

## ATTACHMENT 2

DRAFT

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### FEDERAL EMERGENCY MANAGEMENT AGENCY

**Revised** Federal Policy on Use of Potassium Iodide **for Thyroid Protection as an Emergency Preparedness Measure for in Radiological Emergencies at Commercial Nuclear Power Plants Accidents**

**AGENCY:** Federal Emergency Management Agency.

**ACTION:** Issuance of **Revised** Federal Policy on Potassium Iodide.

**SUMMARY:** The Federal Radiological Preparedness Coordinating Committee (FRPCC) is issuing this revised Federal policy in connection with the purchase, stockpiling and use of **the drug** potassium iodide (KI) as a prophylaxis **to protect for** the thyroid **gland from radioiodine and substantially lower the risk of thyroid cancer** in the **unlikely** event of a major radiological emergency at a commercial nuclear power plant. **In 1978, the U.S. Food and Drug Administration (FDA) found KI "safe and effective" for use as a thyroid blocking agent in a radiation emergency under certain conditions of use and approved its over-the-counter sale. Taken in time, KI blocks the thyroid's uptake of radioactive iodine, and thus could help prevent thyroid cancer and other thyroid diseases that can be caused by such exposure, especially in children. It can therefore supplement other protective actions, i.e., evacuation and in-place sheltering, used to protect the general public in a radiological emergency. Believing that State<sup>1</sup> and local decision-makers may find that prophylactic use of KI is a reasonable and prudent measure for specific local conditions, the NRC, through FEMA will purchase supplies of KI for those States (or in some cases, local governments) that elect to make KI stockpiling, distribution, and use part of their emergency plans.**

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<sup>1</sup> Consistent with FEMA Initiative 4.0-4.4, Recommendations for Tribal Integration into the Radiological Emergency Preparedness Program, each reference herein to State governments should be understood to include Tribal governments.

Although the FDA will shortly issue proposed revised guidance on the use of KI for the general public, current Federal policy already provides that KI should be stockpiled and distributed to emergency workers and institutionalized persons during radiological emergencies. In developing the range of protective actions for the general public for severe accidents at commercial nuclear facilities, the available technical information indicates that evacuation and in-place sheltering provide the best protection for the general public, because they protect the whole body. KI provides additional protection for one radiation-sensitive organ, the thyroid, when used in conjunction with evacuation and sheltering.

The State (or in some cases, the local government) is ultimately responsible for the protection of its citizens. Therefore, the decision for stockpiling and use of KI as a protective measure for the general public is left to the discretion of State(or in some cases, local government). In making a decision as to whether or not to stockpile KI, the States should be aware that the Federal government believes that the use of KI is a reasonable and prudent measure as a supplemental protective action for the public. Accordingly, for States with nuclear power plants within their borders, the NRC has recently completed a rulemaking that requires consideration in the formulation of emergency plans as to whether to include the stockpiling, distribution, and use of KI.

It is recognized that the State(or in some cases, the local government), within the limits of its authority, can take measures beyond those required by the Federal government. The availability of KI as a protective measure for the general public supplements other options for public officials responsible for protective action decisions. A few States have long included KI as a protective action for the general public, some have recently decided to stockpile and distribute KI, some are considering whether to do so, and others have decided not to stockpile KI. The FRPCC does not want to deny a State the option of incorporating the use of KI as a protective measure for the general public. Therefore, the NRC through FEMA, is prepared to provide funding for the purchase of a supply of KI subject to certain restrictions and limitations (see the Staff Requirements Memorandum for the Affirmation Session on December 22, 2000). Any State(or in some cases, local government) which selects the use of KI as a protective measure for the general public may so notify FEMA, and may request funding for the purpose of purchasing a supply

of KI.

The policy herein, which was endorsed by both the FRPCC and the Commissioners of the Nuclear Regulatory Commission (NRC), incorporates changes recommended by the FRPCC's Ad Hoc Subcommittee on Potassium Iodide, and supersedes the 1985 Federal policy (50 FR 30258). The principal differences between this revised policy and the 1985 version are the addition of the offer of the Federal government to purchase a supply of KI for States at a State's request; and the explicit recognition by the FRPCC, reflected in the offer to purchase KI, that use of this medicine can under certain conditions be a reasonable and prudent supplement to evacuation and sheltering and thereby enhance protection of the public. The Federal Emergency Management Agency (FEMA) chairs the FRPCC, thereby assuming the responsibility for this publication.

**FOR FURTHER INFORMATION CONTACT:** William F. McNutt, Senior Policy Advisor, Room 634, Federal Emergency Management Agency, 500 C Street SW., Washington, DC 20472, (202) 646-2857; facsimile (202) 646-4183.

#### **SUPPLEMENTARY INFORMATION**

##### **Background**

This policy on the use of KI as a thyroidal blocking agent is the result of a Federal interagency effort coordinated by the Federal Emergency Management Agency (FEMA) for the ~~Federal Radiological Preparedness Coordinating Committee~~ FRPCC. On March 11, 1982, FEMA issued a final regulation in the Federal Register (47 FR 10758), which delineated agency roles and responsibilities for radiological incident emergency response planning (44 CFR 351). One of the responsibilities assigned to the Department of Health and Human Services (HHS) and in turn delegated to the ~~Food and Drug Administration (FDA)~~ was providing guidance to State and local Governments on the use of radioprotective substances and prophylactic use of drugs (e.g., potassium iodide), including dosage and projected radiation exposures at which such drugs should be used to reduce radiation doses to specific organs.

In the June 29, 1982, Federal Register, 47 FR 28158, the ~~Food and Drug Administration~~ FDA published recommendations for State and local agencies regarding the projected radiation dose to the thyroid gland at which State and local health officials should consider the use of KI. The Federal policy on stockpiling and distributing KI was published in the July 24, 1985, Federal Register, 50 FR 30258. This policy

recommended stockpiling ~~and~~ or distribution of KI during emergencies for emergency workers and institutionalized persons, but did not recommend predistribution or stockpiling for the general public.

On September 11, 1989, the American Thyroid Association requested FEMA, as Chair of the FRPCC, to reexamine the 1985 policy and to revisit the issue of stockpiling and distributing KI for use by the general public. In response, the FRPCC established an Ad Hoc Subcommittee on Potassium Iodide. On December 5, 1994, the FRPCC adopted the report and recommendations of the Ad Hoc Subcommittee on Potassium Iodide, which reaffirmed the Federal position as expressed in the 1985 policy.

On April 3, 1996, in connection with a September 9, 1995, petition for rulemaking submitted to the NRC on this issue, the FRPCC established a new Ad Hoc Subcommittee on Potassium Iodide to review current information. The Subcommittee conducted a public meeting on June 27, 1996. Based on the information collected, the Subcommittee concluded that there was no new information that seriously challenged the bases for the 1985 recommendations concerning public use of KI for radiological emergencies at commercial nuclear power plants. ~~However~~ **Subsequently, it made** three recommendations ~~were made to the FRPCC by the Subcommittee:~~ (1) Without changing the Federal policy ~~by interceding in~~ **that it is** the State's prerogative to make its own decisions on whether or not to use KI, the Federal government (NRC ~~, or~~ through FEMA) should fund the purchase of a KI stockpile for any State that, hereafter, decides to incorporate KI as a protective measure for the general public; (2) ~~the Subcommittee believed t~~ **The language in the 1985 policy should be softened to be more flexible and balanced, as for instance, rewording it to state** ~~For example, the problem many intervenors observe in the Federal policy is in the italicized statement, "The Federal position with...potassium iodide for use by the general public is that it should not [be] required." It would not be as negative if the last phrase were reworded to state "it [potassium iodide for use by the general public] is not required, but may be selected as a protective measure at the option of the State or, in some cases, local governments"; and (3) The Subcommittee recommends that~~ **Local jurisdictions who that** wish to consider the option of incorporating the use of KI in their protective measures **should** consult with the State to determine if such arrangements are appropriate. If local governments have the authority or secure the approval to incorporate KI as a protective measure for the general public,

they would need to include such a measure in their emergency plans.

~~In addition to the FRPCC actions, the Federal government has broadened the scope of emergency preparedness to include resources to respond to terrorist acts involving nuclear, biological and chemical agents. Included among these resources are stockpiles of KI, which would be located in 27 metropolitan areas throughout the country and in three national stockpiles located in the east, central and western areas of the United States. These stockpiles would be available on an ad hoc basis, in the event of an accident at a commercial nuclear power plant.~~

On October 24, 1996, the full FRPCC endorsed the Subcommittee's recommendations with some minor modifications. On June 30, 1997, the NRC [Commission] approved the **its** ~~staff's~~ recommendation to endorse the FRPCC position. ~~and to recognize the availability to State and local governments of the Federal stockpile of KI in connection with preparedness for acts of terrorism. The NRC Commissioners also asked that licensed nuclear power plant operators to discuss this revised Federal policy on KI with their counterparts in State and local agencies.~~

On November 5, 1997, the Commission held a public meeting with its staff, FEMA representatives, and the author of a 1995 rulemaking petition to consider the petition and proposed changes to the Federal policy on the use of KI. In part as a result of the meeting, the petitioner amended his petition to ask for a rule that would require that consideration would be given in the formulation of emergency plans to the use of KI as a supplement to evacuation or sheltering, and on June 26, 1998, the Commission granted the amended petition, and directed the NRC staff to initiate the requested rulemaking. The Commissioners also decided that this Federal Register notice should include a statement to the effect that the State and local decision makers, provided with proper information, may find that the use of KI as a protective supplement is reasonable and prudent for specific local conditions. The proposed rule was issued for public comment on June 14, 1999 (64 FR 31737). On December 22, 2000, the Commission approved the final rule, which will be published shortly in the Federal Register.

In addition to the FRPCC actions, the Federal government had been considering Federal regional stockpiles of KI to use as a back-up to State stockpiling, or lack thereof. One method of

regional stockpiling the Federal government considered was the inclusion of KI in the National Pharmaceutical Stockpile (NPS) as part of a broader effort to improve emergency preparedness to respond to terrorist acts involving nuclear, biological and chemical agents. As currently contemplated, any stocks of KI placed in the NPS to deal with nuclear terrorism are likely to be extremely limited and inadequate in the unlikely event of a major radiological emergency at a commercial nuclear power plant. A 1999 NRC proposal to create prepositioned regional stockpiles, and an alternative NRC proposal in 2000 to augment NPS stockpiles with additional KI purchased at NRC expense which would be available on an ad hoc basis for States that requested supplies of KI, were rejected by FEMA and have been withdrawn by NRC. In light of logistical difficulties, FEMA and NRC concluded it was doubtful that regional stockpiles of KI could be effectively employed in the unlikely event of a radiological emergency at a commercial nuclear power plant.

#### **Policy on Use of Potassium Iodide as an Emergency Preparedness Measure for Commercial Nuclear Power Plant Accidents**

The purpose of this document is to provide Federal policy and guidance with regard to distribution of KI and its use as a thyroidal blocking agent in response to commercial nuclear power plant accidents. The issue has been addressed in terms of two components of the population within the 10-mile Emergency Planning Zone that might require or desire KI use: (1) emergency workers and institutionalized individuals, and (2) nearby general populations. This guidance is intended for those State and local governments who, within the limits of their authority, should consider these recommendations in the development of emergency plans and in determining appropriate actions to protect the general public.

In 1978, the FDA issued a notice in the Federal Register of December 15, 1978, (43 FR 58798) announcing its conclusion that KI "is safe and effective for use as a thyroid blocking agent in a radiation emergency under certain specified conditions of use" and approved its over-the-counter sale. The **current** Federal policy ~~is~~ **states** that KI should be stockpiled and distributed to emergency workers and institutionalized persons during radiological emergencies, but leaves the decision for stockpiling and use of KI for the general public to the discretion of State and, in some cases, local governments. In developing the range of protective actions for the general public for severe accidents at commercial nuclear facilities, the available technical information indicates that evacuation ~~and in-place sheltering~~

~~provide the best protection for the general public, because they protect the whole body. However, complete evacuation of the affected area may not always be achievable. KI provides additional protection for one radiation-sensitive organ, the thyroid, when used in conjunction with evacuation and/or sheltering.~~ is the most effective protective measure because it protects the whole body (including the thyroid and other organs) from all radionuclides and all exposure pathways. There may be some situations however, where evacuation is not feasible or is delayed. In-place sheltering is an effective protective action in such a situation. Depending on the circumstances, KI offers additional protection for one radiation-sensitive organ, the thyroid, when used in conjunction with evacuation and sheltering.

The State (or in some cases, the local government) is ultimately responsible for the protection of its citizens. Therefore, the decision for local stockpiling and use of KI as a protective measure for the general public is left to the discretion of State (or in some cases, local government.) However, States should be aware that the Federal government believes that the use of KI is a reasonable and prudent measure for specific local conditions, and that for States with nuclear power plants within their borders, the NRC has recently completed rulemaking that requires consideration in the formulation of emergency plans of whether to include the stockpiling, distribution, and use of KI as a supplemental protective measure.

It is recognized that options on the ~~stockpiling~~, distribution, and use of KI for the general public rest with the States, and hence, State and local governments, within the limits of their authority, can take supplemental measures beyond those recommended or required ~~nationally~~ by the Federal government. The availability of KI as a protective measure for the general public supplements other options for public officials responsible for emergency protective action measures. A few States have long included KI as a protective action for the general public, some have recently decided to stockpile and distribute KI, some are considering whether to do so, and others have decided not to stockpile KI. The FRPCC does not want to deny a State the option to incorporate the use of KI as a protective measure for the general public. Therefore, the Federal government is prepared to provide funding for the purchase of a supply of KI.

Any State, or in some cases, local government, that selects the use of KI as a supplemental protection measure for the



general public may so notify the FEMA Regional Director from the FEMA Region in which the State is located, and may request funding for the purpose of purchasing a supply. NRC, within budgeted resources, will provide funding for the initial supply. The Commission, on December 22, 2000, provided detailed guidance to its staff on how to handle such funding requests. After funding these purchases of KI, the Commission may consider extending the program to fund stockpile replenishment, but has made no commitments in this regard.

State and local governments that opt to include KI as a supplemental protective measure for the general public will be responsible for preparing guidelines for its stockpiling, maintenance, distribution and use, and for all other ancillary costs. ~~The incorporation of a program for KI stockpiling, distribution and use by any State or local government into the emergency plans will not be subject to Federal evaluation, except for the decision making process on its use. The State and local government may also contact FEMA when the shelf life of the drug has expired and the supply needs to be replenished.~~

### **Policy Considerations**

The NRC and FEMA have issued guidance to State and local authorities as well as to licensees of operating commercial nuclear power plants in NUREG-0654/FEMA-REP-1, Rev.1, recommending the stockpiling and distribution of KI for thyroidal blocking during emergencies to emergency workers and to institutionalized individuals. That guidance is endorsed as an available protective action in the event of an incident at a commercial nuclear power plant. Thyroidal blocking for emergency workers and institutionalized individuals was recommended because these individuals are more likely to be exposed to the radioiodine in an airborne radioactive release than other members of the public. In addition, the number of emergency workers and institutionalized individuals potentially affected at any site is relatively small and requires a limited supply of KI that can be readily distributed.

The revised policy partly reflects lessons learned from the Chernobyl disaster of 1986, both about the consequences of an accident and about the safety and efficacy of KI. The Chernobyl accident demonstrated that thyroid cancer can indeed be a major result of a large reactor accident. Moreover, although the FDA declared KI "safe and effective" as long ago as 1978, the drug had never been deployed on a large scale until Chernobyl. The experience of Polish health authorities



during the accident has provided confirmation that large scale deployment of KI is safe.<sup>2</sup>

The revised policy also reflects widescale change in international practice following the Chernobyl disaster, specifically 1989 World Health Organization recommendations (updated in 1995 and 1999) and 1996 and 1997 International Atomic Energy Agency standards and guidance, which have led to use of KI as a supplementary protective measure in much of Europe, as well as in Canada and Japan.

This revised policy should not be taken to imply that the present generation of nuclear power plants is any less safe than previously thought. On the contrary, present indications are that nuclear power plant safety has steadily improved.

For the general public, in the event of a radiological emergency at a commercial nuclear facility, evacuation and in-place sheltering are considered adequate and effective protective actions in most cases. However, the inclusion of KI as a supplemental protective measure, in addition to evacuation and sheltering, is beneficial in certain circumstances, as recognized by the World Health Organization, the International Atomic Energy Agency, and many foreign governments.

The use of KI is not without controversy. On the one hand, KI can be an effective and safe drug for limiting the uptake of radioiodine in protecting the thyroid from the uptake of radioiodine, particularly I-131, especially for children 15 years of age or younger. The FDA has evaluated the medical and radiological risks of administering KI for emergency conditions and has concluded that it is safe and effective and has approved over-the-counter sale of the drug for this purpose. FDA has concluded that "... risks from the short term use of relatively low doses of KI for thyroid blocking in a radiation emergency are outweighed by the risks of radioiodine induced thyroid nodules or cancer at a projected dose to the thyroid gland of 25 rem." Since the FDA has authorized the nonprescription sale of KI, it may be available to individuals who, based on their own personal analysis, choose to have the drug immediately available. As stated earlier, the FDA is expected to issue updated guidance on KI

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<sup>2</sup> Nauman, J., and Wolff, J., Iodide Prophylaxis in Poland After the Chernobyl Reactor Accident: Benefits and Risks, American Journal of Medicine, Vol. 94, p. 524, May 1993.

for public comment. When finalized, that guidance will be the definitive Federal guidance on medical aspects of KI prophylaxis.

On the other hand, there may be logistical difficulties and few medical side effects in predistributing the drug to potentially affected individuals, or in distributing the drug to the general public in a radiological emergency<sup>7</sup>. Any distribution scheme should take care to ensure that orderly evacuation is not impeded or delayed by KI distribution. ~~potential medical side effects associated with the drug, in addition to the use of evacuation as the primary and preferred protective action,~~ Although the post-Chernobyl data from Poland revealed few serious medical side effects associated with this drug, their possibility cannot be discounted, especially in certain groups of people. For example, people who are allergic to iodine should not take KI. Although the Federal policy is that use of KI is a reasonable and prudent supplement to evacuation or sheltering in specific local conditions, the FRPCC recognizes that the problems noted above may dissuade some States and local jurisdictions from its use.

It should be noted that the timely use of KI effectively reduces the radiation exposure of only the thyroid gland. While this is an important contribution to the health and safety of the individual, it is not as effective as measures which protect the total body of the individual from radioactivity. Both in-place sheltering and precautionary evacuations can reduce the exposure to the thyroid and total body. The use of KI for thyroidal blocking is not an effective means by itself for protecting individuals from the radioactivity in an airborne release resulting from a nuclear power plant accident, and therefore, should only be considered in conjunction with sheltering, or evacuation, or a combination thereof. Therefore, ~~W~~while the use of KI can clearly provide additional protection in certain circumstances, the assessment of the effectiveness of KI and other protective actions and their implementation indicates that the decision to use KI (or other protective actions) should be made by the States and, ~~when~~ if appropriate, local authorities on a site-specific basis. It is recognized that State or local decision makers, provided with proper information, may find that the use of KI as a protective supplement is reasonable and prudent for specific local conditions. ~~It is recognized that t~~ The exercise of options to distribute and use KI for thyroidal blocking to protect the public health and safety resides with the State and, in some cases, local health authorities. Therefore, the decision on

use of KI by the general public during an actual emergency is the responsibility of these authorities.

~~It should be noted that the timely use of KI effectively reduces the radiation exposure of only the thyroid gland. While this is an important contribution to the health and safety of the individual, it is not as effective as measures which protect the total body of the individual from radioactivity. Both in-place sheltering and precautionary evacuations can reduce the exposure to the thyroid and total body.~~

The use of KI for thyroidal blocking is not an effective means by itself for protecting individuals from the radioactivity in an airborne release resulting from a nuclear power plant accident, and therefore, should only be considered in conjunction with sheltering or evacuation or a combination thereof.

~~The Food and Drug Administration has evaluated the medical and radiological risks of administering KI for emergency conditions and has concluded that it is safe and effective and has approved over-the-counter sale of the drug for this purpose. Food and Drug Administration guidance states that risks from the short term use of relatively low doses of for KI for thyroidal blocking in a radiological emergency are outweighed by the risks of radioiodine induced thyroid nodules or cancer at a project[ed] dose to the thyroid gland of 25 rem or greater. Since the Food and Drug Administration has authorized the nonprescription sale of KI, it may be available to individuals who, based on their own personal analysis, choose to have the drug immediately available.~~

Other considerations and problems to be evaluated by the State and local authorities in deciding whether to institute a program for the use of KI by the general public include: (1) whether ~~the~~ KI should be distributed to the population before an accident occurs or as soon as possible after an accident occurs; (2) whether the risks of exposure to radioactivity will be lower if the evacuation of the general population is initiated -- with or without the use of KI -- or if the general population is sheltered and the administration of KI initiated; (3) how ~~the~~ KI will be distributed during the emergency; (4) if KI is predistributed, what assumptions should be made about its actual availability and use in the event of an incident; (5) what medical assistance will be available for the individuals who may have some adverse reaction to KI; (6) how medical authorities will advise the

population to take KI and under what circumstances this advice will be given, i.e., methods for public education, information and instruction; and (7) how the authorities will provide KI to transient populations.

In addition, there are some site-specific considerations to evaluate. Whether KI should be stockpiled and distributed to the general public around a particular site may depend on local conditions. Decisions on its use and the use of alternative protective measures during an emergency may depend on prevailing accident and environmental conditions.

### Summary

In summary, the **revised** Federal policy is that KI should be stockpiled and distributed to emergency workers and institutionalized persons for radiological emergencies, but leaves the decision on whether to stockpile, distribute and use KI for the general public to the discretion of State and, in some cases, local governments. Any State (**or in some cases local government**) ~~or local government~~ that selects the use of KI as a protective measure for the general public may so notify the appropriate FEMA Regional Director, and may request funding for the purpose of purchasing a supply. **The NRC offer to fund purchases of KI for the States represents a recognition that this pharmaceutical can, under certain conditions, supplement other protective measures and thereby makes a direct contribution to fulfilling NRC's regulatory mission.** State and local governments that opt to include KI as a protective measure for the general public will be responsible for preparing guidelines for its stockpiling, maintenance, distribution and use, **and for all other ancillary costs.** ~~State and local governments may also contact FEMA when the shelf life of the drug has expired and the supply needs to be replenished. It should also be noted that medical supplies, including KI, will be stockpiled in 27 metropolitan areas and in three national stockpiles across the country in support of State and local government response to emergencies caused by acts of terrorism involving nuclear, chemical and biological agents. For radiological emergencies resulting from any cause, including accidents at commercial nuclear power plants, this additional stockpile can be acquired ad hoc by State or local government officials if they determine its use would be beneficial.~~

The following references are intended to assist State and local authorities in decisions related to use of KI:

1. National Council on Radiation Protection and Measures (NCRP) Protection of the Thyroid Gland in the Event of Releases of Radioiodine. NCRP Report No. 55, August 1, 1977.
2. Food and Drug Administration (~~Health and Human Services~~ HHS), Potassium Iodide as a Thyroid-Blocking Agent in a Radiation Emergency, 43 FR 58798, December 15, 1978.
3. Report of the President's Commission on the Accident at Three Mile Island, 1979.
34. Nuclear Regulatory Commission, Examination of the Use of Potassium Iodide (KI) as an Emergency Protective Measure for Nuclear Reactor Accidents. NUREG/CR-1433, October 1980. Prepared by Sandia National Laboratories for the NRC.
45. Halperin, J.A., B. Shleien, S.E. Kahans, and J.M. Bilstad, Background Material for the Development of the Food and Drug Administration's Recommendations on Thyroid Blocking with Potassium Iodide. FDA 81-8158, U.S. Dept. of Health and Human Services, March 1981.
56. Food and Drug Administration (HHS), Potassium Iodide as a Thyroid-Blocking Agent in a Radiation Emergency: Recommendations on Use. April 1981. Prepared by the Bureau of Radiological Health and Bureau of Drugs, Food and Drug Administration, Department of Health and Human Services.
67. Food and Drug Administration (HHS), Potassium Iodide as a Thyroid-Blocking Agent in a Radiation Emergency: Final Recommendations on Use. (Notice of Availability 47 FR 28158, June 29, 1982.
78. Federal Emergency Management Agency, Federal Policy on Distribution of Potassium Iodide Around Nuclear Power Sites for Use as a Thyroidal Blocking Agent, 50 FR 30258, July 24, 1985.
9. Halperin, J., Potassium Iodide as a Thyroid Blocker--Three Mile Island to Today, DICP, The Annals of Pharmacotherapy, Vol 23, May 1989.
10. Food and Drug Administration, Potassium Iodide as a Thyroid-Blocking Agent in a Radiation Emergency: Recommendations on Use. Prepared by the Bureau of Radiological Health and Bureau of Drugs, April 1992.
11. Environmental Protection Agency, Manual of Protective

Action Guides and Protective Actions for Nuclear Incidents.  
EPA-400-R-92-001, May 1992.

12. Nauman, J., and Wolff, J., Iodide Prophylaxis in Poland After the Chernobyl Reactor Accident: Benefits and Risks, American Journal of Medicine, Vol. 94, p. 524, May, 1993.

~~8~~13. Nuclear Regulatory Commission, Re-Evaluation of Policy Regarding Use of Potassium Iodide After a Severe Accident at a Nuclear Power Plant. SECY-93-318, November 23, 1993.

~~9~~14. Nuclear Regulatory Commission, Supplemental Information Regarding the Cost-Benefit of KI Prophylaxis, February 1994. Prepared by S. Cohen and Associates, Inc., for the NRC.

~~10~~15. Nuclear Regulatory Commission, Addendum to SECY-93-318, Re-Evaluation of Policy Regarding Use of Potassium Iodide After a Sever Accident at a Nuclear Power Plant. SECY-94-087, March 29, 1994.

~~11~~16. Federal Radiological Preparedness Coordinating Committee, Ad Hoc Subcommittee on Potassium Iodide, Subcommittee Report and Recommendations, September 15, 1994.

17. World Health Organization, Manual on Public Health Actions in Radiation Emergencies, 1995.

~~12~~18. Nuclear Regulatory Commission, An Analysis of Potassium Iodide (KI) Prophylaxis for the General Public in the Event of a Nuclear Accident. NUREG/CR-6310, February 1995. Prepared by S. Cohen and Associates, Inc., and Scientech, Inc., for the NRC.

19. International Atomic Energy Agency, International Basic Safety Standards for Protection Against Ionizing Radiation and for Safety of Radiation Sources. Safety Series No. 115, 1996.

~~13~~20. Federal Radiological Emergency Preparedness Coordinating Committee, Ad Hoc Subcommittee on Potassium Iodide, Public Meetings: Federal Policy on the Purchase and Stockpiling of Potassium Iodide for Use by the General Public in Radiological Emergencies at Commercial Nuclear Power Plants. Transcript, June 27, 1996.

~~14~~21. Federal Radiological Preparedness Coordinating Committee, Ad Hoc Subcommittee on Potassium Iodide, Subcommittee Report and Recommendations, October 3, 1996.

1522. Nuclear Regulatory Commission, Proposed Federal Policy Regarding Use Potassium Iodide After a Severe Accident at a Nuclear Power Plant. SECY-97-124, June 16, 1997.

23. International Atomic Energy Agency, Method for the Development of Emergency Response Preparedness for Nuclear or Radiological Accident. Tecdoc-953, July 1997.

24. International Atomic Energy Agency, Generic Assessment Procedures for Determining Protective Actions During a Reactor Accident. Tecdoc-955, August 1997.

25. Nuclear Regulatory Commission, proposed rule, Consideration of Potassium Iodide in Emergency Plans, 64 FR 31737, June 14, 1999.

26. Nuclear Regulatory Commission, final rule, [insert date] the Federal Register.

27. World Health Organization, Guidelines for Iodine Prophylaxis Following Nuclear Accidents, 1999.

28. Food and Drug Administration, proposed guidance for public comment, soon to be published in the Federal Register.

Dated:

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Chair

Federal Radiological Preparedness Coordinating Committee

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