



GUIDANCE DOCUMENT **FOR SAFE USE OF REUSABLE CONTAINERS**



CONFERENCE FOR FOOD PROTECTION

2020-2023



*This page photo courtesy of Conscious Container
Cover photo courtesy of In Good Company*

Prepared by the
SAFE USE OF REUSABLE CONTAINERS COMMITTEE
2020-2023 CONFERENCE FOR FOOD PROTECTION

| VOTING MEMBERS | AT-LARGE, NON-VOTING MEMBERS |
|--------------------------|---|
| Dagny Tucker, Co-Chair | Tom Arbizu |
| Carrie Pohjola, Co-Chair | Frank Curto |
| Kristina Bonatakis | Beth Glynn |
| Jeffrey Clark | Michael Goscinski |
| Deborah Crabtree | Jordan Ingle |
| Abeid Fells | Greg Lux |
| Bessie Gallanis-Politis | Steve Oswald |
| Alison Hurysz | Stephanie Teclaw |
| Sarah Kantrowitz | Peri Pearson |
| Oren Kariri | Eric Puente |
| Traci Michelson | |
| Rayna Olikier | FEDERAL CONSULTANTS |
| Kathryn Olson | Jessica Otto, FDA |
| Sabrina Salinas | Dan Reddit, FDA |
| Susan Shelton | Juhi Williams, FDA |
| Christina Springer | |
| Kaycee Strewler | COUNCIL III CHAIR AND VICE CHAIR |
| Dilshika Wijesekera | Don Schaffner, Chair |
| | Chip Manual, Vice Chair |

TABLE OF CONTENTS

| | |
|--|-----------|
| I — DEFINITIONS & ABBREVIATIONS | 6 |
| II - DISCLAIMER | 6 |
| III - PREAMBLE | 6 |
| IV - SCOPE | 6 |
| V - INTRODUCTION | 8 |
| VI - CONTAINER CONSTRUCTION & CONDITION | 11 |
| Container Condition | 11 |
| VII - CONTAMINATION-FREE FILLING METHODS | 12 |
| Method 1 Gravity-Fed Dispensers (Self Service, Bulk Gravity Flow) | 12 |
| Method 2 Self Service, Non-Gravity Fed | 12 |
| Method 3 Intermediary Liners (Full Service, Employee Refilling) | 13 |
| Method 4 W/R/S for the Customer (Beverages & Alternative Method for Full Service) | 13 |
| Method 5 Reusable Container Exchange — Trade Dirty for Clean, Sanitized Containers | 13 |
| VIII - THIRD PARTY REUSE PROVIDER | 14 |
| Third-Party Reuse Service Providers: Evaluation and Considerations | 15 |
| Regulatory Oversight (Permit/License/Inspection) | 15 |
| Customer Oversight (Contracting Business Considerations) | 15 |
| Container Selection | 16 |
| Standard Operating Procedures (SOPs) | 16 |
| General Considerations | 16 |
| Washing, Sanitizing, & Handling of Containers | 16 |
| Record Keeping, Procedures and Protocols | 16 |
| Reverse (Collection)/Forward (Distribution) Logistics | 16 |

TABLE OF CONTENTS

| | |
|---|-----------|
| IX — CONCLUSION | 17 |
| X - RESOURCES | 18 |
| Example Municipality and Legislative Requirements Affecting the Use of Reusables | 18 |
| Current Reuse Examples | 18 |
| Reports On Reuse | 18 |
| Scientific Articles Related to Reusable Containers | 19 |
| Guidance for Reusable Containers | 19 |
| XI — APPENDIX | 20 |
| Pictures of refilling reusables options | 20 |
| Sample Best Practices for Safe Handling of Foodware During Reverse and Forward Logistics | 22 |
| Foodware handling during distribution | 22 |
| Picking up clean foodware for distribution | 22 |
| Distributing clean foodware | 22 |
| Foodware handling during collection | 23 |
| Collecting dirty bins from collection points | 23 |
| Inserting clean collection bins into collection points | 23 |
| Returning dirty foodware to sorting or washing facility | 23 |
| Summary of Recent Food Code Activity Related to Consumer-Owned Food Containers in the United States | 24 |

DEFINITIONS & ABBREVIATIONS

Terms not defined in the Food Code and shortened abbreviations used in this document.

TABLE 1: DEFINITION OF TERMS USED IN THIS GUIDANCE

| Term | Definition |
|-------------------------------------|---|
| Contamination-free | A procedure for filling a consumer's container with food or beverage without directly or indirectly contaminating the source container of food or a food-contact surface. |
| Intermediate Utensil | A utensil used to prevent contamination from refillable containers to food or food-contact surfaces. |
| Origin | Source of the refillable container, such as the consumer, the food establishment, or a third-party provider. |
| Reusable Container | A product or primary packaging, to hold food, that is used repeatedly, refilled, or returned for multiple uses and conforms to characteristics of sanitary construction as defined in Chapter 4-1 and 4-2 of the Food Code. |
| Return Receptacles | Containers such as a bin, crate, or cart used to collect reusable containers returned to a food establishment for cleaning prior to refilling with food. |
| Secondary Reusable Container | Cooler, delivery bag or other container that is returned to a food establishment for reuse but is not a food-contact surface for ready-to-eat foods |
| Third-Party Providers | Person that provides warewashing services and/or refillable containers cleaned as specified under Parts 4-6 & 4-7 to the food establishment. |
| Verification | The cleaning, monitoring, or check procedure that should be done by a food employee capable of affirming the cleaning process was completed properly. |

TABLE 2: TABLE OF ABBREVIATIONS USED IN THIS GUIDANCE

| Abbreviation | Substituted Phrase |
|---------------------|--|
| CPG | Consumer Packaged Good |
| NON-TCS | Non-Time/Temperature Control for Safety Food |
| RTE | Ready-To-Eat |
| TCS | Time/Temperature Control for Safety Food |
| W/R/S | Wash/Rinse/Sanitize |
| LCA | Life Cycle Assessment |
| PR3 | Not-for-profit /NGO convening the partnership to Reuse, Refill, Replace Single-Use Packaging |

II – DISCLAIMER

The guidance in this document does not create or confer any rights for, or on, any person and does not operate to bind public health officials or the public. This guide does not have the force and effect of law and thus is not subject to enforcement. This guide encourages food establishments to use the guidance herein to tailor food safety practices appropriate to their operations.

III – PREAMBLE

At the 2021 Conference for Food Protection (CFP) Biennial Meeting, Council III voted and approved the creation of the Safe Use of Reusable Containers Committee. This was in response to Issue #2020 I-024 (combined with 2022 I-022 and 2022 I-023), as presented at the CFP Biennial Meeting.

The following charges were given to the Committee:

1. Clarify the scenarios related to reusable containers within the scope of regulation.
2. Identify and analyze the scientific and other literature related to consumer-owned containers at retail.
3. Draft recommended guidance around scenarios identified in the issue and create a definition of reusable container.
4. Provide recommended code language changes, if necessary, to the FDA.

IV – SCOPE

This committee found there are numerous instances where current regulatory code does not align with practice in the field. To address this issue for CFP, the committee created this document around a scenario matrix, which offers an overview of how reusable/refillable/returnable containers are currently being used by the business community.

This document does not include: binding requirements unless adopted by the regulatory authority; nor does it describe W/R/S procedures for containers that are washed by food employees prior to refilling (which is spelled out in the Food Code).

This document will help clarify:

1. Scenarios for refilling reusable containers in retail food establishments as listed in the 2017 FDA Model Food Code.
2. Best practice recommendations for filling reusable containers including those under a variance of the Food Code.
3. Reusable containers washed outside of the retail food establishment such as by a third-party provider.
4. Literature and local legislation related to refilling reusable containers.



Photo courtesy of Dispatch Goods

GUIDANCE DOCUMENT FOR
SAFE USE OF REUSABLE CONTAINERS

∨
INTRODUCTION

There are few pathways available in the 2017 FDA Food Code for refilling consumer-owned or third-party provided containers unless W/R/S in the food establishment or filled by the consumer at a water vending station (see Figure 1).

The CFP convened the 2020 Biennial Meeting using a virtual format in 2021 due to the ongoing coronavirus pandemic. Three issues related to refillable containers submitted to CFP Council I were transferred to Council III at the 2021 meeting. Issue 2020 I-024 Creation of a Committee to Address Reusable Scenarios in Food Retail was combined with 2020 I-022 Amend Food Code to Harmonize the Definition of Reusable Container and 2020 I-023 Amend Food Code to Address New Reusable Scenarios in Food Retail. Council III voted, and subsequently approved, to create the Safe Use of Reusable Containers Committee. The following charges were given to the new Committee:

1. Clarify the scenarios related to reusable containers within the scope of regulation.
2. Identify and analyze the scientific and other literature related to consumer-owned containers at retail.
3. Draft recommended guidance around scenarios identified in the issue and create a definition of reusable container.
4. Provide recommended code language changes, if necessary, to the FDA.

The committee was composed of representatives from academia, the food industry, and local, state, and federal regulatory agencies. Consultants from FDA and academic partners advised the committee throughout the entire process of guidance document preparation. The committee met biweekly with additional subcommittee meetings for approximately 12 months to fulfill its charges, including the completion of this guidance document.

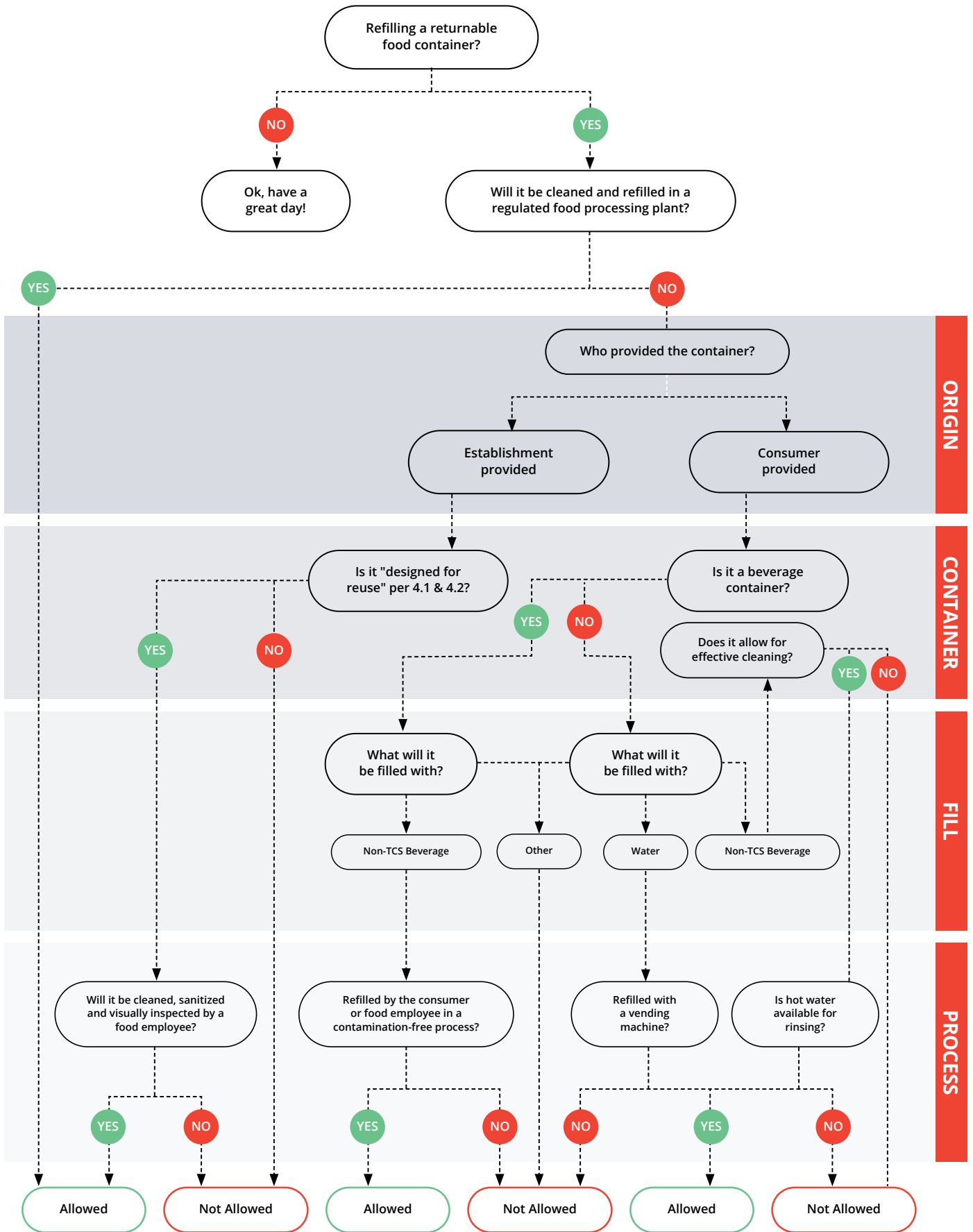
Following a review of state and local codes, waste reduction bills, and the variety of current scenarios with reusable food containers in use, the committee identified several themes:

- *An increase in regulatory emphasis on the reduction of single-use articles to reduce solid waste.*
- *An increasing number of local ordinances that require (specifically for onsite dining) or expressly allow the use of reusable containers.*
- *An increase in the number of businesses that offer services to implement turnkey reusable container solutions for retail food establishments.*
- *The use of reusable containers in retail food establishments is common despite limited allowance in the food code.*
- *There is limited data on disease transmission related to the use of reusable containers.*
- *States recently modifying their food codes to increase the allowance of consumer-owned containers (see Appendix Table 1).*
- *Lack of understanding among industry, consumer, and regulatory partners for the existing allowances for reusable containers, such as those provided by the business for return.*

The committee agreed the filling of customer-owned containers and third-party supplied reusable containers in retail food establishments was common despite limited allowance in the food code. The committee also agreed that local, national, and global legislation and movements to reduce solid waste from disposable food containers would increase reuse requirements and the demand for reusable container options from consumers, businesses, and environmental groups. In addition, legislative bodies will likely look toward reusable container options for food service packaging to help address issues of waste, human health, and climate change.

This document is designed to guide the safe use of reusable containers for retail food establishment operators intending to use these types of containers and to provide guidance to regulatory authorities evaluating or approving retail refilling operations. This document addresses scenarios where reusable containers are currently used, was informed by an analysis of literature and best practices related to consumer-owned containers at retail, identifies limitations in the 2017 FDA Food Code related to refilling operations, and highlights recommended guidance for potential food safety controls to help protect consumers, employees, and food if expanded reusable container and refilling operations are approved.

The document includes parameters for reducing potential contamination from direct and indirect contact when filling consumer-owned or third-party provided containers, options for a variety of foods and risk levels, and suggested equipment modifications to reduce risk. It also includes guidance for third-party providers that manage all or a portion of the circular movement of reusable containers for food retailers, such as nationally-distributed CPGs or locally-prepared food items. The committee members encourage regulatory and industry partners to refer to CFP-issued plan review guidance as future reduction of disposable food containers will potentially increase the warewashing and storage considerations for reusable serving containers.



VI

CONTAINER CONSTRUCTION & CONDITION

CONTAINER CONSTRUCTION

Containers reused in a food service establishment need to meet the characteristics of sanitary construction as defined in Chapter 4-1 and 4-2 of the Food Code. They should be used as intended and temperature appropriate.

Regulators and retailers may allow for a broader array of refillable containers for raw agricultural commodities such as whole, unwashed fruits and vegetables that are intended to be washed before consumption. For example, a cloth bag may be an acceptable refillable container for produce provided it is clean and in good repair.

Consumers may fill containers such as insulated type vessels or other containers that do not support a reduced oxygen atmosphere with hot foods. Containers, such as lidded jars or heat-sealed bags, supporting a reduced oxygen atmosphere should not be refilled with hot foods. A reduced oxygen atmosphere may be created inside the container as the product cools, allowing pathogenic bacteria such as *Clostridium botulinum* to potentially grow in the container, presenting a significant hazard to the consumer.

Similarly, containers designed for use with cold foods should not be filled with hot foods. However, foods held at cold or ambient temperatures may be refilled into containers as the corresponding reduced oxygen environment is unlikely to occur.

CONTAINER CONDITION

In addition to multiuse construction, containers presented for reuse in a food service establishment must also be in good repair and condition as defined by Chapter 4 and 3-304.17(4)(c) of the Food Code.

Single-use articles are designed for a single, and often specific, use. Unless the food establishment has a variance of 4-502.13 to ensure damaged, cracked, or unsuitable single-use containers are not refilled, food employees may not refill a single-use container with food. However, the code does not explicitly prohibit a customer from refilling a clean container with their individual food using a contamination-free process. For example, a cleaned yogurt container might be used by a customer to fill with dry grains from a gravity-flow dispenser.

Due to the wide array of containers that may be presented for reuse, food establishments should have clear procedures to evaluate which customer owned refillable containers may be refilled in the food establishment and that single-use containers should not be refilled by a food employee without additional preventive controls as directed by the variance. Peer-reviewed scientific studies show that hazardous chemicals can migrate from plastic food packaging into food¹.

After an initial release of unbound chemicals, some refillable/reusable plastics have also been measured to migrate hazardous chemicals into food following multiple uses². Current safety assessment approaches focus on a specific set of toxic endpoints (e.g. genotoxicity) and are not yet able to fully account for additional sensitive endpoints or for mixture toxicity³. Guidelines are therefore needed to ensure the safe reuse of plastic food packaging articles.

1. Yang et al. 2019, Qian et al. 2018
2. Tisler and Christensen 2022
3. Muncke et al. 2020v

VII CONTAMINATION-FREE FILLING METHODS

Five methods for filling of reusable containers are included for either consumer or employee filling. Some of these methods are already common practice. These methods are examples and are not an exhaustive list of safe filling methods for reusable containers. Processes may vary and food establishments should consult with their regulatory authority to identify approval mechanisms.

METHOD 1 GRAVITY-FED DISPENSERS (SELF SERVICE, BULK GRAVITY FLOW)

Type of Equipment

Dispensers that protect bulk, unpackaged food using a baffle, chute, or other barrier to prevent access to the food. A handle or other mechanism allows the product to flow into the receiving container with no additional utensil needed.

Control Needed

Posted instructions for customer education to ensure proper use and clarity of which products may be refilled to a customer container.



Example

Continuous or portion-controlled flow dispensers used for free-flowing products like cereals, grains, nuts, ice cream and beverages. The customer would fill their refillable container by actuating a lever to allow food to flow. This would need to occur without contact between the refillable container and the dispenser.

METHOD 2 SELF SERVICE, NON-GRAVITY FED

Type of Equipment

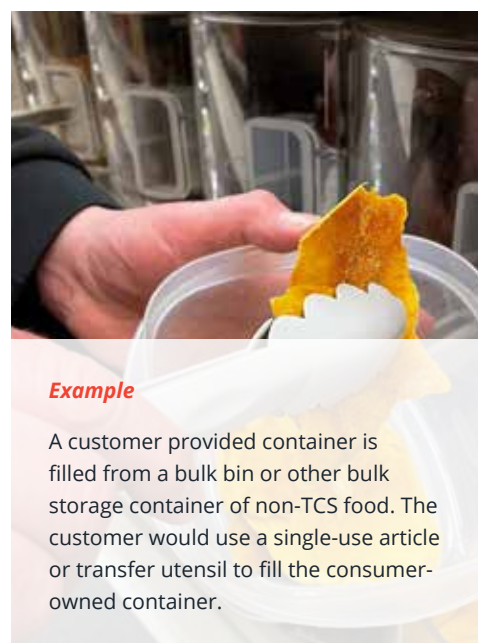
Self-service scoop bins, spice containers, and non-TCS bulk foods that need utensils for food transfer.

Single-use articles

Such as a paper liners or utensils such as tray, scoop, or spoon may be used to ensure that customer-provided containers are not brought into food preparation areas, and that unpackaged foods do not come into contact with a contaminated utensil. Receptacles must be provided for both clean and dirty transfer utensils.

Control Needed

Displayed products shall be protected from contamination using packaging, guards, covered display containers or other effective means. Individual utensils must be provided for each bulk food storage bin and or container. Space to hold clean and dirty utensils. Staffing to wash utensils. Posted instructions for customer education to ensure proper use and clarity of which products may be refilled to a customer container.



Example

A customer provided container is filled from a bulk bin or other bulk storage container of non-TCS food. The customer would use a single-use article or transfer utensil to fill the consumer-owned container.

METHOD 3

INTERMEDIARY LINERS (FULL SERVICE, EMPLOYEE REFILLING)

Type of Equipment

Transfer liners such as a wax paper liner may be used to ensure that customer provided containers are not brought into kitchens or service areas, and that work spaces do not come into contact with containers that have not been sanitized according to FDA recommendations. Transfer liners are used on scales and to collect requested food for customers before being placed in the customer-provided container. Adhesive stickers can be provided for customer provided containers.

Control Needed

Intermediary liners shall be protected from contamination using proper storage or other effective means. Food service staff must be educated about proper handwashing procedures in the event of inadvertent hand contact with the customer provided container.



Example

A customer provided container is brought in for refill at a deli, seafood, meat counter, or similar full-service station. The employee would utilize a single-use liner to serve the food. The liner is then transferred to the customer owned container. This method limits waste significantly, while still maintaining existing food safety requirements.

METHOD 4

W/R/S FOR THE CUSTOMER (BEVERAGES & ALTERNATIVE METHOD FOR FULL SERVICE)

The customer presents a container to the food establishment for use, after any approved method for W/R/S service, or approved sanitization method, is completed prior to filling.

Control Needed

Staff must be educated on the defined acceptable condition/criteria of the customer returned container. Staff must be educated on proper cleaning, sanitizing and proper handwashing procedures associated with the handling of the customer returned containers. Intermediary container shall be protected from contamination using proper storage or other effective means.

Example A

Customer brings a container to the food establishment. The container is visually inspected to determine if they will W/R/S the container or use another approved sanitization method. The container is filled and returned to the customer.



Example B

Customer brings a beverage container in for beverages. The container is visually inspected to determine if they will W/R/S the container or use another approved sanitization method. The employee can fill an intermediary container (disposable or washable) with the beverage which is then transferred to their container.

METHOD 5

REUSABLE CONTAINER EXCHANGE — TRADE DIRTY FOR CLEAN, SANITIZED CONTAINERS

The business provides a pre-approved, exchangeable container program. Containers are provided either directly by the establishment, or by a contracted third-party vendor. Receipts are provided for collection of used containers, and the customer is provided with (by the employee) a verified, sanitized container for use using the food establishment's process.

Control Needed

Staff must be educated about the defined acceptable condition/criteria of the customer returned container. Staff must be educated in proper W/R/S and proper handwashing procedures associated with the handling and cleaning of the customer returned container. Clean, sanitized containers shall be protected from contamination using proper storage or other effective means.

Example A

Customer returns a container provided by the food establishment in exchange for one that has been a W/R/S container. The customer will fill the clean container. The food establishment will W/R/S the returned container for a future exchange. Examples include multiuse to go boxes at a salad bar, beverage containers, lidded containers for bulk foods.



Example B

Customer brings a beverage container in for beverages. The container is visually inspected to determine if they will W/R/S the container or use another approved sanitization method. The employee can fill an intermediary container (disposable or washable) with the beverage which is then transferred to their container.

Photo top left
LOOP Haagen Daz

Photo top left
Tiffens To Go



VIII THIRD PARTY REUSE PROVIDER

Reusing food contact packaging requires quality control measures that ensure safe and sanitary implementation.

Many food service providers do not have onsite facilities and/or capacity to adequately W/R/S reusable foodware. Third party businesses have come to market providing these services as well as forward and reverse logistics services for the containers.

The following section addresses the emergence of third-party reusable foodware service providers beginning with an outline of the types of services provided and followed by considerations for ensuring safe and sanitary implementation of reusables with third-party providers.



Third-party reusables service providers are businesses that engage in any combination of the following activities:

- *Provide reusable food containers and complete circular management between sites (distribution of clean containers and collection of dirty containers);*
- *Clean and sanitize reusable containers at their site before returning to distribution inventory;*
- *Ensure sanitary handling transport for reusable containers between businesses; and*
- *Monitor reusable container condition and manage inventory accordingly.*

While there are many reusable food containers available, there are several critical differentiators between consumer provided reusable packaging, refillable packaging and reusable packaging designed for reuse service systems⁴.

Reuse service systems are intentionally designed to incorporate:

- *The existence of infrastructure and reverse logistics for actual take-back, cleaning, refill and redistribution of the packaging (operated by the producers and/or a third party).*
- *A suitable incentive to return the packaging (usually a deposit, but can also be a system in which the consumer pays a fine when the packaging is not returned).*
- *A certain amount of minimum rotations (at least between 10-15 cycles with upwards of 1000+ the ideal⁵)*
- *A collection rate of at least 90% of the packaging.*

THIRD-PARTY REUSE SERVICE PROVIDERS: EVALUATION AND CONSIDERATIONS

The rapidly changing third party reuse provider industry has seen exponential growth over the last several years in the number and

type of reuse providers coming to market⁶. With any emerging industry it takes time for regulatory and other agencies to evaluate and implement regulations to ensure safe operations.

Currently, the degree of oversight into the reusable service provider space varies significantly across geographies. As such the following guidance offers an outline of considerations retailer's, food service providers and others contracting with a third-party reuse vendor may want to take into account.

REGULATORY OVERSIGHT (PERMIT/LICENSE/INSPECTION)

It is critical third-party service providers follow state, county and local regulatory agency requirements. While service providers that do not handle food may not be considered a food preparation operation, they may be licensed by some agencies.

CUSTOMER OVERSIGHT (CONTRACTING BUSINESS CONSIDERATIONS)

As with any supplier consider a contract/agreement that ensures second or third-party assessments with onsite facility and/or procedural reviews including clear reporting/communication expectations and processes.

CONTAINER SELECTION

See guidance in VI of this document to evaluate the selection of reusable containers and conduct and/or use current life cycle assessments to ensure the number of reuse cycles provide the intended benefits. Setting individual minimum rotations for each packaging type would cause a very high administrative burden. According to a comparison of 32 LCA studies 10-15 rotations for all packaging materials already brings more benefits compared to single-use packaging.

4. Adopted from "Packaging Reuse vs. Packaging Prevention" Henriette Schneider, Senior Expert Circular Economy, Environmental Action Germany (DUH) Larissa Copello. Production and Consumption Campaigner, Zero Waste Europe. June 2022.2. Tisler and Christensen 2022

5. Reusable vs. Single-use Packaging. A review of environmental impacts. Downloadable at https://zerowasteurope.eu/wp-content/uploads/2020/12/zwe_reloop_report_reusable-vs-single-use-packaging-a-review-of-environmental-impact_en.pdf.pdf_v2.pdf

6. www.reuselandscape.org

STANDARD OPERATING PROCEDURES (SOPS)

All third-party service providers must have SOPs in place for the safe and sanitary handling of foodware throughout the container's entire journey. While SOPs for W/R/S are well known and have strong regulatory oversight and guidance, reuse service providers face a unique set of circumstances whereby many of their operations fall outside the normal bounds of regulated space yet still have implications for food safety. In particular, the reverse logistics of collecting dirty containers for transport to a facility for W/R/S, possibly in conjunction with the distribution of clean containers, requires specific attention and the development of SOPs in order to ensure minimal risk of cross-contamination and/or other health and hygiene concerns.

GENERAL CONSIDERATIONS

Well known industry standards exist for the following but we highlight them here so they are not overlooked simply because many of the third-party service providers operate outside of food handling facilities.

- *Employee health & hygiene*
- *Employee illness policy*
- *Hand washing and sinks*
- *Glove usage where appropriate (see example SOPs in appendix)*

WASHING, SANITIZING & HANDLING OF CONTAINERS

Clear guidance and regulations exist for the W/R/S and handling of containers. Please refer to local and federal food safety guidelines with particular attention to ensuring adequate space for stacking reusables after drying and storage of the reusables in secondary containers with lids for protection.

RECORD KEEPING, PROCEDURES AND PROTOCOLS

Third-party contractors and all food service operators must keep and retain adequate records related to their operation including SOP's, hazard control, audit/inspection reports, operational checklists, and if necessary for CPGs, market withdrawal and recall protocols.

REVERSE (COLLECTION) / FORWARD (DISTRIBUTION) LOGISTICS

In the appendix of this document, we offer guidance that addresses the expanded boundaries of food safety considerations required in open-network/offsite reusable foodware systems. This is an excerpt from the PR3 Washing, Sanitization & Handling of Foodware standard⁷ which was designed to integrate and support diverse reuse initiatives. Below are some of the key takeaways from that extensive list.

For context it is important to note that several models have emerged for the collection of dirty containers including:

- *Staffed Returns Stations*
- *Automated/Machines*
- *Passive/Unstaffed Return Bins*

Each of these collection models will necessarily have a slightly different set of protocols but all need consistency in safe handling procedures.

All secondary and primary containers must be clearly labeled as clean or dirty. If any of the models being evaluated use the same bin for collection, storage and/or distribution, it is critical the bins and foodware are W/R/S between uses. The containers and bins should have the same level of W/R/S/ to ensure consumer safety and minimize cross contamination.

It is important to also take into account the following considerations:

- *Clean container handling procedures*
- *Storage of the foodware containers while in wash facility, during transportation, and onsite at the food service/restaurant location*

7. Partnership to Reuse, Refill, Replace Single-Use Packaging PR3 standards available for review online: PR3 Standards - RESOLVE



Photo courtesy of Boston Tea Party

IX CONCLUSION

The above points of consideration and guidance are intended as a starting point for regulatory agencies, businesses, and other parties interested in the safe and sanitary implementation of reusable foodware systems.

While not designed to be comprehensive, this guidance offers key points of consideration when contracting with a third-party reuse provider.

As this new industry continues to mature, we encourage maintaining close contact with regulatory and industry peers on this topic, as well as monitoring for any updated food code and PR3 Reuse Industry Standards to stay abreast of and share emerging best practices.



RESOURCES

The following legislative activities, current reuse examples, scientific rationale, and existing guidance resources were evaluated when creating this document.

EXAMPLE MUNICIPALITY AND LEGISLATIVE REQUIREMENTS AFFECTING THE USE OF REUSABLES

California Assembly. (2019, July 12). Assembly Bill No. 619, CHAPTER 93, An Act to AMEND Sections 114121 and 114353 of the Health and Safety Code, relating to retail food facilities. California Legislative Information.

https://leginfo.ca.gov/faces/billTextClient.xhtml?bill_id=201920200AB619

City of Bainbridge Island, Washington. (2021, November 19). Ordinance NO. 2021-34, AN ORDINANCE of the City of Bainbridge Island, Washington, amending Chapter 8.24 of the Bainbridge Island Municipal Code. City of Bainbridge Island, Document Center.

<https://www.bainbridgewa.gov/DocumentCenter/View/15609/Ordinance-No-2021-34-Relating-to-Chapter-824-BIMC-Waste-Reduction-Approved-110921?bidId=>

City of Berkeley, California. (2019, February 19). ORDINANCE NO. 7,639-N.S. Adding Chapter 11.64 to the Berkeley Municipal Code to Adopt a Single Use Foodware and Litter Reduction Ordinance. City of Berkeley's Records Online.

<https://records.cityofberkeley.info/PublicAccess/paFiles/cqFiles/index.html> and searching for "7639"

Nevada Legislature. (n.d.) CHAPTER 446 - FOOD ESTABLISHMENTS. Nevada Administrative Code. <https://www.leg.state.nv.us/NAC/NAC-446.html>

PUBLISHED REPORTS ABOUT FOODWARE REUSE

Boomerang Alliance. (2019). Brief on Refillables and Reusables. https://d3n8a8pro7vhm.cloudfront.net/boomerangalliance/pages/3903/attachments/original/1576541348/2019_Brief_on_a_Refill_Reusable_Program.pdf?1576541348

Coelho, P. M., Corona, B., Klooster, R. T., & Worrell, E. (2020, May 6). Sustainability of reusable packaging—Current situation and trends. *Resources, Conservation & Recycling*. Volume 6, 100037. <https://doi.org/10.1016/j.rcrx.2020.100037>

Ellen MacArther Foundation. (2019). Reuse - rethinking packaging.

<https://ellenmacarthurfoundation.org/reuse-rethinking-packaging>

Gordon, M. (n.d.). Reuse wins – The environmental, economic, and business case for transitioning from single-use to reuse in food service. Upstream.

<https://upstreamsolutions.org/reuse-wins-report>

National Zero Waste Council. (2021, June). Opportunities for Reusables in Retail Settings During the COVID-19 Pandemic in Canada: A Review of Guidance and Evidence.

http://www.nzwc.ca/Documents/NZWC_OpportunitiesforReusablesinRetailReport.pdf

Pinsky, D. (2020, August 25). Reusables are Doable. Greenpeace.

<https://www.greenpeace.org/usa/reports/reusables-are-doable>

Prindiville, M. (2022). The New Reuse Economy: How reuse systems and services will revolutionize how we consume. Upstream.

<https://drive.google.com/file/d/1QD8GufolsA7ZBFnRvt45gBwCXD1Fea2/view>

World Economic Forum. (2021, July). Future of Reusable Consumption.

https://www3.weforum.org/docs/WEF_IR_Future_of_Reusable_Consumption_2021.pdf

SCIENTIFIC ARTICLES RELATED TO REUSABLE CONTAINERS

Matthews, C., Moran, F., & Jaiswal, A. K. (2021, February 10). A review on European Union's strategy for plastics in a circular economy and its impact on food safety. *Journal of Cleaner Production*. Volume 283.

<https://doi.org/10.1016/j.jclepro.2020.125263>

Moss E., Gerken K., Youngblood K., Jambeck J. R. (2022). Global landscape analysis of reuse and refill solutions. *Frontiers in Sustainability*. Volume 3.

<https://www.frontiersin.org/articles/10.3389/frsus.2022.1006702>

Qian, S., Ji, H., Wu, X., Li, N., Yang, Y., Bu, J., Zhang, X., Qiao, L., Yu, H., Xu, N., & Zhang, C. (2018, December 5). Detection and quantification analysis of chemical migrants in plastic food contact products. *PLoS ONE*. 13(12): e0208467.

<https://doi.org/10.1371/journal.pone.0208467>

Repp, K.K. and Keene, W. E. (2012, June 1). A Point-Source Norovirus Outbreak Caused by Exposure to Fomites. *Journal of Infectious Disease*. 205(11): 1639–1641

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3415849>

Sinclair, R., Fahnestock, L., Feliz, A., Patel, J., & Perry, C. (2018, June). The Spread of a Norovirus Surrogate via Reusable Grocery Bags in a Grocery Supermarket. *Journal of Environmental Health*. Vol. 80, No. 10, 8-15.

<https://www.jstor.org/stable/26505114>

Sundqvist-Andberga, H., & Åkerman, M. (2021, July 15).

Sustainability governance and contested plastic food packaging – An integrative review. *Journal of Cleaner Production*. Volume 306.

<https://doi.org/10.1016/j.jclepro.2021.127111>

Sun, X., Kim, J., Behnke, C., Almanza, B., Greene, C., Miller, J. & Schindler, B. (2017, November/December). The Cleanliness of Reusable Water Bottles: How Contamination Levels are Affected by Bottle Usage and Cleaning Behaviors of Bottle Owners. *Journal of Food Protection Trends*. Vol 37, No. 6, p. 392–402.

<https://www.foodprotection.org/files/food-protection-trends/nov-dec-17-sun.pdf>

Williams, D. L., Gerba, C. P., Maxwell, S., & Sinclair, R. G. (2011). Assessment of the Potential for Cross-contamination of Food Products by Reusable Shopping Bags. *Food Protection Trends*. Vol. 31, No. 8, 508–513.

<https://www.foodprotection.org/files/food-protection-trends/Aug-11-Gerba.pdf>

Yang, J., Song, W., Wang, X., Li, Y., Sun, J., Gong W., & Sun, C. (2019, February 18). Migration of phthalates from plastic packages to convenience foods and its cumulative health risk assessments. *Food Additives & Contaminants: Part B*. Vol. 12, 151-158.

<https://doi.org/10.1080/19393210.2019.1574909>

GUIDANCE FOR REUSABLE CONTAINERS

Centers for Disease Control and Prevention. (n.d.). Retail Delis Can Address Gaps in Food Safety - Key Takeaways from 5 Scientific Articles.

https://www.cdc.gov/nceh/ehs/ehsnet/plain_language/retail-deli-food-safety-practices.html

Consumers Beyond Waste. (2021, September). Design Guidelines for Reuse: Working Document. World Economic Forum.

<https://weforum.ent.box.com/siajeqni5jr8cuocoyouxmImwi82hegov>

Consumers Beyond Waste. (2021, September). Safety Guidelines for Reuse: Working Document. World Economic Forum.

<https://weforum.ent.box.com/s/6f5192886e94cq5bluk68ltm8shjgwkn>

Oceana. (2022). Taking Food or Drink To Go - Best practice and policy recommendations for a plastic-free future for take-away vendors and large events.

https://europe.oceana.org/wp-content/uploads/sites/26/d_files/factsheet_taking_food_or_drink_to_go.pdf

PR3 Partnership to Reuse, Refill, Replace Single-Use Packaging. (2021, September). Reusable Packaging System Design Standards - Specifications and recommendations. RESOLVE.

<https://www.resolve.ngo/site-pr3standards.htm>

Reusable Packaging Association. (2016). Guidelines and Best Practices for the Safe Use of Returnable Containers in Food Supply Chains.

<https://www.reusables.org/wp-content/uploads/2016/06/RPA-Guidelines-Best-Practices-for-Safe-Use-of-Returnable-Containers-in-Food-Supply-Chain.pdf>

HELPFUL REUSE EXAMPLES

Following is a short list of real-life examples of reuse in various scenarios in the U.S. For a comprehensive list of reuse in the U.S. and globally, in various applications see: Reuselandscape.org

U.S. Grocery — Retail and CPG

<https://exploreloop.com>

<https://regrocery.co>

[Rootszerowastemarket.com](https://rootszerowastemarket.com)

<https://nudefoodsmarket.com>

[Trashless.com](https://trashless.com)

U.S. Restaurants and Third-Party Providers

<https://justsalad.com/reusablebowl>

<https://dispatchgoods.com/partners#restaurants>

<https://rcup.com>

[Boldreuse.com/find-bold-reuse-locations](https://boldreuse.com/find-bold-reuse-locations)

[Deliverzero.com](https://deliverzero.com)

[Planetozzi.com](https://planetozzi.com)

Events

<https://rcup.com/>

<https://turnsystems.co/>

<https://cupzero.com/>

OTHER USEFUL WEBSITES

[Refill.org.uk/resources](https://refill.org.uk/resources)

[Reuseportal.org/case-studies](https://reuseportal.org/case-studies)

XI APPENDIX

Filling Methods

Photos courtesy of Oren Kariri

Method 1



GRAVITY FLOW

Liquids/oils/honey/peanut butter

Method 2



SCOOPS / UTENSILS

Traditional bulk foods with scoop

Method 3



TRANSFER SHEETS (EMPLOYEE / DELI COUNTER)

Use of a paper to prevent exposure of the equipment/packaging deli meat

Method 4



CONTAINER WASHED BY FOOD ESTABLISHMENT

Visual inspection/potential refusal of container

Method 5



CONTAINER WASHED BY A THIRD PARTY

Collection stations or transport of dirty containers/delivery of clean containers

CONSUMER OWNED CONTAINER EXAMPLES

WHAT CAN BE USED

- Mason jar
- Yogurt container
- Canvas bag (produce)
- Plastic bag
- Metal foodware container
- Plastic food storage container
- Glass food storage container

WHAT CANNOT BE USED

- Paper cup
- Kitty litter bucket
- Tin can
- Styrofoam container
- Pizza box

SAMPLE BEST PRACTICES FOR **SAFE HANDLING OF FOODWARE DURING REVERSE AND FORWARD LOGISTICS**

EXCERPT FROM PR3's "Draft Washing, Sanitization & Handling of Foodware Standard."**

FOODWARE HANDLING DURING DISTRIBUTION AND COLLECTION

- Third-party employees should have food-handler certificates and receive additional training for safe container handling during collection and distribution.
- Handling procedures should be printed and kept in all vehicles, sorting, storage and washing facilities for reference.
- Distribution vehicles (trucks, vans, pedicabs, bikes, etc.) should have separated and designated dirty and clean areas or be used solely for distribution of clean containers or solely for collection of dirty containers.
- Vehicle operators that switch between collecting used foodware and distributing clean foodware should wash and sanitize vehicle storage areas between uses.
- Vehicle operators should seek further advice from local authorities on local requirements.
- Boxes of clean, food service gloves must be available in vehicles, at or near each collection point, and at the sorting, washing and warehousing facilities where employees drop off used foodware or pick up clean foodware.
- Handwashing should be provided at the receiving facility.
- Employees should use gloves to handle any used foodware or collection bins.
- Employees should wash hands and replace gloves if switching between collection and distribution roles, as detailed below.
- If a glove rips while handling dirty foodware, employee SHALL immediately wash hands and clean and sanitize any surfaces touched on the way to washing hands.
- If any clean foodware comes in contact with a dirty glove, ripped glove, or is dropped, or placed on an unsanitary surface, it SHALL be returned to a washing facility for re-washing and sanitization.

FOODWARE HANDLING DURING DISTRIBUTION

- Clean foodware must be stored and transported in FDA, EPA, NSF and/or other governing body agency approved, sealed storage/distribution containers.
- In the case that collections bins and storage/distribution containers are interchangeable, they SHALL be washed and sanitized between each use and clearly labeled as "clean" or "used."

PICKING UP CLEAN FOODWARE FOR DISTRIBUTION

Employees must follow the below steps in order.

- Employee must wash hands.
- Employee must wear gloves.
- Employee will collect cleaned, sanitized foodware that is packed and sealed in a distribution/storage container(s) from the warewashing provider.
- Employee will place distribution/storage container(s) into the designated clean section of the distribution vehicle(s).

DISTRIBUTING CLEAN FOODWARE

Employees must follow the below steps in order.

- Employee will distribute clean containers in sealed distribution/storage containers to vendors back of house.
- Employee will give storage/distribution container(s) directly to vendor employees or place it in designated areas in the back of house or behind the counter, away from customers and potential contamination until used.

FOODWARE HANDLING DURING COLLECTION

- Collection bins will be cleaned and sanitized with an FDA or other local governing body-approved sanitizing solution for nonfood-contact surface each time it is emptied by an employee.
- Collection bins will be cleaned and sanitized each time before being reused at a collection point.
- Collection bins will be fitted with a lid that seals the bin during collection.

NOTE: Nonfood-contact surfaces of equipment must be kept free of an accumulation of dust, dirt, food residue, and other debris. Timely cleaning and sanitizing prevent the growth of microorganisms on both food-contact surfaces of equipment and non-food contact surfaces. Additionally, proper cleaning frequency prevents the development of slime, mold, or other soil and related microorganisms on food-contact surfaces and equipment.

- Collection bins will be maintained by third-party employees, even if they are located within the vendor's space.

COLLECTING DIRTY BINS FROM COLLECTION POINTS

Employees must follow the below steps in order.

- When directly in front of the collection point, employee will wear gloves
- Employee will open the collection point housing unit and seal collection bin with lid.
- Employee will place the sealed collection bin into the designated dirty section of the collection/distribution vehicle.
- Employee will sanitize the collection point housing.
- Employee will repeat steps if multiple collection point housing units are in the same location.
- Employee will remove gloves and properly dispose of gloves in a nearby trash can and wash hands.

INSERTING CLEAN COLLECTION BINS INTO COLLECTION POINTS

- Employees will follow the below steps in order.
 - o Employee will wear a new pair of clean
 - o Employee will place sanitized collection bin from collection/distribution vehicle into collection point housing unit.
 - o Employee will repeat steps above if multiple additional collection point housing units are in the same location.
 - o Employee will remove gloves and properly dispose of gloves in a nearby trash can and wash hands.

RETURNING DIRTY FOODWARE TO SORTING OR WASHING FACILITY

- Employees will follow the below steps in order.
 - o Employee will put on new gloves.
 - o Employee will unload dirty reusable containers and receptacles for sorting and/or washing/sanitizing.



Photo courtesy of Muuse

SUMMARY OF RECENT FOOD CODE ACTIVITY RELATED TO CONSUMER-OWNED FOOD CONTAINERS IN THE UNITED STATES

After reviewing state and local codes, waste reduction bills, and a wide variety of reusable food containers commonly in use, the committee identified several themes:

Lack of awareness or enforcement of existing regulatory restrictions on reusable containers

- *The use of consumer-owned reusable containers, especially for beverages and bulk foods, is considered common practice.*
- *Lack of understanding among industry, consumer, and regulatory partners for the existing allowances for reusable containers, such as those provided by the business for return.*

Increase in solid waste regulatory activities encourages consumer-owned reusable containers

- *Restrictions on single-use items are putting pressure on food establishments.*
- *Municipalities are passing regulations expressly allowing reusable food containers.*

Increase in the number businesses that support reusables in retail food services

- *Several businesses already offer services to implement turnkey reusable containers.*
- *Some jurisdictions do not consider these businesses to meet the definition of a “food establishment” and therefore do not provide regulatory oversight.*

Limited data on disease transmission related to the use of reusable containers

- *The existing requirement for filling reusable containers using contamination free process addresses any potential concerns with potential fomite transmission.*
- *Several states recently modified regulations, or are in the progress, to increase the allowance of consumer-owned containers (see Table 1).*

Table 1

Comparison of 2017 FDA Food Code, Recent State Code Modifications, and new CFP Guidance Document Related to Filling Consumer-Provided Reusable Food Containers Using a Contamination-free Procedure.

Allowances for Filling Consumer-Provided Reusable Containers
Shading indicates allowable filling options

| | Method 1 | Method 2 | Method 3 | Method 4 | Method 5 |
|---|---------------------------------------|--|--|---|--|
| | Bulk foods from protective dispensers | Bulk food using a utensil for transfer | Employee filling using intermediary liners | Employee filling washed or visually inspected container | Reusable container program washed by food establishment or third party |
| 2017 FDA Food Code Section 3-304.17 | Only non TCS beverages | | | | No specific guidance for third party |
| California (2019) Section 114121(b) | | | | | Same as FDA Food Code |
| Illinois (2019) HB3440t | | | | | Same as FDA Food Code |
| Maine (2021) H.P. 641 - L.D. 885 | | | | | Same as FDA Food Code |
| Oregon (2022) Proposed Rule for Public Comment | | | | | Same as FDA Food Code |
| Washington (2020) WAC 246-215-03348 | | | | | Same as FDA Food Code |
| CFP Committee Guidance (2022) | Provides guidance | Provides guidance | Provides guidance | Provides guidance | Provides guidance for third party |



**SAFE USE OF REUSABLE
CONTAINERS COMMITTEE**

2020-2023 Conference for Food
Protection

Website
www.foodprotect.org

Photo courtesy of Usefull