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8/21/84

Mr. Tom Nelson
P.O. Box 1591
Sioux Falls, South Dakota 57101

Dear Mr. Nelson:

Pursuant to our August 16, 1984 conversation on liability issues for low-level radioactive waste disposal facilities, I am sending you the following information for the low-level waste siting work you are doing for the City of Edgemont, South Dakota:

-- The name of the former DOE attorney who dealt with liability issues is Mr. Omer F. Brown II. His mailing address is Shaeffer, Brown, and Cooper, 1575 Eye Street N.W., Suite 1025, Washington, D.C. 20005. Telephone Number is 202-289-3591. I have also enclosed an extra copy of a speech on liability issues prepared by Brown.

-- The Advance Notice of Proposed Rulemaking on financial responsibility for cleanup of accidental releases of radioactive materials was sent to the States for review and comment the week of August 13, 1984. In South Dakota, this package was sent to Joel Smith, Administrator of the Office of Air Quality and Solid Waste, at the Department of Water and Natural Resources. His telephone number is 605-773-3329.

-- Enclosed is an extra copy of the interview with the American Nuclear Insurer's Vice-President discussing insurance and liability issues of low-level waste disposal sites.

Good luck on your project, and feel free to contact me if you need further information.

Mary Jo Seeman, Program Analyst

Enclosures:
1. Speech by Omer F. Brown, II
2. Interview with American Nuclear Insurer's Vice-President

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AMERICAN NUCLEAR INSURERS.....ON LIABILITY INSURANCE & LLW MANAGEMENT

For the past several months state officials, federal agencies, public interest groups and potential LLW site operators have been involved in discussions of third party liability with regard to LLW site development and operation. This interview with American Nuclear Insurers top executives was conducted by Exchange Publisher Edward L. Helminski in order to provide the Exchange network the best possible information on the current status of liability protection against nuclear hazards associated with LLW management. The ANI executives that partipated in this discussion were **Mr. John Quattrocchi, Vice President, Liability Underwriting, Dr. L. P. Mariani, Vice President, Nuclear Engineering and Mr. R. Sanacore, Operations Manager.**

What is ANI and how did it come to be?

ANI is a joint underwriting association - a pool of insurance companies that was set up some 27 years ago for the purpose of insuring the nuclear risk. The pooling concept was devised as a means of coming up with large amounts of insurance capacity, since no single insurance company could provide the kinds of insurance dollars that were required to cover what was then a developing technology.

Who are ANI Clients?

We insure on the liability side, every operating power reactor in the United States; as far as we know every operating commercial fuel fabrication facility and every commercial waste burial facility in the United States. And, through re-insurance arrangements we also insure most of the reactors in the free world. Now, I'm referring here to liability insurance.

We also do provide first party property insurance. And here we also insure a major segment of the power reactor community, with a segment insured via self-insurance programs.

We share the liability insurance market with MAELU - the Mutual Atomic Energy Liability Underwriters insurance counterpart. As I noted earlier, ANI is the pool formed by the stock owned insurance companies, MAELU is the underwriting pool formed by the mutual insurance companies. Together we provide $160 million dollars of liability insurance protection at reactor power plants pursuant to the Price Anderson Act.

What about coverage for low level waste?

As far as our insurance coverage, a distinction is made between low-level waste operators and the generators of by-product material. Let me see if I can illustrate.

We don't insure a single hospital, for example. Of course, many hospitals, certainly all the larger hospitals, have nuclear medicine departments that work with radioactive isotopes for cancer patients and for other purposes. They are all insured by the conventional insurance market. The reason for that, frankly, is that 27 years ago when the pools were created it was decided that the by-product material exposure did not present any sort of catastrophic risk. It is in fact viewed as a commonplace activity, and one that the conventional insurance market was willing to insure.

We essentially insure the fuel cycle. That is really the line of demarkation -- we insure the fuel cycle and conventional insurance markets insure the isotope risk.

Do you cover the transport of radioactive materials?

We can cover the transportation exposure. For example, the transportation of materials to and from reactor sites and the transport of low level waste from a reactor facility to a low level waste burial site is covered under the policy we issue to a reactor operator. The limit of protection is $160 million for each shipment.

Enclosure 1

Reactor operators are required to provide evidence of financial protection to NRC in order to obtain an operating license. In order to fulfill this requirement, all have elected to purchase a facility form liability policy from ANI and from MAELU.

Now the policies that we write for reactor operators contain a provision called the "insured shipment provision". Under this provision we provide liability insurance for shipments of nuclear materials including waste from a reactor facility to a burial facility. So that if an incident of some type were to occur en route from the reactor to the waste burial facility we would be obligated to defend the reactor operator with respect to his liability for that incident and if the operator were found to be liable, we would pay on his behalf.

Now, I might also mention one key point, and that is under the facility form policy, the insured is anyone -- anyone who is legally liable for a nuclear incident. The policy is written to protect the reactor operator, but anyone liable for the nuclear hazard resulting from nuclear materials from a reactor is covered by our policy. Now this is a very important point. We need to discuss this at length. There is one exception and that is the U.S. government or any of its agencies.

What our facility form policy does is protect **anyone with respect to their legal liability as far as the nuclear risk is concerned.** For example, during the transportation of radioactive waste from a reactor to a waste burial facility anyone would be insured, and we would be obligated to **defend anyone who is sued for bodily injury or property damage as a result of a nuclear incident that occurs during an "insured shipment."** Now this would include the reactor operator, the waste burial operator, the trucker, the waste processor, the generator -- anybody who might be liable for the nuclear incident covered under our policy.

ANI covers liability risk for nuclear hazards with respect to transport of radioactive materials from nuclear reactor plants. What about a shipment from a large broker or from an institutional generator?

Let's go back to the delineation I drew earlier -- radioactive by-product material versus low-level reactor waste. If you are talking about a shipment made up solely of by-product materials from, for example, a facility like a hospital or a radiopharmaceutical manufacturer -- that shipment could be covered by the conventional insurance market. However, once the shipment arrives at a low level waste burial facility, then the policy that we issued to the low level waste operator would provide protection while the material is at the facility.

A shipment, from a hospital or from a waste storage location that involves only hospital-type waste (i.e. by-product material) would be covered under a conventional general liability policy. There is no need for a nuclear pool policy. This is the line of demarkation that I mentioned earlier -- fuel cycle versus non-fuel cycle. This separation exists simply because the conventional market is willing to insure the isotope exposure.

On occasion, we have covered an isotope risk where very large quantities were involved. But for the most part the conventional insurance market is available to cover liability associated with the use or handling of isotopes.

Most of the interest in the states, with regard to liability protection, is focused on low-level waste disposal facilities. Could you walk through the specifics of the type of protection ANI provides, starting first with a brief explanation of the role of the Price Anderson Act?

The Price Anderson Act stipulates that reactor operators must provide proof of financial protection in order to be granted an operating license. As a method to provide that financial protection, all reactor operators to date have elected to come to us to purchase a facility form liability policy as evidence that they are meeting the financial protection requirements of the Act. The policies that we provide -- the facility form liability policy -- is essentially location oriented, meaning that we provide the operator of the facility

with protection against liability for incidents that occur at the defined location or during the course of transportation to or from these facilities.

Under the Act, a reactor operator has to provide proof of financial protection in an amount equivalent to the maximum liability insurance capacity available to private sources. And that would be through ANI or MAELU. Currently the maximum amount of liability insurance available is $160 million.

I might mention that when the pools were created back in 1957 that limit was $60 million. Over the years, we've increased that and today that limit is $160 million.

Now, in addition to what is provided under the Price Anderson Act there is a program that provides excess insurance, if you will, in the form of retrospective payments from the utilities themselves. If an incident occurs, in which damages exceed the primary layer of protection -- in other words, the $160 million of primary liability insurance -- each reactor operator that is a participant in what is called the secondary financial protection program would accept on a retrospective basis, his share of the excess loss -- that is the loss in excess of $160 million -- up to a maximum of $5 million per reactor owned or operated.

So the liability insurance program works like this. You first have $160 million of primary liability insurance. And then there is the secondary financial protection program, which currently has 82 licensed reactors as participants -- 82 x 5, that's $410 million dollars. So what we have is $160 million on a primary basis, $410 on an excess basis for a total of $570 million. And that constitutes the cap or liability limit above which no one is legally liable.

I should quickly say, however, that under The Price Anderson Act, if the cap on liability is approached, or is exceeded, the Congress would be approached to assess the situation and take whatever action it deems appropriate to protect the health and safety of the public. So, in essence the public would not be left unprotected.

Now what is the relationship of Price Anderson to a low-level waste facility?

The Price Anderson Act at present does not extend to low-level waste burial facilities with the exception of the transportation exposure from a reactor facility to the waste burial facility.

For a shipment of low-level waste from a reactor facility to the burial facility all of the provisions of Price Anderson apply. In other words, the $160 million primary limit, the secondary financial protection limit, the cap, and so forth. All of that would apply. Once the material arrives at the low-level waste burial facility there is no Price Anderson protection, per se.

As I indicated earlier, however, all operating commercial waste burial facilities in the country, to my knowledge, purchase insurance from us. The difference is that they are not required to. There is no requirement that they purchase our insurance. And I contrast that to the reactor situation where insurance is required in relation to the financial protection requirement of the Price Anderson Act. There is no insurance requirement, at waste burial facilities, although again all of the operators to my knowledge, do purchase insurance.

What level of insurance is now available to an operator of a low-level waste facility?

Well, as I mentioned earlier, we currently have available a total of $160 million in the form of liability insurance. And again, that's available through both pools -- ANI and MAELU. Incidentally, of that total -- of the $160 million total - 77-1/2 percent of that -- or $124 million -- comes from the American Nuclear Insurors -- and the balance of 22-1/2 percent is derived from MAELU.

Now, when you say a total -- does that mean a total for a single site or a total available for all the sites in the country?

That is a per site limit. $160 million would be available on a per site basis.

Have there been any third party liability claims against any of the operators of the low-level waste disposal facilities?

To my knowledge we have not received any third party liability claims arising out of low-level waste burial operations.

Some states, particularly in the Northeast, are interested in having third party liability protection prior to a LLW facility becoming operational. Could you provide that type of protection?

If there are no nuclear materials on site therefore no nuclear hazards, the ANI policy would not apply since its scope is limited to the nuclear hazard. If there were some radioisotopes on the site prior to the initiation of burial operations, the isotope risk could be covered by the conventional insurance market.

What you're saying is that in the construction stage a LLW site could be conventionally insured and then shift to the pool when nuclear materials are taken in?

Substantially that's right. Yes. Liability insurance would be available from birth to death, if you will. Prior to the time that low-level waste arrives at the site the liability arises out of whatever operations are going on at the time. These activities could be covered under a conventional insurance policy. Once the nuclear material arrives at the site we would, of course, take over and issue a nuclear liability policy. However, since our policy is limited to providing liability protection for the nuclear hazard, conventional insurance coverage for non-nuclear hazards should be maintained.

What happens when the site is closed? Do you provide liability insurance during the post-closure and institutional control period?

In essence we would be talking about the same policy. I might mention that our policies are continuous unless cancelled or terminated. So that, yes, we are available -- we can cover and continue to cover a low-level waste burial facility during the institutional care period, assuming, of course, the low-level waste burial facility continues to meet our engineering and underwriting requirements.

So there isn't any time limitation. ANI would provide third party protection for 100--200--years as long as the premium was paid and the operator met your technical requirements?

Well, at this point in time -- we're not in a position to guarantee that we would provide liability protection in 200 years, but let me say that we are available to provide insurance during the post-closure and institutional care period subject to our underwriting requirements and the maintenance of adequate engineering safeguards at that facility. And I might mention that there are facilities around the country that have been decommissioned and for which we continue to provide insurance.

What are some of these facilities?

One is the Pathfinder facility, another is the Carolinas, Virginia facility. There are others, small reactors that were operated some years ago and have been decommissioned for years. We also continue to provide liability coverage at the three low-level radwaste facilities that are no longer accepting waste.

Are you confident that there are sufficient resources in the pool to meet the insurance needs of new regional disposal facilities?

As I indicated we have at present $160 million in liability capacity on a per site basis. But I should add that an operator of a low-level waste disposal facility is not obligated to purchase the maximum liability insurance capacity under the Price Anderson Act. To put it another way, the Price Anderson Act does not extend to low level waste burial operators. So that they can purchase any limit they so choose. The $160 million is available if they choose to purchase that limit.

Do you see any reason for a state to "set a minimum floor" of liability insurance that a low level waste disposal operator would

have to purchase?

I don't really think that that would be for us to say. I would point out that when the Price Anderson Act was developed it was specifically limited to facilities such power as reactor facilities, research reactor facilities, fuel reprocessing facilities and plutonium fuel fabricators.

What is ANI's view of setting up a Price Anderson type program for low level waste facilities? Does the liability risk warrant such a program?

We have been insuring the nuclear risk for 27 years and to my knowledge, we have not received any third party liability claims from the low level waste burial activity. As far as what a state should or should not do, I don't think that would be for us to say.

Could you estimate the premium costs of a $160 million dollar policy for a low level waste disposal facility?

No, not without the details of the site. A premium is dependent on several factors that are site specific, therefore it is impossible to estimate without site specifics. But let's go through how we would go about developing a premium.

First we look at such factors as location -- where the site is located. Is it in an isolated area, a rural area? What are the property values in the area surrounding the low level waste site? We look at the volume of materials buried. We look at the radioactive contents of the materials. We look at the major isotopes that would be included within the volume of the materials. Based on those factors we come up with premiums that are consistent on a comparative risk basis with other facilities that have been previously rated.

Would the premium amount to substantial percentage of the overall disposal fees charged to generators?

Well, I don't know about percentages, but it would be a very, very small -- very small fraction. I would think an infinitesimal fraction.

You mentioned that in determining the premium you rely upon a technical engineering analysis of the site and the operation of the facility. Could you explain the manner in which you carry out this analysis? When would you initiate this work?

Well first a request would have to be received at an appropriate time from an operator. Our first decision is whether we want to provide coverage.

When is the appropriate time to make a request?

The appropriate time for determining whether we can provide insurance seems to be early in the game, let me leave it at that.

Can you narrow that down a little?

Well, I think that the question of insurability always comes after we have completed certain fundamental examinations of the site. Generally speaking this would include a hydrological examination, a topographical plan examination, a seismological examination --a look to see if the surrounding natural factors could affect our exposure in any way that might not be acceptable to us.

Do you have your own team of engineers carry out this analysis or do you accept the data provided by the client seeking the insurance?

We accept the data generated by the client. We use this data in conjunction with data our engineers gather at the site to do an insurability analysis. Usually much of this data is generated as part of the licensing process and it normally has a great deal of legitimacy. Our role is to carry out a technical risk evaluation and to assure ourselves that due process and reasonable safety results are coming out of a well managed site. We don't do all the work, in that we use some of the licensing data.

What happens if there is a difference of opinion between your staff and the client'

on the design parameters, the integrity of a location? Say for example, the client maintains that the natural surroundings are sufficient but you determine a dam is necessary to prevent site flooding?

Well if an issue of that magnitude, like a dam came up, it would have usually been brought to our attention by the potential operator. Most of the time we get into the picture a little bit further on down the line and an issue like whether a dam should be built would probably have already been discussed and brought up by the various interests involved. We then ask ourselves how do we feel about that issue, whether the dam from our point of view is better and then we would ask the question "If there was not a dam would we provide coverage?" We would make that assessment ourselves.

Now let's say the state has determined that the dam is needed on technical grounds. We may then ask for additional specifications from the potential client. Or we, ourselves, might hire outside technical experts to study the issues that the state has raised.

From what you are saying it seems to me that a host state going through a licensing process should require that the operator demonstrate that insurance is obtainable prior to issuing a license.

That's just the way that power reactor licenses are issued by NRC. Over the years we have grown comfortable with the NRC licensing process. Now, if states were to get involved in this kind of licensing activity and if we thought that it was a really good licensing process then we would be willing to go along for the most part with the kinds of investigation that the process called for. We don't feel that we should be too involved, however, in setting up the licensing procedure or the requirement for insurance.

Couldn't the state licensing authority actually use ANI as a back-up technical advisor in determining the structure of a license?

ANI could not juxtapose themselves between a licensee and licensor, because in doing so we would take on some of the state functions. We feel that what we do in terms of technical certification for insurance purposes, determines whether we'll provide coverage. We do not guarantee the operation of the facility, as far as public health and safety.

As far as underwriting a policy, we are just saying that we are willing to sit down with our underwriters talk it over, if we say okay to the technical assessment, we'll provide coverage under certain circumstances.

I should add one other important factor. We have a proprietary relationship with our insured. Once we have determined the terms of insurability we don't go around sharing that with other people.

Do you perform engineering assessments on a periodic basis?

We go through an engineering assessment of insured waste disposal site operations about every six months to two years. The frequency is based on our assessment of the type of activity that is going on, the level of operation to make sure the risk remains what we believe it to be at time of policy issuance. We ask, will operations increase? Will they remain the same?

What happens then?

After we have completed our assessment we sit down with the client, to discuss any problems we may have. We point to possible insurance deficiencies but we do not necessarily make prescriptive technical recommendations on how the client should address the problems.

We may point out for example that a client's workers are getting too much exposure. It is up to the client to provide a remedy. We do not say "Have all your workers wear special gloves", that's the client's decision. We negotiate an acceptable remedy and make a determination on any adjustments to our policy. In the vast majority of instances we do not say "Do this or we will cancel your policy." We seek alleviation of what we consider to be excess

insurance risk and frequently leave it up to our clients to decide to just how to do it.

What about a situation, where a trench at a site is found to have a water run off problem, and has contaminated a pond that is off-site. The pond must be cleaned. What would ANI coverage provide?

ANI provides coverage off-site only through the language of our policies. We do not provide coverage for on-site property damage. We only provide coverage for bodily injury or property damage to third parties. Our policies do not cover on-site property damage. There is an exclusion in the policy for any damage -- any property damage to any property on-site. **ANI only responds to third party actions for bodily injury or property damage to off-site property owned by the general public. We do not provide coverage for any remedial action or for cleaning up a site.**

How can a state protect itself against the possibility of an expensive clean-up?

There are of course ways that can be developed by the states to protect themselves from injury if they so choose. There are things that the state can do to insure itself if it so chooses, and funds can be made available for that purpose.

Would this type of coverage be available from the ANI pool?

No. not at this time. Up to this point we have not been approached by any of our waste site clients about such coverage. We, of course, would consider any request that an insured may make, and, if the demand for that kind of thing develops we would take a hard look at it. I can't say that we would do anything about it. But we would certainly act to consider a request from our insured.

There has been and continues to be a lot of interest in the Northeast about the concept of shared liability. Illinois in fact just adopted an amended Midwest compact requiring shared liability among all party states. In your view does a host state gain anything from a shared-liability program?

Well, I don't know, from a legal sense. I think, again, that's a question that's really not for us to decide -- it's a question for the state. But I will say this -- our policy does have that very unique feature to it -- that is, the broad definition of insured.

Because of this broad definition **a policy issued to a regional low level radioactive waste site operator would not only cover the operator but would cover the compact and its entities.** It would provide thrid party liability coverage to the host state and any party state with respect to their liability for a nuclear incident at the site.

What your saying is that once a policy is written to cover a low level burial site, all third party nuclear liability is taken care of?

Yes, that's right. If there is a shipment of low level waste from a reactor, or a nuclear fuel-related facility, then if you have an incident that results in a third party liability claim - either injury to the public or for some damage to the off-site areas - that's correct. We, ANI would be defending anybody, with the exception of the federal government,-- anybody that might be liable for those injuries or damages. Anyone who is involved in the operation of the site or delivery of waste that we are covering.

Let's consider a hypothetical incident: Say a shipment from a reactor facility in Michigan was on its way to a burial site in Illinois and somewhere enroute an accident occured in Illinois, and there were allegations of injuries and property damage to third parties. In this case it would be the reactor operator's policy that would apply to that shipment. And, again ANI would act to defend -- defend anybody who might be sued with respect to this legal liability for the nuclear incident and we would pay up to the policy limit if liability was assessed.

Now, what if someone sued the state of Illinois?

Let's take a particular accident scenario. The truck hit a pothole on an Illinois toll road. And it's alleged by a third party -

the injured party - that the reactor operator is liable because that's where the material came from and the trucker is liable because he's hauling the material, and also the state is liable because if the pothole wasn't there the accident wouldn't have happened. Now, the point is, we would defend the reactor operator, the trucker and defend the state. If the state was found legally liable for the damages to the third party, then we would pay.

What if the state of Illinois alleges that the reason the accident happened is that the truck was not checked and packaged right because Mighigan didn't enforce its laws?

It would be up to a court to assess liability. We would defend all the parties that were sued. But it is up to the court to assess the liability.

Would the liability of either state be different if there was a legal document, committing each other to sharing the liability.

Not really, no. Everybody is an insured under the policy. It would be up to a court to assess liability.

Let's say you have Michigan and Illinois as part of a regional compact. Both states would be insured by ANI under the site operator's policy.

Let me give you one more example to illustrate how coverage is provided. Consider again a shipment from Michigan to Illinois and again this is from a reactor site so it would be the reactor's policy that would apply to that shipment. Now, enroute there's an accident in Illinois. The truck turns over, on an Illinois toll road. Now, there's a mess on the road. Property owned by the state of Illinois is contaminated. So now, the state of Illinois sues the reactor operator, and the trucker because the state alleges that the truck's tires were bald. Again, we would be obligated to protect the reactor operator, the trucker or anybody else, excepting the U.S. government, that might be liable for damage to Illinois state property. If they are found to be liable in a court of law then we would pay.

Is there any other issue you would like to bring to our readers attention?

We would like to cover two other points we talked about only briefly --the question of insurance rating and how we develop premiums. And, one issue that has not been mentioned - existence of a refund procedure that we have in place to return to our insured portions of the premiums they pay to us based on loss experience.

The rating process in this business, as you might imagine, is based almost entirely on judgment. This is so because of the lack of any real loss experience. The nuclear industry has exhibited a very fine safety record over the years and there is no actuarial base with which to determine rates. So in the absence of actuarial statistics judgment again is the key ingredient.

In recognition of the role that judgment plays we have created what we call the industry credit rating plan. And what it says in essence is that based on the loss experience of the industry as a whole - **we will refund to our insured**, after a 10 year experience period, a portion of the premium that they paid to us ten years ago. Over the years, under this program, we have refunded significant amounts of money.

Now, the other point I'd like to make is the issue of a **discovery period.** We mentioned that we certainly could consider insuring a waste burial operator during the institutional care period and post closure. We would have no real problem doing that, subject of course to the continued application of adequate engineering safeguards. However, the discovery period becomes an issue here. Essentially our policies provide for a ten year discovery period in which third parties have ten years within which to bring claims against the insured once the policy is cancelled. The discovery period does not begin to run until a policy is cancelled. So that if a policy remains in force, there is no real problem. Once the policy is cancelled, if in fact it's cancelled, then third parties have ten years - the discovery period - within which to bring claims.

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