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UNITED STATES OF AMERICA

NUCLEAR REGULATORY COMMISSION

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NEWS MEDIA BRIEFING ON FINAL RULE

10 CFR PART 20

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PUBLIC MEETING

Nuclear Regulatory Commission
One White Flint North
Rockville, Maryland

Thursday, December 13, 1990

PRESENT:

JOSEPH FOUCHARD, Director of Public Affairs
DONALD COOL, Office of Research

P-R-O-C-E-E-D-I-N-G-S

10:15 a.m.

MR. FOUCHARD: All right. Let's move ahead with the briefing for the news media on the Commission's action in approving the first major revision to our radiation protection regulations in 30 years.

Doctor Donald Cool of our Office of Research is going to take you through the major changes in the regulation, and after he's finished we'll be pleased to take your questions.

So, Donald, go ahead.

DOCTOR COOL: Thanks, Joe.

Joe Fouchard asked me to try and provide you with a very brief overview sketch of -- come on, I'm not that bad. Maybe I will and maybe I won't. Maybe we'll do it without the microphone. If I start talking too softly, just let me know and I'll try and talk a little bit louder.

The revision which the Commission just affirmed is the first complete revision of 10 CFR Part 20, which is the NRC's Basic Standards for Protection Against Radiation that has been conducted since the time the rule was originally put out in the 1950s. Since the time the rule was originally put out, there

have been 90 -- over 90, in fact -- amendments at various times looking at specific aspects, changing various things, but this is the first time the Commission has ever gone through and completely revised and updated, put the entire rule back into a coherent structure again. That was one of the major purposes of doing this revision.

The revision adopts the currently published recommendations of the ICRP and it adopts and implements the Federal Guidance for Occupational Exposure that was signed by President Reagan in 1987. As Chairman Carr said during his brief statement before the affirmation vote, the rule is to be effective 30 days after the publication in the Federal Register. Licensees will have until January 1st, 1993, to implement those provisions. They may implement it before that time if they so desire by notification to the Commission. The agreement states will have until January 1st of 1994 to bring their regulations into conformance with the new standards adopted.

We are currently in the process of moving into that implementation phase that the Chairman mentioned. In particular, we're preparing a number of different regulatory guides. A number of these are

totally new guides. In other cases, they are major revisions of existing guidance documents. Those guides will be available in draft form within the next few months with the goal to have the final guidance documents in place by about the end of 1991 so that licensees have a full year between the time when final guidance is available and the time when they must implement the rule.

For some of the major provisions of this revision to 10 CFR Part 20, let's first look at the occupational exposure. The dose limits are now based on the summation of internal and external exposures, rather than the previous 10 CFR Part 20 which had separate limitations, an external exposure limit and controls on internal exposure. Summation will be required if each component had to be monitored for, and in most cases licensees will not have to worry about the summation requirement because in most cases there is either an external exposure situation or an internal exposure situation, but there are relatively few instances where there are significant contributions from both of those sources.

The limits are expressed in terms of an annual basis, 5 rem per year total effective dose equivalent. The previous rule contained quarterly

dose limits, which have been eliminated. The previous rule also had a cumulative dose limit which has been eliminated. In the internal dose, the dose is calculated using what is called a "committed effective dose equivalent" approach. It is an approach whereby the exposure in each of the organs is looked at and calculated and the risk to all of the organs which might be exposed as a result of an intake of radioactive material is considered in looking at the limit. The old Part 20 used what was called a "critical dose" approach where only the exposure to the organ that was most highly exposed was considered in determining compliance.

Appendix B of the rule, which contains the values for airborne radioactivity occupational exposure have been modified to reflect the new dose limits and to reflect the 30 years worth of data we have on how radioactive materials move in the body, the metabolic models and the information that we have on the dose received from various radionuclides.

Licensees are now going to be required as a part of this new rule to have a radiation protection program. Many licensees, by virtue of requirements in Part 35, Part 30 and other places, already have such programs, but in fact now all licensees will be

required to have those programs. As one part of that program, licensees will be required to have procedures and engineering controls to achieve doses which are as low as reasonably achievable or ALARA, that phrase which you have often heard. The old Part 20 contained a "licensee should" try to work to having reduced doses to as low as reasonably achievable. This new rule moves that up a step and makes it a "shall." They shall have these programs for looking at as low as reasonably achievable.

There is a brand new dose limit which has not been part of the previous Part 20, which is a dose limit on exposures to the embryo fetus, the unborn child. That limit, which is a half a rem over the course of the pregnancy of the declared pregnant woman is consistent with the recommendations of the NCRP and is in fact lower than the recommendations which ICRP put out in 1977 for that situation.

There are dose limits contained in the rule for minors, which are individuals who are under 18 years of age who may be working part-time, say, in a university, in a laboratory, something of that order. Those dose limits are ten percent of whatever the occupational dose limit was. So, in that case, it would be a half a rem total effective dose

equivalent for a whole body exposure.

For members of the public, the new Part 20 contains an explicit dose limit of 100 millirem, which is a five fold reduction from the implicit value that was contained in the previous Part 20. Appendix B also contains values which correspond to the public dose limits for airborne radioactive effluents and for liquid radioactive effluents. Those values are actually calculated to a 50 millirem level, one-half of the total public dose limit value, to account for the fact that there could be exposure to two different pathways.

There are values contained in the table, Appendix B, for disposal to the sanitary sewer as there was in the previous Part 20. Those values now represent a calculation to a value of 500 millirem, which is a factor of 10 reduction in the dose limit that they're corresponding to from the old Part 20.

In terms of monitoring, record keeping, and reporting, a lot of the other provisions that go along with having limitations on dose, monitoring will be required if the dose could exceed ten percent of the limit. In terms of external exposure, that's the same as was contained in the old Part 20. For internal exposures, that represents a reduction from

the previously required monitoring level, from 25 percent to ten percent.

For reporting and record keeping, licensees must provide dose data to employees each year. This requirement is actually contained in 10 CFR Part 19, which is being amended along with 10 CFR Part 20. The previous Part 19 had required that licensees provide that information to an employee if he requested it. The new rule requires that it be provided, whether or not they request it, to each of the employees.

10 CFR Part 20, the old rule, contained a requirement that licensees in one of seven categories such as power reactors, high-level waste, independent spent fuel storage, fuel cycle facilities, large radioisotope production facilities, radiographers, those categories of licensees had to provide statistical summaries of their employees' exposure each year to the NRC, and they also had to provide to the NRC what were called "termination reports," reports of an individual's exposure when they terminated employment with that particular licensee.

Those two provisions, the statistical summary and the termination reports, have been

eliminated in favor of those licensees now providing to the NRC each year each individual's dose for that year. It is exactly the same kind of information which we are requiring the licensee to provide to the individual themselves. That information will be kept by the NRC in our radiation exposure information reporting system, which is the same system where we currently keep the termination report data and can be used to provide a database of exposures, exposure history, our ability to determine trends in exposures in the license facilities and is a step in moving towards a request by the National Cancer Institute for a national dose registry.

That, in very brief terms, is some of the highlights of the provision and we'll be glad to try and answer any particular questions there may be on the rule.

MR. FOUCHARD: George?

QUESTION: (Question off mike.) You're reducing the exposure limit for the public and you're keeping the one for workers at the same level. I mean -- reducing the one for the public because you feel that the risks are greater than previously thought. Can you explain the discrepancy between those two actions there?

DOCTOR COOL: Okay. Let me elaborate on that just a little bit for you.

The recommendations which we're putting out today are consistent with the currently published ICRP recommendations, which is 100 millirem per year. We are at a five rem per year. If you look at the limit which is in effect in the new rule today versus what the limit was in the old rule, simply comparing limits, you will find that the limit has in fact been reduced for occupational exposure because individuals could receive three rem per quarter up to a maximum of 12 rem per year as long as their cumulative exposure was less than five times their age.

So, in fact, if you want to compare limit for limit, the occupational exposure has been reduced. And it's also been reduced in the sense that you now are applying the five rem value to both internal and external summed, and previously each of those were limited separately. The five previously had only applied to external exposure.

But I'd like to also point out that limits constitute only one part of the requirements. The second part of the requirements is to reduce exposure as low as reasonably achievable, the ALARA program, and under those provisions exposures have been reduced

to well below those dose limits. The average exposure of workers in the nuclear power plants is now something less than 400 millirem per year, significantly less than the dose limits, and that will be continued.

QUESTION: (Question off mike.) Just so I'm clear on this, the annual limit for workers -- is what?

DOCTOR. COOL: The annual limit, if I wanted to add up all the possibilities, I could have gotten to about 17, three rem per quarter to a maximum of 12 rem per year external plus an additional amount for internal exposure.

QUESTION: Someone earlier today spoke of the limit as five. I still don't understand how you get 17. You also said something about multiplying by age. Would you go over that again?

DOCTOR COOL: Okay. I will try to elaborate a little bit more.

We're talking now about old Part 20, not what the Commission affirmed today. What is currently existing today contained a basic dose limit for external exposure of five rem per year or three rem per quarter. All right?

Now, there was a provisions known by its

equation, 5N-18, which said that if an individual had accumulated less exposure than five rem times his age minus 18, assuming he starts at age 18 to work, that he could accumulate greater than the five rem value so long as he was within the three rem per quarter and less than that cumulative equation, five times his age minus 18.

So, it would be possible for an individual who, say, started working at age 25 and who had not had previous exposure to receive up to 12 rem per year under that combination provision until such time as he had reached the five times his age minus 18, 5N-18, cap, at which point he would be effectively at five because that's all that cumulative equation would have allowed because we went to a strict five.

QUESTION: (Question off mike.) Why do you rely on ICRP 1977 data --

DOCTOR COOL: We are well aware of the fact that ICRP is looking at a revision of its recommendations. They've been considering it. They circulated rather widely in the scientific community earlier this year some draft provisions that they were considering. Those revisions do not change the basic framework for radiation protection which was implemented in their 1977 recommendations. One very

strong reason for going forward now is to put that framework into place so that future changes which need to be made can build on that framework.

The ICPR recommendations that they are considering will not change the dose limit for members of the public. The ICRP considerations for occupational exposure have been expressed in a couple of ways over the past few months and I have not seen what their final was. What was being discussed when it was actually circulated before would have been a limit of two rem per year averaged over periods of five years with a maximum amount of five in any given year. The maximum amount of five still corresponds to where our dose limit would be.

I'd like to remind you once again that the limits represent simply one level and that underneath that the ALARA has to be applied, which has reduced doses to well below the five, well below a recommendation of two.

MR. FOUCHARD: I think, Don, you ought to note that the federal government is gearing up for a broad scale consideration of the new ICRP recommendations.

DOCTOR COOL: Yes, under the auspices of the Executive Office of the President, the Committee

on Interagency Radiation Research and Policy Coordination, CIRRPC. That group has formed a science subpanel within the last several months to look at the new recommendations and to provide a federal government consensus view on how to proceed, how to implement those recommendations, recognizing that ICRP, if they come out with what they have talked about, will suggest an average. That means that it might be -- there are possibilities for implementing that in several different ways when you have to write a regulatory limit. See, ICRP is not bound by having to go out and inspect and enforce a licensee.

One of the things that we're going to have to consider as we look at how to apply new recommendations is what its impact is going to be on overall exposures in the industry because it's one thing to simply say, "I want to reduce any given individual's exposure." If I do that, and depending on how I do that, I may in fact increase the total amount of exposure in the population because I will have to send two or three people in to do a job where only one individual might have to do it before and a collective dose might actually be greater.

So there are a number of considerations that we're going to be looking at. That group will

start looking at it and will probably hold its first meeting in January.

One further thing that I thought of in response to your question, the federal agencies are required to implement the guidance issued under the auspices of the Environmental Protection Agency, under their federal guidance authority. This regulation implements the occupational guidance which was published, signed by President Reagan in 1977 and -- '87, excuse me -- and it is consistent with the current draft of the public exposure guidance which is currently being circulated.

Yes?

QUESTION: (Question off mike.) Are you saying that this -- conformance with the ICRP -- you've got to change this thing in order to implement it --

DOCTOR COOL: There will have to be changes in numbers certainly. There will not have to be changes in structure of the rule, at least I hope so.

QUESTION: A change in numbers meaning individuals?

DOCTOR COOL: I cannot predict until those recommendations come out what sort of changes might

be necessary. But it's certainly reasonable to hypothesize that one of the things that we might need or want to do for various reasons would be to reduce the occupational exposure further, consistent with their recommendation. We will probably want to look at weighting factors for individual organs which may require modification. There are a number of different numerical things which will have to be examined, but the structure of the rule based on those recommendations we do not expect to have to change because we do not believe the recommendations are going to change that structure.

Yes, sir?

QUESTION: (Question off mike.) Yes. I wondered if you could explain why go through this process of actually formulating -- regulation if it could be changed in a couple of months? Wouldn't it perhaps have been quite adequate just to wait until one has -- the ICRP -- and then make it somehow fit in? I don't understand why they have to be such different -- confined differences. Was there a need to rush into this all?

DOCTOR COOL: I don't believe we rushed into this.

QUESTION: Why go through the process in

a couple of months when it might be changed again?

DOCTOR COOL: This revision represents the culmination of something on the order of 12 years worth of work.

QUESTION: Yes.

DOCTOR COOL: And one side of the coin would be, "Gee, it's coming out. Why don't we wait?" Then there would be something else which we could wait for and there could be something else which we could wait for. You could do that more or less indefinitely and never change anything.

Your alternative is, I have this new structure. I know the structure isn't going to remain the same in the new recommendations. I know that we are implementing reductions in the public exposure level. I know that we are putting in a new dose limit to the embryo fetus. I know that we have reduced occupational exposures from the maximum allowable and separate limitation to a single limitation.

The Commission believed it was appropriate to go ahead and do those things now because it could do them now. It had been through the process, rather than to hold up the process, wait for ICRP to come out, determine how it might be implemented and start the whole process through again, through a proposed

rule, public comment, development of final rule, which takes a great deal of time.

QUESTION: (Question off mike.) What does this mean in terms of the plant operators? Are most of them already meeting -- or will they have to do something --

DOCTOR COOL: Okay. There will be a number of procedures record keeping sorts of systems that are going to need to be modified so that the reports now conform to the new rules so the terminology corresponds appropriately. In terms of are there individuals out there who today are being exposed in excess of these values and will need to be reduced, no, we do not believe that there are and that's a direct result of that other half of the regulation. You have limitation and you have ALARA. As a result of that effort, up to this point voluntary, to reduce exposures as low as reasonably achievable, those individuals are not receiving exposures occupationally which are for the vast majority of the individuals anywheres close to those limits.

QUESTION: Let me make sure I understand this. Workers and the general population already at plants are believed to be exposed to less than the--

DOCTOR COOL: Significantly less.

MR. FOUCHARD: I think it's important -- Doctor Cool indicated that the average exposure to nuclear power plant workers at the present time is somewhat less than 400 millirem per year. There has been no instance in the United States certainly where the number 100 mr to the general public has been reached, let alone the 500, and that includes March of 1979 in Pennsylvania.

DOCTOR COOL: Frank Congel, correct me if I'm wrong, but the effluent data around the power facilities for exposure of the public, those values to maximum individuals are a couple orders of magnitude less than one millirem. Am I remembering that correctly?

MR. CONGEL: Yes. Transposed dose is well under five millirem per year and as you go away from the plant it's well under that.

DOCTOR COOL: Lynn?

QUESTION: Don, do you know what the status of NCRP's review of the soon to be released ICRP recommendations, is that an important piece in the equation for our federal agencies to factor into the regulations also?

DOCTOR COOL: The last time we talked to

them several weeks ago, they had held at least one meeting. I understood that someone was off busy trying to draft something. Mr. Beckner, who is with the NCRP, had indicated that they would have something perhaps by the end of 1991. That was just sort of off the top of his head sort of approach. Certainly what NCRP decides to do or not do in terms of the recommendations that it makes here in the United States will have to be taken into account by not only the NRC but by all of the federal agencies that are involved in radiation protection. One of the things that the CIRRPC Committee will be looking at is those recommendations or what we can learn about those recommendations as well as what we can learn about the ICRP recommendations.

Ms. Duriga?

QUESTION: (Question off mike.) Why are you increasing the concentrations of radioactivity to -- near water for workers of the public? Although the rems are staying the same or going down, you know radioactivity is going up.

DOCTOR COOL: For those who are not familiar with the structure of the rule, what Ms. Duriga was referring to is the values in the Appendix B of the rule which are values published which are,

by design, scientifically corresponding to whatever the dose limit in the rule is.

The revised Part 20 which was affirmed today contains revised calculated values which correspond to the dose limits. Because of what we have learned in the intervening past 30 years with regard to metabolism and dosimetry of those radionuclides, some of those values went up, some of them stayed the same, some of them went down. They were calculated so that they would, in fact, still represent a value corresponding to the dose limit.

QUESTION: (Question off mike.) First of all, I was going to ask the opposite of -- why did it take so long? How do you intend to enforce the second prong of this, which is the ALARA?

DOCTOR COOL: Okay. Let me see if I can answer. Why did it take so long? The process of attempting to take what are recommendations written by the ICRP, which do not really consider implementation or enforcement to something which we can, in fact, implement and enforce has taken a long time because of a number of considerations. There was an advanced notice which was put out which we received a great deal of comment on. We spent a great deal of time, and this is back in the mid-1980s, developing

a rule with wide input from various industry groups and other groups, concern groups with regard to what the provision should look like and how practical were the provisions that we were considering.

The proposed rule that resulted from that was published in 1986. The comment period on it, just the comment period itself, was open for nearly three-quarters of a year. The revised requirements then were put together by the staff, once again going through all those comment letters. We had 830 comment letters. The stack was a rather large stack of paper because several of the letters were several inches thick of various and sundry comments and documents that were provided. Those were all gone through by the staff and looked at in considering what the final rule would be.

Those were then provided to the Commission. The Commission asked some questions, some very good questions, which required us to go back and explain, look at some particular impacts, how this might be implemented and that required some additional time.

It's never an easy -- there's never a single or easy reason as to why something takes a relatively long period of time. This represents, I

believe, the best answer is a very deliberative and careful process to try and implement it in a way that we can, in fact, implement it and enforce it and look at it.

Enforcement on the second prong, ALARA. ALARA is, by its nature, as low as reasonable achievable, a philosophical concept. What may be in one situation the as low as reasonably achievable dose may not be the as low as reasonably achievable dose in the other situation. That is why the requirement contained in the new Part 20 is for licensees to have in place the mechanism, procedures and engineering controls to control doses to as low as reasonably achievable rather than a requirement that the doses themselves be as low as reasonably achievable.

By having the requirement be that they have in place the structure, the procedures, engineering controls, we can go in and we can determine whether they have that structure, whether they have the procedures, whether they have the engineering controls, whether they are reviewing on appropriate periodic basis the doses and their facilities, whether they are implementing actions where they find that doses can be reduced. If we find that that has not taken place, then that is a citeable

violation.

QUESTION: (Question off mike.) Is that going to be done --

DOCTOR COOL: That will be done through the routine inspection and enforcement procedures which we already have in place. We already -- our inspectors go in and look at licensee's programs, look at various records which they are required to keep, look at the minutes and results of meetings of radiation safety committees and those sorts of things. What this is providing, it is providing a handle, if you will, a firm handle to actually look at that particular area and to cite and enforce against it, if necessary, where previously you only had in Part 20 that they should. It was not a citeable provision. Now there is a mechanism to cite under that procedure.

Yes, sir?

QUESTION: (Question off mike.) Would you mind putting these -- into some kind of context for everyday life, aside from rems and millirems? I mean, could you perhaps give us what the equivalent is for somebody, for a member of the public or someone who's a worker in a nuclear power plant or something like that just so that it means something in their daily

lives?

DOCTOR COOL: Okay. Without trying to do a whole lot of mathematics in my head, which I will undoubtedly get wrong --

QUESTION: (Question off mike.) This is just -- scientific journal.

DOCTOR COOL: The dose conversion factor, which the Commission is now using, is a conversion factor of 5×10^{-4} effects per a rem of radiation. That's five in 10,000 per a rem of radiation, five chances in that 10,000 that if you got one rem that you would have an induced fatal cancer. Now, you can multiply that by whatever dose number, the five rem value, the 100 millirem value, the ALARA values where workers are actually being exposed at less than .4 rem, the individuals around the power plants which are less than five millirem, and come up with some sort of estimate of fatal cancer exposures.

Is that the sort of thing you're looking for or --

QUESTION: (Question off mike.) Oh, no, I'm thinking in terms of -- chest x-rays, something like that.

DOCTOR COOL: Okay. Something that we put out in a press conference a little while ago, the

National Council on Radiation Protection and Measurements had issued a report on what natural background currently is the United States. They estimated that an average person in the United States received about one millirem per day as a total of natural background. The average of medical exposures and various things like that, one millirem per day or about 360 millirem per year as an average exposure to an average individual in the United States.

QUESTION: That's through what, sunlight?

DOCTOR COOL: That's all of those sorts of things, cosmic radiation coming in from sunlight, the natural radioactive material which is in the ground, in the bricks, radon gas in the air, natural potassium and tritium which is contained in your body, all of those various sorts of things.

MR. FOUCHARD: You might point out there are variations in natural background also. It's different in Denver than it is in --

DOCTOR COOL: Considerable variations.

QUESTION: So, one assumes that these limits are then over and above this?

DOCTOR COOL: That's correct.

QUESTION: (Question off mike.) Considering that the average person is getting three

doses --

DOCTOR COOL: That's correct.

QUESTION: You had said that licensees have until January 1st. 1993 to come into compliance with this. You also mentioned something about 1994.

DOCTOR COOL: Okay.

QUESTION: (Question off mike.) Could you clarify that? Also, what would be the penalties for noncompliance?

DOCTOR COOL: All right. The NRC has, under its Atomic Energy Act authority, entered into what are known as agreements with a number of states where by the states have the authority to regulate some source byproduct materials. Under those agreements, they have comparable regulations to that of the Commission. Those states will have until January 1st, 1994 to conform their regulations with this new regulation.

QUESTION: So they get an extra year.

DOCTOR COOL: So they get an extra year.

QUESTION: How many such states are there?

DOCTOR COOL: There are 20 agreement states. There are a number of procedural rationale for allowing them that amount of time. Some of the states have their regulations actually codified in the

legislature and it requires a legislative vote. Some states have legislatures which meeting only every other year. So, for those sorts of reasons, the Commission chose to provide them with what has been the standing practice of three years to bring their regulations into conformance.

I believe you had a question.

QUESTION: Which industries, if any, face major changes in their manufacturing processes or their work practices in order to meet any lower limits that you may have?

DOCTOR COOL: Okay. There is one group perhaps that faces the greatest chance of having to change their procedures. That is the uranium fuel fabrication industry, that set of plants which is making the uranium dioxide and fabricating the fuel rods for the nuclear power reactors.

One of the things that has happened in this revision, in the occupational exposure, is that the values for insoluble uranium have come down by a factor of six. That's one of the ones that came down and came down significantly. As a result, individuals who used to be at, say, ten percent of the limit are now much more close to the limit and those facilities may need to make some modifications on their

production lines to account for these changes and to be able to assure and be able to demonstrate that they're in compliance with the limit.

They may also, in addition to looking at changes to their system, look at how the model which relates an amount of radioactive material to a dose actually compares to the assumptions which are in Part 20, one of the things that has to be recognized. The limit is in terms of dose. The concentration values which are presented in the table makes some assumptions about the particle size, about how radioactive material behaves in the body. Those are based on what has been called a standard man. It may, in fact, not be a good representation for what's actually occurring in a facility.

So, one of the options that a licensee like that would have would be to look at those assumptions and to determine whether or not there is a more appropriate value which still corresponds to the same dose limit.

QUESTION: Did you say they can petition you or something to kind of -- in other words, if they do a different dose assessment they may be able to--

DOCTOR COOL: The rule provides that they can go and look at those parameters and that they may

use them upon approval of the Commission. They would have to come to the Commission for approval before they could use those modified parameters.

QUESTION: So, they can get a special exemption?

DOCTOR COOL: They could get a special exemption.

Yes, sir?

QUESTION: Is this going to affect the clean-up of the nuclear weapons plants? Are there any changes in here that impact on that process?

DOCTOR COOL: I really can't answer what the Department of Energy will do. The Department of Energy is looking at trying to implement the federal guidance just as we are implementing the federal guidance with this. This does not affect cleanup standards in terms of an environmental standard amount of material on the ground.

MR. FOUCHARD: Actually though, the -- well, Part 20 applies only to the licensed industry, traditionally government facilities have --

QUESTION: This doesn't really apply then.

MR. FOUCHARD: It does not apply to Rocky Flats. It does not apply to Fernald.

QUESTION: Is there an average in nuclear

power plants for millirems per year for the workers who are exposed to radiation in the plants? We have a figure for the general public of about 365 a year. Is there a ballpark estimate or average for power plant workers?

DOCTOR COOL: I'm not quite sure I understand your question.

MR. FOUCHARD: I think the answer is 400 mr a year. That's the number I've been talking about.

QUESTION: For power plant workers?

DOCTOR COOL: For power plant workers.

Yes, sir?

QUESTION: (Question off mike.) When you talked about how long this has taken --

DOCTOR COOL: At the time that the rule was published as a proposed rule, the Commissioners at that time asked the staff to prepare a backfit analysis and that was published during the public comment period for the proposed rule and contains several options for how the rule might meet the backfit analysis. It wasn't that it didn't meet it, there were several options available for how it might meet -- this particular rule might meet the criteria of the backfit provisions which the Commission operates under.

The Commission looked very closely and very hard and had a great deal of discussion with regard to how this rule compared to its criteria within the backfit analysis.

QUESTION: (Question off mike.) The backfit rule says something about actual benefits, right, and that this rule, as it's written, the backfit analysis has something to do with possible benefits or --.

DOCTOR COOL: The Commission's finding, and I don't have the specific wording here, was that they determined that there was a substantial increase in safety on the basis of the reduction in the limits. They also found that this rule was justified on qualitative factors as well as the quantitative factors and that that was within their particular purview and analysis, actual reductions in dose limits.

QUESTION: If there aren't substantial changes that most industry will have to do to conform, why is there a two year delay in implementation?

DOCTOR COOL: Let me remind you once again that to the first part of the question you asked a little while ago I said that there would be a number of procedural changes, record keeping changes,

formatting changes. There may need to be computer code modifications so that the records come out in the proper form or are expressed in the proper way. There may need to be changes to procedures. Certainly a reduction from 25 to 10 percent in terms of the monitoring level may require some changes for some individuals.

So, as a result of those procedural necessities to allow people time to look at the rule and to implement it properly in terms of procedures, they are allowed until January 1, 1993 to come into compliance with the rule. They may implement it earlier if they so choose. If they choose to implement it earlier, they must implement it in its entirety. It cannot be implemented in a piecemeal fashion.

QUESTION: (Question off mike.) And on the ALARA issue, even though it's been recommended -- is there any sense from your inspectors as to what percentage of the plants are not using the -- as the lowest reasonable achievable --

DOCTOR COOL: I do not think that there will be any change in that. The voluntary use of that has been total.

QUESTION: In other words, your

recommendation has been treated as a --

DOCTOR COOL: Has been treated and taken and run with quite well by the licensees.

Yes, sir?

QUESTION: (Question off mike.) To what extent does the decision to reduce exposure levels suggests that the previous standards were inadequate and that -- have been allowed to be exposed to radiation levels that are now considered unacceptable?

DOCTOR COOL: Anytime you go through and reduce limits, you have the implication that what you had before was not acceptable. I don't really believe that's the particular case here. The reason particularly we don't believe that's the case is that the actual exposures under the rule in its totality, limits and ALARA, have reduced the doses to well below what were the old limits or the new limits.

QUESTION: So why reduce them if the old ones were adequate? Why change?

DOCTOR COOL: The limits have been revised to reflect the current philosophy and the current science. But part of that philosophy continues to be to produce exposures to as low as reasonably achievable below the limits and that philosophy also continues in place.

Yes, ma'am? You've been waiting very patiently.

QUESTION: (Question off mike.) You mentioned earlier that this rule might prompt changes in procedures such as having two or three workers do -- that previously would have taken less people. Do you have any estimate of how much rule change is going to cost the industry?

DOCTOR COOL: There have been various estimates that have been made. I think it would be a complete crystal ball estimate if I were to try and guess today what the actual cost would be. So, I will not.

QUESTION: (Question off mike.) Has the industry not given any --

DOCTOR COOL: They have complained at various times. Sometimes they've included ground numbers, sometimes they haven't.

MR. FOUCHARD: How about one more, Dave?

DOCTOR COOL: Yes, sir?

QUESTION: I don't understand then how you can do a cost benefit analysis.

DOCTOR COOL: I'm not prepared, standing here today, to quote to you the values in the cost benefit analysis That is part of the Commission

package which I believe, Joe, is publicly available at this point?

MR. FOUCHARD: Well, you can get it in the public document room this afternoon.

QUESTION: But they were in dollar figures?

DOCTOR COOL: There were dollar figures estimated, yes. I'm just not prepared today to try and quote to you for different types of facilities. Of course, the dollar being changed, what they actually have to spend may be somehow different from what they may have implied a year or two ago.

MR. FOUCHARD: One last one. Go ahead, ma'am.

QUESTION: (Question off mike.) Okay. I want to know if ALARA only applies to rem doses or whether it applies also to the actual amount of radioactivity. You're increasing the amount of radioactivity -- that can go out, even though your rems are calculating that this is the same or less, the biological damage. You're actually allowing more strontium, cesium, iodine into some of the air and waterways. How does this comply with your philosophy of as low as reasonably achievable if you're already achieving levels that are lower and now you're raising

the amount of radioactivity? How does that comply with ALARA?

DOCTOR COOL: ALARA, that philosophy applies to all of those provisions, including that licensees should limit their effluence to as low as reasonably achievable. The values in the public exposure arena in general have gone down to some extent. I'm not prepared to, and I don't think it would be appropriate for us to try and debate numbers. I think the gist of the question that you asked right at the beginning was does ALARA apply to those values as well as the dose limits and the answer is yes, it does.

QUESTION: (Question off mike.) No, does the ALARA apply to what the NRC's limits are? You've got concentrations in Appendix B that are now higher than your past Appendix B. So, you're going to go higher -- the ones that are in existence are already reasonably achievable than from what you've been using for decades. So now you're having higher concentration levels. Why raise the ceiling if your philosophy is ALARA? Why not just leave it the same and for the ones that reduce, reduce? Why are you raising some amounts of radioactivity and you're putting it through these equations to say the rems are

something else?

DOCTOR COOL: Yes. I think you're confusing the two halves of the regulatory framework. One is a limit and the values are calculated to correspond to a limit, by whatever the mechanism is. Separate from that, ALARA applies below the limit, has applied and continues to apply.

QUESTION: Well, it doesn't apply to the limit itself.

DOCTOR COOL: It doesn't apply to the limit. It applies to what must be achieved underneath that limit.

QUESTION: I understand. Thank you.

MR. FOUCHARD: I think it's fair -- I'll make the last comment and that is that anybody who was nearing these limits would be in trouble with us.

(Whereupon, at 11:02 a.m., the above-entitled matter was concluded.)

CERTIFICATE OF TRANSCRIBER

This is to certify that the attached events of a meeting of the United States Nuclear Regulatory Commission entitled:

TITLE OF MEETING: NEWS MEDIA BRIEFING ON FINAL RULE 10 CFR PART 20

PLACE OF MEETING: ROCKVILLE, MARYLAND

DATE OF MEETING: DECEMBER 13, 1990

were transcribed by me. I further certify that said transcription is accurate and complete, to the best of my ability, and that the transcript is a true and accurate record of the foregoing events.

Reporter's name: Peter Lynch