METRO

A G E N D A

MEETING: **Solid Waste Advisory Committee Subcommittee on Contamination & Loss of Recyclables**

DATE: Thursday, November 14, 2002

TIME: 3:00 p.m. – 5:00 p.m.

PLACE: Room 370, Metro Regional Center, 600 NE Grand Avenue, Portland

5 mins. **I. Review of Last Meeting ..... Lee Barrett**

115 mins. **II. Discussion of Best Practices and Acceptable Contamination Level ..... All**

All times listed on this agenda are approximate. Items may not be considered in the exact order listed.

Chair: **Lee Barrett – 503.797.1760**
Staff: **Steve Engel – 503.797.1535**
Gina Cubbon, Administrative Secretary

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MEETING SUMMARY

SWAC Subcommittee
Contamination and Loss of Recyclables

Metro Regional Center, Room 370B
October 31, 2002

Members Present:
Lee Barrett, Metro Waste Reduction & Outreach Division Manager, Committee Chair
Mary Sue Gilliland, DEQ Representative
Les Joel, End-use Market Representative
Wade Lange, Citizen / Business Representative
Mike Leichner, Hauler Representative
John Lucini, End-use Market Representative
Lynnette Mathisen (for Brad Lewis), Recycling Processor Representative
Jeff Murray, Recycling Processor Representative
Bruce Walker, Local Government Representative
Rick Winterhalter, Local Government Representative
David White, Hauler Representative
(Gina Cubbon, Administrative Secretary, REM)

Members Absent:
Rob Guttridge, Recycling Advocates
Tanya Schaefer, Citizen / Business Representative

Guests:
Terry Petersen, Director, Regional Environmental Management Department (REM)
Dean Kampfer, Waste Management, Inc.
Steve Apotheker, Metro REM
Steve Engle, Metro REM
Bill Metzler, Metro REM
Steve Jenkins, EFI
Andy Rivinus, Weyerhaeuser

Lee Barrett opened the meeting and asked those at the table to introduce themselves. Terry Petersen thanked the group for serving on this committee. He said the issues to be looked at are of great interest to many people throughout the region. In particular, he continued, he'd like the group to consider exactly what role Metro should play. In survey after survey Metro has done over the years, the public's support of recycling has been strong. "Let's keep making progress." he concluded.

Mr. Barrett said that he'd be happy, at this meeting, to get as far as the last agenda item ("Acceptable Levels of Contamination") and discuss it just long enough to give the members "something to mull over" before the next meeting.

The fundamental issue, Mr. Barrett continued, is that Metro wants to maintain the integrity of the region's recycling system and ensure its ongoing success. It's a collaborative effort involving haulers, local governments, participating businesses, processors and the markets. The simple issue is that when a citizen puts an item into a recycling bin, they should be able to rest assured that the item is going to be made into another product. "It is not our interest to regulate material recovery facilities," he said. Neither does Metro regulate the hauling industry or the processors, mills, etc. All of these are valuable players in this issue and have to work together to make the system effective and efficient. As Steve Apotheker's presentation will show, Mr. Barrett told the group, there is a possible trend of materials not being recovered to the extent Metro would like to see. This committee has been

formed to look at the data and see if there are steps that can be agreed upon and taken to improve the situation and maintain the integrity of the system.

Bruce Walker said that at the last full SWAC meeting, Councilor McLain assigned this committee a fairly short time-frame. Has staff outlined the schedule? Mr. Barrett replied that the intention is to meet once every two weeks with a break for Thanksgiving, Christmas, and New Years. Set dates are November 14, December 5, and December 19; if necessary, January 9 and 23 are also possible meeting dates. The groups recommendations are to be presented to the full SWAC on February 17.

Steve Apotheker made his presentation regarding results of the recent recycling study (see attached).

Afterwards, Mr. Walker commended staff on the study, saying it spurs a lot of questions. He said that everyone involved should be careful to share as much information with each other as possible, as changes are hard to keep up with. In particular, the subject of carts for recyclables is currently of interest. Mr. Barrett agreed, saying that one goal of these meetings is to communicate in order to ensure systems that are safe for the drivers, efficient for rate payers, etc. All the pieces need to fit together: What may end up least expensive for citizens might turn out to be very expensive for MRFs or processors. All the sides need to be looked at for the best solution.

Jeff Murray said that Keizer (in the Salem area) instituted use of recycling carts first to pick up glass. It worked for them because they did an education blitz to the public prior to the program start. For the first three pick-ups, they did it semi-automated to give people a chance to learn what could and couldn't be accepted. The result is that his facility received high-quality materials that was indistinguishable from material coming from bin systems. The point, he said, is that how programs are approached, "how you go into commingling," makes a big difference in its success or failure.

After general discussion, Mr. Barrett reviewed the Committee's charge:

1. Review report (accomplished in this meeting)
2. Decide an acceptable level of contamination and provide the basis for that decision
3. Recommend "best practices"
4. Identify timeframe for implementation and oversight

Mr. Walker commented that the two absent citizen representatives were sorely missed at this meeting, and expressed strong hopes that they'll attend subsequent meetings. Their input and point-of-view are crucial to this process, supplying a valuable point of view. Mr. Barrett agreed and said he would contact them. Jeanne Roy sent a letter addressing some of her ideas and concerns, he continued; the contents of the letter will be included with this meeting's summary packet.

A spirited discussion ensued regarding the charge points, and whether or not to approach them in the given order. Dave White suggested looking at current practices before deciding on an acceptable level of contamination. Mr. Barrett said he thinks it's a logical order, because the decision about a level would then drive what facilities need to do. Mr. White countered that if the processors think they're doing a good job now and present those practices (which are their best) to the group, the results of that could be looked at as a possible acceptable level. "How are we going to decide what's an acceptable contamination level as the first element of our process if we don't know what's being done currently, how effective it is, is there something to do that's better, what are the cost implications, what is the net result if we do something more, and how realistic is it to lower or raise the contamination level?" Mr. Barrett said that the best current practices would come up naturally during discussion of level, and that would help with the decision.

Points made by Committee members regarding the "acceptable level of contamination":

- The 'acceptable level' will be different depending on an individual's interests within the system. Each end-user has certain parameters they can live with.
- How much residual will be allowed "to go out the back or side door" because it's getting cleaned up to a certain level?
- From the standpoint of state statute, the acceptable level is zero.
- If costs go too high or higher standards can't be adhered to, local governments may decide to go back to source-separation.
- Setting a solid number is an uncomfortable task. Need to get to the heart of the issue through a discussion of practices.
- Don't "advertise" that something acceptable for recycling collection if it's actually being dumped for any reason. Be truthful.
- Would there be an incentive or funding for processors who may fall below the "best practices" standards?
- Internally, each MRF sets goals for what is an acceptable level of contamination for their facility. The Metro study helped put a reality check on that and point them towards better practices. If a specific level is agreed-upon, it will dictate what practices will and won't work.
- The number to start with should be whatever the number currently is and decide where to go from there.
- The goal is to get as much product out the door and away from landfills as possible.

Mr. Apotheker commented that processors and haulers aren't held to the same standards. No hauler is held to the same scrutiny and environmental performance level that DEQ dictates.

Mr. Barrett added that while local governments may want no contamination, MRFs will contend that that's unrealistic and impractical. Some sort of middle-ground needs to be agreed upon by the Committee. The current system is good, but would like to help influence the situation – through education or better equipment, or better screening – to avoid the trend of lost recyclables that's looming.

Does the Committee prefer the idea of discussing charge points two (the search for an acceptable level) and three (best practice recommendations) together? A resounding yes by the group, with a comment that "Numbers are a slippery slope." If this group can't decide on a reasonable number, though, Mr. Barrett declared, no one can.

Next meeting: Thursday, November 14
3:00 pm – Metro Regional Center – Room 370

October 31, 2002

Subcommittee on Contamination and Loss of Recyclables
Steve Apotheker, 797-1698

Commingled Commercial Recyclables Processing Study

Introduction
In fall 1998, local governments contracted with Metro to study issues related to residential commingling. The resulting study looked at four different commingled sorts, including commingled fiber, fiber/TAP and ONP/Mixed Paper mixtures for the fiber. The study found:

- Sorted residue from the four different commingled sorts: Three processors had 0.5% or less residue, one processor had 1.3% residue.
- Prohibitives in ONP, <0.1%.
- Prohibitives in Mixed Scrap Paper, 0.2% to 0.6%.

Sorting was almost exclusively manual in nature for commingled fiber grades.

In fall 1999, local governments adopted uniform rules for residential commingling that required glass to be kept separate by the resident and by the hauler. A residential commingled collection program was rolled out regionwide. In 2000, Oregon DEQ reported an increase of 21% in the amount of residential curbside recyclables marketed, not included yard trimmings, relative to the previous year. The results for 2001 have not been released by DEQ yet.

It is clear that commingling increases the convenience of recycling and contributes to greater reported recovery. The experience of other communities indicates that this gain will likely continue if coupled with reasonable promotion of recycling to residents.

The Commercial Recovery Work Group would like to promote commingling to businesses in the hope of realizing similar gains in recovery. The Commingled Commercial Recyclables Processing Study was requested by the work group as a snapshot to see how well processors could accommodate additional recovery of commingled fiber and other materials. Steve Engel, Metro, was the project manager for this study, which was conducted by Environmental Practices.

Study findings

1. Regional processing capacity
   Finding: Regional processors in the study could handle an additional 350,000 tons of fiber and containers. This is sufficient to handle the additional 100,000 tons of commercial fiber and containers that might be generated.

2. Regional market capacity
   Findings:
   A. Fiber. A survey of domestic mills and export brokers indicated sufficient demand from domestic fiber mills for additional fiber that might be generated from businesses. Export brokers indicated strong demand for additional old corrugated containers and mixed office paper.

      Next step: REM Waste Reduction will conduct a more detailed market study to look at demand, quality and economic issues associated with increased diversion of mixed office paper, including low-grade scrap paper.

   B. Glass. A survey of the two major markets for Oregon cullet found sufficient demand for increased volumes of amber cullet in Oregon and clean mixed-color or color-sorted cullet in California.

   C. Plastic and metal: No market research was conducted because existing market capacity appears sufficient.

3. Problem materials in commercial stream
   Findings
   A) Glass. Glass mixed with paper was not recovered by any processor in the study.

      Next step: Local governments have met and indicated that they will adopt rules to prohibit the mixing of glass containers with any other recyclable in commercial collection. These complements existing rules that have been adopted for residential curbside recycling collection.

   B) Shredded paper. Shredded paper is becoming an increasing problem for both processors and fiber mills.
      - Increased disposal. It is disposed in screen fines at processors that have automated mechanical processing lines.
      - Increased air quality problems. It causes dust issues at both processors and mills.
      - Increased contamination. Shredded paper downgrades the paper quality and scrap price paid by the mills.
      - Increased fiber loss. Some shredding equipment is reported to produce a small chad-sized shred that results in fiber loss at the mills. Other shredding equipment does not have the same result.

      Next step: The Commercial Recovery Work Group will discuss this issue further at its next meeting to discuss whether it wants to investigate this issue.

   C) Tyvek. While this plastic is a prohibitive in fiber, it is acceptable by at least one regional domestic film end market for recycling. However, one regional fiber mill has reported a problem with plastic film and Tyvek contamination.

4. Single-stream mixture processing
   Finding: Regional processors were not able to successfully recover glass mixed with fiber from single-stream collection, which is a mixture of fiber, glass, plastic and metal. Also, glass contamination was greater in fiber commodities created from single-stream mixtures than mixtures that did not include glass.

   Single-stream mixtures are created in two ways.
   - Several processors receive recyclables from outside the Metro region that include loads from single-stream collection programs in Washington or California.
   - Some processors combine different mixtures on their delivery floor, such as commingled fibers and commingled containers, to effectively create a single-stream mixture that is processed.

   Next step: Local governments have addressed the first problem with their intention to adopt rules to prohibit the mixing of glass and other recyclables from businesses on collection trucks. One processor has indicated that they will address the second problem by segregating different types of mixtures on their delivery floor.

5. Prohibitives in collection.
   Finding: With greater commingling, levels of prohibitives are likely to increase. Processors that only accepted commingled fibers reported lower levels of disposed residue and produced fiber commodities with lower levels of contamination than processors that accepted fiber/TAP (fiber mixed with tin, aluminum and plastic containers) or single-stream mixtures (all fiber and all containers).

   Next step: The Commercial Recovery Work Group is evaluating the design of an outreach campaign to businesses to increase fiber recovery that would stress the convenience of commingling and promote recovery of fiber grades that have lower recovery rates than old corrugated cardboard or old newspapers. The outreach design and messages will be reviewed and tested by businesses and processors prior to release.

6. Prohibitive removal at processor.
   Finding:
   A. Processor effectiveness in prohibitive removal was 37% of the 6,400 tons of prohibitives delivered to their facilities in single fiber and commingled fiber loads.

   B. Fiber markets received the balance (64%) of prohibitives in fiber commodities from a commingled mixture. Prohibitives in fiber from commingled mixtures represented 3% of shipped weight. The study did not estimate contamination levels in single fiber loads or in containers, either as single material or commingled loads. Including this additional contribution of prohibitives would have lowered processor removal effectiveness to below the 37% estimated in this study.

7. Loss of recyclables.
   Findings:
   - There was 14% loss of glass, plastic and metal containers delivered in commingled loads. This combines the loss in processor residue and in fiber commodities. If glass containers were prohibited from being mixed with other containers, container loss would probably decrease by one-third to about 10%. At one processor, a sorter was removing scrap metal but then putting this material in the garbage (this practice has subsequently been rectified).
   - Fiber commodity sampling was comprehensive enough to identify different types of unwanted fiber, which vary by grade and mill. The study did not discuss the levels of unwanted fiber. However, in old newspaper samples (ONP #6, ONP#7) samples, unwanted fiber (i.e., old corrugated cardboard, boxboard) averaged 4%. In old corrugated cardboard samples, unwanted fiber (i.e., groundwood and bleached fiber) averaged at least 7%, not including boxboard.

   A. Processors
   Finding: Residue disposed by processors included 45% recyclables, with fiber comprising 26% and non-fiber recyclables (i.e., containers, scrap metal and plastic film) 19%.

   B. Fiber markets. Commingled fiber commodities shipped by processors included an average of 1% non-fiber recyclables that would be disposed by mills.

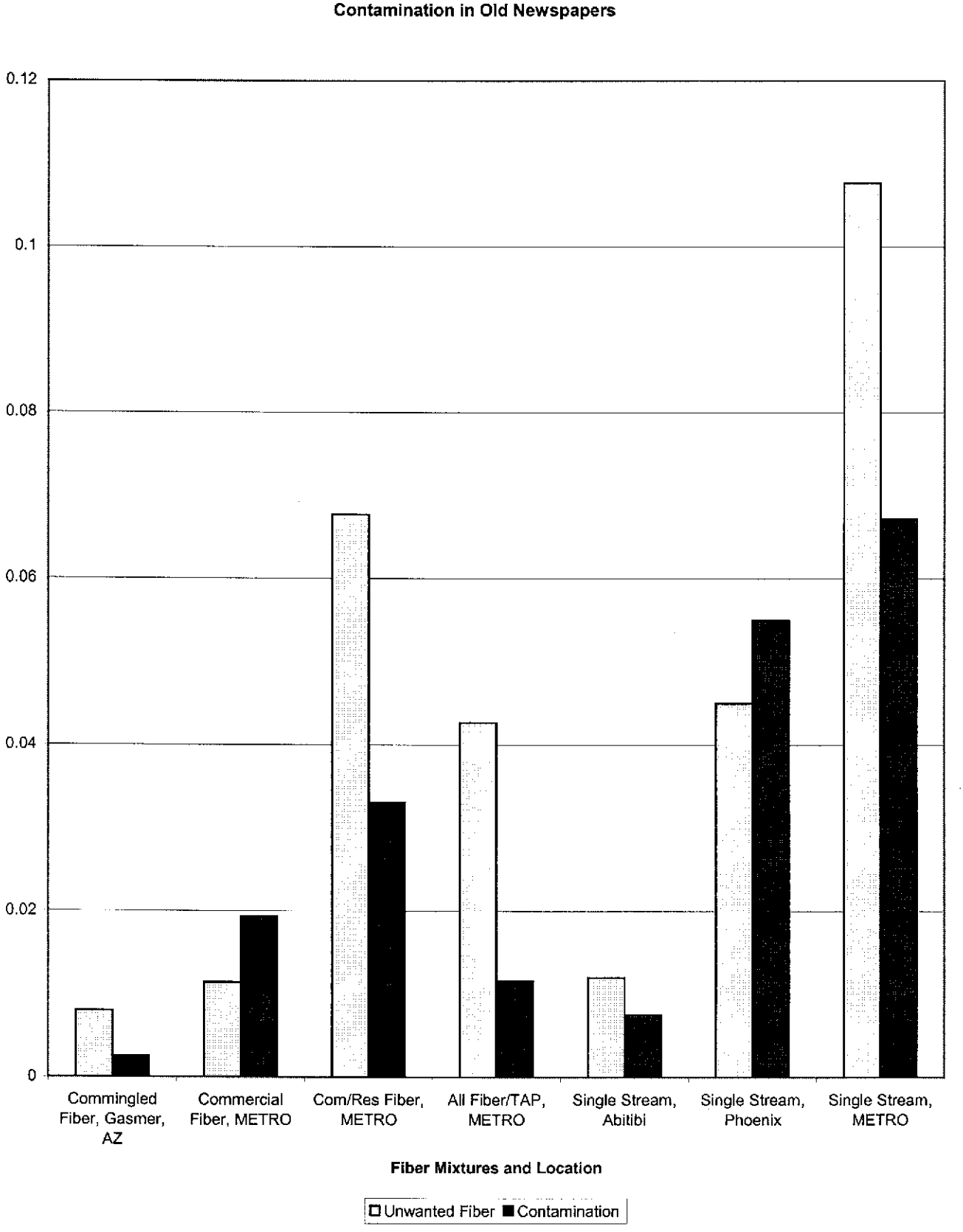
8. Things keep changing
   Finding: The pace of change in the regional recovery system has been great and is likely to continue in the future. These changes are likely to result in greater residue and greater commodity contamination without careful consideration on how to best integrate them into the entire system.

   More commingling: Residential commingled fiber collection accounts for 93% of total collected residential fiber. Commingled commercial fiber is about 15% of total commercial fiber, but increasing. Collection is moving increasing from single fiber to commingled, and from commingled fiber only to fiber/TAP mixtures.

   More automation: Processors are increasingly investing in mechanically automated systems. However, the investment is not always being made in equipment that is equally effective at recovering containers.

   More reloads: The traditional role of the processor to sort and market materials is changing. More processors are doing a preliminary sort on mixed paper, then sending this load to secondary processors either in the region or outside the region for final sorting and marketing. It was not possible during the study to track residue levels at secondary processors located outside the region.

   More wheeled carts: There is greater interest in using large wheeled carts to collect residential recyclables to increase convenience and recovery. Carts have been associated with greater levels of prohibitives, as well.


Contamination in Old Newspapers
0.12
0.1
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0.02
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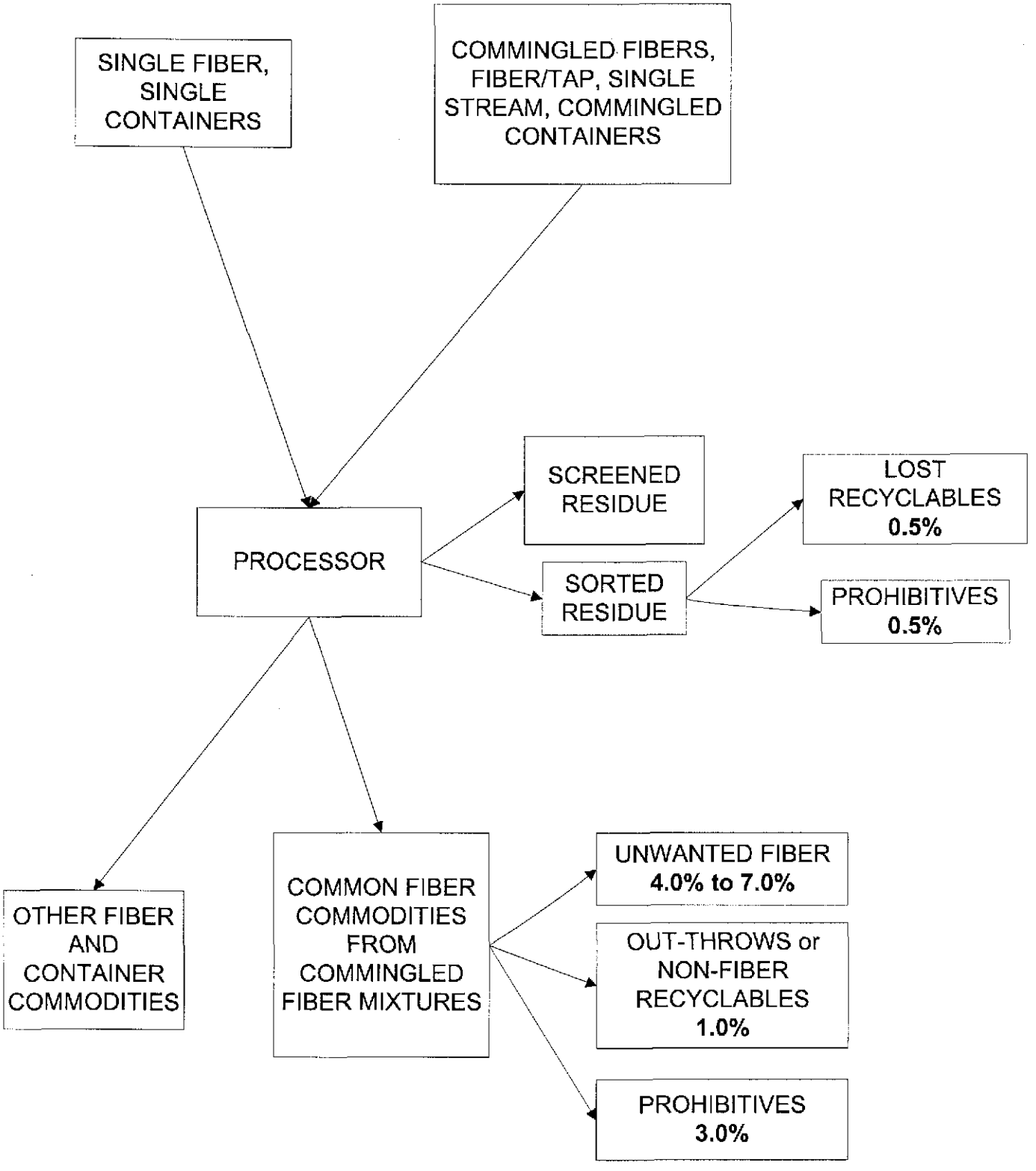
Commingled Fiber, Gasmer, AZ
Commercial Fiber, METRO
Com/Res Fiber, METRO
All Fiber/TAP, METRO
Single Stream, Abitibi
Single Stream, Phoenix
Single Stream, METRO
Fiber Mixtures and Location
Unwanted Fiber
Contamination

COMMINGLED COMMERCIAL RECYCLABLES PROCESSING STUDY



Steve Apotheker & Lee Barrett
Metro
600 NE Grand
Portland, OR 97232

RECEIVED OCTOBER 22, 2002

Dear Steve and Lee:

I've had a hard time letting go of my advocacy work for recycling, but this letter states my intent to do that. Because of my passion for and long history of experience in source-separated recycling, I keep thinking I might be able to help. But it's obvious that I can't be effective with my finger in just a little bit while my main focus is on sustainability education.

So, I'm leaving the advocacy up to you. I hope that internally you will be able to raise a sense of urgency to improve source-separated recycling and reach the goals Metro set.

The report on the processing of mixed commercial recyclables is just what I feared would happen as the region moves toward commingling and reliance on processors to do the sorting. I understand that commingling raises participation in the short run, but in the long run it's a big mistake. When people don't separate at the source, they lose any sense of the value of the materials; the recycling ethic that we've had so long in Oregon disappears; people become sloppy (Somebody else will take care of it."); sorting is in the hands of business people whose aim is to save money, not the environment.

Here are some parting ideas on the solution to a successful commercial recycling system:

1. Local governments require haulers to collect recyclables in two streams: (1) paper and (2) containers (maybe three streams if glass must be kept separate). Businesses would be given containers for these streams and would receive directions for the local governments about hot to sort. Apartment owners would be required to provide collection containers for the items in the two (or three) streams. Apartment residents would be given a bin and bucket(s). And haulers should be required to keep the streams separate on the trucks. A mandatory disposal ban for containers is another option, but it doesn't have the advantage of a standard system. A standard system allows a common public education program.
2. Set up a system so that the economics favor those haulers whom collect the most source-separated recyclables and hurts those who don't promote recycling or collect mixed recyclables. I don't think we'll ever get optimal recycling as long as recycling costs more for the haulers.

I hope you will use this opportunity to achieve major changes rather than some tinkering at the edges.

Yours truly,

Jeanne Roy