ALASKA LEGISLATURE COMMITTEE FILES 1987-1988
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LICENSING RECORD CLEARANCE REQUEST

Alaska Statute 47.35.010-080 and regulations for child foster homes, adult foster homes, residential child care facilities, and adult residential care facilities authorize the Division of Family and Youth Services to be satisfied that applicants for a foster home license and administrators of residential facilities are of reputable character, have sound judgement, are free from mental health problems, and are free from serious criminal history. In a foster home all members of the household 18 years or older must also be free of serious problems, including criminal history. If an adult joins a household during licensure, for an anticipated stay exceeding three weeks, a clearance request is to be submitted for that individual. The review of background records assists the Division in making a licensing determination. A failure on the part of an applicant to provide the Division with information and authorization requested on this form may be sufficient cause to deny issuance of a license.

There are two purposes of this form. First, the form will produce a Department of Public Safety check regarding the possible existence of an arrest resulting in a criminal charge and/or a criminal conviction record. Second, the form may produce a Division of Family and Youth Services file check regarding the possible existence of a substantiated child or adult abuse or neglect record. Division files also provide a check against current or previous licensing status of the applicant in the State of Alaska.

The existence of a criminal history record, or a substantiated child or abuse and neglect record does not necessarily disqualify an applicant for licensure. However, it does provide the Division with information which will be carefully evaluated to ensure that the applicant is able to meet licensing requirements.

If a license is denied, a renewal of a license is refused, or a license is revoked based upon a review of the records and a consequent determination of inability to provide adequate or appropriate care to persons being served in the licensed facility, the applicant or licensee will be furnished with a summary of findings on which the decision was made.

Under state statute and regulations child abuse or neglect and criminal history records are confidential with the exception of use in a licensing administrative or court hearing under the Alaska Administrative Procedures Act. This license record clearance form is treated as a confidential part of the licensing file. The Alaska Department of Public Safety affixes the following stamp in red to each form processed:

January 29, 1988

Fran Ulmer
Representative
P.O. Box V
Juneau, Alaska 99811

Dear Representative Ulmer:

I just wanted to clarify a few matters on the proposed legislation prohibiting a "Suspended Imposition of Sentence" (SIS) for sex offenders.

I must say quite candidly that I was very surprised by some of the questions and issues raised during the HESS hearing on the proposed bill. In spite of your eloquent plea for the legislation and concise explanation of its effects, several of individuals on the committee seemed to completely misunderstand the effect of this bill.

First, I am very perplexed by the testimony from the individual in the Department of Corrections that this bill could potentially cost the State as much as one million dollars a year. AS 12.55.125 (§g) already prohibits an SIS for several serious offenses including "sexual assault in the first degree." The impact of the proposal bill would be to prohibit a suspended imposition for second degree, third degree and fourth degree offenders, all sexual offenders.

As you are well aware, this bill is not a sentencing provision. Whether or not an individual receives a suspended imposition of sentence has virtually no effect upon whether jail time is imposed, except in the very limited number of cases in which an individual is a second sex offender. Therefore, the only individuals who would receive any kind of sentencing enhancement as a result of this legislation are individuals who commit second sexual offense in Alaska. The clear purpose of this legislation is not to enhance the penalties for sexual offenders, but simply to identify the population of sexual offenders to potential employers and other interested parties in our society. Conversely, this bill should actually save the time and resources needed to have court hearings to expunge sex convictions.

I hope that the committee is able to see past some of the spurious issues raised by the debate on this legislation and focus in on the dual purpose of this bill: 1) to identify the population of sexual offenders; and 2) send a message to the community that sexual assault is at least as serious a crime as drunk driving. The legislation, in AS 28.35.030, (driving while intoxicated) upon which this legislation is based, has already withstood several court challenges and been effectively enforced for several years.

Thank you again for your support of this legislation and your unwavering commitment to the safety of Alaskans. I look forward to the day that we can live in a state in which we are able to readily identify those individuals who pose the greatest risks to their fellow citizens.

Sincerely,

Russell S. Babcock
Attorney

RSB:krn

MEMORANDUM State of Alaska

TO: Representative Fran Ulmer
House of Representatives

DATE: February 3, 1988

FILE NO:

TELEPHONE NO: 465-3428

THRU:

SUBJECT: HB 372, Suspended Imposition of Sentence

FROM: Stephanie E. Joannides
Assistant Attorney General
Department of Law

When a defendant is convicted for an offense and appears before a judge for sentencing, a sentence may be fashioned in a number of ways. One option is the actual imposition of a sentence for a specific time with a portion of that time suspended. Or a judge may decide to withhold the imposition of the sentence and place the defendant on probation for a certain period of time with certain conditions that the defendant must abide by. These two options are discussed below.

AS 12.55.080 authorizes a court, when a sentence is actually imposed, to suspend a portion of that sentence "and place the defendant on probation for a period and upon the terms and conditions as the court considers best". For example, if a defendant is convicted of assault in the third degree (a Class C felony punishable by a maximum term of five years) a court may sentence the defendant to four years with two suspended and place the defendant on probation for three years. What that sentence means to the defendant is that the defendant has been sentenced to a potential maximum term of four years to serve but by suspending two of those years the court is only requiring that defendant to serve two years in jail at that time. The suspended two years will be "hanging over the defendant's head" during the probationary term. If a defendant violates a condition of probation at any time during the three year probation then a petition to revoke probation may be filed and a defendant may be brought back into court for a hearing. If it is then determined that in fact the defendant did violate a condition of probation, a part or all of the two years that were suspended may be reimposed and the probationary period may be adjusted appropriately.

A suspended imposition of sentence under AS 12.55.085 allows for a defendant to never actually be sentenced. After a defendant is convicted of an offense, the court has the power to

withhold or suspend the imposition of sentence and impose probation for a period up to the maximum allowable sentence. If a defendant does not violate the conditions of probation, the court may set aside the conviction at the end of the probationary term. The court, when it suspends the imposition of sentence, may impose a period of jail time as a special condition of that probation. The practical effect of this legal mechanism is illustrated in the following example. A defendant convicted of assault in the third degree may receive a maximum sentence of five years to serve. If at the time of sentencing the court suspends the imposition of the defendant's sentence, the court may do so for a period not to exceed five years which is the maximum sentence which may be imposed. The person is then placed on probation for the time period set by the court. A special condition of probation may be imposed that could require the person to serve one year in jail. After the defendant serves the required time in jail, if he or she violates a condition of probation, the court then has the power to revoke the probation and to impose sentence. Before the court may exercise the power to revoke, the defendant is entitled to a hearing. At the hearing, if the court finds that the defendant violated a condition of probation, the court then has a number of alternatives. Imprisonment is not automatic, nor does the defendant receive the maximum allowable term under the suspended imposition of sentence. Under our example, the defendant could be sentenced to three years with one year suspended. The practical effect of that sentence would be to require the defendant to go to jail only for one additional year, as he or she would receive credit for the one year already served as a special condition of probation. Another alternative would be a sentence of three years with two years suspended. In that situation, the defendant would be given credit for the one year he or she already served so no additional jail time would actually be required. A period of probation would be imposed and the conviction would not be set aside. Another alternative that is unfortunately not uncommon is that even after the court makes a finding that a defendant has in fact violated a condition of probation, the court revokes the defendant's probation but then just reimposes the SIS with an additional one or two months incarceration.

Under present law, convicted felons that are subject to presumptive terms may not receive a suspended imposition of sentence. See, AS 12.55.125 (g). In other words, a defendant convicted as a "first-time felony offender" of sexual abuse of a minor in the first degree, under AS.11.41.434, who must receive an eight year presumptive term, may not receive a suspended imposition of sentence. Individuals convicted of sexual abuse of a minor in the second or third degrees, non-presumptive offenses, may receive a suspended imposition of sentence. Other than presumptive offenders, persons convicted of Driving While

Intoxicated also may not receive a suspended imposition of sentence.

It is important to expand the list of sex offenses which cannot receive an SIS. Many experts agree that a very large percentage of child molesters do not fit into the stereotype of a criminal defendant. They are usually employed, have ties to the community and no prior convictions. As such, they are more apt to receive suspended impositions of sentence since the courts feel that their potential for rehabilitation is great due to their background. Unfortunately, sex crimes, unlike some other offenses, are repeated. Sex offenders are not usually caught the "first time." They continue to reoffend. There is no known cure and unless an offender participates in a very structured long-term sex offender program, the recidivism rates are high. As a result, it is very important to have such convictions as part of a permanent criminal record so that the people of Alaska as well as law enforcement and other interested agencies in other states are informed of the defendant's prior criminal history should he or she choose to move and look for different parts of the country in which to reoffend. By continuing to allow certain sex offenders to receive a suspended imposition of sentence, the efficacy of AS 12.62.035, which provides access to criminal histories of this high risk group, is weakened.

It is not unheard of to single out certain types of crimes for special treatment. In the past, the legislature has determined that there is an overriding state interest in not suspending the imposition of sentence of people convicted of Driving While Intoxicated. In addition, presumptive "first time" offenses have been determined to warrant permanent placement on an individual's record. The consideration of a defendant's history is also exemplified in the rules of evidence. ER 609 allows the for the impeachment of a defendant convicted of a crime involving dishonesty if he or she chooses to take the stand in subsequent criminal proceedings for five years after conviction. Evidence or reference to other convictions is not allowed.

HB 372 will impact the public by providing a clear message that sex offenses are very serious offenses in the eyes of the law and that no matter who a person is that commits the offense, he or she will receive a permanent criminal history. The public in Alaska and in other states will be protected by HB 372. Offenders who are reported to the authorities but who cannot be prosecuted because a victim is too young to go through a trial or as a result of technical legal issues often will leave this state to settle in another area. We have heard of situations where the offender reoffends again in his new home soon after the move.

Sharon Brogan of Men, Inc. (586-3585) may be able to provide you with expert testimony in support of the permanent placement of a conviction on a sex offender's criminal history. She will also be able to provide you with information to show that sex offenses are "progressive", in other words, an offender might start by exposing him or herself or harrassing or "grooming" his or her victims, and then gradually go from touching to penetration. It is unfortunate, but sex offenders are usually not caught the first time they offend. As a result, the inappropriate behavior is ingrained and not amenable to a quick and easy cure.

Should you require any additional names of experts to provide you with testimony regarding the importance of a permanent record on sex offenders, please contact me and I will provide you with additional names and phone numbers.

SEJ:jf-75

Alaska Court System
State of Alaska
OFFICE OF ADMINISTRATIVE DIRECTOR

JANALEE R. STRANDBERG
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February 1, 1988

Representative Ulmer
Chairman, State Affairs Committee
Alaska State Legislature
P.O. Box V
Juneau, Alaska 99811

Dear Representative Ulmer:

This letter is in response to your request for information about the court system's record-keeping procedures, particularly in respect to the handling of suspended impositions of sentence. The court system records an SIS as a conviction. The operative statute, AS 12.55.085(e), provides that the court may set aside this type of conviction upon the court's discharge of the offender. However, the record of conviction remains if no one requests that the conviction be set aside. Even if the conviction is set aside by the court, this does not mean that the offender's record in APSIN is also expunged.

If I can provide further information, please let me know.

Sincerely,

Janalee R. Strandberg
Staff Counsel

JRS:hr

Alaska Court System
State of Alaska
OFFICE OF ADMINISTRATIVE DIRECTOR

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February 2, 1988

Representative Fran Ulmer
Chair, House State Affairs
Alaska State Legislature
P.O. Box V
Juneau, Alaska 99811

Dear Representative Ulmer:

After rereading your memo and talking with Linda today, I thought I should follow-up my February 1 letter to you with more detail about the court system's record-keeping procedures.

The court system sends records of offender sentences to the Department of Public Safety for input into APSIN. The technical services department has an APSIN terminal. Those people within the court system with a legitimate need for APSIN information may request it from technical services.

Twelve courts have their own computers. These contain case files which include sentences and are available to anyone.

I hope this additional information is of assistance.

Very truly yours,

Janalee R. Strandberg
Staff Counsel

JRS:hr

Alaska State Legislature
House

Official Business

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

M E M O R A N D U M

January 29, 1988

TO: Committee on Health, Education and Social Services

FROM: Representative Fran Ulmer

SUBJECT: House Bill 372, Suspended Imposition of Sentence

During the HESS Committee hearing on HB 372, prohibiting suspended imposition of sentences for sex offenders, some questions were asked regarding the potential for treatment and rehabilitation of these offenders.

In partial answer to those questions, I would like to share with you some testimony on this subject which was offered to the House Judiciary Committee by Dr. Bruce Smith of Langdon Clinic.

Attachment

TESTIMONY OF DR. SMITH
LANGDON CLINIC
JUDICIARY COMMITTEE
JANUARY 22, 1988

My name is Dr. Bruce Smith. I'm a clinical psychologist in private group practice at Langdon Clinic in Anchorage, Alaska.

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I am currently the program director for the sex offender treatment program at Highland Mountain, which is a treatment program jointly run by the Department of Corrections and Langdon Clinic. Langdon oversees, administers and supervises the program. We have 90 men in an incarcerated setting in an intensive two-year treatment program at Highland and we also follow them on a one to two-year follow-up after care basis upon release. In addition to that in the outpatient sector at Langdon, we have programs for adults, out-patient treatment programs for adult sex offenders who are not incarcerated and I also run an outpatient program for juvenile sexual offenders ages 12 to 18. In addition to that, I am director of programs over which we have a continuum of treatment for juvenile sex offenders which includes consultation to various incarcerated settings, residential treatment homes such as Jessie Lee and the McLaughlin Youth Center programs.

In addition to that, I have been doing forensic evaluations and expert testimony for approximately six years in Anchorage. That's including sexual offenders as well as misdemeanants and other non-sexual offenders through the courts.

As I understand it, I've been asked here today to comment on some fundamental differences between sex offenders and other criminals and other criminals in the criminal justice system, with respect to the question of admissibility of prior acts. With respect to that, I would like to address my comments to three different areas.

The first is that there's a criminal justice system which in many ways facilitates a man entering into denial, with respect to the extent to which he might have prior acts. A man is certainly not wanting to give, voluntarily, information which is going to increase the length of his sentence when he is being asked by a police investigator about the nature of his activity with a victim or the number of victims in the past. So there's a kind of a system set up in the adversarial judicial system we have whereby an offender's simply not going to admit, out of common sense, except he knows he must. That's continued within the prison setting because sexual offenders are at risk, physically and psychologically. Within most jails they're low man on the totem pole, so to speak, and so they often fabricate stories with

respect to what their offenses are and that denial trend is continued.

When we see them in treatment, we almost always have to spend between two and six months working on breaking down the denial patterns, whether that's a blanket denial that I was drunk at the time and I don't remember anything about it, or whether it's denial for a specific act or extent of activity.

Recently, we've also come to the suspicion with most sexual offenders that there are also prior acts and prior victims. This suspicion comes from two basic places. The first is our clinical experience with men who do admit, without generally talking about specific dates, names or places, but admit to prior victims. They also admit to activity that generally begins around the age of 16, by dreaming sexual fantasies that lead to, if not deviant sexual activity, that then progresses over the course of their adult life.

In addition, there are statistics from a group on the east coast, Ginabel, Middleman and Becker, who have an article in 1985 called "The Assessment and Treatment of Criminal Behavior," which talks about statistics that they gathered with a certificate of confidentiality issued by the federal government, in which they looked at 411 paraphiliacs, is the term, meaning sexual deviants. Out of that 411, when they had absolutely no sanctions, no recriminations that would come about from their talking very explicitly about all the sexually deviant acts and victims that there had been in their lives, they had a total of attempted, out of this 411, there had been attempted 238,711 sexually deviant acts. They had completed 218,900 with a total victim number of 138,137. The average course of this activity was over 12 years. Now if you break that down into rape versus child molesting, and the Kinsey Report which came out in the '40's which was the first basic report of American sexual behavior which talked about the average number of rape victims for rapists, the admission was 1.4 in statistical average terms. In this data, the rapists had an average of 7.5 victims. Our experience, incidentally, at Highland, is that a rapist has one victim. They only admit to the one that they had as an instant offense.

With respect to the child molesters, the numbers are even higher. Each offender had attempted 238 molestations, had completed 166 and had an average of 76 victims. In addition, 50% across the board, both rapists and child molesters, had multiple deviations, meaning that molesters, for example, 30% of them had accounts of exposure to children and adults. Seventeen percent of the molesters had also raped; 14% had been involved in voyeuristic activities, and on and on. With the rapists, the percentage were, interestingly, at 51% that had also been indications of child molestation of some kind; 29% had engaged in exhibitionistic acts; 20% in voyeuristic acts, etc. etc.

This is a lot of data and a lot of statistical information but to summarize, what it tells us as treatment professionals is that sexual offending is a process, an on-going process that is cyclical in an offender's life, it generally begins at the age of 15 or 16, and will continue through an adult life span unless it is treated, unless it is brought to attention and confronted in the individual and very effective treatment provided. With that kind of statistic, for us as a treatment team, it develops, as I mentioned before, the suspicion with respect with admission of only one act.

That's kind of a background with respect to statistics which leads me to my third point, which is, in addition to the lying and denial pattern that you see, and the number of deviant sexual acts that are admitted by this particular population which we don't have any reason to believe is all that atypical for a sexually deviant population, we therefore look at the sex offender when we're trying to make decisions about amenability to treatment, dangerousness, etc., with only one real good hammer: That is, the best predictor of future behavior is past behavior. Personality testing with a sexual offender, there's 44 different MMPI, personality profiles, that typify sexual offenders. That means that you can't simply by using personality testing come up with any diagnostic surety that you have someone who's a sexual offender. Again, it places us back in that issue of needing to have past behavior in order to understand future behavior. In other words, in order to make the best predictions we can with respect to both future offenses and amenability to treatment, and the place that a person is in in their particular, what we term "assault cycle." We look at that as a pattern of behavior that a sexual offender will go through periodically where he will culminate in revictimizing or in choosing a new victim. It's a means of expressing both deviant sexual fantasy and/or arousal, as well as emotional needs, as well as an ingrained pattern of compulsive behavior.

Let me stop there and entertain questions or comments.

Sund: I just want to let people know, I have quite a few people on the teleconference network that have been asked to testify on this piece of legislation, and I want to make sure they get in and I have some here in Juneau here, too, just so the committee keeps that in mind that we have quite a bit to get through. One of the reasons I asked this question yesterday, Dr. Smith, is that the proposal to amend Alaska Rule of Evidence 404, to allow evidence of physical assault on a child or evidence of other acts by the defendant toward the same or another child, as admissible evidence to prove an act, and the issue that has come up: Is it relevant or should acts by the defendant toward another child that are not charged in the crime that's being prosecuted, should they be admissible to help prove the crime at that time? The issue here is obviously propensity to commit that

type of a crime and I appreciate your comments on that. Representative Taylor.

Taylor: Yes. My question is very brief, Doctor. Could you, in summary fashion, explain the program that you're currently running with those incarcerated inmates?

Smith: Very briefly, the two year incarcerated program, two to three year, actually, depending on the self-motivation of the inmates, it is appropriate milieu style. That means that the men live in functional units of ten and are involved in group therapy and individual therapy in those group units. In addition to that, we do behaviorial reconditioning work with their sexual arousal and sexual fantasies in a laboratory setting. In addition to that, we involve them in education, didactic education, on victimology, on thinking errors, on sexual education, and relapse prevention in a lot of these other areas. So it's a fairly comprehensive program. It's been evaluated as a model program last year by an outside, independent evaluator.

Sund: Dr. Smith, do you feel that people who are convicted of sexual offenses, or sexual assaults in this case, are treatable?

Smith: Absolutely.

Sund: That's an issue that's come up before this committee that feel that some of those cases, they just are not treatable at all and I just appreciate your comment on it. Representative Ulmer, you had a comment.

Ulmer: Just one clarification on the last question. I think there's a difference between whether someone is curable versus if someone is controllable, versus if someone is treatable. I think the question which has arisen, and it's slightly off-target on House Bill 237, is that there's a suggestion that some people can learn to control their behavior but that that may be differentiated from being cured.

Smith: That's a very good clarification. It's analogous to an alcoholic. Once a person has become alcoholic, they always have a propensity of that substance and therefore they can control that urge and actively not drink, but there remains a much higher risk of being alcoholic in their behavior. Similarly with sex offenders. No one is saying that we cure sexual offending. We are simply providing these inmates with a new set of tools for thinking and for behavioral control which they, hopefully, will use. Our recidivism statistics to date show that they, in fact, are if they make it all the way through our program.

Sund: Thank you very much, Dr. Smith. I appreciate it.

TESTIMONY OF DR. SMITH
LANGDON CLINIC
JUDICIARY COMMITTEE
JANUARY 26, 1988

I testified last week just with some facts and figures with respect to sexual offenders and what you can expect in terms of past sexual offenses when there was a certificate of total confidentiality. And then I had to leave the proceedings and I understand that there has been a question with respect to the issue of treatment and how treatment might be affected by something like consecutive sentencing. So I wanted to be available to this committee for that, also to any questions you might have in more depth or detail with respect to the nature of the sexual offendent.

So I think that maybe to provide a stimulus for that, if I could just speak to the issue of how the sexual offender presents themselves. It's always a question of whether it's a difference between someone who would be "a common criminal" in the criminal justice system, and a sexual offender. In some cases, obviously, none at all, in terms of appearance or method of operation, but in some other cases there are very, very wide differences. We've seen that overall in the facility at Highland Mountain where our predominant treatment program, that is the largest number of offenders is located in the state. The complexion of that institution has changed in the five years that we moved from a treatment base of 20 to a treatment base of 90, because of the fact that the predominant sexual offender in the system is sexual assault of a minor charge, a pedophile by diagnosis, as opposed to rapists. Rapists get longer sentences and are either in more maximum security institutions here in Alaska or else in the FBP, Federal Bureau of Prisons.

But, in addition to that, the method of operation, the method of presentation of someone who has been generally convicted of a child sexual assault is such that they will seem very much like you and me, from the perspective that they will hold the same values in terms of the Protestant work ethic. They will work very hard in the institution; they work very hard, in fact, out of the institution. They don't have an itinerant history, either in relationships or in vocational, in terms of their job history, as you often find with a criminal background where they move geographically every one or two years, they engage in short-term relationships, they are unable to hold down a job. The sexual abuser that we see is someone who establishes himself in a job, establishes himself in the community, establishes himself, often, in a family; who, in fact, uses his ability to work his way into those situations, those groupings, for their own reasons. So, in a way, he has the same value structure as you or I, but it's for the wrong reasons. His reasons have to do with gaining access, first of all gaining trust, gaining the trust of his family or of the neighborhood or

of the community and, second of all, using that trust for his own purposes which have to do with an underlying deviant sexual arousal. I don't have to but allude to the kind of cases that get a lot of notice in certain geographic areas in the state, the man of the year, in a particular state. We have physicians, we have psychologists, we have ministers, we have police officers. They cut across a wide swath of vocational and job strata or social strata, in terms of who it is who is charged and ultimately convicted and comes through the program. That's one major difference that we do see is that on the surface you can't necessarily tell.

Certainly the other point I was trying to make was that in terms of personality profiles, you also can't necessarily tell. What is uncontrovertable evidence for any sexual abuser is their past history of sexual abuse and behavior. That, and really nothing else.

The only other thing I might add with respect to sexual abuse is the difference in the impact of the crime. If someone enters your home and steals from your property, takes property from you, we all feel a sense of intrusion when that has happened. There's a sense of a personal investment in our objects and so there's a sense of intrusion in having someone come into our castle, so to speak, in your home. But that is external to us physically. We can get over that by replacing those articles, by buying into a sophisticated security system or just changing the locks. When your body's invaded, as occurs in a sexual abuse case, you can't change the body that you live in. The impact on the victim is so much different that that's where the crime really does become something that is qualitatively quite different on the impact on those that are the victims of it.

I think at that point, I'll stop, with respect to that, and ask if there's any questions the committee might have about the characteristics of the sexual offender.

Ulmer: Thank you, Dr. Smith. Are there any questions? Representative Barnes.

Barnes: Thank you, Madam Chairman. I'm not sure that I heard you correctly so I'd like to have you repeat it, if you would, please. The population that you have at Highland Mountain, would you state again exactly what that's made up of? Did I understand you to say that those that have committed sexual abuse are more likely to be in a more long-term prison than the ones that are at Highland Mountain, and those that have gotten lesser sentences are the ones that have abused children?

Smith: Thank you. That needs clarification. What I was saying there was that generally with an offense that involves rape, that there's the use of a weapon and/or use of enough force

where the sentencing reflects that. The longer the sentence, the higher the security level within the Department of Corrections, and therefore, the higher the security level, the more that they're going to be incarcerated in a maximum security setting. Highland Mountain is a minimum to moderate security institution; therefore, the prisoners that we get are prisoners that are the end of their sentences who are a much lower risk on that matrix.

The other part of that is that the complexion of the sexual offender in the state is that we have more sexual abusers of children than we do rapists, in terms of relative numbers, even though, statistically, we're in the top five in the country for both rape and sexual abuse of minors.

So it's two-fold. It's the complexion issue in terms of who is, in fact, in the system, and then it's also, to a lesser extent, the fact that a man is not going to be long-term, is not going to housed, if he has an extremely long sentence. But, with the presumptive eight year sentence, we certainly have a majority, at this point I think, of the offenders in the system have the presumptive eight.

Ulmer: Any other questions for Dr. Smith? Thank you very much for joining us. We appreciate it. Representative Taylor.

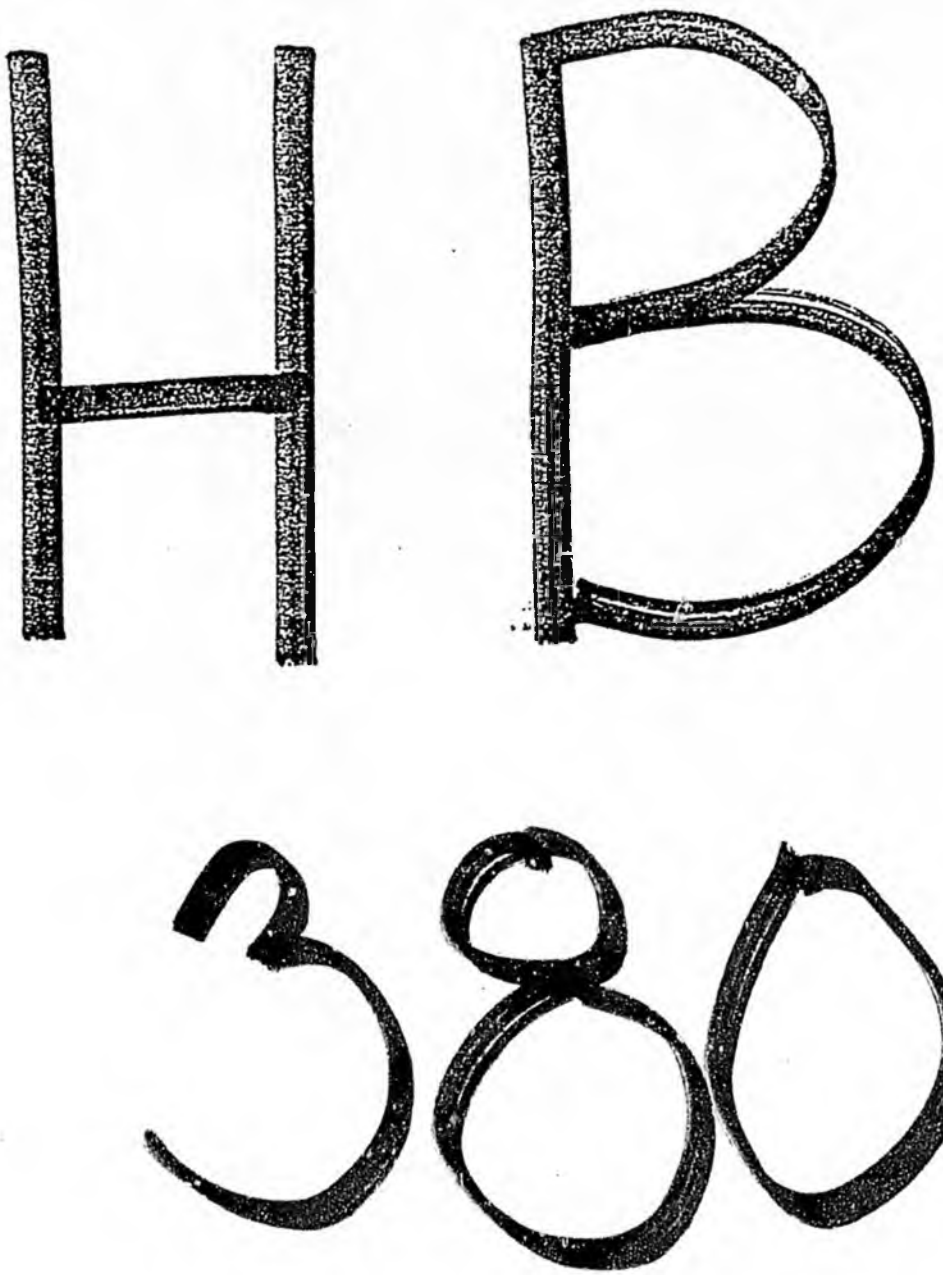
Taylor: Dr. Smith, do you have any figures that would give us some idea of recidivism rates, rehabilitative effects of the program that you're running?

Smith: Yes, I do. They're preliminary. First of all, you need to have about five years worth of treatment program in order to have recidivism statistics that are valid, for the very fact that again, there's a difference between rapists and child molesters in that rapists will generally re-offend, if he's going to, in the first year post-incarceration; whereas, a child molester will re-offend up to five years, post-incarceration. So he's much slower in his method of operation. So you need to have that kind of data. In addition, you simply need to have people that have cycled out of the system. So having said that, we have the three-and-one-half-year recidivism rate, to date, which shows that for the people that complete the program, not one of them has re-offended to date. I'm quoting only sexual re-offenses, actually, for the people that have concluded the program. Out of that total number that have gone through our program since September 1983, we've had 231 people. Out of that 231, 23 have successfully completed the incarcerated component, meaning they have gone through the complete two years and they are now in the follow-up after-care setting. That comprises 10%. In addition to that, there's also another 76 who have been released who were still in the program, so we consider them to be a group that was continuing to work. So, in other words, 43% of the men who have come to the program continue with us in after-care follow-up, and 57% of the men who come to the program drop out. They fail or

they're asked to leave, for one reason or another, which may sound high but across the nation, it's relatively low compared to other programs of equal rigor or intensity. So you have to break it down into three categories to answer that question of recidivism.

In the first category, Group A, which is the people that completed, we have had two re-offenses which were alcohol-related probation violations, but no sexual re-offenses. So that's a statistic of either zero or nine percent of the total, depending on whether you include the two alcohol related offenses or not. Out of that group of 57% that have dropped out, they have an overall recidivism rate of 25%. In relative terms, we're talking about, at this point, 9% versus 25%. But, again, out of that Group C, of the 132 that dropped out so far, only 64 have actually been released. So you see you have 68 men still in jail who we can't necessarily say anything about. Because they're still incarcerated, we don't have any idea what their overall recidivism is going to be. So it's a preliminary kind of recidivism statistic. All we can say is that at this point for the men that complete the program, none of them are re-offending. So that's a very heartening statistic and one that we hope will continue. But it will take another year-and-one-half before we'll have the kind of statistic where I sit and answer that question completely.

Ulmer: Thank you very much. Any other questions? Thank you for joining us.


HB
380

(7)

HOUSE COMMITTEE REPORT

Date referred: 1/20/88 FURTHER REFERRALS: Finance

DATE: 3-3-88

The Health, Education and Social Services Committee has considered HB 380

"An Act relating to state aid for school construction; and providing for an effective date."

RECOMMENDS:

[X] replace with CS HB380 (HESS) [X] the same title

[ ] attached amendment(s) [ ] a new title

- [ ] do pass
- [ ] do not pass
- [X] no recommendation
- [ ] individual recommendations
- [ ] additional referral to the _____ Committee

ADOPTS: [ ] _____ letter of intent

ATTACHES NEW FISCAL NOTE(s):

- [ ] fiscal impact
- [X] zero fiscal note
- [ ] zero with analysis
- [ ] same as previous fiscal note published _____
- [ ] same as previous zero fiscal note published _____

SIGNING DO PASS:

Nicholas E Kozanas

Bill Hudson

SIGNING OTHER RECOMMENDATIONS:

Mike Greenberg NO REC

David Dudley NO REC

H Ellis No Rec

Wayne Stanley No Rec

Robert Ortiz No Rec

H Ellis

Co-Chairman's signature

Nicholas E Kozanas

STATE OF ALASKA
1988 LEGISLATIVE SESSION

BILL VERSION: HB-380
PUBLISH DATE: _____

FISCAL NOTE

REQUEST:

Revision Date: _____
Title: . . State aid for school construction . . .
Sponsor: Swackhammer
Requestor: House HESS

Agency Affected: Education
BRU: Debt Retirement
Components: _____

EXPENDITURES/REVENUES: (Thousands of Dollars)

OPERATING	FY 88	FY 89	FY 90	FY 91	FY 92	FY 93
PERSONAL SERVICES						
TRAVEL						
CONTRACTUAL						
SUPPLIES						
EQUIPMENT						
LAND & STRUCTURES						
GRANTS, CLAIMS						
MISCELLANEOUS						
TOTAL OPERATING		Ø	Ø	Ø	Ø	Ø
CAPITAL		Ø	Ø	Ø	Ø	Ø
REVENUE						

FUNDING: (Thousands of Dollars)

GENERAL FUND		Ø	Ø	Ø	Ø	Ø
FEDERAL FUNDS						
OTHER						
TOTAL						

POSITIONS:

FULL-TIME						
PART-TIME						
TEMPORARY						

ANALYSIS: (Attach a separate page if necessary)

This estimate is based upon the assumption that grants awarded under this legislation will off set savings achieved through elimination of prospective debt service obligations.

Prepared by: Steve Hole
Division: Commissioner's Office
Phone: 465-2800
Date: 3-2-88

Approved by Commissioner: William G. Demmert
Agency: Department of Education
Date: 3-2-88

Distribution (by preparer):
Legislative Finance
Legislative Sponsor
Requestor
Office of Management and Budget
Impacted Agency(ies)

Alaska MUNICIPAL League

TELEPHONE
(907) 586-1325

105 MUNICIPAL WAY, SUITE 301
JUNEAU, ALASKA 99801

TO: Representative Niilo Koponen, Co-Chair
Representative Johnny Ellis, Co-Chair
Members of House Health, Education and Social Services Committee

FROM: Scott A. Burgess, Executive Director

DATE: February 17, 1988

SUBJECT: HB 380 - State Aid for School Construction

The Alaska Municipal League supports the concept of HB 380 to address school construction costs past, present and future. The legislation would provide a mechanism for the State to meet its obligation to reimburse municipalities for school construction debt at statutory levels and to more effectively control the State's future capital cost in meeting its Constitutional responsibility for education. While the AML generally supports the direction of the bill, specific problems with HB 380 may arise during the hearings that must be addressed in order to implement the program.

HB 380 would continue the school debt reimbursement program for debt incurred prior to July 1, 1988. All school construction after that date would be financed by grants awarded on a state-wide priority basis. The bill reflects the efforts of the Department of Education and municipal and school officials who met during the interim as the School Construction Funding Review Committee to address the school construction program and the needs of municipalities and the State. The bill also responds to the moratorium on new school construction debt imposed as a part of SB 150 which passed the Legislature last year allowing municipalities to refinance existing debt. Governor Cowper had asked for the moratorium to give the State time to develop a mechanism to control future debt and state cost for school construction. The bill provides for that certainty for the Administration. HB 380 also maintains the Legislature prerogative to review priorities and determine the appropriation level on an annual basis. Presumably the new grant program will still retain local control over design and construction under state guidelines and the ability of municipalities and districts to pay for new facilities outside the grant program and to add to approved facilities beyond the "basics" at their cost.

The shortcoming of the bill is the lack of guarantee that future appropriations will fully fund statutory obligations for debt reimbursement. While that guarantee does not exist now, i.e. it is subject to legislative appropriation, and cannot be given without a constitutional amendment or a ballot measure to authorize a state general obligation bond, the acceptance by municipalities of a grant process for future school construction is offered as a compromise in exchange for full funding of existing debt. Some commitment to this compromise by the Governor and the Legislature is needed.

The AML supports the concept of HB 380 and looks forward to working with the sponsor and Legislature to crafting a bill that meets existing state obligations, the desire of the State to more effectively control future costs, and to meet the education needs of our children.

cc: Representative Swackhammer

STATE OF ALASKA
THE LEGISLATURE

POUCH Y - STATE CAPITOL
JUNEAU, ALASKA 99811
907-465-3800

LEGISLATIVE AFFAIRS AGENCY

LEGISLATIVE REFERENCE LIBRARY

May, 1988

Copies of minutes listed below were originally included in this file. The minutes are available on the STAIRS database CMPR. In order to save space copies of minutes have not been left in the files.

Mary Van Nimwegen

H HESS 2-18-88 8:30a.m.

HOUSE BILL 380

INDEX

1. House Bill 380

2. Sectional Analysis

3. Governor's Intent for New Legislation

4. Research-Other States' School Construction Policies

COPY

STATE OF ALASKA
THE LEGISLATURE

POUCH Y · STATE CAPITOL
JUNEAU, ALASKA 99811
907-465-3800

LEGISLATIVE AFFAIRS AGENCY

MEMORANDUM January 26, 1988

SUBJECT: State aid for school construction - HB 380

TO: Representative C.E. Swackhammer

FROM: Michael F. Ford
Legislative Counsel

The following is a sectional analysis of the above referenced bill:

Section 1 Technical amendment regarding the Department of Education's power to administer grants under AS 14.11.

Section 2 Requires the Board of Education to review grant applications recommended under AS 14.11.013 and gives the board power to approve grants under AS 14.11.015.

Section 3 Provides authority for a regional school board to recommend school construction projects to the Department of Education.

Section 4 Establishes the school construction grant account.

Section 5 Provides that school districts may submit applications for school construction grants. Establishes eligibility criteria for grants and requires the department to perform certain review functions. Requires the department to establish grant priorities, allows the department to reduce or omit grant requests, and requires the department to reduce grant requests in certain cases. Provides for reconsideration of a grant decision by the department, and for appeal of the department's reconsidered decision. Requires the Board of Education to review grant applications and allows the board to approve an application that meets specified criteria. Provides that the department cannot award a grant unless approved by the board. Establishes certain conditions for all grants that are awarded.

Section 6 Establishes limits on payment of state aid for retirement of certain school construction debt.

Section 7 Provides that a district is not prevented from using other revenue for school construction, by the terms of AS 14.11.

Section 8 Amends the definition of "costs of school construction".

Section 9 Adds a definition for "district".

Section 10 Technical amendment.

Section 11 Repealers.

Section 12 Effective date.

MJF:gc
WKG1:051

STEVE COWPER
GOVERNOR

STATE OF ALASKA
OFFICE OF THE GOVERNOR
JUNEAU

SEP 11 1987

May 12, 1987

The Honorable Al Adams, Chairman
House Finance Committee
Alaska State Legislature
P.O. Box V
Juneau, AK 99811

Dear Representative Adams:

SUBJECT: SB 150-Relating to bonds issued for school construction.

Many municipal and borough officials have met with me and my staff to express concern over the proposed level of funding for school debt retirement. To mitigate the impact of reduced revenues, they have requested legislation to allow restructuring of their current debt, extending the term for repayment. While restructuring will lower the present payments on the debt, it will obligate the state to reimbursement for school construction debt for years beyond the revenue curve generated by Prudhoe Bay.

The State can no longer afford to continue the existing and ever increasing obligation for debt reimbursement under school construction debt retirement program. It is my intent to work during the interim with municipal and borough officials, school district personnel, legislators and members of my administration to develop a new proposal for school construction finance for introduction next legislative session. It is imperative that a program be developed which adequately addresses the needs for school construction and major renovations statewide, while maintaining the proper checks and balances to assure fiscal prudence.

I have agreed to support SB 150 with the proposed amendments to allow for restructuring of existing debt. However, my support is contingent on maintaining in this legislation the cutoff date for the existing school debt reimbursement program. Those bonds which have been

authorized but unissued under this program would continue to be eligible for reimbursement, but the state would incur no additional obligation until a new program is in place.

I am confident that together we will be able to develop a new program for school construction which will adequately provide for the many needs of school districts around the state while increasing public confidence in our ability to effectively manage the limited resources available.

Sincerely,

Steve Cowper
Governor

cc: The Honorable C.E. Swackhammer
Alaska State Legislature

The Honorable Paul Fischer
Alaska State Legislature

Hugh Malone, Commissioner
Department of Revenue

Bill Demmert, Commissioner
Department of Education

SUMMARY -- METHODS OF FUNDING SCHOOL CONSTRUCTION

STATE	METHOD OF FUNDING	EQUITY
Alabama	Mostly local taxes - $60/Classroom Unit per year State funded.	No
Arkansas	84 Million in FY87 - All local taxes - No State contribution.	No 1 mil = $2500 to $7500
Hawaii	25 million in FY87 - Direct appropriation.	Yes - Single School District
Florida	Plan 8.8 billion in construction in 10 years - need 573 elem., 174 middle, 94 H.S. facilities - State Board issues bonds - Board allocates funds based on enrollment growth compared to base years, and requires plant survey - Local levy limit of 10 mils for schools.	"Yes - substantially equal"
Indiana	State provides a $250,000 advance to school districts with less than $8400 AV/Pupil (ADA).	No
Kentucky	Foundation program includes $1,800 per classroom per year "capital funds". Facilities needs established by State DOE - but largest part of project locally funded.	"No Answer"
Georgia	Required local effort of 10 - 25% of project based on wealth. State effort limited by statute to total of 100 million --- Each LEA entitled to a portion of total authorizations set by State Board based on ratio of LEAs need to total of all system needs. Program excludes: pools, tanks, stadiums, athletic facilities, and central administrative offices. Requires annual 5 year forecast and survey every five years. DOE sets qualifying standards and reviews and certifies surveys. State Board approves or rejects survey recommendations.	Yes
Massachussetts	120 million in grants - distributed by AV/P equalized funding pays interest only up to 50% of project cost.	No

Nebraska	31 million FY86 from local bond issues - minimal State funds.	No
New York	$400 million/year - principal and interest reimbursed up to 51% of project.	Yes: For wealthy districts State % is less. For poorer districts it is more.
North Carolina	State Board issues capital money on per student basis (ADM) to districts - 25% local funds required. Commission on School Facility Needs - is studying ways to reduce incentive to delay maintenance.	No
Ohio	10 million in grants per year. Debt retirement assistance must be paid back to the State.	No
Texas	$1 billion/year - local bonds and taxes - State guarantees bonds to raise ratings and save interest cost.	No
Virginia	$81 million new - $80 million additions and alterations - local funds - VPSA purchases general obligations bonds from localities - LEAs do not need voter approval for bonds sold to VPSA - VPSA sells bonds to finance purchase - VPSA bonds rank Aa.	No
Wisconsin	98.4 million P & I - State pays minor share of P & I - districts that spend at the same level per student will tax at the same rate.	"Yes - some"
Oklahoma	All local funds.	No
South Carolina	Total expenditures $136 mill in FY87 - State provides only $30/student/year from 10% sales tax for capital needs. Most construction funds are locally generated.	No
West Virginia	All local funds.	No
Wyoming	Local funding mostly. Since 1976 State grants up to 20% of some projects - 7 million this year to 25 qualifying districts (out of 49). No State standards for school buildings or sites.	No

ALASKA STATE LEGISLATURE
HOUSE OF REPRESENTATIVES
RESEARCH AGENCY

Pouch Y, State Capitol
Juneau, Alaska 99811
(907) 465-3991

- Are there states which fund school construction through direct capital appropriation?

- Are there states which fund school construction through an administrative process?

In the case of states which use an administrative process to fund local school construction, we were also asked to provide examples of statutes used to authorize these programs.

We contacted the Education Commission of the States and obtained survey and descriptive information on the methods used by states to fund school construction. In addition, we contacted state education agencies in Alabama, Illinois, Indiana, Minnesota, Missouri, Nevada, Pennsylvania, South Carolina, Vermont, Washington, and Wisconsin to obtain specific information on school construction aid programs in these states.

Direct Legislative Appropriations

We have found only one example of a state other than Alaska which funds school construction through direct capital appropriation. Hawaii has only one school district, a statewide district, through which all school construction is funded. The Hawaii Legislature funds this construction on a project by project basis. According to Kay Jones of the Hawaii Department of Education, a statewide list of priorities is developed by the Department of Education; instructional space needs and facility rehabilitation are given top priority. Ms. Jones stated

provided as Attachment A. In addition, we have provided an appendix which contains authorizing statutes from other states for each type of program.

Full State Support. Under full state support programs, the state undertakes to fund all capital and debt service expenditures associated with the construction of local schools. Full support programs do not always pay for the entire cost of school construction. If the amount of funds available from the state is less than the cost of all planned construction, local districts may have to supplement state funding or cancel projects. In the case of Hawaii, with a single, statewide school district, local governments may supplement school construction funds by donating equipment or locating recreational facilities adjacent to schools. The source of state funding may be legislative appropriation, as in the case of Hawaii, the sale of bonds, a dedicated fund, or from some combination of all three.

States with full support programs generally have a mechanism for determining the capital needs of local districts. As noted earlier, Hawaii develops a priority list giving first preference to instructional space needs, with needs such as recreational facilities given less weight. Florida develops an annual allocation for each school district based on projection of school facility needs, the district's school bond debt, and the district's ability to obtain funding from other sources.

In the appendix, we have included the statutes from Florida authorizing its full state support program.

Advantages:

there is a high degree of fiscal equalization among districts;

the local districts avoid over-taxing a single revenue source by using the state's greater access to revenue source;

the state can develop an allotment mechanism based on need;

there are savings in the bond market resulting from consolidation of bond issues into a single state issuance; and

the long delays and costs that may be incurred by local bond referendums are avoided.

SUBJECTION

THIS DOCUMENT
HAS BEEN REPHOTOGRAPHED
TO ASSURE LEGIBILITY

ALASKA STATE LEGISLATURE
HOUSE OF REPRESENTATIVES
RESEARCH AGENCY

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that the legislature generally follows the recommendations of the Department of Education with regards to the order of the projects. However, the department does not recommend the overall funding level; this is determined by the legislature. Ms. Jones noted that the legislature has occasionally funded projects which were not at the top of the priority list; however, these were few in number and usually involved less expensive additions such as recreational facilities and auditoriums, not major projects such as new schools.

In addition, Alabama funds school construction by state bond issues. The Alabama Legislature identifies school projects to be included on the ballot proposition placed before the voters; however, voter approval of the bond issue is required before the projects are funded. While this is not a direct legislative appropriation, the executive branch of government is not involved in the project selection process.

We encountered no other instances where states funded local school construction through direct legislative appropriation. However, we have contacted only eleven states directly. The remainder of our information is derived from two reports provided by the Education Commission of the States (ECS). Neither of these studies contains any reference to the use of direct capital appropriation as a method of providing state aid to local school construction. However, it is not clear that either of the studies intended to address nonadministrative programs for school construction assistance.

Administrative Methods of Funding School Construction

There appear to be six general methods used by states to fund local school construction: full state assumption of costs; cost sharing on a percentage basis; flat grants for school construction; an equalization funding system; low interest loan programs; and the creation of an independent authority which leases school facilities to local districts. In this section, we will provide a brief description of each method of school construction assistance, including examples of states which have implemented such programs.

At the end of each description, a list of the possible advantages and disadvantages of the program is provided. This list is derived from a survey article on school construction financing in the Journal of Education Finance.[1] For additional information on state school construction funding programs, we refer you to the article, which is

---

1 Richard Salmon and Stephen Thomas, Journal of Education Finance, "Financing Public School Facilities in the 80's," Volume 17, No. 1, Summer 1981, pp. 88-109.

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the local districts avoid over-taxing a single revenue source by using the state's greater access to revenue source;

the state can develop an allotment mechanism based on need;

there are savings in the bond market resulting from consolidation of bond issues into a single state issuance; and

the long delays and costs that may be incurred by local bond referendums are avoided.

Disadvantages: there is an additional concentration of power and control of public schools at the state level;

the unique need of varying localities may not be recognized because of uniformity among facilities within the state;

there may be less experimentation and innovation in local school facilities; and

needed facilities may be unnecessarily delayed due to the competition for resources at the state level.

Percentage-Matching. A percentage-matching state support program provides local school districts with assistance for school construction according to the amount contributed by the local district. Alaska has such a program, but only for the organized boroughs and first-class and home rule cities. Under these programs, the state defines the allowable costs to be used when determining the amount of school construction aid, and then pays a percentage of the total cost, a percentage of the local district's debt service, or both. Such expenses as site acquisition, architectural fees, and moveable equipment may or may not be included when calculating the total cost of the project for the purpose of providing aid.

In Vermont, the state contributes 30 percent of the audited cost of local school construction, not including site acquisition or moveable equipment. In addition, the state also pays for 20 percent of all principal and interest payments made by local districts for school bonds or short-term school construction loans. The statutes authorizing this program have been included in the appendix.

Advantages: initiation of school construction projects remains the perogative of local school districts;

the state, through use of a project approval process, can encourage cost-effective construction practices; and

state assistance reduces the dependency on local resources.

Disadvantages: school districts with the greatest revenue bases benefit the most from such programs;

substantial resources may be required from the state to meet its percentage-match obligation; and

school districts without significant facility needs would not benefit from state assistance.

Flat-Rates. Some states reimburse local school districts for school construction costs based on a fixed amount per unit. This unit may be the average attendance of the district, the rated capacity of the facility, or the square footage of the project. The significant feature of a flat-rate support program is that it does not take into account the revenue capacity of the district, the level of local expenditure, or the need for the capital project.

In South Carolina, the Department of Public Instruction provides each district with $30 per year for every student enrolled in the district. According to Dr. Henry Hollingsworth, with the Department of Public Instruction, South Carolina pays approximately $18 million per year for school construction to the local district. This covers about 20 percent of the cost of school construction in the state. There is currently a proposal in the South Carolina Legislature to increase the amount per student to $127 annually next year, with the amount to fluctuate over the next several years, leveling off at $80 per year.

In Indiana, every district receives a grant of $40 per registered student each year. The school district must apply this money to any debt service obligations; if there is a remainder, it may be transferred to the district's general fund. We have included the Indiana statute authorizing this program in the appendix.

Advantages: the control of school building programs remains at the local level;

some measure of equalization is provided since money is provided irrespective of the local contribution;

the flat-rate grants reduce the school district's dependency on local revenue sources; and

the program is easily administered, as it has a simple allocation formula.

Disadvantages: programs may not provide sufficient funds to finance projects; and

programs may not take into account the building needs of each district.

Equalization Aid. Equalization programs for state support of local school construction seek to provide a varying level of aid to different districts based on the district's ability to generate revenue. Thus, they seek to equalize the local districts' ability to finance school construction. Equalization support programs have two principal features: a method of determining the base amount of funding to be used, and a formula for calculating an equalization rate to be applied to the base amount of support to determine the actual amount of aid.

The equalization rate invariably includes some calculation which divides a number representing the size of the district's tax base by some measure of the size of the school system. A district with a large tax base will have lower ratio of reimbursement than a district of equal size with a small tax base. This may not be the only factor in calculating the equalization rate, however. The State of Washington includes projections of student growth and an inventory of existing buildings in the calculation of the district's equalization rate.

States use a variety of methods to determine the initial aid amount which is to be multiplied by the district's equalization ratio. Pennsylvania uses the student capacity of the project to determine the number used with the equalization ratio. For example, if a school district is building a high school with a capacity of 700, then the aid rate per student of $3,000 is multiplied by 700 to derive a base aid rate of $2.1 million. This is then multiplied by the district's equalization ratio. If the district had an equalization ratio of .5, it would receive $1.05 million in aid for the school project.

Washington, on the other hand, uses a percentage match system in conjunction with its equalization program. Depending on the resources and needs of the district, the state reimburses between 20 and 90 percent of the cost of school construction projects.

The authorizing statutes for the Washington, Pennsylvania, and Wisconsin programs have been included in the appendix.

Advantages: comparable school facilities are available to districts independent of the capacity of the district to generate revenue; and

reduced need for local revenues for school construction allows municipalities to expend more on other needs.

Disadvantages: for the program to be effective, the state must fund the full amount needed for eligible school construction.

Loans. In addition to providing grants to local school districts for school construction, states may also provide low-interest loans. Loans may be funded through direct appropriation, or the state may establish a revolving loan fund. State loans are generally not charged against the local school district's debt limit for bonding purposes. Some states may make loans available to any district, while some states may have provisions which favor needier districts. The amount of funds available to districts through state loans is usually modest.

Minnesota has a low-interest loan program established to assist newly emerging school districts and districts in areas of rapid population growth. According to Ron Laliberte, with the Minnesota Department of Education, these districts may be faced with a substantial school population before the local tax base has developed sufficiently to support the district's construction needs. Eligibility is determined by computing the taxable property valuation of the district per student. He noted that very few districts qualify for the program because their property valuation is too high.

In Minnesota, the loan program is funded by legislative appropriation. According to Mr. Laliberte, there have been no loans given out in the last two years due to a lack of appropriations from the legislature. There are currently no plans to reactivate the program.

Arkansas has a revolving loan program which makes approximtely $350,000 available annually for loans to local school districts at 6 percent interest. The loans are generally for six years, and the district is required to levy taxes to pay off the principal and interest in this period. Indiana has one loan program which makes a total of $1.5 million available annually to school districts for school construction loans at an interest rate one percent below the current bond market rate. It also has a Veterans' Memorial School Construction Fund which makes a small amount of loans available at one percent interest rates.

We have included the statutes authorizing school construction loan programs from Indiana and Minnesota in the appendix.

Advantages: loan programs provide an economical way for local districts to borrow funds;

loans from the state are not generally charged against the district's debt limit;

the time required to obtain loans is generally less than for bonding; and

the state, through an approval process, can encourage cost effective construction practices.

Disadvantages: state loan funds are frequently limited and provide only a small portion of the funds needed for school construction;

equalization of resources may not be addressed, depending on the structure of the program;

establishment of a loan fund may direct the attention of the legislature away from other, more substantial methods of funding school construction; and

local control of the schools may be diluted by the state approval process.

Authorities. The final method used by states is the establishment of a nonprofit corporation or building authority which issues the bonds for construction of school facilities, retains ownership of the facilities, and leases them to the local school districts. This method is usually used to bypass state limits on local bonded indebtedness by having another party issue the bonds. Generally, the school district is deeded the facility after the lease payments have covered the costs of the bonds.

Kentucky uses this method of school financing, provided districts have levied the maximum general fund tax rate, levied a local tax sufficient to be eligible for their equalization program, submitted a balanced budget and have no current or projected deficit in either general or capital construction funds; and have completed a facilities survey within the last five years.

In the appendix, we have included the Kentucky and Pennsylvania statutes authorizing the creation of building authorities.

Advantages: building authorities offer a method of evading tax and debt restrictions imposed by state law or the state constitution;

state, local, and federal revenues may be used by the school district to pay for the rental costs of the schools; and

building authorities may enable local school districts to acquire funds for construction without voter approval.

Disadvantages: the creation of building authorities ignores the real problems of funding schools by circumventing tax and debt limitations;

building authorities generally use revenues bonds to finance school construction; these bonds have higher interest rates than general obligation bonds; and

the public's right to voter approval of school construction is circumvented by authorities.

In addition to the statutes included in the appendix and the article on school construction financing that is Attachment A, we have also attached to this memorandum a matrix chart prepared by the Education Commission of the States (Attachment B) which shows the operating and capital funding methods for the fifty states. For your purposes, the headings which run horizontally across the page are the pertinent categories; the vertical axis pertains to methods of funding operational expenditures. Unfortunately, the chart does not include information on states which permit building authorities.

There is a table in Attachment A which does show methods of capital funding by states and does include information on authorities; however, our telephone interviews have indicated that there are several inaccuracies in this table. It should be noted that we obtained information in our conversations with school officials in other states that was not in agreement with either chart. Therefore, while these summary tables provide somewhat useful indicators of the degree to which various types of programs are used, it appears likely that both contain at least some errors with regard to specific programs in individual states.

If you have any questions, or if we can provide further assistance, please do not hesitate to contact us.

JS

Attachments

APPENDIX

School Construction Finance Statutes

Florida
Indiana
Kentucky
Minnesota
Pennsylvania
Vermont
Washington
Wisconsin

ALASKA STATE LEGISLATURE
HOUSE OF REPRESENTATIVES
RESEARCH AGENCY

P.O. Box Y, State Capitol
Juneau, Alaska 99811-3100
Mail Stop 3100
(907) 465-3991

February 27, 1987

MEMORANDUM

TO: Representative C. E. Swackhammer

ATTN: Tom Wright

FROM: Jay Livey
Legislative Analyst

RE: **Implications of Proposed Changes in the Law Regarding Reimbursement of School Debt Service Payments**
Research Request 87.160

You asked that we analyze the effect of a proposed change in the law which would eliminate paragraphs (3) and (4) of AS 14.11.100(j). This change would allow municipalities more latitude in refinancing school bonds. Below, we explain the legal effect of the change and discuss the effect of the change on the finances of the State and municipalities.

EFFECT OF STATUTORY CHANGES

Alaska Statute 14.11.100 authorizes the State to reimburse municipalities for municipal debt service payments for school construction bonds. Section 14.11.100(j)(2) requires that "bonds may not be refunded unless the annual debt service on the refunding issue is not greater than the annual debt service on the original issue." Section 14.11.100(j)(3) states that "bonds must be repaid in approximately equal annual principal or approximate equal debt service payments over a period of at least 10 years."

In effect, these two paragraphs prohibit a municipality from refunding a bond if the **annual** debt service payments on the refunded bond exceed what the annual payments would have been on the original bond. If the refunding extends the debt service over more years than the original payment schedule, some payments will be made in years in which no payments would have been made under the original issue. This violates the provision of current law which requires lower annual debt service payments after refunding.

Bonds are normally refinanced to either take advantage of lower interest rates or to alter the debt service schedule. The latter reason is the primary motivation behind these proposed changes. Although the repayment schedule on a bond that was used to finance a building would normally

match the useful life of that building (20 to 30 years), many school bonds in Alaska have shorter pay back schedules to correspond to the "Prudhoe Bay curve." Municipal bond debt service payments were structured so that the bonds would be paid back before petroleum revenue from Prudhoe Bay production declined significantly. It is common for school bonds in Alaska to have pay back schedules of 10 to 12 years. As a result, the annual debt service payments of municipalities are higher than if the payments were extended over more years.

The recent decline in oil prices and subsequent State budget reductions have adversely affected the finances of many communities. One way for communities to respond to budgetary shortfalls is to restructure their debt so that principal and interest payments are made over a longer period of time. Although more debt service is paid if the payments are extended, the annual payments are reduced, helping to alleviate municipalities' immediate cash flow problems. The proposed changes to the law allow this restructuring.

SECTIONAL ANALYSIS OF HOUSE BILL 380

SECTION ONE OFFERS A TECHNICAL CHANGE TO INCLUDE RESPONSIBILITY FOR THE NEW GRANT PROGRAM AMONG THE DUTIES OF THE DEPARTMENT UNDER AS 14.11.

SECTION TWO ESTABLISHES BOARD OF EDUCATION REVIEW OF GRANT APPLICATIONS AND THAT FINAL APPROVAL AUTHORITY FOR GRANTS RESTS WITH THE BOARD.

A TECHNICAL CHANGE IS ADDRESSED IN SECTION THREE WHICH PROVIDES AUTHORITY FOR A REGIONAL SCHOOL BOARD TO RECOMMEND SCHOOL CONSTRUCTION PROJECTS TO THE DEPARTMENT OF EDUCATION AS SPECIFIED IN NEW LANGUAGE UNDER AS 14.11.011 (B).

A NEW SCHOOL CONSTRUCTION GRANT ACCOUNT IS ESTABLISHED IN SECTION FOUR. LEGISLATIVE APPROPRIATIONS FOR SCHOOL CONSTRUCTION WOULD BE DEPOSITED IN THE FUND AND GENERAL OBLIGATION BOND SALE PROCEEDS MAY ALSO BE DEPOSITED.

SECTION FIVE ADDS NEW SECTIONS TO AS 14.11.
1) THE FIRST NEW SECTION OUTLINES THE APPLICATION PROCESS. THE PROCESS IS IDENTICAL TO THE CURRENT APPLICATION EXCEPT THAT PROJECT APPLICATIONS WOULD BE REQUIRED FOR ALL REQUESTS ON A DISTRICT'S SIX YEAR PLAN, NOT THOSE FOR THE SUBSEQUENT FISCAL YEAR AS IS NOW DONE. ADDITIONALLY, A REQUIREMENT IS ADDED THAT ALL FACILITIES IN THE DISTRICT BE INSURED FOR REPLACEMENT COST.

2) THE NEW SECOND SECTION AS DESCRIBED IN AS 14.11.013 ASSIGNS TO THE DEPARTMENT OF EDUCATION THE RESPONSIBILITY FOR REVIEWING, EVALUATING AND RECOMMENDING PROJECTS FOR APPROVAL TO THE STATE SCHOOL BOARD.THE DEPARTMENT WILL VERIFY THAT EACH PROJECT QUALIFIES AS A PROJECT REQUIRED TO AVERT IMMINENT DANGER OR TO CORRECT LIFE THREATENING SITUATIONS, HOUSE STUDENTS THAT WOULD OTHERWISE NOT HAVE HOUSING, PROTECT THE STRUCTURE OF EXISTING SCHOOL FACILITIES, CORRECT BUILDING CODE DEFICIENCIES THAT REQUIRE MAJOR REPAIR OR REHABILITATION IN ORDER FOR ITS CONTINUED USE AS AN EDUCATIONAL FACILITY, ACHIEVE A MAJOR COST SAVINGS, MODIFY OR REHABILITATE FACILITIES TO IMPROVE INSTRUCTIONAL PROGRAMS OR MEET ANOTHER EDUCATIONAL NEED.

THE DEPARTMENT WOULD NO LONGER ESTABLISH TWO SEPARATE PRIORITIZED LISTS, ONE FOR R.E.A.A.'S AND THE OTHER FOR MUNICIPAL SCHOOL DISTRICTS WHICH IS THE CURRENT PRACTICE. IN PLACE OF THE CURRENT PROCESS, THE DEPARTMENT IS DIRECTED TO CREATE SIX LISTS, ONE FOR EACH FISCAL YEAR AS PART OF A SIX YEAR PLANNING CYCLE FOR SCHOOL CONSTRUCTION PROJECTS. THESE LISTS WOULD CONTAIN ONLY THOSE PROJECTS WHICH HAVE MET QUALIFICATIONS ESTABLISHED BY THE NEW STATUTE AND THE DEPARTMENT. THE STATE BOARD WOULD HAVE THE DISCRETION TO SCHEDULE OR PHASE PROJECTS AS DEEMED NECESSARY. AT LEAST ONE OF THE FOLLOWING FACTORS WILL BE EVALUATED BY THE DEPARTMENT WHEN ESTABLISHING PRIORITIES:

A) EMERGENCY REQUIREMENTS;
B) PRIORITIES ASSIGNED BY THE SCHOOL DISTRICT TO THE PROJECTS REQUESTED;
C) NUMBER OF STUDENTS WITHOUT CLASSROOM SPACE;
D) NEW LOCAL ELEMENTARY AND SECONDARY PROGRAMS;
E) EXISTING REGIONAL, COMMUNITY AND SCHOOL FACILITIES AND THEIR CONDITION;
AND F) ALTERNATE OPTIONS FOR ACCOMPLISHING THE PROJECT'S OBJECTIVES.

THE CRITERIA AND DETERMINATIONS THAT WERE OUTLINED ARE ESSENTIALLY THE SAME AS THOSE CURRENTLY USED BY D.O.E. THE PRIORITY SYSTEM IS NOW A PART OF STATUTE RATHER THAN REGULATIONS.

PROJECT REQUESTS MAY BE REJECTED AND OMITTED FROM THE SIX YEAR PLAN DUE TO INCOMPLETE INFORMATION OR DOCUMENTATION PROVIDED BY THE DISTRICT, A DETERMINATION THAT EXISTING FACILITIES CAN ADEQUATELY SERVE PROGRAM REQUIREMENTS OR THAT ALTERNATIVE PROJECTS ARE IN THE BEST INTERESTS OF THE STATE, A DETERMINATION THAT THE PROJECT IS INAPPROPRIATE AND SHOULD BE A DISTRICT MAINTENANCE OR OPERATIONS EXPENDITURE OR THAT THE PROJECT IS NOT IN THE BEST INTEREST OF THE STATE. THIS ALLOWS D.O E. TO PROVIDE A CREDIBLE LIST TO THE GOVERNOR AND THE LEGISLATURE. THE BOARD WILL ALSO BE IN POSITION TO ACCELERATE PROGRAMS AS DEEMED NECESSARY BASED UPON AVAILABILITY OF FUNDS AND SUPPORTIVE EVIDENCE.

PROJECT BUDGETS WOULD BE REDUCED BY THE COST OF THOSE PORTIONS OF THE PROJECT THAT THE DEPARTMENT DETERMINES ARE FOR CONSTRUCTION OF STUDENT RESIDENTIAL SPACE, HOCKEY RINKS, OR OTHER FACILITIES FOR SINGLE PURPOSE SPORTING OR RECREATION USES NOT DEEMED SUITABLE FOR OTHER ACTIVITIES.

AN APPEAL PROCESS IS ESTABLISHED WHICH WOULD ALLOW DISTRICTS THE OPPORTUNITY TO APPEAL THE DEPARTMENT'S DECISION SHOULD THEY FEEL THE NEED TO DO SO.

3) THE DEPARTMENT CANNOT AWARD A GRANT UNLESS THE APPLICATION IS APPROVED BY THE BOARD.

4) SECTION AS.11.017 PROVIDES AUTHORITY TO ESTABLISH GUIDELINES FOR EQUIPMENT PURCHASES AND GIVES THE DEPARTMENT THE AUTHORITY TO REDUCE OR INCREASE THE GRANT AMOUNT DEPENDING UPON PROJECT REQUEST VARIATIONS WHICH MAY OCCUR DURING THE BIDDING PROCESS OR THE CONSTRUCTION PHASE. ANY INCREASE IN THE PROJECT AMOUNT WOULD BE SUBJECT TO THE AVAILABILITY OF FUNDS AND DEPARTMENT APPROVAL.

SECTION SIX ESTABLISHES A JULY 1, 1988, TERMINATION DATE FOR REIMBURSEMENT ELIGIBILITY OF DEBT SERVICE PROJECTS AND ESTABLISHES A JULY 1, 1989, TERMINATION DATE FOR THE CASH PAYMENT REIMBURSEMENT PROGRAM. THE LATTER PROVIDES A YEAR'S GRACE DURING THE PHASE IN OF THE NEW STATUTE.

A DISTRICT IS PERMITTED TO USE OTHER REVENUE FOR SCHOOL CONSTRUCTION UNDER SECTION SEVEN. A MUNICIPALITY MAY INCREASE THE SCOPE OF A BOARD APPROVED PROJECT AT THEIR OWN EXPENSE. SCHOOL CONSTRUCTION PROJECTS WHICH HAVE NOT BEEN AWARDED A GRANT MAY ALSO BE UNDERTAKEN AT THE MUNICIPALITY'S OWN EXPENSE.

SECTION EIGHT MODIFIES THE DEFINITION OF SCHOOL CONSTRUCTION. CURRENT STATUTE LANGUAGE RELATING TO FINANCING COSTS, BONDING COSTS, LEGAL FEES, PAYING AGENCIES AND OTHER ENTITIES BASICALLY RELATED TO THE SALE OF BONDS IS DELETED.

A DEFINITION OF DISTRICT, AS USED IN THE DEFINITION OF SCHOOL CONSTRUCTION, IS PROVIDED FOR IN SECTION 9.

SECTION TEN IS ANOTHER TECHNICAL AMENDMENT UPDATING THE REFERENCE TO AS 14.11. THIS SECTION DEFINES STATE FINANCIAL ASSISTANCE.

SEVEN SECTIONS ARE REPEALED IN SECTION 11.

1) AS 14.11.010 RELATING TO RECOMMENDATION AND EVALUATION OF PROJECTS IS REPLACED BY THE NEW SECTION FOUR WHICH ADDRESSES GRANT APPLICATIONS.

2) EVALUATION OF PROJECTS DESCRIBED IN AS 14.11.102 IS REPEALED BECAUSE IT APPLIES TO D.O.E. EVALUATION OF PROJECTS PROPOSED FOR DEBT RETIREMENT. SECTION SIX OF HOUSE BILL 380 ENDS THE NEED FOR SUCH APPROVAL.

3) THE REPEAL OF AS 14.11.105, THE PUBLIC SCHOOL FACILITIES CONSTRUCTION ADVANCE ACCOUNT, IS ALSO CONSISTENT WITH SECTION 6 OF THE NEW BILL. THE REPEAL ALSO ELIMINATES CONFUSION WITH THE NEW SECTION FOUR RELATING TO THE SCHOOL CONSTRUCTION GRANT ACCOUNT.

4) AS 14.11.110, ELIGIBILITY, IS REPEALED BECAUSE IT APPLIES TO APPROVAL OF PROJECTS PROPOSED FOR DEBT RETIREMENT WHICH IS ELIMINATED IN HOUSE BILL 380.

5) THE LAST THREE REPEALED SECTIONS RELATE TO STATE AID, APPLICATION FOR AID AND CONDITIONS OF STATE AID APPLY TO FUNDING THROUGH THE PUBLIC SCHOOL FACILITIES CONSTRUCTION ADVANCE ACCOUNT AND ARE NO LONGER NECESSARY.

MEMORANDUM

State of Alaska
Department of Education

To: Steve Hole
Deputy Commissioner

Date: February 17, 1987

File No: 810-FAC

Phone: 789-9890

From: Thomas G. Ryan
Facilities Coordinator

Subject: Sectional Analysis of HB 380

In response to your February 11, 1987 request for a section by section analysis of HB 380 (as submitted 1/20/88 by Representative Swackhammer), I submit the following analysis:

SECTION 1 - AS 14.07.020(13)

This is a technical change to include responsibility for the new grant program among the duties of the department.

SECTION 2 - AS 14.07.170

This section states the sequence of events. It may not add substantive changes to the new procedures in SECTION 5, but it establishes the fact that the final approval authority for grants rests with the State Board of Education.

SECTION 3 - AS 14.08.101(7)

Corrects a reference, technical change only.

SECTION 4 - AS 14.11.005

This new section creates a grant account to be used for all school construction needed state-wide. The State Board of Education can award grants from this fund.

SECTION 5 - AS 14.11 changes

AS 14.11.01 and AS 14.11.013 outline the process for application for school construction grants. The process is identical to the current application except that project applications would be required for all requests on a district's six year plan, not just those for the subsequent fiscal year as is now done. This provides DOE the added information needed to project the grant schedule. Additionally it adds a requirement that all facilities in the district be insured for replacement cost.

This section assigns to the Department of Education the responsibility for reviewing, evaluating projects and recommending them for approval by the State Board of Education.

The Department of Education, pursuant to this section, would no longer establish two separate prioritized lists, one for REAAs and one for municipal school districts for capital budget requests as is currently done. In place of the current process, the Department is directed to create six lists, one for each fiscal year: representing a six year planning cycle for school capital projects. These lists would contain only those projects which have met the qualifications established by statute and the Department. The State Board would have the discretion to schedule or phase projects as deemed necessary.

The criteria and determinations to be used in establishing priorities of the projects are essentially the same as those currently used by DOE. The only change is that the priority system is made part of statute (the Priority System for Education is now only referenced in regulation) and the top priority is worded to reflect the terms that have been used in practice, which is "imminent danger".

AS 14.11.013 (c) provides the Department with the statutory authority to reject projects based on the criteria specified in the bill. This would provide DOE an opportunity to propose a credible list to the Governor and the Legislature. The Board will also be in a position to accelerate projects on the list as deemed necessary based upon the availability of funds and supportive evidence.

AS14.11.013 (d) No change from existing law.

AS14.11.013(e) This section establishes an appeal process which would allow districts the opportunity to appeal the Department's decision should they feel the need to do so.

AS14.11.015 establishes authority for the State Board of Education in terms of project approval.

AS14.11.017 provides authority to establish guidelines for equipment purchases and gives the Department the authority to reduce or increase the grant amount depending upon project cost variations which may occur during the bidding process, or during the construction phase. Any increase in the project amount would be subject to the availability of funds and Department approval.

SECTION 6 - AS 14.11.100 (a) (5)

Establishes a July 1, 1988 termination date for reimbursement eligibility of debt service projects, and establishes a July 1, 1989 termination date for the cash payment reimbursement program. The latter provides a year's grace during the phase in of this new statute.

SECTION 7

This section permits municipalities to increase the scope or magnitude of a construction project which has been approved under this new statute at their own expense. It also allows them to accomplish at their own expense school construction projects which have not been awarded a grant under this statute.

SECTION 8

This modifies the definition of school construction deleting language relating to financing costs, bonding costs, legal fees, paying agencies etc. which are basically related to the sale of bonds.

SECTION 9

Provides a definition of "district" as used in the definition of school construction (Section 8 above) by referring to the definition used in existing statute.

SECTION 10

Amends AS 46.11.900, which defines "state financial assistance" partly as excluding school construction grants, by updating the reference from (AS 14.11.100 - 14.11.135) to read A.S. 14.11.

SECTION 11

Repeals a number of sections which are superseded by sections of HB380:

AS14.11.010 Recommendation and Evaluation of Projects" is replaced in HB380 by Sec 14.11.011 Grant Applications

AS 14.11.102 Evaluation of Projects is repealed because it applies to DOE evaluation of projects proposed for debt retirement and HB 380 Section 6 ends the need for any such approvals.

AS 14.11.105 "Public School Facilities Construction Advance Account" is a little used (unused to our knowledge) mechanism for funding debt retirement projects. Its repeal is consistent with Section 6 of HB 380 establishing an end date for eligibility of projects for debt retirement, and eliminates possible confusion with new Section 4 in HB 380 - AS 14.11.005 "School Construction Grant Account".

AS 14.11.110 "Eligibility" is repealed in 380 because it applies to approval of projects proposed for debt retirement and HB 380 ends the need for such approvals.

AS 14.11.115 "State Aid", AS 14.11.120 "Application for aid", and AS 14.11.125 "Conditions of State Aid" are repealed because they too apply to funding through the Public School Facilities Construction Advance Account (see AS 14.11.105 above) which is recommended for repeal.

NEA-ALASKA

AFFILIATED WITH THE NATIONAL EDUCATION ASSOCIATION

ANCHORAGE REGIONAL OFFICE
1411 W. 33RD AVENUE
ANCHORAGE, ALASKA 99503
(907) 274-0536

JUNEAU OFFICE
105 MUNICIPAL WAY, SUITE 302
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(907) 586-3090

FAIRBANKS REGIONAL OFFICE
2118 CUSHMAN STREET
FAIRBANKS, ALASKA 99701
(907) 456-4435

Fe. :ary 19, 1988

To: Rep. Ellis & Rep. Koponen, Co-Chairs
Members, House HESS Committee

Re: HB 380; "An Act relating to state aid for school construction; and providing for an effective date."

NEA-Alaska supports and encourages passage of HB 380.

From our perspective this legislation effectively addresses a need of long standing in that it systematizes the approach to all school construction statewide.

It makes sense that all school districts plan and utilize the same standard criteria relative to their school construction needs.

It is also our hope that this kind of approach will serve to reduce the competition and even rivalry between urban and rural interests, both in the legislature and within the education community.

We encourage that HB 380 be dealt with as expeditiously as possible.

Thank you for your consideration of our concerns.

Respectfully submitted,

Bob Manners
Executive Secretary

cc: Rep. Swackhammer

z19feb5

HB

388

STATE OF ALASKA
THE LEGISLATURE

POUCH Y - STATE CAPITOL
JUNEAU, ALASKA 99811
907-465-3800

LEGISLATIVE AFFAIRS AGENCY

LEGISLATIVE REFERENCE LIBRARY

May, 1988

Copies of minutes listed below were originally included in this file. The minutes are available on the STAIRS database CMPR. In order to save space copies of minutes have not been left in the files.

Mary Van Nimwegen

HHESS	2-3-88	8:30a.m.
HHESS	2-17-88	8:30a.m.
HHESS	2-23-88	8:30a.m.

(7)

HOUSE COMMITTEE REPORT

Date referred: 1/22/88 FURTHER REFERRALS: Judiciary

DATE: 2-23-88

The Health, Education and Social Services Committee has considered HB 388

"An Act relating to irradiated food."

RECOMMENDS:

[X] replace with CS HB 388 (HESS) [X] the same title

[ ] attached amendment(s) [ ] a new title

[X] do pass

[ ] do not pass

[ ] no recommendation

[ ] individual recommendations

[ ] additional referral to the _____ Committee

ADOPTS: [ ] _____ letter of intent

ATTACHES NEW FISCAL NOTE(s):

[X] fiscal impact

[ ] zero fiscal note

[ ] zero with analysis

[ ] same as previous fiscal note published _____

[ ] same as previous zero fiscal note published _____

SIGNING DO PASS:

SIGNING OTHER RECOMMENDATIONS:

Chairman's signature

STATE OF ALASKA
1988 LEGISLATIVE SESSION

BILL VERSION: HB 388
PUBLISH DATE: _____

FISCAL NOTE

REQUEST:

Revision Date: 1/22/88
Title: An Act relating to irradiated food.
Sponsor: Phillips and Goll
Requestor: _____

Agency Affected: Health & Social Services
BRU: State Health Services
Components: _____

EXPENDITURES/REVENUES: (Thousands of Dollars)

OPERATING	FY 88	FY 89	FY 90	FY 91	FY 92	FY 93
PERSONAL SERVICES						
TRAVEL						
CONTRACTUAL						
SUPPLIES						
EQUIPMENT						
LAND & STRUCTURES						
GRANTS, CLAIMS						
MISCELLANEOUS						
TOTAL OPERATING	-0-	-0-	-0-	-0-	-0-	-0-
CAPITAL						
REVENUE						

FUNDING: (Thousands of Dollars)

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

POSITIONS:

FULL-TIME						
PART-TIME						
TEMPORARY						

ANALYSIS: (Attach a separate page if necessary)

The enactment of HB 388 would have no direct fiscal impact on the Department of Health and Social Services.

Prepared by: Elizabeth Ward, Director Elizabeth Ward Phone: 465-3090
Division: Public Health Date: 2-2-88

Approved by Commissioner: Mora M Munson Date: 2-2-88
Agency: Department of Health & Social Services

Distribution (by preparer):
Legislative Finance
Legislative Sponsor
Requestor
Office of Management and Budget
Impacted Agency(ies)

POSITION PAPER
DEPARTMENT OF ENVIRONMENTAL CONSERVATION

House Bill No. 388 February 2, 1988

"An act prohibiting the sale of irradiated food."

Department position:

The Department has not taken a position on this bill for the following reasons. The Department has no staff with training and experience in the irradiation of food. The Department's expertise regarding food products is inspecting the sanitary operations of food production facilities. There is a large amount of information and scientific data on this issue. Although review and analysis of the available data are beyond the Department's current capacity to effectively review and analyze, we are pleased to assist the committee in identifying useful information, including the following background.

FDA Requirements

The treatment of certain food products and spices with ionizing radiation is approved by the U.S. Food and Drug Administration (FDA). FDA has approved the following application dosages: for foods which can comprise more than 0.01% of the daily diet, the dosage cannot exceed 1 kilogray (KGy); for foods which can comprise less than 0.01% of the daily diet, dosage cannot exceed 50 KGy.

FDA Approved Sources of Irradiation

Approved irradiation sources include: radioactive isotopes (Cobalt-60 or Cesium-137) and machines (x-ray or electron beam).

FDA Foods Approved for Irradiation

FDA has approved the application of irradiation to the following foods: fruits/vegetables (slow growth and ripening and control insects); dried spices and herbs (kill insects and control microorganisms); pork (control trichinosis); white potatoes (growth and maturation inhibition); and wheat and wheat flour (control insects).

FDA Labeling Requirements

Labeling requirements have also been imposed by FDA to ensure that the consumer is aware that food they are consuming has been irradiated. Treated products contain a label statement that contains the international irradiation process logo (tulip) and

the statement "treated with radiation" or "treated by irradiation". On April 18, 1988 the requirement for the written warning is scheduled to be withdrawn. This action would leave only the international irradiation process logo on retail packages. FDA has informed DEC that this will probably not occur since the average consumer probably does not know what the logo symbolizes.

Enforcement

The department would enforce the provisions of this bill by inspecting food distributors, warehouses, and retail and wholesale outlets for food labeled with the federally required irradiation symbol and product statement. If irradiated food was found during the course of inspection, the department would embargo the product under the authority in 17.020.230 and require that it be destroyed or returned to an out-of-state distributor.

STATE OF ALASKA
1988 LEGISLATIVE SESSION

BILL VERSION: HB 388
PUBLISH DATE: 1/22/88

FISCAL NOTE

REQUEST:

Revision Date: -
Title: An Act relating to irradiated food.
Sponsor: Peter Goll and Randy Phillips
Requestor: Randy Phillips

Agency Affected: Environmental Conservation
BRU: Environmental Health
Components: Sanitation

EXPENDITURES/REVENUES: (Thousands of Dollars)

OPERATING	FY 88	FY 89	FY 90	FY 91	FY 92	FY 93
PERSONAL SERVICES	-	14.9	14.9	14.9	14.9	14.9
TRAVEL	-	-	-	-	-	-
CONTRACTUAL	-	2.0	2.0	2.0	2.0	2.0
SUPPLIES	-	1.0	1.0	1.0	1.0	1.0
EQUIPMENT	-	-	-	-	-	-
LAND & STRUCTURES	-	-	-	-	-	-
GRANTS, CLAIMS	-	-	-	-	-	-
MISCELLANEOUS	-	-	-	-	-	-
TOTAL OPERATING	0	17.9	17.9	17.9	17.9	17.9
CAPITAL	0	0	0	0	0	0
REVENUE	0	0	0	0	0	0

FUNDING: (Thousands of Dollars)

GENERAL FUND	0	17.9	17.9	17.9	17.9	17.9
FEDERAL FUNDS	0	0	0	0	0	0
OTHER	0	0	0	0	0	0
TOTAL	0	17.9	17.9	17.9	17.9	17.9

POSITIONS:

FULL-TIME	-	-	-	-	-	-
PART-TIME	-	1	1	1	1	1
TEMPORARY	-	-	-	-	-	-

ANALYSIS: (Attach a separate page if necessary)

Attached.

Prepared by: Douglas C. Donegan
Phone: 465-2609
Division: Environmental Health
Date: 2/2/88

Approved by Commissioner: Dennis D. Kelso
Date: February 2, 1988
Agency: Environmental Conservation

Distribution (by preparer):
Legislative Finance
Legislative Sponsor
Requestor
Office of Management and Budget
Impacted Agency(ies)

STATE OF ALASKA

OFFICE OF THE GOVERNOR

BILL ANALYSIS

DEPARTMENT	DIVISION	BILL NUMBER	SPONSOR
Environmental Conservation	Environmental Health	HB 388	Peter Goll and Randy Phillips

SHORT TITLE OF BILL

"An Act relating to irradiated food"

DEPARTMENT POSITION The passage of HB 388 would require that the Department expand it's inspection activities at approximately 500 retail markets to ensure that irradiated products were not being sold. The additional time per inspection is estimated to be approximately (Continued)

PREPARED BY	DATE	COMMISSIONER'S SIGNATURE	DATE
Douglas C. Donegan	2/2/88	Dennis D. Kelso	

SUMMARY

OTHER AGENCIES AFFECTED BY BILL	CONSTITUENT GROUP(S) AFFECTED BY BILL

ORGANIZATIONAL SUPPORT FOR BILL	ORGANIZATIONAL OPPOSITION TO BILL

FISCAL IMPACT: ☐ NONE ☐ FISCAL NOTE ATTACHED

BACKGROUND/LEGISLATIVE INTENT

ANALYSIS OF BILL/PROGRAM EFFECTS

AMENDMENTS PROPOSED

PLEASE ATTACH A SEPARATE SHEET FOR ADDITIONAL COMMENTS OR ANALYSIS.

01-009 (Rev. 12/83)

one (1) hour per inspection. These facilities are inspected once per year.

The Department would begin inspecting 51 retail markets in the Municipality of Anchorage, which are not currently inspected by the department. It is estimated that the inspection of these markets would be approximately 2 hours including travel time.

This inspection effort would amount to a total of 602 hours/year or about four months/year.

Position Title	No. of Positions	Range/Step	Barg. Unit
Environmental Sanitarian II	1	16/A	G

Time Status	Staff Months	Location	Election District
F	Four (4)	Anchorage, Ak.	7

Type of Expenditure		Amount
1	2	3
Salary	11.2	
Benefits	3.7	
Premium Pay	-	
Other	-	
Total Personal Services		14.9
Travel		-
Contractual		2.0
Commodities		1.0
Equipment		-
Other		-
Total Cost		17.9

Funding Source for Total Cost		
Federal Receipts	1002	-
G. F. Match	1003	-
General Fund	1004	17.9
GF Program Receipts	1005	-
Other		-

Justification

This position is required to support the implementation of HB 388 "An Act relating to irradiated food." Approximately 500 retail markets would be inspected to ensure that prohibited products were not being sold. All retail markets would be contacted and notified of the new law. It is estimated that the inspection of these facilities would require approximately 2 hours each, including travel time.

The additional inspection effort would amount to a total of 602 hours per year or about four months per year.

Request For New Position

Agency: Environmental Conservation

BRU: Environmental Health

Component: Sanitation

Revised Date

FY 89

POSITION PAPER/Department of Health & Social Services

Position Paper

HB 388

For an Act entitled: "An Act relating to irradiated food."

HB 388 prohibits the sale of irradiated food including spices and food that contains an irradiated ingredient unless the only irradiated ingredient is a spice. While it appears passage of this bill would have economic impact due to the long established practice of irradiating spices, the scope of this position paper is limited to the health considerations of irradiated food.

Background

The health aspects of irradiated food have been studied for many years. The Food and Drug Administration (FDA) has conducted exhaustive reviews of all available studies and has determined that irradiated food is safe for human consumption. The FDA has concluded there is no scientific evidence meeting FDA standards for toxicological studies that shows adverse effects on health from the consumption of irradiated food. Results of studies used to support claims of harmful effects have been rejected due to lack of adequate scientific controls or design, including radiation doses far in excess of those considered acceptable for food processing. In its conservative approach, the FDA has approved the irradiation of certain foods only, and it has limited the radiation doses to one-tenth of those shown to be safe. This position is supported by such diverse groups as the Council for Agricultural Science and Technology, the World Health Organization, the Food and Agricultural Organization of the United Nations, the American Medical Association, and the International Atomic Energy Agency.

In addition to the FDA, numerous national and international organizations recognized in health, food technology, and radiation safety have closely examined claims of harmful effects presently being made by those opposed to food irradiation. In every case, these organizations have judged irradiated food to be safe for human consumption.

Position

Without acceptable scientific evidence showing that irradiation is harmful to health, the department believes it is inappropriate to forbid the sale of irradiated food in the state. Proper labeling of irradiated foods will allow those opposed to it to exercise their choice in the foods they purchase.

The Department of Health and Social Services opposes passage of HB 388.

POSITION PAPER/Department of Health & Social Services

Recommended by: Elizabeth Ward

Elizabeth Ward, M.N.
Director
Division of Public Health

Date: February 2, 1988

Approved by: Myra M. Munson

Myra M. Munson
Commissioner
Department of Health and
Social Services

Date: Feb 2 1988

The Zap Factor

Irradiation Process Sparks National Controversy

Imagine strawberries that stay red and firm for more than a day or two, two-week-old bread that's still fresh, and onions that can stay in the pantry for months without sprouting. That's the promise of food irradiation, a process that advocates say could transform the way food is handled in the U.S.

Zapping food to keep it fresh is not new. Some two dozen nations have approved food irradiation, some as long as 20 years ago.

The U.S. government, which has approved the sale of irradiated fruits and grains, currently is debating whether to broaden the use of irradiation technology for other types of foods.

The process uses gamma, beta, or x-rays to disinfect food, kill microorganisms and bacteria that cause disease, or slow down spoilage. It is used in the U.S. to decontaminate spices, disinfect wheat, inhibit sprouting of white potatoes, control trichinosis in pork, and kill insects in fresh fruits and vegetables.

The irradiation process involves placing items on a conveyor belt that passes a cylinder of radioactive material. Because dosages are low, the food does not become radioactive, but bacteria, insects, and other organisms are killed, allowing the products to stay fresher longer.

Presently, only spices are routinely irradiated in the U.S. Irradiated pork, fruits, and vegetables are not yet available in U.S. markets, although irradiated mangoes and papayas were test-marketed in Miami Beach and Los Angeles supermarkets last year on a limited basis.

Despite the availability of the technology, however, irradiation has not become the dominant method of food processing, partly because of economic considerations. Other processing methods generally are cheaper and at least as effective for most food products.

But the potential for widespread use on products such as poultry and fish has prompted questions about the safety of irradiation technology to both workers and consumers.

Arguments abound as to whether food irradiation is a blessing or a scourge.

Proponents—including the U.S. government, some food companies, and the irradiation industry—assert that zapping food with radiation is a safe and effective way to preserve food. Irradiation not only kills organisms that cause food spoilage, they say, but irradiated food also can be stored without refrigeration, which could have important applications to food supplies in developing countries where refrigeration is limited or nonexistent.

Opponents—mostly environmental and health advocates—point out that available scientific studies fail to prove beyond a doubt that irradiated food is safe to eat.

Although irradiation does not make food radioactive, it does create new chemical substances in the food called "unique radiolytic products" (URPs), some of which are known to be harmful. Many of these URP byproducts have yet to be identified and tested for toxic effects.

Irradiation keeps food fresh longer but studies indicate that the process causes a slight loss in nutrients. The U.S. government is considering whether to allow widespread use of irradiation technology.

Critics note that the Food and Drug Administration (FDA) approved the technique relying on the results of only five studies, even though more than 30 other studies showed that serious toxic effects may occur.

Studies also indicate that food irradiation depletes foods of vitamins and minerals. Although the nutrient loss is slight, if a sizable portion of the public's diet is irradiated, the cumulative effect would be more serious.

Another controversial issue is labeling. Under current FDA regulations, irradiated foods must be labeled "treated with radiation" or "treated by radiation." (Products that are not irradiated but contain irradiated ingredients—such as spices—require no special labeling.)

Written labels on irradiated food will be replaced with a new symbol in 1988.

After 1988, however, irradiated foods will be required only to display a flower-like symbol to indicate that radiation was used. Many consumer groups argue that consumers will not know what the symbol means, and will not be fully informed when the purchase the products.

Handling irradiated produce and other products is not hazardous to supermarket workers or consumers because the products aren't radioactive.

There is speculation that if irradiation expands into the meat and poultry industries, however, workers at the plants could face risk if irradiators are installed in individual plants.

Most irradiation likely would take place in large facilities where workers could be exposed to radioactive materials during use, maintenance, and clean-up of the facilities.

Radiation exposure is known to cause cancer and reproductive and genetic damage. The government has established safety standards that regulate maximum allowable exposure levels for workers, but safety advocates say the standards need to be strengthened.

Whether food irradiation will become widespread is uncertain. Until now, negative public reaction made the food industry think twice before making a major commitment to this controversial technology.

A recent survey revealed that only 16 percent of consumers would purchase irradiated food, compared with 36 percent who wouldn't, and 48 percent who didn't know. Consumers may make the ultimate decision on the issue.

February 8, 1988

Honorable Niilo Koponen
Health, Education & Social Services Committee
P.O. Box V (MS 3100)
Juneau, Alaska 99811

Dear Mr. Koponen,

The Department of Energy provided a grant to the University of Alaska in Fairbanks to conduct a feasibility study on building a demonstration food irradiation facility in Alaska.

Irradiation creates toxic substances, radiolytic products (RPs), which:

- sterilize fruit flies and spoilage microorganisms such as trichina, salmonella and bacteria.
- kill enzymes that produce sprouts in potatoes and onions.
- disable microbes and bacteria necessary for the body's immune system.
- deplete essential vitamins, nutrients and amino acids.
- and as studies indicate cause cancer and genetic mutations.

The Food and Drug Administration (FDA) refutes claim of any ill-effects using theortical calculations backed by 5 studies out of 441 it reviewed. Many of the 436 studies that the FDA dismissed show maladies to animals and humans. (See enclosed articles)

John Gofman, M.D., Ph.D., and professor emeritus of medical physics at U. C. Berkeley who "from a lifetime of research in both heart disease and cancer" claims, "I know what sort of studies are required to ascertain the delayed affects and the cumulative affect on humans of biological agents.... The kind of epidemiologic study required to find out whether or not a diet of irradiated food will increase (or decrease) the frequency of cancer or genetic injuries among humans simply has not been done."

The cornerstone of FDA approval of irradiation is the final report of the FDA Bureau of Foods Irradiated Foods Committee (BFIFC) released in July 1980. The report states, "Calculations based on radiation chemistry clearly indicate that irradiation doses of 100 krad (maximum approved dosage) or less yield a concentration of total radiolytic products in food that is so limited that it would be difficult to detect and subsequently

Alaska State Legislature
House

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

Official Business

MEMORANDUM

TO: House HESS Committee

FROM: Representative Randy Phillips R.E.P.

DATE: February 1, 1988

RE: House Bill 388
An Act relating to irradiated food

House Bill 388 would prohibit the sale of irradiated foods within the State of Alaska. According to advice from Terry Bannister, Legislative Counsel, while this particular bill does not prohibit the manufacturing of irradiated food, AS 17.20.340 indicates that such manufacturing would also be prohibited (See Attachment 1).

The provisions contained in House Bill 388 would be added to the Alaska Food, Drug, and Cosmetic Act and this would mean that certain enforcement provisions included in that act would follow with the adoption of the language in this bill. Criminal penalties would be those as set out in AS 17.20.310 (See Attachment 2) and injunctive relief would be as provided in AS 17.20.280 (See Attachment 3). As currently written, the bill does not include provisions for embargo and destruction of these items.

The language in the bill is based on a law adopted in Maine in 1987. Maine is the first state to ban the sale of irradiated foods.

In 1987 the New Jersey Legislature adopted a food irradiation ban; however, the Governor vetoed the bill. Vermont has enacted strict labeling requirements in the event the federal requirements are lifted. Legislation proposing a ban on irradiated food has been reintroduced in New Jersey and is also being considered in New Hampshire, New York, Pennsylvania and Vermont. A list of the states considering food irradiation legislation is attached as Attachment 4. There is legislation also pending in the United States Congress regarding both the food irradiation and labeling issues (H.R. 956 and S. 461).

Food irradiation is being considered as a possible food preservation method. The actual process involves the use of cobalt-60 (an isotope that must be manufactured in nuclear reactors from nonradioactive cobalt-59) or cesium-137 (a water soluble byproduct of both nuclear weapons production and nuclear power generation). (See Attachment 5 for an article explaining this process and Attachment 6 for a history of food irradiation.) In 1958, Congress classified food irradiation as a food additive. This meant that before the process could be used,

CORRECTION

THIS DOCUMENT
HAS BEEN REPHOTOGRAPHED
TO ASSURE LEGIBILITY

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measure potential toxicological properties. In addition, at this dose unique radiolytic products (URPs) (chemicals found only in irradiated food, toxicity unknown) will be on the order of 3 ppm (parts per million).... Hence because of the low level of total unique radiolytic products produced, it is concluded that food irradiated at doses not exceeding 100 krad is wholesome and safe for human consumption."

Dr. Gofman responds, "Our ignorance about these foreign compounds (RPs & URPs) makes it simply a fraud to tell the public that 'we know' irradiated foods would be safe to eat."

George Tritsch, Ph.D, cancer research scientist at Roswell Park Memoral Institute in Buffalo, New York responds, "I am opposed to consuming irradiated food because of the abundant and convincing evidence in the referred scientific literature, that the condensation of free radicals formed during irradiation (RPs & URPs) produce statistically significant increases in carcinogenesis, mutagenesis and cardiovascular disease in animals and man."

In recognition of the conflicting evidence of food irradiation safety, please support House Bill 388 which bans the sale of irradiated food in Alaska. In addition please ban food irradiation facilities and/or resolve that the U of A Fairbanks end the feasibility study until the Federal government initiates and concludes an inquiry into the wholesomeness and safety of irradiated food. (The Food Irradiation Safety and Labeling Requirement Act of 1987 [HR 956 & S 461] if enacted mandates an inquiry).

We would appreciate a response.

Sincerely,

William Thomas

Sylvia Thomas

Denny Thomas

William, Sylvia & Denny Thomas
9040 Emerald
Anchorage, Alaska 99502

Enclosures:
-Food Irradiation Safety and Labeling Requirement Act of 1987 (Summary)
-"Zap, Crackle, Pop" & "No Fried Food in New Jersey", Magazine Articles
-Food Irradiation Fact Sheet
-Food Irradiation Article, Anchorage Daily News
-Letter to Anchorage Daily News

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it had to be approved by the FDA under the Federal Food, Drug, and Cosmetic Act. While the FDA has approved food irradiation for five different uses [control of insects in wheat (1963), inhibit sprouts in potatoes (1964), control of trichinosis in pork (1985), slow growth and ripening and control pests in produce, and to kill insects and microorganisms in herbs and spices (1986)] the only use in the United States at the present time is in some spices and herbs. I have attached a list of spices and herbs that are being irradiated at the present time (See Attachment 7).

The greatest concerns I have with the food irradiation process are as follows:

1. Safety of the process and effect on humans ingesting irradiated foods.

2. Questions about the wholesomeness of irradiated foods (See Attachment 8).

3. Risks to the environment from the irradiator plants. There is danger both to the workers in an irradiation plant as well as residents of the surrounding area. I have attached a list of incidents that have occurred at some of the forty irradiation plants that current operated within the United States (See Attachment 9). Attachment 10 shows the location of the forty irradiation facilities in the U.S.

3. Possible creation during the process of mutuant and/or radiation resitant bacteria and the effect of the elimination of nonresitant bacteria making it easier for the mutuant bacteria to survive.

4. Possible creation during the process of potent carcinogens called aflatoxins.

5. Possible elimination of the organisms that produce signals and odors that alert people to food spoilage while the bacteria that causes food poisoning may be more resitant to radiation and therefore still present.

6. Radioactive food may occur if the process is not handled properly.

8. Transportation of radioactive materials. If Alaska were to have an irradiator plant, and this is one of the areas being researched by the University of Alaska at Fairbanks, the radioactive materials would have to be brought in from somewhere. To my knowledge, the nearest stockpile of cesium-137 is at Richland, Washington, near the Hanford plant and this would mean that such products would have to be trucked, barged or flown to Alaska. In addition, since cesium-137 is water soluble, if there were an accident enroute or at any such plant, the results could be devastating.

9. Safety questions exist concerning the storage of the radioactive material.

For your information, I have also attached a list of articles that I have available on this subject (See Attachment 11). If you wish to do further review on the matter, please do not hesitate to contact me.

I would appreciate your support of this legislation.

FOOD IRRADIATION
1987 INTRODUCED AND ENACTED LEGISLATION

STATE BILL # OR CHAPTER # (1987 Laws/ Acts)	SUMMARY
AK SJR 33 (Intro 5/87)	Makes provisions relating to irradiated food.
HI SB 971 (Intro 3/87)	Makes an appropriation to promote consumer acceptance of irradiated agricultural products from Hawaii.
IL HB 212 (Intro 2/87)	Amends Food, Drug and Cosmetic Act. Requires labeling of irradiated foods sold at retail for off-premise consumption.
MA SB 47 z (Intro 5/87)	Provides for an investigation and study by the Department of Public Health relative to the potential health risks of food irradiation.
ME Chap. 174	Prohibits the knowing sale of irradiated food, with the exception of irradiated spices when those spices are only an ingredient in the food. Provides that irradiated spices are irradiated food and their knowing sale is prohibited.
NH HB 1082 (Intro 1/88)	Relates to irradiated food.
NJ AB 3150 (Intro 11/87)	Prohibits distribution and sale of irradiated food.
NJ SB 2571 (Intro 1/88)	Prohibits distribution and sale of irradiated food.
NJ SR 43z (Intro 2/87)	Memorializes Congress to rescind Food and Drug Administration's approval of food irradiation.
NY AB 4106 (Intro 5/87)	Defines "irradiated food"; makes it unlawful for any merchant, broker or processor to knowingly sell any irradiated food until studies of the effects on human health, on consumers, and on workers so exposed and impacts associated with transportation of radioactive materials used in processing are received and accepted by various state commissioners.
NY AB 5442 (Intro 6/87)	Defines food exposed to any process of irradiation as adulterated food.
PA HB 1632 (Intro 7/87)	Prohibits the sale of food products which have been exposed to or treated with radiation for preservative purposes or any other reason.
PA HB 1912 (Intro 10/87)	Defines adulterated food in relation to radiation under the Pure Food Law.
VT HB 635 (Intro 1/88)	Prohibits the sale of irradiated foods.

1/21/88 (Source: Information for Public Affairs, "State Net")

Irradiating food growing preservation method

Most groups say irradiation is the safest way to keep food from spoiling and to kill bacteria

Recent federal initiatives are paving the way for a significant increase in the use of low-dose irradiation on foods in the United States.

New Dept. of Health and Human Services (HHS) regulations, it appears, by the Office of Management and Budget (OMB), will permit irradiation of grain and fresh fruits and vegetables. Sweeping legislation now before Congress would further encourage irradiation of foods — a practice considered beneficial because it destroys insects, parasites, and microorganisms, including those that cause disease and promote spoilage.

In irradiation, food is exposed to ionizing energy from radioactive isotopes of cobalt or cesium or from devices that produce controlled amounts of beta rays or x-rays. For at least 20 years, some food and food products, including wheat and potatoes, have been irradiated abroad without adverse effects. At least 28 countries now irradiate some foods.

But the process has been little used in the United States. Although existing Food and Drug Administration (FDA) regulations now allow irradiation for insect disinfestation in wheat, sprout inhibition in white potatoes, and control of microorganisms and insects in herbs and spices, only the latter use has been widespread.

THIS MAY CHANGE, however, as the HHS reviews new uses and regulations for irradiation:

- In July, 1985, HHS gave the go-ahead for irradiation in the processing of pork, a process that is believed to eliminate the threat of trichinosis even if the pork is undercooked or eaten raw. These regulations — with comment from the U.S. Dept. of Agriculture (USDA), which regulates pork — are nearing OMB review completion.
- Just before leaving office, HHS Secretary Margaret Heckler signed off on regulations that would permit the irradiation of fresh fruits and vegetables to kill pests and prolong shelf life.
- HHS is considering extending the irradiation process to poultry, and studies of this application are now under way.

FOOD IRRADIATION ALSO has occupied the attention of federal legislators recently. Four House committees are considering H.R. 696, a food irradiation development and control bill that would allow irradiation of many foods at regulated doses (the lowest level to achieve effectiveness).

Under the proposed legislation, the FDA would retain general authority to regulate food irradiation. But the definition of irradiation in the Food, Drug, and Cosmetic Act would be changed so that it would be regulated as a process, like boiling or freezing, rather than a food additive.

The legislation would also require national uniformity in the regulation of food irradiation and would create a commission to coordinate and consolidate all food irradiation research, encourage investment by private sources in food irradiation, and promote a wider public understanding through educational programs.

A companion bill, S 288, with similar provisions, has not been debated.

Irradiated foods must now carry the word 'picowaved' on their labels together with the international logo symbolizing irradiated foods.

THE CURRENT INTEREST in food irradiation springs from concern about the safety of pesticides, particularly when used in the post-harvest disinfestation of fruits and vegetables. Specifically, the discovery in 1984 that the post-harvest fumigant ethylene dibromide (EDB) leaves a toxic residue on food — followed by the banning of EDB by the Environmental Protection Agency — encouraged consideration of irradiation as an alternative to pesticide use.

The FDA, HHS, and USDA — as well as other proponents — all contend that irradiation in low doses actually has a wide variety of beneficial applications: It eliminates trichinae spirals in pork, the Medfly in citrus fruits, and the codling moth in apples; could destroy *c. botulinum* and salmonella in red meats, poultry, and fish; and extends the shelf life of fresh fruits, vegetables, and grains.

In November, 1985, the American Medical Association testified in favor of the proposed federal irradiation legislation before the House Agriculture Committee's subcommittee on Department Operations, Research, and Foreign Agriculture.

A. Harold Lubin, MD, director of AMA's Dept. of Foods, Nutrition, and Personal Health, testified that food irradiation produces no significant reduction in the nutritional quality of food and has a number of important beneficial effects, including killing the microorganisms that cause food spoilage.

JOSEPH A. LUIZZO, PHD, professor of food science at Louisiana State U. in Baton Rouge, praised the process as a food preservative.

"We've found that 90-95% of all bacteria are killed during the irradiation process," said Dr. Luizzo, who once worked under contract from the Atomic Energy Commission on food irradiation in the preservation of shrimp. "Food irradiation would allow the people in places like Iowa and Kansas to have fresh shrimp," he said, noting that his studies showed a 39-day shelf life for shrimp kept on ice after irradiation.

"There was no destruction of nutrients, either," he added.

THERE MAY BE drawbacks to the process. For example, research shows that some foods undergo color or texture changes when irradiated. Ironically, this may lead the public to assume that a food is not fresh when actually the shelf life has been extended.

In addition, some opponents to the process have suggested that food irradiation presents a hazard to the public and to plant workers.

Robert Alvarez, who is director of the Nuclear Weapons and Power Project of the Environmental Policy Institute, a public-interest group based in Washington, D.C., testified before Congress that the irradiation of food involves an ultrahazardous technology, which he said "poses several types of risks to the public and workers."

Food irradiation facilities would generate as much as 10 times more low-level radioactive wastes than all sources combined in the United States for the year 1981, he said, adding that existing irradiation facilities are poorly regulated. Alvarez also contended that irradiation intended to eliminate one food hazard may intensify another — for example, by producing radiation-resistant bacteria and viruses.

Other critics, such as the Health and Energy Institute of Washington, D.C., another public-interest group, claim that carcinogenic or genetic problems could arise from irradiating foods.

BUT THE MAJORITY of observers contend that irradiation is safe. HHS and FDA have both taken this position, as has the AMA.

"It is important to note that food irradiation does not make the irradiated food radioactive, since it is done at energy levels well below those required to induce radioactivity," the AMA's Dr. Lubin said in testimony before Congress. He added that, given widespread public interest in nutrition and health, physicians will need to be in a position to reassure patients who are concerned about the safety of the process.

A committee formed by the World Health Organization to study the subject of food irradiation in other countries in 1981 issued a report on "The Wholesomeness of Irradiated Food," which called the process safe and "free from toxicological hazard."

In a lengthy report on food irradiation, the American Council on Science and Health, a national association that is devoted to consumer education, states that the levels of radiation approved for treatment of foods "do not have enough energy to induce residual radioactivity in the food."

The council also said that workers who take proper precautions need not worry about adverse health risks. Irradiation facilities must comply with regulations issued by the Occupational Safety and Health Administration, the Nuclear Regulatory Commission, and the FDA, the council noted.

THE SAFETY ISSUE of food irradiation has been a problem for HHS, which has had difficulty finding a acceptable way to explain irradiation to the public. Reluctant to require the use of the word "radiation" for package labels because the word alone could arouse consumer fears and cause misunderstanding, HHS, against the advice of some in the FDA, ultimately substituted the word "picowave," meaning low-level ionizing energy, for "radiation."

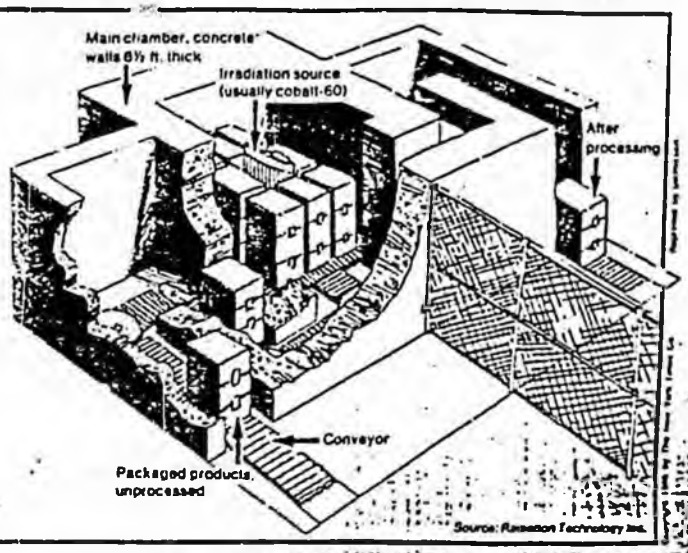
Irradiated foods must now carry the word "picowaved" on their labels together with the international logo symbolizing irradiated foods. The circular symbol that holds a stylized rose with two petals was developed in the Netherlands several years ago and is used on many packaged irradiated foods abroad.

Most of the handful of irradiation firms in this country currently earn their money by sterilizing medical equipment and supplies and some food spices. They have stated in reports that public endorsement of the irradiation process by just one large, well-known food company would persuade consumers that the process is safe.

—Linda Bosy

How Food Is Irradiated

In a food irradiation facility, packaged food rides on a conveyor to a chamber, where it is exposed to gamma rays emitted by a source of radioactive energy, usually cobalt-60, an isotope produced in nuclear reactors. The fence separates products to be irradiated from those already processed.



Source: Radiation Technology Inc.

ATTACHMENT 5

History of Food Irradiation

1898 - Bactericidal effects of x-rays first observed.

1905 - Patents for food irradiation process first issued in United States and Europe.

1920 - U.S patent granted for irradiating beetles in tobacco with x-rays.

1930 - French patent issued for preserving food by irradiation.

1943 - U.S. Army contracts with Massachusetts Institute of Technology to study feasibility of extending shelf life of food with irradiation.

1947 - MIT reports that shelf life of food can be extended through irradiation, offering a new method for assuring provisions for combat troops in remote battlefields.

1953 - U.S. Army Quartermaster Corps takes up food irradiation study at its laboratory in Natick, Mass., in conjunction with MIT, in federally funded study of irradiation of meat, fish, fruits, vegetables and dairy products.

1963 - U.S. Food and Drug Administration approves gamma irradiation to preserve canned bacon and for insect disinfestation of wheat and wheat products.

1964 - FDA approves irradiation for sprout inhibition of white potatoes.

1966 - FDA approves labeling requirements for irradiated foods.

1968 - FDA rescinds bacon irradiation rules after finding the studies on which original approval was made were based on poor laboratory quality controls.

Late 1960s - American astronauts and Russian cosmonauts begin eating radiation sterilized foods in space.

1969 - United Kingdom approves use of radiation sterilized foods in hospitals.

1975 - American astronauts and Russian cosmonauts share a meal of irradiated food in space aboard connection of Apollo-Soyuz capsules. Space explorers continue to dine on radiation sterilized food, as do others requiring such food in isolation, such as hospitalized bone marrow transplant patients.

1979 - FDA's Director of Bureau of Foods establishes the Irradiated Food Committee to provide a total reassessment of all relevant issues applicable to irradiated foods.

1981 - FDA publishes advanced notice of proposed rules on food irradiation in the *Federal Register.*

1981 - FDA offers to approve the use of irradiation for treating the California medfly crisis, provided certain conditions were met. Process not used because no person or organization applied for its use.

1983 - FDA approves irradiation of a specific list of spices and vegetable seasonings for microbial decontamination.

1984 (Feb. 14) - FDA publishes its proposed rule in *Federal Register* to allow irradiation of fresh produce for sprout inhibition, shelf-life extension and insect disinfestation of fresh produce and for sterilizing spices.

1984 (June 19) - FDA approves irradiation treatment to control insect infestation in garlic powder, onion powder and dried spices.

1985 (April) - FDA expands list of dried spices and vegetable seasonings that can be irradiated.

1985 (June) - FDA allows certain dried enzymes to be irradiated to control insect and microbial infestations.

1985 (July) - FDA approves low dose irradiation of pork and pork products to control trichinosis, the parasitic worm found in the muscles of some infected hogs.

1985 (December) - Canadian government announces it will allow food irradiation at up to 1,000 kilorads, 10 times the dose allowed in the United States, with only limited labeling requirements.

1986 (January) - The U.S. Department of Agriculture approves its own rules and guidelines for irradiating pork products.

1986 (April) - FDA publishes its final rule on post-harvest, low dose irradiation treatment of fresh fruits and vegetables and high dose irradiation of spices in the *Federal Register.*

1986 (June) - The British Advisory Committee on Irradiated and Novel Foods issues report recommending that food irradiation be legalized in the United Kingdom at doses up to 1,000 kilorads and that labeling be required.

1986 (June) - The People's Republic of China opens a commercial-size food irradiation plant in Shanghai and announces plans to build five regional food irradiation plants around the country.

1986 (July) - The U.S. Department of Energy announces it will build six regional food irradiation demonstration centers in the states of Alaska, Florida, Hawaii, Iowa, Oklahoma and Washington. A transportable cesium food irradiator is already operational under the DOE's Byproducts Utilization Program.

1986 (September) - Irradiated Puerto Rican mangoes go on sale in a one-time only test market in North Miami Beach, marking the first time in history that irradiated food is made commercially available in the U.S. The two tons of irradiated mangoes, at $1.49 a pound, are sold out within a week.

1986 (September) - Canadians announce plans to open food irradiation demonstration center in Montreal.

1987 (January) - USDA's Animal and Plant Health Inspection Service's rules for irradiating Hawaiian papaya are published in the *Federal Register.*

1987 (February) - USDA's petition for irradiation of chicken and poultry products to control salmonella is published by the FDA in the *Federal Register.*

1987 (March) - FDA rejects requests to put a hold on its new food irradiation rules adopted in April 1986, pending its decision on whether to hold requested public hearing on the new rules.

1987 (March) - FDA publishes petition from Radiation Technology, Inc., requesting irradiation treatment of poultry to control salmonella. Petition is similar to one published in February by the USDA.

FDA'S LIST OF FOODS AUTHORIZED FOR IRRADIATION

FOODS:

Fruits and Vegetables (April 18, 1986)
Pork (July 22, 1985)
Wheat, Wheat Flour
White Potatoes
Dried Enzyme Preparations

HERBS AND SPICES (Dried): (since July 1983)

Allspice	Cardamon	Cloves	Fenugreek	Marjoram	Oregano	Poppy Seed	Spearmint
Anise	Celery Seed	Coriander	Garlic Powder	Mustard Seed	Paprika	Rosemary	Star Anise Se
Basil	Chamomile	Cumin Seed	Ginger	Mustard Flour	Parsley	Saffron	Tarragon
Bay Leaves	Chervil	Dill Seed	Grains of Paradise	Nutmeg	Pepper, Black and White	Sage	Thyme
Caraway Seed	Chives	Dill Weed	Horseradish	Onion Powder	Red Pepper	Savory	Turmeric
Black Cumin	Cinnamon	Fennel Seed	Mace	Orange Petals	Peppermint	Sesame Seed	

* All the above listed foods are *authorized* for irradiation. That means they could legally be irradiated at any time. Presently we know of no whole foods that are routinely being irradiated and sold on a retail level with the following exceptions:
Puerto Rican mangoes were test marketed on a limited basis in Miami, Florida in Sept. 1986. (See Consumers Take Notice, Vol. 1, No. 4).
A small amount of spices being used in processed foods.
Although they are considering a request from Radiation Technology, Inc. the FSIS has not yet authorized any commercial irradiator to treat pork.

HOT NEWS

Cesium Salad

Brussels

Wild mushrooms in Belgium and Luxembourg have been found to contain dangerously high levels of radioactive cesium 16 months after the Chernobyl nuclear disaster in the Soviet Union, officials said yesterday.

A Luxembourg government official said it had banned the sale of one type of mushroom after tests showed cesium levels greater than recommended safety levels.

P.S.: Cesium never quits.

Home-Dumping

Radioactive Waste
Dump Plan Ratified

California has ratified a four-state compact that provides for the dumping of low-level radioactive waste in the state's eastern desert into the next century.

Legislation ratifying the pact was signed Thursday by Governor Deukmejian.

The bill by Assemblyman Steven Peace, D-Chula Vista, puts California into compliance with a 1980 federal law that requires the states to dispose of low-level radioactive wastes within their borders. If ratified by North and South Dakota and Arizona, it would be the first pact of its kind in the nation.

The waste — to be buried 40 feet underground in a dump site as large as three football fields — will consist of contaminated items, such as gloves, tools and other supplies used by hospitals, laboratories and nuclear plants. It will not include spent fuel from nuclear reactors.

CHERNOBYL'S LEGACY

It seems radiation, like guilt, keeps on giving. According to a study of the April 26, 1987 Soviet accident by the Lawrence Livermore National Laboratory in Livermore, California, the nuclear accident released as much long-term radiation into the world's air, topsoil and water as all the nuclear tests and bombs ever exploded. The report goes further to say this long-term radiation may contain 50% more cesium-137 than the total radiation produced by all atmospheric tests. Cesium-137 does not decay into harmless products for more than 600 years.

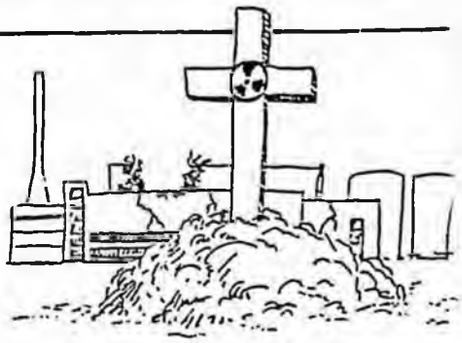
Using computer projections, Dr John Gofman, Professor Emeritus of Medical Physics at the University of California (Berkeley), estimated that 1 million people, including over half a million outside the Soviet Union, will develop cancer as a result of the Chernobyl accident and half of these cancers would be fatal.

In a separate projection Ernest Sternglass, Ph.D., of the Radiology Department at The University of Pittsburgh, Pennsylvania, arrived at a similar estimate: 150,000-600,000 additional cancer deaths in Europe resulting from Chernobyl.

Both these estimates are derived from research by Dr. Abram Petkau, published in 1972 (the Journal of Health and Physics). Dr. Petkau's experiments showed that very low dose radiation over a prolonged period (protracted low dose exposure) produces unexpectedly large free radical damage compared to short exposures to medical x-rays or direct radiation from atomic fallout. This occurs, according to Petkau, because the free radical process becomes extremely efficient at low levels of radiation. Low dose radiation produces fewer free radicals which are statistically better able to do damage to the cell membrane. The insidious action of radiation on DNA in the cell produced mutations that lead to cancer, cancer is a free radical process. However, at high doses of radiation over a short period of time, the free radical process becomes very inefficient due to the extremely large number of free radicals generated per unit volume. These radicals are so reactive they smash into each other and literally wipe themselves out.

Dr. Petkau's observation seems to explain why less people died immediately after Chernobyl and Hiroshima than anticipated. Based on data from the Hiroshima experience, leukemia and other cancers are currently occuring among children and adults at 100-1000 times the predicted rate 40 years after the bomb.

You'd think we might have learned b_ radiation is unforgiving.



LOOKING FOR THE K.O.

In the August 21st issue of the Food and Drug newsletter, the editors of this industry bulletin analyzed the food irradiation controversy with some interesting insights.

"Food producers aren't enthusiastic about the process. They hesitate because of certain unproven aspects of the technology, high costs and popular rejection of irradiated foods as dangerous. Retailers share the anxiety about customer resistance."

In an interview with Sharon Bomer *ex-director* of The Coalition For Food Irradiation (CSFI), Bomer confesses "there were irradiation companies that tended to blow the issue out of proportion and to make fantastic claims." Bomer was talking about companies in the business of irradiating medical supplies and who wanted to move into food irradiation.

George Giddings, formerly of Isomedix, a company that irradiates medical supplies, feels that what hurt food irradiation was The Department of Energy (DOE).

"The DOE program is the single most controversy-raising aspect of food irradiation," said Giddings. "The strident anti-nuclear types see (it) as a ploy of DOE in favor of the nuclear power industry. They see a conspiracy to push food irradiation...If this program were eliminated and there was no hypothetical possibility of implementing this cesium plutonium scenario, I think much of the crazy food irradiation controversy would evaporate in no time."

Bomer blames the commercial irradiators and Giddings blames the DOE for the failure of food irradiation. Both of them seem to ignore the fact that the people in the anti-food irradiation movement have a deep commitment to safety of the food supply and the environment.

The Food & Drug newsletter editors conclude "If this debate were a boxing match, it would be even at

ATTACHMENT 7

Coalition for Alternatives in Nutrition and Healthcare
(C A N A H)

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Compilation of Bioassay Data on the Wholesomeness of Irradiated Food Items by Dr. J. Barna

Dr. Jozsef Barna of Budapest, Hungary published "A review of 1223 studies on the wholesomeness of some 278 different irradiated foods and feeds concerning the period from 1925 to date" [1979 when his report was published in Acta Alimentaria, Vol. 8 (3) pp. 205-315].

The following is an extrapolation of the information which indicates "adverse effects are indicated in italics":

Albumin - ovalbumin

- *anaphylactic reaction*
- *increased serological activity*
- *increased precipitation in serological test*
- *loss of serological activity*
- *reduced capacity to sensitization*

Amino Acids in Medium

- *inhibition of bacterial growth on pH3*

Apple Juice

- *inhibited growth of seeds*
- *increased chromosome aberration in plant cells*
- *cytotoxic in plant*
- *antibacteric (bactericide and bacteriostatic)*
- *radiomimetic effect*

Apricot

- *retarded growth*
- *reduced body weight*
- *reduced weight gain*

Aqua Destillata

- *cytotoxic in plant*

Bacon

- *worse acceptance*
- *retarded growth*
- *reduced body weight*
- *reduced weight gain*
- *loss of body weight*
- *disturbance in breeding performance*
- *reduced number of progeny*

Bacon (Cont'd.)

- *reduced viability of offspring*
- *reduced RBC*
- *reduced haemoglobin content*
- *more frequent incidence of cataract*
- *increased mortality*
- *increased postnatal mortality*
- *more frequent tumour incidence*
- *increased malignity of tumour*
- *more hypophysis tumour*

Barley

- *increased chromosome aberration in plant cells*

Bean

- *reduced biological value*

Beef

- *reduced biological value*
- *reduced food efficiency*
- *reduced protein utilization*
- *reduced food consumption*
- *worse acceptance*
- *disturbance in development*
- *reduced growth*
- *reduced body weight*
- *reduced weight gain*
- *reduced weight of testicle*
- *increased relative weight of epididymis*
- *increased liver weight*
- *reduced reproductive performance*
- *disturbance in breeding performance*

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Beef (Cont'd.)

disorder in reproductivity
earlier manifestation of first oestrus
reduced fertility
fertility disorder
conceptual difficulties
reduced number of progeny
less parturition of pregnants
reduced number of pups per litter
increased haematocrit value
increased haemoglobin content
incidence of primary lymphocytic thyroiditis
extension of prothrombin time
lower prothrombin rate
hypoprothrombinaemia
glycosuria
disturbances in metabolism of fat and vitamins
increased phagocytosis due to antigen effect
increased liver cytochromoxidase activity
increased liver tributyrinase activity
increased far content in the liver
lower riboflavine excretion to urine
reduced serum vitamin E level
vitamin E deficiency
vitamin B_2 deficiency
vitamin K deficiency
insufficient coprophagia
reduced coprophagia
reduction of life span
increased mortality
increased mortality of progeny
haemorrhagic syndrome

Blood Serum/Plasma

inhibited growth of microorganism

Bread

lymphopenia
worse acceptance

Butter

disorder in reproductivity
reduced fertility
fertility disorder
conceptual difficulties
reduced total number of young born

Butter (Cont'd.)

reduced number of pups per litte
reduced number of young at weani
reduced vitamin E level in liver
increased mortality of progeny
reduced number of progeny

Cabbage

reduced SGPT activity
reduced AP activity in intestina mucosa
reduced GOT activity in tissues
increased esterase activity in tissues
reduced AP activity in tissues
reduced MAO activity in tissues
increased alanin-beta-aminopeptidase in tissues
reduced amino-oxidase activity in tissues
changed condition of pelage and skin

Cakes

worse acceptance

Carbohydrate Solution

increased chromosome aberration in microorganisms
inhibited growth of microorganis
antibacteric (bactericide, bacteriostatic) effect
growth inhibition in cell cultur
mutagen effect

Carrot

reduced food efficiency
reduced growth rate
retarded growth
reduction of body weight
reduced weight gain
reduced vitamin A level in liver
increased malignity
formation of toxic substances radiotoxins

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Casein

reduced biological value
reduced digestibility
reduced growth
increased kidney weight
influenced moving activity
increased mortality
inhibited growth of microorganisms
late effect on microorganisms
lower number of emerging insect
longer duration of larval development

Cauliflower

worse acceptance

Celery

formation of toxic substances, radiotoxins

Cereal (Grain)

more frequent diseases
chronic nephritis
peritonitis

Chicken (cooked, stewed)

reduced nutritive value of lipid
reduced biological value
retarded growth
reduced intensity of growth
increased liver weight
increased kidney weight
conceptual difficulties
reduced nubmer of pups per litter
glycosuria
increased haematocrit value
increased haemoglobin content
increased SGOT activity
reduced SGPT activity
reduced AP activity in intestinal mucosa
reduced GOT activity in tissues
increased GOT activity in tissues
increased esterase activity in tissues
reduced AP in tissues
reduced MAO activity in tissues
increased alanin-beta-aminopeptidase in tissues

Chicken (Cont'd.)

reduced amino-exidase activity in tissues
incidence of primary lymphocytic thyroiditis
increased phagocytisos due to antigen effect
reduced ascorbic acid content of adrenal
increased mortality of progeny
inhibited growth of microorganisms
antibacteric (bactericide, bacteriostatic) effec

Clam

affected liver weight
affected kidney weight
affected spleen weight
increased kidney weight
reduced testis weight
increased BUN level
reduced body weight
reduced measure of testis
reduced fertility
reduced viability of embryos
reduced hatchability

Coconut

extended chronaxy time

Coconut Milk

decreased gain in plant tissue weight
antimitotic effect (retardation or inhibition of mitosis in animal cells

Codfish

reduced biological value
reduced organ weights
reduced weight of liver in female
reduced uterus weight
reduced weight of caecum in female
increased weight of spleen in femal

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Codfish (Cont'd.)

increased spleen weight
increased kidney weight
reduced testes weight
disorder in reproductivity
inhibition of spermiogenesis
reduced resistance of spermatozoa
reduced activity of spermatozoa
reduced osmotic resistance of spermoatoids
lengthening of the oestrus cycle
higher globulin alfa-fraction value
reduced serum A/G quotient
increased SGOT activity
reduced SBChE
elevated SAP
increased serum aminotransferase
lower serum cholesterol level
reduced GPT activity in liver
increased liver aminotransferase
decreased liver BChE
decreased liver succinate dehydrogenase
decreased liver alanin aminotransferase
reduced aminotransferase in liver
reduced liver succino-dehydrogenase activity
reduced GPT activity in kidney
reduced succino-dehydrogenase activity in kidney
reduced ascorbic acid content of adrenal
more frequent intercurrent diseases
increased mortality of progency
more frequent pituitary adenoma
more frequent atrophy of genital tract
degeneration (atrophy) of testicles
degeneration of ovary

Compote (Fruit)

increased weight of spleen
reduced number of pups per litter
more frequent incidence of cataract
more frequent tumour incidence
hypophysis tumour
increased postnatal mortality
increased growth

Corn (Maize)

reduced digestibility
reduced weight gain
reduced weight of offspring
lower weight of progeny at birth
oestrus disorder
longer reproductive cycle
reduced fertility
more frequent epithelioma
increased frequency of lymphoblastoma in liver, thymus, lung, spleen, kidney

Corn Meal

longer duration of development of the larvae of Tribo

Crackers

worse acceptance

Cranberry

reduced growth

Dessert Powder (gelatine, vanilia)

worse acceptance
reduced growth rate

Diet (complete)

reduced food consumption
reduced palatability
reduced nutritional quality
reduced growth
reduced growth rate
reduction of weight or weight
reduced weight gain in female
slower growth of females
reduced body weight
increased kidney weight
disturbance in reproduction
disturbance in breeding performance
reduced fertility

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Compilation of Bioassay Data (Cont'd.)

Diet (complete - cont'd.)

fertility disorder
sterility
higher male and female sterility
elevated number of dead implantation
reduced number of pups per litter
reduced number of progeny
lower live-birth percentage
reduced litter number at weaning
reduced lactation performance
lymphopenia
shift from lymphocytes towards neutrophilic cells
leucopenia
leucocyte degeneration
reduced concentration capacity of kidney in female
increased cytochrome oxidase activity in liver
reduced serum transaminase
reduced SGPT activity
reduced SAP
reduced vitamin A level in liver
vitamin A deficiency
vitamin K deficiency
reduced transketolase in erythrocytes
changed condition of pelage and skin
more frequent intercurrent diseases
rachitis
increased mortality
elevated mortality
increased neonatal mortality
increased perinatal mortality
increased mortality of progeny
haemorrhagic syndrome
rupture, dilatation of heart auricle
testicular atrophy
histological laesio in testes, spleen lymph node and liver
inhibited growth of microorganisms
increased polyploidia
increased backmutation frequency
mutagen by DNA repair
mutagen effect by HMA

Diet (test)

reduced food consumption
reduced nutritive value
reduced protein quality
reduced digestibility of starch
reduced body weight
reduced growth
reduced growth rate
delayed appearance of pelage
delayed opening of eyes
reduced thymic involution
increased thymus weight
affected sexual function
disturbed reproductive function
disturbed reproductive performance
reduced fertility of male
extended mating period
longer time for producing
prolonged gestation length
reduced number of viable offspring
reduced viability of offspring
reduced litter number at weaning
more frequent cannibalism
reduced lactation performance
lymphopenia
reduced leucocyte count
higher number of neutrophilic leucocytes
increased serum nucleic acids (RNA, DNA) content
hypoproteinaemia
reduced serum A/G quotient
increased blood AChE activity
increased serum aldolase activity
reduced serum BChE
reduced serum tributyrinase
increased cytochromoxidase activity in liver
reduced activity of transketolase in erythrocytes
antifolic acid effect
vitamin E deficiency
ascorbic acid deficiency
folic acid deficiency
more frequent intercurrent diseases

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Compilation of Bioassay Data (Cont'd.)

Diet (test - cont'd.)

increased preimplantation resorption
increased mortality of progeny
slower rate of thymus involution
increased number of cell in thymus
increased incidence of mamma fibroadenoma
increased chromosome aberration in animal cells

Diet Extract

increased backmutation frequency

Diet (synthetic, semi-synthetic, purified)

reduced lipid digestibility
reduced starch digestibility
reduced growth
reduced growth rate
reduction of weight or weight gain
loss of body weight
increased liver weight
decreased weight of spleen
reduced weight of pups at weaning
inferior reproductive performance
reduced lactation index
decreased peroxidation rate in endoplasmatic reticulum
vitamin K deficiency
increased mortality
dilated coecum

Diet for farm animals

reduced biological value
reduced net protein digestibility
reduced food efficiency
reduced palatability
reduced growth rate
slower growth rate
reduced body weight
reduced egg production
delayed age at which the first egg was laid
delayed maximuzation of hatchability
increased mortality

Diet for humans (MEAL kitchen ready etc., for cosmonauts, volunteer consumers)

reduced growth

Egg (powder, dried whole)

reduced growth
reduced lactation index
absence of maternal instinct
more frequent cannibalism
increased postnatal mortality
increased mortality of progeny

European Plaice Fish (Pleuronectes platessa)

less quick growth of females on irradiated diet
relative reduction in liver weight

Fat

reduced biological value
reduced digestibility
reduced reproductive capacity
disturbance in breeding performance
reduced sexual function in females
influenced motility of gastronintestinal tract
extended chronaxy time
increased mortality of progeny

Fat (animal)

Beef fatty tissue
reduced growth
reduced fertility
reduced survival of offspring
vitamin A deficiency
reduction of life span
encephalomalacia

Butter fat
reduced growth
reproductive disturbance
increased mortality of offspring

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Fat (animal - cont'd.)

Lard
- absorption disturbances
- distrubed fat absorption
- disturbed digestion
- increased mortality
- more frequent tumour incidence
- changes in fatty acid composition of endoplasmic retic. of liver
- decreased hydrolysation activity of lipase in tissues
- low lipid peroxidation rate

Pork fatty tissue
- reduced growth
- vitamin A deficiency
- encephalomalacia

Fish (canned cooked, culinary fishery products, preserves, pasta)
- reduced biological value
- reduced nutritive value of lipid
- reduced protein utilization
- reduced growth rate
- reduced weight of testicle
- increased weight of spleen
- disturbance in breeding performance
- reduced activity of spermatozoids
- extended oestrus cycle
- more frequent cannibalism
- increased SGOT activity
- reduced SGOT activity
- increased SGPT activity
- reduced ascorbic acid content of adrenal
- more frequent intercurrent diseases
- higher blood sugar level at starving
- increased mortality of progeny
- increased excitability
- inhibited growth of microorganisms

Flounder (yellow tailed Fish (Limanda ferruginea)
- reduced protein utilization
- elevated SAP in female
- more pronounced enlargement of the salivary gland

Flour
- increased weight of spleen
- physiopathological injuries in fertility
- reduced number of viable offspring
- increased preimplantation loss
- physiopathological changes in longevity
- increased mortality of progeny
- thyroiditis
- more frequent tumour incidence
- increased meiotic chromosome aberration

Food (unidentified)
- reduced biological value
- reduced protein quality
- worse acceptance
- retarded growth
- reduction of weight
- reduced weight gain
- reduced reproductive capacity
- disturbance in breeding performance
- reduced fertility
- sterility
- reduced sexual function in females
- reduced RBC
- increased RBC
- decreased lipid digestion
- changes in immunological reactivity
- formation of toxic substances, radiotoxin
- increased cytochromoxidase activity in tissues
- toxic effect
- risk in irradiated food consumption
- few anomalies require further research
- more frequent incidence of cataract
- more frequent incidence of blind individuals
- increased mortality
- increased mortality of progeny
- thyroiditis
- rupture and dilatation of heart auricle
- haemorrhagic diathesis
- more frequent tumour incidence
- reduced fecundity of insects
- functional disorder in the thyreoid gland
- cytotoxic effect in animal cells
- mutagen effect on animals