of their operation of creating vaccines. Whether or not they got an exemption for that I just don't know. We're just talking about breeding of animals. I wish we could just --

MR. McCARTHY: We just can't allow ourselves to be so simplified as to get into the kind of nice little pigeon holes that Mr. Moore keeps insisting on us getting to. It just isn't that simple.

In the course of producing laboratory animals, we get into a lot of different things, and we are going to get into more exotic strains in a few moments, and that's the truth of it.

MR. MOORE: I don't see where they are relevant for purposes of this lawsuit.

THE COURT: I don't either, Mr. Moore. I

really don't. I will try to separate the wheat from the chaff.

Let's go on.

(Slide) THE WITNESS: This is the same gentleman, and he's preparing a dog, I think, prior to going in that house. Perhaps this shot ought to have gone before the other.

We do bathe them and clean them, and they get a dip that controls the external parasites. Again tightly controlled health procedures.

(Slide) This shows the method by which the dogs are fed, in an attempt to keep the feed clean. That feature is on a pulley that could be hoisted out of range, and the dog has little chance of contamination of the food stuff with extraneous matters.

(Slide) The point here that these animals do not live in their own excreta. They are expandable metal floors. They are rinsed through. This is a sewage system that cleans out, flushes out, if you can see it going into a ditch. The ditch goes into a closed septic system.

Q Is that the same shot of that animal we just saw?

169

A It's the same cage, although that's a different animal.

Now we're getting into a Foxhunter. These cages are occupied by these larger type dogs, foxhounds.

This is a shot of the same facility, but in more recent years.

(Slide) Again, foxhounds, as they occupy the same cages.

186 Q What's going on with those animals, if you know?

A The foxhounds we aren't breeding, as we did the beagles. We are holding and observing the foxhounds by contract with a national heart and lung institute, where a operation of some sort performed on them. This is part of their cardiovascular study. These dogs are all post-surgery dogs, and they have had cardiovascular surgery. They've had transplants in their hearts. They've had arterial grafts. They have had catheters. They do the work at the National Heart and Lung. I don't mean to imply we do that. That's sophisticated surgery. They do the work, and when the dogs are recovered, they send them down to us, and try to

relate this to human surgical procedures.

A. It's no good unless a dog has a chance to live a normal life, just as a person would, to try to find out how effective is that arterial graft, how long in a dog a pacemaker can maintain a heart, how soon will they go into heart congestion.

A. So we ship these dogs back periodically, pull samples for them, and we again follow their contract stipulations.

A. We do not raise and produce those. But they are part of a big study. It's a cardiac program.

187 Q So you're saying those dogs that look for all the world to us, the layman, like ordinary foxhounds, have some radical alteration of some sort performed on them, like a heart transplant or valve, or something?

A. That's true. They have all the nervous connections to some of them severed, and the pumping action of the heart is under control of a mechanical monitor.

A. Some of them have had sections of rather main arteries taken out and transplanted with plastic inserts, and this sort of thing.

(Slide) This is a shot of another colony of

dogs. This is a Newfoundland hound, that the caretaker is handling as a parent and one of the offspring.

This again is unique in that the dogs are not owned by us. They belong to the National Heart and Lung Institute also. It's part of their heart study program. But there isn't the mechanical intervention by surgery.

188 Q No surgery?

A No. These dogs are unique, in that they have an inborn anomaly which is, they tell me, an aortic stenosis. It is genetic. I don't know how it is corrected. These animals are all carefully selected. They have to breed males and females that have the trait, and better than 85 per cent of the offspring perpetuate this trait from the moment they are born until they arrive to adulthood. And surgically altered.

189 Q In other words, you take a male with aortic stenosis and a female, and breed them with one another?

A That's right. And shot.

190 Q What happens then? Eight-five per cent --

A Yes. Of the offspring have this congenital inborn murmur in varying degrees.

172

191 Q What does that mean?

A The reason we have the dog colony, and the reason we are going to great pains to breed it, is because it's valuable research material. That is what we would call the establishment of an animal model for that particular condition, because what happens to these dogs and the way they can correct or modify the condition, they are attempting to extrapolate to human medicine, because of a great percentage of the human babies that are born with this condition -- this is one of the few consistent conditions that they don't have a surgical correction for right after birth.

The surgeons up there are trying to develop the shunt type catheter from one chamber of the heart to another, until the animal gets big enough until they can get in there and surgically alter the aortic valve, the valve from the main chamber of the heart to the large stomach surgical lesion. It serves as an animal monitor.

(Slide) Another shot of the same dog.

(Slide) Now we're going into another phase of the operation.

192 Q It looks like a camel.

173

A: This is not a camel. This is a sheep. As I say, we maintain a flock of sheep on the premises. What we do here, as I say, we raise the beagles for beagles. We keep the sheep because they are a source of a biological product.

This is the source, as you can see, of the blood being collected. These animals are bled about every two weeks, and in a sterile procedure, and that's the process that's now underway.

The animal is yielding in the container there, a whole sheep blood. It is a valuable material that we can incorporate into other finished products, break it down to smaller containers and sell it as sheep blood, defibrinated, whole sheep blood.

Sheep red blood cells are washed in alsever's solution. Then they can incorporate it into their research application. Q: In addition to sheep, are there any other animals that you bleed to produce the product line you just described?

A: Yes. The blood and blood by-products from many animals are real valuable and an important product that we harvest from the animal, and then it may be further

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processed by us or by Flow Laboratories at Rockville.

But we have goats. We have calves. We have horses. We have guinea pigs.

We currently have a lot of rabbits that we bleed, newborn chicks that we bleed.

Well, that's enough, I guess. We have used mice and rats, although probably because of the low yield we would sooner use, in the rodent family, rabbits and guinea pigs.

194. Q From that animal blood base there is produced a whole myriad of products that we'll get into in a few minutes.

A. That's pretty much so. This is one step. This is the source.

Q We keep the animals. From that we --

A MR. MOORE: Your Honor, would you make clear, I know you said you were going to do this at the outset, so I assume you are talking about all these procedures were undertaken in '66 to '70.

THE WITNESS: Not all of them. We did have some sheep, some goats. We had guinea pigs then that we don't have now. We kept an entire room of guinea pigs, because serological testing was coming in

then and these guinea pigs produced a complement. They were valuable, and we bled them by the hundreds.

Now they have found a better source, and the yield is a little better than the guinea pigs.

So we are changing from guinea pigs to larger animals. In fact, goats and sheep.

But the idea of the blood itself was there. We've used different species this time.

THE COURT: Doctor, just try to hold it down to what happened between '66 and '70 and what you had then, and identify it.

THE WITNESS: We did have some sheep we used. We didn't have near as many as we do now.

By Mr. McCarthy: Did you produce 195 Q. But you still did it between '66 and '70.

A Yes. 196 Q. With sheep, as well as with bleeding goats?

A. At that time we used mainly guinea pigs and rabbits to a greater degree than we do now. It was this type operation of a smaller species.

197 Q Would you go to the next slide?

A. Yes.

(Slide)

198 Q Would you kindly describe this sort of production facility to the Court?

A This is a bigger picture of the stanchion we have the sheep in. We have now this larger block. We bleed certain individuals every two weeks. They are here tagged and identified. We cut them out of the herd.

This is a small retention clip. We can get maybe six or ten up in there to work on that day. Then by opening a door they are broken down in to one individual that comes and enters the chute from the back.

This side folds up. His neck and head is forced through this opening.

199 Q That was the shot we just saw?

A Yes. This maybe should have preceeded the other one. We try to extend the neck so it can be shaved, it can be sterilized and then the external jugular vein punctured with a sterile approach, so that the blood itself is in a closed container, that vacuated container, so there is no chance of contamination.

200 Q What happens in the production facility after the animal is bled?

A Then we put that side down. This is to

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speed up the whole process. The side goes down and it is actually a cleated footboard. The sheep can come out this side and then by another door join the rest of the flock.

201 Q In other words, the sheep is processed through what appears to be like a paddock, and more sheep are behind it, and then it's bled and they process out through that way?

A That's exactly right. Again, it's to speed things up, so you don't have a backflow of congestion.

(Slide) This again is a shot of the room. This is another area that I get into, and actually do. I'm familiar with this. This is a rat cage. But it's more than that. This is a study.

As Mr. Hall mentioned earlier, we do some contract research. This is one of those research products that we're set up for now, and we use our own Sprague Dawley rat, but it's much more than that.

If I can show you another shot. (Slide) See here, the banding. You have the different colors. This extends for the whole column of cages.

(Slide) This portion of that is -- this is

a study -- and it's what we would call a subacute toxicity study. It's conducted with rats, and it is to prove the safety or the harmful effects of just what does feeding this new drug at different concentrations produce in the animal.

We have four different groups. The bucket which you see in the front, so there is no mistake in this, contains the food that has no drug in it. It's a controlled level rat.

The blue banded contains the moderate drug dosage.

The red contains the high dosage level.

The green over there in the corner contains a low dose level.

It's the same drug. These animals are kept in the same group, the same husbandry. They are subjected to exactly the same circumstances, except one big variable: The food that they get daily contains a variant amount of drugs, the same drug, except for one control group, which is the base line.

Then at the end of this study, or as we make daily observations of it, we can rightly, or should rightly say that any differences ascribed to the animals

that constitute these different groups can be directly related to the quantity of the drug they are receiving. These studies we do in accord with FDA requirements.

202 Q Is this sort of study representative of the types of studies -- granted this is a new one. Is this representative of the types of studies that were performed between '66 and '70?

A Yes. We were doing this type of study then. I think that probably we're doing more of it now. We were probably just getting in -- we probably didn't start this, I'd say, until '70 that we had some studies. This is an area again of expansion.

203 Q Who is this study being performed for, that one right there?

A That's for A. H. Robbins. He is the contractor. We do what we call contractor --

204 Q Is that in order so that one of the Robbins' products will ultimately pass clearance with FDA, or what?

A Yes.

(Slide) The arrangement in the room again is important. As I say, this you will notice some blank tiers, and then they don't show up too well here, but there

are different columns of different colors. This is again to make certain this setup is according to a statician's request of random sampling, and it is really to insure that cages that get different dosage levels are equally disbursed throughout the atmosphere of this room.

In other words, FDA would say that all the high dosage was on this end of the room. There may have been effects that were attributable to the heat or to the circulation, to some set of circumstances, just in this corner of the room.

So this statistical sampling setup tends to equalize, and staticians will tell us there is the same number of cages on high levels in control groups as to this corner of the room, on the high shelf and low shelf.

In other words, we're trying to show here that we have to take pains to see that we have control over the environment, we're trying to limit just one variable, the amount of new drug in the field.

(Slide) The same thing is shown there.

(Slide) This -- you'd asked about other animals. This is the actual bleeding of newborn chicks. These chicks don't show up too well that the ladies are

holding in their hands, and are less than 24 hours of age when they are processed. They have never had food. They've never had water. And it's the end of the line for them, because they are bled to death by cardiac puncture, and they are taking the red cells from the newborn chick and putting it into the bottles in front of them, into an alsever's solution, because we are trying to produce a product which is sterile, a newborn chick, red cells, and a known concentration of ten per cent, five per cent, in alsever's solution.

THE COURT: Doctor, were you doing this in the time?

THE WITNESS: We weren't bleeding chicks in '68 to '70. We were making concentration of other red cells.

THE COURT: Let's move along.

(Slide) THE WITNESS: This shows where some of the blood products go. They are incorporated here in kind of a -- well, a mass production of agar plate.

As I say, I stressed the fact we tried to use the sterile approach in getting a blood product, and here again we tried to maintain the sterility. It's

incorporated as one of the requirements with agar and other sugars into bacteriological media..

I have some of these plates that I brought along, because they may not show up too well in the picture. But it's one of the finished products that we produce, a media sera operation, that from the sheep we get the blood.

We quality control it. We put it into a different concentration. Then it's incorporated into an agar base and goes out to clinics and other research areas to be used as a tool in growing or isolating bacterias.

(Slide) By Mr. McCarthy:

205 Q Is that the same shot?

A It's the same operation.

(Slide) This again is the same operation.

(Slide) This is media that has a further specialization. After this media is poured and stacked in the rack, this is a media we produce that is specialized in the isolation of gonorrhea.

The organisms are only grown in a CTO atmosphere, so the hoses she has down here she'll actually be pumping that bottle with CO₂, so that the whole rack

can then be turned over and the CO2, heavier than air, will lay on the bottom, and that is screwed down by a screw cap. It goes out to clinics.

If they hold it up right, when they take their swatches or specimens, they can go in there, scrap the surface of the agar, screw back the cap, maintain sterility, and still have the CO2 atmosphere which is essential if they are going to --

MR. McCARTHY: In the interest of time, your Honor, this would be more of the same sort of production facility. I think we have demonstrated that.

By Mr. McCarthy:

206- Q I understand you have brought some of the products with you today.

A Yes. These are samples. I thought maybe the picture didn't show them too well. You wanted to see the pictures. This is one of the sheep agar plates we produced.

207 Q Would you be kind enough to limit the display of products, rather than bother Mr. Moore, that you used between '66 and '70?

MR. MOORE: Are these products that you used or produced?

MR. MCCARTHY: Excuse me. Produced.

MR. INGRAM: If these are representative or similar --

By Mr. McCarthy:

208 Q If the product is changed or updated, that's okay. But if it is representative of the same sort of product --

A We were getting started into that area, and again it's expanded. It's much larger now. We have streamlined the operation with a lot of automation. We were doing it more by hand. We did do -- this is a by-plate. We did even then by hand a quad plate at that time.

209 Q What is that plate and what was the hand produced plate? What was that for?

A This has two sections, and it has two different agars, two different types of agars. If you hold it up to the light -- as I say, I mentioned the quad plate, which in those days was probably one of our best products. It had really four sections.

The idea was, the media put into each one of the four compartments would aid in a quicker differentiation of the organism that you had.

210 Q What is media, Doctor?

A That's the material that supports the growth of bacteria.

211 Q What is that basically?

A It's an agar-agar base. That's like a jell they get from seaweed.

212 Q What do you put on the agar-agar base?

A You add enrichments.

213 Q Like what?

A In this one, for example, this is five per cent sheep blood, agar plate on the side, and this is an EMB over here, Eoisn Methyl Blue.

MR. MOORE: Are you going to introduce these? Well, it would be best quickly and not by differentiation.

MR. McCARTHY: Yes, sir.

MR. MOORE: When will I be able to register my objection? I'll get into that.

MR. McCARTHY: I'm going to seek to introduce those representative of the products produced by the Dublin Plant between '66 and '70, as I've asked the witness to constrain his description to such products.

MR. MOORE: I object to the relevancy to any production of products other than the breeding animals.

That's the source of my objection.

THE COURT: I'll overrule the objection at this time.

You are basing your objection, I understand, on the Paragraph 4 application.

By Mr. McCarthy:

214 Q What is the use that those plates are put to, or the plates that were produced in '66 to '70?

A The banding of four different types of agar was that if you had one sample -- say that from that sample there were going to be expectedly the growth of many different types of bacteria.

215 Q What do they use these types of plates for?

A Well, it would be real quickly a selective differentiation of that type of organism.

These plates weren't produced back in that period, so I can't get into that.

216 Q The gonorrhea plates? Yes, correct.

A Yes.

217 Q Could you describe those plates that were produced as representative of the type of --

A Yes. As I said, the idea of the two to four different types of media would be to readily aid in

the differentiation of what strain or what family of organism you had.

THE COURT: Do you want to introduce those?

MR. McCARTHY: Yes, your Honor.

MR. MOORE: My objection has been noted.

THE WITNESS: I have brought bottles from the same product. These two are different products. One is defibrinated cheap blood, and the other is blood cells.

By Mr. McCarthy:

218 Q What are they used for, Doctor?

A Well, they are used much as I pointed out here, as an enrichment to cultivate largely bacterial growth. The cells and suspension can be used as an indicator, an end point indicator in serological reaction and as an absorptive agent.

219 Q After the analogy you just described -- you said one of those was based on sheep blood.

A Both of them.

220 Q After the sheep is bled, what further processing has to be done to that product to make it suitable for its ultimate customer?

A You saw it being collected in the relatively

large container, a 500 ML capacity. That has to be quality controlled, to be sure it has no organisms in there itself, that there has been no contamination, and also it has sufficient level of red cell concentration, which has to be determined. If we make this product, we then wash the red cells, separate them from the plasma, and then introduce a known concentration, and I think that is a ten per cent solution for five per cent of red cells, into alsever's solution. This is exactly what that is.

This one is a D-50 blood, and that means that as it's being collected, mechanically the fibrinogen was removed from the blood, so that it wouldn't clot and go into the component of a clot in a glass.

Q This will never clot. It doesn't have the ability, and still there have been some chemical additives.

A It's been a mechanical removal of that part of the blood that allows the clot.

Q These are the ones that actually go to the customer? These that you don't have your own use for.

A Yes. They would be QC'd and done up. That would be the end product.

Q Were there any products that you made in

1966-70 --

THE COURT: Just a moment. Are we going to have any more slides?

MR. McCARTHY: No, your Honor.

THE COURT: Maybe we can raise these blinds and get a little cool air in here.

MR. McCARTHY: I would like to have these marked.

(Plaintiff's Exhibits Nos. 9

through 12 were marked for

identification and received

in evidence.)

By Mr. McCarthy:

223 Q You have given us a representative sampling of the products, of these four products that were of the type used in '66 to '70.

230 Were there any products that you made at that point in the Dublin Plant that you have ceased and abandoned making between '70 and now? In other words, are there those that you don't have representative samples of here today?

237 A Yes. I'm sure that's so. I think it would fall into the broad category. They're different types of medias, and different -- to meet the market demand, really,

I guess is what I'm trying to say.

In that area we tried to make what was saleable. That we may have dropped and gone to something else.

224 Q But it would be all blood base product?

A Yes. They are biologically enriched.

MR. MCCARTHY: I have no further questions, your Honor.

CROSS EXAMINATION

By Mr. Moore:

225 Q Dr. Irwin, your testimony is that you did produce this between 1966 and 1970, for example, this defibrinated native sheep blood?

A We didn't produce as much of it then. We did bleed some sheep during that period. So we did --

226 Q You did produce some of it?

227 A That was in the latter period.

When you say "'66", I was there from '68, and it was probably the latter part of that '68 to '70 period.

227 Q I understand you can't speak about prior to '68.

A That's right.

And I do know that there again in '68 we weren't into this. We really got into this area in that time frame of '68 to '70.

228 Q There have been several products introduced. Maybe there is only two. But two or three, anyway. It appears to me, this you say is -- would you please repeat what this is used for, when the people buy it?

A Yes. As I say, the division here, we used to do more of that back there in '70, because it required hand labor, and we weren't automated at that time.

229 Q What do the people that buy it use it for?

A They smear on their samples to rule out if there are any bacteria. It's a cultivation media for bacteria. There's other enrichments. But some, as

230 Q And you process blood from some kind of animal to get to this state, to be used for that purpose.

A Yes. And the brighter red, the main enrichment is the sheep blood that would be typically drawn from the sheep blood we've got.

231 Q What change has actually occurred to this blood, other than the fact it seems to be hardened --

A Yes. That's the agar-agar base, a jello-like base that comes from a powder from seaweed that is put into hot solution and cools down and sets up like this.

232 Q So essentially what you do, you add what?

A Enrichments. Bacteria, again -- certain strains are fastidious in their requirement. They require certain types of sugar and protein. The enrichment formulae there will oftentimes decide or dictate what strains of organisms can be grown.

That's the reason for this differential media.

233 Q I'm just trying to figure out what you do to the blood to come up with this, and essentially you add some chemicals?

A There's other enrichments. But some, as I said, these fastidious organisms cannot live except on complicated tissue.

MR. MCCARTHY: Could Mr. Moore allow the witness to answer the questions posed to him?

MR. MOORE: I'd be happy to do that, if you would just please limit yourself to answering my question. I understand that you do all these things for a

purpose, but I'm not interested in that at this point.

By Mr. Moore:

234 Q Then obviously you do something else to this blood to create this product. What do you do?

A Well, that's defibrinated blood.

235 Q Would you describe what you do to this blood, with the raw blood, to come up with this?

A If I can go back to the shot we had of the sheep being bled, the bottle that this would be collected in, which is an evacuated sterilized container, with glass beads, sterile glass beads that are washed, and they have a layer of saline over their surface.

As that animal is being bled -- frankly, what's done is that bottle is being agitated, so that as the blood comes in there, it washes over the surface of these glass beads. In the agitation, the fibrinogen, which is a component, when it gets to the air, sets up to make the fibrinous clot. It really congeals.

That is essentially, if you would cut your finger, or if there would be an escape of blood, for that fibrinogen to convert to fiber.

236 Q So essentially what you do, you remove whatever it is in blood that causes the blood to clot.

A Well, we remove one of the elements necessary for the clot.

237 Q So then this, and again I realize I'm short circuiting your answer, but for purposes of simplicity, I want to see if this is an accurate characterization of what happens: This blood is essentially sheep blood which has had some of the clotting material removed.

A That's right.

238 Q In layman's terms, is that essentially what this is?

A That's right. Mechanically removed without the addition of chemicals.

Another way is to chemically achieve the same thing, but that has not been altered. That is whole blood, mechanically treated.

239 Q When Dr. Knapp was testifying, I believe you were here, were you not?

A Yes, sir. I was.

240 Q I asked him about the percentage of animals that are born at your facility, and I'm talking about that time. The reason I kind of dropped it with him was I wanted to talk about the time of 1968 to 1970.

Would you have a way of knowing what percentage of mice are actually sold to a consumer, for purposes of -- well, sold to a consumer?

A If I understand you now, you would like to know what percentage of our total production?

241 Q I mean every mouse that's born there. I don't care what the -- you may have been using one mouse to breed an ultimate generation. I want the percentage of every mouse that was born.

MR. MCCARTHY: Your Honor, I don't even understand the question.

THE COURT: I do. I think I understand it. What percentage of every mouse that --

MR. MOORE: Of all the mice that are born are put on the market and sold.

THE COURT: The question is very simple, to me.

THE WITNESS: It's changed. I can't give you just one figure. I can give you ranges. We'd like to say 100 per cent. That would be the ideal situation. That isn't so.

First of all, we have some that we won't sit on the shelf like nuts and bolts. You have got to kind

of read the future and gear your production so that you can take --

By Mr. Moore:

242 Q If you would just give me a range of percentage. -- I believe that would be adequate.

MR. INGRAM: Pardon the interruption. Would it help -- I seem to recall 70 per cent --

THE COURT: That's what Dr. Knapp testified.

MR. MOORE: But at the period of time in question we would have maybe a different figure.

THE WITNESS: I would think at that period of time it was less desirable. We have improved the operation. And that was one of the main reasons I was there.

Q I think at that time we would probably have a less desirable percentage, and I would say 70 would be good. Sixty-five to seventy. And we've come up, I would say, as high as eighty today, in some strains, and not consistently.

A You have these periods of time when you have a good market demand and can sell everything you have. Other times it falls off and they'll get on to another field of research that will take another strain.

By Mr. Moore:

243 Q But say sixty to seventy?

A Yes.

244 Q You're talking about sixty to seventy per cent of the strain that you are actually putting forth. What I don't understand, and maybe I'm not expressing it very well, and maybe Mr. McCarthy's point is well taken, it seems to me there has been evidence produced here that you go through a pretty elaborate process of establishing a particular strain of rat. It takes several generations of breeding to come up with a CDF-1 mouse or -- I forget all the names of these rats.

A I know what you're talking about, what you mean.

245 Q What I want to know now, you started with a rat or mouse with certain qualities. That mouse didn't have qualities that your purchasers would like to have in a mouse. So you breed that mouse with other mice and over a period of generations you come up with a CD-1 mouse, which has all these qualities that people find desirable. When you say sixty to seventy per cent, are you talking about all these mice in the prior

generations as well, or only the ultimate generation?

A You're going to have to give me a little time to explain that one, because you've got a real -- I think maybe part of the confusion -- if you don't understand me, stop me there. But the CDF-1 is a hybrid, and that's what the F-1 is. It's a first field generation. It is the only offspring that is going to be saleable. We do not own the mother and father, the breeding stock for the CDF-1. We have to, by contract, get the mothers and fathers in from an approved genetic source. The government controls those sources. So we get an inbred strain.

246 Q Let me stop you right there now, Doctor. CDF-1 is a bad example for me to have used.

A It is.

247 Q Do you have any type of animals where you had to develop over several generations a strain that you used?

A: Yes. Let me say right away we cannot develop and get recognition. These strains have to be recognized and set up and well defined. There is a committee on international nomenclature that safeguards --

THE COURT: Doctor, please just answer his

question, if you can.

By Mr. Moore: . . .

248 Q I believe you have answered my question,
but let me phrase it again and see if you can answer it
yes or no.

With the bulk of animals you sell, you
testified, or someone has testified, that it took a lot
of breeding over a period of time to come up with a
particular strain. It would be your testimony that in
most instances you do not do that breeding. Someone else
has done it.

A That's right.

249 Q So you get the ultimate rat, the final
quality mouse that the consumer wants to purchase, and
you breed a mother and father with those qualities to come
up with the offspring.

A That's true.

250 Q So essentially what you're saying is that
you've got sixty to seventy per cent, in this time period
of '68 to '70, of these highly developed offspring sold.

A Yes. In some strains. We may not have
done that well in other strains.

251 Q At least not all of them, but probably more

than fifty per cent. ...

A Yes. That would be, to be profitable.

252 Q You described to us how you kept the beagle dogs in pens according to when the female is expected to come into heat, and all the females are expected to come in heat in that one pen at a similar time, and it's fairly obvious why you would do that.

Dr. Knapp testified they are trying to keep rats pregnant at the same time that they're nursing.

In other words, you do everything you can, and I think this is fairly obvious, to make sure that you have the highest volume of production or birth of new animals that's possible.

A That's true. ...

253 Q But ultimately the birth of an animal depends on the male and female getting together. There's no way you can control that, other than trying to get them together at the right time.

A Well, there are artificial stimulants that can be used. What you're saying is right. We try to follow an intensive concentrated production program.

254 Q If some female rat decides for some reason that she doesn't want to have a litter -- I realize that's

putting it in fairly absurd terms, really -- there's a certain amount of lack of control on your part. The rats have to breed. The dogs have to breed in order for these offsprings that you eventually sell to be conceived and born.

A That's true. We have to do everything we can to get them to do that.

MR. MOORE: That's all I have.

REDIRECT EXAMINATION

By Mr. McCarthy:

255 Q Doctor, to clear up the initial point raised by Mr. Moore, are you an approved genetic center?

A No.

256 Q Do you have to get your primary species, male and female, from approved genetic centers, so as to preserve the strain of the laboratory species ultimately produced for your customers?

A That's true.

257 Q Secondly, Mr. Moore made the point that all these animals have to do what nature dictates, ultimately. Isn't it a fact that some of your species, i.e. Newfoundland dogs, for instance, have to be artificially inseminated?

A They do.

258 Q Any others?

A That's the only one that we artificially inseminate.

259 Q Isn't it also a fact that your processing experience has determined that things like diet and artificial alteration has a lot to do with the breeding?

A Yes.

260 Q Would you explain that to the Court?

MR. MOORE: I object. I believe it's already been brought out. I don't think it's necessary to go through this again.

MR. INGRAM: We think it has been brought out too, really.

By Mr. McCarthy:

261 Q Lastly, Mr. Moore made the point that sixty, seventy, eighty per cent of the species are sold. What happens to the others? Are they available for sale?

A Some of them are culled. As I said, we can't --

262 Q Some are what?

A Some are culled, removed from sale, because they are undesirable in some categories.

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263 Q In other words, they are caught by some quality control standard?

264 A Yes. I wish it was so, but not everything we produce is really of quality that can be sold. We even have some of these -- well, they just don't work out.

264 Q That's what GM just found out.

A Another point I was trying to make was sometimes we have overproduced, and these animals are aging day by day, week by week, and once they get beyond the prime sales age, we have to euthanise them and destroy them. They are no longer of a saleable weight and age range. You can't control that, can you?

MR. McCARTHY: That's all.

RECROSS EXAMINATION

By Mr. Moore: Thank you.

265 Q You state you use this process of artificial insemination on Newfoundland dogs. Were you raising them in '68 to '70?

A No.

MR. MOORE: That's all.

FURTHER REDIRECT EXAMINATION

By Mr. McCarthy:

266 Q Were you raising beagles in 1968?

A Yes.

267 Q Were you artificially inseminating them?

A Not routinely.

268 Q Sometimes?

A Yes.

MR. MCCARTHY: No further questions.

FURTHER RECROSS EXAMINATION

By Mr. Moore:

269 Q Dr. Irwin, even when you undergo -- I understand that artificial insemination is a more controlled process, but it still depends on a fertile mother, does it not? You can't control that, can you?

A We can't make that. No.

MR. MOORE: That's all.

THE COURT: Thank you.

I surely want to (Witness excused)

MR. INGRAM: We have just one recall for about three minutes of testimony, of Mr. Hall.

MR. MOORE: Is that going to be your last witness?

MR. INGRAM: No. I have one more.

THE COURT: What's the purpose of your

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recalling Mr. Hall?

MR. INGRAM: To cover one point I don't think was brought out, that I feel would be of interest to the Court. I can get it through some other witness.

MR. MOORE: I don't really have any objection to this, if you want to hear it.

Whereupon,

JOSEPH E. HALL

was recalled as a witness and, having been previously duly sworn by the Clerk, was examined and testified further as follows:

DIRECT EXAMINATION

By Mr. Ingram:

270 Q Mr. Hall, you are reminded you are still under oath. You testified earlier, did you not?

A Yes.

271 Q I simply want to ask you if you will direct yourself solely and strictly to the time frame that we seem to be concerned with here, insofar as the Flow operation at Dublin goes. I want to ask you if you will relate to the Court in terms of quantity and cost perspectives the commercial materials, such as food, chemicals, bedding and other supplies that were used at that

time frame for the processing of these animals that we have discussed at some length here already.

A To the best of my ability, I will limit myself from the time period of '66 to '70. These comments will have that application.

Back during that time period, the payroll in the operation was something between 40 and 50 per cent of the total cost of the operation.

About 20 to 25 per cent of the total cost of the operation was in food and bedding for the animals.

We then and also we continue, up to this date, to buy food and bedding by the railroad carload, tons of it at that time.

Usually a carload of food and bedding now would last between four and six weeks, and we have to reorder.

272 Q Annual costs? of the food?

A In terms of the annual cost of the food, bedding, chemicals, and associated supplies back in those days, the number would have been in the neighborhood of the magnitude, I would say, of \$125,000 to \$150,000. That's a larger number today.

273 Q On an annual basis?

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A Yes.

274 Q I realize you don't have these precise figures, but this is an approximation on your part.

A Yes, sir.

MR. INGRAM: That's all.

CROSS EXAMINATION

By Mr. Moore:

275 Q Mr. Hall, you say that annually, during that time period, you had \$125,000 expenditure for the items we have in question here.

A Yes.

276 Q I'm curious as to how come the sales tax assessment is so low.

A I can't speak as to why the sales tax assessment is what it is.

277 Q Did the Tax Department give you exemptions for some of the use of some of the food?

A No. In 1970 the Sales Tax Department, their auditors, estimated -- well, they estimated our usage was running at about \$10,000 per month. That would be \$120,000.

The reason I say estimated, this audit was performed on a sampling. They came in and took what

hopefully was a valid sample and extrapolated that.

278 Q You didn't have records for them?

A Yes. We had records.

279 Q But it was just a sample for their own convenience?

A To expedite it.

280 Q It was true, and I've been led to believe, at some point you were buying mongrel dogs and treating them and then reselling them.

A That's true..

281 Q You got an exemption for those dogs, did you not?

A In one of the letters we discussed earlier, the Tax Commissioner stated that the purchase of those dogs per se would be exempt. Nothing like that with me. I don't recall if he had anything to say about the food that those dogs consumed, etc. Nothing on a very wide MR. MOORE: That's all.

THE COURT: Let me ask you this, please: In your discussions with the representative from the Tax Commissioner's office and all, and visits, these exhibits that Dr. Irwin testified about, this blood and so forth, was that discussed with the tax people? Did you

bring that to their attention?

THE WITNESS: We certainly described our business to them. Yes. I would say the answer is yes.

In terms of the exhibit, no. I have no recollection of that before now, actually presenting exhibits.

THE COURT: But it was discussed with them.

THE WITNESS: I'm sure it was.

By Mr. Moore:

282 Q. Do you have any correspondence or anything between you and the Tax Department, from the Tax Department, indicating that these matters had been discussed before, any kind of indication or evidence?

A. No. I don't have anything like that with me. I don't know that anything like that exists.

But, you know, I think you are touching on a very vital point, if I may add.

MR. MOORE: No. You don't have to.

MR. INGRAM: I think he has a right to explain his answer.

THE COURT: Yes. Go ahead.

THE WITNESS: We are a laboratory animal

operation. In my mind the sales department, the Sales Tax Department, has attempted to say, "That is something very simple, very straightforward, and consists of only one very simple operation".

That is not true. We are a part of a very large industry, the biomedical industry, and we are a very important integral part of that industry, and in that industry laboratory animals are the starting place or the starting place for many, many products that are used for many, many things. And that's what we do and what we have always done.

To say we simply breed a mouse is just a gross oversimplification.

THE COURT: Do you want to ask him anything further?

We'll leave the arguments to opposing counsel.

MR. MOORE: No. (Witness excused)

THE COURT: How long will your next witness last?

MR. MCCARTHY: I wouldn't expect him to be more than -- it depends on what the witness has to say,

but not more than ten or fifteen minutes.

THE COURT: Let's hear it.

How about your cross examination?

MR. MOORE: It depends on what the witness has to say.

Whereupon,

F. W. CLAYTON

was called as a witness and, after having been first duly sworn by the Clerk, was examined and testified as follows:

DIRECT EXAMINATION

By Mr. McCarthy:

283 Q Dr. Clayton, would you be kind enough to tell the Court your name and address?

A Yes. F. W. Clayton, 19116 Rhoades Way, Gaithersburg, Maryland.

284 Q Doctor, what do you do for a living?

A I'm employed by the National Academy of Science in Washington, D. C.

285 Q What do you do there, sir?

A I'm a staff officer. As you may know, the Academy operates by appointing committees of knowledgeable people around the country to discuss a subject under a

question and then write reports. We are now writing a report on the office of pesticide programs for the Environmental Protection Agency, EPA.

286 Q Prior to the time you became affiliated with the National Academy of Science, what were you doing?

A I had a career in the U. S. Public Health Service, and I retired at the National Institutes of Health.

287 Q What did you do for NIH?

A I was in the toxicology branch of the National Institutes of Health.

288 Q Doctor, what is your educational background?

A I received a degree in veterinary medicine from Ohio State University, and I have two Masters degrees, one from Tulane University and one from the University of Missouri.

289 Q Where did you do your undergraduate work?

A At Ohio State University.

290 Q After your graduation from those educational facilities, what consumed your time and energy?

A I was in the practice of veterinary medicine

in a rural section of Ohio, up until the time I was recalled by the Air Force during the Korean incident.

291 Q What happened, then, sir?

A Then I was commissioned in the veterinary corps in the United States Air Force, and I had various assignments, involving sentry dogs and dog research on a disease of them called heart worm and different assignments.

292 Q What kind of background or experience have you had in the industry of raising, breeding and production of animals; that is, laboratory animals?

A Only on a transcendental basis. I have been involved in using animals in research, and also used wild caught animals. This is generally speaking the type of contact I've had.

293 Q How long were you involved with the use of laboratory animals?

A It wasn't a continuous use all the way through, but I'd say approximately ten years.

294 Q What positions or offices do you now hold or have you held in advisory councils and honorary affiliations of a professional sort?

A I was elected to an advisory council to the American Veterinary Medical Association, which is our

national professional organization in Chicago, and I served for ten years on this advisory council.

I've had some other short term offices in the professional organizations. About twenty years altogether in various offices of this type.

295 Q Have you had any business experience or affiliation with either Flow Research Animals, Flow, or any of the corporate entities involved in today's litigation?

A No. I have not.

MR. MCCARTHY: I would like to make a proffer that Dr. Clayton would qualify as an expert witness in the area.

THE COURT: Is there any objection?

MR. MOORE: No objection.

By Mr. McCarthy:

296 Q Dr. Clayton, are you generally familiar with the activities testified to here this morning?

A Yes. I sat through and listened to everything. Of course I've had some experience in some of these areas in the past.

297 Q Based on that experience, could you give us and the Court some sort of brief synoptic overview of

the industry?

A The field of laboratory animal medicine is rapidly involved or evolved as a specialty group in the field of veterinary medicine for the graduate veterinarians.

There has been increasing sophistication all along the lines. For example, the National Institutes of Health's established guidelines are that anybody who gets grant money from the NIH, and that's where most of the biomedical grant money comes from, must follow an established set of guidelines that they have set up, and I have a copy of the guidelines here. This deals generally with the humane treatment of animals, accreditation of the facilities the animals are used in, accreditation of the people who do the research, and this sort of thing, so that everything is done on a high level reproducible basis.

298 Q Basically from what you've heard testified to here this morning by the various principals, and experience connected with the breeding, operation and production facilities at Dublin, and based upon your own rather considerable expertise and experience in this field, would you feel that you could distinguish the type

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of animal processing that was described in today's testimony between the periods of '66 and '70, as distinguished from normal animal husbandry of the barn-yard variety?

A Yes. Most definitely. As I mentioned, there are certain guidelines, and I forgot to mention a law. There's an animal welfare act administered by the U. S. Department of Agriculture, that governs the maintenance and care that these animals receive, and of course the training of the people at the facilities they are kept in, and that sort of thing.

Q So this industry has evolved a long way, and has become very sophisticated. We have special genetic strains of animals.

A For example, one mentioned here is a strain that belongs to the United States Department of Agriculture, which goes back over thirty years. These animals have a previous position to becoming obese and having high levels of cholesterol and triglycerides in their blood.

299 Q You mean by breeding?

A Yes.
 Q So they've been doing research for over

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thirty years now on these animals. And it's necessary they have the same type of animal, so the research they do now and in the future will correlate with the research done in the past.

This is studying human nutrition and has a direct bearing on the cardiovascular disease and the heart attacks and so forth, that is the number one killer of American men.

So you can see that you have to be very careful that you maintain this strain of animals, so you can correlate this work and continue to make progress and find out new information as time goes by.

Q So that the scientific data that the customer ultimately produces, who in this case is probably you, would be valid.

A That is true.

Q In addition to breeding, what sort of activities are expended by way of processing of that animal that would distinguish it from the pet shop variety or the garden variety that one of my kids might have?

A In addition to breeding, of course the maintenance of a disease free state is very important.

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You wouldn't want to introduce animals into a large laboratory that would spread disease, and not only kill these animals, but other research animals that are being kept there.

There's another angle that hasn't been emphasized here, and that is the fact there are many diseases that are transmissible from animals to man.

Of course you always want to be sure that you're dealing with a uniform genetic stock, that you have a disease free entity, that it comes in a certified laboratory, and they can attest to the fact they are doing these things, and this was brought out this morning, as other laboratories do.

They are replacing defective animals or diseased animals, or whatever.

You can't do this unless you are a certified breeder, and you're doing everything in an approved manner.

Q In other words, if you were in that capacity as an ultimate customer for your product, if we had to have done what we did, you might be expected to some risk being here, or harm or disease.

A That's possible.

303 Q Has that ever happened?

A Yes. There have been research people die from getting infections from laboratory animals.

304 Q Is there any other way that you would feel comfortable in distinguishing the species that we're involved in in testimony today from the kind that we would submit maybe God would have intended had nature not been altered, either genetically or by processing?

A One thing comes to mind that was mentioned earlier this morning. Something was said about nude mice. There is a genetic strain of nude mice, which are also immunologically deficient. In other words, you can take a tumor from a person and transplant it to that mouse and he does not have the normal rejection mechanism. Therefore, you have a living laboratory to study a tumor or cancer from man. generations in one year.

305 Q You mean that's been bred so that it would have that, and processed so that it would have that capacity? What would happen if you, for instance,

A Yes. It just so happens that in the genetic makeup, the two factors are closely allied, so the lack of hair on this mouse and the lack of a thymus gland means that therefore the mouse is immunologically

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deficient. He doesn't have a rejection mechanism.

You have all heard of the rejections in transplanted hearts. Here is a wonderful break-through.

Another one that comes to mind is the fact that leprosy disease has resisted much advancement over 75 years because there wasn't any laboratory animal you could actually use the organism or grow the organism in. They have now found out the armadillo, a strange little animal, will maintain the leprosy organism, and it has taken many years. So they are now able to do research, and they will probably come up with a vaccine as a result of the break-through.

306 Q You talk about this research going on for years and years and years. We talked to you earlier, and you heard testimony about the fact that in a mouse, for instance, you have four or five generations in one year, and this ongoing research progresses to a point of some sort of conclusion or completion.

307 Q What would happen if you, for instance, anywhere along the line, if the animal breeders, if Dr. Avery Irwin didn't do his job, and was slipshod in the manner in which he performed it, or if somewhere along the processing line the technicians became --

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MR. MOORE: I don't see the relevancy of this.

THE COURT: Would you tell us what it is?

MR. McCARTHY: Yes, your Honor. The State has continued to maintain that we do nothing, and we continue to maintain we do an awful lot by way of an end product being substantially different. The question I was going to ask him was if he did introduce a product which was not sufficient, what would happen to the ultimate laboratory operations?

THE COURT: The State I don't think has said you didn't do anything, or claimed you didn't do anything. They just said you didn't come under the exemption.

MR. McCARTHY: They stated we start out with a mouse and end up with a mouse and there wasn't too much for it.

MR. McCARTHY: I have no further question.

By Mr. McCarthy:

307 Q If it ultimately got to you and the laboratory, what would happen to your many years of experimentation if he did in fact introduce some species that was not up to either genetic or processing standards?

A For one thing, you couldn't have reproducible

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results, and this is a very important feature, that somebody were to report research done somewhere, and maybe it is very spectacular. But until it is reproduced in other laboratories and so forth, people tend not to give much credit to that.

In some cases you would just stop the progression of new information coming out on this particular line.

If you didn't have this mouse that had the high levels of cholesterol that I mentioned earlier in the blood, then you couldn't do work that continues to find new things and develop new progress in this area.

Of course you could lose your business, if you were the laboratory and you couldn't furnish the animal they specified. They wouldn't want to buy any more animals from you, either.

MR. MCCARTHY: I have no further questions.

MR. MOORE: No questions.

THE COURT: Thank you, Doctor.

(Witness excused)

THE COURT: Is there anything further on behalf of the Plaintiff?

MR. MCCARTHY: No, your Honor.

223

THE COURT: The Plaintiff rests.

Do you gentlemen want to recess for lunch?

MR. MOORE: I would prefer to, your Honor.

THE COURT: How long do you think it will take us? Can we be back by 1:45?

MR. INGRAM: Surely.

(Whereupon, at 12:55 p.m., the trial in the above-entitled matter was recessed, to reconvene at 1:45 p.m. the same day.)

By Mr. Moore:

Q Mr. Whitcomb, for the record, would you state your name and address, please?

A Arnold C. Whitcomb, Jr. 2207 E. 1st St., Norfolk, Virginia.

Q Where are you employed, Mr. Whitcomb?

A The Virginia Department of Education, State and the Tax Division.

Q What is your position with the State and the Tax Division?

A Since August of 1955 I have been in the position of the Tax Division for 224 days.

AFTERNOON SESSION

1:50 p.m.

A THE COURT: You may continue.

MR. MOORE: Mr. Whitehead has not been sworn.

Whereupon,

RUSSELL C. WHITEHEAD, JR.

was called as a witness and after having been first duly sworn by the Clerk, was examined and testified as follows:

DIRECT EXAMINATION

A By Mr. Moore:

308 Q Mr. Whitehead, for the record, would you state your name and address, please?

A Russell C. Whitehead, Jr., 2200 Lockwood Court, Richmond, Virginia.

309 Q Where are you employed, Mr. Whitehead?

A The Virginia Department of Taxation, Sales and Use Tax Division.

310 Q What is your position with the Sales and Use Tax Division?

A Since August of '73 I've been supervisor of the audit section for the Sales and Use Tax Division.

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311 Q Could you tell us what you did prior to your taking your current position?

A I came to the Department in November of '67, and up until July of '71 I was responsible for registration and conveying tax policy to various taxpayers that would write in.

From July of '71 until August of '73 I was assistant chief of field operations.

312 Q As assistant chief of field operations, what essentially were you doing? What activities were you involved in?

A Reviewing contested audits and conveying tax policy to auditors, guidelines, how to conduct the audit.

313 Q So in your position with the Department of Taxation, the Sales and Use Tax Division, have you had, and especially in your audit capacity with respect to the performance of audits, have you had to familiarize yourself with the Department's conception and interpretation of exemptions contained in Section 58-441.6 for industrial materials?

A Yes. I have.

314 Q Are you familiar with the audit we have in

question here, the audit of Flow Research Animals for the period 1966 to 1970?

A Yes. I am.

315 Q Would you tell us, Mr. Whitehead, essentially -- I'll ask you to open your Code I notice you brought up here with you and tell us how you interpret the language down to the semicolon after "finished product". How do you interpret that industrial material exemption? I mean how do you understand or what do you understand the Department's interpretation of that language to be?

A It's an industrial operation. The Department's interpretation has always been that it conveys an assembly line technique with a variety of machines providing or performing or comingling raw materials or treating them in some fashion so as to have a significant transformation or change in the ultimate product, from what it previously existed as.

MR. INGRAM: I purposely didn't want to interrupt Mr. Whitehead. I just want to make it clear that it's fine for him to give an interpretation, but of course ultimately that interpretation is the reason we're all here. There's a real disagreement. So as far as the reasoning or rationale behind the audit and the

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assessment, fine. He is certainly entitled to that.

But as far as the validity of that interpretation --

THE COURT: I think the Court understands the ultimate interpretation comes from the Court. But I can understand what Mr. Moore is doing.

MR. MOORE: The law in Virginia in such matters as this is such that the interpretation of tax officials charged with their administration is given great weight.

THE COURT: I understand that's where you're going.

By Mr. Moore:

316 Q I have a document entitled "Sales and Use Tax Circular No. 1", which deals with the industrial exclusions. This Sales and Use Tax circular was promulgated in 1971, which I realize is after the period of the audit. But, nevertheless, I would ask you to state whether or not the language in the first paragraph would constitute the Department's position during the period of this audit from 1966 to 1971?

A Yes.

317 Q Would you please read it, also?

A The third paragraph or the second paragraph?

318 Q The third paragraph.

MR. INGRAM: Excuse me again. I certainly don't want to be discourteous to Mr. Moore and Mr. Whitehead, but I think it would be inconsistent not to make note of the fact, and by way of objection at this point, or at least to put it in the right perspective, that Mr. Whitehead, as I understand it, has only been with the Department since 1973, and for the same limitations that we've tried to work in, in the assessment period, which ceased in '70, I assume that what he would know would be hearsay in the same vein that Mr. Moore objected to. All right.

THE COURT: I understood he had been with the Department since -- was marked for identification

THE WITNESS: Since '67. (evidence.)

MR. INGRAM: I beg your pardon. But that still doesn't go back to the whole frame of the time in question. The facts are promulgated by the Department of

THE COURT: I understand.

A THE WITNESS: "All tangible personal property used or consumed in non-industrial operations and non-exempted

elsewhere is included in the definition
of 'sale at retail', etc., and is
subject to the Virginia Sales or Use
Tax."

In essence all we've done is reduced to
writing there what the position was that we had always
taken since we opened the doors for sales tax purposes.

MR. MOORE: I'll introduce that as
Defendant's Exhibit No. 1.

THE COURT: Any objection?

MR. INGRAM: No objection.

THE COURT: That will be marked as
Defendant's Exhibit A.

Is required under the act (Defendant's Exhibit No. A

A. It is now marked for identification

and received in evidence.)

By Mr. Moore: Are you familiar with the

319 Q: Are you familiar with the rules and
regulations which are promulgated by the Department of
Taxation?

A: Yes.

320 Q: Are they dated July 1, 1969?

A: Yes, sir.

321 Q Which revised the rules and regulations originally published in 1966?

A That's correct.

322 Q Section 1-63 I will ask you to turn to. Would you tell us what that regulation does, please?

A Well, it interprets the first paragraph of Section 58-441.6, and it defines and breaks out the industrial manufacturing or processing as falling into three categories: Administration, production and distribution, administration and distribution being clearly taxable activities, and the production being the only area where the exemption applies.

323 Q Would you please read for the Court what is required under the definition of "production"?

A It defines production:

"Includes the production line of the plant starting with the handling and storage of raw materials at the plant site and continuing through the last steps of production where the product is finished or completed for sale and conveyed to a warehouse at the

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production site. Equipment and supplies used for production line testing and quality control are classified as production items."

324 Q In conducting the audit of Flow Research Animals, in view of the fact that Flow Research Animals claimed this exemption provided for in the language already discussed, beginning in the first part of Section 58-441.6, down to the first semicolon, did you or did the Department use this regulation and the language you've read in determining whether or not the taxpayer would be eligible for the exemption?

A Definitely.

325 Q Why did you determine that the taxpayer was not eligible for the exemption?

A We haven't seen any production line or assembly line with a variety of machines performing a series of functions where raw materials are altered or changed substantially to come up with a new and different product.

As Mr. McCarthy says, we think they started with a rat and ended up with a rat.

MR. MCCARTHY: I told you that's what they

said, your Honor.

By Mr. Moore:

326 Q In applying this statutory language and the regulation promulgated thereunder, how does the Department determine when a processing exemption would be available to a taxpayer? What sort of process do you go through?

A We just start out by looking at what is being done. Here again I'm repeating myself, I guess. You look at the total picture and say "Has there been a sufficient change in the product, and does he have that assembly line, production line situation, where he's running something through and ending up with a sufficiently changed product?"

327 Q Just so that the Court would have an understanding, and the Plaintiff, of where processing exemption might be available -- I say a processing exemption. In a situation where maybe there would be involved a non-manufacturing function, because here we're not talking about manufacturing. We're talking about processing. Could you give the Court an example, please?

A I guess probably a good example would be a meat processor, someone that would take a live hog, cattle,

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whatever, and slaughter it and process it all the way through an assembly line process and end up with a Virginia Ham, or a T-bone steak, hamburger, or whatever. Something of this sort.

328 Q Mr. Whitehead, you heard testimony this morning that aside from the operations in question, or at least what we thought -- besides the breeding of animals, the taxpayer during the time in question was also involved in producing certain products from blood of animals, and I think essentially that was it. Have you ever heard of this before?

A My first time to hear it was this morning. We never heard anything of it until today.

329 Q And you have stated already -- I want you to reiterate -- you are entirely familiar with this audit of Flow Research Animals?

A Yes... I am. The auditors made no comment of any processing of blood in any way, shape or form. All the correspondence that's passed back and forth, which has been extensive, has nothing in any of it to indicate there's any processing of blood.

330 Q I'm going to anticipate a question that's going to be asked by the Plaintiff in cross examination,

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but if it had been brought to your attention that such an activity was going on, what are your thoughts about whether or not Flow Research would qualify for an exemption concerning that activity?

A Of course we would want to go and look at the operation very thoroughly, to see exactly what's going on.

But I noticed one of the items I believe Dr. Irwin was discussing, where there was sheep blood, something was taken away rather than added. There wasn't anything added to it at all. They just took blood and took the coagulant out of it, and you really had the same thing less something that they started with.

I would be inclined to say that wasn't processing there.

But as to some of the other things they do with respect to blood, I would want to take a good hard look at it. It's possible, but I wouldn't want to make a determination without giving it a good hard look.

MR. MOORE: I have no further questions.

THE COURT: Cross examine.

CROSS EXAMINATION

By Mr. Ingram:

331 Q Mr. Whitehead, I probably got my time frames wrong, but you've only been in your present job, which brings you here as a witness today, since 1973. You had another job in the --

A Basically the job before that was assistant chief of field operations, which is essentially the same thing, dealing with contested audits and furnishing guidance to the auditors. That began in July of '71.

Prior to that I was dealing with the same statute and the same items, but I was conveying tax policy. You would write in and ask a question and I would give you the answer.

332 Q What I'm saying, in the area that concerns us today, you've been in it since '71?

A That's correct.

333 Q So I'm about half right in what I originally thought, in that you hadn't at the time affected by the audit in question been involved in the type of work.

A No. I was not involved in the audit end of it at the time the audit occurred.

334 Q So everything you know about the assessment at that time and the determination by other personnel in your department has really come to you second-hand?

A No. In order to audit the periods in question you couldn't audit it until after the period. The period went through September of '70. You couldn't audit it until sometime thereafter. I was in the audit section at the time this was going on.

335 Q Did you participate in the audit?

A No. I did not. I did not participate.

336 Q I'm having trouble, but my original premise is right. You had nothing to do with the audit in this case, and only afterwards did you look back on the determination reached by someone else in your department?

A No. I was there in the section that was involved in the discussions. But none of the letters are mine, if that's what you're driving at.

337 Q I know you're now involved in that, and I know you have been since '71. But my question is -- I have the notice of the assessment dated December 10, 1970.

A Right.

338 Q You weren't, yourself, involved in the type of work at that time.

A No.

339 Q So as far as this particular audit goes, other than the fact it was done in a section with which you later became associated, you had actually no direct involvement?

A I did not furnish the auditors any guidance in this particular audit. No, sir.

340 Q The conclusion was reached before you ever became involved in the matter at all.

A No. I wouldn't say so, because when you are dealing with a contested audit -- the letter was written in the latter part of 1970, saying "This is what you owe".

As you well know, when you are dealing with a contested audit, it drags out over a period of a year or so, and I was very much involved at the time when the argument was going on back and forth.

341 Q But when the decision was made, and the audit occurred in 1970, you were not even connected with the section.

A I agree with that.

342 Q I'm not asking you if you haven't taken the cause up when it came time for you to do so, to perpetuate the decision someone else made. But you did not

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participate in the original making of that decision.

A. No. Not in the original. No, sir.

343 Q Have you ever been on the premises of
Dublin --

A. No, sir.

344 Q You have never, then, witnessed the
operation out there?

A I have not.

345 Q I take it, like probably some of the rest
of us, in the context of today's hearing, this is the
first time you have actually been given a full and rather
detailed insight into the unique operation they have
there.

A Other than the correspondence. That's
correct. And discussions around the office.

346 Q Would it be fair to say the correspondence
leaves a little something in the description of what goes
on out there, which is considerably enhanced or --

A Naturally it's not as detailed as the
pictures.

347 Q Do you feel more familiar with the operation,
I would hope, now that you've heard the testimony today?

A I would say somewhat.

348 Q Would you not be willing to concede that this is a unique operation in terms of what we have in the Commonwealth of Virginia, of like or kindred nature?

A I think there is at least one other in the Commonwealth of that same nature.

349 Q If you have two in the Commonwealth -- do you know of any others? I mentioned one other, Hazelton, in northern Virginia. Do you know of any others?

A No, sir.

350 Q Would you concede to me that if only two in the whole Commonwealth of Virginia of this type of industrial situation exists, would you not consider that fairly unique?

A I wouldn't concede that it's an industrial operation, but if you could say "Two", I would say that would be somewhat unique.

351 Q In other words, you're talking about numbers and the nature of the operation, whether you concede it's industry or not. I understand that. I don't expect you to concede that. That's not why you're here.

Did you participate in any of the conferences when perhaps Mr. Hall or other personnel,

perhaps the attorneys, joined with the tax people in the audit?

A No, sir. I did not. I was in some of the discussions, preparatory to the conference, but I did not sit in on the conference.

352 Q So the information that you really have, and I don't mean to suggest anything wrong with this -- I know how big offices and things have to work. But you really have not been directly involved in much of what transpired to bring us to this point in time.

A To the sense that I wasn't involved in the conferences, I'll agree to that. But I was well aware of what was going on.

353 Q But that was what was imparted to you by someone else or what appeared in the correspondence which you reviewed?

A Yes, sir. Discussion back and forth in the office.

354 Q Beyond that, you never witnessed the production or the processing that we call production and processing that went on there.

A That's correct.

355 Q I don't know whether it's a fair question or

not, but I know you will treat it fairly. Don't you agree that some of the slides that you saw today, if they are valid, and referrable to the time frame which concerns us, concerning this operation, appear to be production line techniques?

A No, sir. I certainly don't. Except with the possibility I would want to look at the blood situation a little bit more.

But I wasn't impressed with anything I saw, other than that.

356 Q I guess I asked too much to expect you to concede, but I find it hard to -- you talked about the sheep blood. You even questioned whether or not that's processing. Did you know that this alsever's solution was added to that?

A I understood the one there, something was taken away. At least Dr. Irwin explained it that way. It wasn't my understanding that something was added.

357 Q Something was added to the process, too. Did you miss that?

A If that's true. Like I say, I would want to look at the whole situation to make a determination as to whether that qualifies, because this, as your people

have testified, was a very minute thing back in the period that we're talking about.

358 Q Of course all industries, technologically and under the requirements of the federal government and OSHA and things are all in the state of transition.

A Absolutely.

359 Q Obviously what they did during the contested period it seems they are doing more in size and scope and scale, and obviously that would make a big difference on the tax dollar.

MR. MOORE: I object. Again we're getting outside the scope of the period in question.

MR. INGRAM: I'm just trying to talk about the evolution of something that began, which is the point I tried to make earlier. I think this is important and relevant as to what we had to begin with. If it's evolving and keeping pace with other industry types or other similar types of processing, if you will, then that shows the normal evolution, which we contend enhances the claim for an industrial operation. I only mention it in that light.

THE COURT: I don't see where it would shed any light on what the situation was back in the period of

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the audit, and I would sustain his objection.

By Mr. Ingram:

360 Q I'm intrigued with your reading of the regulation.

A Yes. Rules and regulations.

361 Q That's an interdepartmental rule and reg?

A No. That's a publication. We'll be glad to give you one.

362 Q The one point I want to ask you to comment on, and correct me if I misunderstood you, is that equipment and materials, in this case let's talk about materials, used for testing and quality control are classified as production items.

A That's right. In an industrial operation, it would be.

363 Q Let's forget the point just for a minute. I know that troubles you.

A That's a tough point to forget.

364 Q But if the processing in the very nature of the operation which goes on at Flow Laboratories, which all of us have seen in some detail here today, qualified as an industrial production or processing, and I understand you have to adhere to your position, would you not concede

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that the materials used, and of course you've heard the vast amount of materials and food, bedding, chemicals and quantities, train carloads, would you not concede that insofar as they have an input in the testing and quality control aspects of that operation, which I won't ask anybody to repeat, but you've heard, would you not concede that then crossing the first barrier, they would be classified as production items?

A Right. If we could concede that it was an industrial operation, then any quality control aspect would --

365 Q You don't doubt they have quality controls on whatever you classify. You don't contest that point, do you?

A You're testing blood. It's a question of whether it's a check of some sort. I'll have to agree.

366 Q If it's going to be used by the National Institutes of Health, and the Sloan-Kettering laboratories, I assume we can all accept the fact they have to have pretty stringent and rigid standards. Then we know the USDA and other protocol guidelines affect us all in some way or other. Those controlling items you would concede would mean that quality control is a necessary element of

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operation.

MR. MOORE: Again I feel this is irrelevant. We don't have the question of quality control items in the audit. I don't see what the relevancy of this is.

MR. INGRAM: The whole thing is quality control. When you grow a mouse to a certain weight and when you put him in a cage and give him certain bedding and certain chemicals to get him to the point where he's a certain strain and acceptable for the contract with Sloan-Kettering, then all of this is the -- if we are valid in our contention, this is an integral part. You call that quality controls or testing. What else is it? There's nothing else. There's no other way you can call that, if we are valid in the first premise.

THE COURT: Yes. If you get across the first premise, that is possibly so. I'm going to overrule your objection.

By Mr. Ingram:

367 Q Do you doubt that a mouse or a rat which does not meet contract specifications for, say, Sloan-Kettering laboratory for a precise purpose, on a purchase contract, 2,000 or 3,000, whatever the audit shows -- do you doubt that if those mice are defective in some way so

that they don't meet the contract, that there would not be recourse?

A. You're not producing for sale, if you don't sell them. That's one of the requirements of the industrial operations.

368 Q It doesn't trouble you, then, the concept that if you produce something that is defective and not to specification for the customer's requirements by contract with Sloan-Kettering, as an illustration, then you've got a defective product.

A Right.

369 Q And your contract is breached.

A. Do you have any real trouble -- I might have before I knew what this was all about -- but do you have any real trouble now conjuring logically in your mind if something breaks down in the processing of these mice so that they become defective or ill-equipped or ill-bred for the purpose for which Sloan-Kettering has contracted their purchase, that you would have a breakdown in the sale of those products as the end result?

A. If you can't sell them, you know, you don't meet the language of the exemption.

370 Q It wouldn't be much different than if

General Motors put a Chevrolet engine in a Buick. You're not getting what you order. And the end result is you've got a defective product.

A I agree.

371 Q It doesn't trouble you, then, the fact the product in some cases here is a living and breathing animal as opposed to a gasoline consuming automobile that you can still have in principle a defective condition on the retail?

A Yes. You can have a defective condition.

372 Q And yet you were trying, understandably, I suppose, to analogize the operation that you've seen in rather good depth today, I think, to a meat processing plant, such as Smithfield Hams, where you take a hog in and kill it and cut it up into sections and take it down to the butcher or the meat cutter and he sells it.

A Right.

373 Q You have trouble, do I understand, then, in detecting the considerable difference in quality controls and in the genetic controls that go into the animals at the Dublin Plant, as opposed to something eatable, such as a Smithfield Ham?

A Right. I certainly do. I think processing

in an abstract sense can cover a multitude of things.

But in an industrial operation I just don't see it.

374 Q I know you're hanging on to your original premise. But would you agree that what they make or what they produce or process down at Dublin is not made for human consumption?

A No. It's not for human consumption.

375 Q Do you know that your illustrations only involve hamburgers, hot dogs and hams, something intended and designed for human consumption?

A Okay.

376 Q Vis-a-vis Golden Skillet. You are familiar with the case.

A Right.

377 Q That's fried chicken. Is it possible that

A Right.

378 Q But mice, whose by-products of blood are used in research to grow cultured growth, in some cases whole blood is used, dogs who are under controlled conditions for heart and arterial research, you tend to lump in the same category.

A Well, we're talking about industrial

operations here. We're not talking about research.

379 Q I'm talking about the very nature of the product.

A You're getting into the blood situation.

It's conceivable if we look at that, we might have a different point of view. I don't know.

380 Q The strain of mice that Sloan-Kettering needs to work in a cancer research problem, or leprosy, if they happen to be the nude mice, you have trouble with a distinction between that and the Smithfield Hot Dog or hamburger or ham and the Golden Skillet Fried Chicken?

A I certainly do. I think unless we are prepared to call every kennel in the state an industrial processing operation, that --

381 Q Does a kennel -- what does a kennel do?

A They go to great lengths to breed blood lines as well. We've yet had one to argue that he was an industrial operator.

382 Q That's animal husbandry.

A You've got animals, too.

MR. INGRAM: That's all.

REDIRECT EXAMINATION

By Mr. Moore:

383 Q Mr. Whitehead, for the record, Mr. Ingram has asked whether or not you intended to make an analogy between Smithfield Hams and these mice that are being raised.

As I recall your testimony, you gave the example of the Smithfield Ham from the hog to show what was processing, as opposed to what is not processing.

A That's true.

384 Q So you were trying --

MR. INGRAM: I object to the rehabilitation. I know we have some informality in it. I do think he's trying to rehabilitate the testimony of the witness.

THE COURT: I'm going to let him go ahead.

By Mr. Moore:

385 Q The point I was trying to make with my question was that you in no way -- did you intend to say that the production of Smithfield Hams is analagous to the production of mice?

A No. The question was, you know, what did I consider to be an example of industrial processing, and that's when I gave the example of processing a hog into a Virginia ham.

386 Q Mr. Ingram brought out the point there are

other taxpayers in Virginia that have a somewhat, although not many -- there's at least one other taxpayer in Virginia that has a similar operation, a similar type of process.

Does the Department of Taxation consistently apply the Sales and Use Tax law and regulations to all taxpayers situated like Flow Research Animals?

A Absolutely.

387 Q There is some confusion about your background as far as familiarity with the particular audit in question, and with the particular exemption in question.

You conceded that you were not actively involved in the audit. Have you reviewed the audit file?

A I have reviewed it and I was involved in the background at the time it was going on. I just never participated in any of the conferences.

388 Q You said you came to the Tax Department in 1967.

A That's correct.

389 Q In your work in the Tax Department at that time, did that work require a familiarity with the Sales and Use Tax law and the regulations and the exemptions to the Sales and Use Tax law, particularly the exemption we

have in question today?

A Yes. It did. I was conveying, answering letters to taxpayers about the same type of things back in '67, as much so as when I was giving guidance to auditors after '71.

390 Q One other point I want to bring out. We've got Sales and Use Tax regulations here that you read from that were revised in 1969. Do you know when the original regulations were published?

A In September of 1966, as I recall.

391 Q To your knowledge did the original regulations contain the same concept, the same definition of processing, within the scope of the manufacturing exception?

A Yes. I don't think there was any change to Section 163, which is the manufacturing processing section.

MR. MOORE: Please answer Mr. Ingram's questions.

RECROSS EXAMINATION

By Mr. Ingram:

392 Q Would you have rather not have used the Smithfield Ham illustration now?

A No. I think it's a good one, myself.

393 Q I will only ask this: Mr. Moore has asked you if your laws are applied uniformly, and I'm sure reasonably and consistently, to all kindred and like industries, such as Flow Laboratories. I know the intent is to do that.

A Right.

394 Q What I want to know is, were you aware until today of any other operation that paralleled or approximates what is happening out here in our county at Flow Laboratory Animals?

A Yes, sir. I was. I've written letters to one myself. I'm not at liberty to mention the name. But, yes, on the same subject, and they didn't have any problems with it.

395 Q You mean they paid the tax.

A They paid the tax. They asked the question was "fee" taxable, and I said, "Yes", and that was the end of it.

396 Q You think it is yet?

A I don't know. It's been several years since I wrote them.

397 Q How do you know it's the same or kindred

type of operation?

A Well, they are doing the same thing that you're doing.

398 Q You didn't know what they were doing until today.

A Yes, sir.

399 Q In terms of an indepth view.

A But since you've explained, I now realize the other one I wrote to, you know, they are doing very much the same thing.

THE COURT: Anything further, gentlemen?

MR. INGRAM: That's all I have.

(Witness excused)

THE COURT: Is there anything further, Mr. Moore?

MR. MOORE: No, sir. The defense rests.

THE COURT: Is that all?

MR. INGRAM: That's all we have, your Honor.

I hate to burden the Court, but would the Court entertain a few closing remarks in summary?

THE COURT: I would listen to closing arguments. What the Court would like to have, more than

that would be briefs. I've heard all the evidence and saw the slides and have kept my right eye on those little mice over there. I'd be glad to listen to it, but I would rather have a memorandum of law, and let me do a little research.

MR. INGRAM: I knew when Mr. Moore said "I'm sure you want briefs", that there we go. Not often lawyers volunteer briefs. But we all agree that --

THE COURT: I came back from lunch and looked at that Winchester TV case in there and I noticed that counsel gave Judge Robinson briefs, and it's on the same question, only that was on broadcasting.

MR. INGRAM: I think we all realize this caught you cold.

THE COURT: I have always tried to ignore that Title 58 in the Code. In twenty years of practice, I never got into that thing.

But I'd be glad to listen to oral argument.

MR. INGRAM: There may be one or two general points, while they're fresh in our minds, lest we forget them, and I think we can probably pull it together quite shortly.

THE COURT: All right. Go right ahead.

CLOSING STATEMENT ON BEHALF OF THE PLAINTIFF

MR. MCCARTHY: I'll be very, very brief, your Honor, because I will defer the basic legal arguments to a brief.

I said at the outset that I thought it was a simple case in the sense that 58-441.6 talks about industrial materials, processing, manufacturing, conversion, change.

I really think that up to this point, and believe it or not even after the whole day of this Court session, the Department of Taxation still maintains we are just another kennel.

I don't know what we can do to disabuse them of that, and I guess that's why we're burdening the Court with this day's activity.

I hardly can conceive of anything which could be termed more industrial, when we have all the slides and all the production facilities and two plants, and 85 to 100 employees, and a \$500,000 a year annual salary where we produce somewhere close to \$2 million worth of product.

We have by reason of what we have done to that product, as Dr. Knapp testified, that which would

normally sale for 15¢ apiece, a mouse, which sells for almost \$2 apiece, when you talk about the C-3-M mouse; where we have such exotic sorts of genetic manipulation, that you can produce everything from little mice rodent species that were exquisitely and extremely well suited for some particular sort of cholesterol tests or what have you, where you can genetically manipulate to the point where you have a Newfoundland dog who can't appropriate or sustain life and has to be artificially processed throughout; where you have all these products produced -- yes. They're saying, it's blood, and it is blood, and there's no question about it, because we argue Paragraph 4 incorporates and encompasses animal production processing to this point.

That's our business. That's how we term it. But if you really still seriously maintain that this is just another kennel facility, and every other kennel facility in the Commonwealth pays Sales and Use Tax on bedding, on chemicals, on feed, on medicine, then we should too, then I guess for some reason our effectiveness as communicators has been significantly ineffectual.

If you are to say that we start with something in life, something envivo, and end up with

something envitro, that's true. But in the same sense, if you start with actual hops and end up with a beer, that seems to be complete.

If you start with some mold and end up with pencillin, that seems to be conversion.

Like when you start out with a garden variety species and end up with exotic sorts of laboratory animals or products of something like that, that is used all over the world, and do it to the tune of almost \$2 million, it just seems to me that it just defies logic and reason, and it abuses all the common English usage that I understand to go for such a strained interpretation.

With the Court's permission, I'd like to supplement that oral argument with a legal brief on the point.

MR. INGRAM: We sort of had this thing worked out at lunch time. Mr. Gill has been here all day, and he has just a couple of words in terms of the presentation on this side.

THE COURT: Suppose we hear from Mr. Moore, and under the rules of practice, he can close.

MR. MOORE: I'll be very brief, also, your

Honor.

CLOSING STATEMENT ON BEHALF OF THE DEFENDANT

MR. MOORE: The State does not dispute the fact that Flow Research's method of operation is very sophisticated and is designed to produce a high quality mouse or rat.

What they do, from the testimony I've heard today, is take these rats which have already been developed by somebody else and certified to them as being of this quality; they breed the mice, come up with a baby mouse which they then produce, or they say they process into a full grown mouse.

Mr. Whitehead has explained the Department's position of what is required in order to be eligible for processing an exemption. You have to have an operation which is industrial in nature and whereby, in industrial nature, it contemplates assembly line, all production, as Mr. Ingram pointed out, type of situations, where a significant change is brought about in a raw material to come up with a final product.

The Tax Department, and Mr. McCarthy is exactly right, looks at this as a baby mouse which is given some food, given some medicine and grows up as a

full-grown mouse.

There is no significant change to that mouse after it's born. For that reason, the Tax Department, whose interpretation is entitled to great weight, has determined that Flow Research is not entitled to this exemption.

This blood processing business is a complete surprise to us, and I of course have objected to any testimony regarding that. But I want to point out that even if blood processing, if you somehow determine they can argue that in this case, is a different business than raising animals in the eyes of the Tax Department, or would be a different business, it's possible to have one company to have two different businesses, and maybe one of the businesses to qualify for an exemption and the other one not to qualify. I think that also needs to be brought to the Court's attention.

Flow Research talks about being a part of a sophisticated industry of producing these animals for research purposes. I think the use of the term "industry" is probably appropriate, but what we're talking about when we're talking about processing in the industrial sense, as I indicated and as is set forth in the rules

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and regulations, is here as production. It talks about a production line of a plant and taking raw materials through a production line and coming up with a finished product. That's the Department's interpretation of what this exemption is all about.

I would point to the definition of manufacturing processing, refining or conversion, which is found in Section 58-441.3P, and I will point out to the Court that this definition was adopted in 1973, and obviously would not be relevant to the time in question. But it is a verbatim or practically verbatim repeat of the language in the rules and regulations.

I believe the fact the legislature has given its stamp of approval to the Department of Taxation's interpretation of the exemption is entitled to some consideration, in showing that the Department's interpretation is reasonable.

Again, I think much of the testimony today -- it's hard for me to follow, because there wasn't a break-down between 1970, pre and post 1970. That's going to have to be determined.

I really don't have anything further to say at this time, except I look forward to developing our

legal theories and discussing the cases in the other jurisdictions which support our position, in our brief.

THE COURT: Thank you.

REBUTTAL CLOSING ARGUMENT ON BEHALF OF THE PLAINTIFF

MR. GILL: I'm reluctant not to preface my remarks by saying I'll be brief. A couple points I want to make: The first one, Mr. McCarthy gave me the idea, we mentioned the subject of beer. If I can make another analogy here, Mr. Moore is making the point, I believe, in the course of his argument and before, in the course of his cross examination of our witnesses, about the mother nature process that goes on here, and that mother and father get together and have a litter of rats, and that's a natural process, something which we are not entirely responsible for.

If I can make the analogy with beer, I believe we would all agree that beer is an industry, the beer industry, and yet do we not take natural ingredients and through nature processes they ferment, and out we come with a product?

I don't know what the Tax Commissioner's reaction would be to that, whether or not that's an industry. I clearly think it is.

But I think we cannot exclude the case today from industrial categories because it's relying on mother nature's processes.

The second point I wanted to make is that Mr. Moore has stated on numerous occasions in his opening argument, and just now, about the great weight to be given to the opinions of the Tax Commissioner.

I read all the cases, and I'm sure Mr. Moore has too, and we know what they're going to say: There is going to be some language in there to that effect, that there is going to be some dicta in there saying that the opinion of the Tax Commissioner is to be given great weight.

However, I feel maybe they're taking this a step too far. It seems that without any real knowledge of what's going on at our facility, they have come to an opinion as to whether or not we're an industry, and they're trying to have the Court believe that because they've come to that opinion, to some extent they are to be believed.

I just want to make the point on that, that each one of these cases, regardless of whose favor they're decided upon, either the taxpayer or the Tax

Commissioner, has to be decided on its facts.

We've been here today presenting facts to show that we're an industry, and I don't believe any of our facts have been rebutted.

We've had some opinion from non-industrial experts saying that we're not in industry. We've had some facts and opinions from people who are in the industry saying that we are.

I just want to make it clear to the Court that the case is to be decided on its facts.

These precedents which we are going to have are going to be of a limited value. I don't know of a case in Virginia which you can really analogize to our case.

We've had one that dealt with franchises in a chicken business and another in the cable TV business, and they've been relying on different exemptions, but none of them have come in here, and I think we may be prejudiced in this by some of these other cases, because, (1) we're unique. I think we all agree to that. There is no other business like ours around.

(2) these cases, not being on point, the dicta contained in those cases I firmly believe is not

applicable here, because it's not related to the fact that we're an industry, and that's the issue in this case, whether or not we're an industry.

Finally, briefly, I would just like to say in speaking about taxes, we're dealing here with a local industry, and a business which we've said before, as brought out in testimony, employs a number of people.

The company came in here a number of years ago under the belief they were an exempt business, and they find that exemption in jeopardy, to say the least, and I think the Court should give some weight to that fact of their original belief, and maybe their survival here is somewhat conditioned upon the outcome of this case, being a marginal business as they are, and the initial belief they had, and where it came from, should be greatly considered. Thank you. .

THE COURT: Thank you, sir.

Is there anything further, gentlemen?

I'll take it under advisement.

MR. MOORE: Do you want to set a schedule for briefs?

THE COURT: Off the record.

(Discussion off the record.)

THE COURT: Back on the record. Suppose counsel notify me when the record is received, and I will set times for briefs then.

(Whereupon, at 2:45 p.m., the trial in the above-entitled matter was concluded.)

I, Richard B. Daisey, a Certified Shorthand Reporter, do hereby certify that I did appear at the time and place specified in the caption hereof for the purpose of taking down in Stenotype Characters the matters set forth herein; that the foregoing is a true and correct transcript of the said matters; that the said transcript was transcribed into the English language by me and/or under my direction and supervision; that I am neither Counsel for nor related to any of the parties hereto and have no interest in the matter whatsoever.

Richard B. Daisey
Certified Shorthand Reporter

July 4, 1977

Date

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WITNESS	DIRECT	CROSS	REDIRECT	RECROSS
Joseph E. Hall	16	46	-	-
Dr. William A. Knapp	49	79	-	-
Dr. Avery M. Irwin	83	114	125 127	127 128
Joseph E. Hall, Recalled	129	131	-	-
F. W. Clayton	135	-	-	-
Russell C. Whitehead, Jr.	148	158	173	176

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XI.

CORRESPONDENCE RELATING TO DESIGNATION
AND CONTENTS OF APPENDIX

COMMONWEALTH OF VIRGINIA
OFFICE OF
THE ATTORNEY GENERAL
RICHMOND 23219

April 27, 1979

C
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P
Y

Joe A. Shull, Esquire
Dunaway, McCarthy & Dye
1835 K. Street, N.W.
Washington, D.C. 20006

Re: State Tax Commissioner of the
Commonwealth of Virginia
v.
Flow Research Animals, Inc.
Record No. 781323

Dear Joe:

The State Tax Commissioner, on behalf of the Commonwealth of Virginia, considers that parts of the record designated by Flow Research for inclusion in the Appendix are unnecessary for the determination of the issues presented and, in fact, violative of the Court's correspondence dated April 5, 1979, which specifically orders that the record printed in the Appendix be limited to those parts germane to the Commissioner's assignments of error 2, 4, and 5. These unnecessary inclusions are as follows:

Plaintiff's Proposed Findings of Fact,
pp. 1-17,

Defendant's Reply Memorandum, p. 1,

Opening Statements of Attorneys
(transcript pp. 1-15),

Certain Testimony of Joseph G. Hall
(transcript pp. 16-23, 29-37),

Joe A. Shull, Esquire
April 27, 1979
Page Two

Certain Testimony of Dr. Averty M. Irwin
(transcript pp. 97-118),

Certain Testimony of F. W. Clayton
(transcript pp. 135-137),

Certain Testimony of Russell C. Whitehead
(transcript pp. 158-173),

Closing Statements of Attorneys
(transcript pp. 180-190).

Those portions of the record designated by Flow Research reflect the entire transcript and, in fact, record of the case, in direct contravention of the Court's directive. Pursuant to Rule 5:36(b) of the Rules of the Supreme Court of Virginia, I am advising you of my disagreement with the above-mentioned designations.

The Commissioner will advance the cost of including these pages in the Appendix, and we can settle the cost at the conclusion of the case.

Sincerely,

John G. MacConnell
Assistant Attorney General

ae

cc: The Honorable Allen L. Lucy
Charles R. McCarthy, Jr., Esquire
Robert J. Ingram, Esquire



MARSHALL COLEMAN
ATTORNEY GENERAL

OFFICE OF THE ATTORNEY GENERAL
SUPREME COURT BUILDING
1101 EAST BROAD STREET
RICHMOND, VIRGINIA 23219
804-786-2071

May 9, 1979

Joe A. Shull, Esquire
Dunaway, McCarthy & Dye
1835 K Street, Suite 900
Washington, DC 20006

Re: Appendix in Commonwealth v.
Flow Research--No. 781323

Dear Joe:

In preparing the Joint Appendix in this matter, we are unable to locate Plaintiff's Exhibits #9-12 in the record transmitted by the circuit court to the clerk of the Supreme Court. I believe that these exhibits are the various slides shown at trial by Flow Research. Since Exhibits #9-12 are not part of the record nor susceptible to reproduction for inclusion in the appendix, they will not be part of the Joint Appendix I will be filing next week. If you can track down these slides, I will gladly tender them for the Court's consideration.

Please let me know if you have any questions.

Sincerely,

John G. MacConnell
Assistant Attorney General

sgs

cc: The Honorable Allen L. Lucy