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General Information

Assigned To: NSIR

OEDO Due Date: 3/27/2006 5:00 PM

Other Assignees:

SECY Due Date: 3/29/2006 5:00 PM

Subject: Expansion of KI Distribution

Description:

ADAMS Accession Numbers

Incoming:

Response:

Package:

Document Information

Originating Organization: Anbex Inc

Originator Name: Alan Morris

Incoming Task Received: Letter

Date of Incoming Document: 3/9/2006

Document Received by OEDO Date: 3/15/2006

Date Response Requested by Originator: NONE

Addressee: Chairman Diaz

Process Information

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Priority: Medium

Signature Level: Chairman Diaz

Sensitivity: None

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OEDO Concurrence: YES

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Special Instructions:

Other Information

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EDO Principal Correspondence Control

FROM: DUE: 03/27/06 EDO CONTROL: G20060249
DOC DT: 03/09/06
FINAL REPLY:

Alan Morris
Anbex, Inc.

TO:

Chairman Diaz

FOR SIGNATURE OF : ** PRI ** CRC NO: 06-0138

Chairman Diaz

DESC:

ROUTING:

Expansion of KI Distribution

Reyes
Virgilio
Kane
Silber
Dean
Cyr/Burns

DATE: 03/16/06

ASSIGNED TO:

CONTACT:

NSIR

Zimmerman

SPECIAL INSTRUCTIONS OR REMARKS:

**OFFICE OF THE SECRETARY
CORRESPONDENCE CONTROL TICKET**

Date Printed: Mar 15, 2006 10:34

PAPER NUMBER: LTR-06-0138
ACTION OFFICE: EDO

LOGGING DATE: 03/14/2006

AUTHOR: Alan Morris
AFFILIATION: FL
ADDRESSEE: Nils Diaz

SUBJECT: Potassium iodide (KI) and W. Kane's ltr to R. Claypool of DHHS regarding expansion of KI distribution to 20 miles fm UN NPPS

ACTION: Signature of Chairman
DISTRIBUTION: RF, SECY to Ack

LETTER DATE: 03/09/2006

ACKNOWLEDGED No

SPECIAL HANDLING: Comr. Correspondence...Made publicly available in ADAMS via EDO/DPC

NOTES: KI distribution only to 10 miles

FILE LOCATION: ADAMS

DATE DUE: ¹⁹
03/~~18~~/2006

DATE SIGNED:

EDO --G20060249

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8533/SEA
CHAIRMAN REC'D
06 MAR 10 PM 3:25

March 9, 2006

Dr. Nils Diaz

Chairman, US Nuclear Regulatory Commission

11555 Rockville Pike

Rockville, MD 20852

Dear Dr. Diaz:

A number of year ago I attended a public meeting near the Crystal River Nuclear Power Plant (NPP) at which you gave an interesting and informative talk regarding various NRC issues. Following your talk, you opened the meeting to questions from the audience, and this quickly led to a lengthy discussion about stockpiling potassium iodide (KI) for use in the event of a release of radiation.

As an interested observer (my company is the KI supplier to the NRC), I was encouraged to hear your generally thoughtful and positive comments on this topic. Further, in addition to that meeting, I have read newspaper articles and the text of speeches you have given which also seem to indicate your acknowledgement of the value of KI, and your belief that the product would be useful to anyone exposed to radioactive iodine inadvertently released from an NPP. In fact, following the meeting, you and I spoke briefly, and I gave you a few packages of IOSAT (brand of potassium iodide) which you accepted with a smile, noting they would be given "to your grandchildren."

While I appreciate your position on KI, I find it disturbing that others at the NRC apparently do not share your attitude—and, in fact, seem completely opposed to your views and the concept that potassium iodide ought to be widely available if ever needed. Specifically, I refer to the attached letter from William Kane, written "on behalf of the Nuclear Regulatory Commission" to Dr. Robert Claypool of the Dept. of Health and Human Services, in which he argues against the expansion of KI distribution to 20 miles from US nuclear power plants, as called for by Section 127 of P.L. 107-108, the Public Health Security and Bioterrorism Preparedness and Response Act of 2002.

The basis for Mr. Kane's position is that "we [the NRC] have concluded that other, more effective, protective measures are in place to protect the thyroid gland in the event of a release of radioactive iodine, and that expanded distribution of KI is unnecessary." These "other, more protective measures" he refers to are an embargo of "milk, food, and water" and "protective measures for livestock" for 50 miles around the NPP. Mr. Kane notes that the National academy of Sciences found that "Exposure to radioactive iodine is possible through the ingestion pathway" and that the removal of contaminated products "[is] the most effective way" to eliminate radiation exposure [from ingestion].

But this argument is at best fallacious and at worst dangerous. While removing contaminated food would obviously prevent it from being eaten, actually doing this for all commercial and private food supplies for 50 miles around an NPP (7500 square miles) would be an enormous, and practically impossible, undertaking that stands little chance of being feasible. Further, 50 miles is an arbitrary limit, which in any sizable release would probably be greatly exceeded. And what about water supplies or replacement for livestock foods? How could a program of this nature be expected to be successful (in just a very few days) under the conditions of an emergency and without substantial pre-planning (which has never been done)? Do we really want emergency personnel ignoring the needs of people and instead covering the countryside arguing with farmers about their crops?

Further, even if successful, merely blocking the ingestion pathway is far from a complete solution. Even Mr. Kane acknowledges this, noting, at best, his speculation that a completely successful program of the type he advocates would only, as his letter claims, "have prevented most of the thyroid cancer" from Chernobyl. Moreover, while ingestion of contaminated food and water is important, the effects of inhalation could be very large and must not be ignored. I refer you to NUREG/CR-1433 which states (page 39) "the thyroid dose is dominated by the inhalation of radioiodines" and "a protective measure must reduce the inhalation dose." In fact, Table 3 of this document predicts (in the most serious accident) a substantial dose to the thyroid due only to inhalation for a hundred or more miles downwind, as actually occurred at Chernobyl. Restricting food, of course, would do nothing about inhalation dose, and at this distance, the affected area would be in excess of 30,000 square miles and could impact millions of people. Does a food/water/animal feed embargo of that scale sound even remotely feasible?

Does the NRC really believe that a cumbersome, untested, and almost certainly unworkable, plan to manipulate food supplies is preferable to the widespread availability of KI—which is a simple, safe, and virtually 100% effective approach to radio-iodine protection? Clearly the National Academy of Sciences did not think so, since, despite their comments noted above, the three recommendations made in the NAS report make little mention of any attempt to protect people through interdicting food. Instead, they reject the unworkable idea of intercepting food supplies, and recommend that...

RECOMMENDATION 1: Potassium iodide (KI) should be available to everyone at risk of significant health consequences from accumulation of radioiodine in the thyroid...

RECOMMENDATION 2: KI distribution should be included in the planning for comprehensive radiological incident response programs for nuclear power plants.

RECOMMENDATION 3: FDA should re-evaluate current dosing recommendations and consider extending the shelf-life for KI tablets...

But Mr. Kane's letter makes no mention of the actual NAS recommendations. Rather, by carefully and selectively quoting from the document, it attempts to suggest that the National Academy agrees with his position when, of course, as the actual recommendations demonstrate, the opposite is true. This tactic is not something NRC should be proud of, and is not something I believe you would personally condone.

While reasonable people may disagree about many elements involved with nuclear safety, it is difficult to understand how the NRC can continue its attempts to limit the use of KI and to retard its distribution. KI works. It is simpler, safer, more effective, and extremely inexpensive compared to alternatives. It should be used in conjunction with other prudent measures to protect any and all populations who might be exposed in the unlikely event of a release, and plans to achieve this ought to be encouraged.

I believe your previous statements indicate you agree with this. Accordingly, I hope you will consider taking whatever steps you can to assure the availability of KI, and to communicate to the Department of Health and Human Services your position on this matter.

For your convenience, I have attached both Mr. Kane's letter and my own to Dr. Claypool.

Sincerely,



Alan Morris
President
Anbex, Inc.

November 1, 2005

Dr. Robert Claypool
Office of Mass Casualty Planning
Office of Public Health Emergency Preparedness
U.S. Department of Health and Human Services
200 Independence Avenue SW., Room 638G
Washington, D.C. 20201

Dear Dr. Claypool:

On behalf of the Nuclear Regulatory Commission (NRC), I am providing the following comments on the draft Federal guidelines to make potassium iodide (KI) available to jurisdictions within a 20-mile radius of nuclear power plants. The Federal Register notice (FRN) that promulgated the draft guidelines also requested comments on whether the expanded distribution of KI was necessary, considering existing preventive measures and/or other thyroid prophylaxis.

The draft guidelines provide a good discussion of potassium iodide, the radiological emergency planning efforts for commercial nuclear power plants, the potential consequences of terrorism on nuclear power plants, and the impacts of the 1986 Chernobyl accident. The guidelines would provide to State, local, and tribal governments a framework for considering whether to expand distribution of KI out to 20 miles around nuclear power plants. While Section 127 of P.L. 107-188, the Public Health Security and Bioterrorism Preparedness and Response Act of 2002 (the Bioterrorism Act), refers to distribution of KI *tablets*, the proposed guidance generally refers to distribution of KI.

The NRC staff does not have specific comments on the draft guidelines. However, the NRC staff concludes that the predetermined protective actions in place for the populations within the 10 and 50 mile Emergency Planning Zones provide the necessary protection for the thyroid gland from radioactive iodine and that expanded distribution of KI is unnecessary.

Expanded distribution of KI could negatively impact the current, well-established, and scientifically sound framework of the NRC's emergency preparedness regulations. The NRC and the Federal Emergency Management Agency regulatory framework for emergency preparedness was put into place after the 1979 accident at Three Mile Island Unit 2. Each nuclear power plant operator was required to submit the radiological emergency response plans of State and local governments that are within the 10-mile plume exposure pathway emergency planning zones (EPZ), as well as the plans of State governments within the 50-mile ingestion pathway EPZs. These emergency planning zones facilitate the implementation of a preplanned strategy for protective actions during an emergency.

As the draft guidelines point out, NRC analyses indicate that, in the event of an emergency at a nuclear power plant that causes a release of radioactive materials in excess of routine low-level effluents, exposure to these materials poses the greatest risk for people closest to the plant. The risks to these people would arise from the exposure pathways of direct shine, immersion in a plume, inhalation and ingestion of radioactive materials, and ground shine. The objectives of the predetermined protective actions within the 10-mile EPZ, which include sheltering, evacuation, and, where appropriate, the use of potassium iodide, are to mitigate these risks in the event of an emergency.

The population at greater distances from the plant may be at risk of exposure to radioactive materials by way of ingestion of these materials. Predetermined protective actions for the 50-mile ingestion exposure pathway EPZ include interdiction of contaminated milk, food, and water as well as protective measures for livestock.

Section 127 of the Bioterrorism Act directed the National Academy of Sciences (NAS) to study the expanded distribution of potassium iodide and report back to the President on the best distribution methods to accomplish such an expanded distribution. The NAS published this study in January 2004. Although the NAS did not identify any one particular "best method" of distribution, the Academy raised questions regarding the usefulness of expanded distribution of KI. Specifically, Chapter 5 of the report states (on page 81): "Exposure to radioactive iodine is possible through the ingestion pathway, so it is important that plans address this situation. Monitoring of the environment and food products controls this route of exposure. Removing contaminated products from the market and isolating contaminated products until the radioactive iodine decays to safe levels are the most effective way to eliminate radiation exposure and damage to the thyroid. That also eliminates the need for the use of KI by the general public as a protective action." In the conclusions and recommendations of the NAS report (on page 159), the Academy summarized this finding as follows: "KI is also effective for protection against the harmful thyroid effects of radioiodine ingested in contaminated milk and other foods, but food testing and interdiction programs in place throughout the United States are more effective preventive strategies for ingestion pathways."

These NAS findings have been buttressed by the most recent report of the International Atomic Energy Agency's (IAEA's) Chernobyl Forum on the health effects of the Chernobyl accident, which was issued in August 2005. This report included a finding that ingestion of contaminated milk products was the primary cause of the thyroid cancers found in children living in the surrounding regions. Consequently, interdiction of contaminated milk and use of stored feed would have prevented most of the thyroid cancers found in these children.

Therefore, we have concluded that other, more effective, protective measures are in place to protect the thyroid gland in the event of a release of radioactive iodine, and that expanded distribution of KI is unnecessary. Thus, the NRC recommends that the Secretary of Health and Human Services, as delegated by the President, apply subsection 127(f) of the Bioterrorism Act.

Thank you for the opportunity to comment on these important guidelines. If you have any questions or would like to discuss our comments, please do not hesitate to contact Eric Leeds, the NRC's Director of Preparedness and Response, at 301-415-2334.

Sincerely,

/RA/

William F. Kane
Deputy Executive Director for Reactor
and Preparedness Programs
Office of the Executive Director for Operations

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Alan Morris

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October 27, 2005

Dr. Robert G. Claypool
Deputy Chief Medical Officer
Office of Public Health Emergency Policy
Department of Health and Human Services
200 Independence Avenue, SW, Room 638G
Washington, DC 20201

Dear Dr. Claypool:

This is to comment on the Department of Health and Human Services (HHS) document entitled "Federal Guidelines for Requesting, Stockpiling, Distributing Potassium Iodide (KI) From the Strategic National Stockpile (SNS)" which was published on August 28, 2005 in the Federal Register. Please note that Anbex is the primary supplier of KI to the US government.

Anbex finds it unfortunate that these revised guidelines fail for many of the same reasons as did the original draft issued last December. They continue to disregard the clear intent of Congress expressed in Section 127 of the Federal Bioterrorism Act of 2002, which was to expand distribution of KI around US nuclear power plants. Instead, these guidelines maintain the fiction that there is no need for protective actions beyond 10 miles—despite overwhelming evidence to the contrary. Though the guidelines state "the 10-mile EPZ has been reviewed and accepted by the EPA, NRC and FEMA as the appropriate EPZ size for commercial nuclear power plant licensees..." they fail to mention the well established fact that (in the Nuclear Regulatory Commission's own words) at Chernobyl *"the vast majority of the thyroid cancers were diagnosed among those living more than 50 km (31 miles) from the [accident's] site."*¹

That radiation would travel well beyond the 10-mile EPZ should have been no surprise, since this had been predicted at least six years prior to the Chernobyl release. In an 1980 NRC document exploring the likely effects of a severe release, scientists at Sandia National Laboratories working for the NRC concluded: *"cancer deaths and thyroid nodules could occur over much larger distances (100's of miles) and would be therefore less affected by immediate protective measures taken near the site."*² Unfortunately, for the unprotected children at Chernobyl, this is precisely what happened.

¹. U.S. Nuclear Regulatory Commission, *Assessment of the Use of Potassium Iodide (KI) As a Public Protective Action During Severe Reactor Accidents*, Draft Report for Comment, NUREG-1633. Note that this document presents a chart showing that 97% of the first 750 cases of thyroid cancer in Belarus due to Chernobyl took place from 30, to over 200, miles from the damaged reactor. Similar findings have been presented by the World Health Organization and expressed by the US Food and Drug Administration.

² U.S. Nuclear Regulatory Commission and Sandia National Labs., *Examination of the Use of Potassium Iodide (KI) as an Emergency Protective Measure for Nuclear Reactor Accidents*, NUREG/CR-1433, Oct., 1980)

In fact, the Sandia researchers, with remarkable prescience, even made the following quantitative predictions about radiation levels at varying distances from a release:³:

EFFECTS OF CORE-MELT ATMOSPHERIC ACCIDENTS BY DISTANCE

Distance From Reactor In Miles	Mean Thyroid Dose (REM) for Exposed Adult Outdoors	Probability of Thyroid Damage to Exposed Adult Located Outdoors
1	13,800	60%
5	6,800	70%
10	3,200	70%
25	1,100	40%
50	380	13%
100	100	3%
150	36	1%
200	16	.05%

These guidelines ignore both our government's own predictions and the actual Chernobyl experience. Instead, they simply dismiss any responsibility to protect the public beyond 10 miles with the statement that "it is not within the scope of these guidelines to question...the 10-mile EPZ...and nuclear plant licensees will not be expected to modify their emergency plans."

But the precise intent of the Bioterrorism Act was to get plant licensees to modify their emergency plans, and to expand KI distribution in order to protect the public. By rejecting this as "not within the scope" of these guidelines, HHS is ignoring the best interests of the American public as well as the expressed will of Congress and the President. Is that how HHS sees its responsibility?

While these guidelines refuse to incorporate the lessons of Chernobyl (the world's only example of mass KI distribution), it is at least encouraging that the document acknowledges that an accident took place there (the December draft did not even contain the word "Chernobyl"). However, the possibility of a serious accident occurring here is quickly rejected with the simple assertion that "it is unlikely that a similar scenario could occur on U.S. soil"

One certainly hopes that a similar scenario is "unlikely"—but surely it is imprudent for responsible officials to utterly rule out this possibility. Indeed, recognizing the "near misses" that have already occurred in US nuclear programs, the existing threat to our reactors by terrorists who have specifically identified them as targets, and the inherent dangers of complex machines (subject to mechanical failure and operator error) containing large amounts of radioactive iodine located near population centers, "unlikely" is an insufficient reason to refuse to plan for the contingency of a large-scale radioactive release. Given the consequences, and the fact that numerous experts both in and out of government believe a serious accident with wide contamination is a realistic (though, fortunately, "unlikely") possibility, it is imperative that a major accident scenario be considered. After all, isn't that what extensive emergency planning is all about?

These guidelines, however, rule out the threat of a large magnitude accident. They confuse the issue by selectively quoting from the National Academy of Sciences (NAS) report that "quantitative results cannot be transposed to the United States situation without many caveats." But exact quantitative comparisons with Chernobyl are not the issue. The objective of these guidelines is to implement (as the NAS report states) "*the most effective and safest way to distribute and administer*

³

Ibid. Chart reflects data presented in Tables 3 and 4 of NUREG-1433. Note also that footnotes accompanying Tables 3 and 4 state: "For children, increase dose and probability of damage by an approximate factor of two," and "Includes inhalation dose only. Does not include effects of ingestion of contaminated food or water." In other words, an exposed child 50 miles from the release point would have more than a 1 in 4 chance of suffering thyroid damage, even in cases where there had been a successful embargo of contaminated food and water into the area.

*KI tablets on a mass scale in the event of a nuclear incident"*⁴. Consequently, in accordance with the Congressional mandate, it is essential that these guidelines be revised to integrate the NAS conclusions and recommendations, which include the statements that *"KI should be available to everyone at risk of significant health consequences from accumulation of radioiodine in the thyroid in the event of a radiological incident....KI distribution should be included in the planning for comprehensive radiological incident response programs...KI distribution programs should consider pre-distribution, local stockpiling outside the Emergency Planning Zone (EPZ), and national stockpiles and distribution capacity."*⁵

But this document does not even attempt to provide state or local governments with "effective and safe ways to distribute KI," nor does it consider "pre-distribution, local stockpiling outside the Emergency Planning Zone (EPZ), and national stockpiles and distribution capacity." Rather, it seems interested only in downplaying the potential need, value and safety of the drug, as indicated by its lengthy cautionary "Considerations for KI Utilization."

Although it would be reasonable to expect that the primary "consideration" for officials in deciding whether or not to use KI would be the acknowledgement of the drug's proven safety and effectiveness, it is bewildering to note that this factor is omitted. Instead, the list of considerations is uniformly negative in tone and contains absolutely no references to the benefits of KI. (The list, for example, admonishes state and local planner to ask how "incorporation of KI as a protective measure [will] impact existing emergency plans, procedures, and operations," how "incident-specific emergency and environmental conditions [will] be included in the decision to use KI," "what medical assistance will be available for the individual who experiences an adverse medical reaction following KI administration," and "what is the liability associated with establishing a KI program?" etc. Yet they fail to direct emergency planning officials to consider, first and foremost, that KI works, or even to assure that police, fire, and other first responders and emergency personnel have this protection.)

Like the previous draft, these guidelines attempt to diminish KI's protective value while exaggerating the possibility of side effects, liability or negative reactions⁶. Disregarding the enormous amount of literature that strongly supports expanded KI distribution (from sources such as the World Health Organization, the US Food and Drug Administration, the American Thyroid Association, the American Academy of Pediatrics, and many others), and that are largely based on actual use of KI by 30 million people following Chernobyl, these guidelines are written to encourage speculation that the drug is dangerous, worthless or both. However, lacking evidence to support this position, this document makes the unusual request for the reader's help in uncovering reasons why to reject KI; going so far as to ask respondents to submit comments "as to whether or not employing measures of prophylaxis other than KI...without expanding the area of KI coverage would render the deployment of this expanded KI distribution unnecessary." Note that no similar request is made for comments that support expanded distribution as provided for in Section 127 of the Act, or that reflect the overwhelming consensus and findings of independent authorities (that is, those not connected with the nuclear industry) that KI is extraordinarily safe, extremely effective, and very valuable.⁷

⁴ National Academy of Sciences (NAS) Study, *Distribution and Administration of Potassium Iodide in the Event of a Nuclear Incident*, January 2004.

⁵ *ibid*

⁶ Virtually no one questions KI's effectiveness and its safety is widely recognized. FDA has stated that the incidence of side effects is as small as 1 in 10 million and that these are generally mild, reversible upon stopping the drug, and almost always only occur in a small, easily identified population group. They have reported that the potential "for serious side effects in a small sensitive population is not sufficient grounds to conclude, or even to suggest, a significant and quantifiable proportion of serious reactions." (Symposium on Health Aspects of Nuclear Power Plant Incidents: Recommendations on the Use of Potassium Iodide: An FDA Update).

⁷ The World Health Organization is unequivocal regarding expanded KI distribution, stating that "the Chernobyl accident has thus demonstrated that significant doses of radioactive iodine can occur hundreds of kilometers from the site, beyond emergency planning zones." (World Health Organization: Guidelines for Iodine Prophylaxis following Nuclear Accidents. 1999 Update.)

In place of KI, these guidelines suggest evacuation, sheltering and avoidance of contaminated food and water in the event of radioactive iodine contamination within and outside of the 10- or 20-mile zones. How these are to be accomplished without massive pre-planning is not described, and how those in affected areas are to avoid contamination through inhalation is also unclear. Further, these guidelines omit any acknowledgement that public safety would be enhanced through the use of KI in addition to evacuation, sheltering and avoidance of contaminated food.

The inadequacy of depending on evacuation to protect people was unfortunately demonstrated by the recent tragic events in New Orleans and the general evacuation failure in Houston. As we saw, thousands of people in New Orleans could not evacuate their homes, and 100-mile long traffic jams outside Houston led to an evacuation pace of "hours per mile." Clearly, the government was unable to control the situation smoothly and efficiently. Yet the approach for radiation protection suggested by these guidelines would virtually ignore KI and instead depend on evacuation, sheltering and a complex plan to embargo food and water in and out of the affected areas. Nothing like this has ever been tried—and under the chaotic conditions that are likely to accompany a radiation emergency—nothing like this could be expected to succeed.

It is inconceivable that existing plans could sanction "sheltering" (remaining in contaminated areas), or "evacuation" (with the likely result of thousands of people sitting outside in traffic on roads which may become contaminated), without also assuring there is ample potassium iodide for protection. Yet the cumbersome bureaucratic procedures described in these guidelines to acquire KI will cause a situation in which most people will be unable to get the drug in an emergency. This could lead to a failure similar to what happened at Chernobyl—where thousands of children developed avoidable thyroid cancer; an action Nils Diaz, the current Chairman of the NRC called "*a callous disregard of the former Soviet Union for its people*"⁸

Are we to risk duplicating these mistakes?

Note that an implicit assumption in these guidelines is that there exists a "Strategic National Stockpile" of KI tablets that is available to provide the drug to anyone who needs it. In reality, no such stockpile exists. At most, there are no more than 1 to 2 million tablets (and 1.7 million bottles of liquid) that could be distributed in an emergency, and it would be virtually impossible to produce more in time to be effective. Should an accident occur, the need for KI would quickly exceed available supplies (for example, there are more than 20 million people within 50 miles of the Indian Point reactor). Some people, therefore, who might see themselves at risk will have to go without, and how they might respond is an issue that deserves consideration. Again, the New Orleans experience suggests that social unrest might result if one group of people (those unable to get the drug) suspects that others (those given KI) are receiving better treatment from the government.⁹

Further, the fact that KI is so inexpensive that cost is simply not an issue should also be recognized (a point that these guidelines completely neglect). As Anbex has previously shown, the cost to stockpile protection for a family of 4 (2 adults, two children) for two years would be less than the cost of a postage stamp. The plan that Anbex has proposed would provide enough KI for three days' protection for everyone within 200 miles of a commercial reactor or possible terrorist target, and would provide a mechanism to move more KI into affected areas as needed. This would eliminate most of the radiation threat from an accident or the use of a nuclear weapon—an action many experts claim is only a matter of time. Given the expected spread of nuclear weapons over the next few years among countries or groups that might be hostile to us, an adequate supply of KI represents a realistic response to one of our nation's most feared problems.

⁸ Office of Public Affairs, US Nuclear Regulatory Commission, News Releases, Vol. 22, No 25, June 21, 2000

⁹ At the time of the Three Mile Island accident, when only a small amount of KI was available, the decision was made to withhold it from everyone (including the emergency workers at the plant) in order to keep its existence secret. The fear was that the possibility of rioting by those trying to get KI might be worse than the accident itself. See "Report of the President's Commission on the Accident at Three Mile Island" John J. Kemeny, Chairman

Clearly, the issue of KI is one that is without precedent. Planners and response authorities must work in an environment of murky assumptions that are untested by experience or validated by consensus. Yet it is realistic to expect that a nervous public will demand that every possible measure be taken to protect and reassure them in the event of an accident or terrorist emergency, and certainly KI tablets will be among the public's first requests. Thus, officials should recognize that arguments and compromises that satisfy planners prior to an emergency may seem utterly irrelevant to people who are involved in one—and may lead citizens to suspect that authorities are unable or unwilling to protect them. Consequently, their behavior could become unpredictable.

Finally, as the most recent studies of Chernobyl have suggested, the greatest impact in a nuclear incident may be the long-term effect upon the mental health of those located in contaminated areas. Non-specific fears and chronic anxiety among people who believe they have been exposed to radiation may be the most damaging legacy of a release from a weapon or reactor. The feeling of helplessness and the inability to do anything to protect oneself or one's family from "radiation" (something few people understand), combined with the ever-present fear that the deleterious effect of exposure may not show itself for years, has apparently been a major factor in the severe general deterioration of health among millions of people who lived through the Chernobyl event. To this end, providing people with a few small tablets, along with the calming reassurance that KI will give protection from exposure to the only form of radiation likely to harm them¹⁰, will almost certainly reduce the long-term health consequences of any release.

Given this, Anbex believes that expanded distribution of KI as called for by the Bioterrorism Act represents a wise investment, and that these guidelines should be modified to assure and encourage that action. The cost of potassium iodide is very low, so little is lost if it is stored and never needed. However, should the need arise, the consequences of not having it (or, perhaps worse, not having enough) could be devastating.

Sincerely,

Alan Morris
Anbex

¹⁰ Numerous studies have shown that thyroid damage was the only statistically significant health effect found among the general population caused by the Chernobyl accident. Sufficient KI would have prevented all of this.