

Drive-thru hot beverages: Still a risk?

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Stella Liebeck brought to light the risk for operators who serve hot beverages through their drive-thru windows when she successfully sued McDonald's in 1994 for the burns she received when coffee spilled in her lap. The current study replicated 1998 research on a national level, where 1,585 coffee temperatures collected from drive-thru windows were analyzed to determine if operators had lowered their coffee temperatures as a result of this widely-publicized case.

In 1998, Rutherford¹ published a regional study of hot beverage temperatures using a sample of 203 black coffee temperatures observations at quick service drive-thru windows. The purpose was to investigate if such restaurants had begun to serve drive-thru hot beverages at lower temperatures in the aftermath of the widely-reported and actively-discussed case of Stella Liebeck who suffered burns from a cup of coffee served by McDonald's.

At that time, it was not generally acknowledged throughout the restaurant industry nor by the

public that there was any particular risk involved in quick service restaurant (QSR) hot beverage service until after the revelations established by Liebeck in her post-injury lawsuit against McDonald's in 1994. Liebeck was awarded \$160,000 in compensatory damages (the award was actually \$200,000, but the jury found Liebeck 20 percent at fault, reducing the compensatory award to the \$160,000 figure) and \$2.7 million in punitive damages from McDonald's² for injuries she suffered from spilling 180° to 190°F (82.2-87.8°C) coffee in her lap after a drive-thru purchase. The court reduced the punitive damage award to \$480,000, three times the compensatory damages. The litigants subsequently settled on a confidential amount before promised appeals by both sides.

What is curious is that *Liebeck* and other, similar litigation (see Exhibit 1) have generated very little structured research into the

precise parameters of the risk environment or into determining whether McDonald's or other QSRs have lowered the temperature of the hot beverages served at drive-thru windows from the restaurant industry standard 185°F (85°C)³ in response to the facts in the lawsuit. According to the National Coffee Association, 79 percent of the U.S. adult population over 18 years of age consumes coffee beverages daily.⁴ Since, according to the association, this represents 161 million daily and occasional coffee drinkers, the risk of accidents and potential litigation is very high.

Governing laws explained

Restaurant patrons have the right to assume their food will be free from contamination and their visit free from harm. Operators have a whole slew of federal and state laws governing the way in which they provide food and beverages to the public. State and local health authorities inspect food and beverage establishments on a regular basis to help ensure the health and safety of guests. Not only is operating at the highest possible standards of safety and sanitation the right thing to do, failure to do so puts the operator in legal jeopardy. According to Stephen Barth, hospitality operators⁵ owe a duty of care to those individuals who enter their establishments. Barth lists eight duties of care applicable to hospitality operators. Of those, the following four are especially applicable to this research:

•**Provide safe premises:** This could include the drive-thru window and business conducted through it, as the drive-thru window is part of the entire facility under the care of the operator.

•**Make temperature safe:** Several lawsuits prior to the Liebeck case should have provided clear warning to McDonald's that their coffee was too hot to drink. The previous cases could easily make Liebeck's accident foreseeable. Research shows a significant difference between the temperature at which coffee is served and the desired temperature for consumption.⁶ Barth explains this includes the techniques used by an operator to prepare and serve food or beverages.

•**Properly train employees:** As simple as it may seem, properly serving a cup of hot coffee or other hot beverage takes training, especially through the drive-thru window. Operators must have training in place that teaches employees how to make sure the lid is on the cup properly, how and why to use "cup sleeves" or "java jackets" on hot beverage cups, how to deliver the proper warning to the customer about the hot contents of the cup, and how to properly hand the cup to the customer to avoid a spill.

•**Warn of unsafe conditions:** For years, wait staffs in restaurants have announced the presence of hot plates. Why should delivery of a hot beverage in a cup be any different? The verbal warning from the employee serves as a gentle reminder for the customers to pay attention, for their own safety.

Accidents happen

However, accidents (unintentional torts) do happen. If the accident involves injury to a customer, the operator may end up trying to prove he or she was not negligent (committed a tort). Negligence is the failure to use reasonable care. According to Barth:

Essentially, reasonable care requires you to correct potentially harmful situations that you know exist or that you could have reasonably foreseen. The level of reasonable care that must be exercised in a given situation can sometimes be difficult to establish.⁷

Thus, the legal foundation for lawsuits involving the manner of serving⁸ food and beverages is grounded in unintentional tort law as further explained by Sherry:

The general rule of tort law is that a person is responsible for any injury or damage caused by his own negligence. By virtue of the master-servant relationship, a hotel or restaurant keeper will be held vicariously liable for the negligent acts of his employees committed within the scope of their employment. Negligence is generally defined as a failure to exercise reasonable care.⁹

Except in a few circumstances, negligence must be established in order to recover damages in a civil suit under tort liability; juries are being asked to decide issues of reasonable care.

In the *Liebeck* case, the plaintiff alleged McDonald's was negligent because they required their operators to serve coffee hotter than was necessary and had ignored hundreds of prior complaints about coffee temperature. In addition to failing to correct the temperature issue, the plaintiff also contended that McDonald's failed to put a warning on the cup.¹⁰ The jury agreed with the plaintiff, but only up to a point, and found Liebeck to be 20 percent responsible for her own injuries. This is becoming more typical, for as Sherry points out:

A number of states have enacted laws that create a comparative negligence theory, permitting a jury to compare the amount of guest negligence as a percentage and deduct the value of the guest's own negligence from the total amount awarded to the guest.¹¹

However, just because comparative negligence exists, operators should not assume it insulates them from liability exposure.

Risk environment explained

Other than extrapolations based on specific cases such as *Liebeck*, the researchers could find no structured inquiry into the nature of the risk environment surrounding restaurants' service of hot beverages, in general, or of service through QSR drive-thrus, in particular. To aid in describing the risk landscape, a search of case resolutions was commissioned involving injurious burns to restaurant patrons by spilled hot beverage.

ages in total, not just at drive-thrus, through Jury Verdict Research® of Horsham, PA. Jury Verdict Research® (JVR) maintains a nationwide database of more than 186,000 plaintiff and defense verdicts, settlements, and mediation/arbitration outcomes, according to JVR's Victoria R. Marshall.¹² Although Jury Verdict Research® does not receive 100 percent of the personal injury jury verdicts rendered nationwide, JVR does believe that it receives a sufficient sample of data to produce descriptive statistics for specific areas of personal injury litigation. The cases are collected in an impartial manner, with an equal emphasis on the collection of plaintiff and defense verdicts and with no intentional bias toward extreme awards or geographic regions.

The searches generated 25 cases starting in January 1991 and concluding in fall 2000, covering 10 years of litigation; they are displayed in Exhibit 1.

Probably the most interesting observations from these data are the number of suits filed and decided post-*Liebeck*—17—more than three times the number found before the *Liebeck* revelations and verdict. The cases of *Barlor* and *Vromverok* occurred and were filed pre-*Liebeck*; *Barlor*'s trial concluded in December 1994, three months after the *Liebeck* verdict. In *Vromverok*, however, the settlement did not come until March 1996, a year and one half after *Liebeck*. The injury incidents in *Ozer*, *Immormino*, and *Proudfoot* occurred

pre-*Liebeck*, but were filed in March 1996, August 1997, and March 1997, respectively.

Verdicts are mixed

Of the eight cases that went to trial post-*Liebeck*, only two, *Simon* and *Proudfoot*, resulted in any jury award of monetary damages for the plaintiff. Similarly, the cases that went to arbitration yielded modest awards to plaintiffs. Plaintiffs seemed to do better in settlement than trial or arbitration.

One conclusion about the risk environment that can be considered from these cases is that those operators who are sued, but believe they have strong cases, seem to be successful in defending their operations. With the exception of the two large settlement awards in *Vromverok* and *Arrieta*, restaurant defendants seem to fare well in the legal arena. The only problem with drawing a solid—or positive—conclusion from this is that the awards are only a part of the risk. Attorney's fees, business disruption, bad publicity, lost management time to depositions and interrogatories, and increased insurance costs are among the hidden costs of being hailed into court and the legal system. As one wag put it, "I've gone broke twice in my life. Once when I lost a lawsuit and once when I won one."

Lawsuits are still being filed, and, in some cases, law is being made. When cases reach an appellate court, the decision of that court provides guidance for other cases of a similar nature. In the Ohio case of

**Exhibit 1
Jury Verdict Research®, hot beverage recap**

Case	Plaintiff verdict \$	Defense verdict \$	Settlement \$	Arbitration mediation \$ ¹³	Date Injury/concluded	State
<i>Parks v. McDonald's</i>			\$24,401		1990/1991	Washington
<i>Robertson v. Carl's Jr.</i>		\$0			1989/1992	California
<i>Tolen v. IHOP</i>			\$21,250		1990/1992	Oregon
<i>Zapata v. McDonald's</i>	\$34,110				1991/1993	Texas
<i>Angelucci v. Shoneys, Inc.</i>				\$11,000	1990/1993	Pennsylvania
<i>Barlor v. Golden Corral</i>		\$0			1-1994/1994	Oklahoma
<i>Vromverok v. IHOP</i>			\$350,000		1992/1996	New Jersey
<i>Denton v. Carl's Jr.</i>		\$0			9-1994/1996	California
<i>Ozer v. Denny's</i>				\$13,000	6-1994/1997	Pennsylvania
<i>Winczewski v. KFC</i>				\$3,500	1996/1997	Oregon
<i>Arrieta v. Taco Bell</i>			\$300,000		1995/1997	California
<i>Schilfarth v. Arby's</i>				\$1,504	1996/1997	Ohio
<i>Moore v. McDonald's</i>			\$4,000		1995/1997	Texas
<i>Adams v. Pizza Hut</i>			\$9,000		1997/1998	Kansas
<i>Immormino v. McDonald's</i>		\$0			1993/1998	Ohio
<i>Patino v. McDonald's</i>		\$0			1995/1998	California
<i>Simon v. Denny's</i>	\$5,511				1995/1998	Kansas
<i>Proudfoot v. Denny's</i>	\$15,000				8-1994/1999	Pennsylvania
<i>Wyche v. Outback Steak House</i>		\$0			1997/1999	Kansas
<i>Kovac v. Denny's</i>			\$55,000		1997/1999	Washington
<i>Milhorn v. Burger King</i>			\$18,000		1995/1999	South Carolina
<i>Bailey v. Shoney's</i>			\$2,500		1998/1999	Florida
<i>Romulus v. Denny's</i>			\$15,000		1998/2000	Florida
<i>Aldridge v. Hardee's</i>		\$0			1998/2000	Kentucky

Nadel v. Burger King,¹⁵ the Ohio appellate court sent part of the case that had concluded at the trial level through summary judgment for the defense back to the trial court, saying in effect that a jury could decide whether coffee temperature as maintained by the establishment could be considered as a liability standard.

Nadel settled confidentially before trial, but future cases featuring similar facts will be decided under the standard established by the appellate court, allowing juries to make the decision on whether coffee temperature is dangerous. Such decisions, coupled with the *Liebeck* publicity, can encourage potential plaintiffs. The legal environment for food service operators is, therefore, still fraught with risk.

Temperatures decrease

Over a two-year period in 1996 and 1997, Rutherford¹⁶ gathered 203 hot coffee observations from a convenience sample of QSRs in one northwestern state. The study reported that the mean temperature of drive-thru black coffee for all QSR observations was 169.4°F (76.3°C). The mean temperature of McDonald's black coffee was 165°F (73.9°C), a significant difference ($t [65] = -2.48$, $p < .014$) from the rest of the sample studied. The mean of all hot beverages from the entire sample in the Rutherford study was 167.1°F (75°C) with a standard deviation of 12.15°F. Since the Rutherford study had no pre-*Liebeck* temperature data, a true test of significant differ-

ence was not possible. Rutherford, however, pointed out that there are "...two standards of comparison. One is Wenzel's (1979) industry standard of 185°F (85°C) and the other is the Liebeck temperature in excess of 180°F."¹⁷ That study's data clearly suggested a substantially lower temperature than either the Liebeck and Wenzel standards and that QSRs had diminished the risk associated with the service of hot beverages.

In this study, the researchers have compared their results to the Wenzel and Liebeck temperatures. Since the Rutherford study was done in one geographic area of the country and could not be generalized nationwide, it is believed that collecting data in nine geographic areas of the country provides more precise data about whether the country's QSRs still serve hot beverages at their drive-thru windows at the industry standard temperature of 185°F (85°C) with all the attendant risk, or if, as the Rutherford study suggests, they have turned down the serving temperature.

These lower temperatures appear to be the way most people prepare and consume hot beverages at home, for as Marshall¹⁸ relates, a hot beverage brewed in the home at 212°F (100°C), became after three minutes "...a safe 160 (71.1°C) degrees."

Preferences are lower

In an experimental study, Borchgrevink, Susskind, and Tarras¹⁹ tested seven different coffee temperatures across 250

student subjects over an eight-month period to establish preferred consumer service temperature. This study established the ideal range of consumption temperature at 145 to 155°F (62.8-68.3°C). Because the restaurant industry still appears to adhere to the Wenzel standard, there is a disconnect between what the consumer desires and what restaurant operators are providing, along with the well-established burn and liability risk.

To build on the Rutherford and Borchgrevink, *et al.* studies and to provide further insights into this question nationally, the researchers gathered substantially more observations from drive-thru-served QSR hot beverages. The study drew observations from a larger, more geographically dispersed and national population. Additionally, it also expanded upon the previous studies and gathered data from a larger sample of hot black coffee.

Volunteers enlisted

In order to replicate Rutherford's 1998 study on a national level, the researchers enlisted the assistance of volunteer student researchers in hospitality programs from each of the institutions listed in Exhibit 2.²⁰

Each volunteer was trained in the elements of gathering data for the study and equipped with a Comark instant-read thermometer, detailed data collection instructions, and forms on which to record observations. Each was asked to visit a QSR drive-thru and order hot coffee on up to 20

different occasions over the period of one academic term. The student volunteers, based on convenience and proximity to their neighborhoods, work locations, or schools, determined the restaurants visited.

Immediately upon delivery of the coffee, and before adding any cream or sugar, volunteers inserted the thermometer through the lid and recorded a reading on the observation form, along with the QSR name, type of beverage, date, and time. Volunteers also noted whether or not a written or oral warning was provided, in keeping with the original Rutherford study.

Results cover range

The project concluded with 145 student researchers from the nine participating institutions, generating a total of 1,850 hot beverage observations (coffee, cocoa, tea, espresso drinks). The data collection forms were returned and inspected for completeness, and the data were entered on an Excel spreadsheet for analysis. Sorting the data yielded 1,585 coffee observations, upon which all analyses were conducted. The data were analyzed using a one-sample t-test, comparing them with the industry standard (185°F) and a Z-test²¹ to compare the mean of the current study with the Rutherford study since both samples were large.

Temperatures for the 1,585 cups of coffee ranged from 100°F (37.78°C) to 196°F (91.11°C), with a mean of 159.03°F (70.57°C), a

Exhibit 2
Student researchers and observations by location

School	Geographic Location	# of students researchers (Total = 145)	# of observations (N = 1585)
Cornell University	Northeast	7	139
University of Nevada-Las Vegas	Southwest	3	44
Mt. Hood Community College	Northwest	2	14
Michigan State University	Midwest	14	183
Florida State University	Southeast	7	131
The Pennsylvania State University	Northeast	78*	499
California Polytechnic Institute-Pomona	West	15	235
Texas Tech. University	South	2	28
University of South Carolina	Southwest	17	312

*Student researchers worked in groups to collect the data.

standard deviation of 14.18 and a standard error of .36°F.

In order to test the significance of the differences of the mean temperatures of the data collected in 2001 against the industry standard holding temperature of 185°F²² (85°C), a t-test for one population mean was used. To test the differences between the mean temperatures of the data collected in 1997 against the mean temperatures of the current data, a Z-test for two means was used.

Temperature is lower

The mean temperature for all coffee was found to be significantly lower than both Wenzel's recommended standard and that found in the 1997 study, $p < .05$. As shown in Exhibit 3, all QSRs have significantly lowered the temperature of

their coffee from the 1997 study,²³ with the exception of Taco Bell and KFC, and all are well below the Wenzel standard.

Although the original intent was to collect all data via QSR drive-thru windows, data were collected and recorded on cups of coffee that may have been served over the counter, as evidenced by the inclusion of data from Starbucks and Dunkin' Donuts. Although the risk involved in serving hot coffee at a drive-thru window may be greater, there is still risk involved in serving hot beverages from an inside counter. Thus, it was decided to include all coffee data collected in the study. Data were also analyzed to see if mean temperatures fell within the ideal consumption range identified by Borchgrevink, *et al.*,²⁴ and below the temperature at which major damage to the skin occurs.²⁵

Exhibit 3
Coffee data results

	N	1997 Data ²⁶ Mean°F	2001 Data Mean°F (°C)	Standard Deviation	Results
All Coffee	1585	168.02 (75.57)	159.03 (70.57)	14.18	A,B,D
McDonald's	466	165.27 (74.04)	160.15 (71.20)	11.87	A,B,D
Burger King	217	172.59 (78.18)	159.37 (70.67)	14.56	A,B,D
Jack In The Box	35	172.68 (78.50)	160.09 (71.16)	13.67	A,B,D
Wendy's	118	175.81 (79.90)	161.01 (71.67)	14.36	A,B,D
Arby's	46	164.59 (73.66)	154.76 (68.20)	13.03	A,B,C
Taco Bell	48	168.00 (75.56)	154.79 (68.22)	11.65	A,C
KFC	29	160.80 (71.56)	154.93 (68.30)	14.82	A,B,C
Starbucks	37	NA	169.46 (76.37)	10.78	A,D
Hardees	37	NA	159.32 (70.74)	17.60	A,D
Dunkin' Donuts	33	NA	162.52 (72.51)	14.73	A,D
Carl's Jr.	30	NA	160.00 (71.11)	14.16	A,D
Other ²⁷	489	164.47 (73.59)	157.21 (69.56)	15.63	A,B

A – significantly lower than the recommended standard holding temperature of 185°F (85°C)²⁸ (t-test), p<.05

B – significantly lower than the 1997 mean temperature (Z-test), p<.05

C – mean lies within ideal consumption range of 145°F (62.78°C) -155°F (68.33°C)²⁹

D – mean lies above temperature (158°F/70°C) at which brief contact with skin may result in total tissue destruction (Munster & Chiccone, 1985; Moncrief, 1979; as cited in Borchgrevink, *et al.*)³⁰

No warning given

While the temperature of the coffee being served has dropped in the last few years, researchers found it very surprising that overall fewer than 10 percent of the employees who served the coffee provided any kind of verbal warning about the temperature of the cup's contents. In this study, Starbucks' employees were the best at telling their customers to be careful, yet that

"best" was achieved by warning coffee drinkers only 18.9 percent of the time. Slightly more than 90 percent of all cups used to serve coffee contained some kind of written warning about the temperature of the contents. While the number of written warnings on the cup or lid has almost doubled since the 1998 study (90.2 percent in 2001 as compared to 47.9 percent in 1998), the number of times a verbal

warning is given by an employee has dropped by half (9.6 percent in 2001 as compared to 19.2 percent in 1998). With the exception of KFC, written warnings were noted on cups approximately 90 percent of the time. Exhibit 4 details the findings of the numbers and percentages of verbal and written warnings by QSR.

While the 1998 study revealed that McDonald's served their coffee at a temperature well below that of its peers, the new data show the major QSRs to all be within a degree or two of each other in terms of coffee temperatures. These temperatures, for the most part, are still at a level where major damage to the skin can occur if the hot coffee is spilled.³¹

Although the researchers have seen a decrease in serving temperatures and an increase in the number of cups containing written warnings about temperatures of the contents since 1998, it is still believed that operators can insulate themselves from additional risk by training employees to give verbal warnings as well.

It can be argued that even if a program of warnings is established, if an accident happens anyway, it is the word of the operator against that of the injured customer as to whether the employee followed procedures to deliver the verbal warning. With a policy that verbal warnings are part of a safety-training program, and with consistent supervision and inspection, this is a manageable problem. This is particularly true when a policy of verbal warnings is used in conjunc-

tion with written warnings on the cups and container tops and at drive-thru windows.

Operators are presented with a dilemma: If their customers show preference for a beverage temperature (Borchgrevink, *et al.*) that still presents them with the risk of physical harm, how do the operators protect themselves from additional liability?

Warnings are answer

With research on the topic and the publicity high profile cases such as *Liebeck* present, risk is foreseeable. Risk is therefore inconsistent when care is taken with fitness for consumption, training, and, particularly, warning of unsafe conditions as reported by Barth.³² Training staff members to give the same sort of verbal warning as is given with a "hot plate" when they serve a cup of hot coffee or other beverage would seem to be the only answer.

If operators can demonstrate that every precaution that could have been taken was indeed taken, liability can be substantially reduced, if not eliminated. If employees are not providing verbal warnings when handing cups of coffee to customers, every precaution is not being taken. Written procedures that are followed, taught, and supervised are imperative. Training is the key; operators need to teach employees to warn customers about the temperature of a hot beverage each and every time one is served. This needs to become as automatic to the employee as checking orders

Exhibit 4
Warnings regarding temperature of each chain

<i>N</i> =1585**	Verbal warning		Written warning	
	Yes	No	Yes	No
All Coffee	152 9.59%	1433 90.41%	1429 91.16%	142 8.96%
McDonald's	66 14.16%	400 85.84%	455 97.64%	3 .64%
Burger King	20 9.22%	197 90.78%	215 99.08%	2 .92%
Jack In The Box	3 8.57%	32 91.43%	32 91.43%	3 8.57%
Wendy's	5 4.24%	113 95.76%	113 95.76%	5 4.24%
Arby's	1 2.17%	45 97.83%	41 89.13%	5 10.87%
Taco Bell	1 2.08%	47 97.92%	42 87.5%	6 12.5%
KFC	4 13.79%	25 86.21%	10 34.48%	19 65.52%
Starbucks	7 18.92%	30 81.08%	35 94.59%	2 5.41%
Hardees	6 16.22%	31 83.78%	35 94.59%	2 5.41%
Dunkin' Donuts	1 3.03%	32 96.97%	33 100%	0 0.00%
Carl's Jr.	1 3.33%	29 96.67%	29 96.67%	1 3.33%
Other	37 7.57%	452 92.43%	389 79.55%	94 19.22%

**Numbers within columns may not always total *N*, as some student researchers failed to record the verbal and/or written warnings.

for accuracy or washing hands after using the restroom.

Although it appears as if a written warning about the temperature of a cup's contents has become standard since 1998, the new data show some room for improvement. Many QSRs have static cling signs attached to their drive-thru windows warning of hot beverage temperatures. It was reported that only 34.48 percent of the coffee served at KFC came with a written warning. Was that because the cups

truly had no warning or because the warning was not immediately obvious? Or perhaps was it because the stores ran out of their usual printed cups and were using a non-printed, generic substitute? Regardless of the reason, the problem remains the same—no written warning raises the liability of the operator should an accident involving burns to a customer occur. QSRs need to examine their cups and lids and verify that the warning is obvious and immediately notice-

able. If not, as may be the case with KFC, perhaps a redesign is in order.

This study represents a comprehensive, structured, geographic distribution of collected data when compared to the 1997 study. When viewed collectively with the 1997 study and that of Borchgrevink, *et al.*, it provides a broad baseline of data and analysis that can guide operators in establishing beverage service programs that avoid a great deal of legal risk.

However, while this research focused on hot coffee, other beverages present the same risks if not prepared and served according to these findings. Other lawsuits have involved hot chocolate, hot tea, and, in one case, soup.³³ A future area of research should focus on these beverages.

An area that has not been explored in this or either of the previous studies dealing with hot beverage temperatures is the role of the equipment manufacturers who supply the coffee brewing systems used by the QSR industry. What guidelines for brewing and holding coffee are they following when calibrating their machines? Is the decline in mean coffee temperatures since 1998 the result of changes in the brewing equipment at the factory or the result of a change in coffee holding procedures at the unit level?

Monitoring is necessary

With continued rise in the popularity of coffee, tea, and other hot drinks, it is important for operators wishing to capitalize on the trend to

constantly monitor and manage the risk involved. This research raises some important issues and provides useful data with regard to the role of the operator and server in minimizing liability involving the standard of reasonable care in cases involving the spilling of hot coffee.

One of the best legal defenses for operators is to be able to show they have done everything possible to reduce the chance that something could go wrong in their operations. This involves having a written policy and procedures manual, a structured on-going training program for staff at all levels, regular inspections by management at the unit and corporate level for adherence, and detailed documentation of any breakdowns along the way. If the number of documented incidences so suggests, perhaps it would be time to reevaluate the original written policies, procedures, and training. This process is a continuous cycle, requiring constant attention from all parties charged with the responsibility of safely serving the public. It is easy to have manuals collecting dust on office shelves; however, unless management and staff know and adhere to those policies and procedures in an active manner on a daily basis, operators leave themselves wide open for lawsuits.

References

¹Denney G. Rutherford, "Lessons from Liebeck: QSRs Cool the Coffee," *The Cornell Hotel and Restaurant Administration Quarterly* 39, no.3 (1998): 72-75.

²*Liebeck v. McDonald's Restaurants, P.T.S.*, Bernalillo County Case No. CV-93-02419, 1994.

³George L. Wenzel, *Menu Maker*, 2nd ed. (New York: Van Nostrand Reinhold, 1979), 104. This industry standard food preparation reference states that to provide a consistently high quality product, coffee must not be brewed below a temperature of 200°F (93.3°C) and held at "...185° (85°C), no lower, and no higher."

⁴http://www.lodgingnews.com/lodgingfnb/2000_09/2000_09_15.asp.

⁵Stephen Barth, *Hospitality Law—Managing Legal Issues in the Hospitality Industry* (New York: John Wiley & Sons, Inc., 2001), 220-223.

⁶Carl P. Borchgrevink, Alex M. Susskind, and John M. Tarras, "Consumer Preferred Hot Beverage Temperatures," *Journal of Food Quality and Preference* 10 (1999): 117-121.

⁷Barth.

⁸This differs from the legal concept of "strict liability" as it applies to lawsuits involving food and beverages where the claim involves adulteration, contamination, or wholesomeness.

⁹John E. H. Sherry, *The Laws of Innkeepers - For Hotels, Motels, Restaurants, and Clubs*, 3rd ed. (Ithaca, N.Y.: Cornell University Press 1993), 672.

¹⁰Liebeck.

¹¹John E. H. Sherry, *Legal Aspects of Hospitality Management*, 2nd ed. (National Restaurant Association: The Educational Foundation, 1994), 118.

¹²Victoria R. Marshall, personal communication, June 25, 2001.

¹³All cases reported in this column were concluded by arbitration.

¹⁴Jury verdict punitive damages were reduced by the court to \$480,000, three times the compensatory damages. The parties agreed to a confidential settlement before appeals.

¹⁵*Nadel v. Burger King Corp.* (1997), 119 Ohio App.3d 578, 585, 695 N.E.2d 1185, 1189, citing *Cook v. Cincinnati* (1995), 103 Ohio App.3d 80, 658 N.E.2d 814.

¹⁶Rutherford, 75.

¹⁷Rutherford, 74.

¹⁸Anthony Marshall, "Serving scalding-hot beverages can brew up trouble," *Hotel and Motel Management* (May 5, 1997).

¹⁹Borchgrevink, Susskind, and Tarras.

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²¹Gopal, 27.

²²Wenzel.

²³TacoTime was included in the 1997 study; however, no observations were taken from this QSR during collection of the 2001 data.

²⁴Borchgrevink, Susskind, and Tarras.

²⁵*Ibid.*

²⁶Rutherford.

²⁷Comprises local and regional operators

²⁸Wenzel.

²⁹Borchgrevink, Susskind, and Tarras.

³⁰*Ibid.*

³¹www.ot.com/burn_prevention/fact_sheets/home.html.

³²Barth.

³³Mike McGreevy, editor, "Ouch! Serving Food Becomes Heated Issue," *Hospitality Law Newsletter* 4, no. 4 (January 1989): 8.

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