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MEETING
STATE OF CALIFORNIA
CALIFORNIA INTEGRATED WASTE MANAGEMENT BOARD
POLICY, RESEARCH AND TECHNICAL COMMITTEE

Board Room
8800 Cal Center Drive
Sacramento, California

Wednesday, June 2, 1993
10:00 a.m.

COPY

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License Number 9764

APPEARANCES

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COMMITTEE MEMBERS PRESENT:

Sam Egigian, Chairman

Michael Frost

Jesse Huff

STAFF PRESENT:

Patti Bertram, Committee Secretary

Robert F. Conheim

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P R O C E E D I N G S

1
2 COMMITTEE CHAIRMAN EGIGIAN: Welcome to the
3 Policy, Research and Technical Assistance Committee.

4 Today we have actually one item. Item No. 2 has
5 been pulled. You may ask why. The holidays and the mailing
6 just didn't get to the proper people in time that wanted to
7 talk about this.

8 So we will be discussing Item No. 1. And those
9 people interested in this item can fill out the short slip
10 in the back of the room and bring it forward and we will
11 call upon you.

12 We will have a roll call to establish a quorum.

13 COMMITTEE SECRETARY BERTRAM: Board Member Frost.

14 COMMITTEE MEMBER FROST: Here.

15 COMMITTEE SECRETARY BERTRAM: Huff.

16 COMMITTEE MEMBER HUFF: Here.

17 COMMITTEE SECRETARY BERTRAM: Chairman Egigian.

18 COMMITTEE CHAIRMAN EGIGIAN: Here.

19 We will start with Item 1.

20 MR. ORR: Thank you, Mr. Chairman and Committee
21 Members.

22 Today we would like to discuss the management of
23 metallic discards in the state and to do that I'd like to
24 introduce AB 1760.

25 And what it called for were three things.

1 First of all, it established a ban on the disposal
2 of metallic discards as of January 1st, 1994. So that will
3 be coming up in about seven months.

4 It secondly requires as of January 1st, 1994, that
5 materials that require special handling be removed from
6 metallic discards, major appliances and vehicles, in which
7 they are contained prior to their crushing or transport for
8 processing.

9 And the third thing is it requires the Integrated
10 Waste Management Board to prepare a management plan, a
11 report to the Legislature on how to best manage these
12 metallic discards to implement the two bans that I outlined.

13 So what I'd like to do is tell you a little bit
14 about the chronology of how we came to have a report today
15 and then later we will have the actual report presented by
16 the contractor, Science Applications International
17 Corporation, and Tom Jensen will present the report, the
18 methodology, how they went about preparing the report, the
19 findings of the report, the conclusions, and the recommended
20 management options.

21 We'll have an opportunity for questions by the
22 Committee Members.

23 Then we would like to open it up for public
24 comments and we do expect that there will be a number of
25 public comments this morning.

1 And where we'd like to end up by the end of the
2 session today is to have direction to the contractor in
3 terms of the changes that would need to be made for the
4 report to be acceptable to the committee and the board and
5 find out where we are in regard to a board-endorsed
6 preferred option for the management of metallic discards
7 under this law.

8 So I'd like to start off then with the chronology
9 of the events of implementing the law that we have here, AB
10 1760, that was passed in the statutes of 1991.

11 The law was signed by the Governor in October of
12 1991 and SAIC was hired as a consultant to develop this
13 management plan last November.

14 They began work and the first step in that was a
15 questionnaire that was sent out to all of the local
16 enforcement agencies and industry representatives on what is
17 the current status, what is the current infrastructure and
18 what is the current activities that are going on in regard
19 to the processing and handling of metallic discards.

20 The legislative due date for the report was
21 supposed to be January 1st. We've gotten an extension of
22 that to July 1st with Assemblywoman Eastin's office.

23 An internal draft of the report was received
24 beginning of February, was passed out to advisors, and staff
25 reviewed that, got the comments back to the contractor, and

1 the final draft for public presentation was received toward
2 the end of April, was mailed out to all of the local
3 enforcement agencies, to the solid waste collectors and
4 landfill operators, public and private utilities, the
5 Association of Home Appliance Manufacturers, the Appliance
6 Recycling Center of America, Steel Can Recycling Institute,
7 various state agencies, including Air Resources Board and
8 the Department of Toxic Substances Control, which have some
9 role in metallic discards for the special materials that may
10 be released from those materials for their comment.

11 And also there was a notice put in the agenda,
12 gave the opportunity for people to request copies of the
13 report and about 28 copies of the report had been sent out
14 by request.

15 The report was presented to the Enforcement and
16 Advisory Council on May 21st and there were very few
17 comments received at that time. But we let the LEAs know
18 that the report was going to be presented at today's
19 committee meeting and one set of comments from San
20 Bernardino was received from the LEAs as of yesterday.

21 This is the first public presentation of the
22 report and so there are bound to be a variety of opinions
23 expressed this morning regarding the report and the
24 suggested option by the contractor for the management of
25 metallic discards.

1 We really want to stress in this that whatever
2 option we end up with we want to make sure first of all that
3 the option meets or facilitates the ban that goes into
4 effect January 1st of 1994.

5 Secondly, would stress a local role of local
6 enforcement agencies or other local government in
7 implementing that kind of a program with State oversight.

8 And third, should be the least burdensome to the
9 affected parties while achieving the goals that are spelled
10 out in the law.

11 So those are really the objectives that I think
12 that the report looked at.

13 And with that I would like to turn it over to Tom
14 Jensen of SAIC to actually present the report to the
15 committee.

16 MR. JENSEN: Thank you, Bill.

17 Mr. Chairman, Committee Members, I'd like to just
18 begin with talking about the purpose and objectives of this
19 report.

20 As Bill indicated, what we would like to do -- I
21 have some extra copies of the presentation back there and I
22 think the Board Members each have a copy.

23 What our goal is to do is to identify a
24 regulatory, technical and financial strategy for removal of
25 special materials from metallic discards and to do so in an

1 environmentally sound manner.

2 And we want to maximize recycling of metallic
3 discards, especially appliances, as much as possible.

4 With that goal in mind we established several
5 objectives.

6 One of the major objectives is to kind of estimate
7 current generation and recycling rates, to characterize the
8 existing management systems and associated problems. And
9 that is perhaps the most important thing to do, because
10 there was -- there is an existing management system for
11 metallic discards. And what we want to try to do is build
12 from that, based on any problems that we found, identify
13 environmental and public health hazards associated with
14 special materials.

15 Special materials, I should define those. What
16 they include are CFCs found as refrigerants in appliances
17 and automobiles, PCBs that may be found in some capacitors
18 of pre-1978 appliances, and sodium azide canisters found in
19 unspent automobile air bags.

20 Another objective that we have is to identify and
21 estimate the cost and revenues and the economic impacts
22 associated with AB 1760.

23 And we tried to, in looking at the issues, come up
24 with a relatively simple framework for trying to define what
25 economically feasible to salvage means.

1 And that's important because the law provides for
2 landfill owners and operators to not divert metallic
3 discards if there is not enough metal content to make their
4 diversion economically feasible.

5 A final objective is to identify and assess
6 management options and provide some initial suggestions for
7 this issue.

8 And I should state from the beginning we were
9 directed by the Waste Board staff to look at the issues,
10 gather facts.

11 When this process began very little was known
12 about metallic discards management in California. And we
13 did a survey, as Bill indicated, and that was one of the
14 primary sources of our information. But I think we're still
15 in a discovery process.

16 The approach that we took was to evaluate each
17 step of the metallic discards management system. The three
18 steps that we identified and focused on are handling,
19 processing and recycling.

20 Handling, as we've defined it in the report,
21 includes collection and transportation.

22 Processing includes removal of CFCs from
23 refrigerators or air conditioners or removal of
24 PCB-containing capacitors, or removal of sodium azide
25 canisters from unspent air bags.

1 The third step is recycling and that is the
2 process of crushing and transforming the appliance or car
3 through equipment, could be a shredder or a sheer, to reduce
4 it to a management size, a manageable size, so that it can
5 be recovered.

6 And most scrap metal these days is sent to
7 mini-mills for recovery.

8 In each of these steps we have identified
9 problems, environmental hazards, and the costs and revenues
10 associated with each of the steps.

11 And also looked at the economic impacts to the
12 extent possible of AB 1760.

13 And then based on the information that we've
14 collected, the goals of the legislation, and the problems
15 that we've identified with the existing system, developed
16 management options.

17 Our data sources included a mail survey sent out
18 to 243 businesses or individuals or organizations. Many of
19 them were involved in some way in appliance management.

20 The survey didn't focus very much on vehicle
21 management. The focus was more on appliance management I
22 think because from the beginning I think we understood that
23 the management challenges and problems were more in terms of
24 appliances than vehicles.

25 And we followed up the survey with phone calls.

1 We had about 59 responses from the 243, which is not a bad
2 response rate. And we followed up with some phone calls and
3 we called some other facilities that weren't on the list to
4 gather information.

5 We conducted six site visits of processors and
6 recyclers. We spent two days going into facilities such as
7 the Sacramento Municipal Utility District appliance
8 recycling yard.

9 We went to feeder yards or metal recyclers.

10 We went to shredders.

11 Talked to people, spent many hours going through
12 those facilities to identify issues and problems with the
13 current system.

14 We also conducted extensive literature searches.
15 And as you will note in the report each chapter has
16 extensive references that are listed.

17 Because we're in the process of collecting
18 information and the information that we've collected is not
19 complete, it's important to know that there are some
20 limitations with this report or any report.

21 One of the primary ones is that many of the survey
22 responses that were returned were only partially completed.

23 The second one is, although we did go to six
24 facilities, they were mostly in Northern California.

25 I think we got a good sense for what was going on

1 from talking to those facilities and talking to them about
2 who they receive appliances from, et cetera, but we could
3 not receive a complete picture of what was going on in terms
4 of management from the site visits, although they helped.

5 And as I mentioned before, I believe that the
6 report is a comprehensive overview of the major issues and
7 options facing the Waste Board and the State in terms of
8 metallic discards management, but as the report indicates,
9 especially in recommending metallic discards management task
10 force that would include agency and industry
11 representatives, we're still in a process of discovery.

12 And many of these issues and options and
13 recommendations require further discussion.

14 Now I'd like to move into some of the findings of
15 the report.

16 We found in terms of generation and recycling
17 based on a quantification analysis that we did with support
18 from Cal Recovery that in 1991 approximately 3.38 million
19 major appliances were discarded in California.

20 And other metallic discards, which include
21 wood-burning stoves, metal furniture, they were discarded at
22 a rate of about 301,000 tons in 1991.

23 Appliance and other metallic discards constitute
24 about one percent of the total solid waste stream by tonnage
25 in the State of California. And that's to give some

1 perspective in terms of how much metallic discards represent
2 in terms of the waste stream.

3 But I should also say that although it's only one
4 percent metallic discards, larger appliances or many
5 appliances cause problems in landfills and that is probably
6 one of the reasons why AB 1760 was enacted. They caused
7 problems in landfills because they are bulky and are very
8 hard to manage.

9 We did some research on published recycling rates.
10 We found for household appliances that they ranged between
11 25 and 40 percent. The most recent EPA characterization of
12 municipal solid waste management report indicated about 40
13 percent.

14 Our survey and the discussions with landfill
15 owners and operators, especially in urban areas, indicates
16 that for larger household appliances that rate may be higher
17 than 40 percent.

18 And we found in terms of vehicles that in 1991
19 approximately 1.43 million vehicles were discarded.

20 And almost all vehicles are recycled, about 90
21 percent or more. The reason vehicles are recycled is that
22 they contain such a large metal content that when you are
23 all done using your car and it doesn't work any longer or if
24 you get in an accident you can sell your car for anywhere
25 between maybe a couple hundred dollars to 2,000 or 2500 to

1 an auto dismantler. So vehicle recycling is very profitable
2 and the market works very well for vehicles.

3 To continue on in terms of the report findings,
4 and these are perhaps the most important findings with
5 respect to the legislative mandate of identifying a strategy
6 for removal of special materials from appliances, we found
7 that although most businesses manage -- that manage
8 appliances that contain CFCs remove them, a significant
9 number however of mostly small businesses and small
10 operators do not remove them.

11 We found that from talking to many appliance
12 recyclers and talking to some of the major metal recyclers
13 in the state.

14 For example, we went to one facility, one very
15 large facility in the Bay Area and spent several hours
16 there.

17 On any given day they receive perhaps a hundred
18 refrigerators. Most of the refrigerators that they receive
19 are from very small operators.

20 And we met a few of those people and it's our
21 sense, and I think some of the Waste Board staff who went
22 out that day, it's their sense as well, that those small
23 operators who basically work from small trucks, that they
24 may not have and probably do not have the capacity, the
25 equipment, to properly recover the CFCs.

1 Although the metal recyclers require them to
2 certify that they were removed, it's our sense that they
3 were either removed, you know, by the households or removed
4 illegally. It's very hard to document that, but if you look
5 at the alternative, these CFC recycling machines cost
6 several thousand dollars and many of the people that deliver
7 the appliances to the metal recyclers do not have the means
8 to invest in that kind of equipment.

9 However, many of the larger yards, for example
10 SMUD and landfills, are in compliance and do remove CFCs.

11 Another finding that we had is that in terms of
12 collection and transportation of appliances we found that
13 the new Clean Air Act requirements for CFC removal and
14 recovery prior to disposal do not apply to transportation.

15 And we found, and based on our survey as well as
16 information provided by other states, that CFCs are more
17 likely to be released during transport than at the time that
18 they're removed or evacuated.

19 Basically the problem is that a refrigerator may
20 be improperly loaded onto the back of a truck and, as many
21 of you know, the refrigerator back has coils that contain
22 the CFCs. And many times refrigerators may fall down and
23 the coils may be punctured or damaged and that's where you
24 may get the release of CFCs.

25 So that is one of the reasons why we suggested

1 some kind of certification program for businesses and
2 operators that transport appliances. So they would be able
3 to train their staff and they would be able to use the kind
4 of equipment that would minimize that kind of release during
5 transport.

6 We found that removal of PCB-containing capacitors
7 and ballast does not occur although metal recyclers have a
8 policy against receiving appliances with PCB-containing
9 capacitors.

10 It was pretty obvious that it's very very hard to
11 enforce that kind of policy because at this point there's
12 not all that much good information on which appliances may
13 contain PCB-containing capacitors.

14 So that is a problem that we need to look at.

15 And I want to spend a little time with this issue
16 because it affects the management cost. For removing PCB
17 capacitors it's very expensive.

18 One of the reasons it is because it takes labor
19 time and also PCB-containing capacitors, once they're
20 removed are hazardous waste and have to be managed as
21 hazardous waste.

22 The report includes some information that
23 basically finds that the appliances that are most likely to
24 include or have PCB-containing capacitors include furnaces,
25 air conditioners and microwave ovens.

1 However, we are not able to say without exception
2 that other appliances do not contain PCB-containing
3 capacitors.

4 So what we did with cost was assume that all those
5 that may contain PCB-containing capacitors would have to be
6 removed and that increases the cost about \$7 million in
7 terms of removal, from 3 million if you're only talking
8 about those three appliances, to about 11 million if you're
9 talking about the other ones.

10 Since we delivered the draft report we have
11 received a comment and a very interesting letter from the
12 EPA in 1978 where EPA takes the position that they think
13 that most, if not all, PCB-containing capacitors are limited
14 to those three appliance groups.

15 If the board could make that kind of determination
16 and if regulations follow or new legislation follows that
17 limits the removal of PCB-containing capacitors to those
18 three appliances, then I think costs could be kept down
19 substantially.

20 Vehicle dismantlers, which are licensed by the
21 Department of Motor Vehicles, manage almost all vehicles in
22 the State of California. That's significant again in the
23 sense that they are licensed. Vehicle recyclers or scrap
24 recyclers will only take cars from licensed dismantlers. So
25 there's a much more limited group of operators in the

1 vehicle system than in the appliance system and that's why
2 we felt as though the vehicle system requires less
3 regulation than the appliance system because it's working.

4 However, as I will get into in a few minutes,
5 there's some issues to investigate with respect to removal
6 of sodium azide canisters in air bags.

7 However, at this point very few in-tact air bags
8 or very few air bags are found in discarded cars and that's
9 primarily because air bags were not really introduced into
10 cars until 1990 or 1991.

11 However, given that a car has a 15- to 20-year
12 life we're going to see most cars as they're discarded have
13 air bags within 15 or 20 years, so it is a problem that we
14 need to look at.

15 Right now it doesn't seem to be a problem at
16 vehicle dismantlers, however we did find when they do find
17 air bags that most of them are not aware of proper
18 procedures for activating them or removing them. And I
19 think that is something that the agencies or the Waste Board
20 could take up and I think it is a problem that could
21 potentially be solved by public education.

22 Now, I want to go over some findings with respect
23 to cost, revenues, and economic impacts.

24 Unlike some other wastes or secondary materials,
25 metallic discards have a relatively healthy market for

1 themselves and this solves many problems. We don't have to
2 worry that much about auto hulks or many appliances not
3 being recovered into reusable parts or recovered into new
4 steel products.

5 However, the problem are more in terms of the
6 costs associated with collection and transportation and
7 processing. That's what would affect recycling much more
8 than that there isn't a market.

9 The annual costs for appliance management,
10 assuming a hundred percent compliance with AB 1760 and with
11 the Clean Air Act is we estimated about \$97 million
12 annually. This is about an \$11 million increase over --
13 once the removal requirement is affected with respect to PCB
14 capacitors it would be about \$11 million over current costs.
15 We're assuming current costs include recovery of CFCs from
16 appliances.

17 However, as I indicated, the \$11 million
18 incremental cost may be less if we can narrow the group of
19 appliances that contain PCBs.

20 Again, as I've indicated, collection and
21 processing fees present the greatest barrier to recycling,
22 because again a refrigerator, for example, could cost
23 anywhere between 30 to \$40 to -- for the household to pay to
24 have that refrigerator collected, transported, and
25 processed.

1 And that's what leads to some of our concerns
2 about the fact that some of these appliances may not be
3 recycled and that some of the appliances, particularly in
4 rural areas, may be illegally discarded.

5 And I think it makes sense because the costs are
6 relatively high to get rid of that one single appliance that
7 you've had in your house and I think without some kind of
8 educational program or perhaps some kind of grants and loans
9 to reduce the impact, especially in rural areas, we may have
10 more illegal disposal or we may not see the kind of
11 compliance rate that you want.

12 One of the other things that we looked at, as I
13 indicated, was economic feasibility of diverting.

14 And we basically concluded that if a processor or
15 for example a landfill owner-operator could charge fees to
16 collect his or her costs and there was a healthy market for
17 scrap as there is today, then appliances should be recycled
18 and would be economically feasible.

19 Again, the economics of automobile recycling are
20 not a problem and the legislation is not anticipated to
21 affect automobile recycling.

22 And on balance with the restrictions on disposal
23 of appliances beginning 1-1-94, we believe that recycling of
24 appliances will increase.

25 The next area of findings that I want to go over

1 are the hazards. And briefly I think we all know that there
2 are hazards associated with CFCs and PCBs. These chemicals
3 have to be managed to prevent problems in terms of human
4 health.

5 And as we've indicated the releases from
6 appliances that contain CFCs are much more likely during
7 transport than during recovery.

8 To provide some kind of perspective, the releases
9 from CFCs when appliance is discarded account for about one
10 percent of total CFC releases annually in the United States.

11 I want to talk again about vehicles and the
12 problem associated with sodium azide canisters.

13 We have basically found that the information to
14 date that's published in reports is contradictory on the
15 risks and hazards associated with sodium azide canisters
16 going through recycling operations, going through shredders,
17 as well as the residual that may be found in fluff.

18 We found some agency reports, government reports,
19 indicating that it does not appear to be a problem.
20 However, we found some industry reports indicating that it
21 may be a problem.

22 The report concludes, and I'll get into
23 recommendations in a moment, but I'll foreshadow this to
24 you, is the report concluded that because the costs of
25 establishing a new system, permit system in effect for

1 recovering and processing sodium azide canisters from cars
2 may be expensive, it probably warrants more study than a
3 recommendation that goes ahead and that we go ahead and
4 regulate that now.

5 I want to go to the management plan options and
6 briefly discuss them and any questions I'll be happy to fill
7 in any more information that I don't cover.

8 Option 1 is in effect the current management
9 system. The current management system includes the landfill
10 ban, which would be effective 1-1-94, the Clean Air Act
11 requirement for removal and recovery of CFCs from discarded
12 appliances, as well as if PCB capacitors are removed from
13 appliances they have to be managed as hazardous waste.

14 Those are the major components of the current
15 management system.

16 In terms of how well that's working, I think the
17 major problems are that we believe that the CFC recovery
18 compliance rate is not as high as it should be in some
19 instances, or many instances PCB capacitors are not being
20 removed.

21 One could ask the question why don't we just
22 continue on with the current system, not have any kind of
23 additional certification or permitting associated with
24 especially the CFCs.

25 And the problem with that is because of CFCs can

1 be released during transport and that is not regulated under
2 the Clean Air Act, then we still have a problem in terms of
3 release of CFCs and therefore we have a threat to the
4 environment as well as we're not recovering as much CFC as
5 we could.

6 The other problem if we just leave the CFC issue
7 regulated the way it is is that it's relatively expensive,
8 as I've indicated, to collect and recover CFCs from
9 appliances. And in some areas people may be spending as
10 much as 40 to \$60 an appliance.

11 And I think we should be asking the question how
12 will that affect recycling? Will some areas find or some
13 owners or operators find that they can't charge a high
14 enough fee at their landfill to have that appliance
15 transported to an appliance or appliance recycler or an --
16 excuse me, a scrap recycler? It's just a matter of
17 economics.

18 And they can go ahead and find that it's not
19 economically feasible. For example, it may not be in remote
20 areas where transportation costs back to a scrap recycler
21 are high. They can find that, and you may see those
22 appliances discarded in landfills, because they don't have
23 to be diverted if an owner-operator can find that it's not
24 economically feasible to do so.

25 So those are the problems with the current

1 management system.

2 We found that AB 1760, in our opinion, requires a
3 little bit more than that to meet the goals of the law in
4 terms of removal and in terms of enhancing recycling.

5 So the other options, 2, 3, 4 and 5 are all
6 variations on more or a less a permitting and compliance
7 program for removal of CFCs and PCBs, only focusing on
8 appliances at this point. We're not recommending regulation
9 of vehicles because the sodium azide issue needs to be
10 further investigated.

11 The options differ with respect to financing and
12 with respect to who is responsible.

13 Option 2 is a permitting program that would
14 require that transporters and collectors of appliances
15 certify with some State agency, I don't know which one, so
16 they would have to comply with certain transportation
17 requirements and so we can reduce the risks associated with
18 CFC release during transport, as well as we could guarantee
19 or at least increase the chances that we wouldn't have
20 illegal release of CFCs before the appliance got to a
21 recycler.

22 The other components of that program include some
23 kind of permitting or certification for processors where
24 they would have to train their staff, they would have to
25 register with the State, and they would have to properly

1 remove CFCs and PCBs to the extent that PCB capacitors are
2 in appliances.

3 This particular permitting program is found in
4 several other states.

5 The third option is that permitting program plus a
6 financial assistance program. This was included, the
7 financial assistance program, was included and it basically
8 includes about a five percent or a \$5 ADF on the sale of new
9 appliances.

10 We included it because we found that appliance
11 recycling costs to consumers are relatively high, as I've
12 indicated, and in some areas we may not see diversion of
13 appliances and in some areas we may see more illegal
14 releases or venting of CFCs.

15 So that's basically that option, permitting plus
16 some kind of financial assistance program.

17 Where would the ADFs go? They would go to
18 supporting in a minimal way the State program or State or
19 local program for permitting or certification, although that
20 also could be supported by permitting fees.

21 But primarily the financial assistance program
22 would go toward grants and loans for establishing processing
23 facilities and for helping to cover some of the costs,
24 especially in rural areas, so we can keep compliance high
25 and recycling of appliances high as well.

1 Option 4 is a variance of Option 3. Again, it
2 requires the same minimum permitting requirements, but it
3 also includes a guaranteed acceptance program with an ADF,
4 whereby appliance retailers, landfill owner-operators,
5 transfer stations would have to accept appliances at no
6 change or a reduced charge from generators. And that would
7 be funded by an ADF.

8 However, that particular ADF, if it were enacted,
9 would be higher than the ADF for Option 3 because it would
10 have to pay more of the costs than simply a grant and loan
11 program to subsidize in some areas of the state where we
12 found that recycling wasn't as high as we wanted it.

13 Option 5, which is the preferred alternative, is
14 manufacturers' responsibility or manufacturers' entity
15 approach, which has been tried with some waste streams in
16 other states particularly.

17 The components of this would be the same in terms
18 of permitting, where manufacturers would basically be
19 responsible for either collecting and processing appliances
20 or paying for the existing system to do so.

21 And you would suspect that they would pay for that
22 based on increased prices on new appliances. So basically
23 the consumer would in the end pay that program or pay for
24 that program.

25 The permitting, as I've indicated, permitting

1 program would be the same in terms of the transportation and
2 processing requirements. In this case the manufacturers,
3 however, would be responsible.

4 The major advantages of this particular approach,
5 although Options 3 and 4 would solve some of the same
6 problems, are that it would be easier to ensure compliance
7 with this particular manufacturers' responsibility approach
8 because there are relatively few appliance manufacturers in
9 the United States. Most of them have established either
10 established centers or the retailers who they may be working
11 with have established centers, many of which take back
12 appliances now and participate in the recycling program of
13 them.

14 So it would be easier to ensure compliance with
15 this particular approach.

16 Another advantage is that it would solve some of
17 the problems in terms of cost and paying for this program.
18 Instead of an ADF this could support the financing of a
19 particular program.

20 And now I'd like to briefly go through
21 recommendations. And I've covered most of them.

22 We just talked about the manufacturers'
23 responsibility approach.

24 I mentioned this metallic discards management task
25 force. I think that is a good way of getting the multiple

1 agencies that have responsibilities in this area together,
2 perhaps figuring out which agency should be responsible and
3 also working with manufacturers and other parties in the
4 system on developing a management approach.

5 Briefly go over some of the other recommendations
6 of the report.

7 We basically found looking at the existing system
8 and agency responsibilities that it may make sense to have
9 the Department of Toxic Substances Control be responsible
10 for the permit program since the focus is really removal of
11 hazardous waste.

12 However, other agencies including the Air Board
13 and if transportation was regulated, Department of
14 Transportation would participate in the program as well.

15 But one of the issues that the Waste Board and
16 other agencies may want to think about is which agency has
17 the most responsibility or the broadest responsibility with
18 respect to appliances.

19 One of the things about the Waste Board is that
20 the Waste Board is interested in recycling as well as
21 environmentally sound recycling and in that case it may make
22 sense for the Waste Board to be responsible.

23 Another responsibility of the Waste Board has is
24 at landfills and other solid waste management facilities.
25 Most of these facilities manage appliances. So does it make

1 sense to have people from local APCDs or the Air Board or
2 the Department of Toxics go to these facilities to work on
3 compliances, issues on refrigerators or other discards.

4 And that's just something that the Waste Board may
5 want to consider.

6 And then we've also included some recommendations
7 to amend the law in terms of giving discretion to the lead
8 agency to define major appliances.

9 Also to delete sodium azide canisters from the
10 list of special materials and study it further.

11 Also to further define materials that require
12 special handling.

13 In this program in addition to the permitting
14 program we found, based on the surveys, that people wanted
15 more information, not only businesses that have to comply,
16 but agencies. They wanted more information on a recovery,
17 on equipment, on where appliances could be taken, on a
18 number of issues.

19 So we believe and suggested a need for education,
20 technical assistance, and training programs.

21 And then we've also included several other
22 recommendations in terms of improving knowledge of some
23 other special materials, taking a look as the landfill ban
24 become effective in terms if there's adequate State
25 processing capacity for appliances.

1 And probably one of the most important things is
2 continue to coordinate with agencies and manufacturers on
3 developments in terms of new technologies and how to manage,
4 for example, alternative refrigerants.

5 And as I've indicated, a couple of the
6 recommendations include an ADF. I think with any kind of
7 ADF program and perhaps with respect to the manufacturers'
8 responsibility program, it makes sense to do a fiscal
9 analysis to see if that ADF or that particular option will
10 solve the problems that you want to solve.

11 And then finally to investigate ways to enhance
12 the recycling of certain appliances that are not recycled at
13 high levels including hot water heaters, microwave ovens,
14 dishwashers, motorcycles, bicycles.

15 That concludes my presentation and Bill is next.

16 MR. ORR: What we'd like to do at this point is we
17 have Tom available for questions from the Committee Members
18 and I'm joined here by Steve Austrheim-Smith and Trevor
19 O'Shaughnessy of the special waste section have been the
20 staff people in the development of this management plan.

21 COMMITTEE CHAIRMAN EGIGIAN: Thank you.

22 Jesse, do you have any questions on this?

23 COMMITTEE MEMBER HUFF: No questions at this
24 point.

25 COMMITTEE CHAIRMAN EGIGIAN: I have a few

1 questions.

2 What happens to the sodium azide when a fellow
3 gets into an accident? I know it blows up the bag, but what
4 happens after that?

5 MR. JENSEN: If it's activated then there are
6 chemical reactions that take place that basically make it
7 not hazardous. So it's basically after it's been activated,
8 it's my understanding, that it's not hazardous.

9 So the simplest way for an auto recycler or a
10 junkyard to manage an air bag if it's in tact when they
11 receive it is to activate it. Once it's activated then it
12 can go through a shredder without any problem at all.

13 COMMITTEE CHAIRMAN EGIGIAN: Can't something like
14 this be put on refrigerators too?

15 MR. JENSEN: I think with respect to this CFCs?

16 COMMITTEE CHAIRMAN EGIGIAN: Uh-huh.

17 MR. JENSEN: Basically when the CFCs are released
18 they don't change in the chemistry. They're released and
19 they go in the atmosphere.

20 COMMITTEE MEMBER HUFF: Not until they reach the
21 wherever it is.

22 MR. JENSEN: Then they react with chlorine and
23 destroy the ozone layer.

24 COMMITTEE CHAIRMAN EGIGIAN: That's not a proven
25 fact is it, that they destroy the ozone layer?

1 MR. JENSEN: Some studies have led to --

2 COMMITTEE CHAIRMAN EGIGIAN: Lot of different
3 opinions.

4 I'm surprised that you talked about economics and
5 feasibility. I'm sure some of the writers of 939 should
6 have taken that into consideration when we hear that New
7 York is paying \$275 a ton to recycle materials that are not
8 returning any value to the City at all. And many of the
9 haulers today are finding out the same situation.

10 So there's something else that you might have
11 missed there. A lot of refrigerators are being recycled and
12 reused.

13 Why I say this is I have a tenant in property that
14 I own that does this.

15 And that isn't taken into consideration as far as
16 your figures are here.

17 These people go ahead and clean them up and repair
18 them and I imagine even recharge them and they're back being
19 used for a good usable period of time.

20 But I think that I'll stop my questions right now
21 and give the people that came to speak on this some time to
22 tell us how they feel about it.

23 So if you have nothing else then we'll go ahead.

24 MR. ORR: Not at this time.

25 COMMITTEE CHAIRMAN EGIGIAN: The first speaker

1 will be Terry Thiele.

2 MR. THIELE: Thiele.

3 COMMITTEE CHAIRMAN EGIGIAN: Thiele. I should
4 know that.

5 MR. THIELE: My name is Terry Thiele. I'm senior
6 counsel with the General Electric Company and I'd like to
7 thank the board for giving GE the opportunity to speak this
8 morning with regard to the draft report.

9 In summary, GE opposes adoption of the draft
10 report as written. And first and foremost, the reason for
11 that being it goes well beyond the statutory mandate laid
12 out in AB 1760.

13 As the first speaker stated, and I apologize I
14 don't know the gentleman's name, he pointed out that the
15 purpose of the draft report was to come up with a management
16 plan for handling the two requirements laid out in AB 1760,
17 that is the ban on metallic discards and the special
18 handling material removal.

19 That is not what the statute calls for.

20 The statute calls for a management plan for
21 materials requiring special handling only. It does not call
22 for management plan for implementing the ban on metallic
23 discards.

24 So the taxpayers of the State of California have
25 paid for a consultant's report that talks about a lot of

1 things that the statute didn't call for.

2 Why that focuses our mind wonderfully is because
3 when we get to the recommendations on manufacturer
4 responsibility, the report calls for manufacturers to take
5 back all appliances. And it specifically states regardless
6 of whether or not they contain special materials.

7 Point to be made is that the report's
8 recommendations incur costs and address issues far and away
9 beyond what AB 1760 contemplated.

10 One final example. The report spends a great deal
11 of time discussing what is economically feasible to salvage.
12 That is not the requirement that was imposed for this report
13 to address. The feasibility of salvage has nothing to do
14 with the report on special handling or special materials
15 handling.

16 The report recommends a drastic solution for which
17 no drastic problem exists. There are two special materials
18 involved here, CFCs and PCB.

19 CFCs appear in both appliances and vehicles.

20 I note with interest that the report found a
21 problem with the EPA requirements on CFC handling insofar as
22 it applied to old appliances, but did not find the same
23 problem existing for old vehicles, and I don't understand
24 the reason why.

25 If the opportunity for losing CFCs exists in the

1 transportation of old appliances it also exists for the
2 transportation of old vehicles.

3 The one point that was made with regard to CFCs,
4 though, was the opportunity for loss during transportation.
5 I would point out that in the last two weeks the EPA has
6 issued the final rule implementing the Clean Air Act
7 amendments of 1990. The ban on CFC venting took effect last
8 July.

9 The General Electric Company has provided service
10 technicians with the equipment and the training to take care
11 of CFC recapturing. That requirement now exists for anyone
12 who is involved in CFC removal. They have to be trained,
13 their equipment has to be certified, and in fact there is a
14 reporting and recordkeeping obligation that goes along with
15 that.

16 EPA penalties of \$25,000 are now on line, applying
17 to anyone who illegally vents CFCs, be they in automobiles
18 or appliances.

19 I fail to see how the recommended additional
20 California permitting system would magically make it less
21 likely for emissions to occur, venting to occur during
22 transportation than the extremely severe EPA system that is
23 now in place. A system is a system is a system and it's
24 only as good as it can be enforced.

25 But even if there were no system that could

1 enforce it, the report provides the basis for demonstrating
2 that within the next few years CFC recapture will be pursued
3 by appliance recyclers and it will not represent a cost.

4 When CFC phase-out becomes mandated at the end of
5 '95, there will be an extremely large installed base of
6 commercial chillers that still need CFC-12, which is the
7 refrigerant used in appliances, for their servicing needs.

8 The value of CFCs, the report points out, will go
9 up seven-fold. The Wall Street Journal pointed out within
10 the past month that there's a futures market already being
11 created for CFCs.

12 Once the phase-out is in place, once the small
13 processors realize that there is money to be made for CFC
14 recapture, you will find that CFC removal will incentivize
15 the appropriate handling of this special material.

16 COMMITTEE MEMBER HUFF: Incentivize?

17 MR. THIELE: Incentivize, that's a lawyer word.

18 Pay extra money.

19 So from a long-term standpoint, CFC removal does
20 not present a problem that requires a permanent systemic
21 change.

22 Speaking to PCBs, the report makes several
23 assumptions about PCB presence in appliances that are simply
24 wrong.

25 As the gentleman pointed out, EPA in 1988 looked

1 into the issue of PCBs and appliances because of the
2 concerns that shredders have and found that an extremely
3 small number, in fact they quoted the number five percent,
4 of appliances were likely to contain PCBs.

5 The report makes the assumption, however, that all
6 appliances that have capacitors be considered as having PCB
7 capacitors because you can't tell the difference.

8 It then goes on to make the assumption that the
9 waste stream that it has data for in 1991 carries on into
10 the future indefinitely.

11 It ignores the fact that issue sunsets in 1998
12 when the 20-year life cycle for 1978 and pre-1978 appliances
13 ends.

14 The Department of Energy uses a 19-year life span
15 for refrigerators. From the effective of the requirement,
16 January 1994 until 1997, you're looking at a 36-month
17 problem.

18 If you look at any realistic data on the life
19 cycle, it's obvious that it represents a curve, not a
20 straight line. And between 1991 and 1998 the number of
21 appliances from the pre-1978 fleet that are going to be in
22 the waste stream drops dramatically.

23 In addition to that, that pre-1978 fleet, when we
24 are talking about refrigerators, at most 25 percent of those
25 refrigerators had PCB capacitors.

1 So when you're talking a quarter of the waste
2 stream when the waste stream is going down a curve and when
3 the issue sunsets in 1998 with the life cycle end of that
4 fleet, one wonders why a permanent, drastic systemic change
5 is justified for addressing this one special material
6 handling issue.

7 Speaking briefly about the solution that the
8 report recommends, it has a number of serious problems that
9 are not fully vented.

10 First and foremost is the legality of requiring
11 manufacturers to take back appliances that they did not
12 manufacture.

13 The question becomes one of impact on interstate
14 commerce as well to the extent that appliance manufacturers
15 are obliged to do this in the State of California but they
16 are not obliged to do it in the State of Nevada.

17 The report mentions that manufacturer take-back
18 has been tried. I believe that the only application of
19 manufacturer take-back in the United States has been soda
20 pop bottles.

21 And with all due respect, the application of
22 take-back varies widely depending on whether you're dealing
23 with cyclical goods, returnable containers, or durable goods
24 with a life span of over 20 years.

25 My understanding is that manufacturer take-back on

1 packaging has been adopted in Germany, but a critique of
2 that system is that in effect what drove it is the desire of
3 the German manufacturers to have a non-tariff barrier to
4 out-of-state goods.

5 French goods don't sell well in Germany if the
6 French manufacturer or the French retailer is obliged to go
7 back in and get the packaging.

8 The jury is still out on whether manufacturer
9 take-back of packaging in Germany is useful from a solid
10 waste disposal standpoint.

11 Finally, the workability of manufacturer
12 take-back. The report recommends that a group of
13 manufacturers who have had no experience, history, or
14 expertise be placed in charge of a system which is currently
15 running quite well. In fact, the report demonstrates that
16 the system is running quite well and that if there is an
17 issue it's with the small processors and perhaps in the
18 rural areas.

19 I guess what makes me frankly irritated is that we
20 met with the Waste Management Board staff in November of
21 this past year and as an industry offered our assistance in
22 the support of this report. We were never called upon to
23 comment on these recommendations, nor was our input ever
24 asked for in terms of suggested operations or to any great
25 deal of influence was our opinion sought on how best to

1 handle this problem.

2 I note with interest that the consultant commented
3 that we're already taking back appliances in the current
4 system.

5 That points up the consultant's lack of
6 understanding of how we run our industry. Manufacturers do
7 not take back appliances in the current system, retailers
8 do. Manufacturers sell their product to retailers. Once it
9 goes to the retailer, we don't own it anymore.

10 To the extent retailers choose to take back
11 product is for marketing purposes and it has absolutely
12 nothing to do with manufacturers.

13 So as the report points out the present system is
14 working and I don't see why it is we need to change it.

15 To the extent you're looking at CFC removal there
16 are requirements in line and incentives will drive the cost
17 in a positive manner.

18 To the extent we're talking about PCBs it is a
19 sunset issue that is rapidly dropping in importance.

20 And if anything needs to be done at all, certainly
21 it's focusing on those areas where PCB capacitor removal may
22 not be taking place, which is at the small processor level.

23 I'll shut up now and take any questions you have.

24 Thank you for the time.

25 COMMITTEE CHAIRMAN EGIGIAN: Thank you.

1 Any questions from the Committee?

2 Thank you.

3 Mr. Brooke Stauffer.

4 MR. STAUFFER: Thank you, Mr. Chairman.

5 I'm Brooke Stauffer of the Association of Home
6 Appliance Manufacturers. Our association represents the
7 manufacturers of all home appliances in this country.

8 We appreciate the opportunity to be here today at
9 this hearing and to testify about our concerns with the
10 report.

11 I'm submitting written comments for the record.
12 I'm not going to read those comments today. Some of the
13 major concerns that we have have already been covered by
14 Mr. Thiele and I'm just going to spend a few minutes hitting
15 what seemed to us some of the most important points.

16 First off, one of the most striking things that we
17 found about the draft report was how well it documented that
18 the system in California is working now.

19 If you look at the report you'll find that the
20 majority of white goods, the white goods being a term which
21 is often used for cooking and laundry products, are already
22 being recycled. The report states at one point that very
23 few large appliances are being landfilled.

24 This is, of course, because of the economic
25 incentive. The metal content of the appliances leads to

1 their being recycled already.

2 The report indicates that the service sector is
3 already largely complying with regulations on the proper
4 handling of CFCs, states that the processing capacity in
5 California is adequate to handle the expected numbers of
6 white goods.

7 And finally the draft report tells us that
8 appliance recycling under the current system is profitable.

9 What the report doesn't do in our reading is
10 really identify that there is a problem with recycling white
11 goods in the State of California.

12 The two major problems that it talks about are the
13 handling of CFCs and the handling of PCBs. Terry Thiele has
14 already summarized our position on that adequately so I
15 won't repeat it.

16 I will finish up by saying that what we think is
17 the two other areas that the report indicates as being a
18 possible concern are improper disposal of appliances in
19 rural areas and the need to better educate and train some
20 small processors to handle appliances in a way which will
21 minimize the accidental release of CFCs and so on.

22 We certainly agree with these conclusions.

23 We feel that manufacturer take-back is a very
24 drastic solution for a problem that has not been
25 demonstrated. If disposal patterns and problems are

1 different in rural areas as they are in urban, and we know
2 that they are, the volumes are different, the economics are
3 different, that perhaps what we need to look at is a more
4 focused solution which focuses on the particular problems of
5 responsible disposing of and recycling appliances in rural
6 areas.

7 And also we need to focus on education of the
8 small processors.

9 Again, we feel that the new EPA regulations which
10 are being implemented have such drastic penalties that we'll
11 see a much higher rate of compliance among small processors
12 in the future on the proper handling of appliances that
13 contain CFCs, but that there is a lot of education work that
14 could be done to make the system work even better.

15 That summarizes AHAM's testimony.

16 I would just like to indicate while I'm here that
17 testimony was also submitted just yesterday by Russell Range
18 Company. This is a California-based range manufacturer,
19 small company based in South San Francisco, only a few years
20 old.

21 I'm not going to read their testimony, which has
22 been submitted to the record, but it can be summarized by
23 saying that manufacturer take-back would be a very harsh
24 economic penalty for them. They're a small company. If
25 they were forced to take back ranges that they didn't

1 manufacture they wouldn't be able to do is what their short
2 testimony says.

3 And last we have testimony from Whirlpool Company,
4 which is another large full-line manufacturer making the
5 full range of home appliances, and they basically echo the
6 AHAM testimony.

7 That's the end of my statement, Mr. Chairman.

8 COMMITTEE CHAIRMAN EGIGIAN: Thank you,
9 Mr. Stauffer.

10 Any questions of Mr. Stauffer from the committee?

11 Thank you very much, sir.

12 MR. STAUFFER: Thank you, sir.

13 COMMITTEE CHAIRMAN EGIGIAN: Next speaker is Larry
14 Sweetser.

15 MR. SWEETSER: Good morning, Chairman and members
16 of the committee. My name is Larry Sweetser with Norcal
17 Waste Systems.

18 And just want to mention as this January 1st, '94
19 deadline approaches, really appreciate the Waste Board
20 taking a look at this issue in advance and hopefully
21 answering some of the questions that we've had. And these
22 are kind of the questions that we deal with all too
23 frequently in the solid waste industry, as many of you know.

24 Norcal, like all the other solid waste industries,
25 have to implement a lot of these requirements.

1 We found out the hard way from the CFC ban last
2 year that the lack of guidance can be a problem in trying to
3 justify to customers why we're imposing stringent controls
4 on them.

5 So the need for education of the public and a
6 clearly defined workable program would really help as far as
7 some guidance for us.

8 We found that through that CFC ban we ended up
9 having to force customers to charge anywhere -- what we
10 ended up charging anywhere from 25 to \$55 per appliance and
11 some of them got hit with that overnight.

12 And contrary to what the first speaker said, it's
13 not really an issue of making the customers aware of what
14 the charge is, it's whether they're willing to pay.

15 Many of them left with their own appliance to find
16 other means of disposal.

17 That's one issue you may want to keep in mind.

18 Which kind of brings me to one of the focuses on
19 the report. It focused on the processing of metallic
20 discards and I'd like to urge that whatever recommendations
21 you come up with on this report that you also include the
22 other item that was on today's agenda as far as recycling
23 facilities, that whatever guidelines or permit requirements
24 be imposed upon the processing facilities for these also be
25 taken into account or similar activities on the recycling

1 side, on recycling facilities. They're very similar
2 processes handling different types of materials, so those
3 requirements should be consistent between the two types or
4 the different types of recycling of processing facilities.

5 So hope you can keep that in mind as we go about
6 trying to define the requirements for recycling facilities
7 in general.

8 Also on the report, like to see more information
9 in there helpful to us as solid waste operators, as we're
10 going to be the ones charged with implementing this. And I
11 know all too well from last year some of the difficulties of
12 trying to implement these requirements.

13 We're forced with always trying to answer the
14 question is can you take this item or if you can't take it
15 what am I going to do with it.

16 So we try to offer the options to the customers.
17 Sometimes it's handling it ourselves, sometimes it's taking
18 off-site.

19 So whatever guidelines come up with need to be
20 practical from that standpoint.

21 The manufacturers' responsibility requirements may
22 be a helpful step in there, but I don't think they can exist
23 by themselves. There's a lot of pressure -- the pressure on
24 manufacturers on this and other issues, there has been some
25 success in the past, mostly enforcing the use of less

1 hazardous materials. I know some of the refrigerators and
2 other items are coming out with either nonhazardous or less
3 hazardous components.

4 So that may be one impact that this -- some of the
5 recommendations may have.

6 But also keep in mind that some of these
7 refrigerators, as was mentioned, have a life cycle and even
8 programs implemented now to reduce those hazards, those
9 refrigerators will be around for a while. It's not too
10 often that people throw away a brand new refrigerator. We
11 usually get them after many years old.

12 And I can attest that lot of the refrigerators we
13 have been getting in empty but we have to go through the
14 process of checking them, which means charging the customers
15 anyway.

16 So there are some issues with that.

17 In closing, just like to urge the board to include
18 more detailed information on how solid waste operators
19 should be handling these materials prior to or even
20 including processing of the items.

21 And also we would like some guidance in helping
22 determine what is economically feasible or economically
23 infeasible to salvage. That's going to be a big question
24 for a lot of the smaller operations, as well as to what size
25 level we have to consider as a metallic discard. The law is

1 not too clear. It starts out at appliances and stoves and
2 work its way down to microwave ovens and scooters and irons.
3 How small do you want to go? We're going to need some
4 practical guidance in order to comply with that at our
5 facilities.

6 I think further input through the task force would
7 be helpful or if a task force is needed. It may be a
8 workshop would suffice to have further discussion on a lot
9 of these items and come up with a program that's workable
10 for all.

11 And appreciate the opportunity.

12 COMMITTEE CHAIRMAN EGIGIAN: Thank you, Larry.

13 Any questions to Larry?

14 None.

15 Last speaker on this is Mr. Jones from Appliance
16 Recycling.

17 It says Mister. I'm sorry. You get over 40 it's
18 sometimes hard to distinguish.

19 MS. JONES: Mr. Chairman, members of the
20 committee, and guests, my name is Glynnis Jones and I'm with
21 Appliance Recycling Centers of America in Minneapolis,
22 Minnesota.

23 COMMITTEE MEMBER HUFF: Over 40?

24 MS. JONES: And we have worked with --

25 COMMITTEE MEMBER HUFF: Do you know anyone who is

1 40 on this panel?

2 MS. JONES: We have been working with the board
3 staff over the last several months as they've been looking
4 at the metallic discards management plan, and we have
5 previously submitted a letter with our comments in regard to
6 the plan.

7 One of the issues that is very important to our
8 company, we start and we develop and operate centers. We
9 have nine of them in the United States and Canada at the
10 present time where we collect, process, and recycle unwanted
11 major household appliances. That's the only business that
12 we are in and we have been in that business for 17 years.

13 We started out working primarily with the major
14 retailers, Sears, Montgomery Wards, and others. Also
15 working with large waste management companies.

16 The issues that were reflected in the staff's
17 recommendations and the management plan in regard to the
18 collection of appliances is one that we feel very strongly
19 about.

20 We primarily collect appliances from within the
21 customers' homes as well as at the curbside.

22 One of the problems that you'll find with systems
23 that rely heavily on homeowners dropping appliances off at
24 centralized locations is it's extremely difficult to get a
25 refrigerator in the back of your Datsun hatchback and so

1 most people will steer away from that.

2 We provide a different type of service in some
3 locations. For example, this fall we're going to be opening
4 a center in Southern California. We've recently been
5 selected by the Los Angeles Department of Water and Power to
6 implement a program similar to the one that's run by the
7 Sacramento Municipal Utility District.

8 In that program we'll be focusing only on
9 operating second refrigerators. So that means the one that
10 you might have in your garage or in a porch way where you're
11 keeping spare food and extra pop and that kind of thing.

12 This is an energy conservation program that relies
13 on the fact that when the refrigerator is removed it stops
14 consuming electricity.

15 Under the guidelines of the program our company
16 will not be allowed to collect non-working refrigerators
17 from those customers' homes. If we go in and it's not
18 running and it's not cooling we'll have to leave that
19 refrigerator.

20 The estimates right now are that between 15 and 20
21 percent of the residents in the City of Los Angeles have a
22 spare second refrigerator.

23 A percentage of that 20, 15 to 20 percent is being
24 targeted for the refrigerator recycling program that will be
25 starting this fall.

1 And so I wanted to make sure that everyone
2 understands that the program that we're talking about
3 starting this fall in Southern California will not really be
4 a disposal or recycling program for all household appliances
5 or for non-working refrigeration equipment.

6 The only way that the department can cost justify
7 the refrigerator recycling program is if every refrigerator
8 that is picked up is indeed operating and has been in use
9 for a period of time, for example, for the past 6 to 12
10 months.

11 So while it will -- the Department of Water and
12 Power, I think, is taking a very environmental responsible
13 position in trying to encourage the removal of surplus
14 appliances and therefore hiring companies such as ours to do
15 proper management of the hazardous materials and the CFCs,
16 it really doesn't address the greater need that you may find
17 coming along in the State of California as your landfill ban
18 is implemented.

19 Our company is headquartered in Minneapolis and I
20 know that the staff has looked at Minnesota's and
21 Wisconsin's laws. In both states we were very active in
22 helping the state take a look at the issues in regard to
23 unwanted household appliances.

24 We feel that they are correct in pointing out that
25 a lot of release can occur if the appliances are handled

1 improperly when they are collected.

2 Another issue that's not mentioned but we find in
3 some locations can also cause releases is scavenging.
4 Depending on the local price of copper, there's sometimes an
5 incentive to remove the copper coils from the back of a
6 refrigerator that's in the alley or at the curb.

7 And we have seen that in, for example, in some
8 locations in operation that we had in Florida a few years
9 ago, we never saw CFCs in any refrigerators because the
10 coils were always removed.

11 And so that may be something that you want to
12 consider what kinds of regulations you might have that would
13 prohibit the scavenging of that metal.

14 The area that we've focused on as a company is in
15 processing the appliances to remove hazardous components and
16 the development of systems for recovering and reclaiming
17 CFCs.

18 We began doing that in the mid 1980s as a result
19 of the concerns by the scrap metal industry because of the
20 presence of PCBs in shredder fluff. And it was identified
21 that appliances were the most likely source of that
22 occurring.

23 And we became involved in that sort of overnight.
24 And that was when our local metal processor called us up one
25 day and said don't bring any more appliances.

1 At that time we were collecting about 75,000
2 appliances in Minneapolis on a yearly basis and if you pick
3 them up you have to have somewhere to take them.

4 So we worked with a local steel mini-mill and we
5 removed the capacitors from a train car load of appliances
6 and delivered them to their shredder. They cleaned the
7 shredder out, shred the appliances, tested the fluff and
8 found that there were no PCBs.

9 So from the mid '80s forward, our company has a
10 strict policy that we remove and dispose of all capacitors.

11 We've tried, as so many others have, in trying to
12 figure out if we could only just do some appliances, if we
13 only had to look at air conditioners, for example, or
14 microwaves and we could let everything else go, it would be
15 a really much simpler process and therefore cheaper to
16 implement that kind of service.

17 But we're concerned about our own pollution
18 liability issues at our company.

19 We work with waste hauling companies who if they
20 see capacitors in our trash at our center are not going to
21 take our waste to a resource recovery facility or landfill
22 if they know that even non-PCB capacitors are in there.
23 They simply don't want to assume any liability or risk as
24 well. So we remove all of them.

25 And currently they're all incinerated in a

1 hazardous waste facility in Deer Park, Texas.

2 We would like to work in California with this new
3 center on developing a system where we would probably
4 continue removing all of the capacitors, but then being able
5 to sort them into more appropriate management methods, for
6 example; landfilling or other types of incineration for the
7 capacitors that don't contain PCBs, because there is an
8 increasing need for PCB disposal capacity.

9 And we feel that if it can be done properly that
10 we would like to work in that direction.

11 We also remove a number of other components that
12 aren't necessarily required or some may be in California and
13 that's mercury switches and thermocouples, as well as
14 batteries.

15 And these are found rarely, but we'll see in a --
16 I brought a short video that I'd like to show you because I
17 think it will give you a much better idea of what it is that
18 we're talking about.

19 As was mentioned, these appliances are very old.
20 We still see a lot of refrigerators with the round corners
21 on them. We still get a lot of sulphur dioxide. Two to
22 five percent of refrigerators around the country that we
23 collect contain sulfur dioxide refrigerant. That was used
24 primarily before the 1950s, but we still see things that
25 look like they could belong on Honeymooners' TV set.

1 And so we believe that anybody who is engaged in
2 the processing of appliances needs to be prepared how to
3 handle these materials even though they may be very
4 infrequent.

5 And as all of you are aware, that sulphur dioxide,
6 if it's released and an employee breathes that in, it mixes
7 with the moisture in your lungs, creates sulphuric acid and
8 can cause very serious health problems.

9 The other refrigerant that we find on occasion is
10 ammonia, which is used in certain gas appliances,
11 refrigerators and air conditioners and is still in use with
12 gas air conditioners.

13 Ammonia, in addition to being an extremely
14 irritating material to get into your lungs, also contains
15 sodium chromate, which is a very hazardous material that was
16 used to inhibit the creation of rust in the cooling system.

17 And those are two that we handle. We currently
18 handle sulphur dioxide. We have a system that neutralizes
19 it and it can be returned back into a usable product.

20 We're working on the sodium chromate and the
21 ammonia issue and hope to have a facility in our Los Angeles
22 center, an area that will be designed just for handling
23 ammonia.

24 When we became involved in recovering CFCs in 1988
25 there was no equipment available on the market and very few

1 people were even talking about recovery refrigeration or
2 CFCs from household refrigerators. We designed our own
3 equipment that we manufacture and our centers are designed
4 to process about a thousand refrigerators a day. So they're
5 very large-scale regional type of operations.

6 We, as with any kind of recycling, unless there's
7 a market for the material that you're recovering, it becomes
8 an expense and a disposal item.

9 What we've done is developed our own laboratory
10 where we bring all of the CFCs recovered at our centers back
11 to a central location where they're reclaimed to meet the
12 Air Conditioning and Refrigeration Institute's standard for
13 reclaimed refrigerants.

14 We're one of about ten companies in the United
15 States that have been certified and approved to reclaim back
16 CFCs back to that industry standard.

17 Couple of other things that we've also had to come
18 up with technology and systems for handling, for example,
19 the compressor oil from refrigerators and air conditioners.
20 There's a high concentration of chlorine in the oil after
21 you remove it from the refrigerator and if that oil is used
22 for energy recovery the chlorine can cause a lot of problems
23 to a burning system. It can degrade the metal and the
24 entire system.

25 So we have developed a degassing system that

1 removes the CFCs down below a thousand parts per million so
2 it can be easily handled as a nonhazardous, non-harmful oil.

3 The other area that is touched on in the report,
4 which we think is long term a very significant environmental
5 issue, is the polyurethane foam insulation that was used
6 from the mid '70s forward by most manufacturers in making
7 refrigerators and freezers.

8 Right now about 30 to 50 percent of the
9 refrigerators that we get into our centers have polyurethane
10 foam insulation.

11 As the report points out, there's five to six
12 times more CFCs in the foam insulation than there is in the
13 cooling system of a refrigerator.

14 So as the age of the stock matures, more and more
15 of the refrigerators, eventually nearly hundred percent,
16 will contain the polyurethane foam.

17 From a study that was done by the Oakridge
18 National Laboratory, what they showed was that 50 percent of
19 the CFCs in the foam are immediately released when the
20 appliance is run through a metal shredder at an auto scrap
21 yard or another kind of situation.

22 What we've done at ARCA in working with our
23 customers who wanted to have an answer for how can you
24 handle the CFCs in the polyurethane foam, we have installed
25 a disassembly process. And it takes us about as long to

1 take a refrigerator apart as it took for GE and other
2 manufacturers to put one together.

3 That has to be done in order to remove the
4 polyurethane foam from the inside of the refrigerators.
5 It's stuck to the plastic, it's stuck to the metal. You
6 literally have to scrape that material off.

7 Some CFCs are lost in that process but we believe
8 it's a small percentage. A very small percent, about one
9 percent, is lost per year during the use of the
10 refrigerator.

11 So still the vast majority of CFCs that were used
12 in that foam are present when the appliance is disposed of.

13 What we do is remove that foam and place it in a
14 piece of equipment that we brought over from Germany that's
15 in use in 18 locations in Europe that grinds and compresses
16 the polyurethane foam to release the CFC-11. That is
17 recovered. That can be reclaimed, purified, and reused
18 again in, for example, large building chiller systems that
19 use that or in other applications.

20 We would like to work on the recovery or the
21 recycling of the polyurethane once the CFCs have been
22 removed.

23 There's a process also in Germany that's being
24 used to make a floor board material that's impervious to
25 moisture and acids because it's polyurethane plastic. It's

1 mixed with a resin and formed into a board.

2 I've seen at some of the waste management shows
3 other people who have processes here in California for
4 handling fiber materials and other kinds of wastepaper and
5 that kind of material in making it into compressed board
6 stock type of material.

7 And that's the kind of thing we would like to look
8 at as a recycling option rather than a disposal scenario for
9 the polyurethane.

10 We're working with the plastics industry on taking
11 a look at the recycling of the liner plastic from inside
12 refrigerators, but unfortunately 20-year-old ABS and HIPS
13 plastic does not have a very good market. The material at
14 that age is heavily degraded.

15 They're very difficult to tell apart. It's not
16 like soda bottles where you can tell PET from HDPE. They
17 look the same, they weigh the same, and it's a very complex
18 system to try and do that, but we will continue working with
19 the plastics industry to try and come up with recycling
20 rather than a disposal option for the plastic materials.

21 In Minneapolis recently we've also installed a
22 shredding system which we will be putting into our center in
23 Los Angeles.

24 This is an inside shredding system that is
25 designed specifically for appliances.

1 And the purpose of this is, we believe, that first
2 of all shredders with the increasing regulation having to do
3 with appliances from the federal and the state and many
4 cases local levels may be more reluctant in the future to
5 accept appliances as a product for shredding.

6 And so in looking at that possibility and as well
7 as the fact that if we can shred the metal and gain the
8 value added processing step of producing furnace steel frag
9 for the mini-mills, we can reduce our front-end cost to the
10 customer who is paying for an appliance collection and
11 processing service.

12 And we would like to see that implemented in our
13 center in Los Angeles as well as hopefully other locations
14 in California.

15 In the shredding area there were several good
16 pieces of information in the report about the management of
17 shredder fluff and that will indeed be a problem for our
18 company because under current California law it refers to
19 auto fluff rather than shredder fluff in general. And so
20 we'll be working with the agencies on making some
21 determinations about the material that comes from an
22 appliance-only shredding system and how to best manage that
23 in different areas of the state.

24 In regard to the issue of responsibility, that's
25 always the big problem, who is going to pay. We find this

1 all over in the variety of customers that we work with in
2 all of our centers.

3 And that the costs are going up.

4 And I think if you add in not only the removal of
5 PCBs but possibly some of the other mercury components,
6 addressing issues like sulphur dioxide refrigerant or even
7 taking a look at the polyurethane foam insulation, many of
8 these are very expensive to do at the small scale, which is
9 why you don't see small collectors doing them.

10 It's very expensive to put the labor into the
11 removal of the components and the management, buying the
12 equipment or the technology and instituting the practices
13 and procedures, educating your employees.

14 And it's our opinion that every major market in
15 the United States needs a regional type of facility that is
16 of a large enough scale so that these things can be done
17 properly and in an environmentally sound manner.

18 About a year ago we presented a paper to the
19 Association of Home Appliance Manufacturers through their
20 solid waste task force, recommending a variation on your
21 Option No. 5, the manufacturers' responsibility, and
22 suggesting that the manufacturers, along with the materials
23 suppliers that they work with, the plastics manufacturers,
24 DuPont and others, along with the retailers and the
25 consumer, put together a cost sharing arrangement so that if

1 each party pays small part of that 40 to 60 or more dollars
2 cost of appliance collection and recycling it, by spreading
3 it across the different parties that it becomes less of a
4 hardship on the homeowner and therefore an incentive for
5 illegal dumping or just putting it away in a corner of your
6 garage and forgetting about it.

7 So we would support that, but think that it needs
8 to perhaps be broadened to -- we do believe it needs to be
9 broadened to include the retailers, the materials suppliers,
10 and the appliance owner as well.

11 What I'd like to share with you if there's time is
12 I have about a ten-minute video that shows the appliance
13 processing that we do in the United States.

14 Or I can --

15 COMMITTEE MEMBER HUFF: Mr. Chairman, my time is
16 your time.

17 MS. JONES: If you prefer I can leave the video if
18 you don't have time today.

19 COMMITTEE CHAIRMAN EGIGIAN: I think that would
20 work better. Yes.

21 MS. JONES: That would be fine.

22 What it shows also is the CFC-11 recovery system.

23 We're looking forward to working with the board
24 staff and the other agencies in California as we move
25 forward in implementing the program in Los Angeles.

1 And be happy to take any questions that any of you
2 might have.

3 COMMITTEE CHAIRMAN EGIGIAN: Questions from the
4 board?

5 Thank you very much.

6 Staff have any remarks?

7 MR. ORR: Sure do.

8 What I would like to do is bring us back to where
9 we need to be today, first by saying that this is the first
10 public presentation of this report. And insomuch as it is,
11 we just started to receive the comments in the last week
12 from the various manufacturers and different parties that we
13 heard from today.

14 And what the staff would like to do is first we
15 would like to propose two alternatives.

16 We have a requirement to produce a legislative
17 report and obviously we're not in a place we can forward
18 this report to the Legislature at this moment.

19 So what I would like to -- the two alternatives I
20 would like to propose is first of all we can take the
21 information that was presented, the issues that have been
22 raised today, and give the staff an opportunity to work with
23 the contractor to address the comments that were received
24 and look at how that would impact the report that was
25 presented and have a workshop, say, toward the end of June

1 to do three things.

2 The first thing would be to work on the comments
3 that have been received and providing opportunity for
4 additional people to participate in the discussion of this
5 report..

6 And secondly to discuss what the immediate
7 guidance that would be necessary to implement the ban that
8 comes up on January 1st, what kind of information do we need
9 to start getting out now that will assist the people that
10 are affected by this ban regardless of which option the
11 board ultimately decides on.

12 And third to discuss the composition and the
13 formation of a task force as suggested in the report.

14 So that would be my first alternative.

15 The second one would be to simply go and redraft
16 the report based on the comments received and after we've
17 done that then we would have a workshop.

18 But I think that at this point there are several
19 issues that need to be addressed in a less formal setting
20 where we can hash through some of the issues with the
21 industry and so forth.

22 And if it wasn't made clear before, the Option 5
23 is not a staff recommended option. It's not a board option
24 at this point. It was a conclusion reached by the work that
25 SAIC did.

1 And so where we need to end up with is what option
2 the board is going to endorse and forward in a report to the
3 Legislature.

4 So that's where we would hope to end up with so we
5 can bring this back to the committee through a workshop and
6 be able to pursue one of those options.

7 COMMITTEE CHAIRMAN EGIGIAN: Comments?

8 COMMITTEE MEMBER HUFF: I have a couple.

9 I think that your alternative one is a reasoned
10 approach to the situation.

11 My concern is that we're six months past due, five
12 months past due right now, with this report.

13 And we've received dispensation from the author of
14 the bill.

15 She's now thinking that she's going to get a
16 report on her desk in a month.

17 And I'm concerned, because as the author of the
18 bill she deserves some proper indication as to when to
19 expect the work that we're supposed to do to be done and I'm
20 concerned about the specter of telling her June 1st and then
21 telling her, well, August 1st, and then telling her, well,
22 you know. And that wears thin on legislators very quickly
23 and that concerns me.

24 So while your alternative is what I think a very
25 reasoned approach, I think you need to think about the

1 feelings of the author in this matter too.

2 And I don't know what that does to your very
3 reasoned approach. I don't know what you can do to the time
4 frames because those time frames that you sketched out are
5 not lax. Okay.

6 So that's one thought and I'll just leave it there
7 for you to consider and for my peers to consider also.

8 The second thought that I have is that the world
9 has changed since this bill was enacted, and I think it's
10 changed drastically, particularly with regard to what EPA is
11 doing relative to CFCs. That wasn't anticipated, I don't
12 think, in this legislation.

13 And so I think that whatever we do now has to
14 reflect the changed world, not the world that was 18 months
15 ago.

16 But that brings a third thought and rather a
17 question and that is we have differing interpretations of
18 what the legislation even required.

19 And I was just wondering whether anyone was in the
20 room, that's a phrase of art, but whether anyone was in the
21 room when this language was written, what was it intended to
22 get at.

23 Usually the reports like this are the crumbs that
24 are tossed to somebody, you know, when a bill is going
25 through. So whose crumbs were these and what did -- what

1 were they getting and being bought off with?

2 Does anyone know?

3 COMMITTEE MEMBER FROST: I think my answer would
4 be that's what it took to get 41 votes.

5 COMMITTEE MEMBER HUFF: I know.

6 But what resistance did it overcome?

7 COMMITTEE MEMBER FROST: Well, you know, in my
8 view the ban isn't a ban at all. I mean, the ban is that
9 don't put anything in a landfill that you can profitability
10 sell. Okay. You know. And that's --

11 COMMITTEE MEMBER HUFF: Got my vote.

12 COMMITTEE MEMBER FROST: That kind of thing can
13 get 41 votes.

14 If you really were to ban all these materials from
15 going into the landfill, you wouldn't get 41 votes, and I
16 think that's what that was.

17 My concern -- I echo everything you said. I agree
18 with everything you said, particularly about the timeliness.

19 And we may be able to do something about
20 timeliness if we can narrow the scope of this somewhat,
21 because I think the report, particularly the buy-back
22 provisions, aren't especially related to the law. I mean,
23 that's sort of a different, almost different subject
24 altogether, and we're trying to give a report that relates
25 to implementation of this law.

1 So if we could narrow it down to what it takes to
2 implement the law -- and I think the biggest question, the
3 one Mr. Huff just raised is how do you know what it means,
4 what this ban means, and who's going to decide and who's
5 going to define it and how are we going to tell people what
6 the ban is actually a ban of, because in just reading the
7 language of the law it doesn't look like it's a ban on
8 anything.

9 So I think that's got to be a fundamental issue
10 that somebody grapples with. I'm not sure it's ours to
11 decide, but somebody has to decide what is this so-called
12 ban.

13 And I think your task force is a good idea, but we
14 need to find a way to narrow the scope of this whole study,
15 bring it back to what the law actually said so that we can
16 expedite a report and get it over there in a timely manner.

17 I'm not asking for a response. That was just my
18 comments on how to speed this process up.

19 COMMITTEE MEMBER HUFF: Yeah.

20 And to focus a little more, while it appears to me
21 that EPA, federal EPA, has taken some steps relative to CFCs
22 and thereby mooting any question we may have about the
23 efficacy of any of that, because federal EPA has said thou
24 shall, we still have questions about PCBs and also sodium
25 azide, and those are fair things to talk about.

1 COMMITTEE MEMBER FROST: Right.

2 COMMITTEE MEMBER HUFF: I would suggest at this
3 point then, rather than us trying to fashion the correct
4 course, that the staff take a good deal of the Chair's time
5 and develop with the Chair, and whatever staff he wants to
6 involve in that, the time lines for further consideration of
7 the subject matter.

8 COMMITTEE CHAIRMAN EGIGIAN: I think that's --

9 COMMITTEE MEMBER FROST: I second that.

10 COMMITTEE MEMBER HUFF: Yeah. I thought you
11 would.

12 COMMITTEE CHAIRMAN EGIGIAN: That's in a form of a
13 motion and a second?

14 COMMITTEE MEMBER FROST: No. It's just a
15 suggestion.

16 COMMITTEE MEMBER HUFF: Well, no, it's a motion.

17 COMMITTEE MEMBER FROST: Oh, it's a motion?

18 COMMITTEE MEMBER HUFF: Yeah.

19 COMMITTEE MEMBER FROST: I second the motion.

20 COMMITTEE MEMBER HUFF: Okay. And really the
21 motion embodies then the concept that we need to focus the
22 report, the management plan, relative to the concerns that
23 Mr. Frost raised, that is what is the ban on, who enforces
24 it. We need to talk about PCBs. We need to talk about
25 sodium azide. We need to probably do some sort of task

1 force process. And we need to do it exceedingly rapidly out
2 of consideration of the author.

3 And that author has no greater friend on this
4 board.

5 COMMITTEE CHAIRMAN EGIGIAN: All right. Then
6 we'll act on the motion.

7 Roll call, please.

8 COMMITTEE SECRETARY BERTRAM: Board Member Frost.

9 COMMITTEE MEMBER FROST: Aye.

10 COMMITTEE SECRETARY BERTRAM: Huff.

11 COMMITTEE MEMBER HUFF: Aye.

12 COMMITTEE SECRETARY BERTRAM: Egigian.

13 COMMITTEE CHAIRMAN EGIGIAN: Aye.

14 COMMITTEE MEMBER HUFF: Are we out of here?

15 COMMITTEE CHAIRMAN EGIGIAN: Thank you very much.

16 I think we're out of time and out of business.

17 We'll adjourn.

18 (Thereupon the meeting was

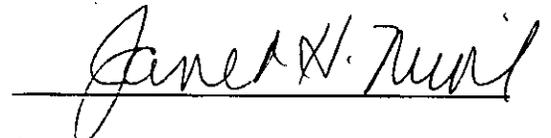
19 adjourned at 12:02 p.m.)
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CERTIFICATE OF SHORTHAND REPORTER

I, JANET H. NICOL, a Certified Shorthand Reporter of the State of California, do hereby certify that I am a disinterested person herein; that I reported the foregoing meeting in shorthand writing; that I thereafter caused my shorthand writing to be transcribed into typewriting.

I further certify that I am not of counsel or attorney for any of the parties to said meeting, or in any way interested in the outcome of said meeting.

IN WITNESS WHEREOF, I have hereunto set my hand this 15th day of June 1993.



Janet H. Nicol
Certified Shorthand Reporter
License Number 9764