Indiana State Department of Health
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A Guide to Developing a Food Defense Plan for Food Establishments

Indiana State Department of Health
Food Protection Program
Food Defense Section

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The Indiana State Department of Health supports Indiana's economic prosperity and quality of life by promoting, protecting and providing for the health of Hoosiers in their communities.

What is Food Defense?

Food defense, formerly known as food security, is the means of preventing or eliminating the deliberate contamination of food by biological agents, toxins, chemicals, radiation, or a physical object. Awareness and prevention are the most important aspects of food defense.

How does Food Defense affect my company?

Threats to the food supply could occur at any level in the food-supply chain. These attacks are focused on a specific food item, process, company, or business. Attacks may be done by a variety of individuals such as: individuals posing as customers, employees/former employees, vendors, competitors, political ideologists, organized terrorist or activist groups, lone "copycat" individuals, criminals, or anyone with an agenda. The motivations for such attacks vary greatly and include, but are not limited to, financial gain, thrill/challenge, prestige, revenge, publicity, chaos, competitive advantage, or political reasons.

A lack in food defense may have devastating repercussions for a company. Food contamination can result in widespread illnesses or even death of the consumer(s), law proceedings, distrust in the product, company, and even the industry. The smallest incident can bankrupt an entire corporation.

How can the Indiana State Department of Health (ISDH) help?

In 2002, ISDH entered into a Public Health Preparedness and Response to Bioterrorism Cooperative Agreement and received bioterrorism funding from the Federal Centers for Disease Control. ISDH conducts food defense vulnerability assessments for Indiana food manufacturers, processors, and distributors. The ISDH Food Protection Program has a Food Defense Program responsible for developing and implementing these assessments and will conduct a free-of-charge food defense vulnerability assessment of your company to provide recommendations to help protect your product from deliberate contamination. Any findings are completely confidential documents under IC 5-14-3-4(19) and are not public record.

Please contact ISDH to schedule your assessment and/or if you have any questions or concerns.

Food Protection Program website: www.foods.isdh.in.gov.

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Steps in Developing a Food Defense Plan

Step 1 – Create a Food Defense Team

Begin by choosing a team to be responsible for food defense at the facility. A well-developed team will include members who represent all departments at the facility. The most important aspect of a well-developed team is that it is multi-functional. The size of the team depends on the size of the facility and availability of resources. Look for employees that have enough time to participate and contribute to the team.

There should be someone at the facility appointed as the Food Defense Coordinator, who will manage the food defense program and team. The concept of a team relieves the Food Defense Coordinator of some duties so they can still function at their current position. The delegation of duties in the team should be emphasized. Other people that should be considered for the team are the facility managers, human resource managers, production managers, front-line employees, and union representatives. Other considerations for team members may be Occupational Safety and Health professionals, information technology (IT) staff, quality control/quality assurance personnel, corporate involvement, legal advisor/corporate counsel, or chief executive officer/president. The key is to have a diverse, multi-functional team made up of approximately five to eight individuals.

The food defense team's primary responsibility is to minimize risks identified in the food defense vulnerability assessment. They also manage and enforce the programs steps and tools throughout the facility. The team has several issues they can address; however, they should 1) ensure an effective food defense plan is developed and followed; 2) determine the level of physical security based on the facility's threat level; 3) ensure company standards are followed; and 4) ensure that disciplines for the food defense program are carried out. All responsibilities should be stated in the confidential food defense plan and amended as necessary.

Training your workforce is vital to a successful facility. The same is true for a food defense team. Training the team is important when establishing and managing a program. All members of the team should have at least a basic understanding of food defense and how it applies to their facility. Reach out to government agencies and other organizations for education in food defense for the facility.

Step 2 – Conduct a Food Defense Vulnerability Assessment

There are many resources that may be utilized to conduct a food defense vulnerability assessment. The Indiana State Department of Health will conduct a free-of-charge assessment. There are other organizations available that will conduct food defense assessments. The assessment may be done by the food defense team and should be reviewed annually.

To use the following Self-Food Defense Vulnerability Assessment Tool, read each question and check the response that best describes how your process operates. Not all questions will be appropriate for all facilities. This tool was created to increase awareness and assist in the development of a food defense plan.

Management:	Yes	No	N/A
Is there a person or management team in charge of food defense at the facility?			
Is food defense training provided to employees?			
Are there any incentives for employees to report food product tampering or any other unusual situations?			
Are there any access restrictions to areas where food is produced, processed, stored, or distributed?			

Supervision:	Yes	No	N/A
Has a food defense plan been developed and implemented at the facility?			
Are the details of the food defense plan kept confidential?			
Does the food defense plan contain procedures for dealing with onlookers or media representatives who might be present during an emergency?			
Has 24-hour contact information been identified and posted for local, State, and Federal police/fire/rescue/government agencies?			
Are hazardous materials inspected upon receipt to verify their authenticity?			
Are safety sheets (i.e. MSDS) available for all hazardous materials stored at the facility?			
Is there a daily inventory of all hazardous materials at the facility and any discrepancies found investigated immediately?			
Are up-to-date floor or flow plans maintained in a secure location or an off-site location?			
Is someone in the establishment familiar with the Emergency Response System and the Emergency Command Center Operations?			
Is there an appropriate level of supervision for all employees, including cleaning and maintenance staff, contract workers, data entry and computer support staff, and especially, new employees?			
Are daily security checks of the premises conducted to look for signs of product tampering or any other unusual situations?			
Is there a validated procedure in place to ensure the trace-back and trace-forward of all raw and finished products?			
Is there a procedure in place to identify, segregate, and secure all products involved in the event of product contamination?			

Recall Strategy:	Yes	No	N/A
Is there a person who is responsible for recalls and a back-up if they are unavailable?			
Are there procedures in place for proper disposition of recalled products?			
Is there an accurate list of current customer contacts, addresses, and phone numbers?			

Investigation of Suspicious Activity:	Yes	No	N/A
Is there a procedure in place for investigating suspicious activities?			
Are all threats and suspicious behavior reported to the proper authorities?			
Is law enforcement alerted about suspicious activities or suspected criminal activities?			

Evaluation Program:	Yes	No	N/A
Is there someone in charge of evaluating the lessons learned from past tampering or terrorist events?			
Does someone review and test the effectiveness of strategies (e.g., conducting mock criminal, terrorist, or tampering event and mock recall, challenging computer security systems, etc.) and revise them accordingly?			
Does someone perform routine and random food defense inspections of the facilities? (Including receiving and warehousing areas and intrusion detection systems.)			
If third party security contractors are used, does someone evaluate their work to verify they are doing an adequate job?			

Human Element- Employees & Public:

Screening:	Yes	No	N/A
Are new employees (including seasonal, temporary, permanent, and contract workers) work references, addresses, phone numbers, immigration status, and criminal background checks reviewed and verified?			

Daily Work Assignments:	Yes	No	N/A
Is there a person in charge on every shift who knows who should be on the premises and where they should be located?			

Identification:	Yes	No	N/A
Is photo identification utilized for employees?			
Are combinations changed/key cards collected/computer access invalidated/identification card collected when an employee is terminated, either voluntarily or involuntarily, and additionally as needed to maintain security?			

Restricted Access:	Yes	No	N/A
Is employee access restricted to those areas in the facility necessary for their job function?			
Does anyone other than management and approved employees have access to food storage/preparation areas?			
Does anyone other than management and approved employees have access to hazardous materials storage areas?			
Does someone reassess the levels of access for all employees periodically?			

Personal Items:	Yes	No	N/A
Are employee personal items restricted to non-food handling areas?			
Is there a regular or random inspection of the contents of staff lockers, bags, packages, and vehicles when on facility property? (Remember to consult any Federal, State, or local laws that may relate to such inspections.)			

Training in Food Defense Procedures:	Yes	No	N/A
Do employees know who they should alert about potential food defense problems and know where they can be reached?			
Is food defense training provided to all new employees including information on how to prevent, detect, and respond to tampering, criminal, or terrorist activity?			

Unusual Behavior:	Yes	No	N/A
Is management alert for unusual employee behavior, i.e. workers staying after shift, arriving unusually early, accessing areas outside their responsibility, etc.?			

Staff Health:	Yes	No	N/A
Is management alert to atypical health conditions that employees may voluntarily report and absences that could be an early indicator of tampering, other malicious criminal, or terrorist actions?			

Visitors and Public:	Yes	No	N/A
Are cleaning crews, contractors, or other non-facility personnel permitted in food storage/preparation areas unsupervised?			
Is there a procedure in place to screen and possibly restrict visitor entry into the facility?			
When visitors are granted access, are they supervised at all times?			
Are visitors allowed access to food production, processing, storage, or distribution areas?			
Are visitors allowed to bring cameras into the facility?			
Are visitors restricted from entering locker rooms?			
Are the same procedures/restrictions imposed on visitors also imposed on everyone else who is not employed at the establishment including: suppliers, contractors, truck drivers, customers, couriers, third-party auditors, regulators, reporters, etc.?			

Facility:	Yes	No	N/A
Are metal or metal-clad doors used in the facility?			
Are facility emergency alert systems fully operational, routinely tested, and clearly marked?			
Are access keys to exterior doors and critical storage areas restricted to management staff?			
Are all the keys to the facility accounted for at all times?			
Are food and chemical storage areas locked against unauthorized entry?			
Is perimeter access protected with fencing or another type of deterrent?			
Are there "no trespassing" signs posted on the facility property?			
Does the facility have a security alarm system?			

Is there video surveillance at the facility?			
Are areas inside and around the facility well lighted?			
Do emergency exits have self-locking doors that can only be opened from the inside?			
Are incoming and outgoing vehicles (both private and commercial) inspected for unusual cargo and activities?			
Are supply deliveries verified against a roster of scheduled deliveries?			
Are unscheduled deliveries held up (outside plant premises if possible) pending verification of shipper and cargo?			
Have potential hiding places, where an intentional contaminant could be placed, temporarily, before being used been eliminated?			
Are maintenance closets, personal lockers, toilets, and other storage areas checked regularly for packages and other anomalies?			
Are all outside access points locked and secured when the facility is closed?			

Laboratory Safety:	Yes	No	N/A
Is there restricted access to the laboratory?			
Are the laboratory materials restricted and/or secured?			
Is there a tracking mechanism in place for hazardous laboratory chemicals?			

Operations:	Yes	No	N/A
Does the establishment/company use only known, appropriately licensed or permitted (where applicable) sources for all ingredients, compressed gas, packaging, and labels?			
Have steps been taken to ensure that suppliers and transporters practice appropriate food defense measures?			
Are incoming ingredients, compressed gas, packaging, labels, and product returns inspected for signs of tampering (e.g., abnormal powders, liquids, or odors) or counterfeiting (inappropriate product identity, labeling, product lot coding, or specifications), where appropriate?			
Is the utility of testing incoming ingredients, compressed gas, packaging, labels, and product returns for detecting tampering, criminal, or terrorist activity evaluated?			
Are there areas where employees mix or batch products or ingredients by themselves without supervision or a co-worker present?			

Have points where employees have access to food product with no supervision or co-worker present been identified?			
Can these "unsupervised" access points to food be minimized or monitored?			
Are areas where there are large amounts of food product exposed (e.g., vats, kettles, tanks, chillers, coolers, hoppers, etc.) restricted and secured?			
Is the off-loading of incoming ingredients, compressed gas, packaging, labels, and product returns supervised?			
Are all trailers on the facility premises locked and sealed at all times when not being loaded or unloaded?			
Are tankers bringing liquids and collection centers sealed at both the inlet and the outlet between collection and delivery?			
Are local law enforcement officials alerted about evidence of tampering or counterfeiting?			

Storage:	Yes	No	N/A
Is there a system for receiving, storing, and handling, distressed, damaged, returned, and rework products that minimizes their potential for being compromised or to compromise the security of other products?			
Is there an investigation conducted when there is missing, extra stock, or other irregularities outside of pre-determined normal range of variability and reported to local law enforcement when appropriate?			
Are labels kept in a secure location to prevent theft or misuse?			

Security of Water and Utilities:	Yes	No	N/A
Have access to points to airflow, water, electricity, and refrigeration been minimized as much as possible?			
Are water wells, hydrants, and water storage and handling facilities secured?			
Are the water systems regularly, as well as randomly, inspected and the water tested for potability?			
Is the water system chlorinated and is the chlorination equipment being monitored?			
Is contact maintained with the public water provider to be alerted to problems?			
Have alternative sources of water been identified?			

Finished Products:	Yes	No	N/A
Does someone keep track of finished products?			
Are random security inspections conducted in storage facilities, vehicles, and vessels?			
Is the utility of finished product testing for detecting tampering, criminal, or terrorist activity evaluated?			
Is the serving of food in open display areas closely monitored?			

Mail/Packages:	Yes	No	N/A
Is mail handling activities done in a separate room or facility, away from in-plant food production/processing/storage areas?			
Are mail handlers trained to recognize and handle suspicious pieces of mail using U.S. Post Office guidelines?			

Transport Security:	Yes	No	N/A
Have security procedures been developed and implemented for drivers when docking or stopping for meals, gas, breakdowns, etc.?			
Are there predetermined protocols for drivers when faced with suspicious circumstances?			
Is there a requirement that drivers keep trailers locked down at all times?			
Is there a capability for verification of driver location and load at any time?			

Computer Systems:	Yes	No	N/A
Is access restricted to computer process control systems and critical data systems?			
Is there a way to trace computer system transactions?			
Is there a method for validating the computer security system?			

Evacuation and Response:	Yes	No	N/A
Has anyone developed a list of things to do if evacuation is necessary? (e.g., removing Tier II-hazardous materials information, employee reassembly points, maintaining off-site pictures/videos of property and equipment for damage claims, off-site critical computer, telephone, and other records)			

Is there a strategy for triaging in the event of a terrorist attack or other criminal activity?			
Is there a plan in place for emergency evacuation, including preventing security breaches during an evacuation?			
Is there some designated place to operate your business from a remote site?			
Is there a plan for keeping your employees informed while the business is shut-down?			
Are there dump sites available for any contaminated products?			
Have procedures been established with community emergency personnel to assure proper access to the facility during an emergency while still preventing public access?			
Have the nearest medical treatment facilities been identified and contacted regarding what type of treatment they can provide and what type of capacity they can handle?			

Step 3 – Develop a Food Defense Plan

A food defense plan will contribute to a safer and more secure food supply. It will protect public health, your employees, and your livelihood. A functional food defense plan may also reduce the risk of unsafe product and economic loss, theft, the need for additional regulation on food defense, and company liability.

After conducting a food defense vulnerability assessment, you have identified some areas outside or inside the plant or procedures used in daily operations that may be more vulnerable than others. Now, you need to identify cost-effective preventative actions that can be taken to minimize those vulnerabilities. At a minimum, the food defense plan should address processing, storage, shipping and receiving, and water and ice securities.

Outside Security Measures:
Goal: To prevent unauthorized access by people or entry of unapproved materials to the facility.

1.1 Physical Security

- Plant boundaries prevent unauthorized entry. For example, properly maintained fences or no trespassing signs posted.
- Entrances to the building are secured. For example, locks and/or alarms are installed, operating, and tested.
- Facility perimeter is randomly monitored for any suspicious activity.
- Outside lighting is adequate.
- Other access points are secured. For example, locks on windows and/or vents.
- Outside storage is secure.

1.2 Shipping/Receiving

- Incoming shipments are inspected for potential tampering.
- Incoming and outgoing vehicles are examined for suspicious activity.
- Loading and unloading activities are scheduled and/or monitored.
- Loading dock access is controlled at all times.
- Incoming and outgoing shipments are secured with locks and/or seals.

1.3 Mail Handling

- Mail is not handled near food including ingredients and packaged product.
- Employees are properly trained on handling suspicious mail and the U.S. Postal Service guidelines found at http://www.usps.com/communications/news/security/welcome.htm.

Inside Security Measures:
Goal: To protect employees and product from intentional contamination.

2.1 General Inside

- Suspicious packages are reported to appropriate personnel.
- Restricted areas are identified and enforced.
- Previously unattended materials are checked before use.
- Unexpected changes in inventory (product or equipment) are reported to appropriate personnel.
- Emergency lighting is in place and operating.
- An emergency alert system is identifiable, tested, and reviewed with emergency contacts.

2.2 Manufacturing/Processing

- Access to meats, ingredients, and packaged product is restricted.
- Access to food handling areas and/or coolers is controlled.
- Access to process control equipment, such as ovens and mixers is restricted.
- Ingredients are examined for possible tampering.
- Records ensure traceability for one step backward and one step forward.

2.3 Storage

- Access to storage areas is restricted.
- Stock rotation is practiced.
- Labels and packaging materials are controlled to prevent theft and misuse.
- Periodic inspections for tampering in storage area are performed.

2.4 Ingredients/Water/Ice

- Restrict access to storage tanks for potable water and water reuse systems.
- Access lines that transfer water or ingredients are periodically inspected and restricted.
- Access to plant ice-making equipment is controlled.
- Restricted ingredients are controlled.
- Supplier food safety and food defense information is requested.

2.5 Chemical/Hazardous Material Control

- Chemicals and hazardous materials, such as pesticides, cleaning or laboratory materials, and sanitizers are in a restricted area or locked.
- Maintain an up-to-date inventory of hazardous materials and chemicals and investigate any discrepancies.
- Potentially hazardous waste is controlled and disposed of properly.

2.6 Information Security

- Access to any sensitive information is restricted including your food defense plan.
- Access to computer systems is protected through firewalls and/or passwords.

Personnel Security Measures:
Goal: To ensure that only authorized personnel are in the facility at any time.

3.1 Employee

- A method to identify and recognize employees in the facility is in place.
- Background or reference checks are conducted for new hires. You can electronically verify employment eligibility of new hires via the United States Department of Homeland Security (DHS) E-Verify at http://www.dhs.gov/files/programs/gc_1185221678150.shtm
- Employees have restrictions on what they can bring in and take from the facility.

3.2 Non-employee (visitors, contractors, guests, customers, truck drivers)

- A log of non-employees entering the establishment is maintained.
- A method to identify and recognize non-employees is in place.
- Non-employees are chaperoned on-site.
- Non-employees are restricted to appropriate areas.
- Non-employees have restrictions on what they can bring in and take from the facility.

3.3 Food defense training

- Awareness training on food defense measures is provided to new employees. You can access free food defense awareness training for your employees at http://www.fda.gov/food/fooddefense/training/default.htm.
- Refresher awareness training on food defense measures is offered to employees on a periodic basis.
- Employees are trained to report suspicious activities or unusual observations to their supervisor.

Incident Response Measures:
Goal: To respond quickly to product contamination threat or event using planned measures.

4.1 Investigations

- Procedures are in place to ensure that adulterated or potentially harmful products are held.
- Customer comments are investigated.
- Reporting unusual activities is encouraged and then investigated.
- Information is available to employees on how to respond to phone or other threats.
- Employees have the ability to stop activities to minimize a potential food defense incident.
- Reported security breaches are investigated, such as alarms or suspicion of tampering.

4.2 Emergency Contact

- Plant personnel contact information is kept up to date.
- Emergency contact lists are kept up to date.

4.3 Other Plan Security

- Product recall plan is maintained and periodically reviewed.
- Key personnel are trained in product recall and withdraw procedures.
- Recall plan protects chain of command for any criminal proceedings that may come from intentional contamination.

Step 4 – Implement and Maintain the Food Defense Plan

The purpose of the food defense awareness training is to ensure your employees know their responsibilities. Training should address access control procedures, access to restricted areas, protecting critical components, and procedures for reporting suspicious activities. Having open communication between supervisors and employees is crucial to executing the food defense plan. Understanding the threat of intentional contamination and the potential consequences should help employees consistently execute preventative measures, increasing the overall effectiveness of the plan.

Periodically monitoring and testing the food defense plan is important to ensure food defense measures are being followed. This may be done by simply checking locked doors or making unannounced perimeter checks. Monitoring programs should be tailored to each facility and security measures do not need to be tested at the same frequency.

Emergency contact numbers should be readily available and updated regularly. Keeping the list near phones is suggested so it is a ready reference. Internal emergency personnel need to be on the list as well as outside agencies that should be aware and their services may be enlisted to recover from a contamination event. Below is an example of an emergency call down list. Not every number needs to be utilized for every emergency, but they should all be readily available in case they are needed.

Person, Agency, or Organization	Contact	Email	Phone Number
Plant/Warehouse Emergency Contact/ Food Defense Team			
Local Police Department			
Local FBI Weapons of Mass Destruction Coordinator	Indianapolis office	indianapolis@ic.fbi.gov	(317) 639-3301
City/County Department of Health			
Indiana State Department of Health Food Protection Program	Sarah Popovich	spopovich@isdh.in.gov	(317) 233-7360
Indiana State Department of Health 24-hour on call duty officer			(317) 233-1325
Indiana Department of Homeland Security Response and Recovery	Shane Booker	sbooker@dhs.in.gov	(317) 232-3841
USDA FSIS District 50 Office Emergency Contacts	Paul Wolseley		(630) 730-8225 (630) 544-9805 (630) 699-8850 (630) 544-9886
Key/Headquarters Plant FSIS Inspector in Charge (IIC)			
U.S. Department of Homeland Security			(202) 323-3205 (888) 585-9078
USDA Technical Service Center			(800) 233-3935
FDA 24-hour Emergency Hotline			(301) 443-1240
Suppliers			
Customers			
Other			

Additional Resources:

Indiana State Department of Health
http://www.in.gov/isdh/20640.htm

AIB International
https://www.aibonline.org/

FSIS "Security Guidelines for Food Processors"
http://www.fsis.usda.gov/oa/topics/securityguide.pdf

FSIS "Model Food Security Plans"
http://www.fsis.usda.gov/Food_Defense_&_Emergency_Response/Guidance_Materials/index.asp

FSIS "Safety & Security Guidelines for the Transportation & Distribution of Meat, Poultry, & Egg Products"
http://www.fsis.usda.gov/PDF/Transportation_Security_Guidelines.pdf

FSIS "Guidelines for the Disposal of Intentionally Adulterated Food Products and the Decontamination of Food Processing Facilities"
http://www.fsis.usda.gov/PDF/Disposal_Decontamination_Guidelines.PDF

World Health Organization (WHO) – "Terrorist Threats to Food-Guidelines for Establishing and Strengthening Prevention and Response Systems" (ISBN 92 4 154584 4)
http://www.who.int/foodsafety/publications/general/terrorism/en/

U.S. Food and Drug Administration (FDA) – Food Defense & Emergency Response
http://www.fda.gov/food/fooddefense/default.htm

U.S. Food and Drug Administration (FDA) – Food Defense & Emergency Response Guidance for Industry
http://www.fda.gov/Food/GuidanceComplianceRegulatoryInformation/GuidanceDocuments/FoodDefenseandEmergencyResponse/default.htm

USDA, Food and Nutrition Service (FNS) "A Biosecurity Checklist for Food Service Programs, Developing a Biosecurity Management Plan"
http://healthymeals.nal.usda.gov/hsmrs/biosecurity.pdf

Center for Infectious Disease Research and Policy (CIDRAP), Academic Health Center, University of Minnesota
http://www.cidrap.umn.edu/cidrap/content/biosecurity/food-biosec/guidelines/

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