Alexandria Health Department

Environmental Health Division
Food Safety Program

2009 Baseline Survey

INTRODUCTION

What is the baseline survey?

A study to measure the occurrence of food preparation practices and employee behaviors reported to the CDC as contributing factors to foodborne illness.

(A study to measure the occurrence of foodborne illness risk factors.)

INTRODUCTION

CDC Foodborne Illness Risk Factors

1. Poor Personal Hygiene
2. Unapproved Food Source
3. Inadequate Cooking Temperatures
4. Improper Holding Temperatures
5. Contaminated Equipment & Utensils

Food Code Public Health Interventions

1. Demonstration of Knowledge
2. Employee Health Policy
3. Preventing Hands as a Vehicle of Contamination
4. Time & Temperature Relationships
5. Consumer Advisory

BACKGROUND

Where did this idea come from?

- Ensuring safe food has long been an important public health priority of our nation.
- However, a 1996 National Performance Review concluded that foodborne illness caused by harmful bacteria and other pathogenic microorganisms was a significant public health problem in the United States.
- The review also pointed out that no attempt had been made to look at the occurrence of foodborne illness risk factors within specific sectors of the farm to table continuum.

BACKGROUND

Where did this idea come from?

- The FDA responded to that review by establishing the National Retail Food Safety Steering committee whose priority was to identify a performance measure to assess the effectiveness of the nation's food protection system.

- Using the occurrence of foodborne illness would be an ideal indicator, but as we know, foodborne illness is grossly underreported.

- So, the FDA selected the occurrence of foodborne illness risk factors as the performance indicator.

BACKGROUND

What is the goal of the survey?

- The FDA committee established a goal to reduce the percent of out of compliance risk factor observations by 25% by 2010.
- Basic parameters include analyzing the occurrence of foodborne illness risk factors over time to measure trends. (At least three studies at 5 year intervals.)
- The first national study occurred in 1998 (report published in 2000) and established a baseline or performance measure to assess the impact of efforts (to prevent occurrence of risk factors).
- The results from the 1998 survey and subsequent 2003 survey (report published in 2004) provide insight into the effectiveness of industry management systems and food safety regulatory programs in controlling foodborne illness risk factors.

BACKGROUND

Summary of Survey Objectives

The **Study IS Designed** to:	The **Study IS NOT Designed** to:
Measure trends over time in regulatory & industry efforts to reduce the occurrence of foodborne illness risk factors.	Support comparisons of geographic areas, states, counties, cities or chains of foodservice/retail food store operations.
Assess the occurrence of foodborne illness risk factors and management practices essential to their control in institutional foodservice, restaurant and retail food facility types.	Assess the occurrence of foodborne illness risk factors in other industry sectors of the farm-to-fork continuum.
Use the 1997 FDA Food Code provisions as the standard of measurement upon which to make observations of employee practices & behaviors.	Determine an establishment's regulatory compliance with prevailing state, local, or tribal regulations.
Identify employee practices and behaviors that contribute to the occurrence of foodborne illness that are in need of priority attention.	Correlate the occurrence of foodborne disease risk factors with actual incidences of foodborne illness.

BACKGROUND

Local Surveys

- FDA developed a data collection manual as a tool for jurisdictions to assess critical considerations in the design of their baseline. FDA also developed a computer software program for data analysis and report generation.

- Conducting a local baseline allows us to assess the effectiveness of intervention strategies (e.g., training programs, evaluations, risk control plans) in reducing foodborne illness risk factors by:
  - Providing a quantifiable measurement
  - Establishing a mechanism to track trends over time
  - Assess the effectiveness of national retail food safety initiatives (e.g., Program Standards) and their impact on reducing the occurrence of foodborne illness risk factors.

METHODOLOGY

FACILITY TYPES

- 9 Separate Baselines in 3 Different Segments
  - Segment 1: Institutional Food Service
    - Baselines 1-3: Hospitals, Nursing Homes, Elementary Schools
  - Segment 2: Restaurants
    - Baselines 4-5: Fast Food (included Carry-Out), Full Service
  - Segment 3: Retail Food Stores
    - Baselines 5-9: Deli, Meat/Poultry, Seafood, Produce

Eligibility

- Facilities serving prepackaged, non-potentially hazardous foods or “simple” operations were excluded (e.g., facilities serving only milk, cream or cheese)

METHODOLOGY

Data Collector

- District Standardization Officer conducted all Segment 1 and Segment 2 facility inspections (Segment 3 inspections have not been conducted)
    - Technical expertise
    - Strong working knowledge of foodborne illness risk factors
    - Consistency
    - Minimized potential bias
    - Separate baseline surveys from regulatory inspections

Form

- Used FDA form for consistency and compatibility with FDA tools.
- Supplemental items added by FDA in 2003 and by Alexandria in 2009 to account for regulatory changes

National survey also considered geographical locations and selection of establishments using comparison set establishment lists.

METHODOLOGY

Sample Size

- Sample sizes for each baseline were determined using FDA recommendations. These recommendations were developed by statisticians to achieve a 95% confidence interval and statistically significant results.
- Eligible facilities were randomly selected using a simple MS Excel random number generator. Back-up facilities were randomly selected using the same tool.

Baseline	# Selected	Total #	% Total
Fast Food Restaurants	73	203	36%
Full Service Restaurants	67	180	37%
Hospitals	1	7	100%
Nursing Homes	7	7	100%
Elementary Schools	15	15	100%

Total #s of Hospitals, Nursing Homes and Elementary Schools (private & public) were so small that we elected to survey all facilities.

LIMITATIONS

Field

- The industry is dynamic, which causes variations in total observations for each data item.
- Examples that may cause variations include establishment type, time of year, time of day, inspection length.

Statistical

- Study is not designed to compare data over time - does not pair establishments. (Working towards a trend).
- Sampling variations – frequency that an item can be observed during each data collection period.
- Changes in industry practices (e.g., raw eggs to pasteurized liquid egg product)
- Regulatory QA – marking instructions
- Impact of changes in # of observations between data periods

2009 RESULTS

Fast Food Restaurants

Top 10 Out of Compliance Observations

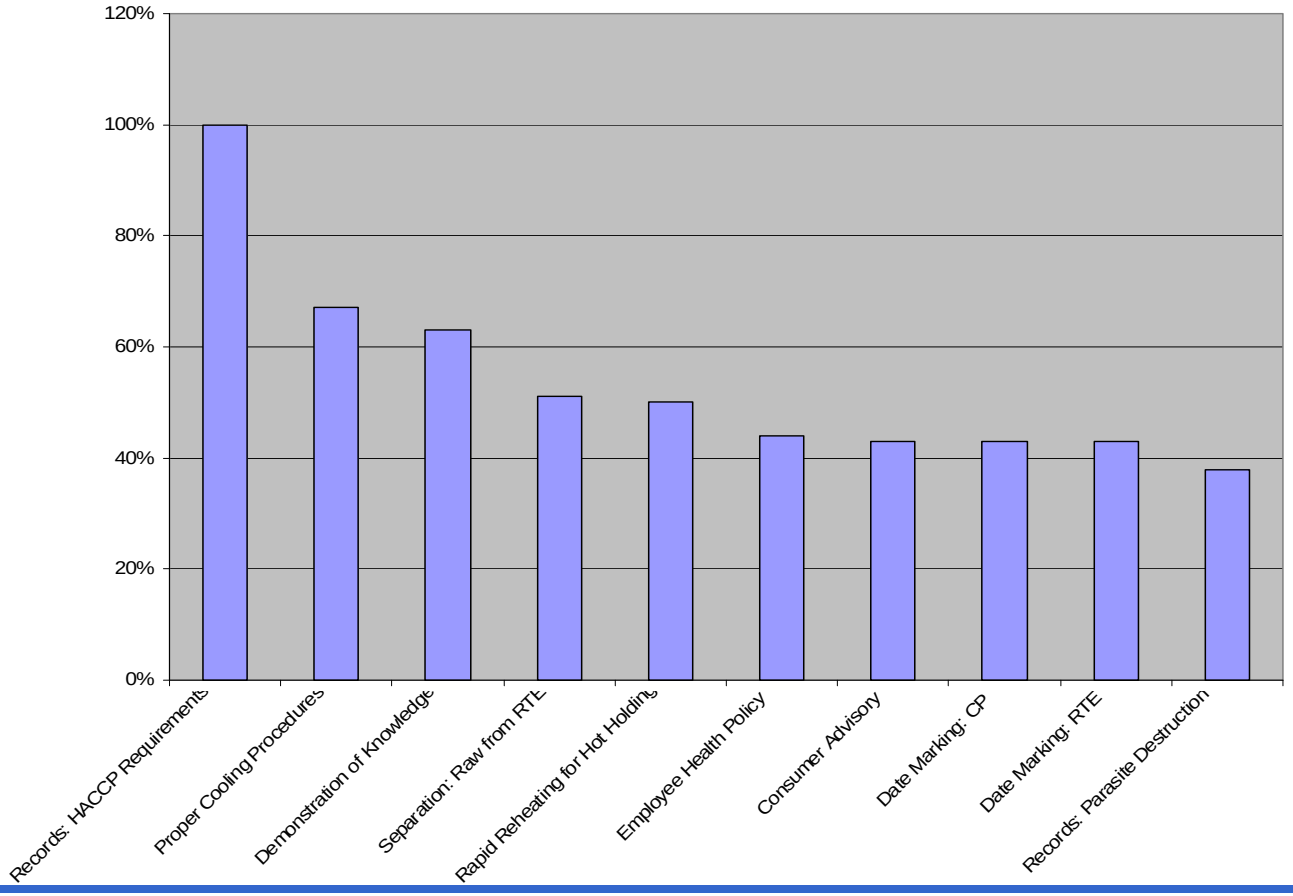
N = 73

Data Item	# Out	# In	Total #	% Out
Records: HACCP Requirements	2	0	2	100%
Proper Cooling Procedures	8	4	12	67%
Demonstration of Knowledge	45	27	72	63%
Separation: Raw from RTE	25	24	49	51%
Rapid Reheating for Hot Holding	3	3	6	50%
Employee Health Policy	32	40	72	44%
Consumer Advisory	10	13	23	43%
Date Marking: Commercially Processed	22	29	51	43%
Date Marking: RTE	20	27	47	43%
Records: Parasite Destruction	3	5	8	38%

2009 RESULTS

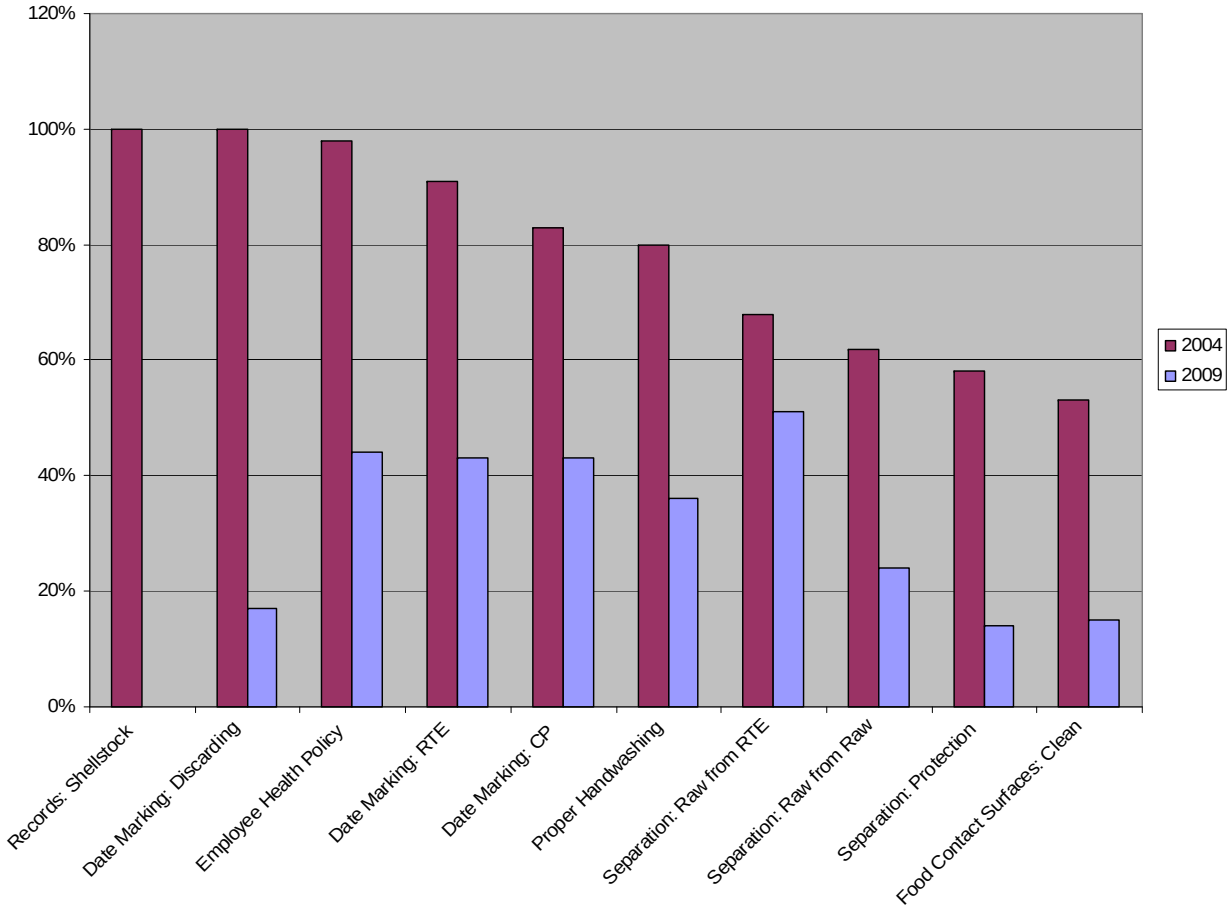
Fast Food Restaurants

Top 10 Out of Compliance Observations (N = 73)



Potential Trends

Fast Food Restaurants
Top 10 Out of Compliance Observations 2004 with 2009 Comparison



2004 N = 40, 2009 N = 73

Potential Trends

Fast Food Restaurants
Top 10 Most Common Out of Compliance Observations

2004	
Employee Health Policy	39
Proper Handwashing	24
Separation: Protection	23
Date Marking: RTE Food	21
Food Contact Surfaces: Clean	21
Separation: Raw from RTE	15
Chemicals: Stored, Used, Identified	15
Good Hygienic Practices	14
Handwashing Facilities	14
Separation: Raw from Raw	13

2009	
Demonstration of Knowledge	45
Employee Health Policy	32
Proper Handwashing	25
Separation: Raw from RTE	25
Cold Holding (41F)	24
Date Marking: Commercially Processed Food	22
Date Marking: RTE Food	20
Chemicals: Stored, Used, Identified	20
Good Hygienic Practices	16
Food Contact Surfaces: Clean	11

2004 N = 40, 2009 N = 73

2009 RESULTS

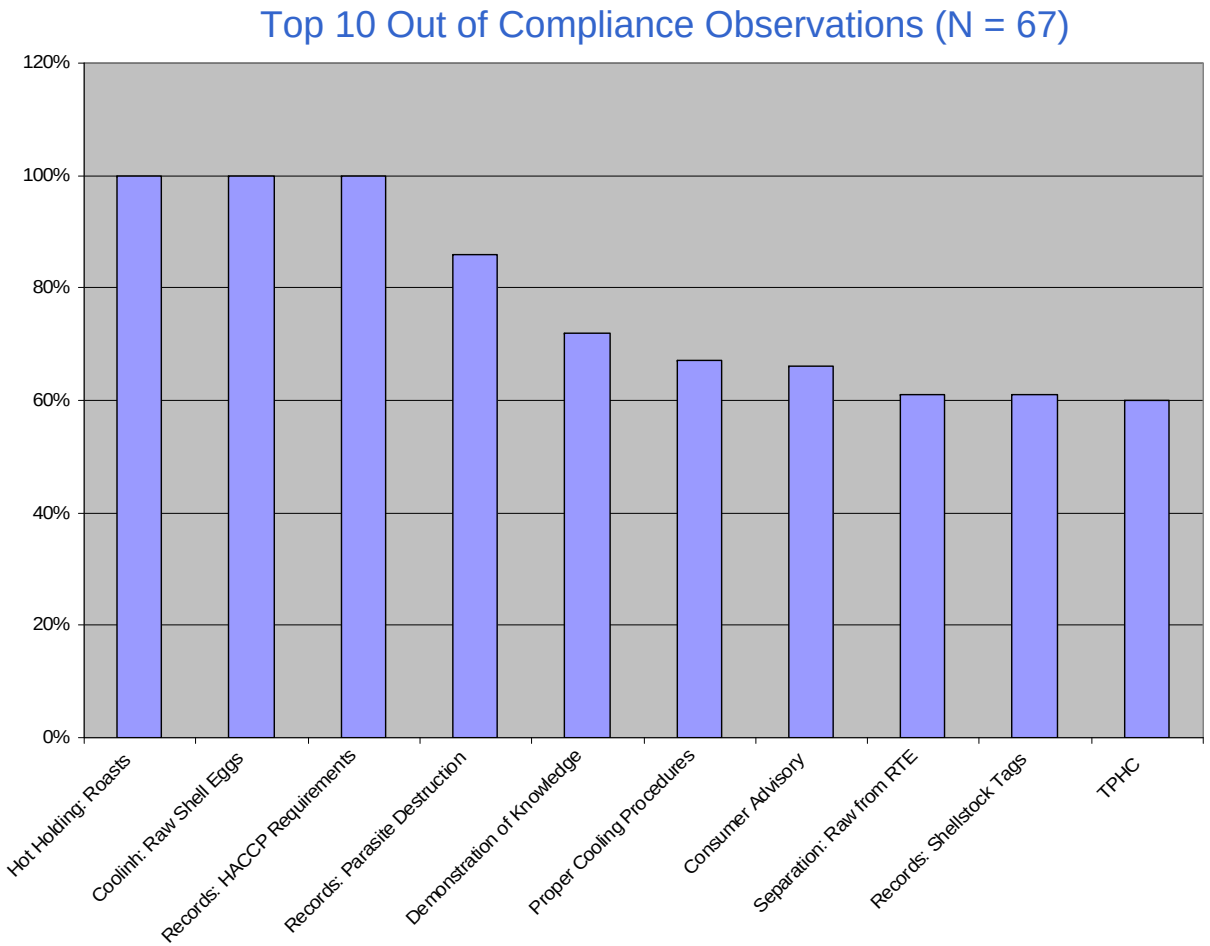
Full Service Restaurants

Top 10 Out of Compliance Observations

N = 67

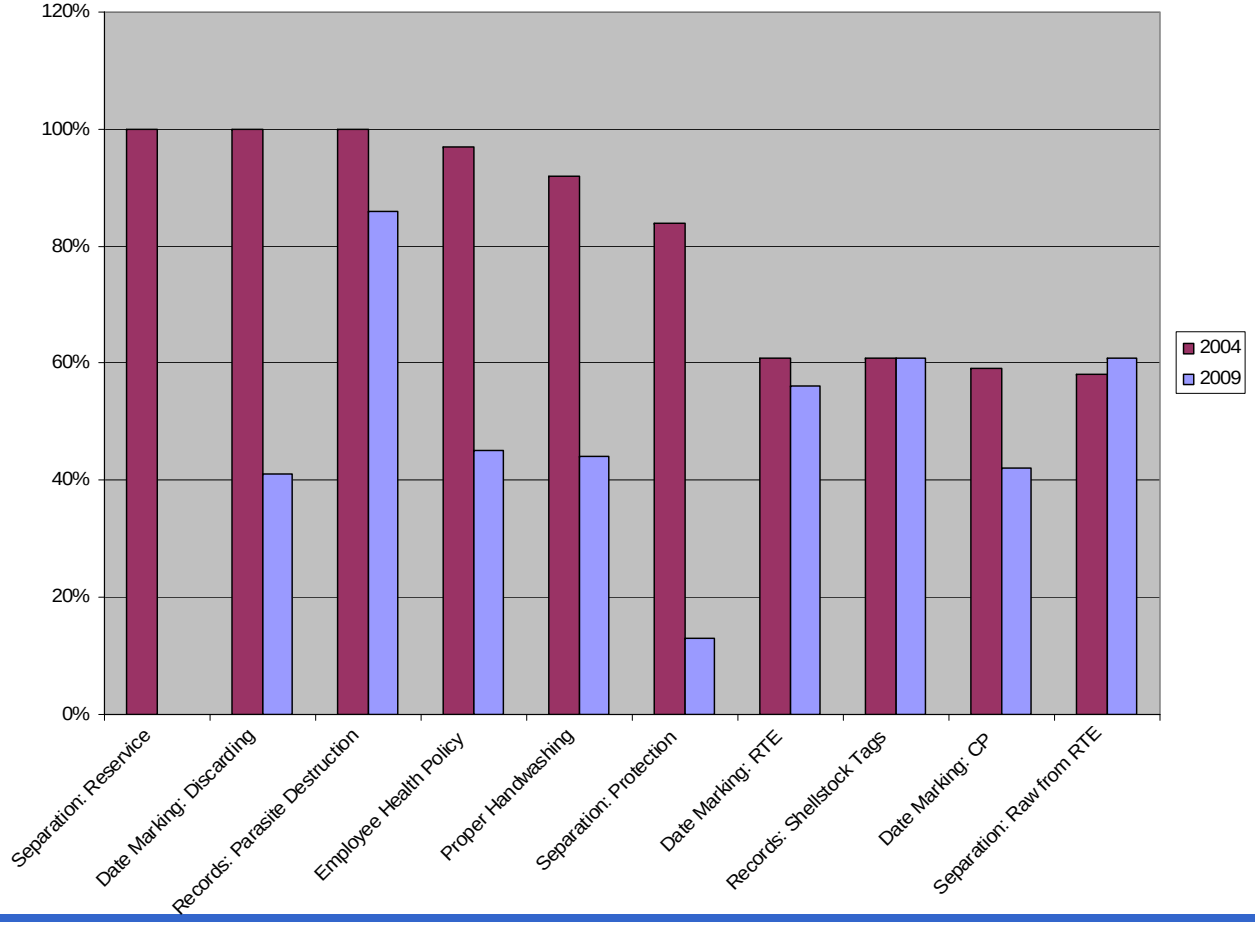
Data Item	# Out	# In	Total #	% Out
Hot Holding: Roasts	1	0	1	100%
Cooling: Raw Shell Eggs	1	0	1	100%
Records: HACCP Requirements	3	0	3	100%
Records: Parasite Destruction	24	4	28	86%
Demonstration of Knowledge	48	19	67	72%
Proper Cooling Procedures	18	9	27	67%
Consumer Advisory	37	19	56	66%
Separation: Raw from RTE	41	26	67	61%
Records: Shellstock Tags	20	13	33	61%
Time as a Public Health Control	3	2	5	60%

2009 RESULTS



Potential Trends

Full Service Restaurants
Top 10 Out of Compliance Observations 2004 with 2009 Comparison



2004 N = 76, 2009 N = 67

Potential Trends

Full Service Restaurants
Top 10 Most Common Out of Compliance Observations

2004	
Employee Health Policy	73
Separation: Protection	63
Proper Handwashing	58
Date Marking: RTE Food	43
Food Contact Surfaces: Clean	42
Separation: Raw from RTE	38
Separation: Raw from Raw	32
Good Hygienic Practices	29
Cold Holding (41F)	23
Chemicals: Identified, Stored & Used	21

2009	
Demonstration of Knowledge	48
Separation: Raw from RTE	41
Consumer Advisory	37
Cold Holding (41F)	36
Date Marking: RTE Food	32
Employee Health Policy	30
Proper Handwashing	28
Chemicals: Identified, Stored & Used	25
Records: Parasite Destruction	24
Proper Cooling Procedures	23

2004 N = 76, 2009 N = 67

2009 RESULTS

New Items

- **Consumer Advisory**

Baseline	# Out	# In	Total #	% Out
Fast Food Restaurant*	10	13	23	43%
Full Service Restaurant*	37	19	56	66%

Consumer Advisory was ranked among the top out of compliance violations at these facilities.

2009 RESULTS

New Items

- **Demonstration of Knowledge**

  Being a CFM did not constitute compliance with this item. The PIC was required to respond correctly to questions regarding foodborne disease prevention, application of HACCP principles, and requirements of the Food Code specific to the food operation.

Baseline	# Out	# In	Total #	% Out
Fast Food Restaurant*	45	27	72	63%
Full Service Restaurant*	48	19	67	72%

****Demonstration of Knowledge was ranked among the top out of compliance violations at these facilities.***

Next Steps

- Have we made progress?
- What contributed to that progress?
- What areas should we focus on before the next survey?
- How should we work with industry to address high priority areas?

Additional Information

Visit our website at

www.alexandriava.gov/EnvironmentalHealth

Call us at 703.838.4400

Ext. 266 or 267

Attachment A

Alexandria Health Department-Division of Environmental Health

2009 Baseline Survey Update Data Collection Form

Establishment Name:		Facility Type:		Industry Segment:
Physical Address:		City of Alexandria	VA	Zip Code:
Date:	Time In:	Time Out:	Data Collected During:	
EHS: Seyra Hammond		Manager:		
41°F (5°C) is the cold holding requirement for this jurisdiction.		**Certified Food Protection Manager: YES NO**		

STATUS OF OBSERVATIONS:

IN = Item found in compliance (**IN** Compliance marking must be based on actual observations)

OUT = Item found out of compliance (**OUT** of Compliance marking must be based on actual observations)

NO = Not observable (**NO** marking is made when the data item is part of the establishment's operation or procedures, OR is seasonal and is not occurring at the time of the inspection)

NA = Not applicable (**NA** marking is made when the data item is NOT part of the establishment's operation or procedures)

CDC RISK FACTORS

CDC RISK FACTOR - FOODS FROM UNSAFE SOURCE

FOOD SOURCE

STATUS	**1. Approved Source**
IN OUT	A. All food from Regulated Food Processing Plants/ No home prepared/canned foods
IN OUT NA	B. All Shellfish from NSSP listed sources. No recreationally caught shellfish received or sold
IN OUT NA NO	C. Game, wild mushrooms harvested with approval of Regulatory Authority

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STATUS **2. Receiving / Sound Condition**

IN OUT A. Food received at proper temperatures/ protected from contamination during transportation and receiving/food is safe, unadulterated

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STATUS **3. Records**

IN OUT NA NO A. Shellstock tags/labels retained for 90 days from the date the container is emptied

IN OUT NA NO B. As required, written documentation of parasite destruction maintained for 90 days for Fish products

IN OUT NA C. CCP monitoring records maintained in accordance with HACCP plan when required

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CDC RISK FACTOR-INADEQUATE COOK

PATHOGEN DESTRUCTION

STATUS **4. Proper Cooking Temperature Per Potentially Hazardous Food (PHF)** ***(NOTE: Cooking temperatures must be taken to make a determination of compliance or non-compliance. Do not rely upon discussions with managers or cooks to make a determination of compliance or non-compliance. If one food item is found out of temperature, that PHF category must be marked as OUT of compliance.)***

IN OUT NA NO A. Raw shell eggs broken for immediate service cooked to 145°F (63°C) for 15 seconds. Raw shell eggs broken but not prepared for immediate service cooked to 155°F (68°C) for 15 seconds

IN OUT NA NO B. Comminuted Fish, Meats, Game animals cooked to 155°F (68°C) for 15 seconds

IN OUT NA NO C. Roasts, including formed roasts, are cooked to 130°F (54°C) for 112 minutes or as Chart specified and according to oven parameters per Chart ***(NOTE: This data item includes beef roasts, corned beef roasts, pork roasts, and cured pork roasts such as ham).***

IN OUT NA NO D. Poultry; stuffed fish, stuffed meat, stuffed pasta, stuffed poultry, stuffed ratites, or stuffing containing fish, meat, poultry or ratites cooked to 165°F (74°C) for 15 seconds

IN OUT NA NO E. Wild game animals cooked to 165°F (74°C) for 15 seconds

IN OUT NA NO F. Raw animal foods cooked in microwave are rotated, stirred, covered, and heated to 165°F (74°C). Food is allowed to stand covered for 2 minutes after cooking

IN OUT NA NO G. Pork, ratites, injected meats are cooked to 155°F (68°C) for 15 seconds. Specify product and temperature in the space below. **(*NOTE: Pork observed cooked between 145° F (63°C) and 155° F (68°C), would be marked OUT here, but marked IN under Supplemental Item 17 A. Please make notes in the comment section.)***

IN OUT NA NO H. All other PHF cooked to 145°F (63°C) for 15 seconds

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STATUS **5. Rapid Reheating For Hot Holding**

IN OUT NA NO A. PHF that is cooked and cooled on premises is rapidly reheated to 165°F (74°C) for 15 seconds for hot holding

IN OUT NA NO B. Food reheated in a microwave is heated to 165°F (74°C) or higher

IN OUT NA NO C. Commercially processed ready to eat food, reheated to 140°F (60°C.) or above **for hot holding**

IN OUT NA NO D. Remaining unsliced portions of roasts are reheated for hot holding using minimum oven parameters

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CDC RISK FACTOR - IMPROPER HOLD

LIMITATION OF GROWTH OF ORGANISMS OF PUBLIC HEALTH CONCERN

STATUS **6. Proper Cooling Procedure**
(NOTE: Record any temperature above 41°F (5°C) on blank lines. Production documents as well as statements from managers, person- in-charge (PIC), and employees, regarding the time the cooling process was initiated, may be used to supplement actual observations.)

IN OUT NA NO A. Cooked PHF is cooled from 140°F (60°C) to 70°F (21°C) within 2 hours **and** from 140° F (60°C) to 41°F (5°C) or below within 6 hours

IN OUT NA NO B. PHF (prepared from ingredients at ambient temperature) is cooled to 41°F (5°C) or below within 4 hours

IN OUT NA NO C. Foods received at a temperature according to Law are cooled to 41°F (5°C) within 4 hours

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STATUS **7. Cold Hold (41°F (5°C))**

(NOTE: For the purposes of this Baseline, 41° F (5°C) or below will be used as the criteria for assessing all PHF that are maintained/held cold.) If one product is found out of temperature the item is marked OUT of compliance.)

IN OUT A. PHF is maintained at 41°F (5°C) or below, except during preparation, cooking, cooling or when time is used as a public health control. ***(Record products and temperatures in the space below.)***

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STATUS **8. Hot Hold (140° F (60°C))**

IN OUT NA NO A. PHF is maintained at 140°F (60°C) or above, except during preparation, cooking, or cooling or when time is used as a public health control. ***(NOTE: Products held between 135° F (57°C) and 140° F (60°C) should be marked OUT in 8A, but IN under supplemental item number 18A. Record actual product and measured temperatures in the space below.)***

IN OUT NA NO B. Roasts are held at a temperature of 130°F (54°C) or above

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STATUS **9. Time**

IN OUT NA NO A. Ready-to-eat PHF held for more than 24 hours is date marked as required (prepared on-site)

IN OUT NA NO B. Discard RTE PHF and/or opened commercial container exceeding 7 days at < 41°F (5°C) or 4 days at < 45°F (7°C)

IN OUT NA NO C. Opened Commercial container of prepared ready-to-eat PHF is date marked as required

IN OUT NA NO D. When time only is used as a public health control, food is cooked and served within 4 hours as required

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CDC RISK FACTOR-CONTAMINATED EQUIPMENT

PROTECTION FROM CONTAMINATION

STATUS **10. Separation / Segregation / Protection**

IN OUT NA NO A. Food is protected from cross contamination by separating raw animal foods from raw ready-to-eat food and by separating raw animal foods from cooked ready-to-eat food

IN OUT NA NO B. Raw animal foods are separated from each other during storage, preparation, holding, and display

IN OUT C. Food is protected from environmental contamination – critical items

IN OUT NA NO D. After being served or sold to a consumer, food is not re-served

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STATUS **11. Food-Contact Surfaces**

(NOTE: This item will require some judgment to be used when marking this item IN or OUT of compliance. This item should be marked OUT of compliance if observations are made that supports a pattern of non-compliance with this item. One dirty utensil, food contact surface or one sanitizer container without sanitizer would not necessarily support an OUT of compliance mark. You must provide notes concerning an OUT of compliance mark on this item.)

IN OUT A. Food-contact surfaces and utensils are clean to sight and touch and sanitized before use

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CDC RISK FACTOR-POOR PERSONAL HYGIENE

PERSONNEL

STATUS **12. Proper, Adequate Handwashing**

IN OUT NO A. Hands are clean and properly washed when and as required

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STATUS **13. Good Hygienic Practices**

IN OUT NO A. Food Employees eat, drink, and use tobacco only in designated areas / do not use a utensil more than once to taste food that is sold or served / do not handle or care for animals present. Food employees experiencing persistent sneezing, coughing, or runny nose do not work with exposed food, clean equipment, utensils, linens, unwrapped single-service or single-use articles

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STATUS **14. Prevention of Contamination From Hands**

IN OUT NA NO A. Employees do not contact exposed, ready-to-eat food with their bare hands. ***(NOTE: In determining the status of this data item, an assessment of alternative methods when otherwise approved is to be made to determine implementation in accordance with the guidelines contained in Annex 3, 2001 Food Code, page 289.)***

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STATUS **15. Handwash Facilities**

IN OUT A. Handwash facilities conveniently located and accessible for employees

IN OUT B. Handwash facilities supplied with hand cleanser / sanitary towels / hand drying devices

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CDC RISK FACTOR - OTHER

FOREIGN SUBSTANCES

STATUS **16. Chemicals**

IN OUT NA A. If used, only approved food or color additives. Sulfites are not applied to fresh fruits and vegetables intended for raw consumption

IN OUT B. Poisonous or toxic materials, chemicals, lubricants, pesticides, medicines, first aid supplies, and other personal care items are properly identified, stored and used

IN OUT NA C. Poisonous or toxic materials held for retail sale are properly stored

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SUPPLEMENTAL ITEMS

(NOTE: ***The following items will be included as part of FDA's 2003 Baseline. These are additional items to the original 42 data items (contained in Section 1 – 16) that were assessed as part of the original baseline.)***

STATUS **17. Proper Cooking Temperature (Supplement to Item 4G)**

IN OUT NA NO A. Pork is cooked to 145°F (63°C) or above for 15 seconds. ***(NOTE: Final cooking temperatures of Pork Roasts are recorded under data item 4C.)***

IN OUT NA NO B. Ratites and injected meats are cooked to 155°F (68°C) for 15 seconds

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STATUS **18. Hot Hold (135°F (57°C)) – (Supplement to Item 8A)**

IN OUT NA NO A. PHF is maintained at 135°F (57° C) or above, except during preparation, cooking, or Cooling or when time is used as a public health control. **(*NOTE: Products held between 135°F (57°C) and 140°F (60°C) should be marked OUT in 8A. Record actual product and measured temperatures.)***

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STATUS **19. Employee Health Policy**

IN OUT A. Facility has a **written policy** that is consistent with 2-201 of the Food Code for excluding and restricting employees on the basis of their health and activities as they relate to diseases that are transmissible through food. **Written policy** includes a statement regarding employee responsibility to notify management of symptoms and illnesses identified in the Food Code

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STATUS **20. Treating Juice**

IN OUT NA NO A. When packaged in a food establishment, juice is treated under a HACCP Plan to reduce pathogens or be labeled as specified in the Food Code

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STATUS **21. Cooling – Raw Shell Eggs**

IN OUT NA NO A. After receiving, raw shell eggs are immediately placed under refrigeration that maintains ambient air temperature of 45°F (7°C) or less

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STATUS **22. Cold Holding – Raw Shell Eggs**

IN OUT NA NO A. After receipt, raw shell eggs are stored in refrigerated equipment that maintains ambient air temperature of 45°F (7°C) or less

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STATUS **23. Food & food preparation for highly susceptible populations**
(NOTE: These items pertain specifically to those facilities that serve Highly Susceptible Populations as defined in the Food Code. Establishments would include such facility types as Hospitals, Nursing Homes and Elementary Schools.)

IN OUT NA NO A. Prepackaged juice/beverage containing juice with a warning label (21 CFR, Section 101.17(g)) not served

IN OUT NA NO B. Pasteurized eggs or egg products substituted for raw shell eggs in preparation of foods that are not cooked to minimum required temperatures, (specified in Section 4.0 of this Baseline Form), unless cooked to order & immediately served; broken immediately before baking and thoroughly cooked; or included as an ingredient for a recipe supported by a HACCP plan that controls Salmonella Enteritidis

IN OUT NA NO C. Raw or partially cooked animal food and raw seed sprouts not served

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(NOTE: The following items will be included as part of Alexandria Health Department's 2009 Baseline Survey Update.)

STATUS **24. Consumer Advisory**

IN OUT NA A. Inform consumers about the increased risk associated with especially vulnerable consumers when eating animal foods in raw or undercooked form via disclosure and reminder in a manner consistent with 3-603.11 of the 2005 Food Code.

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STATUS **25. Demonstration of Knowledge**
(NOTE: Being a certified food protection manager does not constitute compliance with this item. The person-in-charge must respond correctly to the evaluator's questions regarding foodborne disease prevention, application of the HACCP principles, and requirements of the Food Code specific to the food operation.)

IN OUT A. Person-in-charge demonstrates knowledge of food safety specific to food operation

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