



DIVISION OF CORPORATION FINANCE

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549-3010

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March 10, 2006

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Gregg M. Larson
Associate General Counsel and Secretary
3M Company
P. O. Box 33428
St. Paul, MN 55133-3428

Act: 1934
Section: _____
Rule: 14A-8
Public
Availability: 3/10/2006

Re: 3M Company
Incoming letter dated January 6, 2006

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THOMSON
FINANCIAL

Dear Mr. Larson:

This is in response to your letter dated January 6, 2006 concerning the shareholder proposal submitted to 3M by Dorothy Goldberg and David Goldberg. We also have received a letter on the proponents' behalf dated January 27, 2006. Our response is attached to the enclosed photocopy of your correspondence. By doing this, we avoid having to recite or summarize the facts set forth in the correspondence. Copies of all of the correspondence also will be provided to the proponent.

In connection with this matter, your attention is directed to the enclosure, which sets forth a brief discussion of the Division's informal procedures regarding shareholder proposals.



06027571

Sincerely,

Eric Finseth
Attorney-Adviser

Enclosures

cc: Leana Stormont
People for the Ethical Treatment of Animals
501 Front St.
Norfolk, VA 23510

66740

Gregg M. Larson
Associate General Counsel and
Secretary

3M Legal Affairs
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January 6, 2006

Securities and Exchange Commission
Division of Corporation Finance
Office of Chief Counsel
100 F. Street, N.E.
Washington, DC 20549
BY EMAIL: cflatters@sec.gov

RECEIVED
2006 JAN -9 PM 4:35
OFFICE OF CHIEF COUNSEL
DIVISION OF FINANCE

Re: *3M Company*
Securities Exchange Act of 1934 – Rule 14a-8
Stockholder Proposal of Dorothy Goldberg and David Goldberg

Ladies and Gentlemen:

This letter notifies the staff of the Division of Corporation Finance (the “Staff”) that 3M Company (“3M”) intends to omit from its proxy statement and form of proxy for 3M’s 2006 Annual Meeting of stockholders (collectively, the “2006 Proxy Materials”) a stockholder proposal (the “Proposal”) and statement in support thereof submitted by Dorothy Goldberg and David Goldberg (the “Proponents”). A copy of the Proposal and accompanying cover letter are attached hereto as Exhibit A. The cover letter states that Leana Stormont from People for the Ethical Treatment of Animals is the Proponents’ designated representative with respect to the Proposal.

In accordance with Rule 14a-8(j) of the Exchange Act, enclosed are six copies of this letter and its attachments. By copy of this letter, 3M notifies the Proponents of its intention to omit the Proposal from its 2006 Proxy Materials. Also pursuant to Rule 14a-8(j), this letter is being filed with the Securities and Exchange Commission (the “Commission”) no later than 80 calendar days before 3M intends to file its definitive 2006 Proxy Materials with the Commission. 3M agrees to promptly forward to the Proponent any Staff response to 3M’s no-action request that the Staff transmits by facsimile to 3M.

3M respectfully requests that the Staff concur in our view that the Proposal may be excluded from the 2006 Proxy Materials for the reasons set forth in this letter. To the extent that the reasons for omitting the Proposal are based on matters of law, this letter also constitutes an opinion of counsel that Rule 14a-8(j)(2)(iii) requires.

I. The Proposal

The Proposal requests 3M's Board of Directors to "...adopt and post an Animal Welfare Policy online which addresses the Company's commitment to (a) reducing, refining and replacing its use of animals in research and testing, and (b) ensuring superior standards of care for animals who continue to be used for these purposes, both by the Company itself and by all independently retained laboratories, including provisions to ensure that animals' psychological, social and behavioral needs are met. Further, the shareholders request that the Board issue an annual report to shareholders on the extent to which in-house and contract laboratories are adhering to this policy, including the implementation of the psychological enrichment measures."

II. Reasons for Exclusion

3M has already adopted and recently posted a summary of its Animal Welfare in Testing and Research Global Policy set forth below ("Animal Welfare Policy") on its website. The Animal Welfare Policy states in part, "3M is committed to the use of alternatives to animals when feasible and subscribes to the recognized principles of replacement, reduction and refinement." Accordingly, 3M has substantially implemented this element of the Proposal.

The Proposal also requests that 3M's Animal Welfare Policy ensures "superior standards of care" for animals who continue to be used for these purposes, both by the Company itself and by all independently retained laboratories, "including provisions to ensure that animals' psychological, social and behavioral needs are met." Further, the Proponents request "that the Board issue an annual report to shareholders on the extent to which in-house and contract laboratories area adhering to this policy, including the implementation of the psychological enrichment measures". We believe these additional requests render the Proposal vague and indefinite and beyond 3M's power to implement. For the reasons discussed below, I believe the entire Proposal may be excluded from the 2006 Proxy Materials.

A. 3M Has Already Substantially Implemented Part of the Proposal and Therefore May Exclude That Part of the Proposal Under Rule 14a-8(i)(10)

The first part of the Proposal requests that 3M "adopt and post an Animal Welfare Policy online which addresses the Company's commitment to (a) reducing, refining and replacing its use of animals in research and testing." Pursuant to Rule 14a-8(i)(10), a shareholder proposal may be excluded from a company's proxy materials "if the company has already substantially implemented the proposal."

A summary of 3M's Animal Welfare Policy was recently posted on 3M's website www.3M.com/sustainability and states:

3M is obligated to ensure that its products are effective and safe. At present, this requires the judicious use of laboratory animals in research and development of

some products. 3M is committed to the use of alternatives to animals when feasible and subscribes to the recognized principles of replacement, reduction and refinement¹. When animal studies are deemed necessary, there must be effective programs to ensure: animals are treated humanely, ethically, and in accord with accepted veterinary practices to promote their comfort and well-being; their use is scientifically justified; and their care and treatment are carefully scrutinized by an effective institutional animal care and use review process. One recognized means for demonstrating commitment to and achievement of a high quality animal care and use program is through accreditation by the Association for Assessment and Accreditation of Laboratory Animal Care, International (AAALAC).

3M will not knowingly conduct unnecessary studies involving the use of vertebrate animals. When testing or research activities involving the use of vertebrate animals are conducted or sponsored by 3M, the involved programs and facilities must meet or exceed all applicable standards and regulations governing the care and use of animals in research and testing as determined by 3M.

Under 3M's Animal Welfare Policy, all research at 3M involving animals must strictly adhere to three basic principles:

- Replacement – substituting alternative, non-animal procedures in place of live animal testing where feasible and scientifically justifiable;
- Reduction – minimizing the number of animals needed to obtain scientifically valid information; and
- Refinement – Developing procedures that improve the design and/or efficiency of the test, therefore reducing the distress or discomfort experienced by the animal.

Consistent with the Staff's position taken in *PPG Industries, Inc.* (avail. January 19, 2004) and *Woolworth Corporation* (avail. April 11, 1991), we believe that the first part of the Proposal has been substantially implemented by virtue of 3M's substantial compliance with the essential elements of the Proposal, i.e., by adopting and posting on its website a summary of its Animal Welfare Policy stating that "3M is committed to the use of alternatives to animals when feasible and subscribes to the recognized principles of replacement, reduction and refinement," just as requested by part (a) of the Proposal. Therefore, the first part of the Proposal may be excluded from the 2006 Proxy Materials,

B. The Proposal is Vague and Indefinite and Thus May Be Excluded under Rule 14a-8(i)(3) and Rule 14a-8(i)(6).

The second part of the Proposal's references to ensuring "superior standards of care" and ensuring "that animals' psychological, social and behavioral needs are met" render the Proposal so vague and indefinite that it may properly be excluded under Rules

¹ "The Principles of Humane Experimental Techniques", W.M.S. Russell & R.L. Burch, 1959.

14a-8(i)(3) and 14a-8(i)(6). Rule 14a-8(i)(3) allows the exclusion of a stockholder proposal if the proposal or supporting statement is contrary to any of the Commission's proxy rules or regulations. The Staff has consistently taken the position that vague and indefinite stockholder proposals are excludable under Rule 14a-8(i)(3) because "neither the stockholders voting on the proposal, nor the company in implementing the proposal (if adopted), would be able to determine with any reasonable certainty exactly what actions or measures the proposal requires." Staff Legal Bulletin No. 14B (Sept. 15, 2004). Moreover, a proposal is sufficiently vague and indefinite so as to justify exclusion where a company and its stockholders might interpret the proposal differently, such that "any action ultimately taken by the [c]ompany upon implementation of the proposal could be significantly different from the actions envisioned by the shareholders voting on the proposal." *Fuqua Industries, Inc.* (avail. Mar. 12, 1991). In addition, Rule 14a-8(i)(6) permits a company to exclude a stockholder proposal if it is beyond the company's power to implement. A company lacks the power or authority to implement a proposal and may properly exclude it pursuant to Rule 14a-8(i)(6) when the proposal in question "is so vague and indefinite that [the company] would be unable to determine what action should be taken." *Int'l Business Machines Corporation* (avail. Jan. 14, 1992).

On a number of occasions, the Staff has concurred that proposals requesting reports were vague and indefinite (and thus, excludable) when the proposals contained only general or uninformative references to a set of standards or criteria that would be applied under the proposal. For example, in *The Southern Co.* (avail. Feb. 23, 1995), a stockholder proposal requested that the board of directors take steps to "ensure the highest standards of ethical behavior" by employees serving in the public sector. The Staff concurred that this proposal was excludable under the predecessor to Rule 14a-8(i)(6) because the proposal was so vague and indefinite that the proposal was beyond the company's power to implement. In *Int'l Business Machines Corp.* (avail. Feb. 5, 1980), the Staff concurred that the company could omit under the predecessor to Rule 14a-8(j)(6) as vague and indefinite a stockholder proposal requesting a policy paper on "demonstrated affirmative responsibility." The Staff added that "the proponent does not define what is meant by 'demonstrated affirmative responsibility' anywhere in the proposal, and, as a result, it would be impossible for either the management or the stockholders to comprehend precisely what compliance with the proposal would entail." *Id.* Similarly, in *Alcoa Inc.* (avail. Dec. 24, 2002), the Staff concluded that a proposal calling for the implementation of "human rights standards" and a program to monitor compliance with these standards could be excluded under Rule 14a-8(i)(3) as vague and indefinite).

The Proposal's references to "superior standards of care" and "ensure that animals' psychological, social and behavioral needs are met" are vague and indefinite in the same manner as requests for reports on "demonstrated affirmative responsibility" (*IBM*) and "human rights standards" (*Alcoa*) and references to "ensur[ing] the highest standards of ethical behavior" (*Southern*). As with those proposals, 3M and its stockholders cannot determine with certainty what the Proponent is asking 3M to report on. For example, neither 3M nor its stockholders will know how to determine what constitutes "superior standards of care." Must the standards that 3M adopts in furtherance of the Proposal be "superior" in comparison to standards used in the past, standards used by 3M's peers or

some other benchmark standard? The only guidance provided in the Proposal is the indication that these "superior standards" include "ensur[ing]. . . that animals' psychological, social and behavioral needs are met." But this phrase also is vague and indefinite. Who determines what each animal's basic "psychological, social and behavioral needs" are; when are those standards tested; and how would 3M evaluate whether animals' needs are being satisfied? 3M and its stockholders (including the Proponent) may interpret the "superior standards of care" and "animals' psychological, social and behavioral needs" to mean different things. Indeed, the range of reasonable interpretations of these phrases is so wide that it would be impossible for 3M and its stockholders to comprehend precisely what the Proposal entails.

In this particular context, the issue of what constitutes "superior standards of care" and "psychological, social and behavioral needs" is of critical importance to stockholders in evaluating the Proposal. The supporting statement does not clearly elaborate on these phrases, and instead focuses on the Proposal's request that 3M and "ensur[e] [the adoption of] . . . *basic* animal welfare measures" (as opposed to "*superior* standards of care") (*emphasis added*). Rules 14a-8(i)(3) and (i)(6) impose an obligation on proponents to be clear as to the scope of their proposals. See *Dyer v. SEC*, 287 F.2d 773, 781 (8th Cir. 1961) ("it appears to us that the proposal, as drafted and submitted to the company, is so vague and indefinite as to make it impossible for either the board of directors or the stockholders at large to comprehend precisely what the proposal would entail."). The Proponent's failure to provide such guidance means that 3M and its stockholders are left only with these confusing references when considering the Proposal.

As with the proposals in *Int'l Business Machines Corp.*, *Alcoa* and *The Southern Co.*, given the ambiguities contained in the Proposal, it is unclear what additional disclosures stockholders voting for the Proposal would expect of 3M and what actions 3M would be required to take if the Proposal was to be implemented. Thus, the Proposal is excludable under Rule 14a-8(i)(3) as misleading because neither the stockholders voting on the proposal, nor 3M in implementing the proposal (if adopted), would be able to determine with any reasonable certainty exactly what actions or measures the proposal requires. For the same reason, the Proposal also may be properly excluded pursuant to Rule 14a-8(i)(6) since it is vague and ambiguous, with the result that 3M "would lack the power to implement" the Proposal.

C. The Proposal Is Beyond 3M's Power to Implement and Thus May Be Excluded under Rule 14a-8(i)(6).

A company may exclude a stockholder proposal under Rule 14a-8(i)(6) "[i]f the company would lack the power or authority to implement the proposal." We believe that the Proposal is excludable under Rule 14a-8(i)(6) because of the inherent contradiction between the Proposal's standards to "*ensure* that animals' psychological, social and behavioral needs are met" (*emphasis added*) and, as discussed below, the Proponent's own publications reflecting its view that it is "almost always an impossible goal" to "reduce or eliminate" stress on certain animals, meaning that the Proponent acknowledges it is impossible to meet animals' psychological needs.

The Staff has concurred that stockholder proposals are excludable under Rule 14a-8(i)(6) where a company cannot ensure that a variety of actions would occur. See, e.g., *H.J. Heinz Co.* (avail. Jun. 14, 2004) (proposal urging the Board to amend the bylaws to require that an independent director who has not served as an officer of the company serve as the Chairman of the Board excludable because "it does not appear to be within the board's power to ensure that an individual meeting the specified criteria would be elected as director and serve as chairman of the board."); *AT&T Corp.* (avail. Mar. 10, 2002) (proposal requesting adoption of an independent director bylaw, which would "apply to successor companies" excludable because "it does not appear to be within the board's power to ensure that all successor companies adopt a bylaw like that requested by the proposal"); and *Putnam High Income Bond Fund* (avail. Apr. 6, 2001) (proposal requesting a reduction in the investment advisory fee and capping fund reimbursements to the adviser excludable because the fund did not have "the unilateral power" to implement either requirement). See also Staff Legal Bulletin No. 14C (June 28, 2005) ("we would agree with the argument that a board of directors lacks the power to ensure that its chairman or any other director will retain his or her independence at all times . . . when a proposal is drafted in a manner that would require a director to maintain his or her independence").

Similarly, 3M lacks the power or authority to implement the Proposal because of the contradictory nature of the Proposal's standards to "ensure . . . that animals' psychological, social and behavioral needs are met" (*emphasis added*) and the Proponent's own publications that acknowledge that it is impossible to meet those standards. For example, the Proponent's website states, "All animal experiments involve physical and/or psychological harm to the animals." "Frequently Asked Questions" available at www.marchofcrimes.com/faq.html and attached hereto as Exhibit B. The Proponent's website also includes a study published by the Proponent that states "no laboratory can reduce the stresses that primates experience significantly enough to raise animal-welfare conditions to an acceptable level" and acknowledges that it is "almost always an impossible goal" to "improve or modify. . . laboratory environments and procedures to reduce or eliminate unwanted stress in the lives of primates" in laboratories. See "Fear, Anxiety and Stress in the Laboratory: Why Nonhumans Primates Make Poor Research Subjects" at pages 8 and 12, available at www.covancecruelty.com/pdfs/PrimatePaper.pdf#xml=http://www.petasearch.org/taxis/search/pdfhi.txt?query=fear%2Canxiety+and+stress+in+the+laboratory&pr=default&prox=page&rorder=500&rprox=500&rdfreq=500&rwfreq=500&rlead=500&sufs=0&order=r&cq=&id=4326073748 and attached hereto as Exhibit C. Given that the Proponent acknowledges that "unwanted stress" cannot be reduced or eliminated for animals in laboratory environments and given the Proposal's request that 3M's Animal Welfare Policy "ensure . . . superior standards of care for animals who continue to be used for these purposes, both by the Company itself and by all independently retained laboratories, including provisions to ensure that animals' psychological, social and behavioral needs are met," it is beyond 3M's power to implement the Proposal, just as it is beyond a company's power to ensure that "an individual meeting the specified criteria would be elected as director and serve as chairman of the board" (as in *H.J. Heinz*) or to "ensure that all successor companies adopt a bylaw like that requested by the proposal" (as in *AT&T Corp.*).

For these reasons, we believe the Proposal is excludable under Rule 14a-8(i)(6) as beyond 3M's power to implement.

Conclusion

Based on the foregoing analysis, 3M respectfully requests that the Staff concur that it will not recommend enforcement action if 3M excludes the Proposal from its 2006 Proxy Materials. Should you disagree with the conclusions set forth in this letter, we respectfully request the opportunity to confer with you prior to the determination of the Staff's final position. I would be happy to provide you with any additional information and answer any questions. Please call me at 651-733-2204 if I can be of any further assistance in this matter.

Sincerely,


Gregg M. Larson

cc: Leana Stormont, Esq, People for the Ethical Treatment of Animals

2301 Kings Hwy, Apt.6D
Brooklyn, N.Y. 11229

November 21, 2005

Gregg M. Larson, Esq.
Assistant General Counsel and Secretary
3M Company
3M Center
Building 0220-13-W-39
St. Paul, Minnesota 55144-1000

Re: Shareholder Resolution for Inclusion in the 2006 Proxy
Materials

Dear Mr. Larson:

Attached to this letter is a Shareholder Proposal submitted for inclusion in the proxy statement for the 2006 annual meeting. We own 320 shares as joint tenants under 3M account # 3000645832. We acquired the first 160 shares between 1/30/70 and 4/8/94 and the remaining 160 shares were issued to us 9/03 as a result of the 2-for-1 stock split, all 320 shares being held continuously for a period of more than one year prior to today. We intend to hold these shares through and including the date of the 2006 annual meeting of shareholders.

Please communicate with our designated representative, Leana Stormont, if you need any further information. If the Company will attempt to exclude any portion of our proposal under Rule 14a-8, please so advise my representative within 14 days of your receipt of this proposal. Ms. Stormont may be reached at:

Leana Stormont, J.D., Legal Assistant
Research & Investigations Department
People for the Ethical Treatment of Animals
501 Front St.
Norfolk, VA 23510

757-962-8327 (phone)
757-628-0781 (fax)

Very truly yours,

David Goldberg

David Goldberg

Dorothy R. Goldberg

Dorothy R. Goldberg

Enclosures
c: Leana Stormont

EXHIBIT A

3M COMPANY SHAREDHOLDER RESOLUTION

This Proposal is submitted by Dorothy and David Goldberg.

WHEREAS, the Company conducts tests on animals as part of its product research and development; and

WHEREAS, the Company also retains independent laboratories to conduct tests on animals as part of product research and development; and

WHEREAS, abuses of animals at independent laboratories have been recently revealed and disclosed by the media; and

WHEREAS, the Company has no published animal welfare or animal care policy prominently posted on its website; NOW THEREFORE,

BE IT RESOLVED, that the shareholders request that the Board adopt and post an Animal Welfare Policy online which addresses the Company's commitment to (a) reducing, refining and replacing its use of animals in research and testing, and (b) ensuring superior standards of care for animals who continue to be used for these purposes, both by the Company itself and by all independently retained laboratories, including provisions to ensure that animals' psychological, social and behavioral needs are met. Further, the shareholders request that the Board issue an annual report to shareholders on the extent to which in-house and contract laboratories are adhering to this policy, including the implementation of the psychological enrichment measures.

Supporting Statement:

The Boards of many companies have adopted and prominently published animal welfare policies on their websites relating to the care of animals used in product research and

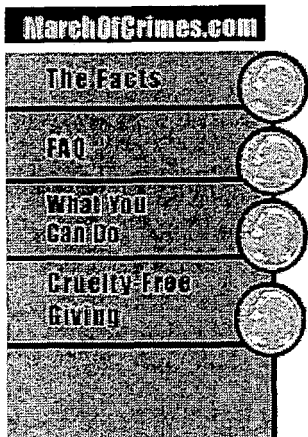
development. Our Company should be an industry leader with respect to animal welfare issues, and yet it has no publicly available animal welfare policy.

The recent disclosure of atrocities recorded at Covance, Inc. has made the need for a formalized, publicly available animal welfare policy that extends to all outside contractors all the more relevant, indeed urgent. Filmed footage showed primates being subjected to such gross physical abuses and psychological torments that Covance sued to stop PETA Europe from publicizing it. The Honorable Judge Peter Langan, in the United Kingdom, who denied Covance's petition, stated in his decision that the video was "highly disturbing" and that just two aspects of it, namely the "rough manner in which animals are handled and the bleakness of the surroundings in which they are kept ... even to a viewer with no particular interest in animal welfare, at least cry out for explanation."¹

Shareholders cannot monitor what goes on behind the closed doors of the animal testing laboratories, so the Company must. Accordingly, we urge the Board to commit to ensuring that basic animal welfare measures are an integral part of our Company's corporate stewardship.

We urge shareholders to support this Resolution.

¹ The case captioned *Covance Laboratories Limited v. PETA Europe Limited* was filed in the High Court of Justice, Chancery Division, Leeds District Registry, Claim No. 5C-00295. In addition to ruling in PETA's favor, the Court ordered Covance to pay PETA £50,000 in costs and fees.



Frequently Asked Questions

Does the March of Dimes really fund horrific animal experiments?

Sadly, yes, though the charity is tight-lipped about it! The March of Dimes has funneled millions of dollars into animal experiments. March of Dimes-funded experimenters have: sewn shut newborn kittens' eyes, left them blind for a year, and then killed them; cut organs from pigs and stitched them into primates; and addicted pregnant animals to alcohol, nicotine and cocaine. In one study (results published in 1998), experimenters cut into the abdomens of pregnant sheep and destroyed the ear drums of the unborn lambs. Just before birth, the mother sheep and lambs were killed, and the brains were cut from the lambs to be examined.

The March of Dimes "only" uses mice and rats, doesn't it?

March of Dimes has funded experiments using pigs, sheep, dogs, hamsters, rabbits, rats, cats, opossums, birds, primates, and other animals, and has made it clear that it will fund experiments on any species it chooses. However, even if March of Dimes experimented on mice and rats exclusively, it would still be wrong. Rats and mice feel pain every bit as much as cats or dogs—and as much as you or I.

Is there evidence of poor treatment of animals in March of Dimes funded experiments?

All animal experiments involve physical and/or psychological harm to the animals. But, disturbingly, primates in experiments funded by the March of Dimes have died due to the absence of an anesthesiologist during surgery, lack of adequate monitoring after surgery, and from "technical problems." March of Dimes funded experimenters have also restrained monkeys in chairs for many days at a time, sewn cats' eyes shut, and damaged the brains of ferrets and other animals.

Don't animal protection laws prevent March of Dimes-funded experimenters from harming animals?

The Animal Welfare Act, which is the only law that protects animals in laboratories, deals only with



EXHIBIT B

housekeeping issues, such as cage size and transportation. Experimenters can do whatever they want to an animal—even perform painful, invasive experiments without anesthetics or painkillers. Unbelievably, government officials have chosen to interpret the Act to exclude mice and rats, so that the species that comprise 90 percent of all animals used in laboratories have no protections under the law! On top of these shocking facts, the Animal Welfare Act, even as weak as it is, is not adequately enforced.

Could the March of Dimes' animal experiments actually save human babies?

Birth defects are prevented and babies are saved when research dollars go to effective and relevant research, which comes from studying human problems and human babies, not from sewing kittens' eyes shut or addicting rats to cocaine. In fact, virtually all known developmental hazards have been identified through studies of human populations. The dangers of thalidomide, alcohol, methyl mercury, and lead, just to name a few, were all discovered by observing people, not animals.

Since the March of Dimes devotes only some of its resources to animal experiments, isn't there enough money to fund both animal experiments and other programs?

Every dollar that the March of Dimes wastes on cruel, useless animal experiments is a dollar not invested in programs that do work. Relying on faulty animal tests not only causes needless suffering for animals, it also puts human health in jeopardy. Animal experimentation also diverts millions of dollars from valuable human studies and research programs. For instance, a National Birth Defects Registry is desperately needed to uncover the root causes of birth defects; the largest registry in the United States, operated by the Centers for Disease Control, is so underfunded that it only collects limited information.

Improved prenatal care is desperately needed. Every year, 1.2 million women receive insufficient prenatal care, even though adequate care could prevent as much as 25 percent of all infant deaths. Help for pregnant women who smoke could decrease infant deaths by an estimated 10 percent. Alcohol abuse during pregnancy is the leading preventable cause of birth defects and mental retardation. Yet rats and other animals are injected with alcohol while women seeking help

**REAL HEROES
SAVE BOTH
THEIR LIVES!**

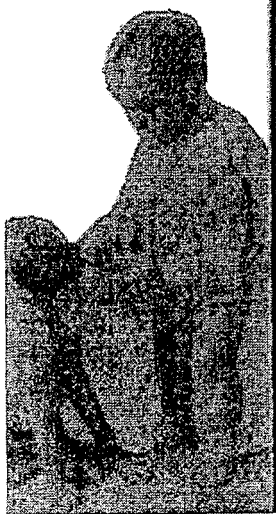


EXHIBIT B

can't find it. Additionally, teenage pregnancies, AIDS, and drug abuse continue to be major threats to unborn children that require more resources than they currently receive.



Fear, Anxiety, and Stress in the Laboratory: Why Nonhuman Primates Make Poor Research Subjects

Mary Beth Sweetland, Director of Research & Investigations Department
Philip Schein, Special Assistant to the President
PETA, 501 Front Street, Norfolk, Virginia 23510
marybeths@peta.org

We have compiled the following executive brief for the convenience of IACUC personnel to help negotiate and summarize the recent literature on this subject. It indexes and appraises the recent studies on the causes and effects of stress on primates in laboratories, including the reasons these factors can never be eliminated or controlled. The brief is organized as follows:

1. Specific Laboratory Stressors of Primates

- 1.1. Housing and Social Stressors
- 1.2. Environmental Stressors
- 1.3. Husbandry Stressors
- 1.4. Protocol Stressors
- 1.5. Pre-Laboratory Stressors (When Applicable)
 - a. Prenatal and Early Rearing Sources of Stress
 - b. Capture and Transportation/Relocation Sources of Stress

2. Specific Effects of Laboratory Stressors in Primates

- 2.1. Biochemical, Physiological, and Epidemiological Effects
- 2.2. Behavioral and Social Effects
- 2.3. Psychological and Cognitive Effects

3. General Characteristics of Stress for Primates in Laboratories

- 3.1. Primates Do Not Habituate to Laboratory Stressors
- 3.2. Laboratories Cannot Eliminate Stressors
- 3.3. Primates Hide Symptoms of Stress, and Many Symptoms of Stress Are Difficult to Diagnose and Detect
- 3.4. The Effects of Stress in Primates Are Complex and Interact
- 3.5. Stress Affects Individual Primates Uniquely
- 3.6. Stress Variables Cannot Reliably Be Controlled, Factored, or Generalized
- 3.7. Cross-Species Misconceptions

4. Recommendations

5. Works Cited and Bibliographic Resources

1. Specific Laboratory Stressors of Primates

1.1 Housing and Social Stressors

Laboratory cages are physically confining and socially restrictive living spaces for primates, and these conditions impose unreasonable stresses upon them. Recent studies have confirmed the causes and effects of housing and social stressors on primates, including primates who are subjected to solitary lives in cages or those who are housed in cramped, crowded conditions. Other studies have shown the harmful consequences of separating primates from their cage mates and placing them together arbitrarily into new groups, altering power dynamics and systems of social support. In all these cases, imposing unnatural physical and social configurations on primates resulted in profound disruptions of species-specific behavior and physiological issues.^{1,2,3,4,5,6,7,8,9,10,11}

- Cross, Pines, and Rogers (2004) and Soltis, Wegner, and Newman (2003), for example, demonstrated that both the presence of conspecifics or separation from conspecifics can be causes of acute stress.^{12,13}
- Shapiro *et al.* (2000) and Reinhardt and Rossel (2001) documented how individual caging constitutes such a potent stressor as to produce immunosuppression.^{14,15}
- Chase *et al.* (2000) and Bellanca and Crockett (2001) demonstrated that singly housed, socially restricted primates paced more, locomoted significantly less, were more aggressive, and manifested significantly more abnormal behaviors.^{16,17}
- Boyce *et al.* (1998) noted that when confinement space is reduced, the crowded conditions result in a five-fold increase over six months in the incidence of violent injuries.¹⁸
- Cross, Pines, and Rogers (2004) documented how separating animals with social bonds stimulates a response consisting of behavioral agitation and adrenal activity, and Pines, Kaplan, and Rogers (2004) demonstrated how marmosets are negatively affected by any events adversely affecting a roommate.^{19,20}
- Crockett *et al.* (2000) and Reinhardt (2000) demonstrated that even subtle changes in conditions of captivity such as different cage sizes and cage levels can be extremely stressful to primates.^{21,22}

1.2 Environmental Stressors

Laboratory environments differ enormously from natural habitats, and recent studies have demonstrated that several of a laboratory's environmental conditions contribute to unacceptable levels of stress in primates, including ambient temperature, lighting conditions, loud noises, cage locations, and even the mere presence of humans in primate rooms. Although some laboratories have been able to make some small modifications in the environmental conditions of their laboratories, it is not possible for primates to live in

laboratories and participate in experiments without suffering from environmental stress.^{23,24,25,26,27,28,29,30,31,32,33,34,35}

- Reinhardt and Reinhardt (2000a) demonstrated that poor lighting in laboratories frequently provides a cave-like housing environment for primates, particularly for those who are forced to live ground-dwelling lifestyles in bottom-tier cages. Reinhardt concludes that these conditions impair well-being and invalidate research data.³⁶
- Cross, Pines, and Rogers (2004) documented how noise adversely affects primates in laboratories. Their mean levels of salivary cortisol during periods of disturbance were four times higher than normal.³⁷
- Reinhardt and Reinhardt (2000b) recorded that primates exhibit apprehension and fear when an investigator or technician even enters the room.³⁸

1.3 Husbandry Stressors

Primates in laboratories are subjected to a variety of routine animal husbandry procedures, all of which are experienced as stressful even when a laboratory follows best practices. The most sensitively conducted non-invasive and non-experimental procedures can create stressful conditions in captive primates. A study by Balcombe (2004) on the effects of routine husbandry on rats concluded that non-invasive manipulation occurring as part of routine husbandry, including lifting an animal, cleaning or moving an animal's cage, etc., resulted in "significant changes in physiologic parameters correlated with stress (e.g., serum or plasma concentrations of corticosterone, glucose, growth hormone or prolactin, heart rate, blood pressure, and behavior)."³⁹ The effects on primates are that much more complex and profound. For example:

- Carstens and Moberg (2000) cautioned, "What might be viewed as innocuous manipulation of the animal may confound experimental results," and Wolfe (2000) confirmed that stress results from "both experimental and non-experimental sources."^{40,41}
- Suzuki (2002) documented how plasma cortisol levels increased when a large adult male researcher entered the room, as macaques instinctively assumed the researcher to be a predator or rival.⁴²
- Line *et al.* (1989) demonstrated that primates become significantly stressed when their room or cages are cleaned or they are tested for tuberculosis. Heart rates can remain elevated for hours after these events, and primates do not habituate to them.⁴³

Capture is especially stressful for primates, and they frequently reveal their distress in obvious ways such as crouching, assuming defensive postures, diarrhea, fear grinning, attempting to flee, grimacing, suffering from rectal prolapse, screaming, struggling, or

making aggressive displays. Primates are frequently restrained and captured in laboratories, and they always experience restraint as stressful regardless of the method used. Common methods of restraint and studies that have demonstrated their stressful effects include anesthetics such as ketamine, board restraints, chair restraints, chute restraints, guillotine panels, manual restraint, squeeze cages, table restraints, tethering, and transfer boxes. In addition to capture and restraint, recent studies have demonstrated that primates are also significantly stressed by other routine husbandry procedures such as feeding, medical procedures, palpation, pregnancy examinations, and weighing.^{44,45,46,47,48,49,50,51,52,53,54,55,56,57}

1.4 Protocol Stressors

All research protocols are stressful to primates, even those that are not specifically designed to produce stress. Most of these involve at least some of the following standard components which multiple studies have proved produce stress and skew data: behavioral testing, blood sampling, novel situations and environmental manipulation, stool sampling, reproduction techniques such as penile vibratory stimulation or electroejaculation, venipuncture, and saliva or urine sampling.^{58,59,60,61,62,63,64,65,66,67,68,69,70,71,72,73,74,75}

- McAllister (2004) and Reinhardt and Reinhardt (2000) documented how using cortisol levels as a measure of stress are complicated by the use of invasive techniques that may increase hypothalamic-pituitary-adrenal HPA axis activity during sample collection.^{76,77}
- Yeoman (1998) and Cui (1996) demonstrated the detrimental effects of stress on sperm yield and quality on samples collected through the highly stressful and painful method of electroejaculation.^{78,79}

1.5 Pre-laboratory Stressors (When Applicable)

The effects of stress are persistent and may have begun before a primate enters a laboratory. These unknown variables, which may have already altered physiology and behavior as well as receptivity to new procedures, further complicate attempts at establishing reliable controls.

a) Prenatal and Early Rearing Sources of Stress

- Gorman and Coplan (2002) and Clarke *et al.* (2004) demonstrated that prenatal stress can produce profound alterations in biological factors such as regulation of hypothalamic-pituitary-adrenal (HPA) axis, biogenic amines, and immune function. Coe (2003) confirmed that the prenatal environment can alter behavior, dysregulate neuroendocrine systems, and affect the hippocampal structures in primates in a persistent manner.^{80, 81, 82}

- Barr *et al.* (2003) and Lutz *et al.* (2003) documented that macaques with histories of early-life stress have also have exhibited impulsive aggression, incompetent social behavior, and increased behavioral and endocrine responsivity to stress. Tiefenbacher (2005) demonstrated that chances of primates developing self-injurious behavior is heightened by adverse early experiences and subsequent stress exposure.^{83,84,85}

b) Capture and Transportation/Relocation Sources of Stress

- Laudenslager *et al.* (1999) described the magnitude of stress associated with original capture, noting that during the period of captivity, plasma cortisol rose, plasma prolactin and growth hormone fell, and there was a significant rise in insulin.⁸⁶
- Honess, Johnson, and Wolfensohn (2004) documented the stress caused by air transport and re-housing and reported that the behavioral changes which occurred never returned to levels at the original breeding facility within the first month, an experience that “may result in the compromising of the welfare of the study animals.”⁸⁷

2. Specific Effects of Laboratory Stressors in Primates

2.1 Biochemical, Physiological, and Epidemiological Effects

There is a wealth of information detailing the extent to which stress disrupts the major physical functions of primates and leads to the development of disease and other pathologies.

- Carstens and Moberg (2000), for example, report that the cumulative effects of several stressors on primates leads to diversion of resources that results in their suffering from immune incompetence and other pathologies such as loss of reproductive abilities.⁸⁸

Laboratory stress in primates affects the biochemistry of their endocrine, immune, and reproductive systems. The endocrine system is the adrenal gland, including the cortex and the medulla, adrenal hormones, including adrenal androgens, cortisol, adrenal corticoids, corticosteroids, and glucocorticoids. It also includes the pituitary gland and its hormones, including trophic hormones, the pituitary-adrenocortical-hypothalamic system, thyroid gland hormones, catecholamines, luteinizing hormones, lymphoids, prolactin, and opiate hormones.^{89,90,91,92,93,94,95,96,97,98,99,100}

Stress affects the immune system of primates in laboratories by altering general antibody responses, the character of lymphocytes—including B cells, CD4+ cells, CD8+ cells, and T cells—cytokine, interferon, hematocrit, hemoglobin, monocytes, natural killer cell (NK) activity, prostaglandins, and white blood cells.^{101,102,103,104,105,106,107,108,109,110}

The reproductive system undergoes general changes as well. The organs affected are the pituitary-gonadal hormones, ovaries, placenta, the follicular phase and luteal phase of menstruation, testosterone, dihydrotestosterone, progesterone, pregnenolone, 17-hydroxypregnenolone, 17-hydroxyprogesterone, 20a-dihydroprogesterone, estrone, estradiol, DHA and DHAS, semen volume, and motility.^{111,112,113,114,115,116,117,118,119,120}

The known physiological effects of stress in primates in laboratories include arteriosclerosis, osteoporosis, diabetes, changes in blood pressure, body temperature, circadian rhythms, ECG patterns, enzymatic shifts, heart rate, leukocytosis, metabolism, respiratory rates, sleep patterns, and weight gain or loss.^{121,122,123,124,125,126,127,128,129,130,131,132,133,134,135}

- Gilmer and McKinney (2003) reported that the physiological effects of stress in primates included an altered hypothalamic-pituitary-adrenal response to stress, changes in diurnal temperature regulation, and alteration in immune function; Schapiro (2000) documented how diminished immune response is the most frequently observed consequence of prolonged or intense stress exposure.^{136,137}
- Fuchs and Flugge (2004) documented how one month of stress reduced cell proliferation in the dentate gyrus and decreased the total hippocampal volume. . . . Stress also induced a constant hyperactivity of the hypothalamic-pituitary-adrenal axis and suppressed both motor and marking behaviors.¹³⁸

These biochemical effects also make primates more susceptible to diseases, including bacterial infections, neutrophilia, parasitic infestations, and viral infections as well as doubling the possibility of endometrial cancer. Shivley (2004) and Boere *et al.* (2003) documented additional stress-induced pathologies such as higher incidences of diabetes, consumptive disorders, osteoporosis, arteriosclerosis, and gastric-duodenal ulcers. Bailey (2004) recorded how even prenatal stress altered bacterial colonization.^{139,140,141,142,143,144}

- Shively (1999) concluded from studies of monkeys that social stress caused by low social status may be the underlying mechanism affecting pathophysiology and disease.¹⁴⁵

2.2 Behavioral and Social Effects

The myriad behavioral abnormalities that characterize primates in laboratories have been well known for decades and include bizarre postures such as floating limbs, self-biting, self-clasping, self-grasping, and saluting; stereotyped motor acts such as pacing, head-tossing, head-weaving, bouncing in place, somersaulting, and rocking; appetite disorders such as uncontrollable eating, insufficient eating, frequent drinking, feces-eating, and paint-eating; sexual disorders such as inappropriate orientation, homosexual behavior, sexual dysfunction, and autoerotic stimulation; disturbed activity patterns such as inactivity, hyperactivity, and temporally inappropriate behavior; and agonistic disorders such as hyper-aggressiveness, fear-grinning, screaming, acute diarrhea, struggling and

refusing to enter the squeeze cage; and self-abusive behavior such as self-biting, hair pulling, and self-scratching leading to physical harm.^{146,147,148,149}

- Gilmer and McKinney (2003) demonstrated that early adverse experiences in primates can lead to behaviors including repetitive idiosyncratic behavior, increased self-directed behaviors, inappropriate expressions of aggressive behavior, nonmodulated patterns of consumption, and inappropriate sexual and maternal behavior.¹⁵⁰
- Reinhardt and Rossel (2001) and The National Research Council (1998) documented how self-biting typically occurs in individually caged primates.^{151,152}

2.3 Psychological and Cognitive Effects

Many of the social and behavioral effects of stress in captive primates have already been discussed in previous sections of this brief, and additional studies also illustrate its ill effects on primate psychology and cognitive functioning. These effects include degradations in their ability to engage in species-typical activities such as exercising, mating, raising children, maintaining mental well-being, engaging in normal forms of social companionship, performing routine tasks, and the ability to recognize predators.^{153,154,155,156,157,158,159,160,161,162,163,164}

- Shivley (2005) documented how female cynomolgus monkeys suffered from signs of depression when they were isolated and exhibited lethargy, hormone disruptions, and higher heart rates—all of which are indicative of depression.¹⁶⁵
- Gilmer and McKinney (2003) documented how early adverse experiences affected primates cognitively, resulting in such animals' requiring longer habituation time for any task. Arnsten and Goldman-Rakic (1998) and Moghaddam and Jackson (2004) demonstrated that noise stress impairs prefrontal cortical cognitive function in monkeys.^{166,167,168}

3. General Characteristics of Stress for Primates in Laboratories

3.1 Primates Do Not Habituate to Laboratory Stressors

Experimenters frequently claim that primates in laboratories habituate to stress after a period of acclimatization, but this is untrue. Several recent studies have demonstrated that primates do not habituate to many stressors, even after years of exposure.^{169,170,171,172,173,174,175,176,177}

Consider the following:

- Schnell *et al.* (1997) argued that it is impossible to completely inhibit the defensive reactions of primates to experimental procedures—even after long-term training. He demonstrated that primates in laboratories respond to restraint and venipuncture with marked, acute, and chronic increases in their heart rate and blood pressure even after years of experience as research subjects. Moreover, experienced primate research subjects have learned to anticipate restraint and venipuncture events by developing sustained patterns of cardiovascular stress.¹⁷⁸
- Line *et al.* (1989) demonstrated that primates do not habituate to the stressors of room cleaning, cage cleaning, or tuberculosis testing. Line *et al.* documented how they became significantly stressed when their rooms or cages were cleaned or when they were tested for tuberculosis. Heart rates remained elevated for hours after these events, and primates did not habituate to them.¹⁷⁹
- Gordon *et al.* (1992) demonstrated that experimentally naïve primates do not habituate to blood sampling procedures even after six weeks of exposure.¹⁸⁰
- Honess, Johnson, and Wolfensohn (2004) reported that levels of stress a month after relocation from a breeding facility never returned to normal.¹⁸¹
- Lilly *et al.* (1999) demonstrated that primates did not acclimate to new housing situations even after 23 weeks in a new situation.¹⁸²
- Golub and Anderson (1986) found that primates never adapted physiologically to the stresses of weekly blood sampling and manual palpation, even though they may have adapted behaviorally. Heart rate, blood pressure, respiration rate, and cortisol levels always rose during these procedures, even in primates who have experienced these procedures for 23 weeks.¹⁸³
- Laudenslager *et al.* (1985) discussed how primates who are forced to endure separation experiences from their mothers or troop members frequently suffer from abnormal heart rates, body temperatures, circadian rhythms, EEG patterns, cellular immune function, and behavioral and neurological pathologies more than three years after the separation event. These changes persist for several years after the separation experience and may be permanent for some primates.¹⁸⁴

3.2 Laboratories Cannot Eliminate Stressors

Sometimes experimenters and laboratory staff believe that they can improve or modify their laboratory environments and procedures to reduce or eliminate unwanted stress in the lives of the primates under their care. But this is almost always an impossible goal, even in the best of primate sanctuaries. Primates are simply too sensitive to stress, and laboratory environments are inherently too stressful for primates to live in them without suffering the unnatural and data-contaminating condition of ceaseless stress.

- Barros and Tomaz (2002) and Tatoyan and Cherkovich (1972) demonstrated that the mere presence of a human observer is capable of eliciting defensive attack and anxiety-related behavior. In many cases, the presence of human beings is even more stressful to primates than being restrained.^{185,186}
- Schapiro *et al.* (2000) demonstrated that every type of laboratory housing for primates degrades the effectiveness of at least some components of their immune systems.¹⁸⁷

3.3 Primates Hide Symptoms of Stress, and Many Symptoms of Stress Are Difficult to Diagnose and Detect

It is widely documented that primates not only hide symptoms of stress as defensive measures, but that symptoms of stress may be indiscernible or invisible to the investigator. Many primates in laboratories may look fine, but inwardly they are suffering from the damaging effects of stress in their biochemistry, physiology, psychology, and sociability. Usually only the most extreme forms of fear, pain, or suffering will cause primates to show the visible effects of their distress.^{188,189,190}

- Coe *et al.* (1987) demonstrated that primates who are separated from their troops suffer from diminished immune system response, even though they do not appear debilitated or depressed. Coe concluded that it is not possible to visually identify the effects of diminished immune system response in primates that are suffering from separation experiences.¹⁹¹

Making diagnoses of stress more problematic is that the primate subject may also not be conscious of the physical effects of stress:

- For example, Carstens and Moberg (2000) discussed “stress-induced analgesia” and how psychological distress in primates can increase or decrease pain perception.¹⁹²

Carstens and Moberg discussed as well how a tumor, for example, may elicit stress responses in an animal not conscious of the cancer. In a laboratory setting, such induced physiological pathologies are often an integral component, and many symptoms may not even be recognized as stress or be attributed to stress, as they may be the product of complex, interacting, and ambiguous physiological origins.

3.4 The Effects of Stress in Primates Are Complex and Interact

Stress is a complicated phenomenon, affecting multiple, interconnected systems, so that it is difficult to isolate as a single variable or effect. Primates react to stress in highly individualized and complex ways, especially at the biochemical level where the sympathetic nervous system, the hormonal systems, and the immune systems all interact

with each other in response to stressful conditions. The complexity of these responses means that experimenters are frequently unable to know if the data that they collect reflect the results of the experimental procedures or the stressed condition of the primate in the laboratory. The results, therefore, are ambiguous because experimenters cannot reliably identify the causes of the effects they measure. Included in this brief are indexed dozens of studies that demonstrate this fact. But a few studies deserve special mention because they have examined the complex reality of stress in primates directly:

- Norcross and Newman (1999) identified that stress “can differentially affect the hormonal response without differentially affecting the behavioral [response].”¹⁹³
- Carstens and Moberg (2000) stated that the most reasonable strategy for measuring stress would be to monitor the responses of the four major defense systems (behavior, autonomic nervous system, neuroendocrine system, and immune system) since they are responsible for the biological changes that occur during stress; however, they argued that none of the monitoring has proved to be a reliable measure of stress or *distress* since no single system responds to all stressors.¹⁹⁴
- Shively (2005) described depression in primates as a “whole-body disorder.”¹⁹⁵
- Schapiro *et al.* (2000) demonstrated that even though stress indexes in primates are usually measured singly for purposes of experimental clarity, the actual biochemical realities of stress in primates are extremely complicated. Every single measurable stress effect interacts with all of the others, making it impossible to limit the biochemical and physiological effects of stress to only a few biological systems.¹⁹⁶
- Goncharov *et al.* (1979) demonstrated that stressors evoked not just a few, initial hormone responses, but generally elicited a broad range of multiple, concurrent responses involving much of the neurological and endocrine systems.¹⁹⁷
- Coe *et al.* (1987) demonstrated that the endocrine and immune systems of primates in laboratories do not change in simple ways in response to stress and concluded that we must not underestimate the true complexity of the total effects that stress has on them.¹⁹⁸

3.5 Stress Affects Individual Primates Uniquely

Stress is a highly variable phenomenon affecting individual primates in unique ways and making statistically reliable data problematic.

- Carstens and Moberg (2000), for example, stated that because there is currently no litmus test for distress, trying to recognize distress must be done on almost a case-by-case basis. They added the caveat that the same stressor can be manifested in a variety of responses in the same animal.¹⁹⁹

Further complicating stress measurements are the intra-animal differences in how the four general defense systems respond in attempting to cope with the stressor. Early experience, genetics, age, and physiological state are examples of a multitude of moderators that influence the nature of a stress response. With traditional laboratory animals such as rodents, many of these variables can be more easily controlled and accounted for in the experimental design, but for some laboratory animals (e.g. nonhuman primates or random-source animals), it is extremely difficult to account for these modulators of the stress response because simple measures of hormones, autonomic nervous system activity, or immune response may be unreliable measures of stress outside the experimental paradigm.

- Gust *et al.* (1994) demonstrated that the biochemical reactions of individual primates to social stressors vary widely. Gust concluded that because social stressors are one of the most common and upsetting forms of stress among primates housed in laboratories, the large effects of social stress and the wide variability in responsiveness among individuals make it difficult to interpret experimental data derived from them.²⁰⁰
- Sapolsky (2001, 1993) demonstrated how stress affects primates uniquely and how primates respond to stress in highly individualized ways.^{201, 202}

3.6 Stress Variables Cannot Reliably Be Controlled, Factored, or Generalized

The scientific integrity of studies involving laboratory-confined primates is inherently compromised because of the pervasive contamination of stress and the impossibility of accurately defining and controlling the spectrum of causes and effects of stress. (Bentson *et al.* 2003).²⁰³

- Moberg (1999) argued that not only can pain and stress cause distress, the biologic effects can also compromise experimental results. Carstens and Moberg (2000) further cautioned that there are neither “agreed-upon definitions” for terms such as pain and stress nor are there absolute, objective measures because animals cannot verbalize what they are experiencing.^{204,205}
- Hawkins (2003) reported that indicators of pain, suffering, and distress in primates are largely subjective.²⁰⁶
- Reinhardt (2004) concluded that there is no control over the time during which an environmental disturbance is occurring, a factor that must be mentioned to explain possible incongruities of data.²⁰⁷

- Schnell *et al.* (1997) demonstrated that the acute effects of stress in primates have broad implications for the evaluation of pharmacological profiles of drugs used in biomedical research.²⁰⁸

3.7 Cross-Species Misconceptions

Despite overwhelming evidence, there are still researchers who do not recognize the significance of stress factors in research on primates.

According to Haller (DD 2001), "There is an important discrepancy between animal models of anxiety and human anxiety patients: While experimental animals are usually unstressed, patients usually have a long history of stress."²⁰⁹

However, an equivalent mistake is the assumption that stress research on primate models can be meaningfully extrapolated to humans. Just as pharmacological efficacy has great variation between nonhuman and human primates, the experimental data obtained from nonhuman primates have little generalizability beyond the simple, tautological recognition that induced stressors cause symptoms of stress.

4. Recommendations

Laboratories are stressful environments, and the primates who are held within them endure lives of ceaseless anxiety, pain, and fear. Some laboratories are more stressful than others, but no laboratory can reduce the stresses that primates experience significantly enough to raise animal-welfare conditions to an acceptable level, and no laboratory can reduce the stressors sufficiently to produce meaningful and reliable scientific data. Clearly disturbing experiments such as those conducted at Columbia University have little scientific import and egregious ethical consequences. In these studies, monkeys had metal pipes surgically implanted into their skulls for the sole purpose of inducing stress in order to study the connection between stress and women's menstrual cycles. We urge all IACUCs and affiliated institutions not to accept or approve further protocols involving primates in laboratories.²¹⁰

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January 27, 2006

BY REGULAR & ELECTRONIC MAIL: cfletters@sec.gov

Office of the Chief Counsel
Division of Corporation Finance
U.S. Securities and Exchange Commission
100 F. Street, N.E.
Washington, D.C. 20549

Re: Shareholder Proposal of Dorothy and David Goldberg for Inclusion in the
2006 Proxy Statement of 3M Company

Ladies and Gentlemen:

This letter is filed in response to a letter dated January 6, 2006, submitted to the SEC by 3M Company ("3M" or "the Company"). The Company seeks to exclude a shareholder proposal submitted by Dorothy and David Goldberg, supporting members of People for the Ethical Treatment of Animals ("PETA"). Mr. and Mrs. Goldberg have named the undersigned as their designated representative. The Company asserts that the proposal should be omitted based on Rules 14a-8(i)(3), (6) and (10) as vague and indefinite, beyond 3M's power to implement, and in part, substantially implemented. For the reasons that follow, the proponents request that the SEC recommend enforcement action if the proposal is omitted.

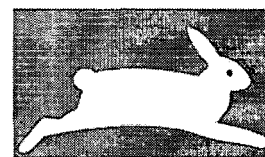
The resolution under review is very straightforward:

[T]he shareholders request that the Board adopt and post an Animal Welfare Policy online which addresses the Company's commitment to (a) reducing, refining and replacing its use of animals in research and testing, and (b) ensuring superior standards of care for animals who continue to be used for these purposes, both by the Company itself and by all independently retained laboratories, including provisions to ensure that animals' psychological, social and behavioral needs are met. Further, the shareholders request that the Board issue an annual report to shareholders on the extent to which in-house and contract laboratories are adhering to this policy, including the implementation of the psychological enrichment measures.

In short, 3M is being asked to carry out four simple tasks with respect to the adoption of an Animal Welfare Policy: 1) commit to reducing, refining, and replacing animals in product research (known as the "3Rs"); 2) make the Animal Welfare Policy applicable to independent laboratories; 3) include enrichment measures for the animals used in the Company's laboratories and outside facilities; and 4) report to shareholders on the Company's progress in achieving the foregoing.

I. The Proposal Has Not Been Substantially Implemented

The Company's first argument is that the proposal has been substantially implemented. The Company points to its newly posted *Summary of 3M's Animal Welfare in Testing*

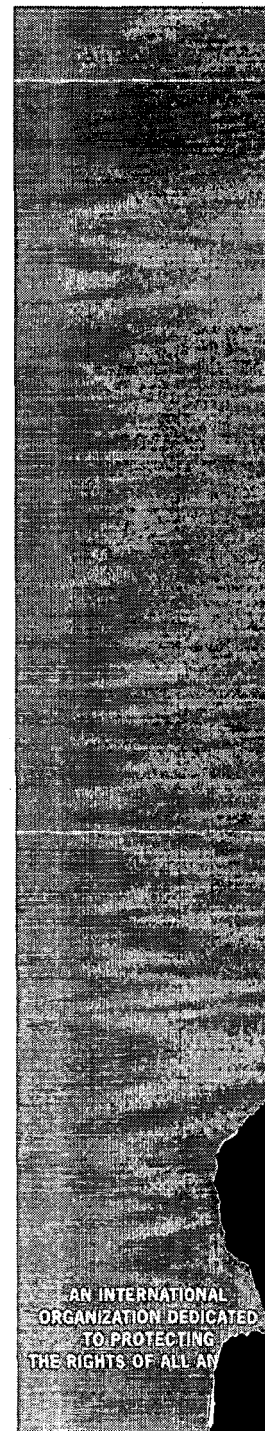


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and *Research Global Policy*¹ (a policy not in place when the proposal was filed) to substantiate this claim (the “Policy”). While we applaud 3M for its recent adoption of a policy, a closer inspection reveals that only the first item, namely, committing to the 3Rs, has been addressed.

Further, the proposal does not ask the Company to post a “**summary** of its ... Animal Welfare Policy.” (emphasis added) (No Action Letter, p. 2) The proposal requests that the Company adopt a Policy and post the complete Policy online. Moreover, the Company’s Policy is silent on the primary substantive terms of the resolution. It fails to include or address any of the following:

1. Applicability of the Policy to independently contracted laboratories;
2. Providing enrichment measures for animals used in the Company’s laboratories;
3. Providing enrichment measures for animals used in outside laboratories; and
4. Reporting to shareholders on the Company’s progress in achieving the objectives described in 1 through 3.

It is evident by reference to the Proponents’ *Supporting Statement* that the motivating force behind the proposal was the disclosure of animal abuse at a Covance laboratory. Covance is an independent laboratory testing company that provides product testing services for a wide variety of industries. Wendel Barr, Covance’s president of early development, was recently quoted stating “We’ve worked with just about every major company around the world.”²

Filmed footage taken in Covance’s Vienna, Virginia facility in 2005 revealed that primates in that laboratory were systematically abused both physically and psychologically. (Please see video footage available at www.CovanceCruelty.com). Writing for the High Court of Justice, Chancery Division, the Honorable Judge Peter Langan commented on the graphic nature of the footage obtained inside Covance’s lab:

A verbal description of the video is bound to be an unsatisfactory substitute for watching it... [H]aving watched the video ... I would myself regard the description ‘highly disturbing’ as fitting the video precisely. I take just two aspects of what can be seen, the rough manner in which animals are handled and the bleakness of the surroundings in which they are kept. These are matters which, even to a viewer with no particular interest in animal welfare, at least cry out for explanation.³

In sum, the thrust of the Proponents’ resolution is to have the Company adopt an Animal Welfare Policy that applies to both 3M and independent laboratories, that provides for psychological, social and behavioral enrichment measures, and that requires the Company to apprise shareholders of its progress in attaining the foregoing objectives, none of which has been implemented to date.

¹ 3M’s No Action Letter refers to the Company’s Policy, stating that a summary “was recently posted on 3M’s website www.3M.com/sustainability...” However, the link provided by the Company takes the viewer to a web page that sets forth 3M’s position on “Environmental, Social and Economic Sustainability.” A search of 3M’s website shows that 3M’s recently posted summary of its Animal Welfare Policy is actually available at http://solutions.3m.com/wps/portal/tut/p/kcxml/04_Sj9SPykssy0xPLMnMz0vM0Q9KzYsPDdaP0I8yizeINzQ00C_IcFQEANYQKWM!

² Barr: *Animal research is for public’s safety*, Arizona Republic, Oct. 21, 2005.

³ After the undercover videotape was released to the media and made public, Covance sued PETA in the United Kingdom seeking injunctive relief. The Honorable Judge Peter Langan not only denied Covance an injunction, he also awarded PETA £50,000 in attorney fees and cost. *Covance Laboratories Limited v. PETA Europe Limited*, High Court of Justice, Chancery Division, Leeds District Registry, Claim No. 5C-00295 (2005).

II. The Proposal Is Not Vague and Indefinite Under Rules 14a-8(i)(3) and 8(i)(6).

The Company argues that it cannot ensure “superior standards of care” for animals used in its laboratories, nor can it ensure that their “psychological, social and behavioral needs are met.” In fact, 3M declares that neither the Company nor its shareholders “will know how to determine what constitutes ‘superior standards of care.’” (No Action Letter, p. 4.)

The Company’s position combines both 3M’s purported inability to “ensure” high standards of animal care and welfare, with its powerlessness to define what constitutes high standards of care. It is difficult to imagine why 3M cannot ensure superior standards of care or implement enrichment measures, particularly in light of the Company’s newly enacted Policy which includes the following commitment:

When animal studies are deemed necessary, there must be effective programs to *ensure*: animals are treated humanely, ethically, and in accord with accepted veterinary practices to promote their comfort and well-being[.] (emphasis added)

Based on the Company’s own statement – adopted *after* the shareholder resolution was filed – the Company is able to *ensure* humane and ethical treatment for animals used in laboratory testing. Accordingly, ensuring that superior standards of care are afforded those same animals is hardly too vague and indefinite to be achievable.

Likewise, 3M asserts that providing for animals’ psychological, social, and behavioral needs is similarly “vague and indefinite,” and therefore an unattainable end. (No Action Letter, pp. 3 and 4) Frankly, we credit the Company with having the sophistication and resources to easily achieve those objectives. It is no answer for the Company to claim that its purported inability to *evaluate* whether the animals’ needs are being met excuses the Company from addressing those needs. If the Company is either unable to determine what those needs are or unable to evaluate whether or not they are being met, the Company should retain the services of someone who can. There is a significant body of literature which provides guidance on enrichment measures for animals in laboratories. We are confident that a large global company like 3M can readily access and discern how to provide for such needs. We have footnoted some source materials to aid them.⁴

The Staff’s Legal Bulletin No. 14B (Sept. 15, 2004) was designed to rein in the flood of no action letters based on Rule 14a-8(i)(3). As the Staff noted “many companies have begun to assert deficiencies in virtually every line of a proposal’s supporting statement as a means to justify exclusion of the proposal in

⁴ CCAC Policy on the “Social and Behavioral Requirements of Experimental Animals”
http://www.ccac.ca/en/CCAC_Programs/Guidelines_Policies/POLICIES/SABREA.HTM

CCAC Guidelines (see 1984 and 1993 Guide)
http://www.ccac.ca/en/CCAC_Programs/Guidelines_Policies/GDLINES/Guidelis.htm

USDA Guidance on “Environmental Enrichment in Rodents”
<http://www.nal.usda.gov/awic/pubs/enrich/rodents.htm>

Contemporary Topics in Laboratory Animal Welfare Science
http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd=Retrieve&db=PubMed&list_uids=15669134&dopt=Citation

Olsson AS, Dahlborn K. 2002. Improving housing conditions for laboratory mice: a review of ‘environmental enrichment.’ *Laboratory Animals* 36: 243-270.

Jennings M, Batchelor GR, Brain PF, Dick A, Elliott H, Francis RJ, Hubrecht RC, Hurst JL, Morton DB, Peters AG, Raymond R, Sales GD, Sherwin CM, West C. 1998. Refining rodent husbandry: the mouse. *Laboratory Animals* 32: 233-259.

Patterson-Kane EG, Hunt DN, Harper. 1999. Behavioral indexes of poor welfare in laboratory rats. *Journal of Applied Animal Welfare Science* 2: 97-110.

its entirety.” Unfortunately, the trend continues as we see here, with 3M parsing every word in order to eke out even the most tenuous bases to exclude the proposal from the 2006 proxy materials.

The Company’s view that the resolution is excludable under Rules 14a-8(i)(3) and (6) is contradicted by 3M’s current Policy. Reporting to shareholders on 3M’s progress in attaining certain identifiable improvements does not fall within any of the SEC exceptions.

III. The Proposal Is Not Beyond 3M’s Power to Implement

The Company states that the resolution is excludable because it is impossible for 3M to “ensure that animals’ psychological, social, and behavioral needs are met” because “how would 3M evaluate whether animals’ needs are being satisfied?”⁵ (No Action Letter, p. 5) This statement is foolish and self-serving because it asks and answers a question that the Proponents have not raised in their proposal. The proposal does not ask the Company to certify that the animals’ needs are being met. The proposal requests that the Company adopt an animal welfare policy addressing its “commitment to ... ensuring superior standards of care ... including provisions to ensure that animals’ psychological, social and behavioral needs are met” and that the Company issue a report documenting both in-house and contracting facilities’ adherence with that policy. Surely the Company can adopt, address and assess whether its own Policy is being followed.

IV. SEC’s Legal Bulletin No. 14B Permits Minor Revisions to a Shareholder Resolution

It appears that 3M is intent on a literal interpretation of a commonly used term, i.e., ensure, that if applied in the manner urged by the Company, would render the term virtually meaningless. The proposal under review is simple; common sense renders 3M’s claim that it is vague and indefinite moot. Given 3M’s recently posted Policy summary which states that the Company is able to implement “effective programs to *ensure*: animals are treated humanely, ethically, and in accord with accepted veterinary practices to promote their comfort and well-being,” it will be adequate if 3M adopts and posts an animal welfare policy that addresses the Company’s commitment to providing enrichment measures and issues a report to shareholders documenting compliance with the standards set forth in the Company’s Policy.

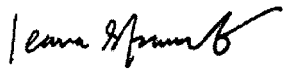
⁵ 3M cites to “the Proponent’s own publications ...” and the “Proponent’s website ...” attaching Exhibits B and C, which are PETA materials. The Company, having merely reproduced in large measure the No Action Letter of December 9, 2005 submitted by General Electric, failed to notice that the proponents of this resolution are Dorothy and David Goldberg, not PETA. Exhibit B, “Frequently Asked Questions” relates to the March of Dimes. Exhibit C is an article entitled “Why Primates Make Poor Research Subject.” Neither of those Exhibits supports the Company’s position. The quote from Exhibit B that “All animal experiments involve physical and/or psychological harm to the animals,” militates in favor of implementing enrichment programs for laboratory animals. The article attached as Exhibit C is focused exclusively on the use of primates in experimentation, and does not support the proposition that primates should be deprived of social, psychological, and behavioral enrichment simply because it is impossible to meet those needs perfectly. Further, federal law requires research facilities to “develop, document, and follow an appropriate plan for environment enhancement adequate to promote the psychological well-being of nonhuman primates.” 9 C.F.R. § 3.81 (implementing the Animal Welfare Act). Perfection need not be the enemy of progress. These references are not relevant and are a simple attempt to shift the burden to the proponents, which is improper. (SEC staff members deluged with no action letters are likely experiencing ‘unwanted stress’ which could be reduced or even eliminated if companies refrained from resorting to semantic hair-splitting in a desperate attempt to justify excluding proposals from their proxy materials.)

The Staff's Legal Bulletin No. 14B allows a shareholder to "make revisions that are minor in nature and do not alter the substance of the proposal." We therefore offer the suggestion that the resolution may read as follows:

BE IT RESOLVED, that the shareholders request that the Board adopt and post an Animal Welfare Policy online which addresses the Company's commitment to (a) reducing, refining and replacing its use of animals in research and testing, and (b) providing superior standards of care for animals who continue to be used for these purposes, both by the Company itself and by all independently retained laboratories, including provisions to address the animals' psychological, social and behavioral needs. Further, the shareholders request that the Board issue an annual report to shareholders on the extent to which in-house and contract laboratories are adhering to this policy, including the implementation of the psychological enrichment measures.

For the foregoing reasons, we respectfully request that the SEC advise the Company that it will take enforcement action if 3M fails to include the Goldberg's proposal in its 2006 proxy materials. Please feel free to contact me should you have any questions or require further information. I may be reached directly at LeanaS@peta.org or (757) 962-8327.

Very truly yours,



Leana Stormont
Counsel, Research & Investigations

LS/js

cc: Gregg M. Larson via e-mail to: gmlarson@mmm.com
Mr. and Mrs. David Goldberg

**DIVISION OF CORPORATION FINANCE
INFORMAL PROCEDURES REGARDING SHAREHOLDER PROPOSALS**

The Division of Corporation Finance believes that its responsibility with respect to matters arising under Rule 14a-8 [17 CFR 240.14a-8], as with other matters under the proxy rules, is to aid those who must comply with the rule by offering informal advice and suggestions and to determine, initially, whether or not it may be appropriate in a particular matter to recommend enforcement action to the Commission. In connection with a shareholder proposal under Rule 14a-8, the Division's staff considers the information furnished to it by the Company in support of its intention to exclude the proposals from the Company's proxy materials, as well as any information furnished by the proponent or the proponent's representative.

Although Rule 14a-8(k) does not require any communications from shareholders to the Commission's staff, the staff will always consider information concerning alleged violations of the statutes administered by the Commission, including argument as to whether or not activities proposed to be taken would be violative of the statute or rule involved. The receipt by the staff of such information, however, should not be construed as changing the staff's informal procedures and proxy review into a formal or adversary procedure.

It is important to note that the staff's and Commission's no-action responses to Rule 14a-8(j) submissions reflect only informal views. The determinations reached in these no-action letters do not and cannot adjudicate the merits of a company's position with respect to the proposal. Only a court such as a U.S. District Court can decide whether a company is obligated to include shareholder proposals in its proxy materials. Accordingly a discretionary determination not to recommend or take Commission enforcement action, does not preclude a proponent, or any shareholder of a company, from pursuing any rights he or she may have against the company in court, should the management omit the proposal from the company's proxy material.

March 10, 2006

Response of the Office of Chief Counsel
Division of Corporation Finance

Re: 3M Company
Incoming letter dated January 6, 2006

The proposal requests that the board adopt and post an animal welfare policy addressing 3M's commitment to (i) reducing, refining and replacing its use of animals in research and testing, and (ii) ensuring superior standards of care for animals used in research and testing by 3M and its independently retained laboratories.

We are unable to concur in your view that 3M may exclude the proposal under rule 14a-8(i)(3). Accordingly, we do not believe that 3M may omit the proposal from its proxy materials in reliance on rule 14a-8(i)(3).

We are unable to concur in your view that 3M may exclude the proposal under rule 14a-8(i)(6). Accordingly, we do not believe that 3M may omit the proposal from its proxy materials in reliance on rule 14a-8(i)(6).

We are unable to concur in your view that 3M may exclude the proposal under rule 14a-8(i)(10). Accordingly, we do not believe that 3M may omit the proposal from its proxy materials in reliance on rule 14a-8(i)(10).

Sincerely,



Mary Beth Breslin
Special Counsel