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U.S. Department of Labor

Assistant Secretary for
Occupational Safety and Health
Washington, D.C. 20210

ADVANCE COPY

OSHA Instruction CPL 2.45B CH-2
March 1, 1991
Office of General Industry Compliance Assistance

SUBJECT: Change to the Revised Field Operations Manual (FOM)

A. Purpose. This instruction transmits page changes to the revised FOM, OSHA Instruction CPL 2.45B, June 15, 1989.

B. Scope. This instruction .pplies OSHA-wide.

C. References.

1. OSHA Instruction CPL 2.51E, July 9, 1990, Appropriations Act for Fis‹ al Year 1990.

2. OSHA Instruction CPL 2.80, October 1, 1990, Handling of Cases to be Proposed for Violation-by-Violation Penalties.

D. Action.

1. Replace existing pages with attached CH-2 pages as listed below:

Existing Pages	Replacement Pages
Table of Contents 8 and 9	Table of Contents 8 and 9
VI-1 through VI-29	VI-1 through VI-29

2. Retain existing pages VI-1 through VI-29 to be used in accordance with F., Effective Dates, of this instruction.

E. Federal Program Change. This instruction describes a change in the Federal OSHA program which affects State programs. All States with OSHA-approved State programs will have to effect changes in their State occupational safety and health statutes to implement this change; States are being notified of this requirement by separate memorandum. A separate directive also will be issued subsequent to issuance of this instruction describing further requirements for State response.

F. Effective Dates.

1. This change to the FOM implements amendments to the civil penalties provisions of the Occupational Safety and Health Act that were included in the Budget Reconciliation Act of 1990, which was signed into law on November 5, 1990.

2. The change (revised Chapter VI) applies to all inspections initiated on or after March 1, 1991. The guidelines for penalty calculation contained therein shall apply to all violations determined to be existing on or after November 5, 1990.

3. For violations determined to be existing before November 5, 1990, the guidelines contained in the FOM as of June 15, 1989, shall be applied. For this reason, the previous pages of Chapter VI shall be retained and used with regard to these violations for as long as may be necessary. In a few situations, violations of both types may be encountered in a single case.

G. Significant Changes. The changes to Chapter VI in this instruction represent a major revision of OSHA's penalty policies and procedures, in accordance with amendments to the civil penalties provisions of the Occupational Safety and Health Act that were included in the Budget Reconciliation Act of 1990. Individual text changes are indicated in the left margin.

1. General Policy (page VI-1). Clarifies the intent of Congress that penalty amounts should be sufficient to serve as an effective deterrent to violations.

2. Civil Penalties (page VI-1). This section has been reorganized to incorporate increased penalty amounts and a simplified system for penalty calculation.

3. Type of Violation as a Factor (page VI-1). Describes new maximum penalty amounts established by the Budget Reconciliation Act of 1990.

4. Statutory Authority (page VI-2). Notes the authority for serious, other-than-serious, and posting violations.

5. Minimum Penalties (page VI-2). Includes the new statutory minimum penalty of $5,000 for a willful violation.

6. Gravity of Violations (page VI-2). Severity and probability are defined as assessments, rather than factors, in determining the gravity of a violation.

7. Severity Assessment (page VI-3). Severity is categorized as high, medium, low, or minimal, without numerical values.

8. Probability (page VI-3). Probability is categorized as greater or lesser, without numerical values. Factors to be considered in determining this categorization are described.

9. Gravity-based Penalty (page VI-6). The gravity-based penalty is now determined by a combination of the severity and probability assessments, in accordance with the scale given. The Regional Administrator may authorize the maximum penalty

amount for high gravity violations. Revised definitions for high, moderate, and low gravity violations are given.

10. Gravity Calculations for Combined or Grouped Violations (page VI-7). Revised penalty guidelines for such violations are provided in line with new severity and probability assessments.

11. Penalty Adjustment Factors (page VI-9). Adjustments for size, good faith, and history have been modified. The total potential penalty adjustment is now 95 percent. Guidelines are provided for limitations on the application of some factors based on the nature of the violation.

12. Size (page VI-9). Size reduction now ranges from zero to 60 percent.

13. Good Faith (page VI-10). The good faith reduction may be zero, 15, or 25 percent depending on the effectiveness of the employer's safety and health program.

14. History (page VI-11). Guidelines for the application of the 10-percent history adjustment are simplified.

15. Effect on Penalties if Employer Immediately Corrects or Initiates Corrective Action (page VI-11). This will no longer be considered in determining the good faith credit.

16. Failure to Abate (page VI-11). Clarified directions are provided for failure-to-abate situations. The minimum penalty for failure to abate is now $1,000. Penalties are to be adjusted only for the size of the employer. Additional penalties may be assessed up to 30 days by the Area Office; if a penalty more than 30 times the daily calculated amount is deemed appropriate by the Regional Administrator, the case shall be handled under OSHA's violation-by-violation penalty procedures.

17. Partial Abatement (page VI-13). The Regional Administrator may authorize a reduction of 25 to 75 percent of the additional calculated penalty where the employer has partially abated the violation.

18. Repeated Violations (page VI-13). The new maximum penalty is $70,000. The size of the employer (above or below 250 employees) determines the amount of the penalty increase factor. The Regional Administrator may authorize a higher factor for smaller employers, where warranted.

19. Willful Violations (page VI-14). The adjustment factors for size and history will be applied, and the adjusted gravity-based penalty is multiplied by seven. The Regional Administrator may assess a higher penalty, up to the maximum of

$70,000, or a lower penalty, where warranted. The minimum of $5,000 applies in all cases.

20. Regulatory Violations (page VI-15). Higher penalties are established for violations of 29 CFR 1903 and 1904. Only the adjustment factors for size and history will be applied.

21. Access to Records (page VI-17). This now includes violations of 29 CFR 1910.20. but no longer includes OSHA access cases.

22. Penalty Table (page VI-18). This new table of adjusted penalties replaces former Penalty Tables A and B.

23. Referral of Uncollected Debt to the Solicitor (page VI-28). The normal threshold amount for referral to the Regional Solicitor is raised from $1,000 to $5,000.

Gerard F. Scannell
Assistant Secretary

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CHAPTER VI

PENALTIES

A. General Policy. The penalty structure provided under Section 17 of the Act is designed primarily to provide an incentive toward correcting violations voluntarily, not only to the offending employer but, more especially, to other employers who may be guilty of the same infractions of the standards or regulations.

1. OSHA has always taken the position that penalties are not designed as punishment for violations nor as a source of income for the Agency. The Congress has made clear its intent, however, that penalty amounts should be sufficient to serve as an effective deterrent to violations.

2. Large proposed penalties, as Congress has clearly recognized, serve the public purpose intended under the Act; and criteria guiding approval of such penalties by the Assistant Secretary are based on meeting this public purpose. (See B.9.d. and OSHA Instruction CPL 2.80.)

B. Civil Penalties.

1. Type of Violation as a Factor. In proposing civil penalties for violations, a distinction is made between serious violations and other violations. There is no statutory requirement that a penalty be proposed when the violation is not serious; but a penalty must be proposed when the violation is serious.

a. The maximum penalty that may be proposed for a serious or an other-than-serious violation is $7,000.

b. In the case of willful or repeated violations, a civil penalty of up to $70,000 may be proposed; but the penalty may not be less than $5,000 for a willful violation.

c. For other specific violations of the Act, civil penalties of up to $7,000 may be proposed.

d. Penalties for failure to correct a violation may be up to $7,000 for each calendar day that the violation continues beyond the final abatement date.

2. Statutory Authority. Section 17 provides the Secretary with the statutory authority to assess civil penalties for violations of the Act.

   a. Section 17(b) of the Act provides that any employer who has received a citation for an alleged violation of the Act which is determined to be of a serious nature shall be assessed a civil penalty of up to $7,000 for each violation. (See OSHA Instruction CPL 2.51E for current Congressional exemptions and limitations placed on penalties by the Appropriations Act.)

   b. Section 17(c) provides that, when the violation is specifically determined not to be of a serious nature, a proposed civil penalty of up to $7,000 may be assessed for each violation.

   c. Section 17(i) provides that, when a violation of a posting requirement is cited, a civil penalty of up to $7,000 shall be assessed.

3. Minimum Penalties. The following guidelines apply:

   a. The proposed penalty for any willful violation shall not be less than $5,000. This is a statutory minimum and not subject to administrative discretion.

   b. When the adjusted proposed penalty for an other-than-serious violation (citation item) would amount to less than $100, no penalty shall be proposed for that violation.

   c. When, however, there is a citation item for a posting violation, this minimum penalty amount does not apply with respect to that item since penalties for such items are mandatory under the Act.

4. Penalty Factors. Section 17(j) of the Act provides that penalties shall be assessed on the basis of four factors:

   a. The gravity of the violation,

   b. The size of the business,

   c. The good faith of the employer, and

   d. The employer's history of previous violations.

5. Gravity of Violation. The gravity of the violation is the primary consideration in determining penalty amounts. It shall be the basis for calculating the basic penalty for both serious and other violations.

a. To determine the gravity of a violation the following two assessments shall be made:

(1) The severity of the injury or illness which could result from the alleged violation.

(2) The probability that an injury or illness could occur as a result of the alleged violation.

b. The size of the business, the good faith of the employer and the history of previous violations shall be taken into account in deciding whether and the extent to which the gravity-based penalty shall be reduced.

6. Severity Assessment. The classification of the alleged violations as serious or other-than-serious, in accordance with the instructions in Chapter IV of the FOM, is based on the severity of the injury or illness that could result from the violation. This classification constitutes the first step in determining the gravity of the violation. The most serious injury or illness which is reasonably predictable as a result of an employee's exposure to the safety or health hazard cited shall be assigned a severity assessment in accordance with the following factors:

a. High Severity: Death from injury or illness; injuries involving permanent disability; or chronic, irreversible illnesses.

b. Medium Severity: Injuries or temporary, reversible illnesses resulting in hospitalization or a variable but limited period of disability.

c. Low Severity: Injuries or temporary, reversible illnesses not resulting in hospitalization and requiring only minor supportive treatment.

d. Minimal Severity: Other-than-serious violations. Although such violations reflect conditions which have a direct and immediate relationship to the safety and health of employees, the injury or illness most likely to result would probably not cause death or serious physical harm.

7. Probability Assessment. The probability that an injury or illness will result from a hazard has no role in determining the classification of a violation but does affect the amount of the penalty to be proposed.

a. Categorization. Probability shall be categorized either as greater or as lesser probability.

(1) Greater probability results when the likelihood that an injury or illness will occur is judged to be relatively high.

(2) Lesser probability results when the likelihood that an injury or illness will occur is judged to be relatively low.

b. Determination. The CSHO, using professional judgment, shall identify and evaluate as far as possible all of the factors influencing the likelihood of the occurrence of an injury or illness and shall assign them a weight in accordance with the relative contribution of each.

c. Safety Violations. The following circumstances shall normally be considered (and documented in the case file) when violations likely to result in injury are involved:

(1) Number of workers exposed to the hazardous conditions, both at the same time and sequentially.

(2) Frequency of exposure, including one-time, short exposures through more frequent exposures from once a week up to exposures of more than once a week up to continuous daily exposure.

(3) Employee proximity to the hazardous conditions likely to lead to an accident, anywhere from the fringe of danger zone up to the point of danger.

(4) Working conditions including environmental and other factors (e.g., speed of operations, lighting, temperature, weather conditions, noise, housekeeping, etc.) which may cause employee stress and thereby increase the likelihood of an accident.

d. Health Violations. The following circumstances shall normally be considered (and documented in the case file) when violations likely to result in illness are involved:

(1) Number of workers exposed to the hazardous conditions, both at the same time and sequentially.

(2) Duration of employee overexposures to hazardous levels of contaminants or other illness-producing conditions, ranging from relatively short exposures of less than one hour to continuous daily exposures.

(3) Use of appropriate personal protective equipment; whether, for example, such equipment is utilized by all exposed employees and the employer has an effective PPE program in effect down to

whether it is not utilized by any of the exposed employees and the employer has no program.

(4) Medical surveillance program is in place as appropriate and effectively protects the employees, a defective program which only partially and inadequately protects them, or no medical surveillance program is in effect.

e. Other factors. There are other factors which may affect significantly the probability that the hazard will produce an injury or illness and they shall also be considered (and documented):

(1) Mitigating circumstances, such as specific safety or health instructions, effective training programs, a comprehensive safety and health program, evidence of correction underway, warning signs and labels or special procedures, or mandatory administrative controls providing some, though not complete protection, shall be documented and considered in the final evaluation of probability.

(2) Similarly, contributing circumstances, such as inappropriate or inadequate safety or health instructions, inadequate or no training, a poor or nonexistent safety and health program, or widespread hazardous conditions or faulty equipment, with little or no attempt to control them, shall be documented and considered in the final evaluation of probability.

f. Final Probability Assessment. All of the factors outlined above shall be considered together in arriving at a final probability assessment.

(1) A factor shall not materially affect the final probability assessment if, based on the professional judgment of the CSHO as documented in the case file, it:

(a) Does not significantly influence the probability of an injury- or illness-causing condition; or

(b) Would tend to dilute the penalty excessively.

EXAMPLE. In a particularly dangerous trenching situation or in a confined space where there is insufficient oxygen to support life, even when only one or two employees are exposed, it may be appropriate to reduce the weight that might otherwise be given to the number of employees exposed.

(2) When strict adherence to the probability assessment procedures would result in an unreasonably high or low gravity (See B. 5.), the CSHO shall use professional judgment to adjust the probability appropriately. Such decisions shall be adequately documented in the case file.

8. Gravity-based Penalty. The gravity-based penalty (GBP) is an unadjusted penalty and is calculated in accordance with the following procedures:

a. The GBP for each violation shall be determined based on an appropriate and balanced professional judgment combining the severity assessment and the final probability assessment.

b. For serious violations, the GBP shall be assigned on the basis of the following scale:

Severity	Probability	GBP
High	Greater	$5,000
Medium	Greater	$3,500
Low	Greater	$2,500
High	Lesser	$2,500
Medium	Lesser	$2,000
Low	Lesser	$1,500

c. The highest gravity classification (high severity and greater probability) shall normally be reserved for the most serious violative conditions, such as those situations involving danger of death or extremely serious injury. If the Regional Administrator determines that it is appropriate to achieve the necessary deterrent effect, a GBP of $7,000 may be proposed. The reasons for this determination shall be documented in the case file.

d. The gravity of a violation is defined by the GBP.

(1) A high gravity violation is one with a GBP of $5,000 or greater.

(2) A moderate gravity violation is one with a GBP of $2,000 to $3,500.

(3) A low gravity violation is one with a GBP of $1,500.

e. For other-than-serious safety and health violations, there is no severity assessment.

(1) Other-than-serious safety and health violations judged to be of greater probability shall be assigned a GBP of $1,000 to which appropriate adjustment factors shall be applied. (See B.10.)

(2) Other-than-serious safety and health violations judged to be of lesser probability shall be cited with no penalty.

(3) The Regional Administrator may authorize a penalty up to $7,000 for an other-than-serious violation when it is determined to be appropriate to achieve the necessary deterrent effect. The reasons for such a determination shall be documented in the case file.

f. Penalties to be proposed for other-than-serious regulatory violations (29 CFR 1903 and 1904) are discussed at B.16.

g. A GBP may be assigned in some cases without using the severity and the probability assessment procedures outlined in B.7. when these procedures cannot appropriately be used. (See Chapter IV, C.8.a, for an example--shipped containers under the Hazard Communication Standard.)

h. The Penalty Table (Table VI-1, page VI-18) shall be used for determining appropriate adjusted penalties for serious and other-than-serious violations.

9. Gravity Calculations for Combined or Grouped Violations. The following procedures apply to the calculation of penalties for combined and grouped violations:

a. The severity and the probability assessments for combined violations shall be based on the instance with the highest gravity. It is not necessary to complete the penalty calculations for each instance or subitem of a combined or grouped violation if it is clear which instance will have the highest gravity.

b. For grouped violations, the following special guidelines shall be adhered to:

(1) Severity Assessment. There are two considerations to be kept in mind in calculating the severity of grouped violations:

(a) The severity assigned to the grouped violation shall be no less than the severity of the most serious reasonably predictable injury or illness that could result from the violation of any single item.

(b) If a more serious injury or illness is reasonably predictable from the grouped items than from any single violation item, the more serious injury or illness shall serve as the basis for the calculation of the severity factor of the grouped violation.

(2) Probability Assessment. There are three considerations to be kept in mind in calculating the probability of grouped violations:

(a) The probability assigned to the grouped violation shall be no less than the probability of the item which is most likely to result in an injury or illness.

(b) If the overall probability of injury or illness is greater with the grouped violation than with any single violation item, the greater probability of injury or illness shall serve as the basis for the calculation of the probability assessment of the grouped violation.

(c) Some individual probability factors may be increased by grouping and others may not. The increased values shall be used in the probability calculation if, in the professional judgment of the CSHO, a more appropriate probability assessment will result. For example, the number of employees exposed may be increased while the proximity factor may not.

(3) Gravity-based Penalty. A single severity assessment and a single probability assessment for the combined or grouped violation will result from the foregoing considerations. That result shall be the basis for determining an appropriate GBP for the violation item according to the guidelines in B.8. The penalty shall be entered in the penalty column of the OSHA-2 across from the first item of the violation.

c. Combined and grouped violations shall normally be considered as one violation for penalty purposes, and in such cases the guidelines for calculating penalties given in B.6. through B.8. shall apply.

d. In egregious cases; i.e., willful, repeated and high gravity serious citations and failures to abate, an additional factor of up to the number of violation instances (number of days since the abatement date for failure to abate) may be applied to the gravity-based penalty calculated in accordance with B.8. or the regulatory penalty assigned in accordance with B.16. and adjusted in accordance with B.10, as described in each of

the subsections. Such cases shall be handled in accordance with OSHA Instruction CPL 2.80. Penalties calculated with this additional factor shall not be proposed without the concurrence of the Assistant Secretary.

10. Penalty Adjustment Factors. The GBP may be reduced by as much as 95 per cent depending upon the employer's "good faith," "size of business," and "history of previous violations." Up to 60-percent reduction is permitted for size; up to 25-percent reduction for good faith, and 10-percent for history.

a. Since these rates are based on the general character of a business and its safety and health performance, the rates shall generally be calculated only once for each employer--after the classification and probability ratings have been determined for each violation and the general character of the employer's performance is apparent.

b. Penalties assessed for violations that are classified as high severity and greater probability shall be adjusted only for size and history.

c. Penalties assessed for violations that are classified as repeated shall be adjusted only for size.

d. Penalties assessed for violations classified as willful shall have been adjusted only for size and history.

e. The rate of penalty reduction for size of business, employer's good faith and employer's history of previous violations shall be calculated on the basis of the criteria described in the following paragraphs:

(1) Size. A maximum penalty reduction of 60 percent is permitted for small businesses. "Size of business" shall be measured on the basis of the maximum number of employees of an employer at all workplaces at any one time during the previous 12 months. Information on the total number of an employer's employees can generally be obtained at the inspected worksite. However, on occasion it may be necessary to obtain or confirm the information from the employer's headquarters.

(a) The rates of reduction to be applied are as follows:

Employees	Percent reduction
1-25	60
26-100	40
101-250	20
251 or more	None

(b) An employer's ability to pay a penalty shall not normally be investigated or considered in determining the penalty reduction for size of business.

(c) However, if an employer presents convincing evidence of inability to pay a penalty because of financial difficulties at an informal conference, the Area Director may determine that a penalty reduction is appropriate. Such a determination shall be documented in the case file.

(d) When a small business has one or more serious violations of high gravity or a number of serious violations of moderate gravity, indicating a lack of concern for employee safety and health, the Area Director may determine that only a partial reduction in penalty shall be permitted for size of business.

(2) Good Faith. A penalty reduction of up to 25 percent is permitted in recognition of an employer's "good faith."

(a) A reduction of 25 percent shall normally be given if the employer has a written safety and health program (as documented during the inspection) that has been effectively implemented in the workplace and that:

1 Provides for appropriate management commitment and employee involvement; worksite analysis for the purpose of hazard identification; hazard prevention and control measures; and safety and health training.

NOTE: One example of a framework for such a program is given in OSHA's voluntary "Safety and Health Program Management Guidelines" (Federal Register, Vol. 54, No. 16, January 26, 1989, pp. 3904-3916, or later revisions as published).

2 Includes all programs required under OSHA standards applicable to the workplace (e.g., hazard communication, lockout-tagout, hazardous materials and emergency response, safety and health programs for construction [29 CFR 1926.20] and trenching and excavation).

3 Has deficiencies that are only incidental.

(b) A reduction of 15 percent shall normally be given if the employer has a documented safety and health program, but with more than only incidental deficiencies.

(c) No reduction shall be given to an employer who has no safety and health program.

(3) History. A reduction of 10 percent shall be given to employers who have not been cited by OSHA for any serious, willful, or repeated violations in the past three years.

(4) Total. The total reduction will normally be the sum of the reductions for each adjustment factors.

11. Imminent Danger Situations. Detailed instructions and procedures for handling allegations of imminent danger situations are contained in Chapter VII. Penalties shall be assessed in accordance with the following:

a. Classification. An imminent danger situation normally will involve a serious, willful or repeated violation.

b. Proposed Penalties. Penalties shall be proposed in cases where citations are issued in imminent danger situations even though, after being informed by the CSHO, the employer immediately eliminates the imminence of the danger and initiates steps to abate the hazard. The procedures given in this chapter for calculating and assessing proposed penalties shall be applied in the case of imminent danger situations, as appropriate.

12. Effect on Penalties If Employer Immediately Corrects or Initiates Corrective Action. Appropriate penalties will be proposed with respect to an alleged violation even though, after being informed of such alleged violation by the CSHO, the employer immediately corrects or initiates steps to correct the hazard.

13. Failure to Abate. A Notification of Failure to Abate an Alleged Violation (OSHA-2B) shall be issued in cases where violations have not been corrected as required.

a. Failure to Abate. Failure to abate penalties shall be applied when an employer has not corrected a previously cited violation which had become a final order of the Commission.

b. Employer Contest. If an employer contests one or more of the alleged violations, the period for abatement does not begin to run, as to those

items contested, until the day following the entry of the final order by the Review Commission affirming the citation.

(1) If the employer contests only the amount of the proposed penalty, the employer must correct the alleged violation within the prescribed abatement period.

(2) If an employer contests an abatement date in good faith, a Failure to Abate Notice shall not be issued for the item contested until a final order affirming a date is entered, the new abatement period, if any, has been completed, and the employer has still failed to abate.

c. Calculation of Additional Penalties. A GBP for unabated violations is to be calculated for failure to abate a serious or other-than-serious violation on the basis of the facts noted upon reinspection. This recalculated GBP, however, shall not be less than that proposed for the item when originally cited, except as provided in B.13.e.

(1) In those instances where no penalty was initially proposed, an appropriate penalty shall be determined after consulting with the supervisor. In no case shall the penalty be less than $1,000.

(2) Only the adjustment factor for size--based upon the circumstances noted during the reinspection--shall then be applied to arrive at the daily proposed penalty.

(3) The daily proposed penalty shall be multiplied by the number of calendar days that the violation has continued unabated.

(a) The number of days unabated shall be counted from the day following the abatement date specified in the citation or the final order. It will include all calendar days between that date and the date of reinspection, excluding the date of reinspection.

(b) Normally the total proposed penalty for failure to abate a particular violation shall not exceed 30 times the amount of the daily proposed penalty.

(c) If a penalty beyond this amount is deemed appropriate by the Regional Administrator, the case shall be treated under the violation-by-violation penalty procedures established in OSHA Instruction CPL 2.80.

(4) In unusual circumstances, such as where the gravity of the violation is at the highest level (high severity and greater probability) or the employer has willfully failed to abate the violation or has failed to abate a second time, higher penalties shall be proposed. In such situations the proposed penalty shall be approved by the Regional Administrator.

d. Partial Abatement. When the citation has been partially abated, the Regional Administrator may authorize a reduction of 25 percent to 75 percent to the amount of the proposed penalty calculated as outlined in B.13.c. The reasons for this action shall be documented in the case file.

(1) When a violation consists of a number of instances and the followup inspection reveals that only some instances of the violation have been corrected, the additional daily proposed penalty shall take into consideration the extent that the violation has been abated.

EXAMPLE: Where 3 out of 5 instances have been corrected, the daily proposed penalty (calculated as outlined in B.13.c. without regard to any partial abatement) may be reduced by 60 per cent.

(2) In multi-step correction items, only the failure to comply with substantive (rather than procedural) requirements shall generally incur a full failure to abate penalty.

(3) On rare occasions, when the Area Director decides to issue a Failure to Abate Notice for failure to comply with procedural requirements, the calculation of the daily proposed penalty shall consider the extent to which a violation has been substantially abated, with the daily proposed penalty (calculated as outlined in B.13.c. without regard to any partial abatement) reduced accordingly.

e. Good Faith Effort to Abate. When the CSHO believes and so documents in the case file that the employer has made good faith efforts to correct the violation and had good reason to believe that it was fully abated, the Area Director may reduce or eliminate the daily proposed penalty that would otherwise be justified.

14. Repeated Violations. Section 17(a) of the Act provides that an employer who repeatedly violates the Act may be assessed a civil penalty of not more than $70,000 for each violation.

a. Gravity-Based Penalty Factors. Each violation shall be classified as serious or other-than-serious. A GBP shall then be calculated for repeated violations based on facts noted during the current inspection. Only the adjustment factor for size, appropriate to the facts at the time of the reinspection, shall be applied.

b. Penalty Increase Factors. The amount of the increased penalty to be assessed for a repeated violation shall be determined by the size of the employer.

(1) Smaller employers. For employers with 250 or fewer employees, the GBP shall be doubled for the first repeated violation and quintupled if the violation has been cited twice before. If the Regional Administrator determines that it is appropriate to achieve the necessary deterrent effect, the GBP may be multiplied by 10.

(2) Larger employers. For employers with more than 250 employees, the GBP shall be multiplied by 5 for the first repeated violation and multiplied by 10 if the violation has been cited twice before.

c. Other-than-serious, No Initial Penalty. For a repeated other-than-serious violation that otherwise would have no initial penalty, a penalty of $200 shall be assessed for the first repeated violation, $500 if the violation has been cited twice before, and $1,000 for a third repetition.

d. Regulatory Violations. For repeated violations of regulatory violations [see B.16.], the initial penalty shall be doubled for the first repeated violation and quintupled if the violation has been cited twice before. If the Regional Administrator determines that it is appropriate to achieve the necessary deterrent effect, the initial penalty may be multiplied by 10.

NOTE: See Chapter IV, B.5., for additional guidance on citing repeated violations.

15. Willful Violations. Section 17(a) of the Act provides that an employer who willfully violates the Act may be assessed a civil penalty of not more than $70,000 but not less than $5,000 for each violation.

a. Gravity and Penalty Factors. Each violation shall be classified as serious or other-than-serious. After determining the gravity of the violation, a GBP shall be determined based on the facts noted during the inspection. The adjustment factors for size and history shall be applied.

(1) Serious Violations. For willful serious violations, the adjusted GBP shall be multiplied by seven.

(a) In no case shall the proposed penalty be less than $5,000.

(b) The Regional Administrator may assess a higher penalty (up to the statutory maximum of $70,000) or a lower penalty than that calculated in accordance with B.15.a.(1), upon consideration of such factors as the degree of willfulness involved in the violation and the achievement of an appropriate deterrent effect. The reasons for such action shall be documented in the case file.

(2) Other-than-serious Violations. For willful other-than-serious violations, the minimum willful penalty of $5,000 shall be assessed.

b. Regulatory Violations. In the case of regulatory violations [see B.16] that are determined to be willful, the unadjusted initial penalty shall be multiplied by seven. In no event shall the penalty, after adjustment for size and history, be less than $5,000.

16. Violation of 29 CFR 1903 and 1904 Regulatory Requirements. Except as provided in the Appropriations Act, Section 17 of the Act provides that an employer who violates any of the posting requirements shall be assessed a civil penalty of up to $7,000 for each violation and may be assessed a like penalty for recordkeeping violations. For egregious violations, an additional factor may be applied, as described at B.9.d, in accordance with the procedures set forth in OSHA Instruction CPL 2.80.

a. General Application. The procedures that follow shall be used in determining proposed penalties for violations of 29 CFR 1903 and 1904 regulatory requirements only when the employer has received a copy of the "Recordkeeping Requirements" booklet or has knowledge of the requirements.

(1) If the employer has not received the booklet and does not have knowledge, citations without proposed penalties will be issued.

(2) All proposed penalties for regulatory violations shall have the adjustment factors for size and history applied.

b. Posting Requirements. Penalties for violation of posting requirements shall be proposed as follows:

(1) OSHA Notice. If the employer has not displayed (posted) the notice furnished by the Occupational Safety and Health Administration as prescribed in 29 CFR 1903.2 (a), an other-than-serious

citation shall normally be issued. The unadjusted penalty for this alleged violation shall be $1,000.

(2) Annual Summary. If an employer fails to post the summary portion of the OSHA-200 Form during the month of February, as required by 29 CFR 1904.5(d)(1), an other-than-serious citation shall be issued with an unadjusted penalty of $1,000.

(3) Citation. If an employer received a citation that has not been posted as prescribed in 29 CFR 1903.16, an other-than-serious citation shall normally be issued. The unadjusted penalty shall be $3,000.

c. Reporting and Recordkeeping Requirements. Section 17(c) of the Act provides that violations of the recordkeeping and reporting requirements may be assessed civil penalties of up to $7,000 for each violation.

(1) OSHA-200 and OSHA-101 Forms. If the employer does not maintain the Log and Summary of Occupational Injuries and Illnesses, OSHA-200 Form, and the Supplementary Record, OSHA-101 Form (or equivalent), as prescribed in 29 CFR 1904, an other-than-serious citation shall be issued. There shall be an unadjusted penalty of $1,000 for each OSHA form not maintained.

NOTE: When no recordable injuries or illnesses have occurred at a workplace over the last calendar year, these forms shall be considered as having been maintained, since no entries would appear in them.

(2) Reporting. Employers are required to report either orally or in writing to the nearest Area Office within 48 hours, any occurrence of an employment accident which is fatal to one or more employees or which results in the hospitalization of five or more employees.

(a) An other-than-serious citation shall be issued for failure to report such an occurrence. The unadjusted penalty shall be $5,000.

(b) If the Regional Administrator determines that it is appropriate to achieve the necessary deterrent effect, an unadjusted penalty of $7,000 may be assessed.

d. Grouping. Violations of the posting and recordkeeping requirements which involve the same document (e.g., summary portion of the

OSHA-200 Form was neither posted nor maintained) shall be grouped as an other-than-serious violation for penalty purposes. The unadjusted penalty for the grouped violations would then take on the highest dollar value of the individual items, which will normally be $1,000.

e. Access to Records.

(1) 29 CFR 1904. If the employer fails upon request to provide records required in Section 1904.2 for inspection and copying by any employee, former employee, or authorized representative of employees, a citation for violation of 29 CFR 1904.7(b)(1) shall normally be issued. The unadjusted penalty shall be $1,000 for each form not made available.

(a) Thus, if the OSHA-200 for the 3 preceding years is not made available, the unadjusted penalty would be $3,000.

(b) If the employer is to be cited for failure to maintain these records, no citation of 1904.7 shall be issued.

(2) 29 CFR 1910.20. If the employer is cited for failing to provide records as required under 29 CFR 1910.20 for inspection and copying by any employee, former employee, or authorized representative of employees, an unadjusted penalty of $1,000 shall be proposed.

f. Notification Requirements. When an employer has received advance notice of an inspection and fails to notify the authorized employee representative as required by 29 CFR 1903.6, an other-than-serious citation shall be issued with an unadjusted penalty of $2,000.

TABLE VI-1

PENALTY TABLE

Percent Reduction	PENALTY (in dollars)							
0	1,000	1,500	2,000	2,500	3,000	3,500	5,000	7,000
10	900	1,350	1,800	2,250	2,700	3,150	4,500	6,300
15	850	1,275	1,700	2,125	2,550	2,975	4,250*	5,950*
20	800	1,200	1,600	2,000	2,400	2,800	4,000	5,600
25	750	1,125	1,500	1,875	2,250	2,625	3,750*	5,250*
30	700	1,050	1,400	1,750	2,100	2,450	3,500	4,900
35	650	975	1,300	1,625	1,950	2,275	3,250*	4,550*
40	600	900	1,200	1,500	1,800	2,100	3,000	4,200
45	550	825	1,100	1,375	1,650	1,925	2,750*	3,850*
50	500	750	1,000	1,250	1,500	1,750	2,500	3,500
55	450	675	900	1,125	1,350	1,575	2,250*	3,150*
60	400	600	800	1,000	1,200	1,400	2,000	2,800
65	350	525	700	875	1,050	1,225	1,750*	2,450*
70	300	450	600	750	900	1,050	1,500	2,100
75	250	375	500	625	750	875	1,250*	1,750*
85	150	225	300	375	450	525	750*	1,050*
95	50	75	100	125	150	175	250*	350*

* Starred figures represent penalty amounts that would not normally be proposed for high gravity serious violations because no adjustment for good faith is made in such cases. They may occasionally be applicable for other-than-serious violations where the Regional Administrator has determined a high unadjusted penalty amount to be warranted.

C. Criminal Penalties.

1. The Act and the U.S. Code provide for criminal penalties in the following cases:

   a. Willful violations causing death. (Section 17(e).)

   b. Giving unauthorized advance notice. (Section 17(f).)

   c. Giving false information. (Section 17(g).)

   d. Killing, assaulting or hampering the work of a CSHO. (Section 17(h)(2).)

2. Criminal penalties are imposed by the courts after trials and not by the Occupational Safety and Health Administration or the Occupational Safety and Health Review Commission.

D. Handling Monies Received from Employers.

1. Responsibility of Area Director. The Area Director is responsible for informing employers of OSHA's debt collection procedures, collecting assessed penalties from employers, reporting penalty amounts collected and those due, calculating interest and other charges on overdue penalty amounts, referring cases with uncollected penalties to the National Office, transferring selected cases to the Regional Solicitor for legal action and tracking such cases, and mailing collected monies in accordance with the procedures given in this chapter and in OSHA Instruction ADM 1-1.12A, Chapter XXIII, and other relevant OSHA instructions.

2. Collection of Penalties. It is OSHA policy to collect penalties owed the government as a result of the legitimate exercise of statutory authority. The Area Director shall be guided by the following with regard to penalty collection:

   a. Time Allowed for Payment of Penalties. The date when penalties become due and payable depends on whether or not the employer contests.

      (1) Uncontested Penalties. When citations and/or proposed penalties are uncontested, the penalties are due and payable 15 working days following the employer's receipt of the Citation and Notification of Penalty or, in the case of Informal Settlement Agreements, the execution of the agreement unless otherwise agreed upon in the settlement. (See Chapter V, H.2.)

      (2) Contested Penalties. When citations and/ or proposed penalties are contested, the penalties are due and payable 60 calendar days after the issuance of a final order by the Review Commission. If

the Commission order is appealed to a Court of Appeals, the penalties are due and payable 90 calendar days after the issuance of the court's judgment, provided that further review by the Supreme Court has not been sought.

(3) Partially Contested Penalties. When only part of a citation and/or a proposed penalty is contested, the due date for payment as expressed in D.2.a.(1) will be used for the uncontested items and the due date expressed in D.2.a.(2) for the contested items.

NOTE: D.2.a.(3) notwithstanding, for collection purposes, partially contested cases are to be treated as contested cases.

b. Methods of Payment. Employers assessed penalties shall remit the total payment to the Area Office by certified check, personal check, company check, postal money order, bank draft or bank money order, payable to the U.S. Department of Labor–OSHA. Payment in cash shall not be accepted. Upon request of the employer and for good cause, alternate methods of payment are permissible, such as payments in installments.

c. Identifying Payment. The Reporting I.D. [illegible] Office concerned along with the Inspection Number shall [illegible] the upper left corner of the payment instrument. The date of receipt shall be stamped in the upper right corner.

d. Adjustments to Payments. The following adjustments shall be made prior to transmitting the payment instrument to the Lockbox Depository (See D.3.c.):

(1) If the payment instrument is not dated, the date received shall be entered as the date of payment.

(2) If the payment instrument has differing numeric and written amounts, the written amount shall be credited and the instrument deposited. If the written amount is obviously incorrect or differs from the amount referenced in the accompanying correspondence, the payment instrument shall be returned to the employer via certified mail.

(3) If the payment instrument does not include the establishment name, the name shall be inserted on the face of the payment instrument.

(4) If the payment instrument includes the notation, "Payment in Full," and the notation is correct, the payment shall be deposited; if not,

the payment instrument shall be returned to the employer via certified mail.

(5) If an employer erroneously makes the payment payable to an official of OSHA by name, it shall be endorsed as follows:

(a) Postal Money Orders. Follow instructions on reverse of the money order.

(b) All Others. Enter on reverse:

Pay to the order of the U.S. Department of Labor - OSHA

(Signature)
(Typewritten name of payee)

3. Handling Monies Received. Monies received in payment of penalties shall be recorded immediately upon receipt and handled according to the following:

a. Incorrect, Unhonored or Foreign Payments. Current instructions for handling such payments shall be adhered to.

(1) Incorrect payments shall be returned to the employer via certified mail.

(a) Unsigned payments shall be returned to the employer.

(b) Incorrectly dated payments shall be handled as follows:

1 If payment instrument is dated 10 days or more after the date of receipt, it is to be returned to the employer.

2 If the payment instrument is dated less than 10 but more than 3 days after the date of receipt, it is to be held for deposit on the day it is dated.

3 Payment instruments dated 3 or fewer days after the date of receipt are to be deposited on the day received.

(2) Instruments of payments which have been sent to the Division of Financial Management (FINOSH) without payment due to insufficient funds shall be forwarded to the Area Office for return to the employer via certified mail.

(3) Payments drawn on foreign banks shall be sent directly to FINOSH without using the "Lockbox" procedures described in D.3.c. at the following address:

FINOSH
U.S.Department of Labor - OSHA
Post Office Box 2422
Washington, D.C. 20013

b. Endorsing Payments. All payment instruments shall be endorsed as follows:

16-01-2012
Payment FRB or BR Credit
Treasury U.S, Payment on an
Obligation to U.S. and must be
paid at Par DO NOT WIRE NON
PAYMENT
U.S. DEPT. OF LABOR
Occupational Safety and Health Administration
DOL OSHA Washington DC

c. Depositing Payments. All payments shall be kept in a safe place and, unless otherwise indicated, transmitted daily in accordance with current IMIS procedures to the Lockbox Depository at the following address:

U.S. Department of Labor - OSHA
Post Office Box 845734
Dallas, TX 75284-5734

d. Records. A copy of the penalty payment instrument shall be included in the case file. Additional accounting records shall also be included in the case file in accordance with current procedures.

4. Returning Penalty Payments. In cases of later penalty modifications by OSHA or by the Commission or a court, refunds to the employer shall be made by FINOSH. The Area Director shall notify IMIS and FINOSH in accordance with current instructions.

5. Uncollectable Penalties. There may be cases where it will be apparent that a penalty cannot be collected no matter what action is undertaken. Examples might be a penalty against a company which is no longer in business and has no successor. In such cases the Area Director shall write off the unpaid penalty, no matter what the outstanding amount. The data base shall be updated following current IMIS procedures. In bankruptcy cases the Area Director shall seek the

advice of the Regional Solicitor as to whether to file as a creditor under the Bankruptcy Act.

E. Delinquent Penalties.

1. Additional Charges. The Debt Collection Act of 1982 (the Act) provides for the assessment of interest and additional charges for nonpayment and administrative costs with respect to delinquent debts arising under the OSHA program.

a. Policy. Under the regulations of the Department of Labor implementing the Act, penalties assessed by OSHA are considered as debts. It is OSHA policy to exercise the authority provided under the Act to assess additional charges on delinquent debts.

b. Notification Procedures. It is OSHA policy to notify employers (the "Notice") that debts are valid and overdue and to inform them of OSHA's debt collection procedures including the interest, additional charge for nonpayment and administrative cost provisions of the Act prior to assessing any applicable delinquent charges. Area Directors shall notify employers in accordance with the following procedures:

(1) Citations with Proposed Penalties. A copy of the "Notice" stating OSHA's debt collection policy including assessment of interest, additional charges for nonpayment and administrative costs shall be included with each Citation and Notification of Proposed Penalty, OSHA-2 Form, sent to employers.

NOTE: Interest rates are published annually and may be revised quarterly by the Secretary of Treasury. FINOSH shall advise Area Directors of any changes in the interest rate as they occur.

(2) Contested Cases with Penalties. Area Directors shall mail the "Notice" to employers as soon as practicable after a decision has been rendered by the Review Commission if one has not already been sent with the initial citation. If payment of any applicable penalty is not received within 2 calendar months after the date of the final order of the Review Commission or 3 calendar months after the date of the judgment of a U.S. Court of Appeals and no appeal of the case has been filed by either OSHA or the employer, the Area Director shall mail the first demand letter to the employer, certified, return receipt requested.

c. Notification of Overdue Debt. A notification letter (first demand letter) shall be mailed (certified, return receipt requested) to the employer upon

verification that a valid and overdue debt exists except in the following circumstances:

(1) The employer is currently making payments under an approved installment plan or other satisfactory payment arrangement. Such plan or arrangement shall be set forth in writing and signed by the employer and the Area Director.

NOTE: If the employer enters into a written plan establishing a repayment schedule within one calendar month of the due date but subsequently fails to make a payment within one calendar month of its scheduled due date, a payment default letter shall be sent to the employer. If the employer fails to respond satisfactorily to that letter within one month, the unpaid portion of the debt shall be handled in accordance with E.1.e.

(2) The employer has partially contested the case (even if the penalty has not been contested). In such circumstances the first demand letter shall not be sent until a final order has been issued.

(3) A copy of the "Notice" and the first demand letter shall be retained in the case file.

d. Assessment of Additional Charges. The Act and DCL regulations require that debtors be assessed:

(1) Interest. Interest on the unpaid principal amount shall be assessed on a monthly basis at the current annual rate if the debt has not been paid within one calendar month of the date on which the debt (penalty) became due and payable (i.e., the date of final order). Interest is not assessed if an acceptable repayment schedule has been established in a written plan by the due date.

NOTE: Interest and delinquent charges are not compounded; only the unpaid balance of the penalty amount is used to calculate these additional charges.

(2) Delinquent Charges. Delinquent charges shall be assessed on a monthly basis if the debt has not been paid within 3 calendar months of the delinquent date (which is one calendar month after the due date). Debts paid in full within 3 calendar months of the delinquent date shall not be assessed a delinquent charge. Delinquent charges accrue at the annual rate of 6 per cent (0.5 per cent per month).

NOTE: Although the delinquent charge is not assessed for the first time until 3 calendar months after the debt became delinquent (4 calendar months after the due date), it is, nevertheless, calculated from the delinquent date. Thus the first assessment of a delinquent charge will amount to a 3-month charge or 1.5 percent of the outstanding principal amount. Each month after that, the additional delinquent charge will be 0.5 percent of the unpaid principal.

(3) Administrative Costs. Administrative costs shall be assessed for demand letters sent in an attempt to collect the unpaid debt. Currently the cost is 12 dollars per demand letter.

e. Assessment Procedures. If the penalty has not been paid by the delinquent date (i.e., within one calendar month of the due date), the Area Director shall implement the following procedures:

(1) Interest shall be assessed at the current interest rate on the unpaid balance of the debt. The rate of interest shall remain fixed for the duration of the debt.

NOTE: Interest is to be calculated for one month and shall be assessed on the date on which such charges become payable. Any later additional charges will not be assessed until the first of the month following the date on which the charge becomes payable. Thus, if interest becomes payable on the twentieth of the month and the first demand letter is not sent out until the eighth of the following month, only one month's interest is assessed.

(2) The first demand letter shall be sent to the employer calling for immediate payment of the debt. The demand letter shall show the total amount of the debt, including the unpaid penalty amount, interest and administrative costs.

(3) If, for any valid reason, the first demand letter is not deliverable and the forwarding address of the employer is not known, the debt shall be written off.

(4) The employer may respond to the first demand letter in several ways:

(a) The entire debt may be paid; in this case no further collection action is necessary.

(b) A repayment plan may be submitted or offered; after a written repayment schedule has been approved by the Area Director, no additional charges shall be levied against the debt as long as payments are made in accordance with the approved schedule. (See note under E.1.c.(1).) If payments are not met on schedule, the unpaid portion of the debt shall be treated in accordance with E.1.e.(5).

(c) A partial payment may be made; the unpaid portion of the debt shall be treated in accordance with E.1.e.(5).

(5) If any portion of the debt remains unpaid after one calendar month from the time the first demand letter was sent to the employer, the Area Director shall not send any additional demand letters; instead the case shall either be written off or referred to the National Office for collection.

(a) Outstanding debts with a current penalty amount (without additional charges) of less than $1,000 shall be written off.

(b) Outstanding debts with a current penalty amount of $1,000 or more shall be referred to the Office of Management Data Systems (OMDS).

(c) The data base shall be updated in either case following IMIS procedures.

(6) After a case has been referred to OMDS for collection, the Area Director has no further responsibilities with regard to penalty collection related to that case unless it later comes back for referral to the Regional Solicitor for legal action.

(7) If the employer mistakenly sends the payment to the Area Office after the case has been referred to the National Office, the Area Director shall telephone OMDS immediately and forward all such payments at the end of each workday to the following address:

U.S. Department of Labor - OSHA
Office of Management Data Systems
Delinquent Accounts Collection
Post Office Box 2422
Washington, D.C. 20013

(8) OMDS shall update the host data base to reflect all penalty collection actions taken by the National Office. A monthly report

containing all collection actions taken for each case referred to the National Office shall be sent to the Area Director for information and appropriate action upon completion of all debt collection procedures for that case.

(9) The responsibility for closing the case remains with the Area Director. Once final collection action has been completed, the case may be closed whenever appropriate.

f. Application of Payments. Payments, which are for less than the full amount of the debt, shall be applied as follows:

(1) Administrative charges;

(2) Delinquent charges;

(3) Interest;

(4) Outstanding principal.

2. National Office Debt Collection Procedures. Upon receipt of a case from an Area Director, OMDS shall verify the amount of the outstanding debt and proceed to implement National Office debt collection procedures.

a. Second Demand Letter. Before sending the case to a debt collection agency (DCA), OMDS shall send the second demand letter to the employer, notifying him/her of the overdue debt and requesting immediate payment to OMDS or the debt will be referred to a collection agency and to one or more credit reporting bureaux (CRB).

b. Referral to Debt Collection Agency. If the debt remains uncollected after one calendar month from the date that the second demand letter was sent, the case shall be referred to the DCA. The DCA will have the case for a period of up to 6 months during which time it will attempt to collect the overdue debt.

(1) Any penalty settlement or repayment offers received by the DCA shall be referred to the Director, Office of Field Programs for approval.

(2) All monies collected by the DCA will be forwarded to a special account set up for the purpose.

c. Referral to Credit Reporting Bureau. If the DCA fails to collect the debt within the established time frame, the uncollected debt shall be returned

to OMDS. OMDS shall initiate the procedure for reporting the delinquent employer for listing with the CRB. A letter shall be sent to the employer informing him/her of this action and of the consequences of continued nonpayment.

d. Referral to the Solicitor. If the debt was not collected by the DCA, OMDS shall transmit all qualifying cases to the Director, Office of Field Programs for evaluation.

(1) Cases to be considered for referral to the Regional Solicitor shall ordinarily meet the following criteria:

(a) The DCA reports that the debt is collectible according to credit data available on the debtor employer;

(b) The debt has a current uncollected penalty amount of $5,000 or more.

(2) Cases that do not meet the criteria given in E.2.d.(1) shall be handled in accordance with E.2.c. and E.2.e.

(3) OMDS shall order litigation reports from the DCA for all such cases upon notification by the Director, Office of Field Programs that the case is to be returned to the Area Director for referral to the Solicitor.

(4) The Director, Office of Field Programs, shall notify the Area Director through the Regional Administrator that the case is to be referred to the Regional Solicitor in accordance with E.3.

e. Reporting to Internal Revenue Service. If the case is not to be referred to the Regional Solicitor for legal action, FINOSH shall prepare appropriate IRS 1099 Forms at the end of the year, reporting all uncollected debts to the Internal Revenue Service as income to the involved employers. A copy of the form shall also be sent to the affected employers.

3. Referral of an Uncollected Debt to the Solicitor. If the Director, Office of Field Programs, determines that an uncollected debt is to be referred to the Regional Solicitor, OMDS shall update the data base to show that the case has been returned to the Area Office for action following IMIS procedures.

a. The Area Director shall forward the case file to the Regional Solicitor with a memorandum requesting that appropriate legal action be undertaken to collect the unpaid debt. This action shall be handled in accordance with current IMIS procedures.

Why Did Paul Die?

BY JOSEPH A. KINNEY

I get many angry phone calls these days. The callers complain about legislation that has passed a Senate committee that will send bad guys to jail. The callers think they are being slipped a fast one. The legislation, S.2154, will impose criminal penalties upon employers who flagrantly violate the nation's job-safety laws, when a worker is killed or seriously injured. My callers, mostly small businessmen, think any government is too much government. They think jail should be reserved for dope peddlers, rapists, bomb throwers, murderers and anyone who doesn't own a white shirt.

Four years ago, I hardly knew we had job-safety laws. My education came when I was told my brother, Paul, had suffered severe injuries in a scaffold collapse and might die before I could see him.

The trip to Denver and the hospital was a rush of memories. Twenty years earlier, I was a Marine rifleman in Vietnam. My career was cut short by a sucking chest wound. During my walk through the trauma unit where my brother was hospitalized, I noticed patients with fractured skulls, missing limbs and realigned bodies. War was supposed to do that kind of damage, not peace. To see Paul immobilized and nearing death was a nightmare. So often, when I locked and loaded my M-16 and pulled my flak jacket tight, I thought of Paul back at home with his fourth-grade classmates. I was his John Wayne. Paul's naive letters never let me forget the bright side of life, and they brought a tinge of glory to the uniform that I wore. Two days and eight hours after he reached the hospital, Paul died. He was unconscious from the time he was admitted, and we never had a chance to say goodbye. For my parents, the grief was beyond description.

During Labor Day week, a brother reflects on a brother, killed on the job

Paul's employer was guilty of eight federal safety violations, according to the Occupational Safety and Health Administration, which investigated the incident. Months after the $800 penalty was due, the employer sent in his check to the government. The fine paid, the employer's role in the accident was over. For me, life had changed; a journey was just beginning.

It dawned on me that the minimal OSHA sanctions imposed for Paul's death reflected an accommodation with human expendability. In collecting its $800 penalty, the government wrote off a massive investment in a life. Paul was just a course short of his electrical-engineering degree. The private and public investment in the making of Paul was at least $500,000. Society had yet to collect on its investment. In doing the cost accounting of Paul's life, not only the family lost, but society as a whole. The investment in love that we gave Paul cannot be measured. How much is changing diapers worth? Teaching a child to speak and read? These "investments" cannot be valued by dollars.

On one level, Paul's death was a symbol of the fast and fabulous '80s. That was an era when we worshiped at the altar of deregulation. OSHA, created in 1970, was to the deregulators the sort of busybody intrusion by the government that needed to be rolled back so our society would be more "free." Safety wasn't the obligation of the employer; it was up to the workers to look after themselves. In a free society, well, accidents unfortunately do happen. OSHA's bark, never very loud, was tuned down to a whimper, inaudible in the roar of our fabulous commerce.

Blue-collar death: After Paul's death, I pushed aside my consulting business. I wanted to examine just why he died. My solidly middle-class Kansas origin and Marine background provided perspective. In war, Marine blood shall be shed only in the pursuit of victory. As every Marine knows, commanders who waste blood find their careers shortened. But in commerce, because of weak OSHA sanctions, we have made it legitimate to kill and maim in a way no Marine officer would tolerate. We've reached an accommodation with blue-collar death. Forget that a United States worker is five times more likely to die than a Swede. Sweden has unions, nobody wants unions here. Forget that a U.S. worker is three times more likely to die than a Japanese.

The sad reality is that blue-collar blood pours too easily. OSHA's fines amount to mere traffic tickets for those who run our companies. The small fines are simply buried in the cost of production. Blood can be cash accounted, given a number and factored with other costs.

Will the 1990s bring change? Our president campaigned on the promise of a kinder and gentler America. We can only hope that this promise is extended to workers, who are suffering from record numbers of injuries. We can only hope that his promise will translate into a higher value being placed on life. Early this year, bill S.2154 was introduced. It would make flagrant violations resulting in death or serious bodily injury a potential crime, punishable by prison terms of up to 10 years for death, five for injury.

Why are my callers angry? Are they fearful of being thrown in jail for having unsafe and unhealthy workplaces? Are they fearful of a government that perceives its duty as one of protecting life, liberty and the pursuit of happiness—even for those who will never appreciate the commerce clause of our Constitution? Do they really think something is wron, with the prospect of paying for blue-collar blood with jail rather than a fistful of dollars? No one should fear the prospect of commerce coming to a halt as a result of this legislation. It is only the small minority of business people who have been irresponsible toward the safety and health of their workers who will find themselves facing higher standards of decency and accountability. What a terrible thought.

For Paul—and the 200,000 men and women who have died at work since the first federal job-safety laws were passed 20 years ago—S.2154 is too late. For others, though, it may make a difference. In the name of fairness, they deserve a chance.

Kinney, executive director of the National Safe Workplace Institute, lives in Chicago.

Alaska's oil reserves slip away

In 1981, during an oil industry boom fueled by the Iranian revolution, Alaska oil employment jumped by one-third, while that of Texas, the nation's next-largest oil producer, rose by only a little more than one fifth.

In 1986, in the midst of an oil industry recession caused by international crude oil price wars, Alaska oil employment fell by about 5 percent, the least of the five leading U.S. oil states and only half the loss suffered by the next best performer, Texas. In 1987 Alaska's oil patch job loss was about the same, while Texas' plunged nearly 30 percent and two other states lost more than 10 percent.

In 1988, with oil industry jobs on a slight rebound, Alaska led

Fred Pratt

the way, with a percentage growth outdistancing the other leading producers by a 2 to-1 margin.

That's among a number of interesting facts in an updated review of our state's oil industry by three Alaska Department of Labor staffers. The article is published in the November issue of the department's statistical report, "Alaska Economic Trends."

The authors stress that Alaska produces far more oil per well and per employee than the other states, a fact that decides how Alaska weathers the ups and downs of the industry.

The average Alaska oil well [illegible] barrels last year, compared with the average Texas well's yield of only 9,800 barrels. That's goes a long way to explaining why there are 30 times as many oil field workers and almost 200 times as many oil wells in Texas as there are in Alaska.

Alaska oil jobs are primarily in production and transportation from large fields owned by major companies, so our state hasn't suffered as much as others from big swings in oil employment.

Most of us know our state is the top oil producer in the United States, making up one-quarter of the national total last year. Most don't know that we run

Workers collect pain with their paychecks

By RIARON COHEN
Associated Press Writer

In 18½ years in a meatpacking plant, Dave Kellen's wages have helped build his house, put food on the table and raise two daughters. But, he says, he has paid a terrible price: the use of his hands.

Kellen's hands are too weak to chop wood, much less twist open a bottle. He blames it on years of such jobs as tearing gobs of fat from hogs, repeating the same few steps, struggling to keep pace with hundreds of carcasses an hour.

His employer, John Morrell & Co., says plant safety is improving and is contesting a $4.3 million government fine for allegedly allowing dangerous work conditions. Meanwhile, Kellen, 41, who has endured surgery twice on each hand, now sweeps floors at the Sioux Falls, S.D., plant. And he's worried.

"I'm sitting here with my hands 37 percent crippled. They're what's got to make my living for the next 20 years," he said. "Is Morrell going to be there? Are my hands going to get worse? I don't know who'd be willing to hire me. That's what's got me scared. It's like going blind slowly."

Such problems go beyond one man, one company or one occupation.

Many union, safety and academic experts say Kellen is an example of an insidious trend in American industry: Companies are producing more, cutting payrolls, modernizing, computerizing—and creating a more hazardous workplace.

"People are getting hurt more than they ever were," argues Joseph Kinney, director of the National Safe Workplace Institute. "They're under more pressure to produce than they ever were. A lot of companies that once were using seven workers to do a job are now asking five to do it.

"The new fat-free American

business syndrome is asking those who are left to do too damn much."

Similar concerns have surfaced from congressional hearings to union organizing drives, in auto, meatpacking, construction, steel and other industries. Experts say automation, competition and the changing business landscape play a role.

"We live in a time of corporate downsizing, mergers and acquisitions and leveraged buyouts that end or greatly diminish many of the modest safety and health programs that exist," said a September report by the workplace institute. "The raiders and downsizers are unwitting participants in our industrial carnage."

While most workers no longer confront sweatshop horrors and archaic equipment, some experts say a new trend in which technology allows experienced employees to be replaced by those with less training has contributed to increasing dangers.

Others disagree, noting large investments that companies, including the Big Three automakers, are making to improve plant designs. They also cite giant government penalties against lead, paper, meatpacking, construction and other firms that are serving as a deterrent.

"I think workplaces are generally safer," said Berrien Zettler, deputy director of compliance programs at the Occupational Safety and Health Administration.

Kinney's group says OSHA has improved, but he cites government numbers: the average number of workdays lost due to on the job accidents for each 100 workers rose from 58.5 days in 1983 to 69.9 days in 1987.

And the National Safety Council says permanent work-related disabilities rose from 60,000 in 1906 to 70,000 in 1987.

Safety experts speculate conditions may be even grimmer because companies underreport injuries to avoid OSHA inspections. In fact, the government has cited Union Carbide Corp., USX Corp. and others for alleged recordkeeping violations.

Overtime, worker turnover

Ironically, some trace rising injuries to economic prosperity, especially in steel. One steelworkers' local says its injury rate nearly doubled when overtime peaked.

"When you're tired and you work in a dangerous operation, fatigue is going to lead to accidents," said Mike Wright, the United Steelworkers of America's health and safety director.

A 1988 University of Texas study found nearly 93 percent of injury increases in durable goods industries could be explained by overtime and employee turnover.

Those aren't the only culprits.

"Automation is increasing and the workers who performed a variety of the jobs are being replaced by machinery," said Bob Hall, research director at the Institute for Southern Studies in North Carolina.

"The jobs that are left are not as complicated (and) increasingly treat people as robots (and treat) arms and hands like they're part of a machine. But you can't oil a person's arm or hand."

Workers who cut, chop or pull thousands of times daily have developed painful and sometimes disabling hand, arm and wrist ailments, known as repetitive trauma disorders. The most severe form is called carpal tunnel syndrome, a thickening or swelling of tendons in the wrist.

Repetitive trauma disorder cases—including hearing loss—soared from 26,700 to 72,900 from 1983 to 1987, the government says, though some attribute part of that to heightened awareness.

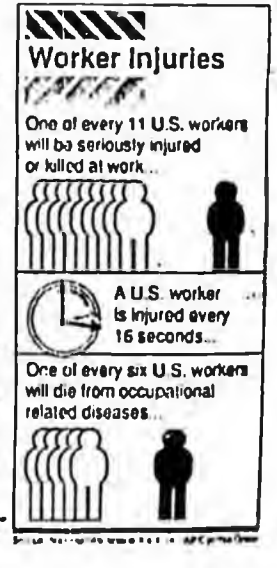
Much publicity has focused on meatpacking where, the United Food and Commercial Workers Union says, production jumped nearly 20 percent in the last five years while production employees dropped by almost 10,000.

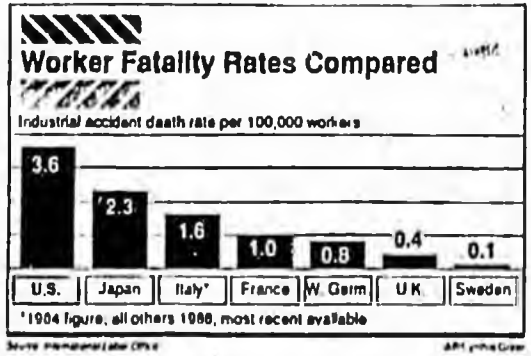
"When line speeds are increased and the workforce is decreased in the name of efficiency, injuries go

(See DANGER, Page D 5)

Associated Press

FRUITS OF HIS LABOR—Repetitive injuries suffered on the job at the John Morrell & Co. meatpacking plant in Sioux City, S.D., have left worker Dave Kellen with disabled hands.





DANGER: Companies push workers harder and create a more hazardous workplace

(Continued from Page D-1)

up," said Debbie Berkowitz, the union's health and safety director.

Meat packers' injuries

Meat and poultry workers, some of whom have testified before Congress, have complained about treacherously fast production lines, where meat flies off damaged conveyor belts and blood splatters in their faces. They have described cysts, infections and crippling hand and back pain that make it hard to lift their children, comb their hair or hold a glass.

Former poultry employee Lillie Watson worked as a packer and leg cutter for nearly a decade, making thousands of cuts a day. She had surgery three times on her hands, has arthritic legs and says she can't scrub floors or lift heavy pots.

"I feel bitter and angry," she said. "Ain't no job I can get where I can use my hands occasionally."

Workers such as Watson often don't have many options, either because of the scarcity of job opportunities or limited education.

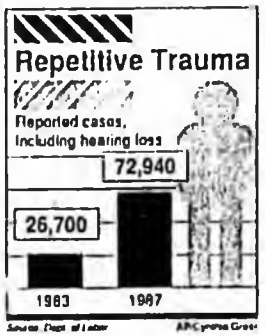
Another injured worker, Bev Whaley, said she had surgery on her right hand because of her job at the Morrell plant in Sioux Falls. She said a doctor told her she'd have to "learn to live with it. I wanted to take a baseball bat and smash his hands and tell him he'd have to learn to live with it."

Her union local claims assembly line speeds have increased in many areas; for example, in the beef kill department—where the animal is knocked out, its throat slit, the hide pulled off and the body split in half—the hourly rate jumped from 105 an hour in 1979 to 193 in 1986.

Said co-worker Kellen, "You're just pushed to the limit."

But companies dispute the charges. Poultry producer Perdue Farms Inc. recently estimated repetitive trauma disorders at its plants at less than 1 percent.

And though OSHA contends Morrell knew conditions were causing injuries but did nothing, company spokesman Raoul Baxter said safety improvement efforts were being made and the agency reviewed records during an atypical time—a period that included a strike.



In 11 months, records showed 880 of 2,000 workers sustained repetitive strain injuries. Baxter said there are no quick fix programs for such injuries. "It's going to take a lot of hard work," he said. "Our progress has been dramatic."

Morrell says injuries at Sioux Falls fell per 100 workers from 70.5 in January 1988 to 13.48 in July 1989. Baxter attributed the high injury rate to the hiring of replacements and other strike effects, for the decline, he credited outside consultants, workers and supervisors.

But Jim Lyon, union local president, said he hasn't seen any safety progress and said company numbers are "totally inaccurate." He also contends a program providing prizes for injury-free records encourages people not to report them.

Morrell isn't the only meatpacker to come under government scrutiny.

OSHA also fined the nation's largest meatpacker, IBP Inc., but a $5.7 million penalty was reduced to $975,000 after the company agreed to conduct a three-year safety program to reduce motion injuries.

OSHA lowers fines

A recent workplace institute study of several large penalties found OSHA had bargained fines down from $29.3 million to $9.5 million.

And in cases where OSHA fines are smaller—in the thousands of dollars—the agency "is not effective in providing the stimulus employers need to properly deal with safety and health," said John Moran, a former official of the National Institute for Occupational Safety and Health. "The bottom line in business is the dollar bill."

OSHA's Zeitler said his agency usually doesn't reduce penalties by more than half. In IBP's case, he said, "we believe the significant reduction was justified by what we were getting back."

Zeitler also conceded OSHA doesn't have staff to inspect all hazardous places annually and it may cost more to comply than pay a penalty. "If it takes us 15 years to get there, the guy has saved that investment for 15 years," he said.

But he says his agency has increased safety awareness and most major companies have health experts. Many also have hired safety design experts.

One is the University of Michigan's Center for Ergonomics.

Director Don Chaffin believes it's simplistic to blame productivity alone for increased injuries and says corporations are paying more attention to these concerns.

But one union local disagrees. At the Allegheny Ludlum Corp., plant in Brackenridge, Pa., maintenance division injuries jumped from 27 percent to 45.47 percent during four heavy overtime months in 1988, said Carol Mochak, USW local 1196's safety chairman.

"People tend to overlook a lot of safety procedures," he said. "They're lax in wearing safety equipment. All they want to do is get the job done as quickly as possible."

Cost-cutting pressures

Productivity also has been an issue in construction, said Moran, the former NIOSH official who now works at a firm that trains hazardous waste cleanup workers.

"It's been getting worse for the last several years—the economic pressures, the greater and greater emphasis on cutting costs," he said.

"It's 'Get it done faster.' If you're laying a pipeline, you save money as a contractor by not putting in proper shielding or shoring in the trench."

He said in 98 percent of trench cave-in deaths he studied at NIOSH, there was no shoring or sloping.

Shortcuts in the name of efficiency are ultimately uneconomical, said Berkowitz of the United Food and Commercial Workers. "Any gains made by pushing people will [illegible] high turnover and worker compensation."

As for Kellen, he has agreed to a [illegible]

PRATT:

(Continued from Page D-1)

of BP operating in Alaska, is cutting its seven layers of management down to four. Texaco is cutting 11 layers of management down to five.

The Economist article explains that most of the recent "savings" claimed by oil companies were not the result of leaner management, but rather a price war among the smaller oil field contractors who do most of their work. As crude oil prices plunged in the past few years, market prices for refined products remained fairly stable and the large integrated oil companies made out fairly well.

This is coming to an untidy end, the article notes, and the crude oil exploration and production subsidiaries are having to learn to stand or fall on their own profitability.

That's not good news for Alaska, which is primarily an exploration and production state. We seem to have come out quite well in retrenchments by our two largest players, BP and Atlantic Richfield, but our thin oil reserves base and high costs mean we can't automatically assume we'll be among the heavyweights forever.

And what are our political leaders doing? They halted all state oil lease sales six months ago and bet our future on the vain hope of persuading Congress to open the Arctic National Wildlife Refuge, a move that promises meager benefits for Alaskans at best.

Someone needs to take a new look at this.

■ *Free lance journalist Fred Pratt has been covering Alaska business and politics for the past 18 years.*

NEST EGG:

(Continued from Page D-1)

Purchasing cash value life insurance and participating in dividend reinvestment plans are more traditional ways of imposing the discipline of saving upon yourself.

But Downey, the financial planner, frowns on purchasing insurance as a savings vehicle, instead of purchasing just the insurance you need for adequate coverage.

She also doesn't like automatic transfers to a credit union, bank or savings and loan account.

"I've seen many customers who constantly tap those accounts, so that the savings plan becomes meaningless."

Yet those who have stuck to a self-imposed savings plan report emotional benefits from the financial security.

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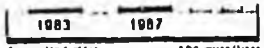

Source: Dept. of Labor — APC graphic

cords during an atypical time – a period that included a strike.

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As for Kellen, he has agreed to a workers compensation settlement of more than $16,600.

But he asks: "What's the price on your hands? You've got to provide for your family. There was a time when everybody thought of retiring there after 30 years. I don't look for any future there at all. It's a sad deal."

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Yet those who have stuck to a self imposed savings plan report emotional benefits from the financial security.

Two years ago, Jim Tooley, 41, a North Dartmouth, Mass., clinical social worker, arranged for automatic transfers to a mutual fund from his bank account.

"Especially being self employed, I was looking for a way to discipline myself," Tooley said.

Now he feels more comfortable about month to month income variations and future college bills for his children.

"Saving automatically imposes a nice structure on my financial life," he said.

HB

35

FISCAL NOTE

STATE OF ALASKA
1991 LEGISLATIVE SESSION

BILL NO. HB35

Revision Date: _____ Department Affected: Environmental Conservation

Title: An Act prohibiting the knowing sale of irradiated food. BRU: Environmental Health

Component: Sanitation

Sponsor: Rep. Phillips

Requestor: Rep. Phillips COMPONENT SERIAL NO. | | 6 | 5 | 0 |

Expenditures/Revenues: (Thousands of Dollars)

OPERATING	FY 92	FY 93	FY 94	FY 95	FY 96	FY 97
PERSONAL SERVICES						
TRAVEL						
CONTRACTUAL						
SUPPLIES						
EQUIPMENT						
LAND & STRUCTURES						
GRANTS, CLAIMS						
MISCELLANEOUS						
TOTAL OPERATING	-0-	-0-	-0-	-0-	-0-	-0-
CAPITAL	-0-	-0-	-0-	-0-	-0-	-0-
REVENUE	-0-	-0-	-0-	-0-	-0-	-0-

FUNDING: (Thousands of Dollars)

GENERAL FUND	-0-	-0-	-0-	-0-	-0-	-0-
FEDERAL FUNDS	-0-	-0-	-0-	-0-	-0-	-0-
OTHER	-0-	-0-	-0-	-0-	-0-	-0-
TOTAL	-0-	-0-	-0-	-0-	-0-	-0-

POSITIONS:

FULL-TIME	-0-	-0-	-0-	-0-	-0-	-0-
PART-TIME	-0-	-0-	-0-	-0-	-0-	-0-
TEMPORARY	-0-	-0-	-0-	-0-	-0-	-0-

Estimate of current year impact: -0-

ANALYSIS: (Attach a separate page if necessary.)

See attached.

Prepared By: Douglas C. Donegan, Director Phone: 465-2696

Division: Environmental Health Date: January 22, 1991

Approved by Commissioner: _____

Agency: Department of Environmental Conservation Date: _____

Distribution (by preparer): Legislative Finance, Legislative Sponsor, Requestor, OMB, & Impacted Agency(ies).

Rev 10/90

ANALYSIS:

We are submitting a zero fiscal note with the understanding that investigation and enforcement will take place on a complaint-basis only. We will not be monitoring retail food establishments for irradiated foods.

Alaska State Legislature

REPRESENTATIVE RANDY PHILLIPS
HOUSE DISTRICT 15
(907) 465-4949

Official Business

P.O. Box V
State Capitol
Juneau, Alaska 99811

Memorandum

TO: Representative David Finkelstein, Chair
House Labor and Commerce Committee

FROM: Representative Randy Phillips REP

DATE: March 13, 1991

RE: Sponsor Statement in Support of: House Bill 35
"An Act prohibiting under the Alaska Food, Drug, and Cosmetic Act the knowing sale of irradiated food; authorizing embargo and detention remedies in the case of a violation of the prohibition against the sale of irradiated food; and making the commissioner of environmental conservation responsible for enforcing the prohibition."

The above referenced bill is scheduled to be heard by the Labor and Commerce Committee. This bill would ban the sale of irradiated food, except for certain spices, in Alaska.

Food irradiation is a process by which foods are exposed to radiation as a means of killing harmful organisms and thus extending the shelf life of that food. It does not leave the food radioactive, but it does cause chemical changes to the food and leaves potentially harmful substances in the food. Research on the health effects of irradiated food have produced mixed results. Some studies show no harmful effects. **Others indicate that the chemical changes to the food may cause cancer or other health effects.**

I believe that it is responsible to ban the sale of irradiated food until the research shows that this technology is completely safe. Irradiated food has been banned in a number of states, including New Jersey, Maine, and New York. Several companies such as H.J. Heinz, Quaker Oats, Ralston Purina, Borden Foods, Beatrice/Hunt-Wesson and McDonalds, are on record as opposing the use of food irradiation technology. Also, several countries including Great Britain, West Germany, Australia, Denmark, Sweden, New Zealand and Alaska's largest consumer, Japan, have banned the sale of irradiated food.

The marketing position of Alaska's products depends on an image of natural purity. Since the major consuming nation for Alaska seafood products has banned irradiated food. A ban on irradiated food in Alaska would reassure our trading partners about the freshness and quality of our seafood products.

Nothing in the bill would prevent further research on food irradiation from occurring in Alaska. I would encourage further research, and if the technology is proven to be safe, then the ban should be removed by a future Legislature.

Alaska State Legislature

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HOUSE DISTRICT 15
(907) 465-4949

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RE: House Bill 35, "An Act prohibiting under the Alaska Food, Drug, and Cosmetic Act the knowing sale of irradiated food; authorizing embargo and detention remedies in the case of a violation of the prohibition against the sale of irradiated food; and making the commissioner of environmental conservation responsible for enforcing the prohibition."

I have attached the following back-up materials for your consideration.

1. FIN LINK, Food Irradiation Network Factsheet No. 2, May 1990

2. Zapping the Food Supply, by Donald B. Louria, Bulletin of the Atomic Scientists, September 1990.

3. Letters to the Editor, The Atlantic, January 1991

4. Food Irradiation Awareness, The Public Examiner, Vol. 1, No. 1, Food and Water, Inc.

5. Letter to Seafood Industry Officials, from Food and Water Inc, May 2, 1990

This back-up information represents the most recent information on the subject. I introduced similar legislation, which passed the House in the 15th and 16th Legislative Sessions. As a result of this, I have compiled a great deal of information on this subject. Please feel free to contact my office at 4949 if you desire more information.

FOOD & WATER INC.

Three Whitman Drive • Denville • New Jersey 07834
(212) 941-9340 • (201) 625-3111

"We have encouraged our industry to control freshness quality of [seafood] product during handling rather than using irradiation."
-- Director-General, Department of Fisheries
Thailand, April 9, 1990

May 2, 1990

Dear Seafood Industry Official:

The U.S. seafood industry is in danger of being associated with the consumer-rejected food irradiation technology. Such an association could be devastating to the economic stability of your industry.

Alaska and its seafood industry has been targeted by the U.S. Department of Energy and others in the nuclear industry to receive a seafood irradiation facility. Fortunately, Alaska Governor Steve Cowper rejected federal funding for such a project because of the negative impact it would have on Alaskan seafood. Governor Cowper's decision, however, apparently did not deter private irradiation companies from pursuing a seafood irradiator.

As a leading consumer group, it is our obligation tc educate consumers on the human health and environmental dangers of radiation exposed food. Consumers look to us to report the specific food industries or companies which intend to utilize this technology so that products suspected of being irradiated can be avoided at the marketplace. Consumers have already begun to call us inquiring about the rumors of an Alaskan seafood irradiator.

The enclosed information should attest to the overwhelmingly negative consumer response toward radiation exposed food. You'll note that more than 76% of American consumers consider irradiated food a hazard. Such evidence has led major food corporations such as McDonald's, Quaker Oats and H.J. Heinz to make it their company policy to avoid all irradiated products.

Scientists remain unconvinced of the potential benefits of food irradiation or the safety of the process. In April, 1990, three Food and Drug Administration officials reported that irradiation would not be practical for preventing raw fish contamination. In their letter published in the April 5th issue of the New England Journal of Medicine, the scientists recommended freezing, rather than irradiating, as the "most practical safeguard against worms."

Several other studies have shown an adverse affect on the taste of seafood exposed to radiation.

The seafood industry must understand that the primary use for radiation treatment today is in the treatment of cancer patients. If the same method is used to treat seafood, consumers will inevitably wonder if seafood is stricken with cancer.

While many in the nuclear industry are frantically attempting to find a food industry to latch onto food irradiation, the seafood industry would do itself a favor by following the footsteps of the papaya and citrus industries: avoid radiation treatment of foods. A "no-irradiation" policy will once again demonstrate the seafood industry's commitment to healthy, safe food products. No food industry can afford to be associated with the cover-ups, malfeasance, and public distrust inherent with the Department of Energy and their food irradiation program.

We sincerely hope that the enclosed information will be useful. Please do not hesitate to contact us if you have any questions.

Together, we <u>will</u> stop radiation exposed food. We will!

Sincerely,

Michael Colby
Director

enclosures

cc: Key seafood industry executives
All major fishermen associations
Alaskan politicians
Concerned public interest groups
Members of the media

Alaska State Legislature

Please enter into the record my testimony to the House Labor & Commerce committee name

committee on AB 35 bill/subject, dated 3-14-91 1-3pm.

Ban Irradiated food

I would like to support the ban. I have been following this issue for years and know that the industry is unsafe both in the presence of the facilities of irradiation and the product. There have been cases of accidental contamination of product at the facility being distributed, the only way to assure the public of safety would be the ban of sale. thankyou for trying once again to pass this bill. please pass it this year.

Signed: Cheryl Pritchard
Testifier

S/f
Representing (Optional)

Box 6209
Address

Sitka AK 99835
Phone No.

Alaska State Legislature

Please enter into the record my testimony to the Labor and Commerce committee
committee name

committee on Housebill No. 35 , dated March 14,1991 .
bill/subject

Signed: Pat Garoutte
Testifier

The Public Awareness for the Environment
Representing (Optional)

100 Trading Bay, Suite #4 Kenai, Ak 99611
Address

(907) 283-7170
Phone No.

IRRADIATION OF FOODS TESTIMONY MARCH 14, 1991
GIVEN AT LAO OFFICE, SOLDOTNA

PACE feels the irradiation of foods is unsafe and is against the state of Alaska allowing the process to take place and be placed on shelves for consumer consumption for the following reasons!

1. The process of the irradiation of food used is 100 million times higher than an xray!

2. The treatment causes a chain reaction is some bacteria and causes damage to other bacteria in the process.

3. We do not know the long term affect of radiated food. Long term molecules could cause cancer!

4. Major Food Producers, Major Market Chains, and Major Meat Producers are against it. If a product is clean, there is no use for radiation! Better inspections, no irradiation!

5. From over 400 studies done, only 5 studies were selected as evidence. We do not feel enough investigation has been accomplished to merit the process of irradiation of foods.

6. From studies done on rats, mice and dogs, some of the side affects are as follows: Whole litters dying, enlarged spleens, overactive lymph nodes, vitamin deficiency, death by starvation due to lack of vitamins, nutrients, and fatty acids that the irradiation process kills. These tests were done with extra vitamins added! When over 70% of the world population in undernourished, we don't feel these tests were accurately done!

7. In a test done in India on 5 to 7 year old children and rats, it was found that after 6 weeks there was a change in chromozones from 26 to 92 in the children. The test was stopped when the increase in chromozones kept going up. After stopping the tests there was a decrease in chromozones! We feel this is dangerous! The rats had lethal mutations, damages to spleen, deaths at birth increased etc.

8. Japan & Germany will not allow use of radiated foods, Canada's Scientific Society is against it' use! Australia has a three year ban until further studies have been done.

9. PACE questions whose benefit is it being done for- consumer orF business?

10. The Nuclear Industry's concern is to find a use for nuclear waste, sell the technology and make money from nuclear waste.The U.S. Military spends 5 to 7 million a year to promote irradiation of food. It is their plan to have 6 demonstraion models available for industry with a tax break if used!

11. The Department of Energy wants to get rid of cesium [illegible] irradiation, but in the process it produces

plutonium which is used in nuclear bombs, and is outlawed by congress to produce!
12. PACE feels it is technology looking for a way to get rid of nuclear waste for a profit, and the consumer will end up being the Guinea Pig.
13. The "World Health Organization" studies are funded by the "International Atomic Energy Association."

14. We don't want the irratiated waste waters dumped in out Alaskan Waters!!!!!!
15. Please pass House Bill # 35 until more thorough research is done!

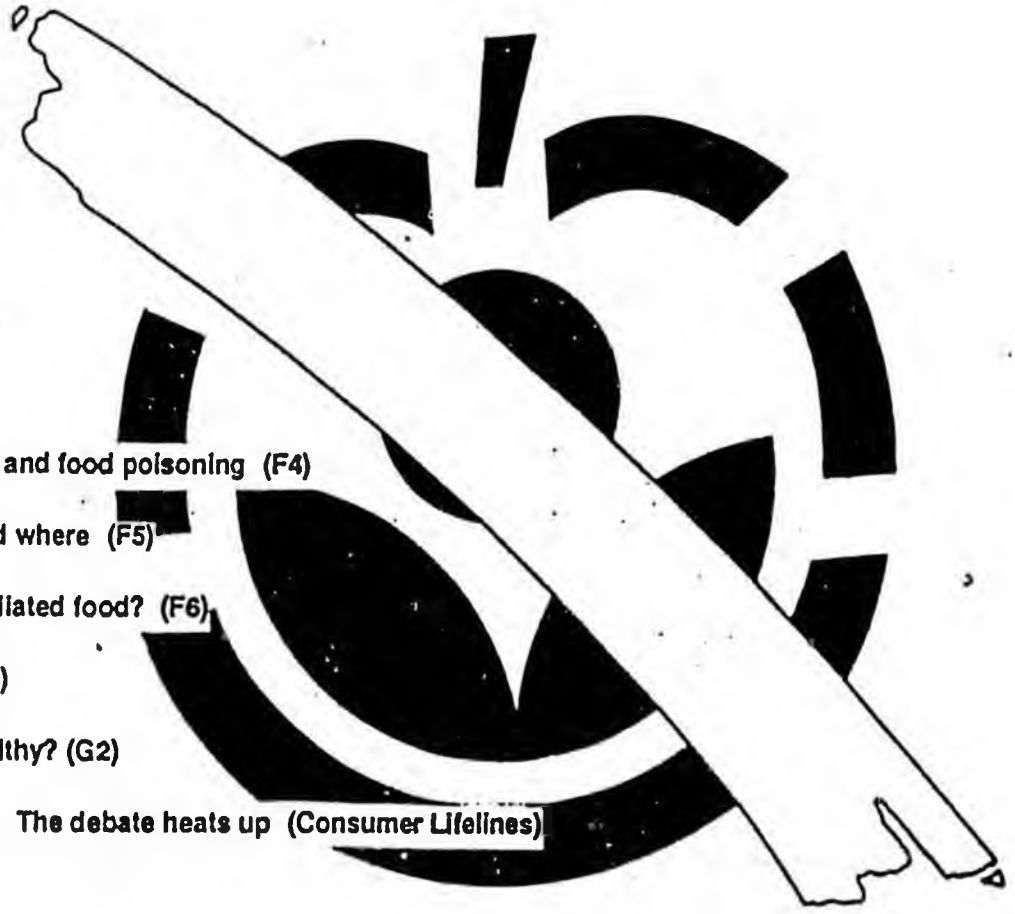
FIN LINK

FOOD IRRADIATION NETWORK

FIN - the Food Irradiation Network - is an informal worldwide coalition of like-minded groups and individuals opposed to food irradiation unless and until all outstanding issues are fully resolved.

No: 2

May 1990



CONTENTS:

- This issue of FIN LINK was produced by the London Food Commission (LFC), UK, with assistance from the International Organization of Consumers Unions (IOCU) Regional Office for Asia and the Pacific, Malaysia. Volunteers and sponsors for the production of future issues of FIN LINK are welcome - interested partners may get in touch with any of the five FIN Regional Contact Points (see overleaf for addresses).

FIN links the activities of like-minded groups and individuals worldwide through five Regional Contact Points, which exchange information among themselves and disseminate news to FIN partners in their respective regions. Information sent to the five Regional Contact Points (see overleaf for addresses) will reach all other FIN partners via the information service called FIN LINK and other means of information exchange.

FOOD IRRADIATION AND FOOD POISONING

The myth:

According to its promoters, irradiation is needed to reduce the risk of food poisoning.

The reality is that

- irradiation is no solution to the problem
- in some circumstances, irradiation may increase the risk
- irradiation is being used to cover up bad hygiene

If any food needs to be irradiated consumers should ask what was wrong with it. Good food does not need irradiation.

The facts are that

The argument that irradiation can be used to deal with the problem of food poisoning has been promoted by the International Atomic Energy Agency (IAEA) and endorsed by the section of the World Health Organization which is misguidedly promoting food irradiation. The IAEA marketing and public relations strategy (IAEA 1986) sees this as a way of gaining public acceptance of food irradiation.

There is no doubt that the incidence of food poisoning is on the increase. UK data shows that recorded cases have risen four-fold since the 1970's (LFC 1988). In addition, it is acknowledged that, world-wide, there is considerable under-reporting of cases of food poisoning. In almost all cases, poisoning is primarily the result of a breakdown in hygiene during the production, processing, and handling of food which may be compounded by problems of temperature control.

Use of irradiation therefore:

- indicates problems with hygiene – filth and contamination may have been concealed by irradiation
- provides a quick-fix alternative to improving hygiene and quality controls – legitimising unacceptable proactices
- may actually increase the risks of food poisoning

Irradiation is no panacea for bacterial hygiene problems.

- irradiation will not destroy all pathogenic bacteria.
  - Subsequent controls on temperature are still needed to prevent re-growth of residual bacteria.
  - Appropriate packaging and good hygiene in handling are needed to prevent cross-contamination in storage, preparation and cooking.
  - However, the use of irradiation may lead to a false sense of security in the kitchen whereas greater, not less, attention to hygiene may be needed.

- selectively reducing the level of some bacteria allows the survivors to grow more rapidly.
  - Spore-forming bacteria such as C. botulinum are not destroted by irradiation. Irradiation to reduce bacteria such as salmonella will destroy yeasts and moulds which are natural competitors to C. botulinum, allowing much more rapid growth of this often fatal food poisoning organism under favourable conditions.
  - re-contamination of food with C. botulinum results in even greater growth rates than among the survivor bacteria.
  - Irradiation will not eliminate listeria. This also re-grows more rapidly after irradiation.

- irradiation makes obsolete current public health inspection controls which guarantee that food is safe, wholesome and fit to eat.
  - Irradiation will not remove toxins – chemical poisons created by some bacteria, such as staphylococcus. These toxins remain as hidden hazards. Public health agencies do not have routine tests for the presence of toxins in the absence of the bacteria which create them.
  - Irradiation will not destroy viruses such as those which cause hepatitis. High bacterial counts are used as an indicator for possible viral content, as when seafood is harvested from sewage-contaminated waters.
  - New tests are needed to detect whether food has been irradiated, whether irradiation has been used to hide unacceptable levels of contamination, and whether any toxins and viruses remain in the food.
  - There are numerous cases in which irradiation has been used to hide unacceptable levels of bacteria in unsaleable food – in some cases in food that was rejected as unfit for human consumption – in order to put this food back on the market. (see FIN LINK No: 1 – The Dutching of Food).

CORRECTION

THIS DOCUMENT
HAS BEEN REPHOTOGRAPHED
TO ASSURE LEGIBILITY

plutonium which is used in nuclear bombs, and is outlawed by congress to produce!
12. PACE feels it is technology looking for a way to get rid of nuclear waste for a profit, and the consumer will end up being the Guinea Pig.
13. The "World Health Organization" studies are funded by the "International Atomic Energy Association."

14. We don't want the irratiated waste waters dumped in out Alaskan Waters!!!!!!
15. Please pass House Bill # 35 until more thorough research is done!

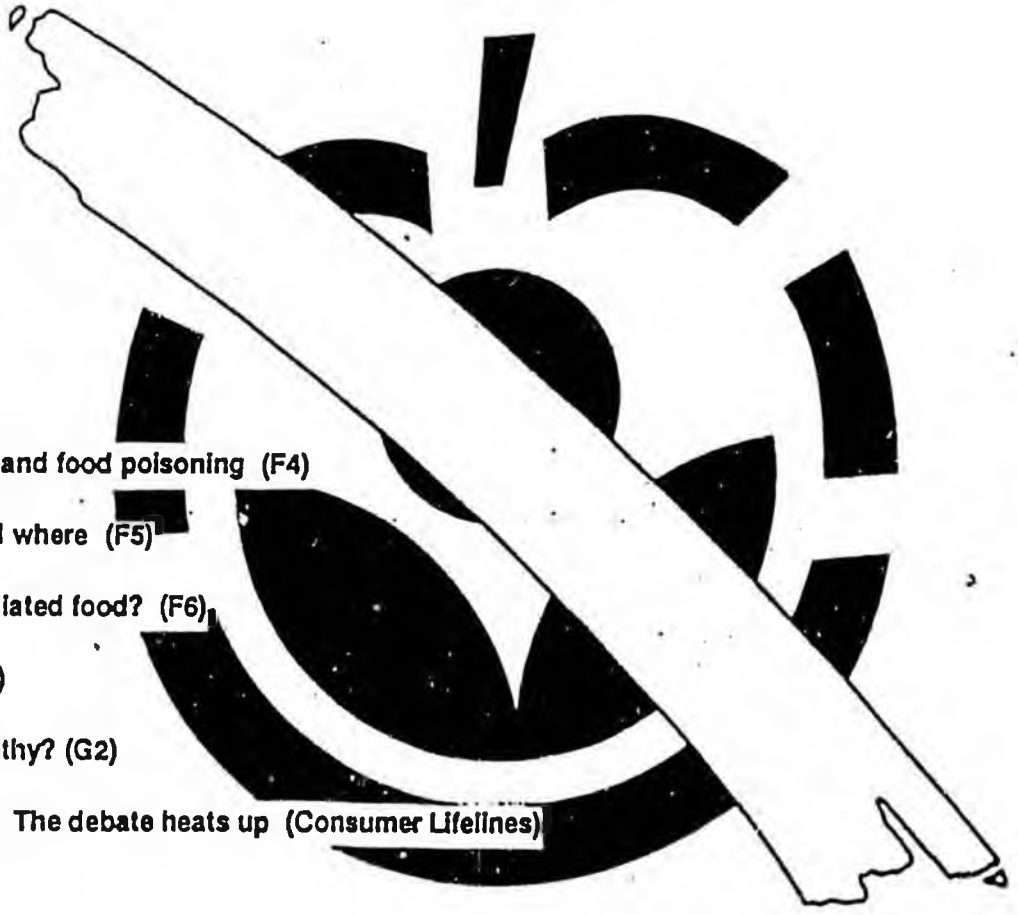
FIN LINK

FOOD IRRADIATION NETWORK

FIN - the Food Irradiation Network - is an informal worldwide coalition of like-minded groups and individuals opposed to food irradiation unless and until all outstanding issues are fully resolved.

No: 2

May 1990



CONTENTS:

- This issue of FIN LINK was produced by the London Food Commission (LFC), UK, with assistance from the International Organization of Consumers Unions (IOCU) Regional Office for Asia and the Pacific, Malaysia. Volunteers and sponsors for the production of future issues of FIN LINK are welcome - interested partners may get in touch with any of the five FIN Regional Contact Points (see overleaf for addresses).

FIN links the activities of like-minded groups and individuals worldwide through five Regional Contact Points, which exchange information among themselves and disseminate news to FIN partners in their respective regions. Information sent to the five Regional Contact Points (see overleaf for addresses) will reach all other FIN partners via the information service called FIN LINK and other means of information exchange.

FIN AIMS

- call for a global moratorium on food irradiation unless and until all issues relating to its need, appropriateness, safety, detectability, labelling, wholesomeness, control and overall costs to society and the environment have been fully evaluated and subjected to public scrutiny
- call on the World Health Organization to reopen and thoroughly investigate all aspects of safety associated with irradiated food
- call upon the World Bank and other financial institutions/aid agencies not to include food irradiation in their programmes and projects
- support the development of appropriate technologies which improve the quality, quantity and safety of the world's food supply
- call for public participation in all decision making processes related to food irradiation.

FIN REGIONAL CONTACT POINTS:

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  Fax: 525-5212763

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  New York NY 10012
  USA
  Phone: 1212-9419340
  Fax: 1212-9415678.

FOOD IRRADIATION AND FOOD POISONING

The myth:

According to its promoters, irradiation is needed to reduce the risk of food poisoning.

The reality is that

- irradiation is no solution to the problem
- in some circumstances, irradiation may increase the risk
- irradiation is being used to cover up bad hygiene

If any food needs to be irradiated consume . should ask what was wrong with it. Good food does not need irradiation.

The facts are that

The argument that irradiation can be used to deal with the problem of food poisoning has been promoted by the International Atomic Energy Agency (IAEA) and endorsed by the section of the World Health Organization which is misguidedly promoting food irradiation. The IAEA marketing and public relations strategy (IAEA 1986) sees this as a way of gaining public acceptance of food irradiation.

There is no doubt that the incidence of food poisoning is on the increase. UK data shows that recorded cases have risen four-fold since the 1970's (LFC 1988). In addition, it is acknowledged that, world-wide, there is considerable under-reporting of cases of food poisoning. In almost all cases, poisoning is primarily the result of a breakdown in hygiene during the production, processing, and handling of food which may be compounded by problems of temperature control.

Use of irradiation therefore:

- indicates problems with hygiene – filth and contamination may have been concealed by irradiation
- provides a quick-fix alternative to improving hygiene and quality controls – legitimising unacceptable proactices
- may actualy increase the risks of food poisoning

Irradiation is no panacea for bacterial hygiene problems.

- Irradiation will not destroy all pathogenic bacteria.
  - Subsequent controls on temperature are still needed to prevent re-growth of residual bacteria.
  - Appropriate packaging and good hygiene in handling are needed to prevent cross-contamination in storage, preparation and cooking.
  - However, the use of irradiation may lead to a false sense of security in the kitchen whereas greater, not less, attention to hygiene may be needed.

- Selectively reducing the level of some bacteria allows the survivors to grow more rapidly.
  - Spore-forming bacteria such as C. botulinum are not destroted by irradiation. Irradiation to reduce bacteria such as salmonella will destroy yeasts and moulds which are natural competitors to C. botulinum, allowing much more rapid growth of this often fatal food poisoning organism under favourable conditions.
  - re-contamination of food with C. botulinum results in even greater growth rates than among the survivor bacteria.
  - Irradiation will not eliminate listeria. This also re-grows more rapidly after irradiation.

- Irradiation makes obsolete current public health inspection controls which guarantee that food is safe, wholesome and fit to eat.
  - Irradiation will not remove toxins – chemical poisons created by some bacteria, such as staphylococcus. These toxins remain as hidden hazards. Public health agencies do not have routine tests for the presence of toxins in the absence of the bacteria which create them.
  - Irradiation will not destroy viruses such as those which cause hepatitis. High bacterial counts are used as an indicator for possible viral content, as when seafood is harvested from sewage-contaminated waters.
  - New tests are needed to detect whether food has been irradiated, whether irradiation has been used to hide unacceptable levels of contamination, and whether any toxins and viruses remain in the food.
  - There are numerous cases in which irradiation has been used to hide unacceptable levels of bacteria in unsaleable food – in some cases in food that was rejected as unfit for human consumption – in order to put this food back on the market. (see FIN LINK No: 1 – The Dutching of Food).

- Irradiation of vegetables and grains at the doses being considered for commercial use may stimulate production of aflatoxins – potent liver cancer-causing agents are produced by strains of the mould Aspergillus, for example.

If food is hygienically handled according to what are called "good manufacturing practices" (GMP), irradiation is an irrelevance; if GMP has not been applied, it is a dangerous and unacceptable alternative.

At an international conference to promote acceptance of food irradiation, consumer representatives argued that, if irradiation were ever to be acceptable, all food should be fit for consumption before irradiation. The promoters first denied that uniform microbiological standards were either needed or feasible, then suggested that GMP should be defined to include the use of irradiation to bring bacterial levels down to acceptable levels. Finally, a subsequent international meeting agreed that they were needed but proposed relaxing the permissible level of bacterial contamination on seafoods in particular – to allow dirty foods from some countries to be irradiated.

The public and the food industry are faced with a clear choice between the use of irradiation and improving hygiene at source. Consumers are clear which they prefer. Consumer power needs to be applied to make sure the food industry gets a clear message. Is the food good quality or did it need irradiating ? The food companies which guarantee they have no need for irradiation need to be encouraged. Those that use irradiation will find that consumers prefer to avoid their products.

Further Information:

Food Irradiation and Food Poisoning – A Briefing Paper, London Food Commission, 1989.

Richard Lacey, Recovery of Irradiation damaged Listeria monocytogenes, Department of Microbiology, University of Leeds, 1990.

David Murray, Biology of Food Irradiation. Research Studies Press, John Wiley & Sons, Taunton, 1990.

Tony Webb and Tim Lang, Food Irradiation – the Myth and the Reality, Thorsons, Wellingborough, UK, 1990.

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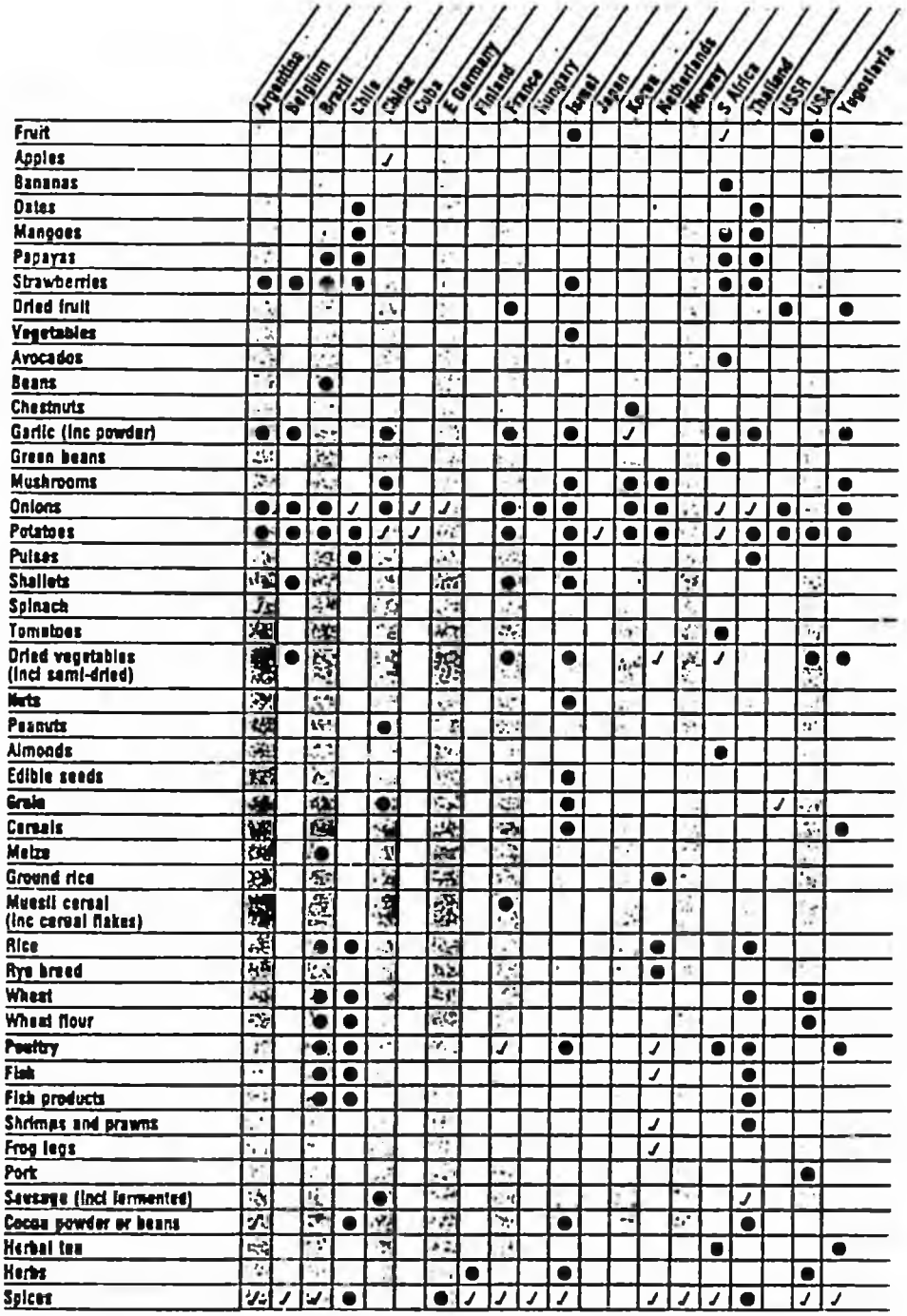
WHAT'S IRRADIATED WHERE



Countries presently irradiating food
Source MAFF (1988)
Key
● = permitted ✓ = currently irradiated

We are often confronted by the statement that 35 countries permit food irradiation. But as this 1989 survey by the UK Consumers' Association shows, only 20 countries actually irradiate food. Only 12 foods are irradiated world-wide, and most countries which actually do irradiation only do spices. Excluding spices, onions and potatoes, only the Netherlands and South Africa use irradiation on a wide range of foods. In the case of the Netherlands, the use of irradiation to conceal contamination of unsaleable food has led to the term "Dutching."

HOW SAFE IS IRRADIATED FOOD ?

The Myth:

According to its promoters,

- the safety of irradiated food has been tested more thoroughly than any other food safety issue
- reviews by various national and international bodies have all concluded that the process is safe and that there are no outstanding safety issues. These expert bodies include:
  - a Joint Expert Committee (JECFI) of the Food and Agriculture Organization (FAO), International Atomic Energy Agency (IAEA) and World Health Organization (WHO)
  - the UK government Advisory Committee (ACINF)
  - the European Commission Scientific Committee for Food (EC/SCF)
  - the US Food and Drug Administration (FDA)

But the consumer, environment, trade union and public health movements can point to many hazardous products, industrial and agricultural chemicals and food additives (for example, asbestos, thalidomide, organo-chlorine pesticides and the bread additive potassium bromate) that were declared "safe" in their day. How can we be sure the experts are right on irradiated food ?

The Facts

1. Not all expert committees agree. The Cantox Committee report to the Canadian parliamentary committee pointed to unresolved safety issues. The Australian government's 1989 decision to ban irradiation recommended that the WHO re-investigate the safety of irradiated food and produce a properly referenced report. This recommendation has been endorsed by the International Organization of Consumer Unions (IOCU), representing some 170 independent consumer bodies in about 65 countries. Attempts by the WHO to include a statement that there were no unresolved safety issues in the final document of an international conference on food irradiation held in Geneva in 1988 had to be withdrawn because of opposition from a number of countries.

2. The JECFI, ACINF and EC/SCF reports are unreferenced. In addition, some 60 per cent of the scientific evidence cited by the various committees consists of unpublished material, personal communications or in-house publications by the agencies promoting irradiation. The bulk of the data used as evidence for safety has not been published in scientific journals and subject to the safeguard of peer-review

3. The international database at Karlsruhe in West Germany is in such a mess that the WHO cannot undertake the review requested. The database is said to house all the evidence on safety, particularly the research undertaken by the International Food Irradiation Project (IFIP) between 1971 and 1981. A visit by London Food Commission representatives in 1989 found
   - the absence of either card index or electronic catalogue
   - data scattered in seven different locations in the building where it is housed
   - a large body of data available prior to 1981 which was not reviewed by the JECFIF
   - a mass of data accumulated since 1981 held in brown paper packages tied up with string awaiting cataloguing and review
   - evidence of excessive levels of vitamin supplements being used in many of the 29 animal feeding trials commissioned by the IFIP – despite a warning from the JECFI in 1966 that such excess supplements could mask possible adverse effects
   - several instances where the final reports of the IFIP research has not been published
   - evidence that the reviews published by the JECFI misrepresent the actual findings of the studies

4. Misrepresentation of scientific evidence
   The (unpublished) final report of a 1976 study by J Barna on the effects of feeding irradiated spices to rats states: "Irradiation of spices by 1.5 Mrad shows an increased effect in reducing food intake and body weight. This means that irradiation causes a change in chemical composition of spices which has an influence on animals even at the 2 per cent level" (i.e. there is an observable effect associated with irradiation of spices even at the lowest level of spices in the diet). The JECFI data sumary either accidentally or deliberately mis-represents this by stating that apart from a general effect of including spices in the diet: "No other treatment related findings were observed and no differences between irradiated spice or non-irradiated spice-fed animals were seen in any of the findings". This is clearly untrue. Stating why one disagrees with the conclusions of a study is legitimate science; but to re-write conclusions and misrepresent the results is not. How many other examples of misrepresentation remain buried within the disorganized mess of the Karlsruhe database? This example highlights the need for a complete review of the safety data.

5. Evidence from animal feeding trials suggests possible adverse effects, including:
   - low birth weights and repoductive effects, such as miscarriages, lethal genetic mutations, lowered sperm counts, and chromosome defects
   - lower growth rates, heart lesions and problems with blood clotting
   - incresed incidence of tumours
   - lowered immune response

   The way these findings are dismissed gives cause for concern. The statements of the expert committees display a systematic bias in favour of studies which did not find effects and statements which are illogical, factually unsupportable and either misleading of inaccurate. For example:

   - The IFIP cites one study as definitive evidence that there is no mutagenic effect from feeding freshly irradiated wheat (contrary to findings of the National Institute of Nutrition (NIN) in India). The IFIP study wrecked the carefully designed protocol by inadvertently feeding the irradiated food to the control group. This same study also modified the diet to increase the content of critical anti-oxidant vitamins. The other study commissioned by the IFIP to refute the Indian findings was not completed as the laboratory went broke.

   - Based on the observation that stopping the feeding of irradiated wheat resulted in a gradual return to the normal level of defective chromosomes, the UK ACINF concluded that freshly irradiated wheat is safe.

   - An Indian government scientist claimed that the changes noted by the NIN were within the normal range of defects in a human population, but could only cite one study of patients receiving a drug known to be toxic, teratogenic and suspected of being carcinogenic and mutagenic. The same expert suggested the NIN findings be rejected because they could not be explained by existing theories – despite the many examples of progress in science when observations have forced revision of theoretical ideas.

   - The WHO misleadingly suggests that studies on Chinese volunteers show no chromosomal aberrations. These studies did find unexplained chromosome defects in both the experimental and control groups. The WHO also fails to acknowledge that the food used in these studies was stored after irradiation, in some cases for several months, before being eaten. This observation confirms the NIN finding on stored irradiated food but says nothing on the controversial issue of eating freshly irradiated food.

   - The FDA reviewed some 400 studies and rejected as methodologically unsound all but five. These five were used as the basis for the FDA conclusion that irradiated food is safe. Three of these studies actually suggest possible adverse effects.

   - There has been no valid refuting study to counter the finding that animals fed irradiated food (even when given large vitamin supplements) display reduced ability to fight disease. The antibody reponse can be reduced by 20 per cent to 80 per cent.

6. The level of vitamin supplements given in many of the studies suggests that an unqualified assurance of safety is not a scientific evaluation of the available research evidence.

   The WHO needs to address the question of whether supplements two to 20 times the US National Academy of Sciences reference levels are "appropriate" or "excessive". If appropriate to maintain health on a diet of irradiated food, then the safety assurances need considerable qualification. If excessive, then these studies cannot be used to claim unqualified safety of irradiated food – only that limited use of irradiation may not produce adverse effects provided there is a large surfeit of dietary vitamins.

Conclusion

A complete review of the safety data and a properly referenced scientific report, as requested by IOCU and the Australian government, are needed in light of the systematic bias, misrepresentation and inaccurate reporting of the scientific evidence for and against the safety of irradiated food. This review is needed as much to restore public confidence in the scientific integrity of the WHO as to resolve specific issues about the safety of irradiated food. Until this review is completed there should be a world-wide moratorium on further development or use of food irradiation technology.

Further Information

Outstanding Questions About the Safety of Irradiated Food – A Discussion Paper, Food Irradiation Network, Penang, London, New York, Mexico City, Nairobi, April 1990.
Report on Visit to the International Database at Karlsruhe in West Germany, London Food Commission, London 1989.
The Safety and Wholesomeness of Irradiated Food – A Public Health Issue, London Food Commission, 1989.
T Webb & T Lang, Food Irradiation – the Myth and the Reality, Thorsons 1990.
D Murray, Biology of Food Irradiation, John Wiley and Sons, 1989.

FIN NEWS BRIEFS

POSITIVE LISTS

The Food Irradiation Network has launched a series of campaigns aimed at developing positive lists – names of food companies which do not intend to use irradiation. The message is that if any food needed to be irradiated, consumers will need to ask what was wrong with it ? Good food doesn't need irradiation.

In the USA

A number of major food companies have announced that they do not intend to use irradiation. These include:

- H.J. Heinz
- Quaker Oats
- Ralston Purina
- Borden Foods
- Beatrice/Hunt-Wesson
- McDonalds (Yes, even McDonalds, the hamburger chain, will not use irradiation!)

International letter writing to the Florida Citrus Commission resulted in industry opposition to irradiation and the defeat of plans to build a fruit irradiation facility in Florida. Pressure continues for statements from individual fruit companies.

A major new initiative in 1990 by Food and Water Inc (F&WI) and the Interfaith Centre for Corporate Responsibility (ICCR) is targetting the Alaska seafood industry. F&WI is coordinating letters from US and Canada and seeking support from organizations in each of the FIN regions (Europe, Asia/Pacific, Latin America, Africa). In the US the campaign is gathering many thousands of signatures on the national "Declaration of Opposition to Radiation Exposed Food". The massive public support for the declaration is then relayed to the food companies being targetted. For details of the current campaign and a full list of the many smaller companies that have joined the positive list, contact the North America regional office.

In the UK

A survey by Friends of the Earth and the London Food Commission found that of 22 leading supermarkets, only one, J Sainsbury, was thinking of using irradiation. Those on the positive list include four of the largest and most presigious:

Tesco, Marks & Spencer, Safeway and the Co-op,

also included are

ASDA, Bugens, Gateway, Iceland Foods, Littlewoods, Londis, Spar, Waitrose and Waker Wilson.

A further survey is being coordinated by FoE, the LFC and Parents for Safe Food. This includes writing to some 300 leading food manufacturers. Already, McCormick, the leading UK herb and spice importer, has stated it will not be using irradiation but steam heat treating spices if necessary. For details of these surveys contact: Friends of the Earth (UK), London or the European Region Office.

In Australia

Irradiation is banned, at least for the next three years, but already the nuclear industry is lobbying for approval for irradiation. In the meantime, Coles-Meyer, the largest supermarket chain, is on record as saying it has no use for irradiation.

In Thailand

A massive letter-writing campaign by FIN supporters to the leading seafood companies has involved the Federation of Malaysian Consumers Associations, consumer groups in Japan, Europe and N America, and various trade unions linked to the International Union of Foodworkers in South East Asia. FIN is still collating the replies and a positive list of Thai companies will follow, but at least one is prepared to give a clear undertaking and several others appear willing.

These positive list campaigns are important because of the massive efforts by the International Atomic Energy Agency (IAEA) to promote irradiation of seafood in Asia (in Thailand and Malaysia in particular). The Canadian nuclear industry has persuaded the Canadian government to devote some of its "aid" programme to building a Thai food irradiator (which will need Canadian nuclear industry cobalt 60 to run it). The IAEA is trying to relax the international microbiological standards for seafood to allow South East Asian farmed sea products to be irradiated. This would undermine national and international efforts to ensure that only products grown in clean water are harvested and that washing and processing hygiene standards are improved.

In Japan

The following seafood importers will not import any irradiated food:

- Nihon Suisan Co, 2-6-2 Ohtemachi Chiyoda-ku, Tokyo
- Sumito Shoji Co, 1-2-2 Hitotsubashi, Chiyoda-ku, Tokyo
- Maruichi Shoji, 2-16-9 Uchikannda Chiyoda-ku, Tokyo
- Nissho Iwai Co, 2-4-5 Akasaka, Minatoku, Tokyo
- Nomura Trade Co, Shin-Yaesuguchi Blvd, 2-2-1 Yaesu, Chuo, Tokyo
- Hanmwa Kogyo Co, 1-13-10 Tsukiji, Chuoku, Tokyo
- Nozaki Sangyou Co, 7-16-19 Ginza, Chuo, Tokyo

For full details of the Japanese survey, and which countries these and the other Japanese seafood companies trade with, contact:

> FIN Japan, 3-14-5-310 Higashinakano, Nakano-ku, Tokyo, Japan 164. Phone 03-5386-1009 fax 03-364-2937.

Letters from groups outside Japan to congratulate these positive responses and to press the other companies to reconsider would be useful.

Positive List Campaigns – the benefits

Clearly, this idea of positive list campaigns is gaining widespread public support for the FIN position that good food doesn't need irradiation. There appear to be many advantages to the strategy of

- asking the public and the food industry to consider the question – is your food healthy or did it need irradiation ? (see FIN Graphic G2 with this issue)
- coordinating letter writing campaigns and using support for national petitions/declarations on food irradiation
- publicising the results of surveys to encourage companies to reject the use of food irradiation

Even in countries where irradiation has been, mistakenly, permitted by governments, consumers can enforce an effective moratorium as called for in the FIN Aims if the food industry decides not to use it.

FIN is encouraging all supporters to develop this strategy nationally and internationally as a priority for campaigning to halt the promotion and development of food irradiation.

OTHER NEWS FROM FIN REGIONS

North America

New Jersey finally joined the states of Maine and New York in banning the sale of irradiated food.

The Food and Drug Administration gave its approval to irradiation of chicken. The news was conveyed to Martyn Welt, ex president of the company which originally petitioned for permission to irradiate chicken, in his prison cell where he is serving a two- year jail term for conspiracy to cover up violations of worker and environmental safety at the Radiation Technology Inc plant.

The application for an irradiation facility in Florida was defeated, thanks partly to letters from various FIN-supporting organizations.

A number of private and government funded irradiation facilities have been proposed in the US. To date none have begun construction due to local opposition. The US campaign is cooperating with FIN Mexico to oppose construction of an irradiation facility by a consortium including Canada's McConnell Peel Resources. This would be built at Nogales, Arizona, on the Mexican/US border, for irradiation of citrus fruit, avocados, mangoes and other fresh produce from Mexico, and possibly also seafood if this is approved by the US FDA. The plan is to process 1 billion pounds of produce using six linear accelerators. For details on the campaign and what can be done to help, contact the FIN Regional Office.

From the Asia/Pacific Region

The Australian government announced a three-year moratorium on irradiation and will call on the World Health Organization to re-open the safety investigation and produce a properly referenced report on all aspects of the safety of irradiated food. Minister for Consumer Affairs, Nick Bolkus said:

> "The government is not prepared to risk the long-term health of Australian consumers on a process that is simply not necessary in a nation with a plentiful supply of fresh food for consumption and export".

Australia joins New Zealand in banning the process and all imports of irradiated food.

The Asia/Pacific region of the International Union of Foodworkers has thrown its weight behind the campaign with a strong policy statement opposing irradiation and support for the international seafood campaign. Food irradiation is also opposed by the European region of the IUF. In all, the IUF unites some two million workers in the food industries in some 60 countries worldwide.

In Japan a national FIN coalition has been launched. Japan assisted the US Florida campaign and has launched campaigns to halt irradiation of potatoes by the Shihoro cooperative and irradiation of mushrooms and chestnuts in Korea.

In India the Volutary Health Association (VHAI) has worked hard on the media, organizing press conferences and meetings to promote FIN. It has also intervened in meetings by international speakers promoting irradiation and pressed the government for information on the two new irradiation facilities at Cochin and Nasik, which will be used mainly for spices, onions and seafoods. For details, contact Voluntary Health Association of India via the FIN Asia/Pacific Regional Office.

Africa

Tanzania has decided to permit irradiation of agricultural and fishery products in the hope of expanding its export markets in developed countries. The plants at Mwanza and Bagamoyo will be "test run by the Tanzanian National Radiation Committee, the Internationa Atomic Energy Agency and the Canadian plant manufacturers, Nordion". A few carefully worded letters to Julius Nyerere, President of Tanzania about the damage this will do to Tanzanian exports, would seem to be in order.

Latin America

Peru appears next on the list for Canadian "benevolence" in the form of aid to start an irradiation plant (needing Canadian cobalt, of course). The contract for a feasibility study for Canadian International Development Agency funds for food irradiation in Peru is written is particularly arcane (and misleading) language. It gives the impression that Her Majesty the Queen (of England) is a party to the agreement.

See also the action re the Nogales irradiation plant under the N America report.

Europe

The European Parliament is due to debate the issue of food irradiation again within the next few months. In Oct 1989 the parliament voted 263 to 66 for a ban on irradiation throughout Europe, with one exception – for herbs and spices. This time a vote of 260 would block moves by the European Commission to force all EC countries to allow irradiation. The European network has sent a letter to all members of the Parliament urging them to vote again for the ban on irradiation. The London Food Commission has produced a briefing a paper for the Parliament's Environment Committee, arguing that even the exception for spices should be reconsidered. If allowed at all, irradiation of spices should only be for a limited period until producer countries can be helped to improve spice hygiene.

If the Euro-Parliament votes for a ban, the Euro Council of Ministers may yet try to over-ride this. However, there will have to be unanimous agreement from all EC countries if this tactic is to succeed. FIN Europe will be maintaining pressure on Ireland, Denmark and West Germany to hold to their opposition to irradiation in the face of attempts to persuade them to side with The Netherlands, France, Belgium and the UK.

The Gammaster company is trying to get permission to build an irradiation plant (initially for medical supplies) in Co Mayo, Ireland. FIN Europe has been providing information on the way that abuse of irradiation by Gammaster has led to the term "dutching" in the international seafood trade.

In the UK, a British Coalition Against Food Irradiation has been formed with representatives of major consumer, public health, womens', environmental trade union and food industry organizations. The coalition's aim is to oppose UK legislation currently going through Parliament. An all party group of MPs has been formed to oppose this which includes Winston Churchill MP, the grandson of the British wartime leader.

Even if the UK law is changed there will have to be further public consultations around regulations to control irradiation. It is unlikely that the law will be changed to allow irradiated food in the UK before the end of 1990/early 1991. In the meantime, the campaign is pressing ahead with the positive list campaigns.

Further Information

For help obtaining contact addresses for further information on developments in particular countries, approach any FIN regional office.

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ZAPPING THE FOOD SUPPLY

By DONALD B. LOURIA

Irradiated food is not radioactive, but is it good for you? If irradiation becomes widespread, we may never know.

New arguments are boiling up over an old idea—irradiating food with ionizing radiation to kill microorganisms and prolong shelf life. The idea of exposing food to gamma radiation is over 30 years old, and in 1963 the Food and Drug Administration (FDA) began to permit the irradiation of wheat. Over the years, a few more foodstuffs such as spices and tea were added to the FDA's list of candidates for irradiation. But in 1984 the FDA started to approve irradiation of a much broader list of products which now includes meat, poultry, and fresh fruits and vegetables. Simultaneously the FDA has increased the levels of radiation that may be used. The FDA's recent willingness to allow most of the food supply to be irradiated—and at high doses—has triggered an acrimonious debate.

The amount of radiation involved is substantial. The FDA has approved a 3,000,000 rad dosage for treating spices, 300,000 rad for pork, and 100,000 rad for fresh fruits and vegetables. These intensities are millions of times greater than that of an ordinary chest X-ray (which is typically about 20 millirad). The announced goal of promoters of food irradiation is to obtain general approval for the use of up to one million rad.

Irradiation does not make food radioactive, nor has alleged radioactivity been at issue in the debate. But there is concern that foods processed by irradiation may contain radiolytic products that could have toxic effects.

The source of radiation is either cobalt 60 or cesium 137. The prospect of increased transportation and handling of cobalt and cesium—dangerous substances—has caused negative publicity. Some irradiation proponents say food processors could theoretically use as-yet-undeveloped linear acceleration techniques instead. But if food irradiation becomes commonplace any time soon, cesium or cobalt will be used.

The major objective of irradiation is to destroy microorganisms that cause food to spoil. For example, irradiating chicken should reduce the outbreaks of salmonella that are probably caused by careless or unhygienic methods in production and processing. Irradiating pork might reduce the already limited risk of trichinosis, and irradiating turkey would diminish the number of episodes of diarrhea that result from eating undercooked meat. William McGivney, an advocate of the technology, asserts that "irradiation offers a means to decontaminate, disinfect and retard the spoilage of the food supply."[1] Most opponents counter that adequate cooking and hygienic preparation will accomplish the same goal.

Promoters of irradiation emphasize that the shelf life of various foods will be increased. But these proponents have not produced any projections of the actual economic, or other, benefits of longer shelf life, especially in a developed country that has an abundant food supply. It may be easier to imagine that less developed countries might benefit if the shelf life of foodstuffs could be prolonged. But advocates have made no estimates of the extent to which better preservation would reduce world hunger, or of the cost of widespread food irradiation in less developed countries.

Irradiation is expected to reduce the need to use toxic chemicals as post-harvest fumigants, but some evidence indicates that irradiated foods are more, not less, subject to infection with certain fungi.[2]

At dispute in the controversy over food irradiation are the quality of the FDA's safety assessment, the loss of nutritional value that irradiated foods undergo, the risk of environmental contamination posed by irradiation facilities, and the possible cancer-causing nature of irradiated foods. An additional dispute revolves around the motives of the Energy Department, which has promoted irradiation and is the potential supplier of cesium 137, a waste byproduct of nuclear reactors.

■ **Safety.** The FDA judged safety based on five of 441 available toxicity studies. Of the available literature, claimed the FDA, only these five animal studies were "properly conducted, fully adequate by 1980 toxicological standards and able to stand alone in support of safety."[3]

But when these studies were reviewed at the Department of Preventive Medicine and Community Health of the New Jersey Medical School, two were found to be methodologically flawed, either by poor statistical analyses or because negative data were disregarded.[4] One of the two also suggested that irradiated food could have adverse effects on older animals. In a

Donald B. Louria is chairman of the preventive medicine department at the New Jersey Medical School in Newark, New Jersey.

third FDA-cited study, animals fed a diet of irradiated food experienced weight loss and miscarriage, almost certainly due to irradiation-induced vitamin E dietary deficiency.[4] This study, which used foods that had been subjected to large doses of radiation, indicated that irradiated food suffered nutritional loss.

These three studies do not document the safety of food irradiation, and why the FDA relied on them is mystifying. The two other studies cited by FDA appear to be sound, but these studies investigated the effects of diets consisting of foods irradiated at doses below the current FDA-approved general level of 100,000 rad. Therefore they cannot be used to justify irradiation of foods at the levels currently approved by the FDA. Now, as the FDA considers adopting 300,000 rad as the general dosage level, the agency has not requested new studies, but is relying on some of the older studies it failed to include as methodologically sound.

Ethical and methodological barriers make it nearly impossible to study the effects of a diet of irradiated foods in human subjects. One small, controversial study carried out in India in the mid-1970s looked at the effects of feeding irradiated and unirradiated foods to 16 children with severe protein and total-calorie malnutrition.[5] Five children were fed unirradiated wheat, five freshly irradiated wheat, and five ate irradiated wheat that had been stored for a minimum of three months. Children who had eaten freshly irradiated wheat had unusually high rates of chromosomal abnormalities in their blood (especially polyploidy). No such changes occurred in the group that ate irradiated wheat that had been stored. Although some animal studies have supported the results of this study, it has provoked an acerbic debate. Clearly, the study has major flaws: the size of the sample is too small, subjects were not properly randomized, and statistical methods are unclear.

A more recent study of 70 subjects was conducted in China.[7] In contrast to the severely malnourished subjects in the Indian study, all the Chinese subjects were healthy young men and women. The experimental group ate irradiated foods that had been stored for an extended period of time. (Also, the group's diet was essentially wheat-free.) Both groups—those receiving irradiated foods and the control group—showed some increases in chromosomal abnormalities during the test period. Those given irradiated foods appeared to have a slightly increased rate of abnormalities. While neither of these studies are conclusive, they should not be dismissed. If the malnourished are particularly vulnerable to the dangers of an irradiated diet, hundreds of millions of malnourished people could be at risk. More studies on chromosomal abnormalities are necessary, but there are ethical as well as methodological problems in designing and conducting them.

The radura, international symbol for irradiated food.

■ **Nutrition.** There is impressive evidence that irradiated foods lose vitamin content, particularly vitamins A, C, E, and some of the B complex.[8] The amount of vitamin loss varies from one type of food to another, but in general there is a direct relationship between the amount of irradiation and the extent of nutritional value lost. Data on foods irradiated with 100,000 rad cannot be relied on to predict vitamin losses in foods irradiated with 300,000 or 1,000,000 rad. Some studies indicate that cooking irradiated foods causes an additional, inordinate loss of nutrients.[9] In addition, little is known about the nutritional effects of freezing and thawing food that has been irradiated.

Those who favor irradiation do not deny the loss of vitamin content, but often assert that these nutritional losses will not harm people who eat a generally nutritious and balanced diet. Others suggest that irradiated foods should be fortified with vitamins, or that the public should be urged to take vitamin supplements. In less developed countries, reducing the food supply's nutritional value would seem to raise a major ethical question. Asking the world's 800 million malnourished and 2 billion undernourished to make a possible trade-off between longer shelf life and less nutrition seems harsh, particularly before more complete information on the nutritional value of irradiated foods is available.

■ **Environmental issues.** Opponents of food irradiation have raised four interrelated environmental issues: the dangers of transporting radioactive isotopes to hundreds of treatment facilities, the environmental practices of those facilities, the danger of worker exposure in environments where irradiation chambers are frequently opened to allow foodstuffs to pass in and out rapidly, and potential security problems at irradiation plants.

If all the poultry in the United States were to be irradiated, hundreds of new irradiation plants would be needed. There are about forty plants of a size suitable for food irradiation already in operation. Most of these plants are used primarily to irradiate disposable medical equipment. In New Jersey, which has the highest concentration of these facilities, plant safety records are not encouraging. Virtually every New Jersey plant has a record of environmental contamination, worker overexposure, and regulatory failings.

A serious accident occurred at a Decatur, Georgia, cesium irradiator in June 1988. That facility was shut down after a cesium leak exposed 10 workers to radiation and contaminated medical supplies and consumer products.[10] Clean-up costs at the Decatur plant have climbed to more than $15 million, and no conclusions have been reached about the cause of the accident.

Unlike major nuclear facilities, irradiation plants will be relatively small and are unlikely to be well protected. Opponents fear these plants will be particularly vulnerable to sabotage or terrorist attack and express similar concerns about the safety and security of large numbers of shipments of highly radioactive materials. If food irradiation becomes commonplace, hundreds of irradiation plants will need to have their inventories of cesium 137 or cobalt 60 replenished on a regular basis.

■ **The cancer threat.** The irradiation process produces unique radiolytic

products whose chemical and toxic properties have not been characterized. In-vitro tests in the laboratory suggest that some of these products may cause mutations, and these tests have led critics of irradiation to contend that some irradiated foods may prove carcinogenic. But there are no substantial data from epidemiological studies on either animals or humans to support that contention. Unless the chemical properties of all the radiolytic products are identified, and animals studies using amplified doses are conducted, there is no way to prove that a cancer risk exists and, if so, whether it would fall within acceptable limits. Adequate evidence for prudent decisions on the cancer risk of food irradiation will not be available for some time.

■ **The Energy Department connection.** The Energy Department, through its Byproducts Utilization Program, tries to develop commercial uses for radioactive waste products. Creating a commercial demand for cesium, which is a waste product of both weapons production and civilian nuclear power, has been one of its expressed goals since the early 1980s. Energy Department memoranda indicate that the department's plan included pricing cesium so low that it would drive Canadian cobalt out of the market.[11]

Some critics charge that the Energy Department has been even more devious. They claim that the department was less interested in disposing of cesium than it was in overturning the ban on reprocessing civilian nuclear fuel. These critics claim that the department calculated that widespread food irradiation would eventually deplete the available supplies of cesium 137. At that point, the irradiation industry would begin to lobby for the reprocessing of spent fuel, and the department could use the industry to overcome the political and economic obstacles to reprocessing nuclear fuel. Once reprocessing was permitted, the Energy Department could separate the plutonium in spent fuel, which it could then use in weapons.[12]

There is no reason to adopt every new technology that is suggested. Ideally, food irradiation should be made to compete on a commercial basis with other technologies. If it had no disadvantages or dangers, the marketplace alone would decide its fate. Most food processors now think that irradiation is costly and less effective than other methods of preservation, and consumers are resistant to the idea of radiation-treated foods. But the adoption of food irradiation technologies raises questions of public health. Many local authorities have opted for alternative technologies. In Florida, the Citrus Commission/Department of Agriculture has chosen to use two other processes—fly-free zones and cold treatment. Hawaiian officials rejected federal funds offered to build an irradiation facility for processing papaya; instead, the papaya processor will use nonchemical treatments such as dry and steam heat or double hot water dips. Some biotechnological researchers are confident that recombinant DNA technologies will eventually create pest-resistant fruits and vegetables with extraordinarily long shelf lives.

If food irradiation is adopted prematurely, research on its health effects will be hampered. Widespread use of the technology will make it impossible to detect any but the most obvious of adverse effects, because it will be impossible to define a control population for purposes of study. This problem will be further complicated if irradiation levels are increased to 1 million rad.

Labeling is currently required to notify the consumer when whole foods have been irradiated. The label includes written notice and the international irradiation symbol, the "radura"—a stylized flower which has caused some confusion because of its close resemblance to the Environmental Protection Agency's logo. Prepared or packaged foods, foods prepared for restaurant or school cafeteria use, and foods which merely contain some irradiated ingredients are exempt from labeling.

While the FDA has approved wholesale food irradiation, other regulators are less eager. More than a dozen state legislatures, concerned about the environmental and health risks of irradiated food, have restricted its sale and distribution. Maine has banned both irradiation facilities and all irradiated food except spices. New York and New Jersey recently enacted two-year moratoriums on the sale or distribution of irradiated foods, and New Jersey has prohibited the "manufacture" of such food items. Other states contemplating restrictive legislation include Massachusetts, Pennsylvania, Minnesota, Oregon, and Alaska. Bills have been introduced in Congress to place a two-year moratorium on irradiated foods while the National Academy of Sciences reviews the health, environment, and worker safety issues. Great Britain has banned irradiated food, although legislation has been introduced into Parliament to overturn the ban. West Germany, Australia, Denmark, Sweden, and New Zealand have all banned or severely limited the implementation of food irradiation. ■

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LETTERS TO THE EDITOR

FOOD IRRADIATION

I have been somewhat involved in the debate regarding food irradiation, and would like to express some concerns that were either ignored or treated dismissively in Jacques Leslie's "Public Health: Food Irradiation" (September *Atlantic*).

1) The Food and Drug Administration has in essence declared food irradiation to be without danger. In doing so, it cited five studies on experimental animals as methodologically sound and central to the decision. I was asked to review these studies and submitted them to five statisticians and epidemiologists in my department who had no involvement or particular interest in the food-irradiation issue. They found that two of the five studies were remarkably flawed and did not document safety at all. In a third study the very large amounts of irradiation used resulted in weight loss and reproductive abnormalities until the investigators found that the irradiated grains had been made seriously vitamin-deficient, and corrected the deficiency by giving the animals supplemental vitamins. The other two studies appeared sound, but the dosage of irradiation was quite low. As a consequence of this review, I have said that although food irradiation may be safe, safety has not been documented by the studies quoted by the FDA.

2) The major problem with irradiated foods, in my judgment, is nutrient loss. There is widespread agreement that foods that are irradiated lose some of their vitamin content, and that this is dose-specific; the higher the irradiation dosage, the greater the vitamin loss. Furthermore, some studies suggest that irradiated foods show accelerated vitamin loss when subjected to freezing and thawing or heating. Irradiation proponents treat this dismissively, saying that we have redundant vitamins in our foods anyway. But the public is likely to be very concerned about a trade-off of reduced nutrient content for longer shelf life. Furthermore, if irradiated foods are sold around the world and given to malnourished people, the issue of nutrient loss could be very important.

3) The Indian study cited by Leslie which shows that irradiated foods damaged chromosomes in malnourished children is indeed quite flawed and controversial, but it has not been discredited. The Chinese study that is used to support the claim that the Indian study should be discredited was not done on malnourished children; it was carried out on mostly young, healthy adults. Those given the irradiated foods showed an increase in chromosomal abnormalities that is of borderline statistical significance. The only reasonable conclusion is that both the Chinese study on normal subjects and the Indian study on malnourished subjects need to be repeated before a final judgment is made.

4) If there are many food-irradiation plants around the United States, surely the issue of transport of radioactive materials and their handling at local sites is a significant issue.

Food irradiation may be useful to society in the future, but proponents of the technology must provide answers to the issues raised in this letter before food irradiation is adopted for general use. Even if they are reluctant to speak to an issue like nutritional damage to foods, the public will demand it.

DONALD B. LOURIA, M.D.
New Jersey Medical School
Newark, N.J.

As a scientist who is still facing the controversy over the studies conducted at the National Institute of Nutrition (NIN) in India, I find that Jacques Leslie has repeated the same old argument used by the national and international "experts" to discredit our original research. I would like to say that none of these "experts" has critically examined the experimental de-

tails that appeared in our scientific publications and compared them with those of the others. Anyone who did so would have noticed the variations in the rate at which the radiation dose was delivered to the wheat, conditions of storage after irradiation, ingredients used to prepare the diets, duration of feeding, and so forth. Any or all of these variations could have contributed to the differences in the final results obtained at the NIN and other laboratories. It is standard practice in science that duplicate research is conducted under exactly the same experimental conditions, either to prove or to disprove the original research. Obviously this has not been done to disprove or discredit our observations. Hence the conclusions of the various "experts" seem to be unjustified.

VIJAYALAXMI, M.D.
Memorial Sloan-Kettering Cancer Center
New York, N.Y.

Jacques Leslie states that "only a few [scientists] have publicly expressed opposition to [food irradiation], and the several other scientists who are actively against food irradiation are not experienced in the field." Most proponents of food irradiation are indeed experienced in the field, because they owe their livelihood to it. Opponents in academia, however, whose views are more dispassionate, are not wanting in number. On the several occasions when I have commented and testified before committees of the U.S. Congress and various state legislatures, I have been joined by a good number of distinguished and seasoned academicians who, like myself, have never worked for the food-irradiation industry and whose opposition to irradiated food is based not on employment or on unrefereed internal memoranda and committee reports by industry-sponsored panels but on scientific principles predicated on data from the peer-refereed scientific literature. My views are based on the experience I have gained since receiving my doctorate, as a scientist at Cornell Medical College and Rockefeller University, and, since 1959, as a cancer-research scientist and biochemist at Roswell Park Cancer Institute, in Buffalo, New York.

I am opposed to the consumption of irradiated food because of abundant and convincing evidence in the refereed scientific literature that free radicals formed during irradiation result in statistically significant increases in carcinogens (for example, nitrosamines) and mutagens (for example, formaldehyde) in the food. Whereas the unequivocal destruction of vitamins by irradiation can be overcome by supplementation of the diet—but is a cruel side effect in countries where such supplementation is not realistic—one cannot protect oneself from carcinogens placed in the food supply by irradiation. Furthermore, the doses of radiation allowed by the FDA will not sterilize the food, and the remaining organisms and their progeny are, by definition, radiation-resistant. Finally, irradiation at the permitted doses will not destroy the organisms that cause botulism, the most dangerous of the pathogens contaminating food. The organisms causing salmonellosis and trichinosis are easily killed by cooking. Thus the benefits to the consumer of food irradiation are questionable at best.

GEORGE L. TRITSCH
Buffalo, N.Y.

Jacques Leslie replies:

Anyone who has followed the food-irradiation debate for several years will recognize the names of the letter writers above; indeed, these scientists are part of the small band of anti-food-irradiation warriors who have been testifying against the process in legislative hearings ever since the FDA's 1986 pro-irradiation ruling. Unfortunately for them, their arguments are as familiar as their identities, and have been addressed repeatedly, and to my mind successfully, by proponents.

For example, Donald Louria surely knows by now that the five studies he cites were not "central" to the FDA's decision, as he indicates. Rather, the FDA reviewed more than 400 food-irradiation studies, and from those, selected sixty-nine that appeared to give strong indications—either positive or negative—of the safety of the process. Of those studies, only five were considered scientifically impeccable, and they all supported safety. However, FDA scientists believed that such a small number of studies was not sufficient to support any sort of sweeping conclusion. They therefore examined the 400-plus studies to see whether any patterns of toxicity appeared: if, for example, one study showed that rats fed irradiated wheat developed kidney ailments, the scientists looked for problems caused by irradiated wheat in the other studies. The scientists found no pattern of toxicity, which gave rise to the reasonable assumption that the adverse effects cited in the studies were attributable to such phenomena as dietary restrictions imposed by the studies. To suggest, as Dr. Louria does, that the FDA "documented" food irradiation's safety on the basis of five studies is inaccurate.

Similarly, the arguments advanced by Drs. Louria and Vijayalaxmi concerning the NIN studies are well known. It is hardly surprising that the NIN's former director and his colleague, Dr. Vijayalaxmi, would defend a study they were involved in; what is more puzzling is why a food-irradiation opponent like Dr. Louria would continue to draw attention to the study even while he concedes that it is "quite flawed." Indeed, as Ari Brynjolfsson, the former director of the U.S. Army's food-irradiation studies at the Natick Research, Development and Engineering Center, in Massachusetts, has pointed out, its statistical basis is exceedingly improbable. It is for that reason, among others, that it has been disregarded by such varied institutions as the Indian government, the FDA, the World Health Organization, and the *Harvard Medical School Health Letter*, all of which have endorsed limited applications of food irradiation.

THE CHINA MARKET

Lynn Chu ("The Chimera of the China Market," October *Atlantic*) talks about the opening of China to Western business as just a strategy by its leaders to acquire Western technology. If that is the case, then what is the justification for creating special economic zones to permit largely free enterprise, encouraging small-scale private businesses, and promoting a general attitude toward private business which is reflected in the slogan "To get rich is glorious"? Chu talks as if none of China's leaders intended to move toward a more free-enterprise system, when actually a large proportion of the elite very much wants to see China move away from socialism. The fundamental problem now is that there is an old guard elite that still believes in

The Public Examiner

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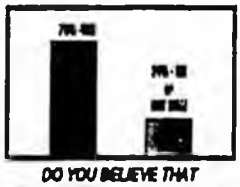
FOOD IRRADIATION AWARENESS

1990's WILL DECIDE

NEW YORK — In this decade, food safety and environmental issues are priorities to consumers. Food industry representatives at the forefront of public opinion are responding to the new consumer awareness by making environmentally-conscious adjustments in their products. Radiation-exposed food remains among the top issues confronting the food industry. Based on the public outcry over Alar and other substances that have adulterated our food in recent years, imaging the consumer response to radiation-exposed food! Exposing food to radiation creates dangerous, unique residues in the food, some of which are known carcinogens. And in addition to consumers, the environment in general and the health of irradiation workers, one might wonder WHO WANTS FOOD TREATED WITH RADIATION ANYHOW?

AT THE MARKET

NEW YORK — The Packer's Fresh Trends 1990 lists residues and food irradiation as consumers' top fears at the marketplace. Exposing foods to radiation creates dangerous residues, some of which are know carcinogens. The world's largest consumer group, the International Organization of Consumers Unions (IOCU) has called for a worldwide moratorium on radiation-exposed foods until safety concerns are addressed. IOCU which represents 170 member groups from 70 different nations, has pledged to support only those food distributors providing safe, non-irradiated products.



DO YOU BELIEVE THAT RADIATION-EXPOSED FOOD IS HAZARDOUS TO YOUR HEALTH?

A Lou Harris poll taken recently indicated that 78% of American consumers believe radiation-exposed foods are hazardous to one's health. Because of an overwhelming negative consumer response, there have only been two attempts to test market irradiated foods in the United States — both failed when protestors appeared at both locations.

The Food Irradiation Network International (FINI) was formed by leading consumer groups in five continents to work as a formal network to oppose international trade in irradiated foods. FINI identifies companies trading or selling irradiated foods and initiates worldwide consumer action campaigns.

THE LAW & YOU

U.S.A. — Consumer response to radiation-exposed foods has been so overwhelmingly negative that many legislators have taken action to overrule the Food and Drug Administration's approval of food irradiation. Intense consumer opposition coupled with strong scientific evidence showing adverse effects of consuming irradiated foods led legislators in Maine, New Jersey and New York to ban the sale of irradiated foods. Thus, more then 30 million American consumers are protected from the radiation-exposed food experiment.

WHERE'S IT SAFE?

EVERYWHERE — In addition to the states of Maine, New York and New Jersey — which have already adopted legislation banning the sale and manufacture of radiation-exposed food — many other states are actively considering similar legislation. These states include Massachusetts, Pennsylvania, Minnesota, Alaska, Oregon and Rhode Island.

In May 1989, the U.S. Congress, through Senate Majority Leader George Mitchell, along with Rep. Doug Bosco, introduced legislation that would ban radiation-exposed food until the human health, environmental and worker safety concerns are adequately addressed by the scientific community. The legislation has the support of more than 100 members of congress representing millions of consumers.

Local governments doubt also the safety of irradiated foods. The city of Lakewood, OH recently became the first city in the nation to ban radiation-exposed foods. The Lakewood precedent has sparked an interest in numerous other municipalities.

City commissioners in Mulberry, FL a small community in the hub of the citrus region, recently voted to ban all radiation-exposure facilities. The ban was initiated when a private irradiation company, Vindicators of Florida, was attempting to build a citrus irradiator in Mulberry. The unanimous vote to ban such facilities came after several open hearings and the refusal of the citrus industry to endorse the consumer-rejected technology.

Alaska Governor Steve Cowper rejected federal funding for a seafood irradiation facility intended to treat Alaskan seafood. Governor Cowper said that he was "convinced that the association of Alaska with food irradiation will have a detrimental effect on Alaska seafood sales".

Hawaii Governor John Waihee also rejected federal funding for a papaya irradiator. Instead, Governor Waihee supported funding for a cold-water treatment facility — a safer, more economical alternative to radiation treatment.

CARING COMPANIES

Some consumer-conscious food companies are putting their customers' health and safety first. These companies have voluntarily issued statements stating they will not use food exposed to radiation in their products:

McDonald Corporation	*H J Heinz*
Quaker Oats	*Ralston Purina*
Borden Foods	*Beatrice/Hunt-Wesson*

A fond salute to all those who have found putting the consumer first will also put their company first with the consumer.

A TRIBUTE TO SOME

NEW YORK — Thousands of food retailers and wholesalers have pledged to not knowingly sell radiation-exposed foods. They will be featured in Food & Water's *Consumer's Guide To Safe Food.* The Florida Citrus Commission recognized the intense consumer opposition to food irradiation and refused to support a citrus irradiation facility. Instead, the Commission recommended two 'safer, more economical alternatives' to irradiation.

WHO'S IN CHARGE?

WASHINGTON — At a time when the Food & Drug Administration's budget was severely cut, and deregulated was their theme, food irradiation was approved. The FDA relied on only five scientific studies which "appeared" to support the safety of consuming radiation-exposed food. Moreover, the FDA simply ignored hundreds of studies which showed adverse effects of consuming irradiated foods. Scientists in the employ of the government and the irradiation industry want the food industry to think the proper science has been conducted. However, objective scientists who are primarily concerned with the health and well-being of the public don't agree:

[Referring to the five studies the FDA used to approve irradiated foods] "Taken together, these studies could not possibly establish the safety of food irradiation. Indeed, two of the studies suggest the technology is not safe."

Dr. Donald Louria, M.D.
Chairman, Department of Preventive Medicine
New Jersey Medical School

"Irradiation generally creates far more free radicals than cooking does. Free radicals react with chemicals in the food to produce new chemicals called radiolytic products, some of which are potential carcinogens."

Wellness Letter
University of California at Berkeley
Dr. Sheldon Margen, M.D., Chairman

"At the end of our AEC [Atomic Energy Commission]-sponsored studies, we concluded that the irradiation of fresh fruits and vegetables was infeasible mostly because of the availability of cheaper alternatives, fruit injury, off-flavors and odors, tissue softening or abnormal ripening."

Dr. Noel F. Sommer, Ph.D.
Professor, University of California
Davis College of Agriculture & Environmental Studies
Agriculture Experiment Station

"...there is little scientific basis for accepting industry's assurances of safety. Similarly, there is little or no basis for accepting Food & Drug Administration's approval of irradiation as an alternative to ethylene dibromide (EDB) fumigation, let alone for more large-scale use."

Dr. Samuel Epstein, M.D.
Department of Preventive Medicine & Community Health
University of Illinois Medical Center

Dr. John Gofman, M.D.
Donner Laboratory of Medical Physics
University of California

"Having reviewed scientific literature on [food irradiation], I remain unconvinced of its safety. In particular, I am concerned by the literature suggesting that irradiated foods have deleterious effects. In addition, it is clear that adequate toxicologic studies have not been carried out."

Dr. Robert H. Lerman, M.D., Ph.D
Director, Clinical Nutrition
Boston University Medical Center

EATING HEALTHY IS EATING SMART!

ALLIES APPROVE!

THE WORLD — Great Britain, West Germany, Denmark, Sweden, Australia and New Zealand have all banned radiation-exposed foods.

The International Finance Corporation (IFC), an affiliate of the World Bank, researched "all economic, financial, environmental and safety aspects" of food irradiation and found that it did not meet their "stringent standards" for investment.

The British Medical Association has repeatedly recommended that the current ban on the sale of irradiated foods in England be maintained due to potential long-term adverse health effects of eating irradiated foods.

The European Parliament, the legislative body of the European Common Market, rejected "the general authorization of irradiation as a method of conserving food", on the grounds that "... current advice (on irradiated foods) may not sufficiently take account of, still less, exclude, possible long-term medical effects on the population."

WHO'S TO BLAME?

WASHINGTON — The idea for exposing foods to radiation came from within the nuclear industry and is being promoted by the Department of Energy. The DOE and others in the nuclear industry cannot even keep their own houses clean — now they want to spread their problems to the food industry. Recent headlines underscore the devastation the DOE and others in the nuclear industry have inflicted upon the earth and its inhabitants. Government officials predict that it will cost more than $80 billion to clean-up the DOE's contaminated facilities — to say nothing of the hidden health care cost. Can the food industry afford to be associated with the nuclear nightmares of the DOE?

DO YOU THINK THE DOE CARES ABOUT THE DANGEROUS RESIDUES CREATED IN IRRADIATED FOODS?

WHO WILL HELP?

NEW YORK — For more information on radiation-exposed food, call 1-800-EAT-SAFE or write to Food & Water, Inc. 225 Lafayette Street, Suite 612, New York, NY 10012

IS YOUR FOOD HEALTHY?

RADIATION TREATMENT!

EXPOSING FOODS TO RADIATION LEAVES DANGEROUS, UNIQUE RESIDUES — SOME OF WHICH ARE SUSPECTED CARCINOGENS.

HB
45

FISCAL NOTE

STATE OF ALASKA
1991 LEGISLATIVE SESSION

BILL NO. HB 45

Revision Date: 1/21/91
Department Affected: Commerce & Economic Dev
Title: An Act relating to insurance coverage for mammograms . . . .
BRU: Insurance
Component: Operations
Sponsor: Ulmer, Brown, et al.
Requestor:
COMPONENT SERIAL NO. 0 3 5 4

Expenditures/Revenues: (Thousands of Dollars)

OPERATING	FY 92	FY 93	FY 94	FY 95	FY 96	FY 97
PERSONAL SERVICES						
TRAVEL						
CONTRACTUAL						
SUPPLIES						
EQUIPMENT						
LAND & STRUCTURES						
GRANTS, CLAIMS						
MISCELLANEOUS						
TOTAL OPERATING	0	0	0	0	0	0
CAPITAL	0	0	0	0	0	0
REVENUE	0	0	0	0	0	0

FUNDING: (Thousands of Dollars)

GENERAL FUND						
FEDERAL FUNDS						
OTHER						
TOTAL	0	0	0	0	0	0

POSITIONS:

FULL-TIME	0	0	0	0	0	0
PART-TIME						
TEMPORARY						

Estimate of current year impact:

ANALYSIS: (Attach a separate page if necessary.)

No fiscal impact on the division.

Prepared By: Joan Brown, Administrative Officer
Phone: 465-2597
Division: Insurance
Date: 1/24/91

Approved by Commissioner: Glenn A. Olds
Agency: Department of Commerce & Economic Development
Date:

Distribution (by preparer): Legislative Finance, Legislative Sponsor, Requestor, OMB, & Impacted Agency(ies).

Rev 10/90
JB/dg18799/012591a

STATE OF ALASKA
1991 LEGISLATIVE SESSION

BILL NO. HB No 45

Revision Date: 1/28/91 Department Affected: Health and Social Svcs

Title: An Act Relating to Insurance Coverage for Mammograms Component: Medical Assistance

Sponsor: ULMGR

Requestor: COMPONENT SERIAL NO. | | 2 | 2 | 9 |

Expenditures/Revenues: (Thousands of Dollars)

OPERATING	FY 92	FY 93	FY 94	FY 95	FY 96	FY 97
PERSONAL SERVICES	0	0	0	0	0	0
TRAVEL	0	0	0	0	0	0
CONTRACTUAL	0	0	0	0	0	0
SUPPLIES	0	0	0	0	0	0
EQUIPMENT	0	0	0	0	0	0
LAND & STRUCTURES	0	0	0	0	0	0
GRANTS, CLAIMS	10.0	11.5	13.2	15.1	17.3	19.8
MISCELLANEOUS	0	0	0	0	0	0
TOTAL OPERATING	10.0	11.5	13.2	15.1	17.3	19.8
CAPITAL	0	0	0	0	0	0
REVENUE	0	0	0	0	0	0

FUNDING: (Thousands of Dollars)

GENERAL FUND	5.0	5.7	6.6	7.5	8.6	9.9
FEDERAL FUNDS	5.0	5.8	6.6	7.6	8.7	9.9
OTHER	0	0	0	0	0	0
TOTAL	10.0	11.5	13.2	15.1	17.3	19.8

POSITIONS:

FULL-TIME	0	0	0	0	0	0
PART-TIME	0	0	0	0	0	0
TEMPORARY	0	0	0	0	0	0

Estimate of current year impact:

ANALYSIS: (Attach a separate page if necessary.)
See attached analysis

Prepared By: Kimberly A. Bersch Phone: 465-3355
Division: Medical Assistance Date: 1-29-91

Approved by Commissioner:
Agency: HEALTH AND SOCIAL SERVICES Date: 1/29/91

Distribution (by preparer): Legislative Finance, Legislative Sponsor, Requestor, OMB, & Impacted Agency(ies).

Rev 10/90

FISCAL NOTE ATTACHMENT 1/28/91

HB 45

Currently, Medicaid reimburses enrolled providers for diagnostic mammograms furnished to eligible recipients. Of more than 14,000 mammograms in Alaska in 1990, approximately 400 were provided for Medicaid-eligible women over 35. Each mammogram costs, on average, $100.

If HB 45 were passed, we do not anticipate any substantial increase in the use of mammograms for screening, in part because radiologists report they do not commonly recommend screening mammograms. We estimate that HB 45 would not add more than 100 new mammograms to Medicaid during FY92, at a total new cost of $10,000 (100 X $100 = $10,000). Funding for this service is 50% Federal, 50% State General Funds.

Costs for FY93 and future years assume a total annual increase of 14.6%, which consists of an increase of 6% in the number of recipients eligible for mammograms, an annual increase of 4% in the rate at which eligible persons will use this service, and an annual increase (typical of past years) of 4.6% in the costs per screening.

No allowance has been made in this estimate for the costs of periodic mammograms for Medicaid-eligible persons (primarily those who are over 65) who receive Medicare benefits. Recent Federal legislation made screening mammograms a Medicare-covered service, and existing Federal law requires Medicaid to pay any Medicare deductibles or co-insurance costs incurred by anyone who participates in both programs.

The department views section 2 of HB 45 as setting only minimum coverage limits, not maximum limits, and that anyone with the appropriate familial and/or personal history may receive payment for any number of mammograms that are medically justified. The Division of Medical Assistance will incur costs in processing claims for this new service and in retrospectively examining these claims to insure that the service was medically necessary, appropriate, and not excessive. However, these costs are anticipated to be so minor as to be absorbed within normal program appropriations and without adding new staff.

FISCAL NOTE

STATE OF ALASKA
1991 LEGISLATIVE SESSION

BILL NO. HB 45

Revision Date:

Department Affected: All agencies

Title: An Act relating to insurance coverage mammograms.

BRU:

Components:

Sponsor: Ulmer, et al.

Requester:

COMPONENT SERIAL NO.

EXPENDITURES/REVENUES: (Thousands of Dollars)

OPERATING	FY 92	FY 93	FY 94	FY 95	FY 96	FY 97
Personal Services	270.0	270.0	270.0	270.0	270.0	270.0
Travel	0.0	0.0	0.0	0.0	0.0	0.0
Contractual	0.0	0.0	0.0	0.0	0.0	0.0
Supplies	0.0	0.0	0.0	0.0	0.0	0.0
Equipment	0.0	0.0	0.0	0.0	0.0	0.0
Land & Structures	0.0	0.0	0.0	0.0	0.0	0.0
Grants, Claims	0.0	0.0	0.0	0.0	0.0	0.0
Miscellaneous	0.0	0.0	0.0	0.0	0.0	0.0
TOTAL OPERATING	270.0	270.0	270.0	270.0	270.0	270.0
CAPITAL	0.0	0.0	0.0	0.0	0.0	0.0
REVENUE	0.0	0.0	0.0	0.0	0.0	0.0

FUNDING: (Thousands of Dollars)

General Funds	244.1	244.1	244.1	244.1	244.1	244.1
Federal Funds	12.4	12.4	12.4	12.4	12.4	12.4
Other	13.5	13.5	13.5	13.5	13.5	13.5
TOTAL	270.0	270.0	270.0	270.0	270.0	270.0

POSITIONS:

Full-Time	0	0	0	0	0	0
Part-Time	0	0	0	0	0	0
Temporary	0	0	0	0	0	0

Estimate of current year impact: None

ANALYSIS: (attach a separate page if necessary)
See attached.

Prepared By: Gary M. Bader, Director — Phone: 465-4470
Division: Retirement and Benefits — Date:
Approved By Commissioner: — Date: 12/4/90
Agency: Administration

Distribution (by preparer): Legislative Finance, Legislative Sponsor, Requestor, OMB, Impacted Agency(ies)