UNITED STATES OF AMERICA

NUCLEAR REGULATORY COMMISSION

OFFICE OF THE SECRETARY

***

BRIEFING ON EVALUATION OF THE REQUIREMENT FOR LICENSEE TO UPDATE THEIR INSERVICE INSPECTION AND INSERVICE TESTING PROGRAM EVERY 120 MONTHS

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PUBLIC MEETING

Nuclear Regulatory Commission
One White Flint North
Building 1, Room 1F-16
11555 Rockville Pike
Rockville, Maryland
Friday, March 24, 2000

The Commission met in open session, pursuant to notice, at 9:30 a.m., the Honorable RICHARD A. MESERVE, Chairman of the Commission, presiding.

COMMISSIONERS PRESENT:

RICHARD A. MESERVE, Chairman of the Commission
GRETA J. DICUS, Member of the Commission
NILS J. DIAZ, Member of the Commission
EDWARD McGAFFIGAN, JR., Member of the Commission
JEFFREY S. MERRIFIELD, Member of the Commission

STAFF AND PRESENTERS SEATED AT THE COMMISSION TABLE:

KAREN D. CYR, General Counsel
ANNETTE L. VIETTI-COOK, Secretary
JAMES A. PERRY
RALPH BEEDLE
WILLIAM SHACK
BRIAN SHERON
FRANK MIRAGLIA
JACK STROSNIDER
THOMAS SCARBROUGH

P R O C E E D I N G S

[9:30 a.m.]

CHAIRMAN MESERVE: Good morning.

Today the Commission will be briefed by staff, ACRS, and industry representatives on the requirement for licensees to update their in-service inspection and in-service testing program.

That's the ISI and IST programs.

Current regulations require licensees to update these programs every 10 years to the latest edition of the American Society of Mechanical Engineers' boiler and pressure vessel code, as incorporated by reference in 10 CFR 50.55(a).

The staff has proposed, in a paper currently before the Commission, to eliminate the update requirement. In addition, staff recommends that ISI and IST requirements be baselined to the 1995 edition of the ASME code, with the 1996 addenda.

Thereafter, program updates to a later edition of the ASME code would be voluntary on the part of licensees, unless the staff establishes new baseline requirements in accordance with 10 CFR 50.109, which, of course, is our backfit rule.

We have two panels today.

The staff will be in the second panel, and I'd

like to introduce now our first panel.

They are Mr. Ralph Beedle, Senior Vice President and Chief Nuclear Office of the Nuclear Energy Institute; Mr. James Perry, Past Vice President of Nuclear Codes and Standards, who is here representing the ASME; and Dr. William Shack of the ACRS.

We very much welcome you here this morning.

The Commission specifically appreciates the opportunity to have a question-and-answer interaction with the panelists, so that we'd ask that you be careful to abide by the time on your prepared statements.

Let me turn to my colleagues to see if they have any opening statements, and if not, why don't we proceed?

Mr. Beedle?

MR. BEEDLE: Thank you, Mr. Chairman, Commissioners. Good morning.

I would like to address two points today:

One, some comments concerning standards development and then, second, some specific comments

concerning the proposed rule-making.

If I may have the next slide -- in fact, we can go to slide three.

Standard development organizations have made a positive contribution over the years to providing the industry with codes, standards, and guides for the design,

construction, testing, and inspection of our systems.

The fundamental purpose of the standards is to recognize sound engineering practice and framework for the application of state-of-the-art technologies such as instrument -- digital instrumentation and control, fiber optics technology, eddy current testing, and so forth.

The consensus process and the balance of interest fundamentals to all standard development must be sustained, with continued participation by the user community -- that is, the manufacturers, consultants, architect engineering firms, utilities, and the Federal agencies.

As technological advancements are made, the user community will demand the development of new and revised codes and standards, and the extent of user community participation in future codes and standards will certainly develop as a result of practical need and economic value of future codes.

Next slide, please.

If we could go to slide four?

The National Technology Transfer and Advancement Act and the associated OMB circular enables Federal agencies to use technical standards developed by industry consensus standards organizations, with an intent to encourage Federal agencies to benefit from the private sector, to promote Federal agency participation, and to reduce the reliance on

Government-unique standards.

The NRC involvement and industry participation in standards development has been extensive, and it is clear that the NRC has benefitted from this effort.

Go to the next slide.

According to the NRC's annual report to the OMB, staff has participated -- there have been 145 staff members participating in some 18 standard development organizations involving 260 writing committees, and as a result, seven standards were incorporated by reference in 50.55(a), 30 were adopted in six regulatory guides, and eight were adopted in a single reg guide.

Overall the NRC has endorsed some 4,000 codes and standards within the regulatory framework.

According to the SECY 99-029, there have been

approximately 20 such consensus standards mandated through rule-making, and hundreds of consensus standards have been endorsed for voluntary implementation throughout the reg guide and NUREG process.

It is not surprising that the extensive utilization of these codes and standards and associated changes, plus the endorsement process have resulted in some delays and some confusion as we go about this process, but nonetheless, it has overall been a successful process.

I would suggest that this particular rule-making

is one that has suffered from the time delays in that we have been working on this since about 1991, and we're hopeful that, as a result of this meeting today, we'll finally see some conclusion to that.

Next slide, please.

Let me now turn to the proposed rule-making.

In SECY 00-11, it discusses several options concerning voluntary updates of various additions to the ASME boiler code.

The NRC staff has acknowledged that each of the options discussed in the SECY paper provide an acceptable level of safety, and the industry agrees with the NRC's staff evaluation in that regard.

The staff also concludes that the code changes that are associated with these options are not justified when compared to cost implementation imposed on the licensees, and we concur with the staff assessment in that regard, as well.

Next slide, please.

The question of cost-benefit and demonstrated safety improvement with regard to 50.55(a) has been a longstanding issue within the industry and the NRC, and this is one of the fundamental issues that we hope to address today and reach some consensus based on the decision of the Commissioners.

The NRC and the industry have been involved in rule-making since 1991 and in '93, when Entergy Corporation submitted a cost-beneficial rule-making that would suspend the periodic update of the ISI/IST requirements, or the 10-year ISI.

We continue to believe that these recommendations that the staff has proposed represent sound regulatory policy and are consistent with the Commission's stated performance goals.

Next slide, please.

In the SECY before you, the staff has recommended option 1B, and while we agree that the option 1B would be an

improvement, we would like to see the basis for that actually be the 1A, in which we would go back to the 1989 code, although we recognize the problems associated with that.

The fundamental industry position is that we would like to see the requirement for the 10-year ISI suspended and that any future revisions to the code be implemented through the backfit rule process evaluated by the staff and the industry on the basis of cost-beneficial analysis.

So, with that, Mr. Chairman, I would conclude my remarks and await questions at the end of the panel.

CHAIRMAN MESERVE: Why don't we complete the statements, and then we'll turn to questions.

Mr. Perry.

MR. PERRY: Good morning, Commissioners.

On behalf of ASME, we wish to thank you for the opportunity to brief you on our evaluation of the requirements for licensees to update their in-service inspection and test programs.

In our view, the current update requirements should be maintained.

ASME codes are first and foremost safety codes. They are intended to protect the health and safety of the public by maintaining pressure boundary integrity and operational readiness of the mechanical equipment. Since the proposed change to the regulation is based on burden reduction, I will address that specific aspect.

Next slide, please.

Benefits outweighing the cost: This relates to Commission performance goal dealing with reduced unnecessary regulatory burden.

The benefits of updating the in-service inspection test programs outweigh the cost.

The process of updating the programs focuses on an evaluation of the entire program. It allows you to identify deficiencies and also serves as a basis for making corrections and enhancements.

The update provides for standardization and

consistency of requirements.

This will be lost if the 120-month update is not required in the future.

Now, using the ISI program as an example based on informal feedback from seven utilities, they estimate the average cost of updating to be about $200,000, or roughly $20,000 for each year of the 10-year interval between updates.

Likewise, the O&M; code costs are estimated at about 125,000.

I think these are consistent with what the staff reported on the proposed regulation change.

Now, it's important to note that, of this cost, the NRC mandated one-time cost to add containment inspection, IWE/IWL provisions, plus the addition of Appendix VIII on performance demonstration for ultrasonics, adds significantly to these totals.

So, they are mandated, according to the original proposal.

In addition, there are costs that will be incurred as review fees for exemptions and relief requests needed to use costs or rules from later editions of the code.

For example, typical cost for a relief request backed by ASME code cases ranges from 10 to 15 thousand per request.

The cost of relief requests not supported by code cases can range anywhere from 50,000 to a half-million dollars, depending on the complexity of the issue.

It is a certainty that, if this proposal is approved, relief requests will dramatically increase, causing an increased burden not only on utilities but the NRC staff, and I think it would be counterproductive.

Now, in my view, if I were a utility executive still -- I was one at a utility as a vice president.

If I were at a utility and someone were to ask me, if you could save the cost of this update, you know, recognizing the current environment, and it wasn't mandated, would you be for it?

Absolutely, I would be for it, but that's a short-term objective, I submit, and I think that we need to be looking at the difference between a short-term focus, which is one what is the administrative costs of making the update, versus the long-term focus, which should be what's the net benefits gained in implementing this over the balance of life of the plant, and I submit that many of these changes reduce the cost significantly over going to the old version of the code.

Next chart, please.

Now, the ASME codes are really living documents, and this subject relates to the Commission performance goal

of maintaining safety.

They are living documents because they incorporate new and improved methodologies in inspection, testing, design, and materials.

They also reflect lessons learned from hundreds of

cumulative years of nuclear reactor operating experience. The original code was based -- was very conservative, based on fossil plants, non-nuclear.

We've learned a lot since then.

In addition, the ASME codes are now moving from the traditional, prescribed repetitive inspections and tests to more risk-informed, performance-based condition-monitoring approaches, and these rank high on the Commission's priorities in terms of risk-informed, for example, as well as ASME's.

I'd also like to point out that ASME has responded to requests directly from the NRC on issues important to safety.

For example, the old comprehensive pump test is one that originally the Commission asked for and is now included in the O&M; code.

Another one has to do with the probabilistic risk assessment standard.

That's been a very high priority, and we're making good progress on that, and I think that ties directly in

line with the direction the NRC Commissioners and staff members are moving toward.

Next chart, please.

Summary of the changes to the codes from '89 to '99: This, again, relates to maintaining safety.

This chart summarizes a number of ASME changes from 1989 to 1999 by change category for the boiler pressure vessel code section 11 dealing with in-service inspection and the operation and maintenance code dealing with the in-service testing.

A copy of the description of the actual changes, the proposed purpose, benefits, and classification of the changes has been provided to you as part of our back-up information package.

You will note that there are 15 IS's, improved safety, and 29 RRE, reduction in radiation exposure changes. These reflect operational experience to assure safety and ALARA considerations, and incidentally, I consider the reductions in radiation exposure to be safety-related, because obviously we're interested in ALARA, keeping them as low as possible.

That also translates into dollar savings, because each man-rem of exposure that's avoided saves approximately $10,000, I think is one norm that I've seen used.

Now, these individual and subtle changes that

improve safety and reduce radiation exposure have cumulative

significant beneficial effect that can't be overlooked.

Now, many of the changes that we classify as improved industry standards and reduced radiation requirements relate to reductions in examinations and tests and new methods for repair and flaw analysis.

Many of the maintenance-classified changes reflect feedback from inquiries, clarification of requirements, or administrative-type changes.

So, for an average layman, looking at the code is very complicated, but if you look at it, you say, well, these are just minor changes, word changes.

But I can submit to you, gentlemen and ladies, that being on the codes and standards committees for over 17 years and seeing how they process these and what they have to go through for consensus, they all have a valid basis of justification to make the change and have to go through the consensus process before they're actually issued.

Next chart, please.

ASME consensus process and use of volunteers: This subject relates to Commission performance goal of increasing public confidence, because we use an open system, all the meetings are open, the information is available to everybody, and we encourage it, and changes that are being proposed still have to go through a review cycle, public

review, just the same as the NRC regulations by the ANSI process.

But ASME's ANSI-approved procedures require a broad-based balanced group of volunteer experts to serve on the codes and standards committees that produce approved code changes and code cases.

The members include approximately 30-percent utilities, 30-percent consultants, and the remaining 40 percent include balance of interest categories that include regulators, enforcement agencies, manufacturers, and insurance company inspection agencies.

Now, by procedure, there cannot be anymore than one-third of the total membership from any one category of interest, and that's how we keep it balanced. I think it's served us well.

The collective effort of all of the volunteers working together on ASME committees, the subcommittees, the subgroups, and work groups to update the codes provide what I call a multiplier effect in direct support of the 120-month update.

In other words, we're using these collective resources of all of these volunteers toward a common purpose and objective related to the 120-month update.

This is considered, in my view, superior to the

individual effort of any single category of interest group,

such as an owners group, or even NEI, from that point. You don't have the broad cross-section of all the participants, including NRC participating.

The consensus process is required to be used by each of the ASME codes and standards committee, and it requires that all views and objections be considered, that an effort be made toward the resolution.

Now, there has been strong feedback from our volunteer members on the ASME committees that their travel and participation will be cut back in the event the current code becomes voluntary.

I think it makes sense. Many utilities and manufacturers are struggling to try to reduce cost, and if this is only going to be voluntary, then the benefits may not be there, so they may choose not to contribute, and I think the same thing may be true with the NRC, based on your reductions in force and so forth.

Now, this will make it more difficult for ASME to respond to the critical issues affecting safety, such as aging and degradation of components.

Next chart, please.

Negative impact of deleting the update requirements: This relates to the Commission performance goal of making NRC activities and decisions more or less effective, efficient, and realistic.

In my view, this one makes it less.

If the future changes to the ASME code become voluntary, then the impact on the changes to a range of code additions and addenda applied by licensees is expected to be great.

This will have a negative impact due to inconsistent implementation -- in my view, cherry-picking, where you selectively pick what you want and don't apply the others -- and incidentally, I said the code is fairly complex, and unless someone is very familiar and knowledgeable, there is an opportunity for selecting something and not taking all the other pieces that go with it, so creating additional errors.

Also, there would be lack of uniformity and consistency in verifying conformity.

It's unlikely that the entire additions or addenda will be implemented. Thus, numerous relief requests will be needed to be handled by the NRC staff, increasing their workload.

By deleting the update requirements and making

future code additions and addenda voluntary, my personal prediction is that the NRC will place less, nor more, emphasis and apply a lower priority to NRC representatives participating in code committee activities and timely endorsement of these revised codes, and I cite the NQA

activities as one.

We've tried to work with the staff to try to get them to endorse the later codes, and they talk about problems with budgets and so forth.

Unless there's a big groundswell, they're not going to do it, and there is one where it's not mandatory but it's recommended.

Currently, the regulation lags four years behind the current code, and many code cases still have not yet been included in the latest regulatory guides, and I cite as an example -- there's a letter that ASME sent to the NRC back in July 1997 identifying some 31 approved code cases related to in-service inspection that were not picked up in the proposed Revision 12 to Reg. Guide 1.147, and I submit to you many of those are very significant.

One of them on code case 560 alone could save the industry millions of dollars having to do with D.J. Wells and reductions using more advanced techniques.

And so, as these are delayed, I think the impact on the staff is greater and on the industry is greater, because you have to go in and get specific approval requests and exemptions in order to allow you to use these.

Finally, last chart, in conclusion, by keeping the 120-month update, we maintain the stable system which works to provide an integrated approach to safety improvement and

burden reduction.

Maintain the update process. It works well. Use option 2.

Thank you very much for allowing us to present our case to you, and thank you for your kind attention.

CHAIRMAN MESERVE: Thank you.

Mr. Shack?

DR. SHACK: Okay.

The ACRS also strongly recommends that we retain the 120-month update requirement, the option 2 requirement.

In this case -- you know, the ACRS occasionally has different opinions.

I think this is not merely a consensus view of the ACRS.

This is a unanimous view of all the members. Those with utility backgrounds, I believe, are particularly supportive.

We might only sort of vary in our degrees of adamancy.

Many of the arguments related to dropping the update are related to the maturity of the inspection process. We just don't see it.

When we look at what's being proposed, there have been very significant changes in the last 120-month update period.

The staff recognizes that in their recommendation to especially include the performance demonstration for the ultrasonic testing, which I think is a particular significant update since the 1989 edition.

We believe that there will continue to be important changes as we go to risk-informed inspection, as we develop new technology.

Some of these inspections may, in fact, eliminate inspections.

As the ASME has noted, reducing unwarranted exposures is also a contribution to safety.

We believe these inspections are an important part of the aging management programs that we have for license renewal and that because the ASME provides essentially a peer review of these inspection requirements, as the ASME representative noted, an extremely broad-based group, we think it increases the stakeholders' confidence in the effectiveness of the inspections, and that's important for building confidence in the whole license renewal process.

The basic justification for dropping the update requirement is a cost one, that it's just not warranted.

We've seen conflicting evidence or estimates of the cost in the presentations to the ACRS. We haven't found any of them particular definitive.

Our conclusion is that the net costs either way,

whether they're a decrease or an increase, are fairly modest, and so, I think there's not a strong cost case to be made for dropping the update.

The other part of the process that particular concerns us is the notion that our defense-in-depth requirements really should be subjected to the backfit analyses, and again, while we all agree on the update, we have a variety of opinions on defense-in-depth.

But again, if you look at defense-in-depth as part of the engineering approach when used to achieve low-risk, you can evaluate the effectiveness of that process by PRA, and you can do cost-benefit analyses of additional design changes to do that.

ISI and the update process, however, really don't follow from that design application of defense-in-depth; they follow from the structuralist approach, that even though our engineering has reduced the risk to acceptable levels, we believe that the integrity of these systems is so important that defense-in-depth measurements, like ISI and the update, are justified in this argument that, just in case we are wrong, just in case there's something we've missed, that although we believe the systems have been designed for low-risk.

Single-failure criterion, pipe risks are low risk, but we believe that additional defense-in-depth measures

like an effective in-service inspection program are an important element in that defense-in-depth approach, and the update process is an important part of the inspection -- ensuring the effectiveness of the inspection approach.

And that concludes my remarks.

CHAIRMAN MESERVE: I'd like to thank you all very much.

Mr. Perry, could you say something about how the ASME updates are applied outside of the nuclear context? I mean are non-nuclear boilers, for example, typically required by states to update?

MR. PERRY: I think one of the conflicts that we see, if you eliminated this, is that many states that mandate ASME codes require them to be done to the latest ASME code requirement, so they are kept current with the latest one, and this would just make that disparity further and further apart.

So, it makes it difficult for the people who are trying to enforce it to try to justify the difference between a statement requirement and a Federal requirement, such as section 3, you know, manufacturers who are building components to the code.

CHAIRMAN MESERVE: Do I understand you to suggest that, overtime, then, we would have non-nuclear plants that were forced to comply with more modern codes than nuclear

plants?

MR. PERRY: Right.

CHAIRMAN MESERVE: Could you say something about how the ASME considers costs, whether it considers cost, as it evaluates the update process?

MR. PERRY: Yes.

The code being a safety code, of paramount importance is those measures that protect the health and safety of the public. That's paramount, but a secondary criteria has to do with what's it going to cost to implement

it?

So, I'll use an example of what section 11 has been doing over the last several years.

They have many, many changes that are being considered, and so, to try to get them on their agenda, they prioritize them, and they prioritize them related to -- basically related to a safety enhancement or a burden reduction or maintenance-type item, and then they further subdivide it as to high rating of priority or low priority within each of those.

So, as they're reviewed and evaluated, there's generally a white paper that goes with it, particularly the more complex ones, that explains what the purpose of this is and what the advantages are.

Now, they don't do a finite cost-benefit analysis,

but I can tell you for a fact that the people who sit on the committees, particularly the ones that have to be -- that are going to be implementing it, are very conscious of what's it going to cost to implement this change and is it beneficial or not?

So, there is a balance between enhancing the health and safety and maintaining costs, and I think they've become -- I think the ASME committees have become more sensitive to this over the last probably five to 10 years based on the direction industry is going and what it costs to maintain competitiveness.

CHAIRMAN MESERVE: Mr. Beedle, I noticed that, in your comments, you didn't mention cost, but there is -- as I looked through the materials, and I think as Dr. Shack had indicated, there is a range of estimates of costs, I think on the low side are on the order of 200,000 up to as much as 1.5 million a year.

Can you comment?

Is there any reliable information as to what these updates really cost?

MR. BEEDLE: The information we've gotten from the utilities would indicate that that's probably a reasonable range, you know, one-and-a-half million down to maybe half-a-million dollars, aggregate somewhere on the order of 55 to 155 million dollars throughout the industry.

So, it's not an insignificant amount of money on that.

I don't believe we're talking about abandoning the code development process that ASME has.

I think we're really focused on the ISI/IST requirements for the nuclear plant and to update those on a

10-year interval, and so, if the impression is that, by not having that requirement, that the nuclear plants are less safe in the operation compared to the non-nuclear facilities in this country, I don't think that's the case at all. These plants were built to the code.

When ASME updates some of the code, we don't go back and re-do all of those pressure vessels that we have. We built them to the code at the time they were constructed, and if we build a new plant, even if there was no 10-year ISI update requirement, we would build them to the code as it stands today.

So, I don't think we're talking about the whole plant.

CHAIRMAN MESERVE: I understand that.

MR. BEEDLE: So, I want to make sure we don't get diverted on that one.

CHAIRMAN MESERVE: Mr. Perry, you wanted to say something?

MR. PERRY: I'd like to give you my impression, my

own personal opinion about the cost difference.

In my view, there's two types of utilities involved in updating the in-service inspection test program. So, you're going to get a wide range of numbers from each of those.

On one hand, I think those utilities who have representatives that are actively participating in the code committees are very cognizant of what the changes are and what's the impact and what's the value involved.

So, on one hand, I think those utilities can make the update at a much lower cost because of their personal involvement and doing it in-house, as opposed to another utility, the other extreme, let's say they haven't been involved with the code changes at all, they're just going with what they have.

Now, all of a sudden, they're getting to the end of the 10-year interval, they have to update.

Well, what's this all mean, trying to get caught up at the last minute, and they find themselves going out and hiring somebody else to develop changing the program and modify all those procedures and train their people, significant difference in the cost of those.

CHAIRMAN MESERVE: Mr. Beedle, you'd also suggested that we might depart from the staff and go to option 1A, which was to go back to the 1989 code.

The Commission had previously revised the rule to put us to the 1995 code with, I think, the 1996 amendments.

So, it appears that your request is that we

backslide from where we are, and could you comment about why we should depart from a decision we've already made?

MR. BEEDLE: Chairman, I would never suggest that you should backslide. I wouldn't want to encourage that at all.

No, our recommendation has always been, since the outset of this discussion, to -- we agreed with the staff's decision to baseline at the '89 code -- or '89 update -- and to eliminate the 120-month update.

So, we're -- I think we're consistent in that regard.

The Commission's decision to go to the '95 edition -- we don't have any major objection to that, although, given an option, I would just as soon go back to the one that we recognized was fundamentally sound.

So, I guess, if you're going to depart from your original decision, then we'd recommend you go back to the '89, but I certainly don't want you to backslide.

CHAIRMAN MESERVE: Okay.

Dr. Shack, I have just one question for you.

The main thrust of Mr. Beedle's comments was that we apply the backfit requirements in all kinds of other

contexts, and you talked a little bit about why this was different and that we ought to not apply those requirements with regard to this code just in case we are wrong and because it's related to defense-in-depth, and I'm a little concerned that that gets us on a slippery slope, that there are lots of things that might fall into the area where they're defense-in-depth-related or we might be wrong with our existing requirements and, therefore, should update, and it seems to me the argument that you've made could create a exception to the principle for exceptions to the backfit rule, which is a troubling one, and I wonder if you could comment.

DR. SHACK: Well, the ACRS did write a letter saying that we needed some additional guidance and policy on defense-in-depth for precisely that reason, that -- you know, defense-in-depth arguments are difficult to justify on the basis of risk.

You know, we have designed these systems so that the risk of pipe failure is small, and from a risk argument, you might argue that you don't need ISI at all, let alone an update to the ISI requirements from a purely risk update.

So, we believe that in-service inspection is a defense-in-depth requirement. It's not really related to a reduction risk. It's related to essentially a reduction in the uncertainties associated with any possible estimates in

that risk, and again, the structuralist point of view, and again, it can lead you to a slippery slope, you know, and without policy and guidance, you are left on a case-by-case basis.

You know, our judgement is, in this particular case, this is an important application of defense-in-depth, at a high level and an important level, and ought to be retained.

CHAIRMAN MESERVE: Other than the fact that you sort of know it when you see it, can you tell me why ISI and IST is different from other things that are arguably defense-in-depth-related?

DR. SHACK: In-service inspection, because it does -- you know, the one thing that you can't do is predict the future, you know, and you can't be assured in every engineering analysis you've considered everything, and so, in-service inspection is that -- the suspenders to the belt that looks for things that, you know, you've missed and phenomena that you haven't anticipated in your design, and so, you know, that's one argument, for example, that -- you know, we wouldn't support updating every update in the consensus code, that's not the thing, but ISI on the primary pressure boundary we believe has a fundamental importance. People don't like leaks from their primary pressure boundary, like steam generator tubes.

CHAIRMAN MESERVE: Mr. Perry?

MR. PERRY: I would like to just add a comment, if I could, too, along those lines, relative to maintaining pressure boundary integrity and operational readiness.

I think, in the proposed amendment to the rule, the staff's own words indicated to the effect that the question of the backfit rule that was previously questioned by ADI and, I think, NUBAR, the Commission's position was they maintained that there wasn't sufficient justification to support their argument and that the Commission's position was that they would continue to apply it on routine updates of the ASME code, which has been the practice in the past, up until now.

Now, I'll submit to you this: One of the changes that you've incorporated in the latest regulation on the O&M; code has to do with the pump -- integrated pump testing that I mentioned was requested by the NRC.

Now, in my judgement -- that's in the regulation now.

In my judgement, I'm not sure that it would meet the backfit rule if you tried to apply it.

So, I think you need to be cognizant of that, too.

Now, that certainly has a big impact on enhancing safety, but it may not, you know, meet this criteria of significant safety impact.

So, I think we have to -- you know, I look at it from the point of view of what does the public's view of how we're protecting their health and safety mean, and I think that we're not talking about -- certainly, the plants are not -- they are safe, but certainly, if we can do things better, if we learn from our experience and we can improve and we can reduce costs in the process and enhance safety, I think we ought to do it, but to say no, we're not, make it non-mandatory, we're changing the rules, and I think we have to answer to the public, well, why is it now -- you know, they're saying the utilities are being forced to cut back, they've got to be more competitive, and so forth.

So, I think it puts the Commission in a bad light, in my view.

CHAIRMAN MESERVE: Commissioner Dicus.

COMMISSIONER DICUS: Okay. Thank you.

Let me put my first question to Mr. Beedle, NEI, and it really has to do with the issue of cost, so I want to pursue that a little more, because you clearly made cost an important part of your discussion.

The ACRS suggests that cost is maybe not that much of an issue, and I think even the ASME questions the cost thing.

So, I have to ask you, when we look at this as a possibility of reduction of unnecessary burden -- i.e., the

cost -- is this the main concern of the industry, the only driver behind your recommendation, or is there something else?

MR. BEEDLE: Well, I think cost is important, Commissioner, but I don't think that that's the main focus.

The main focus is we have a process that's employed in the regulatory framework in every area except this one, and it's the backfit analysis.

We look at what is the gain versus what it's going to cost the industry, as well as the NRC, and the impact of implementing those regulations, and we're reasonably confident that this needs to be subjected to that same process.

Now, the issue of ISI -- we're not saying we're abandoning the test of these plants.

We're not saying we're not going to do the inspection of these plants.

We're not looking for leaking reactor vessels and

pipes, and I don't think that, if we stopped doing an automatic update of the ISI program, that it's going to cause these plants to fall apart.

So, any suggestion from anybody that that's the case, I think, is absolutely misleading.

We still have an inspection program.

The question is the incremental change in the

inspection program that's developed through the ASME code process -- is it warranted from a cost-benefit point of view, as examined by the backfit rule?

COMMISSIONER DICUS: I think that helps some, but I think the focus of your comments were on cost, and I was a little concerned about that.

If that's the only driver we have, we've got to look at the secondary drivers that are there.

Let me go to a question with the ASME representative, Mr. Perry.

It has to do with your slide four, which is a very interesting slide, but I have to tell you, I found it confusing and not particularly helpful.

Even when I went to the back-up material, that didn't help a whole lot.

I appreciate the back-up material and what you went in to try to define in detail.

I'm not sure I understand the difference between primary basis and secondary basis, but also, of all these things -- and I might center in, which would mean a lot to me, the reduced radiation exposure -- what are the most significant changes? To me, I didn't pull that out of your material.

These changes, in the last 10 years -- what is really important?

MR. PERRY: Okay.

Let me first answer your question by explaining the difference between primary and secondary basis.

What the section 11 subgroups did is they evaluated each of those changes and tried to classify them according to -- they relate to improved safety or improved industry standards or reduction to radiation exposure and so forth, and when they wrote down on that back-up sheet the first one, that was their primary classification, but they said, you know, it's not just that, there's many others that are impacted. So, they would show several other bases, as well, and so, they call those secondary.

What I've tried to show here is the combination of the primary and secondary.

In fact, my personal view is I think some that

they showed secondary, I felt were probably more primary. So, it's somewhat subjective.

But at any rate, that's the difference between primary and secondary.

But both of those impact what are you doing by this change.

Now, that's a very good question that you ask about what's the safety significance of these.

Let me give you a few examples.

I think we did to the ACRS, we picked a few, but

I'll just pick some.

There are many changes that are listed as improved safety that relate to changes in containment examination of IWE and IWO, which happens to be one that the Commissioned recognized and mandated in their original proposal; they were making it mandatory. So, that's one, and there's many in there.

The second one which is significant -- also, there's several there -- relates to Appendix VIII, the ultrasonic testing performance demonstration, and there are further enhancements.

In fact, one of the concerns we had was when the Commission first proposed to impose that, we were concerned that we were in the process of doing a pilot plant of verifying that what we had in the code was reasonable, and we were making changes. So, we hadn't yet optimized Appendix VII.

So, we were worried that what the Commission was trying to impose was going beyond what was reasonable, so many changes there.

That's also another one that the Commission proposed to mandate.

So, that's another category of safety significant.

Other examples of improved safety include changes to provide, say, supplemental qualification, requirements

for UT personnel to improve the UT examiner's skill. That's another category.

As we're moving into greater technology and we're looking for more finite things, we need to make sure that the technician's knowledge and experience and expertise and repeatability is there.

So, that's one that had a big impact.

Also, adding requirements for the application of Appendix VIII flaw sizing to vessels less than two inches in thickness and on components other than those identified in Appendix VIII's scope is another safety significant one,

which I might say was issued in the code after the 1995 edition. So, it may not be in the current regulation, but that's a significant change, and with it goes refined UT techniques that weren't known 20 years ago.

Another example that are important to safety are in the comprehensive pump testing that I mentioned in the O&M; code, and also, condition monitoring of valves is another one that's safety significant, and all the work that was done on MOVs, motor-operated valves, we worked with the Commission on that one, and also, in the O&M; area, on service life requirements for dynamic restraints. So, that's another safety significant one.

So, those are some examples of what we mean by those 15 -- there's 15 total, is what I've listed, you know,

really 13 primary, and then there's two secondary ones for improved safety.

COMMISSIONER DICUS: Okay.

MR. PERRY: And the reduction in radiation requirements -- there's a lot more, and of course, many of those, you know, have a safety ramification, because as you can reduce the radiation exposure and being able to do things more quickly or expeditiously in a radiation environment, that's also a burden reduction for utilities, as well, enhances their outage time.

COMMISSIONER DICUS: So, the improved safety ones are throughout the rest of these or they're separate from them?

I mean improved safety -- that would be improved industry standard or reduced radiation exposure, or they're strictly in a separate category.

MR. PERRY: Right. All I tried to do is give you examples of the ones that the committee had classified as improved safety.

COMMISSIONER DICUS: Okay.

I'm not sure I'm real clear on that, but we'll drop that for the moment, for the sake of time, and let me go on, then, finally, to the ACRS, and I want to pull two statements that you've made.

You have stated that all three options presented

by the staff would maintain an acceptable level of safety, I believe.

Is that correct?

DR. SHACK: Yes.

COMMISSIONER DICUS: Then, statement number two, the staff has stated that there are some plants that are applying code provisions that are 17 years old, they're actually the '83 edition, without any adverse safety

impacts.

Now, you touched on this in your presentation, but to me, those two statements begin to fight with one another. Would you like the opportunity to comment on that?

If we're using '83 standards and it's safe enough, but then we have three options here that would be okay, too, what kind of advice are you giving the Commission?

DR. SHACK: You know, they're safe enough in the sense that, if you do the analysis, that you can -- you know, pipe breaks are not -- you know, the system is designed to handle that, and so, from that point of view, they're relatively low-risk, and you know, you can say you're maintaining safety because of that.

If you really want to reduce the possibility of pipe failures and pipe leakage, then you know, I think that an effective inspection program adds to that.

And that's, you know, one of the arguments I would

have with NEI, that Appendix VIII, to me, is perhaps the most technically significant of all the improvements that have been proposed in the code over the '89 edition, the performance demonstration.

And it really comes down to the fact that, you know, you have to really be able to demonstrate that you can find the defect that you're looking for, and you know, the staff, ASME, and ACRS all find that important.

And yet, you know, that's the one particular element that NEI has singled out as -- you know, they don't like that addition to the 1989 demonstration and, you know, should be subjected to a cost-benefit analysis.

Well, again, for a low-risk system, it's difficult to defend defense-in-depth on a risk basis.

COMMISSIONER DICUS: Okay.

DR. SHACK: It's just the wrong -- it's the wrong metric to use in this particular case.

COMMISSIONER DICUS: But it's difficult -- I guess what you're trying to tell me, if a plant, a licensee is using a very old edition of the code and it's working okay but they ought to do better, it is difficult to make a cost-benefit analysis.

DR. SHACK: Yeah. And you know, I would -- you have to look at particular cases.

I suspect that, in most of the cases, when the

plant is using the very old code, they're probably doing inspections for cause, you know, on significant things.

You know, if they have stress corrosion cracking in their boiling water reactor, then, you know, you're only

using the ASME code sort of where you haven't really identified a particular mechanism.

You know, there are augmented inspections wherever we know there's an ongoing identified mechanism of degradation.

The ASME code is where we really haven't identified a particular mode of degradation; we're just trying to assure ourselves that there are none going on.

COMMISSIONER DICUS: Okay.

DR. SHACK: You know, it's looking ahead. It's anticipating.

COMMISSIONER DICUS: I'll stop here.

Thank you.

CHAIRMAN MESERVE: Commissioner Diaz?

COMMISSIONER DIAZ: Yes.

I want to do the same I did the other day and going to essentially be the same question for everybody.

Let me start with a small statement, Mr. Chairman. I like small statements.

I think everybody agrees that there is a significant importance on maintaining regulatory stability

and stability of the implementation of that regulation in the power plants. I think everybody agrees with that.

I think where there is agreement is what is meant by that regulatory stability and implementation.

I think I hear argument for maintaining that stability be state-of-the-art processes, things that are, you know, with a certain frequency, brought up to what the state of the art is, and what stability could also mean, that, you know, we maintain what is already working.

I think that is really an important issue. Do we really obtain more stability and better, you know, safety by upgrading to state-of-the-art requirements or by maintaining what already exists?

That's one question.

What do we really mean by stability of the processes and do we mean, you know, maintaining what is working or do we mean really that the process of adopting a code and updating it with, you know, 10-year frequency -- is that stability, you know, and I'd like each person to answer that question.

And the second part of the question is on the issue of cost that has been already addressed.

Is the cost really inclusive?

You know, has anybody looked at the cost as it would evolve from the standpoint of exemptions or, you know,

small events might not be detected if you don't have the

state-of-the-art, the latest, you know, ISI and IST code available and all of the improvements?

Is there really some balancing that comes in the issue of cost that might be hidden from us at the present time?

Two parts, regulatory stability, implementation stability, and cost as an all-inclusive consideration.

MR. BEEDLE: Let me start out, then, with a comment on the regulatory stability issue.

In '91-'93 timeframe, we had a utility that did a review of the ASME code, submitted a cost-beneficial license proposal that was well founded, well studied, clearly demonstrated that the -- while the ISI/IST program was important to us and we recognize that and we're not suggesting for a moment that we abandon that but to continue to update based on where we are today was not particularly beneficial or useful to the industry, in view of the cost that's incurred in that process.

Now, that's '93.

Here we are in the year 2000.

So, I would suggest that we haven't had well-founded regulatory stability in this area since then.

COMMISSIONER DIAZ: We'll call that stability, because it hasn't changed.

MR. BEEDLE: Maybe you're right.

COMMISSIONER DIAZ: And that's the point.

MR. BEEDLE: Good point. Regulatory stability but perhaps a lot of anxiety and frustration in the rest of the industry trying to resolve and deal with those issues.

COMMISSIONER DIAZ: The present frame of year 2000 is the one that I'd like.

MR. BEEDLE: And we certainly support that.

COMMISSIONER DIAZ: Okay.

MR. BEEDLE: The issue of cost --

COMMISSIONER DIAZ: I'm sorry. State of the art or not state of the art?

MR. BEEDLE: Well, I see the state of the art gets embodied in the process of going through these consensus standards, and we have many of them.

We have encouraged the development of standards on fiber-optics.

We have encouraged the development of standards for a number of areas where we see a clear advantage to improving processes and procedures and systems as a result of employing this improved technology, and once we get those standards in place, then we employ those either in the revision modification or adjustment of our systems.

So, I don't think that this process has been negligent in incorporating advances in technology. In fact,

I think it has encouraged it, and we've used that process to foster the development of standards for the use of the industry.

COMMISSIONER DIAZ: Okay.

MR. BEEDLE: Cost. I don't want to leave you with the impression that cost is the only issue in here. It's cost versus what benefit you gain.

Now, I am not trying to head to head with Mr. Perry on what changes were made in the code, but let me just give you an idea of what we were looking at in terms of cost and what we were looking at in terms of benefit when we take a look at the 1989 edition versus the '92 edition for ASME code.

We did an evaluation of those two codes, and there were some 84 changes between those two code revisions. Seventy-seven of them were editorial. Eight were errata. There were 52 changes that did not make any change in requirements whatsoever. Twenty-two of them reduced requirements, and some 25 had an increase in requirement, and none of them were safety significant. So, even if we spent $100 making those kind of changes, I'm not sure it would be cost-beneficial.

So, that's not to say that the code doesn't advance with time, but we haven't had safety-significant issues come out of these codes, and if they were, our

generic process within the regulatory framework doesn't go to the code issues; they solve them through other mechanisms.

So, I'm not sure that I could satisfy in my own mind or in the minds of my members that the codes are necessary to the safety of the plant.

They enhance safety, no question about it. They codify processes, no doubt about it.

They incorporate new technology and new techniques in the testing and inspection of the programs, no doubt, and we incorporate those whether they're required by the NRC or not.

COMMISSIONER DIAZ: Okay. Thank you, sir.

Mr. Perry?

MR. PERRY: Yes.

To answer the first part of your question relative to regulatory stability, I submit that, up until this proposed change, the process has been such that there has been a requirement to update every 10 years to the latest ASME code, and it was mandated, and again, we're talking

about maintaining pressure boundary integrity and operational readiness of mechanical equipment, which is quite critical to the success of health and safety, and in that process, I think that we've seen some changes in practice over the years, and I'll give you one illustration

of one that I had personal experience on.

I was in the nuclear business for over 40 years, and one of the jobs I had was executive at a nuclear utility during the design, construction, and operation of the plant, and we were in an outage at the end of a 10-year interval, and we were looking to make sure we met all the requirements, and lo and behold, we found there were many cases where we had not met all the 10-year requirements.

So, we committed to the NRC to do all the requirements before we restarted, and the deeper we dug, the more we found, and what had happened at this utility was that the work was done by an ISI group; they hired a consultant to do all the testing.

This is a B-31 plant.

Many of the welds that they tried to inspect were never ground.

They were never designed to be UT'd; they were PT'd and x-rayed.

So, what the consultant did -- they just wrote on a little report, not prepped for UT, and the utility person threw it in a file.

When we came to the end of this, when QA got involved, we found all these had not been done. We also found many other errors in how we interpreted the requirements, mis-interpreted, and had to make adjustments

and refinements to get this done.

Now, that was an assessment that we did as a utility, got that all squared away, took a lot of effort and many man-months, down time, during a period of time when NRC used to have NDE trailers to go in and do their own inspections.

They don't have it now.

So, the utility -- the NRC has backed off now with respect to the involvement in some of these activities. We're relying more and more on utilities.

They're under a lot of pressure to keep the costs down.

So, I think they could consider this a dis-incentive to have to expend these additional dollars.

But to add to that, when I get to the cost aspect, it's not just the cost of making the update and the changes,

but as I pointed out, if there's a disparity between what is baselined and what the latest code is, I can guarantee you that utilities are going to have to go in and get exemption requests to apply code cases that are not yet approved and other changes to make their program workable where they might have misinterpreted or done something wrong.

Each one of those requires additional effort on the part of the utility, additional staff effort on a one-by-one basis, and if you make this non-mandatory and

they pick and choose and cherry-pick and you say the staff is now going to decide whether they're doing it properly, I question whether all the staff members may be qualified.

The code is very complicated, and to just pick a portion out and miss something else that goes with it can easily happen.

So, when you talk about stability, I think we have the stability when you require the update, require everyone to standardize and make it uniform.

Now, in terms of the NRC looking at enforcing, they know what the requirements are; there's consistency for all the inspectors and the teams that go in there.

When each utility is doing their own thing, you know, if I were the inspector, I'd pull my hair out, saying, you know, what goes on, all these changes, and so, how it's handled between the region and how it's handled between headquarters becomes a major problem.

COMMISSIONER DIAZ: Thank you, sir.

Dr. Shack?

DR. SHACK: In terms of regulatory stability, when you say state of the art, the ASME code is a slow-moving conservative sloth.

I mean, you know, it's not exactly rushing to the frontiers, and I think the consensus process itself is a strong filter on things that, you know, although there's no

explicit cost-benefit requirement, these people are all in the field, you know, they have to implement these things, they have an intimate sort of day-to-day knowledge of what actually goes on.

And so, I believe that there's a very -- a good filter there for requirements that are not particularly -- you know, again, obviously, we correct editorial errors and such, but I think the true changes in the code really arise out of a consensus of people who are technically the most familiar with this thing.

And they're, again, acutely aware of what will happen when they actually have to try to implement these in the field, so that the thought that they're off -- you know,

they're nerds advancing the state of the art, I've got a 800-megahertz Pentium now and, you know, I'm going to do something different, you know, it's just not the way it works.

It's a different sort of process.

So, I think, you know, stability, to my mind, is a process that's been working fine for 30 years, and you know, I haven't seen a good case to change it.

The cost -- you know, we -- at the ACRS, we only know what's been presented to us, and as I say, I haven't seen a convincing case that the costs are high either way.

You know, people cite ranges that go all over the

map.

There are obviously elements of costs on both sides of the equation.

As I say, our sort of judgement when we're all said and done was that it was hard to see a large net cost either way.

CHAIRMAN MESERVE: Thank you.

Commissioner McGaffigan.

COMMISSIONER McGAFFIGAN: Mr. Beedle, yesterday we renewed the license for Calvert Cliffs, and that was a major milestone here.

If Watts Bar gets a renewed licensing, it will be operating in 2055 -- I think it got its license in '95 -- and I assume it was licensed -- it was a long process, like many of the post-TMI plants, but it's probably licensed to the '83 or, at best, '89 version of the code.

Under your recommendation, they would never -- they would be operating in 2055 to the '89 code, perhaps cherry-picked, as Mr. Perry said, with addenda since then. Does that make sense?

I mean could you operate a plant in 2055 to a 1989 code that would be able to buy spare parts? Wouldn't they have to update?

MR. BEEDLE: If the major elements in revision to the code are editorial in nature and not safety significant,

then I don't see any problem.

COMMISSIONER McGAFFIGAN: Take us to the next point.

I mean you compared '89 and '92, and I assume that must have been in the Entergy rule-making package that you referred to, and I'm not familiar with that, but we're talking 10-year periods here, we're not talking three-year periods, and Mr. Perry is making the case that, over a 10-year period -- and ACRS is heartily agreeing -- that

there were some -- and I think the staff heartily agrees on this Appendix VIII -- there were some significant improvements to the code over a 10-year period, and since -- you know, I think the analysis has to be, you know, comparing one piece of the code to what it was 10 years previously rather than to -- maybe Mr. Perry would agree that the '92 versus '89 wasn't a big deal.

MR. BEEDLE: Well, I think many of the beneficial changes in the code have centered on our testing techniques and how you do the inspections.

I think if there was some analysis done by ASME in developing codes that concluded that our vessels and major structures were -- needed to be upgraded, then I think we'd be handling that in a different process than an update to the code.

So, I don't think that we're dealing with a

necessary updating of the code in order to ensure safety of the plant.

I think that that's going to happen through the regulatory process.

COMMISSIONER McGAFFIGAN: Mr. Perry makes the point that, if you don't update the code in a holistic manner, an integrated manner, and you allow this cherry-picking, as he calls it, to go on, that that may prove to be more burdensome both to the staff and for the industry, because the exemption cases cost more.

Do you have any comment on that?

MR. BEEDLE: Well, I don't know that that has been a major issue over the last 15 years.

We've updated the code several times where the utilities have encountered the 10-year ISI update process, but in the interval, we've had numerous examples of exemptions necessary to improve techniques for inspection in the ISI/IST program.

So, that's happening even if you decide to have a requirement to update this code every 10 years.

I don't remember the exact description that Mr. Shack used for the ASME code, but when you update this every five years, I mean you have to have seen some changes in the code cases in that interval, and we certainly aren't going to wait for five years if we see some beneficial use of some

of those code cases.

We've got to figure out whether or not this is really something that's essential to safety or not. I think that's where we've got come down on this.

COMMISSIONER McGAFFIGAN: Mr. Perry, did you want to say something?

MR. PERRY: I would like to submit that I think that what we're talking about on these exemptions was a case of the NRC having endorsed the 1989 edition of the code and now we're at 1999 that they made the change.

So, during that interval, there wasn't an endorsement of the later code, and secondly, ASME has deliberately tried to maintain code cases to make it easier for the NRC to endorse those by reg guides, and even those lag behind, that's what's forced these updates.

But if you look at it in the future -- let's say the 1995 edition and 1996 addenda, which is currently in the regulation -- that's frozen, and now you move forward to 2055 -- there's going to be a hell of a lot of enhancements in things.

All of these are going to be done by code case or exemptions or what have you, and those are very costly. It's costly for the utilities not only to do it but to submit it to the staff and then answer their questions back and forth, it's expensive for the staff.

I submit, if you're able to divert your resources more on updating to the later codes and a quicker endorsement of the code cases, you do the analysis once, now all the utilities can implement this, you don't need all of those special approvals.

So, that would be a burden reduction, first class.

COMMISSIONER McGAFFIGAN: Mr. Perry, one of the points you make is the potential loss of interest on the part of the industry in participating, and you cited in passing -- and it's not something I'm familiar with -- the problems you're having with NQA in getting the staff's attention to a submission in '97.

I know it's not the subject of today's meeting, but could you just tell me in passing what that is and why you think it's safety significant?

MR. PERRY: Yeah. That one may not be safety significant, but again, I think that there are significant changes in the NQA-1 standard, 1997, that's performance-based and put the emphasis on the right things that picks up lessons learned and experience and key things that I know the Commission has expressed an interest in, and yet, they're reluctant to come out with a reg guide endorsement, because they say -- and I haven't seen the utilities beating down the bushes saying they want to change it, and things like configuration management --

COMMISSIONER McGAFFIGAN: That's a case of loss of interest on the part of both the utilities and the staff,

you would say, in that case.

MR. PERRY: Yeah. So, we're pursuing it through the utilities and getting them to come to the Commission and say, now, here's what we would like and why, but what's the Commission's position on this?

COMMISSIONER McGAFFIGAN: The final issue is the backfit issue, and this gets to this integrated issue.

We have before us -- and you guys haven't seen it. We've got a paper on fitness for duty, where we're dealing with a morass of things in looking at -- I think it's 28 or 31 worthwhile exceptions to the backfit rule which might pass a -- don't pass the substantial benefit test but maybe pass a worthwhile benefit, you know, cost -- benefits greater than cost.

If you look at this as a whole -- and I guess I'll direct this to Mr. Shack -- what is your best guess, if you get rid of the -- the backfit rule doesn't apply here, but if you apply a cost-benefit test to continuing the code requirement -- you know, Mr. Perry has already answered -- would there be more benefit than cost?

Get rid of the words "substantial benefit." Would there be more benefit than cost to continuing this requirement?

DR. SHACK: You mean if I compute the cost per the 109 guidelines, by the standard regulatory analysis.

COMMISSIONER McGAFFIGAN: The standard regulatory analysis stops at the substantial benefit test and doesn't get very far, and that's the problem we're facing in this paper. A lot of things don't pass the substantial benefit test. They might pass a cost-benefit test.

So, you know, at the margin -- you know, 50.109 doesn't just have cost-benefit in it; it has a substantial benefit before you even go to cost-benefit.

So, get rid of the substantial benefit test and then go to are the costs, on balance, less than the benefits or more than the benefits?

DR. SHACK: This is one of those where it's very difficult to calculate the benefits.

I mean you're sort of pushing the limits of your technology.

You know, how much is an improvement in in-service inspection a benefit, and that's very difficult to quantify. I suspect I can skew cost-benefit analyses within my uncertainty range.

COMMISSIONER McGAFFIGAN: Okay. I'll let you off.

CHAIRMAN MESERVE: Mr. Merrifield.

COMMISSIONER MERRIFIELD: Thank you, Mr. Chairman.

Mr. Perry, you talk about a variety of different

things to hammer out.

You raised a concern that if we did not have a requirement to do these updates that there may be less interest on the part of industry.

I guess my question is this:

Does it change in the end if industry is aware that those provisions are voluntary?

Does that change the dynamic for how the participants are going to be engaged in the process of developing their roles?

MR. PERRY: Absolutely.

COMMISSIONER MERRIFIELD: And how might that change?

MR. PERRY: I think that the individuals who participate in codes and standards are middle-level to worker individuals who are technically knowledgeable of the subject or intimately involved in implementing these things, and they have to have approval to participate and get support from their companies as the NRC representatives has to have budget to do it, and if they're told this is no longer mandatory, they're saying, well, we don't have to do it, so it's not required, I'm going to reduce my cost, so I'm going to just withhold participation.

We've experienced -- and I don't think this is uncommon.

We've experienced reductions in volunteers as industry -- the nuclear industry shrunk and as competition became greater.

They tightened the belt.

We've also experienced attrition due to older mature people retiring and not -- the utility saying I'm not going to replace that person, I'm not going to continue to support the code like I used to.

So, it's a struggle to maintain good volunteers, but besides the effort of the volunteers, there's research that goes on to back up a lot of these.

I can guarantee you that performance demonstration, the involvement of EPRI and industry and the utilities was tremendous.

So, it's not until a lot of that's done that we try to codify that.

That's going to be lost. There's no incentive to do the research.

Who's going to fund it?

So, I think there's a big difference, and I submit, I think the same thing is going to impact the NRC.

They're going to say -- you know, the individual manager says my budget's being reduced, what can I cut out? Well, let's cut out travel.

Where do you go? Well, you go to these code

meetings.

Well, do we have to go to all of those?

So, I think it's going to have a negative impact, and the mix is going to be different.

I submit that what you'd probably concentrate on is code cases, not revisions.

COMMISSIONER MERRIFIELD: Mr. Beedle?

MR. BEEDLE: I think, clearly, there is financial pressure in the operation of these facilities, as the environment changes.

I don't think that it means that the industry is going to abandon the development of codes and standards that are necessary for the safe, efficient, and effective operation of these facilities.

We see significant involvement with the NSSS vendors.

We see involvement with ASME.

We see involvement with ANS.

We see involvement with EPRI.

Now, whether or not those change with time, I think it's going to depend on whether or not there's any benefit to be gained from them.

If the utilities can gain through ASME, then they will use ASME process.

If they're going to gain through the NSSS vendor

groups to solve their technical problems, I think that's where they're going to go to solve them.

So, it's really is there a benefit to the utility in participation?

That's really going to be the test.

COMMISSIONER MERRIFIELD: You've repeated that theme a variety of times, saying beneficial to the industry, and I'll be honest, that troubles me.

Through what lens are you calling beneficial to the industry?

You know, here we have various pillars we use to determine our regulatory basis for moving forward on a risk-informed regulatory structure.

Those include reducing unnecessary burden, but they also envision using risk to make a better definition for where we're going on a regulatory basis, and that means sometimes reduce unnecessary burden and sometimes increase burden based on risk.

We also have the pillars of public confidence, and I guess -- it strikes me -- you know, a sort of devil's argument you could make is, if you set a 1989 baseline standard and anything above and beyond that is voluntary on the industry, and if you use that beneficial-to-the industry standard, what you have is a one-way ratchet.

Those cases in which you can reduce, you choose,

you reduce that unnecessary burden, and those which would have some increase in costs, you wouldn't.

I mean under what basis under a strictly voluntary system would industry choose -- how would it determine a benefit if it's going to be an increased cost?

MR. BEEDLE: Well, we -- I think we've got a number of examples in the regulatory framework where the industry has been -- has addressed safety issues, at the behest of the NRC, totally outside the framework of the ASME process.

So, if the ASME was identifying safety issues that need to be addressed by the industry, I think we'd be addressing them.

So, I mean it's not a matter --

COMMISSIONER MERRIFIELD: Even in the absence of the NRC saying it meets the backfit test and we're going to make you do it.

MR. BEEDLE: Commissioner, we've got scads of codes and standards out there that govern the way we do business, in a lot of cases, that are not mandated, updated every 10 years, and we end up going through a process that gets those things in place.

The desire to not have a regulatory requirement to update every 10 years does not mean that we're abandoning a process that gives us some standardization in inspection and

testing of our systems.

That's not what we are after.

COMMISSIONER MERRIFIELD: I didn't know whether Mr. Perry or Mr. Shack wanted to make a comment relative to that. Yes, no? Okay.

We've got to move forward.

I guess, Mr. Perry, we touched briefly -- you said that there are states that require the ASME code outside of our process.

If you could share with me and the other members of the Commission which are the states that do apply those independently, that would be helpful, as it relates to non-nuclear facilities.

MR. PERRY: I don't have the answer, but we can --

COMMISSIONER MERRIFIELD: If you can provide that at a later date, that would be helpful.

Thank you, Mr. Chairman.

CHAIRMAN MESERVE: I would like to thank the panel. I very much appreciate their participation this morning, and let me call the staff to the table.

MR. MIRAGLIA: With me today, we have Brian Sheron, who is the Associate Director for Project Licensing and Technical Analysis in the Office of Nuclear Reactor Regulation; Jack Strosnider, to my left, is the Director of the Division of Engineering in NRR; and to Jack's left is

Tom Scarbrough, Senior Mechanical Engineer in the Mechanical and Civil Engineering Branch in NRR.

Brian?

MR. SHERON: Thank you.

Actually, I guess the first slide is just some background.

I think that's already been discussed. So, I'd like, for time's sake, to skip maybe to the second one, current ISI/IST updating approach.

A lot's been said already, so I don't want to repeat.

What I would like to do, actually, is clarify what we are -- what the staff is proposing. We are proposing that we baseline the endorsed edition of the code that is required, the 1995 edition.

Our plan right now -- and we have resources already identified -- is that we will be endorsing probably every year the latest addenda to the code that come out, and then, every three years, we would endorse, hopefully within a year or two of its issue, the latest edition of the ASME code.

We are saying we would endorse it, which means that utilities would be allowed to use it, okay, but it would not be required.

As we do that review of that code or the addenda,

we will be subjecting it to the criteria in the backfit rule, 50.109.

If we believe that there are improvements in the code, okay, that are important and substantial increase in safety and pass the backfit test, we would go forward and backfit them as a requirement, and we would anticipate that we would backfit them to be implemented at that time, not wait 10 years.

My personal feeling is that, if the code improvements are, indeed, substantial, we will probably be putting in requirements more frequently or requiring plants

to update more frequently, perhaps, than even is required now.

A plant can wait 10 years before it has to update, depending upon when a code is endorsed and what the latest endorsed edition is.

As you see, we have plants -- we have five operating on the '83 edition, we have 18 units at the '86 edition, and we have 81 units with the '89 edition.

We would probably look at, as I said, each edition of the code, we would pick out those areas that we believed were substantial improvements to safety, and we would require them at that time.

So, we would not be basically saying everybody must update to a complete edition of the code, but where

there are areas where there are substantial improvement, we would require those.

After some period of time, my guess is that, if we see that there is a substantial improvement in the overall code, then we would probably come forward and say we would anticipate backfitting the entire code.

We do have guidance from the Commission back in 1993, actually, on backfitting against 50.109 for codes and standards, and this is contained in the CRGR charter, actually, and there is very specific guidance, but basically, what that guidance says is that we can use qualitative arguments to meet the substantial improvement in safety criteria of 50.109 with regard to standards, codes and standards.

I'm looking at Revision 6, which is the April 1996 charter, but there is words here that says we can use qualitative arguments to require backfitting to codes and standards.

So, we believe we have sufficient guidance and sufficient ammunition, I would say, in order to backfit codes and standards if we see there is a substantial improvement.

We are not proposing cherry-picking. We have said that, when a utility would update to a newer edition of a code, whether it's endorsed or required, they would be

required to update to the entire edition, okay?

It's not a matter of just going in and saying I want these pieces that are beneficial to me but I'm not going to take that stuff that puts more requirements on me.

If you want to update to the new code, you do it in its entirety.

Now, just like is allowed today, if a utility

wants to take exception to some of those requirements, there is a process they can do that, okay?

They can request reliefs from the NRC staff, which means we go through and we do a safety evaluation as to the acceptability of that relief, and we write them a specific approval.

So, they cannot cherry-pick without the NRC specifically approving whatever it is that they're asking for.

Our process right now -- we don't endorse the addenda through code cases -- I'm sorry -- through our reg guides, okay?

Right now, if we endorse any new code cases or anything, it must be through a rule change.

It's a little torturous, but we have a footnote in the bottom, in 50.55(a), which talks about a reg guide -- 1.84, I think it is. Is that right?

That reg guide endorses the code cases, but in

order for the industry to use them as part of an approved rule, we have to change that footnote in the rule.

I would also point out that the -- with our risk-informed option, which we have approved -- we have two approved versions, I think, ASME, a Westinghouse approach to risk-informed ISI and IST, and then there's also an EPRI one, which we've recently approved.

They don't specifically require any 10-year ISI updating, okay?

In other words, what they require now, I believe, is, after 10 years, they have to go back and take a look and see whether there's anything that needs to be changed, okay, but there's no mandatory requirement.

So, if a plant actually goes to the new risk-informed approach, they would not be required to update every 10 years.

The only other point I would want to make is that -- just from our experience.

We participate on numerous codes and standards committees in NRR as well as the rest of the agency, and I think, as Mr. Beedle said, many of those are voluntary in the sense that we don't require the use of that code or standard.

An example that comes to mind is IEEE 603, which is basically the replacement for IEEE 279. 279 is required

in 50.55(a).

When we endorsed that, 603, we did not make it mandatory, okay?

We said that it was an acceptable alternative to

279, but it was not mandated.

I am just not aware that there has been any decline or decrease in participation in IEEE standards committees, because we are not requiring, you know, revised IEEE standards, as an example.

My feeling is that, if the NRC continues its participation on ASME code committees, which we fully intend to, regardless of whether we drop the requirement or not, the industry is going to have a vested interest, I think, for a couple reasons.

One is they're going to want to make sure what we're doing on there, and we're not putting in a whole bunch of new requirements, and second, I think, is that, if there is new technology coming along -- and a lot of it is all designed to make life easier, okay, better inspection methods, easier things where they can inspect, get less radiation dose -- I think there is a real desire, okay, on the part of utilities to continue to participate.

So, I guess I don't feel as strongly that there is going to be a tail-off in participation, just because we move forward with this approach.

So, I think that kind of wraps up my summary of where we are in terms of what our actual proposal is, and I would just reiterate, we are not proposing that we're going to stay on, for example, the 1995 or 1989 edition of the code for the next 20 or 30 years.

I would anticipate that we will be having required backfits if there are safety improvements made to the code, probably within, you know, three, four, five years, and that probably, perhaps, you know, within 10 or 15 years, we may look and we may decide that there's enough improvements that we should backfit the entire code.

With that, Tom, I don't know if you want to run through your slides real quick.

MR. SCARBROUGH: Yes. Thank you.

My first slide has the milestones, but I just would like to point out on this slide that we did hold a public workshop with about 60 participants and obtained quite a bit of information in that, and I'll just move right on through that.

The next slide are the options, and you've heard those this morning.

We are proposing option 1B, which would establish the 1995-96 code, as incorporated in the September rule, and I'll just go on to the next slide.

We evaluated the options using the four

strategicals of maintaining safety, increasing public confidence, reducing unnecessary burden, and making NRC activities more effective, efficient, realistic.

With regard to the first goal, maintaining safety, each option will maintain safety by requiring updating of ISI and IST programs based on its specific criteria for that option.

For example, option 1 would include a quantitative and qualitative analysis using the provisions of 50.109 to determine when updating is necessary.

Option 2 would continue to require the automatic updating, and option 3 would require updating unless the licensee demonstrated that its program provided an acceptable level of quality and safety.

We agree that the '95 edition of the code includes many improvements, and we have heard many of them this morning.

Option 1 will continue to maintain safety also by endorsing future code editions for voluntary use and requiring updating when necessary based on the provisions of 109.

We also will maintain the importance of the code by more timely endorsement of the code editions for voluntary use or mandatory use.

And finally, we agree that the updating process

does provide a means of assessing program adequacy and that the voluntary and mandatory updating that will occur will allow this to take place.

Next slide, please.

With regard to the second goal of increasing public confidence, we believe option 1 will increase public confidence by applying the provisions of 50.109 to updating, consistent with the other new requirements for operating reactors.

Option 2 may also increase public confidence by requiring updating to the latest endorsed code editions regardless of safety significance.

Option 3 would retain the update requirement but may decrease public confidence by the limited participation provided in the approval of alternatives that would be proposed by licensees.

Next slide, please.

Regarding the third goal of reducing unnecessary burden, the cost of updating an ISI/IST program can range from 200,000 to over a million dollars per plant. We heard that this morning.

Under option 1, licensees would only be required to update their programs when the code improvements are

sufficient to satisfy the 50.109 provisions.

However, regardless of the decision on the update

requirement, licensees' cost associated with submitting a relief request will continue as licensees customize their ISI and IST programs to best fit their specific plants.

Overall, we consider option 1 to provide the greatest flexibility for licensees to minimize their burden in implementing an effective ISI and IST program.

Next slide, please.

Regarding the fourth goal of making NRC activities more effective, efficient, and realistic, we plan to improve the ISI and IST updating process under option 1 by more frequent endorsement of new code editions by applying dedicated resources and revising the regulations.

Option 1 would also provide a consistent application of 50.109 to ISI/IST updating, similar to other new requirements.

Because the staff will continue to review future code editions for endorsement and to review future relief requests, we do not believe that any particular option would result in significant NRC resource savings.

Next slide.

Further, on that same goal, we are encouraging licensees to develop risk-informed ISI and IST programs and also ASME to establish initiatives that might improve the long-term approach for implementing those programs.

We will continue to participate in the code

process to help ensure that risk-informed initiatives are successful.

With the customized ISI and IST programs currently in place at individual plants, we do not believe that modification of the updating process will significantly affect the range of code editions applied at each plant.

Finally, any inconsistency that might arise between NRC and state positions would be resolved by Federal preemption.

Next slide, please.

In conclusion, we believe that option 1 best addresses the four strategic outcome goals, and we propose the 1995-96 code as the baseline, because it is the most recent version endorsed in the regulation, and it does include a number of improvements since the 1989 edition.

I'll be happy to answer any questions you might have on our presentation.

CHAIRMAN MESERVE: Thank you very much.

As I understand the -- I'd like to have you

address the regulatory problem that you -- others have argued that you create for yourself by this proposal.

The suggestion is maybe, as I understand your proposal, perhaps as long as till 2055, there would be a -- what would be applicable would be the 1995 edition of the ASME code, with segments of provisions drawn from successive

codes that would be added in over time, so that, to the extent that the ASME is trying to develop a unified inter-related code by the process you'd involve, what you'd require would be chunks of things that wouldn't be unified.

With licensees, if they want to get the benefit of updated codes, come in and are required to take the entirety of an updated code, so they have an entirely different set of requirements than what you would otherwise require, or at least to the extent that the ASME code is changing over time, which, as we've heard, might be significant over a period of many decades.

I just wonder whether you've -- you're not creating a nightmare for yourself in evaluating plants and in doing inspections with the fact that you have just chunks of things drawn from various places that you're inspecting against with many licensees perhaps deciding they want to use updated codes, which could be several decades newer than the baseline, and just -- you're creating an inconsistency between plants, or among the plants, that seems to me just greatly aggravates your problem of conducting your work, and I wonder if you could comment.

MR. MIRAGLIA: Brian addressed that to some extent, but in terms of -- I think what we have to recognize is we looked at where plants are now with respect to codes and the exemptions that are required and consistent with the

code changes.

We essentially have a number of customized plants out there.

Brian also alluded to the fact that, at some point in time, as these changes became significant in large numbers, that there would have to be perhaps some codification to say that the '95 update should be codified to some greater extent, and Jack's had numerous experience in this, so I'll let him give you the details.

MR. STROSNIDER: This answer may not be totally satisfactory, but I've dealt with this issue from headquarters and from the regional perspective. In fact, I supervised the NDE van that was mentioned in some of the earlier presentation.

The situation you're describing exists today, and I say that that may not be very satisfying to hear that, but

the fact is, as we indicated, we have plants out there that are operating with codes back as early as 1983.

Headquarters, in NRR -- we process about 300 relief or alternative requests a year, okay, and the outcome of all that is that basically the ISI programs at the plants are pretty much tailored to those plants, and when the inspectors go out to look at them, it's very unlikely that there's any two of them that look the same, and I say that may not be very satisfying, and you say, well, how can I fix

that situation, and I'm not sure that there's an easy solution to that.

Certainly, requiring updates every 10 years, depending upon when a plant was licensed, is not going to provide that kind of consistency, okay?

Understand that, you know, that 10-year update occurs at different times for different people, they would be addressing different codes, and as they look at the more recent edition of the codes, they will -- if they see something that's beneficial, they will request to use that through the alternative or relief provisions of the code.

Similarly, we backfit -- we have required issues be implemented -- or code activities be implemented on an accelerated basis, depending upon the significance.

There was a lot of discussion this morning about Appendix VIII, performance-based qualification of NDE, about IWE/IWL inspections for containment.

Those provisions of the code were put through backfit evaluations by the staff, and we required expedited implementation of those, because they had significant safety implications.

MR. MIRAGLIA: Can I add to that, Jack.

In terms of the two issues that Jack just raised, those were raised as a result of operating experience.

The MOV issue was raised and the agency took

action to deal with the safety issue based upon operational research experience.

That need for a codification of a uniform or standard approach to address those issues were the impetus for IWL/IWE issues.

I mean there's a number of processes out here in terms of our regulatory processes that -- it's a mechanism for feeding the need for code requirements.

MR. STROSNIDER: So, the response that the ISI programs and the IST programs are these plants are somewhat plant-specific, somewhat tailored to the plant based on their age, based on their design -- it may not be totally

satisfactory, but that's the case.

If we could come up with a way to make it totally consistent, you know, we'd do that, but I'm not sure that there's really -- that that's really practical.

But as I did point out, maintaining 120-month update provision or -- it's independent of whether you have that provision or not.

CHAIRMAN MESERVE: But doesn't the proposal as you've described it aggravate the situation in the sense that there is this 10-year update requirement, and it may well be that there are people at various stages in -- when the update requirement triggers, but at least you're dealing with a set of plants that are required to deal with a set of

codes that are reasonably contiguous in time, whereas what you propose would have -- freeze 1995 with segments -- unless you do a total recodification and can justify that through a backfit analysis -- that could extend on into the future, so that over time you'd have a situation -- you'd have even a greater disparity than you're observing today?

MR. STROSNIDER: The programs that we look at, that have been submitted under the current requirements -- 50 percent of the resources, 50 percent of the time in reviewing those programs is looking at alternatives and reliefs, where, in fact, the licensee may be updating to, for example, the '89 edition of the code that's saying, you know, I looked at a code case that was published in '95, '96, '97, I looked at something in one of the more recent editions of the code, and I want to use it, all right?

That provision will remain there.

Now --

MR. MIRAGLIA: The answer to the question, Mr. Chairman, I think, is what we're saying, everybody needs to re-baseline against, in the staff's proposed option, to the '95 with the '96 addenda.

What the reality is, is everyone would look at that and Jack would indicate there would probably be a number of exceptions or reliefs from that to permit plant-specific exemption requests because of configurations

in the plants, for accessibility of welds, and so, it would get everybody up to almost the same place, but with time, you're right, without another re-baselining, we would have -- and then we'd essentially be in the circumstances we are today with the current implementation.

MR. STROSNIDER: I'm not convinced that we would see a whole lot more relief requests and alternative requests than we currently see, because we see a lot now.

CHAIRMAN MESERVE: I'd like to ask you a question

about your slide seven, which is -- as drafted -- you said it a little different orally -- is that option 1 was perceived to -- will increase public confidence by applying backfit, option 2 may increase public confidence, and I'd just make the observation that you've created a -- your proposal would create a barrier to updating through the sense that you have to do a backfit justification before applying the more modern ASME code, and it's not clear to me, particularly given the fact that we have an ACRS letter that's been submitted to us, that going to option 1, as you've described it, will increase public confidence.

MR. SHERON: I think "may" is a better word. I don't think we have anything that would say -- we're that positive.

CHAIRMAN MESERVE: As opposed to option 2 versus option 1, which one do you think would have the greatest

public confidence?

MR. SCARBROUGH: We were thinking there that, in this case, by being consistent, the consistency, so that it would show that the NRC is applying new requirements in an organized fashion consistently across the board for all new requirements.

MR. MIRAGLIA: I think it goes to everybody re-looking at the '95-'96 and making a conscious decision as to what applies versus not, and in the near term, that might have a little stronger, but I think, with time, "may" is probably the better word.

MR. STROSNIDER: But I do think one of the difficulties when people are looking at option 1 is they're reading as far as eliminating mandatory updates and they're not reading the rest of the proposal, which says, where there are safety significant changes that we can -- that we feel need to be implemented, that we will do that, okay, and you have to ask yourself the question with the current process.

If you have people operating to the 1983 edition of the code, if that were really the case, does that provide confidence?

In reality, okay, because of other backfit processes and generic letters and other things that we've done, those people are using -- those plants are using much

more recent things, but like I said, I think the important thing when we look at option 1 is not to over -- to lose sight of the fact that we are talking about implementing, mandating those aspects of the code, like Appendix VIII, like the containment inspection, IWE/IWL, not in 10 years,

all right, but on an expedited schedule.

CHAIRMAN MESERVE: I'm misunderstanding something in what you're proposing. We currently require compliance subject to this 10-year update, and the current rule puts us to the 1995 code.

What we're considering now is the question of whether, for future -- whether that's every -- going to be amended every 10 years automatically or whether we apply a backfit requirement to this.

What I'm failing to understand is how, given the issue that's before us, how that's going to bring us to greater consistency among the plants than our current rule. I mean it seems to me that it doesn't.

MR. SHERON: It wasn't intended to --

CHAIRMAN MESERVE: I thought I heard you saying that that was one of the things, that we would benefit from this, it would bring everyone up to the '95 level. Well, that's where we are regardless.

MR. MIRAGLIA: I think it would say -- what the rule would say is that that would be the mandatory baseline

that everybody has to start from, and then they have to look at their programs versus that.

MR. STROSNIDER: It would bring them to a minimum level.

We're not suggesting that there's going to be consistency.

As I said earlier, when you look at the plant-specific aspects --

MR. MIRAGLIA: Some of them are probably already there.

MR. STROSNIDER: That's a very difficult thing to achieve, that sort of consistency.

CHAIRMAN MESERVE: Commissioner Dicus?

COMMISSIONER DICUS: Following up a little bit on that -- and perhaps you went into this, and if you did, I missed it or it wasn't that clear to me.

If we were to backslide, as the Chairman mentioned, which we're -- I don't think we're going to do that, but if we looked at the differences in the last 10 years in the codes, what number or how many of them reached the importance level that they would meet the 50.109 test?

MR. SCARBROUGH: The ones that we did were Appendix VIII, because when we endorsed -- when we were thinking about doing the endorsement, that was going to be accelerated. That was an accelerated implementation for

that in this most recent code.

So, we know that for sure, and so, that would be

what we would consider something to be accelerated.

Now, we would have to look at -- there's been a lot of talk about the comprehensive pump test.

COMMISSIONER DICUS: Right.

MR. SCARBROUGH: We'd have to look at it more carefully and see if that might be one.

We didn't look at that at the time we were endorsing the '95 code.

The only one that really stood out as meeting the 109 test was the one on Appendix VIII.

MR. STROSNIDER: But I'd also point out that the endorsement requirement to implement IWE/IWL containment inspections, which was a separate rule-making, was also put through the backfit process and done not on a 10-year schedule but on an expedited schedule.

MR. SHERON: The approach right now -- I mean when we were reviewing codes for endorsement in 50.55(a), we obviously in the past have not been looking at them from the standpoint of the backfit rule, because we recognize that we said, you know, it doesn't apply in this case, therefore, we don't need to look at it and make that case.

Except in situations where there are substantial increases in requirements, new requirements, those have to

go through the backfitting process, and as you heard, we put those through the backfit process, and they, indeed, passed, and they were implemented, IWE/IWL.

COMMISSIONER DICUS: Okay.

MR. SHERON: So, to answer your question, I don't think we have looked to say, had we compared the '95 edition to the '89 edition, how many of those items, notwithstanding IWE/IWL and Appendix VIII, how many of those would have actually passed the substantial increase in safety test. We just haven't done that.

COMMISSIONER DICUS: Okay.

One quick question, because we are on a time crunch here.

It gets into the issue, if we did keep the rule as it stands, and every 10 years, or thereabouts, when there's an update, but in the meantime, if ASME identified something critical enough to bring to our attention, can't we go through the 50.109 process?

MR. MIRAGLIA: Yes.

COMMISSIONER DICUS: So, we can continue to do this, even if we keep the 10-year rule.

MR. MIRAGLIA: The IWL/IWE process is one to show that we didn't wait for the 10 years.

The other thing in terms of backfitting, you know,

we keep -- if there is any safety issue that we feel needs

adequate protection, we can do that at any time, and the backfit is for enhancements issues, and so, what we're talking about here within the code is our role in that enhancement-type issue, perhaps a clarification in terms of what is required to comply with the code.

MR. SHERON: But I think what we're saying is that we don't really -- as I think Mr. Beedle said, okay, if -- a lot of improvements that were made in the code were basically editorial, okay, in nature, and the like, you know, and to have to have them translate that into their manuals and so forth and retrain their tech staff and the like, where you really can't identify a safety basis for it, what we're saying is we don't believe that's appropriate for the NRC staff to have to require that, okay?

Utilities can do that at their option, if they feel it's something they want to do, but we basically are saying we want to focus on those aspects of the code that enhance safety, okay, and those are the ones we will decide if it's necessary and then we will backfit them to be implemented, you now, and we won't wait 10 years, we're going to do it right then, okay, on an expedited basis.

CHAIRMAN MESERVE: Commissioner Diaz?

COMMISSIONER DIAZ: I think a lot of the things have been asked, but I just want to make a comment.

I don't think that editorial changes provide a

great burden.

I mean if they do, then there's something wrong in the process.

They provide a slight burden but not a significant burden.

I mean the burden is on those things that are really, you know, either safety significant or provide a change in the process.

Having said that, a quick question.

Are there improvements in regulatory stability and in consistency of the application of the regulatory programs by maintaining the 120-month upgrade?

MR. SHERON: I would answer -- and I think we touched on that -- and that is that, you know, as plants come into their update -- and I was just checking with the staff, and my understanding is that, if you plotted the anniversary date, okay, as a function of time, you would see basically a sine-wave moving through the system, okay, where there's a whole group of plants that got licensed around the same time. So, their anniversary date is around that time, you know, and then there's -- but there's tails, okay, that

will have different anniversary dates.

But given that, combined with, as Jack said, that we get about 300 relief requests a year, which is about -- translates to about maybe -- what is that? -- three per

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plant, okay, that each plant basically winds up with a customized ISI/IST program anyway, okay, and then we have a bunch of plants that we hope are going to start taking advantage of the risk-informed ISI/IST, which means they're going to move right out of that whole, you know, deterministic approach with the code and use a different approach, and they're not going to be in a 10-year program anymore.

So --

MR. STROSNIDER: I would add one other clarification here, just because I want to make sure it's -- give a fair evaluation of that.

There are some aspects of the code, such as the qualification of personnel -- and UT examiners was mentioned, okay, which that would be more uniform, all right, of course, and I would go back and point out again that that's another one that we captured with Appendix VIII, okay.

So, people -- you'd have more uniformity from that perspective.

When you talk about which actual welds you're looking at and that sort of thing, that consistency is difficult to --

MR. SHERON: That would be captured through a backfit, right?

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MR. STROSNIDER: Yes.

COMMISSIONER DIAZ: It appears it might be a more fundamental problem with this issue than the upgrades in the codes, and with that, I yield the rest of my time, which is about five seconds.

COMMISSIONER McGAFFIGAN: The issue of -- the slide that the Chairman talked about, increasing public confidence -- I think you do have it entirely wrong.

I would just say that our European colleagues think we're sort of nuts to have a backfit rule to start with, and I think they backfit whenever they see a benefit commensurate with the cost, and they don't have the substantial benefit test.

So, the public -- and from my experience, the public interest folks and the CSAS process -- if you're talking -- if by "public," you mean David Lochbaum and Riccio and company, the backfit rule is not -- and the

consistent application of it -- is not the first thing that leaps to their mind in building their confidence.

MR. MIRAGLIA: But it relates to and it grew from a concern by the regulated industry that we didn't have regulatory stability and that there needed to be a baseline from which to measure. So, I mean there's arguments on both sides of that.

COMMISSIONER McGAFFIGAN: To continue on this

backfit issue, Frank, you've been involved in the fitness for duty paper.

I don't know whether the other folks at the table are, but you've been involved in it, and you know how much work has gone into --

MR. MIRAGLIA: Yes, sir.

COMMISSIONER McGAFFIGAN: -- over five years or six years --

MR. MIRAGLIA: Yes, sir.

COMMISSIONER McGAFFIGAN: -- every provision of that, looking at whether it passes a substantial benefit test, coming to the conclusion that many of them did --

MR. MIRAGLIA: And that issue --

COMMISSIONER McGAFFIGAN: -- asking us for 31 worthwhile exceptions to backfit.

Aren't you setting yourself up in this to end up doing the same darn thing?

You're going to have to look at a complex code, you're going to have to look at it piece by piece, you're going to have to parse it, in the end the end the staff may -- the ACRS representative was saying you're going to have a hard time, you know, on a cost-benefit basis to justify some of this.

MR. MIRAGLIA: Well, I think --

COMMISSIONER McGAFFIGAN: It's a qualitative

argument.

I can imagine the future papers on the ASME code and a fitness-for-duty paper yay thick.

MR. MIRAGLIA: The only analogy that I would submit in that case is the fitness for duty and the application of the backfit rule have that commonality.

I think, in the code cases here, we have applied the backfit rule to implement changes in the code prior to the -- so, can we do it and is there a basis to make quantitative arguments?

I think we've demonstrated that in a number of instances.

In terms of the fitness for duty, the policy issue that came to the Commission is that the Commission had asked

the staff to go back and look at the fitness-for-duty rule after two years of implementation and suggest changes. That came up, and the staff originally looked at the changes in an aggregate.

If you look at all of these changes and what the pluses and minuses, it would go forward.

COMMISSIONER McGAFFIGAN: With the fitness-for-duty paper fresh in mind and Brian Sheron's comment that, maybe in 15 years, we might want to endorse a code case in its entirety, I certainly don't want to be here when that paper comes to us, because I do think, if you --

MR. MIRAGLIA: Well, I certainly won't be here.

COMMISSIONER McGAFFIGAN: If the backfit rule is applied the same way to that process as it was applied to the fitness-for-duty process, God forsake the trees in the forest of this country -- God help the trees in the forest.

I'll pass.

CHAIRMAN MESERVE: Mr. Merrifield.

COMMISSIONER MERRIFIELD: Thank you, Mr. Chairman.

I have to say to Commissioner McGaffigan, this morning, in discussing this with my staff, I had the exact same reaction to the fitness-for-duty rule. So, you're not alone in that one.

I guess my one question for the staff is -- you know, we talked in the last panel and I asked some questions relative to what I would term the NEI benefit test.

You stated in your clarifications that, as you see it, you know, we're going to fix ourselves with the '95 changes, and then, as we go forward, 20 years down the road, if NEI or one of its members said, gee, we want -- we kind of like the 2010 version relative to these couple of changes here.

You basically said, well, if you're in for a penny, you're in for a pound.

If you want those changes, you've got to be willing to adopt that whole package.

Is that --

MR. SHERON: No.

COMMISSIONER MERRIFIELD: No. Okay.

MR. SHERON: Well, you can do it either that way -- if you adopt the entire package and if that package has been endorsed by the staff, then --

COMMISSIONER MERRIFIELD: I'm saying in the absence of endorsement.

MR. SHERON: Okay.

In the --

COMMISSIONER MERRIFIELD: Let's say we have affixed it.

MR. SHERON: Right.

COMMISSIONER MERRIFIELD: We have not changed our baseline, it remains a '95 baseline, but that an individual utility wants to take the benefit of changes relative to a 2010 version.

MR. SHERON: They can come in and request through the relief process that those two -- and we would evaluate them, and if we believe that --

MR. MIRAGLIA: I think there's two issues here.

In terms of -- we will look at new codes and endorse codes but not say that they're mandatory.

If they want to implement that endorsed code, they have to take the whole thing, and we're going to endorse

those code changes on a more expedited basis.

COMMISSIONER MERRIFIELD: So, if I'm a utility and we're all subject to the '95 code and the Commission has not adopted an update to that, I mean in terms of requiring an update, and utility X says, gee, there's this one change in the 2010 code that I like, you're saying they have to come in and they have to adopt the entirety of that.

MR. MIRAGLIA: No. They could adopt the whole code without coming to us.

COMMISSIONER MERRIFIELD: What do they have to do to get that change?

MR. STROSNIDER: The proposal is, if we, 20 years down the road, have endorsed the 2010 code and a licensee wants to accept it in its entirety, they could do that without coming to us.

We'd want them to tell us, but they don't need our approval.

They could do it, we've already endorsed it, go take the whole thing.

If they see one piece of it that they like and they don't want to take the whole thing, then they would come under -- they would come into the NRC under the existing provisions and request an alternative to whatever code they were baselined at, and we would review that and determine whether it was an acceptable alternative.

COMMISSIONER MERRIFIELD: Okay.

Just so this is clear, they could say we only want that one change from 2010 and submit that to the agency. They wouldn't be required to take the whole thing.

MR. STROSNIDER: The difference is we would review it.

What we're saying they can't do is go cherry-pick

from the 2010 code without NRC reviewing what they're picking, and Mr. Perry pointed out that there has to be -- you know, when you look at the code, you've got to make sure you're picking up all the relevant portions, and that's the sort of thing we would be looking at.

COMMISSIONER MERRIFIELD: That's my only question, Mr. Chairman.

The only thing I would say is you had a line of questioning on this panel in which you stated that what we are perhaps faced with -- you know, we're affixing to '95 -- is we may have the potential, at least, for having more changes out there and a lot more variation down the line if we maintain this '95 standard, and I have to say I share your concern about that.

We are at a point in this agency where we are asked to be more user-friendly.

We're also asked to reduce our costs, and I think, you know, this may be one of those cases where trying to

meet both of those and have regulatory predictability and have confidence of our stakeholders may be coming into conflict. I think we need to think hard about this one.

Thank you, Mr. Chairman.

CHAIRMAN MESERVE: I'd like to thank the staff and our earlier panel, as well, for a very helpful presentation this morning, and with that, we're adjourned.

[Whereupon, at 11:33 a.m., the meeting was concluded.]