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NUCLEAR REGULATORY COMMISSION

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620TH MEETING

ADVISORY COMMITTEE ON REACTOR SAFEGUARDS

(ACRS)

+ + + + +

FRIDAY

DECEMBER 5, 2014

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ROCKVILLE, MARYLAND

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The Advisory Committee met at the Nuclear Regulatory Commission, Two White Flint North, Room T2B1, 11545 Rockville Pike, at 8:30 a.m., John W. Stetkar, Chairman, presiding.

COMMITTEE MEMBERS:

JOHN W. STETKAR, Chairman

HAROLD B. RAY, Vice-Chairman

DENNIS C. BLEY, Member-at-Large

CHARLES H. BROWN, JR., Member

MICHAEL L. CORRADINI, Member

DANA A. POWERS, Member

JOY REMPE, Member

PETER RICCARDELLA, Member

MICHAEL T. RYAN, Member

STEPHEN P. SCHULTZ, Member

GORDON R. SKILLMAN, Member

DESIGNATED FEDERAL OFFICIAL:

EDWIN HACKETT

ALSO PRESENT:

DAN DOYLE, NRC

GEARY MIZUNO, NRC

ABY MOHSENI, NRC

WALLACE NORRIS, NRC

CLAYTON SMITH, on behalf of ASME

JENNY TOBIN, NRC

T-A-B-L-E O-F C-O-N-T-E-N-T-S

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

(8:33 a.m.)

CHAIR STETKAR: The meeting will now come to order. This is the second day of the 620th meeting of the Advisory Committee on Reactor Safeguards.

During today's meeting, the Committee will consider the following, future ACRS activities and report of the Planning and Procedures Subcommittee, reconciliation of ACRS comments and recommendations, NRC review process for American Society of Mechanical Engineers' codes and preparation of ACRS reports.

This meeting is being conducted in accordance with the provisions of the Federal Advisory Committee Act. Dr. Edwin Hackett is the designated federal official for the initial portion of the meeting.

We have received no written comments or requests to make oral statements from members of the public regarding today's sessions. There will be a phone bridgeline.

To preclude interruption of the meeting, the phone will be placed in a listen-in mode during presentations and Committee discussion.

The transcript of the meeting, of portions of the meeting is being kept, and it is requested that

the speakers use one of the microphones, identify themselves and speak with sufficient clarity and volumes so that they can be readily heard.

And I will ask everyone to check your little portable communications devices and silence them please.

At this point in the meeting we will go off the record as far as the transcript is concerned so that we can complete our business for Planning and Procedures.

We will reopen the record for the transcript at 10:30 when we have our presentation on the ASME codes. Of course our Planning and Procedures meeting is open to the public, so we'll just be off the transcript. And with that, we are off the record.

(Whereupon, the above-entitled matter went off the record at 8:34 a.m. and resumed at 10:31 a.m.)

CHAIR STETKAR: We are back in session. We're going to hear about the NRC review process for ASME code cases. I will remind everybody we are back now in open session on the transcript.

I will remind everyone in the room, because we keep a transcript that if you have something to say, please come to one of the microphones in the room. Identify yourself, and speak with sufficient

clarity and volume so that you may be readily heard.

I'll also remind everyone to please check your cell phones and silence them, so we're not disturbed by that.

And I believe we have an open phone bridgeline. We'll have an opportunity to open that bridgeline if there's any members of the public out there at the end of this session and ask for public comments.

And I think I have all of the administrative things out of the way, so with that I'll turn the meeting over to Dr. Pete Riccardella.

MEMBER RICCARDELLA: Thank you, John. In September of 2013 I was asked to recommend whether ACRS should review the latest version of 10 CFR 50.55(a) and the associated reg guides.

For the benefit of my colleagues, these are the reg guides. This is the regulatory action that lists the issues and addenda of the ASME codes and standards that are acceptable for us as well as the code cases that are acceptable for use by licensees.

I recommended no, that we didn't need to review the document at that time, but that I would like a future review of the timeliness of this rulemaking process. And that's the subject of this

meeting.

Just for some background, that subject rulemaking action was initiated in June of 2009. Okay. As I said, that was September 2013. It was just published last month, November of 2014.

And it contained or listed code cases that were approved by the ASME Code Committees in 2006 and 2007. And incidentally, for the most part those code cases were approved on the ASME Code Committees by the NRC staff members who sit on those committees.

And it's my opinion that these delays caused significant extra effort on the part of the staff as well as on the licensees because anytime you want to use a code or a code case that hasn't been listed in this rulemaking, you need to prepare a detailed relief request.

The staff generally does a very intensive review of those relief requests, which if you did it in accordance with an approved code case, that wouldn't be required.

So with that, I'd like to thank the members of the Research, NRR, OGC for coming. We also have a representative from the ASME Board of Nuclear Codes and Standards who will present his views on the subject.

And with that, I'd like to ask Aby Mohseni who will make some opening remarks and introduce the other speakers for the staff. I would say that the timing is quite tight.

We have quite a few speakers. And I'll like to ask the individual speakers to try to limit their presentation to around 15 minutes or so, 15 to 20 minutes, okay. Thank you. Aby?

MR. MOHSENI: Thank you very much, Mr. Chairman and distinguished members. As you said, I'm Aby Mohseni. I'm the Deputy Division Director in the Division of Policy and Rulemaking in the Office of Nuclear Reactor Regulation.

The staff was requested to provide a briefing about the rulemaking process for incorporating codes published by the American Society of Mechanical Engineers into the NRC's regulations.

This is an informational briefing about the process and legal context, so we are not requesting any letter or approval from the ACRS. And this brief is not about any specific current or future rulemaking.

The purpose of this brief is to explain how something goes from being a provision in the ASME code to being a legally binding NRC requirement in the Code

of Federal Regulations.

Today you will hear from Geary Mizuno from the Office of General Counsel, whose knowledge in this area is quite remarkable. He has been with the agency since 1981.

He will discuss the legal context for the rulemaking process and other requirements that apply when an agency chooses to adopt a voluntary consensus standard developed by a third party, such as the ASME codes.

Next, you will hear from our staff, Jenny Tobin and Dan Doyle, about the typical rulemaking process and how it is different for these unique rules.

Finally, you will hear from Wally Norris from the Office of Research, who has been with the agency for 39 and a half years. He will discuss the important role that research plays in coordinating NRC's engagement with ASME and coordinating the agency's position on new ASME codes.

One of the benefits I see of preparing for and delivering this presentation today is knowledge management.

The reason I cited the number of years that some of the staff on your left have been with the

agency and similarly with a newer, younger generation sitting to that, one of the benefits, as I said, is knowledge management.

Several of the NRC staff who have been involved in the rulemaking process for ASME codes have many years of experience.

It's important to occasionally pause and reflect on a process, especially one as complex as this one, to document the existing knowledge about why we are doing what we are doing the way we are doing it to ensure that knowledge is not lost and to help educate less experienced staff. So thank you for the opportunity, and I will pass it to Dan.

MR. DOYLE: Thank you, Aby. As Aby said, the purpose of our presentation today is to explain how something goes from being a provision in the ASME code to being a legally binding NRC requirement in the Code of Federal Regulations.

Before we move into the presentations, Geary will go next, I'd like to just take a moment to briefly describe the big picture of what we're talking about today in this process and why we're doing it for those who may not be familiar with it.

The American Society of Mechanical Engineers publishes codes or rules for the design, construction,

testing of nuclear power plant components.

The NRC participates in the development of those codes with other stakeholders, and then we make them legally binding requirements through the process of incorporation by reference, which Geary will discuss in more detail.

The NRC has been using ASME codes in this way for over 40 years, so this is not a new process. There are two types of rulemakings that we do on a regular basis.

One is to incorporate the actual ASME codes into the NRC regulations, and we usually refer to that rulemaking as the edition addenda rulemaking. And the other type of ASME rulemaking that we do is to incorporate NRC regulatory guides that state the acceptability of ASME code cases and use by licensees.

Code cases are voluntary alternatives to the ASME code. And we usually refer to that rulemaking as the code case rulemaking.

These rulemakings are important because they maintain the safety of nuclear power plants and updating the regulations to incorporate the latest ASME codes makes NRC activities more effective and efficient. And I'll now turn it over to Geary Mizuno.

MR. MIZUNO: Thank you, Dan. As Aby said,

I've been here since 1981. I first started out doing our reactor licensing proceedings and Comanche Peak was really the key proceeding that I worked on for many years.

And one of the key things involved in that was the applicant's compliance with ASME code provisions and Appendix B provisions.

And I had a chance to interact with the licensees' expert witness, Roger Reedy. Some of you may know who he is. He was a code person for many years, an incredible expert.

In 1989, I started doing our rulemaking, and since 1989 I've been advising the staff on ASME code rulemakings and also was responsible for the change in our practice to now incorporate by reference the regulatory guides that list the key ASME code cases that we approve sometimes with conditions.

Can you go over to Slide 3? I'm going to start out by talking about the requirements of the Administrative Procedure Act or the APA. Forgive me if I start slipping back into the acronym of APA because most attorneys are familiar with that and even the staff at this point.

In general, all federal agencies when they do rulemaking are required to comply with the

rulemaking provisions of the Administrative Procedure Act. And so that is sort of like the legal framework that we are bound by.

The NRC typically uses what the APA refers to as informal rulemaking. That's opposed to formal rulemaking where it looks like a trial. The NRC doesn't really use formal rulemaking.

The one time that we actually did it, there were two times. The one that I think you would be most familiar with is the ECCS rulemaking proceeding I think back in the 1970s.

That was an on the record, trial-like, formal rulemaking, and the NRC does not do that. We do informal rulemaking. So what is this thing called informal rulemaking?

Well, under the Administrative Procedure Act, there are two key things that have to be done. One is that there has to be a notice of final rulemaking.

And that's usually published in the Federal Register, and it's done there because publication of a document where information in the Federal Register is legal notice to all affected parties.

That means that a party who's affected cannot argue well, I didn't know about it. If we

publish it in the federal register, you have legal notice of that rulemaking or of that notice or of that information.

The other thing that the APA requires is a date of effectiveness of the rule. And that sort of makes sense. The APA usually sets a requirement that the rule become effective 30 days after its publication in the federal register.

Why is that? It's to allow an aggrieved entity to go to the court and ask for the, ask for some kind of relief. It could be an injunction. Certainly it would be an appeal, but in part, an injunction that would prevent the agency from enforcing the regulation against them.

The NRC and all federal agencies actually under the Administrative Procedure Act have the capability to publish a rule and make it immediately effective. But that is something that is relatively rare.

It can be done either because basically it's not a substantive matter. It's an administrative matter like a correction of a typo, a grammatical error or it's because there is an imminent need for that action to occur.

There's a danger that has to be done and

addressed through rulemaking, and to wait for 30 days would not be in the public interest.

Informal rulemaking is often called notice-and-comment rulemaking as I indicated. But, in fact, notice-and-comment and opportunity for comment is not necessary.

We have some informal rulemakings, again, corrective rulemakings, things where we are implementing a direction from the Congress where we have no discretion.

But for the most part, informal rulemaking involves a notice-and-comment. Slide 4, please. In general, the NRC has three rulemaking phases under informal rulemaking, the development of the regulatory basis. That's sort of understandable.

The government and issuance of a proposed rule, and then the development and issuance of the final rule based upon public comments, if a public comment opportunity was provided.

The Commission, as you know, has directed that guidance that is necessary to implement the proposed rule or rule must be published for public comment and actually become effective at the same time that the final rule is published. Slide 5, please.

MEMBER CORRADINI: So just, the time span

between proposed and final rule is quite variable. Is that not true?

MR. MIZUNO: Yes, it is variable.

MEMBER CORRADINI: That's what I thought.

MR. MIZUNO: Yes and depends upon certainly the nature of the issues to be addressed because some issues may not even be completely resolved within the agency.

We are publishing a proposal, and yet there is still, and it's good enough to get public comment, to say this is the agency's likely solution. But there still may be some disagreement within the NRC.

Furthermore, depending upon the issues, we may get a lot of public comments. And so it might be difficult to deal with those public comments in terms of the scope and the number of them.

MEMBER RICCARDELLA: You say the informal rulemaking doesn't always require this public comment period. I wonder since the ASME code activities are public, and any interested parties have the opportunity to attend those meetings and observe what's going on, once those have been approved, could you argue that we don't really need this public comment period with the proposal?

MR. MIZUNO: Yes, OGC looked at that

sometime ago, decades ago because that was certainly a possible improvement. And we decided that was probably not going to be legally defensible.

MEMBER BALLINGER: It's probably a different universe of people. ASME meetings and those kinds of things is basically just the ASME related folks that come here, right? For instance, this thing is a different --

(Simultaneous speaking)

MEMBER RICCARDELLA: But anybody with a technical interest in the subject can attend.

MEMBER BALLINGER: Not announced in the Federal Register though.

MEMBER RICCARDELLA: No.

MR. MIZUNO: So there are many reasons we would, we'd spend probably one hour just talking about that. And I guess I would just say that we could come back and brief you or have a subcommittee meeting or whatever.

CHAIR STETKAR: But in a practical sense, Geary, the public comment period on this could be as short as 30 days.

MR. MIZUNO: Yes.

CHAIR STETKAR: So let's not hold stuff up for eight years.

MR. MIZUNO: It could be short as 30 days. However, the, we generally have a 75 day comment period, and that's to implement the provisions of the North America Free Trade Act and OMB's guidance on implementing the North America Free Trade Act with respect to allowing a 60 day public comment period for "standards-related measures."

Okay. The question is, is this a standards related measure. In fact, are any technical requirements that the NRC adopts, okay, and reactors, material licensees, whatever, are those "standards-related measures."

Okay. ECCS, we don't talk about a specific standard. But it is in a sense a standard if you look at the way that they were talking about what a standard constitutes, a technical requirement dealing with something.

Now certainly with ASME, where we're actually incorporating by reference and mandating or approving the use of it, it's going to be much more difficult to argue that we are not subject to that 60 day public comment treaty provision.

So as a matter of legal caution, I advised the staff that we should at least for the standards-related rulemakings have a 75 day comment period.

MEMBER RICCARDELLA: Again, getting with John, even 60 to 75 --

CHAIR STETKAR: I was going to say, even that isn't, it's slightly less than eight years.

MR. MIZUNO: Right, and I think we can, it'll become clear in the context of this presentation hopefully, why some of that delay occurred with respect to the code case rulemaking.

MEMBER SKILLMAN: Geary, let me ask perhaps the flipped question. Are there instances where it is appropriate to not seek public comment?

Give you an example. An egregious error has been found in the code. It's necessary to communicate don't use this code case, or don't use this portion of the code because it is extremely not conservative. It's not useful for the intended purpose.

MR. MIZUNO: Yes.

MEMBER SKILLMAN: Therefore, don't use it.

MR. MIZUNO: Yes, that would fall within the context of having a good cause to not provide public comment, and also to make it immediately effective. The Administrative Procedure Act has that.

MEMBER SKILLMAN: So there's a precedent, and the capability and the legal language to do that?

MR. MIZUNO: Yes.

MEMBER SKILLMAN: I'd like to hold that thought because I want to come back to that as we go ahead.

MR. MIZUNO: That's fine. I will say though, that the staff has yet to articulate to us a particular situation where that was the case.

But, yes, as a legal matter there's no question. If there is a problem of that kind, if you're talking about with respect to a code or indeed any other item, it doesn't even have to be something that's covered in our regulation now.

We could just issue a new regulation immediately effective, no public comment period and say you're prohibited from doing this.

MEMBER SKILLMAN: Okay. Thank you.

MR. MIZUNO: Slide 5. Oh, okay. This is a document that I tried, I was prepared, I believe by the Office of Management and Budget just to help people and new people who are involved in rulemaking understand that the informal rulemaking process is kind of complex. And I don't want to go through this.

MEMBER RICCARDELLA: This isn't helping me at all because I can't read it.

MR. MIZUNO: I think Dan's got slides --

MR. DOYLE: It was provided in the

background materials, but yeah, it's just --

(Simultaneous speaking)

MR. MIZUNO: -- as a, as something that you can print out an look at. And I'm not going to go through it. The purpose of the slide is to show you that it's actually more than just the minimum requirements of the APA.

There are other statutes. There are other requirements that are in play here, and in fact, we're now moving over to incorporation by reference, Slide 6.

And I'm really going by side summit as being one of those things other than the APA's requirements for informal rulemaking that constrain and can cause an increase to the time needed to process a rulemaking.

MEMBER CORRADINI: So can I ask a, since I also can't read this. The reason that it's this complex is because there's a number of various federal laws and rules that must be complied with that aren't just NRC's. That's the way I read this.

MR. MIZUNO: Yes.

MEMBER CORRADINI: So you're subject to other rules and regulations that supersede or whatever --

MR. MIZUNO: Statutes.

MEMBER CORRADINI: -- rules and regulations, yes.

MR. MIZUNO: And we are, in fact the remainder of my presentation here is going to focus on two of them.

MEMBER CORRADINI: Okay, fine. Thank you.

MR. MIZUNO: Okay. The first is the concept of incorporation by reference. The Federal Register Act, which established a Federal Register, allowed the federal agencies to incorporate by reference.

I would refer to a third party document as typically a third party document to be "incorporated by reference into a regulation, and so therefore that third party document is actually treated as if it is legally binding law.

In fact, it is legally binding law. It just happens to not be published in the Federal Register or codified or compiled in the CFR which you are familiar with.

And the approval for incorporation by reference comes from the Office of Federal Register, which has the statutory authority to approve or disapprove incorporation by reference and to publish regulations governing the determinations to whether

materials are appropriate for incorporation by reference.

Turn to Slide 8. Why would the NRC want to incorporate by reference --

MEMBER BROWN: Go back.

MR. MIZUNO: Okay.

MEMBER BROWN: You've got two bullets down there. One, I understand the point you say you got to publish it in the Federal Register. And you say they have the approval authority. However, you codified in the code of federal regulation.

(Simultaneous speaking)

MEMBER BROWN: NRC or somebody has to, who puts it in the code of federal regulations?

MR. MIZUNO: Okay. It is the same office, the Office of the Federal Register in cooperation with the GPO are responsible for looking at all agency rulemakings that occur within the calendar year. I believe it's the calendar year, and then creating a new version of the CFR.

MEMBER BROWN: Okay. Let me, specific example. We've written a report relative to the incorporation by reference at IEEE Standard 603, 2009 in 10 CFR 50.55(a)8 something.

MR. MIZUNO: Something.

MEMBER BROWN: Something like that.

MR. MIZUNO: H, I believe.

MEMBER BROWN: H, you're right. But yet, the NRC is doing that, not the Office of Federal Register.

MR. MIZUNO: Okay. Let's be clear, okay. The Office of the Federal Register is responsible for the, if you want to call it the administrative or the housekeeping aspect of one creating and publishing the Federal Register on a daily basis.

MEMBER CORRADINI: They are the secretariat.

MEMBER BALLINGER: They are.

MR. MIZUNO: Essentially.

MEMBER BALLINGER: They don't approve anything.

MR. MIZUNO: They don't approve anything other, except for this IDR thing, okay. Whatever the Federal Register, whatever an individual federal agency publishes as a final rule or adopts as a final rule and then gets published in the Federal Register.

The Office of the Federal Register then at the end of the year compiles this, which is really an administrative matter and compiles it into the next version of the CFR.

But they are not responsible for approving

or disapproving regulations, okay. Only a federal agency with substantive authority can do that.

But what the OFR does have authority to is to approve the agency's incorporation by reference of a third party material or other material, which is not to be published in the Federal Register and not to be codified in the Code of Federal Regulations.

So let's take the ASME code. The NRC approves the ASME code. We publish it in the Federal Register. We publish the rule that says we approve, let's say the edition and addenda and addenda.

But you don't see the full edition and addenda of the ASME code either published in the Federal Register or codified in here, right. That's the benefit of incorporation by reference.

It doesn't have to be published in the Federal Register. It doesn't have to be codified in the CFR, but it's still treated as binding law.

MEMBER BROWN: Okay, so --

MEMBER BALLINGER: But that's still an administrative thing for them.

MR. MIZUNO: Yes, it's an administrative thing for them, right.

MEMBER BROWN: So the example of that is similar to the ASME codes, then --

MR. MIZUNO: Yes.

MEMBER BROWN: -- the way they did that.

MR. MIZUNO: IEEE codes, ANSI code, all those things, they're all the same thing. If the NRC wants to make them a legally binding requirement, we have to go through the rulemaking process.

The NRC is responsible for justifying it, publishing it in the Federal Register if you want to have notice, benefits of a notice through the Federal Register. And then the Office of the Federal Register compiles all of those rulemaking notices and updates the CFR.

MEMBER BROWN: But you can also place conditions. I notice the ASME codes. If you go through, they reference IBR and then there's a list of very specific ways to meet certain things like specimen details and all this other kind of stuff.

MR. MIZUNO: That's the substantive aspect of the rule.

(Simultaneous speaking)

MR. MIZUNO: -- concerned about. That's the NRC's.

MEMBER BROWN: Agency's, okay.

MR. MIZUNO: Yes, it's the agency's.

MEMBER BROWN: Same thing we're doing on the

IEEE standard --

MR. MIZUNO: Yes.

MEMBER BROWN: -- and where we have to, okay. I just wanted to make sure I had, the parallel was the same.

MEMBER RICCARDELLA: Okay. I think that's what happened. I talked about these staff members who are participants in the code committees. They might approve 90 percent of something.

But there's a few things that they don't agree with or that they go back to their office. And they say well, we agree with 90, so that gets put into the rule as to what, okay, we'll agree with this except for these provisions. That ends up in the rule.

MEMBER BROWN: This one is a little bit different. 2009 version was actually published by IEEE and then, at my impression, is after the fact they decided additional conditions were needed. But either way it comes out the same. All right, thank you very much.

MR. MIZUNO: Okay. So --

MEMBER RICCARDELLA: We don't need to spend a lot of time on this slide.

MR. MIZUNO: Yes, this stuff is just a,

illustrate how it actually looks. So we can just, can you go over to the last thing, I think it's Slide 11, which shows the OFR required IBR language.

What I did was to highlight in yellow the most recent language that the Office of the Federal Register required us to redo 50.55(a) so that every code edition and addenda and code case, which is not in the reg guide are actually listed out here.

Now if you look at the last, well even the current version of the 50.55(a), you will see that the NRC describes its approval through a range. It says everything up to this point, okay.

We didn't list all of those things. That was actually inconsistent with the Office of the Federal Register requirements for IBR, incorporation by reference.

And as part of the code case rulemaking, they said sorry, we're not going to approve your rulemaking unless you redo your regulation and come up with a codification scheme that reflects compliance with the OFR requirements for incorporation by reference.

So that was a big job, and that was part of the reason for doing it.

MEMBER RICCARDELLA: Yes, I should say that

delay that I just discussed was not standard. That was an unusually long delay. The earlier years they were --

MEMBER SKILLMAN: Was that delay the consequence of updating 10 CFR for this level of thoroughness?

MR. MIZUNO: It was in part due to that. There were several factors. We don't want to go into that, but since we just happen to be talking about this, this was one of the things that resulted in the delay was because we did not anticipate that the OFR would disapprove of our current scheme and require us.

And there was some delay just interacting with them and trying to get them to change their position, which we were unsuccessful.

I mean I can say because I was in one of those telephone conferences and advising not this staff but our administrative staff and our OFR liaison about trying to get them to change their mind on that. But we were unsuccessful.

Okay. One thing, late breaking news not shown on my slides, but I will provide you some materials in a follow up. The Office of the Federal Register just published new regulations governing incorporation by reference.

MEMBER CORRADINI: Oh good.

MR. MIZUNO: Yes, oh good. And it's not going to be happy for us or for the standards organizations.

MEMBER BALLINGER: Is this the formal definition of entropy?

MEMBER CORRADINI: No, it's a governmental definition.

MR. MIZUNO: I will give you these materials, so you don't need to really write them down. But the latest Office of the Federal Register final regulations on incorporation by reference were published on November 7th of this year.

They deal primarily with and respond to a petition for rulemaking that was filed by a large number of law professors who also happened to be members of the Administrative Conference of the United States, which is a federally government chartered, independent body that looks at administrative law issues and develops proposals for improvements to the administrative process throughout the federal government.

They issued a recommendation in 2011, I believe, asking or suggesting that federal agencies when incorporating by reference third party documents

ensured that they are readily available to the public who's both being affected and for people who may comment.

And if you read through their petition, it was basically making available free access, okay.

MEMBER BALLINGER: That's going to kill the ASME.

MEMBER REMPE: I know.

MEMBER BALLINGER: My goodness.

MR. MIZUNO: The recommendation was issued in 2011. Shortly thereafter a petition for rulemaking was filed with the Office of the Federal Register. The Office of the Federal Register went through the rulemaking process and they issued their final regulations in 2014.

And the key aspect from the standpoint of the NRC is that at both the proposed and the final rule stage, we will have to explain why we believe that the material that we propose or are incorporating into the Federal Register is ready and available to affected parties.

MALE PARTICIPANT: This is not a joke.

(Simultaneous speaking)

MEMBER REMPE: They have to pay for those standards, so how is that readily available?

MALE PARTICIPANT: But readily is reasonable, isn't it?

MR. MIZUNO: Reasonably available, I'm sorry.

MEMBER CORRADINI: So let me ask the question, which will divert us. And then the chairman will tell me to shut up. The science advisor, John Holdren, put out a proposed policy which was following NIH on scientific publications.

And then there was an executive memorandum that said that all scientific publications must have public access free of charge and go through OSTI. So would this not follow the same sort of, this is essentially the same sphere. Is it not?

(Simultaneous speaking)

MR. MIZUNO: I would say it's in the spirit, but remember, the Federal Register explicitly said they're not going to require free access, nor are they going to define what reasonable access is.

And so it's up to each agency to determine what is reasonable access to the affected or the interested parties.

MEMBER CORRADINI: So you have to make an argument every time.

MEMBER REMPE: But you have other situations

--

MR. MIZUNO: Or we'll have to come up with an agency argument, a generic agency argument.

MEMBER REMPE: But you have situations with EPRI documents, and one of the things that we have to do is have EPRI release the document if it's cited. And you're going to have that inconsistency at NRC if you let, make people pay for the standards and you don't for the EPRI documents.

MEMBER RICCARDELLA: But EPRI documents aren't rules.

MEMBER REMPE: No, but there's other things that they, we do and they have to release them.

MEMBER RICCARDELLA: And if EPRI, it to me doesn't even reference EPRI document --

(Simultaneous speaking)

MEMBER BALLINGER: The MRP things are always part of the process here.

MEMBER RICCARDELLA: But they're referenced in the code and standards.

MEMBER REMPE: Again, there's other situations within NRC where if they're doing research and they've done research with EPRI or whatever, and they're citing it, they have to make it open. So I think it may be inconsistent.

MR. DOYLE: But there's a balance between openness and technical --

MR. MIZUNO: NRC does incorporate by reference and every document will have to deal with it then. To date, I'm not aware of any NRC regulation --

MEMBER REMPE: It's not in rules. It's in other situations.

MR. MIZUNO: Right.

MEMBER REMPE: But --

MR. MIZUNO: And guess what? In other situations, the OFR required, probably because we're not talking about incorporation by reference into our regulations.

MEMBER RICCARDELLA: They're not standards. We're talking about standards.

MEMBER REMPE: But with freedom of information and transparency, I'm just wondering about that inconsistency, but we'll see.

MEMBER CORRADINI: Just to repeat what you're saying is given the way this has evolved, you're going to have to develop a policy on a case by case basis or a generalized policy as these things come out.

MR. MIZUNO: That has to do with it, yes. And so we are actually in the process of doing that.

I was actually working on it this week.

And part of that due diligence was going through and seeing how other standards organizations are dealing with this thing because I know that the other standards organizations other than ASME are well aware of this.

And so I did a brief review, and I found that a number of, sorry, associations, voluntary consensus standards bodies are actually starting to provide free access. Sometimes it's free access.

You can have it. Sometimes it's free read-only access. The American National Standards Institute, or ANSI, has a website where they're providing access to not only ANSI things on our free read-only public access basis but also other organizations are, I guess have negotiated with ANSI.

And they are making, they are using the ANSI as a portal to also provide access to selected standards. And most of them are not providing it to everything.

It's only in accordance with the OFR requirements, those things which "referenced by governmental agencies." So it's not everything.

It's only those things where the federal agency has chosen to incorporate by reference. And I

guess they've determined okay, we're going to provide this free, read-only access.

MEMBER SKILLMAN: Let me jump in here because what started this conversation was Dr. Riccardella's comment, why does it take so long for an approved code case when the very people who approve the code case are in the NRC.

Get the NRC to turn around and endorse that code case in the federal regulation when that code case has been alive and well for as long as it takes for the regulation to change.

Why can't that code case be communicated as available for us and acceptable for use? So let me make a comment.

MR. MIZUNO: It can be.

MEMBER SKILLMAN: Really?

MR. MIZUNO: It can be. We can communicate. The NRC staff has tools right now. We've actually used them, RISs, whatever, which say we think that this code case is good. It would allow you to ask for relief or approval of an alternative under 50.55(a).

MEMBER SKILLMAN: But that's the problem. Then you got to go in for a relief request.

MEMBER RICCARDELLA: But the relief requests are --

MEMBER SKILLMAN: Are terribly burdensome.

MR. MIZUNO: But I think the, what we're trying to get across here is to explain to you the rulemaking process and everything that explains why does it take so long in some cases to do this.

MEMBER SKILLMAN: And I wanted to suggest another area for you to review as you're going through your due diligence. Look at the Coast Guard. A merchant ship's going to leave a port.

The first thing you do is pull up your HO, your hydrographic office charts, and you pick up your notice to mariners. And those are current everyday. They're updated just like the FAA has restricted airspaces that change every day.

And you check those charts before you leave. Say you're going out of New York. You're going to go under Verrazano. Ships sunk down there.

The update notice to mariners will say caution, 60 foot limited waters under the bridge. And those are open to everybody.

That is due diligence before you navigate for the master to ensure that he knows that the notice to mariners updates are on the charts. Since the event has occurred, the information is there.

Why can't there be a notice to all users

these code cases are now available for use without forcing the utilities to go through the defense process?

MEMBER CORRADINI: I think what I heard him say is it is, but it's upon, the burden rests upon the individual --

MEMBER SKILLMAN: To make the relief request.

MEMBER CORRADINI: Yes.

MEMBER SKILLMAN: And that's the rub.

MR. MIZUNO: I think what you have to understand, let's get away from this then temporarily.

MEMBER CORRADINI: Let's do that.

MR. MIZUNO: Okay. It's just you have to understand the reason why we're in this bind, if you want to call it, is because NRC has chosen to require or approve for use, it's actually require ASME codes and editions and addenda.

Okay. We could have chosen a different regulatory path in which case we wouldn't have to use the rulemaking process, okay. We are stuck given that we've done this.

And the reason why we've chosen this is because they're other considerations that have led to agency to conclude, and in fact the industry to

conclude, unless they step back and look at the overall picture, to realize that probably the most efficient approach is to use the rulemaking approach to get these approvals.

MEMBER RICCARDELLA: What is the different, could you give a few words on that different regulatory path?

MR. MIZUNO: Okay. It's because once a rule is adopted, okay, we also have an NRC regulation that says NA licensing hearing, okay. You cannot challenge the adequacy of that regulation.

MEMBER CORRADINI: I assume it's a liability issue. I mean what I'm hearing --

MR. MIZUNO: Well, it's not a liability issue. It's one of having an efficient conduct of the hearing process. Furthermore, from the standpoint of the NRC's interest and really the licensee's interest, if the requirement is set forth by, in a regulation, okay, it's law.

And so everyone understands ahead of time what the rules of the game are. When I'm an applicant, and I say I want to come in and I want to get a, you know, a license for a nuclear power plant, I know exactly what I need to do by looking at the regulations with respect to their reactor coolant

pressure boundary and all the attachments and everything.

It says there you are required to comply with the code case in effect, whatever it, I'm sorry, the code edition and addenda in effect. By rule, the licensee or I'm sorry, the applicant has that regulatory stability.

And the NRC staff is constrained by that, and also they have the power to say hey, you're not complying with that. I'm not going to give you an approval. I'm not going to issue the license unless you demonstrate that you've met that requirement.

MEMBER RICCARDELLA: I don't know if it makes a significant difference, but when we're talking about code cases, we're really not talking about requirements. It's not a matter of requiring them.

It's a matter of permitting people to use the code cases. A code case is generally a relaxation or an acceptable alternative to the code rule. So if it's not a requirement, if it's a permission rather than a requirement, is that, does that change anything?

MR. MIZUNO: Yes, we understand the nature of the code case. But this is in fact why we had to ultimately adopt the approach for the code cases that

we are, which is think about this.

Okay. You have a regulation, 50.55(a), that says comply with this particular edition of the ASME code. And let's just say that ASME code says that you must do this particular kind of welding inspection.

And the indications for acceptability are whatever they might be, one inch, two inch, okay. That's a legally binding requirement on the applicant and the licensee, right, under doing that inspection or whatever it is.

Okay. They cannot depart from that unless they get legal dispensation from compliance. In the absence of doing these code cases through rulemaking, okay, that would be an exemption request.

For a lot of these things they're not going to be able to meet the exemption requirements. So 50.55(a) has built into it this concept of getting approval of alternatives.

So they could ask on a case by case basis, but again, that goes back to being very burdensome. So, if you want to call it relief, generic relief from a regulatory requirement and regulation, we issue a regulation that's, which is what the code case rulemaking is all about that says these code cases here, which provide an alternative way, maybe a

different way, a better way, a relaxed way, whatever it may be.

These are approved ways of not meeting what is otherwise your legally binding requirement to do that welding inspection in this particular way with this kind of acceptance criteria or rejection criteria.

MEMBER BROWN: But isn't the flip side to that now the government, the agency cannot also, if there's a more recent code case that makes it more restrictive, they cannot require that unless it's been put in the rule.

So this is a double-edged sword. I mean I dealt for 35 years, and when you put out a spec or a standard, that's what you meant. You referenced a specific standard whether it's IEEE or whatever it was.

You couldn't come in and say well, I want you to do something more restrictive as a government agency because that's what we had put in the thing we're requiring. So it's a double-edged sword.

MEMBER RICCARDELLA: That's fine. It's just --

MEMBER BROWN: I understand the issues --

(Simultaneous speaking)

MEMBER RICCARDELLA: That's the problem, and we're just looking for possible ways to expedite that. Okay, I think we understand that. And we have several other presenters. I think maybe we need to move on.

MR. MIZUNO: I'm finished.

MEMBER RICCARDELLA: Thank you, Geary.

MEMBER SKILLMAN: Sir, I appreciate the clarity. I appreciate now what I didn't appreciate before in terms of the requirements you communicated.

MS. TOBIN: Good morning, folks. I'm Jenny Tobin, and I will try to get us back on schedule. I'm here with my fellow project manager, Dan Doyle, to explain the rulemaking process for the ASME editions and addendas and the code case rulemakings.

Please stop me along the way if you have questions. I see you're not shy about doing so. As was mentioned, the purpose of our presentation is to explain the NRC's internal stats in the editions and addenda and code case rulemakings.

We will also provide a brief status update on the current rulemaking statuses at the end of this presentation. This diagram shows the four major steps of the rulemaking process.

Geary showed this in his slides as well. For the ASME rulemakings we have generically

identified the need for the rulemaking. And so from there we move on to the regulatory or technical basis phase in which Research has the lead and is supported by NRR and NRR, if technical staff is needed.

The people that participate in the writing of the regulatory basis are the same people that participate in the proposed rule working group. So many of the differences in opinion are worked out before we get to the proposed rule stage.

Wally as the leading research will talk a bit more about that aspect in the next presentation. In the proposed rules stage, my branch in the Division of Policy and Rulemaking as the lead to prepare the proposed rule package for publication.

We take the regulatory basis provided by the working group and structure it into a Federal Register notice with admin's help adding the required sections needed for publication by the Office of the Federal Register.

We publish the proposed rule in the Federal Register and solicit public comment. Those public comments are then addressed in the final rules stage when it's published in the Federal Register for a second time.

Now, let's focus on each of the steps. The

regulatory basis phase in the ASME rulemakings is unique in that the open interaction between ASME and NRC in the ASME code development process serves as the informal regulatory basis in these rulemakings.

The ASME meetings are open to the public and are followed by internal NRC alignment on the acceptability of the codes and determinations of when the codes need to be conditioned.

As you can see from this list, there are multiple documents that are a part of both the proposed and final rule packages.

These are standard rulemaking documents and provide notice to NRC management, the general public and congressional staff that the proposed or final rule is available.

The proposed rules are typically published with a 75 day comment period that Geary talked about earlier, and the final rules include NRC responses to those comments.

The final rule becomes effective 30 days after publication in the Federal Register. One unique part of the ASME rulemaking process is the interaction with the Office of the Federal Register.

In order to incorporate by reference the ASME editions and addenda and regulatory guides, the

NRC must receive formal permission from the OFR to do so.

This next slide shows you the fairly straightforward concurrence process that we have to get these out the door. We have an informal working group review followed by a review in my division and an inter-office review of those folks that are involved in the working group, namely NRR, Research, NRO and Admin.

After OGC provides no legal objection, the rulemaking package is reviewed and signed out by the NRR office director. In 2008, the EDO delegated this authority to the NRR office director.

Dan will talk a bit more about this re-delegation of authority in his part of the presentation, which begins on the next slide.

MR. DOYLE: Okay. In 2010, ACRS and the staff agreed to a slightly different process interaction for these types of rules.

And how it works is that when the staff sends the proposed rule to the Office of the Federal Register for publication, we also provide an information copy to ACRS and provide a brief, if requested, and then also ACRS may request a brief in the final rule stage after public comments have been

resolved.

A few years ago there was a very similar question about the length of time in the process and how it could be improved. So there was a detailed Lean Six Sigma review that was done.

It was completed in 2008. The 2009 Regulatory Information Conference had a session that was dedicated to the results of this review and the process changes that were going to be coming out of that.

There were NRC staff who have participated and also NEI was at the RIC session. And ASME staff were there. So, let me just summarize that briefly. The purpose of the review was to improve the timeliness and maintain or improve the quality.

The review was specifically done of the editions and addenda rulemakings, but the process improvements, which are listed here, are applied to all ASME rulemakings.

And it did make the process, these changes did make the process more efficient and save resources, although we're still working towards the goal, which was, as stated in the Lean Six Sigma review, was a target of 24 to 36 months.

So that would be kind of the best case

situation, so going through the rulemaking process and meeting the other legal requirements that we have. That would be basically the optimum amount of time.

MEMBER BALLINGER: Do I dare ask what it is now?

MEMBER RICCARDELLA: What happened?

MR. DOYLE: Well, so what happened. So --

MEMBER RICCARDELLA: 2009 to 2014.

MR. DOYLE: Right, so there were, I would give three main reasons. One of them that Geary discussed was the fact that we had to make a significant change to the structure of 50.55(a) by pulling out the standards and listing them into a paragraph at the beginning.

There was already something in the A paragraph, so that had to get relocated. So basically shuffling around the rule, changing the list of the standards where before it had provided a range of years.

And now we actually are listing out every single edition and addenda in there. And also we wanted to try to be as clear as possible to the public, so we provided other supporting documents to explain what the changes were. So that was --

(Simultaneous speaking)

MEMBER BALLINGER: But that's a one time blip though, right?

MR. DOYLE: That's true.

MEMBER BALLINGER: What I'm asking is what's the average now?

MR. DOYLE: Well, so these rules don't actually happen that often. So I would say the only, the first rule that could have benefitted from these process enhancements is the one that just got published last month. But that got delayed by that one time blip.

MEMBER BALLINGER: Okay.

MR. DOYLE: So I would say the rules in the future should benefit from this.

MEMBER RICCARDELLA: But you say the rules don't happen that often, but code cases are published every three months. And codes are published on a two year basis.

MR. DOYLE: Right, so that was another thing that was looked at in this Lean Six Sigma review is the question is what's the optimum number of editions and addenda or an analogous question would be how many supplements of code cases should be included before deciding that we have enough and we should start this process, which is going to take about two years to do

it.

So I guess it kind of depends on the number of code cases that come in and when there's a sufficient number. So Wally will talk about that in more detail.

For the editions and addendas and addenda, basically they wanted to get a boiler pressure vessel and an ONM code together and then move ahead with that in the rulemaking. But the one that's in process right now is 2009 to 2013. So that has slightly more than that.

MEMBER BROWN: Why wouldn't it depend on the consequence of the code cases as opposed to just the number of them changing, the technical consequences or the importance of them would be more critical than --

MR. DOYLE: I think there are a number of factors that go into, and there's also that. Yes, so I mean there's a number of factors.

And as far as the importance or the urgency of a code case being acceptable or being included in a rulemaking that that does happen where, I mentioned that we have two different rulemakings.

There's the edition addenda rule, which is normally the codes, and then the code case rulemaking is normally the code cases. If there's a code case

that's particularly urgent, it will occasionally get moved over into the rule if that's going to go out first.

And you'll see the one that's going through the process now, and there are other examples in the past where we've just directly in 50.55(a) stated that a code case is acceptable.

MEMBER RICCARDELLA: Would it be possible to do some sort of a generic relief request if an important code case is issued such that somehow it gets approved on a, rather than a plant by plant, specific plant, I mean in my past life I did a lot of relief requests?

And they are typically documents that are about that thick, and then you get three or four rounds of RAIs. And what we do when we write a relief request is we take the last one that we wrote.

You go through and you write it, and then we just change a few words, change the plant name and change a few things here and there.

(Simultaneous speaking)

MEMBER REMPE: And how much did you get paid for doing that?

MALE PARTICIPANT: Not on the record. Not on the record. You don't get paid for the process.

You get paid for the knowledge.

MEMBER RICCARDELLA: I just wonder would that be a vehicle to get a code case accepted?

MR. MIZUNO: Oh okay. So let me answer this. There's no question that legally speaking we could just have a standalone rule just by itself that said this code case is approved.

This small group and do it every three months, six months, year okay. Legally speaking that's not a problem, although I mean you have to figure out, okay, is it, we're still going to have to probably do public notice and comment because, okay.

So then really the question becomes can the NRC staff's resources support that kind of thing. And you have to remember these gentlemen here, I mean certainly Wally and then the technical people, they're not solely devoted to code case and code issues.

They are reviewing license amendment --

MEMBER RICCARDELLA: Relief requests.

MR. MIZUNO: -- tech specs, and relief requests, all this kind of stuff. And this is another factor, which Dan didn't mention. There are a lot of other rulemakings that were going on post-Fukushima, which consumed a lot of project management time as well.

And then a third thing that Dan didn't mention, I know he was about to mention it but maybe he got a little bit distracted was that there were three rulemakings all in 50.55(a) space happening in parallel in the same time frame.

There was the IEEE rule, which you know is messed up in its own way but for completely different reasons and then the two code editions and addenda rule and then the code case rule.

The problem was that because the OFR told us that we had to change our front end, the incorporation reference, none of those rulemakings could go forward without having the proposed reshuffling of provisions and the associated statements of consideration discussion that explain why we're doing this.

And then it became a question about which rule was going to go first. And it was literally, oh I think that rulemakings' going to go first, so they have to deal with it.

This one's going to go first, and so, and just to even have the technical staff, NRC technical staff understand why we even had to do that was a challenge in itself.

I mean I had, I remember being at a meeting where I was getting pushback from the technical staff

saying why are we doing this. We don't have any choice.

So those were other factors. And in fact, that's still not the complete discussion, but I mean reason why. I could also point out the OMB clearance. That would be something.

You know we have, every code editions and addenda and code case rulemaking involves Paperwork Reduction Act considerations. They have to get a clearance from the Office of Management and Budget.

MEMBER CORRADINI: So if you're doing it too frequently, they may get mad.

MR. MIZUNO: Well, they have to do it, so too bad.

MEMBER CORRADINI: But there has to be a check is what you're saying.

MR. MIZUNO: Well, if it has that check. I mean then we're required to get that clearance from them by law, okay.

We have, our unique problem with that was again, because we have these three rulemakings that are in process, the OMB clearance system, now this sounds ridiculous, but it is, would only accept one rule at a time being considered for Paper Reduction Act. We couldn't submit three rules at the same time.

MS. TOBIN: Or in the same section.

MR. MIZUNO: Right. So again, the staggering of work to OMB was a problem. And OMB's, they have a person called a desk officer that reviews things. And they're assigned to agencies so that they sort of develop expertise, or at least that's the theory.

But those desk officers get changed. And we went through a change. And so every time you have a change, there's a learning curve to bring them up.

We could probably go on and on about these challenges, which may have been more out of our control. But yes, we do have things which are in our control that we have to do better. I mean there's no question. We have to do better.

And like I said, we could do something if we felt that there was like an imminent harm, something that must get done because if they do it, it's going to be a danger, okay, we could issue a rule like that.

The staff would likely say you know what, I think that we trust the industry there to just issue a RIS or generic communication that says there's a problem with this.

Don't use it. We'll catch up with a rulemaking later. That's typically what we end up

doing is if we identify that kind of thing, rather than doing that quick rulemaking and getting down to process, we issue that generic communication.

MEMBER RICCARDELLA: Or an IB or something like that.

MR. MIZUNO: Right.

MR. DOYLE: Okay. I'm not going to go through this in detail, but this is just a summary of what we already talked about. And there were some recent process enhancements.

And there's some other things like incorporation of our reference that make this rule slightly unique. But let's see, I was going to mention the current status of the two types of rules we have.

And then I'll turn it over to Wally. We just published last month the rule incorporating the reg guides that state the acceptability of the code cases. And today is actually the effective date for the rule.

And the development of the next revisions of the reg guides is already under development. The edition addenda rule, I have December 2014. I think it may be January or later, but it is very close to publication. So that's the rule that I'm working on.

And our path forward, we will continue to work with ASME and do what we can to improve the process and make it as efficient as possible to try to get the goal of 24 to 36 months cycle time. Wally will talk about the researcher's role in the regulatory basis development.

MR. NORRIS: Thank you. My name is Wally Norris. I'm a senior materials engineer in the Office of Nuclear Regulatory Research. I've represented the NRC on many ASME committees, including the boiler/pressure vessel code main committee.

In the 1990s I was the project manager and technical lead on several ASME code rulemakings, and in 2002, I became the project manager on the ASME code case regulatory guide.

So I will try and run through this quickly for you. Slides 2 and 3 summarize the Office of Nuclear Regulatory Research's role, pardon me, with respect to codes and standards activities.

We're the lead NRC office responsible for coordination codes and standards activities. We manage the Section XI activities. The office is responsible for developing and managing the code case regulatory guides.

And on Slide 3, we developed the technical

analysis of the code cases and provided it to NRR, sorry. Slide 4, as a result of the merging of the Office of Nuclear Regulatory Research and the Office of Standards Development, RES has been managing and coordinating codes and standards activities for many years.

Their responsibilities include the development and maintenance of regulatory guides, which includes the ASME code case regulatory guides.

Also, given RES's mission, the standards executive position identified by OMB Circular A-119 resides within RES. Slide 5, this is just, lists the titles. I'm not sure we've shown those, for the regulatory guides. The first three are incorporated by reference.

MEMBER RICCARDELLA: Excuse me, Wally. I want to go back. What is, a little more on this standards executive. Who's the standards executive?

MR. NORRIS: The standards executive is Brian Thomas. And the circular as part of the Act of 1995, I believe, designated, also addressed the federal participation in voluntary consensus codes and standards.

And then also as part of that, directed each agency to have a standards executive to manage and

coordinate federal participation in voluntary consensus standards and to manage the codes and standards.

So it's not just ASME. It's all of the codes that the NRC references.

MEMBER RICCARDELLA: Thank you.

MR. NORRIS: So as I mentioned, the first three guides are incorporated by reference by 50.55(a) or in 50.55(a). Regulatory Guide 1.193 is an informational guide, and therefore, it's not part of the rule.

Slide 6 you might want to put that to the side because that shows the process I'm going to go through for the development of code cases, achieving NRC consensus on code cases and the regulatory guide approval process.

And each box references the slide that describes the actions within that box. Slide 7, Section III, Section XI and OMB code cases are alternatives to the ASME codes that are incorporated by reference into the regulations.

Code cases are developed for many reasons, such as addressing emerging mechanisms, implementing lessons learned from operational experience and refining examination procedures through occupational

exposure.

Slide 8, there's significant NRC staff participation in the development of code cases. Experts from the NRC contractors also participate to further ensure NRC technical consensus. The ASME ballots are also widely circulated among staff that are not members of committees.

MEMBER BROWN: Is that the bullet for other standards, bodies as well such as IEEE? Does NRC participate in those? You say in all ASMECommitteelevels. I'm just asking does that apply to other standards organizations as well.

MR. NORRIS: I think it's mixed. Many times if there's participation on the higher level committees, and sometimes there's more participation on working groups.

MEMBER BROWN: Well, this seems all inclusive. That's why I asked.

MR. NORRIS: For the ASME it is, and I think --

MEMBER BROWN: All right, that's fine. You answered my question.

MR. NORRIS: And that's primarily because of the incorporation by reference, because it's a requirement.

MEMBER RICCARDELLA: So the ballots are circulated before the NRC staff member votes. Is that true? Is that what I'm reading? Is that how I read this?

MR. NORRIS: The ballots are circulated before. The ballots get circulated if there's a first consideration item that receives negatives and comes back. All of that information gets re-circulated, yes.

MEMBER RICCARDELLA: So there is a level of technical review then, a generic technical review. So when an NRC member of a Committee votes, he's not just voting himself. He's expressing that it has been reviewed by other technical people in the staff, right?

MR. NORRIS: We are trying to develop the best effort, technical position that's available to the staff at that time to come up with what we hope will be the final NRC position and not just that staff member's opinion.

MEMBER RICCARDELLA: Okay. Understand.

MR. NORRIS: Correct.

MEMBER RICCARDELLA: So then would that then expedite the need for any further technical review after that?

MEMBER CORRADINI: You mean within the agency?

MEMBER RICCARDELLA: Yes, within the agency.

MR. NORRIS: Yes, I'll go to the next slide, the next level. So I mean I think to one of the points that you have raised, the NRC staff and industry are presented this, cooperatively work together to resolve technical issues.

And the delays in the approval of codes cases impede implementation of solutions. And Dr. Riccardella's very familiar with one particular code case which was delayed because he was the principal investigator on the project to develop the technical basis for a code case to repair Alloy 82/182 butt welds using weld overlays.

There was, another example is a code case to repair PWSCC cracks and PWR RPV nozzle welds. So to improve timeliness, RES has taken a number of actions. As Dr. Riccardella mentioned, Slide 10 please, Section III and Section XI code cases are published quarterly.

So one action to ensure timely review of the new and revised code cases is that RES requests reviews from the program offices within two months of the ASME publication of the supplements.

Each program office then transmits the

response memorandum to RES within two months of that, providing each office's positions on each code.

MEMBER RICCARDELLA: But haven't the other offices already been part of the review before the vote? This is after it gets published?

MR. NORRIS: Yes, that, Gary Stevens for example is our representative on Section XI. And so he does have a list of people outside of the code committees that he knows are involved with code actions and relief requests that he'll transmit his ballots to.

But that is not soliciting an office position. So it has to go through that process after we develop that consensus. What we believe is the consensus position has to go through the formal approval for the offices.

And there are times when there are people involved in certain issues or emerging issues that we were unaware of during the Committee process that do get involved from time to time.

MEMBER RICCARDELLA: It almost seems like you've got a double technical review going on, but okay.

MR. NORRIS: Slide 11.

MR. MIZUNO: Let me, we did the LSS, Lean

Six Sigma. This was one of the things that we looked at.

MEMBER SKILLMAN: The what?

MR. MIZUNO: The Lean Six Sigma effort that Dan Doyle referred to. This was clearly, so the question was could we develop the technical rationale basis in written form, the documentation as part of the process of the voting.

And so that the thing would then be translated into hopefully relatively simple into the Federal Register notice.

And the answer came back was that was going to be a very time consuming process and that it would, in order for a written document to be developed and then used as part of the balloting process, you know, it was the internal process they were talking about.

That would slow, we would not be able to meet the ASME's schedule. So effectively, the staff would end up taking no position because we could not, if we built into a process that you had to get concurrence and that approval on that written product as part of the acknowledgment process, it would never get done in time.

So the idea was that use the existing process, but just tell the NRC staff, which they

didn't really know before, that the ultimate goal is to quickly prepare the documentation and be thinking about collecting your thoughts, organizing your information so that when it does become time to do it, you will be able to clearly write that documentation down and get it through the concurrence chain.

MEMBER RICCARDELLA: Okay, Wally, we have to --

CHAIR STETKAR: Yes, I was going to say, I'll be the bad guy here. I hate to drop back in. We have a hard stop at five minutes until 12:00, and I mean hard stop at five minutes to 12:00.

We have something else at noon that we absolutely must accommodate. And I hate to do this, but we need to organize the next 15 minutes pretty efficiently.

MEMBER RICCARDELLA: Yes.

MR. NORRIS: I can jump a few slides.

MEMBER RICCARDELLA: Yes, that'd be good because I'd like to get Clay Smith.

MR. NORRIS: Slide 15, acknowledge we send the memorandum to the program offices, but once we get the information back from the program offices, we take all the information that we have from our databases, the ASME database, any research, technical information

we have, and we revise the guides and submit those to the program offices for review.

So now they're actually reviewing the guides. And one of the other benefits to that we've seen is that since the technical content of the subject rulemaking is contained in the guides and technical analysis of the code cases, it actually makes review of the rule less complicated.

In addition, there's been operational events or other information gives us a second chance to take a look at that. And third, once we have approval from the offices of one set of draft guides, we can begin to work on the next set of guides.

And so quick to 17 is that one of the actions that we implemented was to start developing the reg guides in parallel. And so that's depicted on Slide 18.

And so as Dr. Riccardella mentioned, the supplements are issued, without fail, every three months. And so the bottom unbroken black line shows that this is a running three months.

The middle unbroken black line represents the quarterly review of the RES memorandum by the program offices. Of course, there's a three-month offset.

So the two blue arrows would represent a cut off of which supplements would be included in that particular reg guide. And that's based on when we believe the rulemaking will be published.

And then, as you've seen with the yellow ten plus supplements, if there are any delays, then the supplements keep piling up.

And so during the resolution of public comments, we have a good idea of what the next set of guides are going to look at, what the comments are.

And so that's when we begin to develop, what I call the Rev X plus one set of regulatory guides. And our goal has been to have that set of guides ready within a few months after the previous set of guides have been published.

MEMBER RICCARDELLA: Do we typically get a lot of public comments?

MR. NORRIS: No. We only received ten letters in the last, and typically they were only one comment per letter. And you had asked about time line.

Slide 19 shows the dates of when we sent out our office review memo, the date that the office memo was returned to us, and then when the rule and reg guides were finally published.

And just for your information, the 33 and 14 is that's Revision 33 to Reg Guide 1.84, 14 is 1.147, and the one that's Revision 1 is Reg Guide 1.192.

MEMBER BROWN: Seems like in the slide we were doing a lot better.

MEMBER RICCARDELLA: Before the Six Sigma?

MEMBER BROWN: Before we had the Lean Six Sigma.

MEMBER RICCARDELLA: I was noticing that myself.

MR. DOYLE: The Lean Six Sigma process changes are definitely saving time, but it's just because, like Geary had pointed out, there were multiple rules affecting the same section at the same time.

And we had to do this revision to comply with the OFR guidelines on multiple standards. So as I said, the two main reasons for the hiccup on the recent rule.

MEMBER RICCARDELLA: Okay.

MR. NORRIS: And Slide 20, we will have Revisions 37, 18 and 2. Those reviews will be completed this month. So we would be ready to have those issued.

And so Slide 20 shows which supplements.

Again, you can see some of the dates of when they were approved by ASME. And then last slide, 21, ASME is up to Supplement 6 to the 2013 edition.

And we have gotten office reviews up to Supplement 3 at this point. Four, five and six are in process.

MEMBER RICCARDELLA: Okay. Thank you, Wally.

MR. NORRIS: You're welcome.

MEMBER RICCARDELLA: I appreciate your, and I think the first question is pretty obvious. We've had a lot of questions and discussion as we go. So now I'd like to introduce Clay Smith, who is a member of the ASME Board of Nuclear Code and Standards.

MR. SMITH: Good morning everybody. And I want to thank the advisory council for allowing us to come have a little speak with you on the ASME and opportunities to work together.

I understand I'm standing between you and a hard stop, so I will try to be as expedient as possible. I'd like to give Geary a little bit to let him know that Roger Reedy is still a member of the Section III Standards Committee and is still giving out, in fact he's the rank and oldest member.

So there is a commonality that goes through.

Very quickly, I'll go through. My background is I am the Vice-Chair. I sit on the Board of Nuclear Codes and Standards, the Section III Standards Committee, the Nuclear Certification Committee.

And I'm the Vice-Chair of ASME Section III, Division II. I've got a background history that started with the United States Navy and then went up through both construction as well as installation.

So we were asked a very simple question. Why does it take so long for ASME code actions and code cases to be actually accepted? Well, we can't really answer that question.

So the question we can answer, I'm sorry, is what's the importance of having, to the industry, of having the NRC endorse these code actions?

The background, as you already know, is where we are currently at. Wally and Geary both covered this, and Dan as well, so I'm not going to go back over it again.

But the part that I think is important to bring out is the reason why ASME sends out these supplements in their quarterly is because we need to rapidly incorporate the industry enhancements and the lessons learned.

In fact, lots of the code cases, we talked

about alternatives, which is exactly what it is. And it does provide that. But more importantly than that, in some cases it is actually a better way to physically do the work that makes it more safer.

We find new material that is a better material for the application. If I'm planning to do an activity, I'd like to have the very best material to build it with. And sometimes the code cases provide that. So we're going to talk a little bit about --

MEMBER RICCARDELLA: And fair to say we have our own problem. First, to issue a new version of a code will take like maybe three years and to issue an addenda versus you can get a code case out in six months.

MR. SMITH: Right.

MEMBER RICCARDELLA: And that's the whole purpose of a code. Eventually these code cases are incorporated into the code.

MR. SMITH: Which is what you see. A lot of the changes that happened to the code and the reason for the revisions is the incorporation of code cases that have had a run time in an application.

I will very briefly go over the basis that they are issued every quarter. We'll talk a little

bit about Section III code cases, Section XI and some additional ASME code actions and then some points to ponder.

When I'm going through these, on the basis of time, I'm only going to give you a generic. If you look at all of these code cases, these are Section III code cases, for example, you find a common theme.

They either provided an alternative material, which is better for the particular application, or they provide a method to make the application, the process of completing that activity more efficient.

So as you see all these, one of them, for the counterbore for example, then lays into additional requirements when you have ALARA once it gets implemented into the plant and especially with the new designs.

So it's important that we understand we got to have them on the front end, guys, to be able to have any benefit on the back end when we're talking about Section XI and implementing them.

The second part is there's quite a few pages here. You have this presentation. It will be given as part of your minutes, so you'll actually have it.

But one of the keys I wanted to bring out

from the Section XI point of view is lots and lots of requests for relief. So that means lots of activities by the NRC staff of having to review these technical issues over and over and over again.

Well, how many times do we need to ask them to do the same review? We ought to, as Pete was talking about, having a generic process or have an ability to go ahead and advance this to go forward, which Wally had already spoke about, the increase in schedule.

We need to start this. We didn't get a chance to say this, but the working relationship between ASME and the NRC staff is outstanding. It is one of the very best. And we're going to show some opportunities of where that's come to fruition.

The next slide, again, shows additional code cases. The theme I want you to get is usually an alternative material, an alternative process and a request for reliefs have generally been asked for each one of these on multiple occasions.

And this is the last page. I'm sorry to go through this this fast. I would not normally do this, but I have three minutes to finish it. The other thing we do want to talk about is, the question was about code cases and code actions.

We have to talk a little bit about the importance of the code action and what it means. This is the alternative rulemaking.

CHAIR STETKAR: Clay?

MR. SMITH: I'm sorry.

CHAIR STETKAR: We're trying to buy a little time here. We can run until 12:00, so you've got seven minutes. No, seriously. You came in, and we appreciate you being here.

MR. SMITH: Okay.

MEMBER RICCARDELLA: The Committee just won't be able to each lunch. That's all.

CHAIR STETKAR: Stop. We'll eat lunch after.

(Simultaneous speaking)

CHAIR STETKAR: Stop talking. Let him go.

MR. SMITH: Okay. So one of the things that is important is there's good interaction that happens between the Nuclear Regulatory staff and ASME and industry.

And one of the high points is Section III, Division 3. But it's important that we look at it. It was developed back in '97 and came out in '99. And it was revised.

But working with the Nuclear Regulatory

Commission, that came up for, that they asked for major updates. And part of the updates needed to be brought. There was a doubt of the applicability to address aircraft impact events.

So we have the current problems that happened with Fukushima. To show the response and the need to have timely endorsement by the Nuclear Regulatory Commission, this is an expectation.

The Committee has gone back and actually working Section III, Division 3 to allow that to account for impact, aircraft impacts. So with that being said, there was three strategic goals.

Establish the relevance of Section III as a sole criterion because that's what they needed because there's multiple criteria now for spent fuel containers. Each plant has to ask for it.

Each operating plant has to come up and say how they're going to do it. This is the standard that would assist that. Develop a document that can be used by the industry and the NRC staff.

The whole purpose of having the standardization, the reason why Geary talked about having it in rule and having it is for those advantages that you get.

And finally, to develop the consistent basis

for managing the rules for the design basis. Finally, this is the current status. And to show how it is that 2013 edition of three is being incorporated through a strain-based acceptance criteria, which was the limiting factor that was asked for by the NRC staff.

The ASME staff is a special working group to develop the guidance document. And the initial draft is expected by mid-2015. And the NRC supplemented the ASME with their view of Division 3 rules and the August 2014 committee has a work to respond to those review comments.

With your current review schedule that you have, we should be able to have this so it would be available for you to meet your next rulemaking to 50.55(a) if you should feel so inclined to endorse Section III, Div 3.

All right, the next area for talking about additional code actions that I wanted to cover is, it has to do with Section III, Division 2. And I'll just show this slide.

This is all the reg guides that are either referenced by NUREG-0800 and have the requirements. And the key I want you to get from this slide is you notice the underlined part where it shows 1992, winter

of '82, '86, 2001, '03.

Have we ever tried to build a '51, '52, '53, '54, '55 Cadillac? Remember the Johnny Cash song where he took the pieces? Well, that's the same element that we're in here when we make all these different references to all the different years.

It's a little hard to comply with all of them because the terminology has changed. The technology has changed, and the process has changed. Specifically, there's a specific requirement for ACI Level III exam.

So by law, I'm sorry. By the standard review guide it says you must meet Section III, Division 2 as the acceptable method for containment. You must meet 01-03.

When you go to meet 01-03, it says you have to be an ACI Level III. You can't achieve that. It's impossible. So automatically we're asking them to have to put in a design base change in their COLA to say this.

So every plant, and if you're talking about GE, if you're talking about the APWR from Mitsubishi, if you're talking about any plant that has a composite, the current rules would require every one of them to come out with it.

In fact, there's only a few of us that are still alive that ever even took the ACI Level III exam to come up with this. So I just give you an example of why we really do need timely updating of these reg guides.

New material and methodology and then of course the later editions and addenda. All right, really the key I want us to get to is kind of the points to ponder.

Hopefully we can find the pot of gold at the end of the rainbow. And first thing is, is that as Wally brought out and the NRC brought out, it is wonderful. We already have the draft revisions.

And they're expected to go out and to incorporate the new changes up through the Supplement 2 of 2013, BZ. The next one is initiated review of the newer ones even past that.

That's excellent and that the solution path or a solution path, and it was brought up. I believe Dan brought it. Geary brought it. There was a potential issue.

You know when ASME changed their certification mark from the typical code symbol stamp to an ASME certification mark, the NRC and ASME worked together, and they came out with code case N-822.

And you guys accepted it and came out with a Regulatory Issue Summary 13-07 like this that says it was acceptable to do that. There's our model. There's a potential model for us to consider because it didn't take hardly any time at all for that to occur.

So we have some reasons why we think it's important. All of those have been covered why it's important for us to do it. This is the part I'd like to get to, which is the recommendation.

We like the part that you have scheduled the internal review and evaluation of cases following ASME approval and issuance. You've got to that point.

Where we thought we could go next is have a process very similar to your Regulatory Information Summary, to notify the public that these have been approved and can be used without relief request until they can be incorporated into the next update of the reg guide.

That's exactly what you did when you said the ASME mark was okay. Federal law says you can't do that. This information notice says we're not going to give you a hard time if you do. That's literally what it says.

MEMBER SKILLMAN: That's the Coast Guard

model. That's exactly what it is.

MR. SMITH: Yes.

MEMBER SKILLMAN: Bingo, there it is.

MR. SMITH: And then agree to update the four main reg guides associated with code cases on a faster basis, even faster than the two year.

They need to be on an annual basis, if it was possible, even with the comment and review, the public comment and review, if these are constantly in and we properly allocate the time to be able to do that. So I think I made it with one minute to spare.

CHAIR STETKAR: You're an amazing person.

MEMBER SKILLMAN: I'll give him a hand. I will.

MEMBER RICCARDELLA: I think that last recommendation about the RIS process, I think maybe, is something we could look at that might be kind of thinking out of the box way of getting around this.

So with that, we need to open the phone lines. Is there anybody from the public in the audience that would like to make a comment? Not hearing any, is there anybody on the phone lines?

CHAIR STETKAR: If there's someone out there, do us a favor because of our high technology, just say hello so that we can confirm the line is

open.

MALE PARTICIPANT: A crackle.

MEMBER REMPE: That's a crackle.

MALE PARTICIPANT: I think it just opened.

(Simultaneous speaking)

MEMBER RICCARDELLA: Okay. So with that, I think we'll close the meeting. I'd like to thank all the speakers. I think it was a very interesting day, and I'll discuss with the chairman what ACRS might want to do next on this top.

MR. SMITH: ASME wants to thank you for giving us an opportunity to come and speak with you as well.

MALE PARTICIPANT: Thank you.

CHAIR STETKAR: Yes, and sorry about cutting you off.

MR. SMITH: That's all right.

CHAIR STETKAR: I really appreciate it. You did wonderfully. With that, we are recessed, and we are off the transcript for the rest of our meeting.

(Whereupon, the above-entitled matter went off the record at 12:01 p.m.)

U.S.NRC
United States Nuclear Regulatory Commission
Protecting People and the Environment

Informational Briefing on ASME Code and Code Case Rulemakings

Aby Mohseni (NRR)
Dan Doyle (NRR)
Geary Mizuno (OGC)
Jenny Tobin (NRR)
Wally Norris (RES)

Overview

U.S.NRC
United States Nuclear Regulatory Commission
Protecting People and the Environment

- Geary Mizuno, OGC
  - Provide legal framework
- Jenny Tobin and Dan Doyle, NRR
  - Discuss the rulemaking process for routine updates to 10 CFR 50.55a to incorporate by reference ASME codes and how that is different from the typical rulemaking process
- Wally Norris, RES
  - Discuss the role of RES in coordinating the NRC's regulatory positions on new code provisions.

ASME Code and Code Case Rulemakings: The Legal Framework

Geary S. Mizuno
Special Counsel
Office of the General Counsel
U.S. Nuclear Regulatory Commission

Rulemaking Requirements under the Administrative Procedure Act (APA)

NRC Uses APA Informal Rulemaking

- Often referred to as "*notice and comment*" rulemaking
- Informal rulemaking at its essence requires:
  - Notice of final rulemaking (usually published in the *Federal Register*)
  - Date of effectiveness – usually 30 days after notice
- Informal rulemaking usually (but not always) requires notice of proposed rulemaking and opportunity for comment

NRC Rulemaking Phases

Regulatory Basis

- Foundation of rulemaking decision-making
- Early public involvement

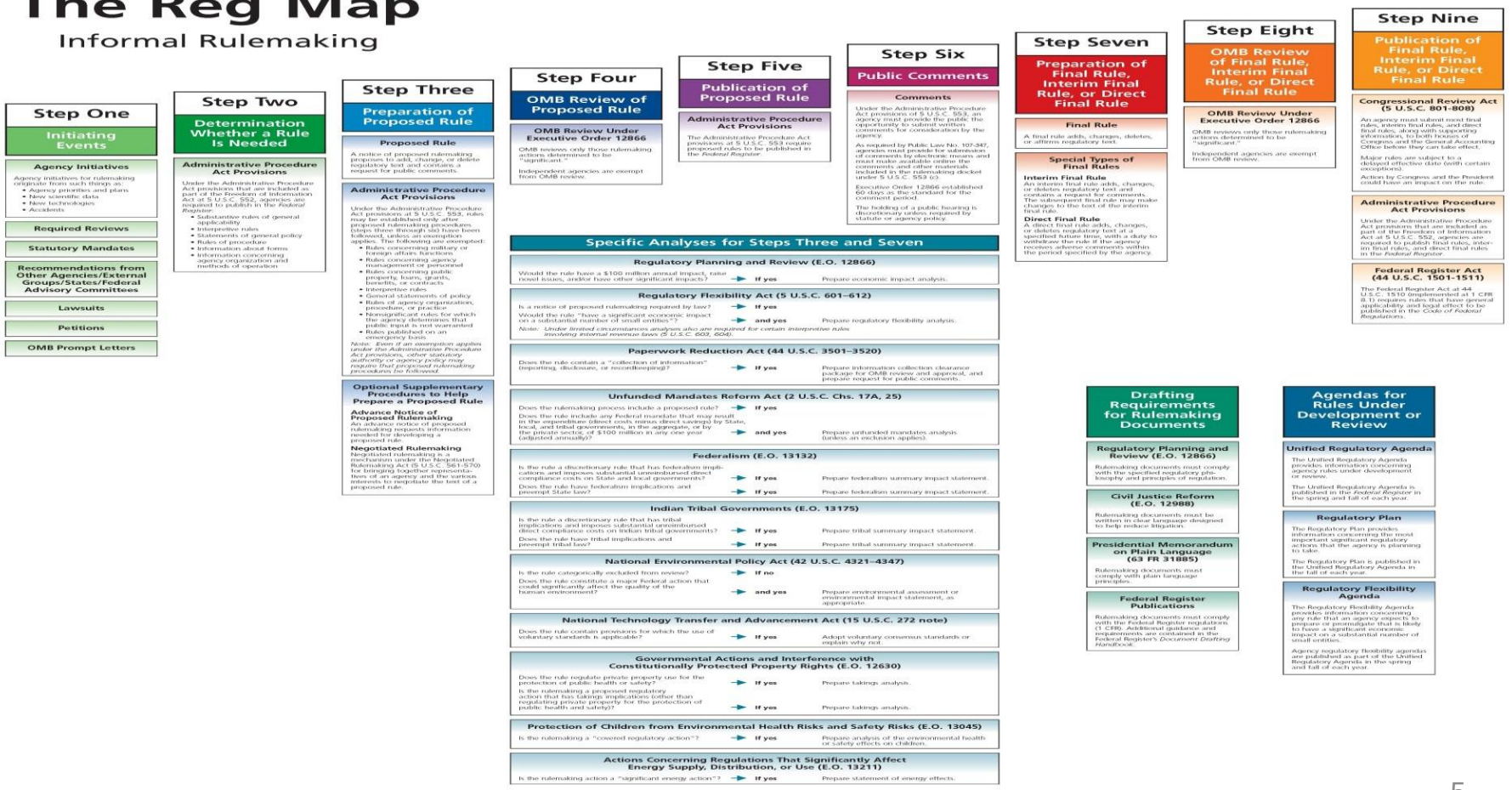
Proposed Rule

- Proposed rule issued for public comment in the *Federal Register*
- Draft guidance published in parallel
- Staff may have additional opportunities for public involvement

Final Rule

- Final rule published in *Federal Register*
- Contains responses to public comments
- Final guidance published in parallel

Informal Rulemaking Is a Complex Process

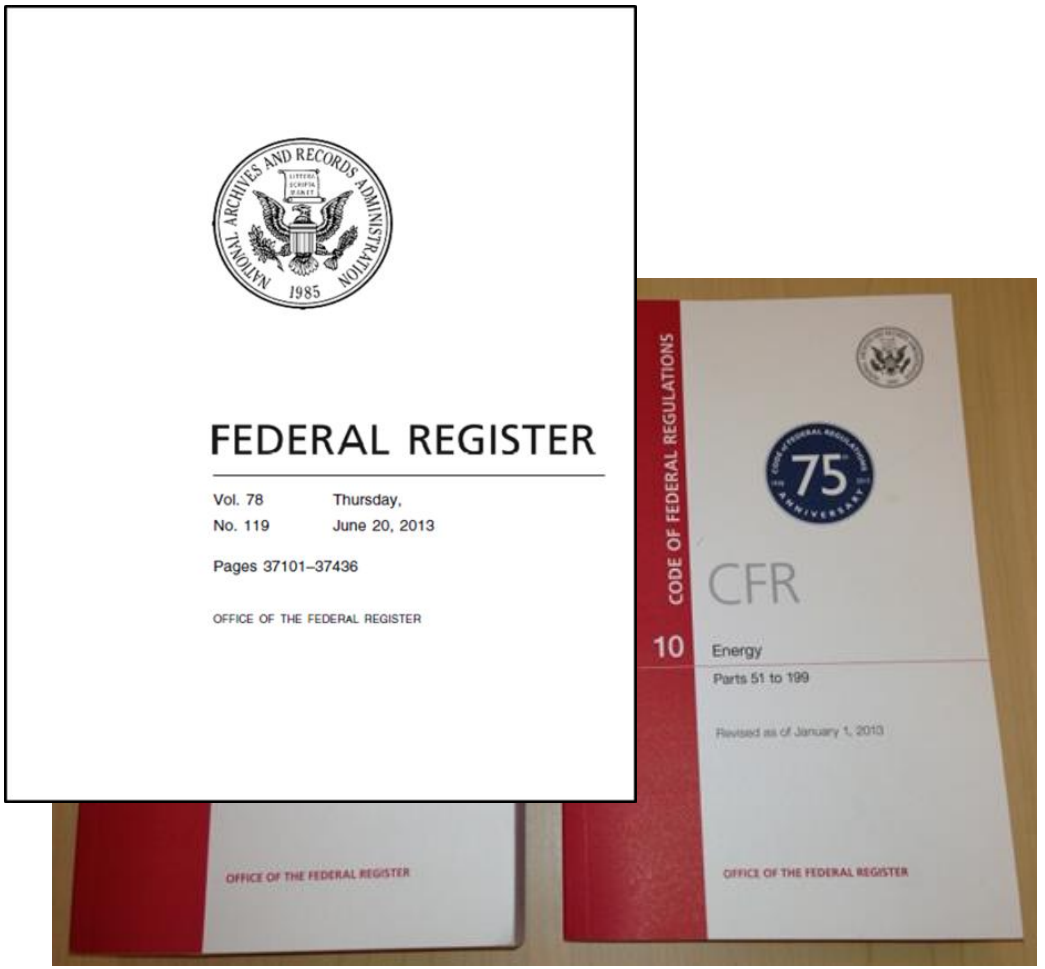


Incorporation by Reference (into a Regulation)

What is Incorporation by Reference (into a Regulation)?

Approval by the Office of the Federal Register (OFR) of *material* which, in the absence of such approval, is required to be:

- Published in the *Federal Register*
- Codified in the *Code of Federal Regulations*



Why Would NRC want to Incorporate by Reference Material into a Regulation?

Material approved by the OFR for incorporation by reference will be legally regarded as if that material had been published in its entirety in the *Federal Register*

- Meets the notice and publication requirements in the rulemaking provisions of the Administrative Procedure Act
- Constructive notice to the public and persons affected

OFR-Required IBR Language in Former Language of § 50.55a: Paragraphs (b) and (h)

Pressure Vessel Code specified in paragraphs (b), (c), (d), (e), (f), and (g) of this section. Protection systems of nuclear power reactors of all types must meet the requirements specified in paragraph (h) of this section.

(3) Proposed alternatives to the requirements of paragraphs (c), (d), (e), (f), (g), and (h) of this section, or portions thereof, may be used when authorized by the Director, Office of Nuclear Reactor Regulation, or Director, Office of New Reactors, as appropriate. Any proposed alternatives must be submitted and authorized prior to implementation. The applicant or licensee shall demonstrate that:

(i) The proposed alternatives would provide an acceptable level of quality and safety; or

(ii) Compliance with the specified requirements of this section would result in hardship or unusual difficulty without a compensating increase in the level of quality and safety.

(b) *Standards approved for incorporation by reference.* Systems and components of boiling and pressurized water cooled nuclear power reactors must meet the requirements of the following standards referenced in paragraphs (b)(1), (b)(2), (b)(3), (b)(4), (b)(5), and (b)(6) of this section: The ASME Boiler and Pressure Vessel Code, Section III, Division 1 (excluding Nonmandatory Appendices), and Section XI, Division 1; the ASME Code for Operation and Maintenance of Nuclear Power Plants; NRC Regulatory Guide (RG) 1.84, Revision 35, "Design, Fabrication, and Materials Code Case Acceptability, ASME Section III" (July 2010), RG 1.147, Revision 16, "Inservice Inspection Code Case Acceptability, ASME Section XI, Division 1" (July 2010), and RG 1.192, "Operation and Maintenance Code Case Acceptability, ASME OM Code" (June 2003); and the following ASME Code Cases, approved with conditions by the NRC: N–722–1, "Additional Examinations for PWR Pressure Retaining Welds in Class 1 Components Fabricated with Alloy 600/82/182 Materials, Section XI, Division 1" (ASME Approval Date: January 26, 2009), in accordance with the requirements in paragraph (g)(6)(ii)(E) of this section; N–729–1, "Alternative Examination Requirements for PWR Reactor Vessel Upper Heads With Nozzles Having Pressure-Retaining Partial-Penetration Welds, Section XI, Division 1" (ASME Approval Date: March 28, 2006), in accordance with the requirements in paragraph (g)(6)(ii)(D) of this section; and N–770–1, "Alternative Examination Requirements and Acceptance Standards for Class 1 PWR Piping and Vessel Nozzle Butt Welds Fabricated with UNS N06082 or UNS W86182 Weld Filler Material With or Without Application of Listed Mitigation Activities, Section XI, Division 1" (ASME Approval Date: December 25, 2009), in accordance with the requirements in paragraph (g)(6)(ii)(F) of this section. These standards have been approved for incorporation by reference by the Director of the Federal Register pursuant to 5 U.S.C. 552(a) and 1 CFR part 51. Copies of the ASME Boiler and Pressure Vessel Code, the ASME Code for Operation and Maintenance of Nuclear Power Plants, ASME Code Case N–722–1, ASME Code Case N–729–1, and ASME Code Case N–770–1 may be purchased from the American Society of Mechanical Engineers, Three Park Avenue, New York, NY 10016, phone (800) 843–2763, or through the Web at *http://www.asme.org/Codes/*. Single copies of NRC Regulatory Guides 1.84, Revision 35; 1.147, Revision 16; and 1.192 may be obtained free of charge by writing the Reproduction and Distribution Services Section, U.S. Nuclear Regulatory Commission, Washington, DC 20555–0001; or by fax to (301) 415–2289; or by email to *DISTRIBUTION.RESOURCE@nrc.gov*. Copies of the ASME Codes and NRC Regulatory Guides incorporated by reference in this section may be inspected at the NRC Technical Library, Two White Flint North, 11545 Rockville Pike, Rockville, MD 20852–2738 or call (301) 415–5610, or at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call (202) 741–6030, or go to: *http://www.archives.gov/federal-register/cfr/ibr-locations.html*.

(1) As used in this section, references to Section III refer to Section III of the ASME Boiler and Pressure Vessel Code, and include the 1963 Edition through

used based on conformance with an ASME mitigation code case endorsed in Regulatory Guide 1.147 with conditions, if applicable, and incorporated in this section.

(3) Baseline examinations for welds in Table 1, Inspection Items A–1, A–2, and B, shall be completed by the end of the next refueling outage after January 20, 2012. Previous examinations of these welds can be credited for baseline examinations if they were performed within the re-inspection period for the weld item in Table 1 using Section XI, Appendix VIII requirements and met the Code required examination volume of essentially 100 percent. Other previous examinations that do not meet these requirements can be used to meet the baseline examination requirement, provided NRC approval of alternative inspection requirements in accordance with paragraphs (a)(3)(i) or (a)(3)(ii) of this section is granted prior to the end of the next refueling outage after January 20, 2012.

(4) The axial examination coverage requirements of −2500(c) may not be considered to be satisfied unless essentially 100 percent coverage is achieved.

(5) All hot-leg operating temperature welds in Inspection Items G, H, J, and K must be inspected each interval. A 25 percent sample of Inspection Item G, H, J and K cold-leg operating temperature welds must be inspected whenever the core barrel is removed (unless it has already been inspected within the past 10 years) or 20 years, whichever is less.

(6) For any mitigated weld whose volumetric examination detects growth of existing flaws in the required examination volume that exceed the previous IWB–3600 flaw evaluations or new flaws, a report summarizing the evaluation, along with inputs, methodologies, assumptions, and cause of the new flaw or flaw growth is to be provided to the NRC prior to the weld being placed in service other than modes 5 or 6.

(7) For Inspection Items G, H, J, and K, when applying the acceptance standards of ASME B&PV Code, Section XI, IWB–3514, for planar flaws contained within the inlay or onlay, the thickness "t" in IWB–3514 is the thickness of the inlay or onlay. For planar flaws in the balance of the dissimilar metal weld examination volume, the thickness "t" in IWB–3514 is the combined thickness of the inlay or onlay and the dissimilar metal weld.

(8) Welds mitigated by optimized weld overlays in Inspection Items D and E are not permitted to be placed into a population to be examined on a sample basis and must be examined once each inspection interval.

(9) Replace the first two sentences of Extent and Frequency of Examination for Inspection Item D in Table 1 of Code Case N–770–1 with, "Examine all welds no sooner than the third refueling outage and no later than 10 years following stress improvement application." Replace the first two sentences of Note (11)(b)(2) in Code Case N–770–1 with, "The first examination following weld inlay, onlay, weld overlay, or stress improvement for Inspection Items D through K shall be performed as specified."

(10) General Note (b) to Figure 5(a) of Code Case N–770–1 pertaining to alternative examination volume for optimized weld overlays may not be applied unless NRC approval is authorized under paragraphs (a)(3)(i) or (a)(3)(ii) of this section.

(h) *Protection and safety systems.* (1) IEEE Std. 603–1991, including the correction sheet dated January 30, 1995, which is referenced in paragraphs (h)(2) and (h)(3) of this section, is approved for incorporation by reference by the Director of the Office of the Federal Register in accordance with 5 U.S.C. 552(a) and 1 CFR Part 51. Copies of IEEE Std. 603–1991 may be purchased from the Institute of Electrical and Electronics Engineers Service Center, 445 Hoes Lane, Piscataway, NJ 08855. The standard is also available for inspection at the NRC Library, 11545 Rockville Pike, Rockville, Md; or at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call 202–741–6030, or go to: *http://www.archives.gov/federal register/code of federal regulations/ibr locations.html* IEEE Std. 279, which is referenced in paragraph (h)(2) of this section, was approved for incorporation by reference by the Director of the Office of the Federal Register in accordance with 5 U.S.C. 552(a) and 1 CFR

OFR-Required IBR Language in New § 50.55a: Paragraph (a)

Final Code Case Rule

79 FR 57766

Published: November 5, 2014

Effective: December 5, 2014

65776 **Federal Register** / Vol. 79, No. 214 / Wednesday, November 5, 2014 / Rules and Regulations

NUCLEAR REGULATORY COMMISSION

10 CFR Part 50

[NRC–2009–0359; NRC–2013–0133]

RIN 3150–AI72

Approval of American Society of Mechanical Engineers' Code Cases

AGENCY: Nuclear Regulatory Commission.

ACTION: Final rule.

SUMMARY: The U.S. Nuclear Regulatory Commission (NRC) is amending its regulations to incorporate by reference the latest revisions of three NRC Regulatory Guides (RGs) approving new and revised Code Cases published by the American Society of Mechanical Engineers. This action allows nuclear power plant licensees, and applicants for construction permits, operating licenses, combined licenses, standard design certifications, standard design approvals, and manufacturing licenses, to use the Code Cases listed in these RGs, as alternatives to engineering standards for the construction, inservice inspection, and inservice testing of nuclear power plant components. This final rule changes NRC's regulations to address a petition for rulemaking (PRM), PRM–50–89, submitted by Mr. Raymond West. The final rule also restructures the NRC's requirements governing Codes and standards to align with the Office of the Federal Register's guidelines for incorporating documents by reference.

This final rule announces the availability of the final versions of the three RGs that are being incorporated by reference, and a related RG, not incorporated by reference into the NRC's regulations, that lists Code Cases that the NRC has not *approved for use*. For additional information on these RGs, see Section XVII, Availability of Regulatory Guides, of this document.

DATES: This final rule is effective on December 5, 2014. The incorporation by reference of RG 1.84, ''Design, Fabrication, and Materials Code Case Acceptability, ASME Section III,'' Revision 36 (May 2014); RG 1.147, ''Inservice Inspection Code Case Acceptability, ASME Section XI, Division 1,'' Revision 17 (May 2014); and RG 1.192, ''Operation and Maintenance Code Case Acceptability, ASME OM Code,'' Revision 1 (May 2014) is approved by the Director of the Office of the Federal Register as of December 5, 2014.

ADDRESSES: Please refer to Docket ID NRC–2009–0359 when contacting the NRC about the availability of information for this final rule and RGs 1.84, 1.147 and 1.192. Please refer to Docket ID NRC–2013–0133 when contacting the NRC about the availability of information for RG 1.193. You may obtain publicly-available information related to this final rule by any of the following methods:

- *Federal Rulemaking Web site:* Go to *http://www.regulations.gov* and search for Docket ID NRC–2009–0359. Address questions about NRC dockets to Carol Gallagher; telephone: 301–287–3422; email: *Carol.Gallagher@nrc.gov*. For technical questions, contact the individuals listed in the **FOR FURTHER INFORMATION CONTACT** section of this final rule.
- *NRC's Agencywide Documents Access and Management System (ADAMS):* You may obtain publicly-available documents online in the ADAMS Public Documents collection at *http://www.nrc.gov/reading-rm/adams.html*. To begin the search, select ''*ADAMS Public Documents*'' and then select ''*Begin Web-Based ADAMS Search*.'' For problems with ADAMS, please contact the NRC's Public Document Room (PDR) reference staff at 1–800–397–4209, 301–415–4737, or by email to *pdr.resource@nrc.gov*. For the convenience of the reader, the ADAMS accession numbers are provided in a table in the ''Availability of Documents'' section of this document.
- *NRC's PDR:* You may examine and purchase copies of public documents at the NRC's PDR, Room O1–F21, One White Flint North, 11555 Rockville Pike, Rockville, Maryland 20852.

FOR FURTHER INFORMATION CONTACT: Jenny Tobin, Office of Nuclear Reactor Regulation; telephone: 301–415–2328, email: *Jennifer.Tobin@nrc.gov*; or Wallace Norris, Office of Nuclear Regulatory Research, telephone: 301–251–7650; email: *Wallace.Norris@nrc.gov*; both are staff of the U.S. Nuclear Regulatory Commission, Washington, DC 20555–0001.

Executive Summary

The U.S. Nuclear Regulatory Commission (NRC) is amending its regulations to incorporate by reference the latest revisions of three NRC Regulatory Guides (RGs) approving new and revised Code Cases published by the American Society of Mechanical Engineers (ASME). The three RGs incorporated by reference are RG 1.84, Revision 36; RG 1.147, Revision 17; and RG 1.192, Revision 1. This action allows nuclear power plant licensees, and applicants for construction permits, operating licenses, combined licenses, standard design certifications, standard design approvals, and manufacturing licenses, to use the Code Cases listed in these RGs as alternatives to engineering standards for the construction, inservice inspection, and inservice testing of nuclear power plant components.

The NRC is announcing the availability of the final versions of the three RGs that are being incorporated by reference, and a final version of RG 1.193, Revision 4, not incorporated by reference into the NRC's regulations, that lists Code Cases that the NRC has not approved for generic use.

This final rule also includes changes to the NRC's regulations that address a petition for rulemaking (PRM), PRM–50–89, submitted by Mr. Raymond West. Mr. West requested that the NRC amend its regulations to allow consideration of alternatives to NRC-approved ASME Boiler and Pressure Vessel and Operation and Maintenance of Nuclear Power Plants Code Cases. This final rule resolves Mr. West's petition and represents the NRC's final action on PRM–50–89.

Lastly, this final rule resequences the NRC's requirements in § 50.55a of Title 10 of the *Code of Federal Regulations* (10 CFR), governing Codes and standards to align with Office of the Federal Register's guidelines for incorporating published standards by reference.

SUPPLEMENTARY INFORMATION:

Table of Contents

OFR-Required IBR Language in New § 50.55a: Paragraph (a)

Final rule documents	ADAMS Accession No.
EPRI Technical Report—Project No. 704—BWRVIP–108: BWR Vessel & Internals Project, Technical Basis for Reduction of Inspection Requirements for Boiling Water Reactor Nozzle-to-Vessel Shell Welds & Nozzle Blend Radii.	ML023330203
Safety Evaluation of Proprietary EPRI Report—BWR Vessel and Internals Project, Technical Basis for the Reduction of Inspection Requirements for the Boiling Water Reactor Nozzle-to-Vessel Shell Welds and Nozzle Inner Radius (BWRVIP–108).	ML073600374
Comment Letter—Comment (4) of Bryan A. Erler on Behalf of ASME Supporting Draft Regulatory Guides DG–1191, DG–1192, DG–1193, and the Proposed Rule Incorporating the Final Revisions of these Regulatory Guides into 10 CFR 50.55a.	ML092190138
SRM–COMNJD–03–0002—Stabilizing the PRA Quality Expectations and Requirements	ML033520457
SECY–04–0118—Plan for the Implementation of the Commission's Phased Approach to Probabilistic Risk Assessment Quality.	ML041470505
SRM–SECY–04–0118—Plan for the Implementation of the Commission's Phased Approach to Probabilistic Risk Assessment Quality.	ML042800369
NUREG–0800—Chapter 4, Section 4.5.1, Revision 3, Control Rod Drive Structural Materials, dated March 2007	ML070230007
NUREG–0800—Chapter 5, Section 5.2.3, Revision 3, Reactor Coolant Pressure Boundary Materials, dated March 2007	ML063190006
NUREG/CR–6943—A Study of Remote Visual Methods to Detect Cracking in Reactor Components	ML073110060

List of Subjects in 10 CFR Part 50

Antitrust, Classified information, Criminal penalties, Fire protection, Incorporation by reference, Intergovernmental relations, Nuclear power plants and reactors, Radiation protection, Reactor siting criteria, Reporting and recordkeeping requirements.

For the reasons set forth in the preamble and under the authority of the Atomic Energy Act of 1954, as amended; the Energy Reorganization Act of 1974, as amended; and 5 U.S.C. 552 and 553, the NRC is adopting the following amendments to 10 CFR part 50.

PART 50—DOMESTIC LICENSING OF PRODUCTION AND UTILIZATION FACILITIES

■ 1. The authority citation for part 50 is revised to read as follows:

Authority: Atomic Energy Act secs. 102, 103, 104, 105, 147, 149, 161, 181, 182, 183, 186, 189, 223, 234 (42 U.S.C. 2132, 2133, 2134, 2135, 2167, 2169, 2201, 2231, 2232, 2233, 2236, 2239, 2273, 2282); Energy Reorganization Act secs. 201, 202, 206 (42 U.S.C. 5841, 5842, 5846); Nuclear Waste Policy Act sec. 306 (42 U.S.C. 10226); Government Paperwork Elimination Act sec. 1704 (44 U.S.C. 3504 note); Energy Policy Act of 2005, Pub. L. No. 109–58, 119 Stat. 194 (2005). Section 50.7 also issued under Pub. L. 95–601, sec. 10, as amended by Pub. L. 102–486, sec. 2902 (42 U.S.C. 5851). Section 50.10 also issued under Atomic Energy Act secs. 101, 185 (42 U.S.C. 2131, 2235); National Environmental Protection Act sec. 102 (42 U.S.C. 4332). Sections 50.13, 50.54(d), and 50.103 also issued under Atomic Energy Act sec. 108 (42 U.S.C. 2138). Sections 50.23, 50.35, 50.55, and 50.56 also issued under Atomic Energy Act sec. 185 (42 U.S.C. 2235). Appendix Q also issued under National Environmental Protection Act sec. 102 (42 U.S.C. 4332). Sections 50.34 and 50.54 also issued under sec. 204 (42 U.S.C. 5844). Sections 50.58, 50.91, and 50.92 also issued under Pub. L. 97–415 (42 U.S.C. 2239). Section 50.78 also issued under Atomic Energy Act sec. 122 (42 U.S.C. 2152). Sections 50.80–50.81 also issued under Atomic Energy Act sec. 184 (42 U.S.C. 2234).

■ 2. In § 50.54, revise the introductory text, add reserved paragraph (ii), and add paragraph (jj) to read as follows:

§ 50.54 Conditions of licenses.

The following paragraphs of this section, with the exception of paragraphs (r) and (gg), and the applicable requirements of 10 CFR 50.55a, are conditions in every nuclear power reactor operating license issued under this part. The following paragraphs with the exception of paragraph (r), (s), and (u) of this section are conditions in every combined license issued under part 52 of this chapter, provided, however, that paragraphs (i) introductory text, (i)(1), (j), (k), (l), (m), (n), (q), (w), (x), (y), (z), and (hh) of this section are only applicable after the Commission makes the finding under § 52.103(g) of this chapter.

* * * * *

(ii) [Reserved]

(jj) Structures, systems, and components subject to the codes and standards in 10 CFR 50.55a must be designed, fabricated, erected, constructed, tested, and inspected to quality standards commensurate with the importance of the safety function to be performed.

■ 3. In § 50.55, revise the introductory text, add reserved paragraphs (g) and (h), and add paragraph (i) to read as follows:

§ 50.55 Conditions of construction permits, early site permits, combined licenses, and manufacturing licenses.

Each construction permit for a utilization facility is subject to the following terms and conditions and the applicable requirements of § 50.55a; each construction permit for a production facility is subject to the following terms and conditions with the exception of paragraph (i); each early site permit is subject to the terms and conditions in paragraph (f) of this section; each manufacturing license is subject to the terms and conditions in paragraphs (e), (f), and (i) of this section and the applicable requirements of § 50.55a; and each combined license is subject to the terms and conditions in paragraphs (e), (f), and (i) of this section and the applicable requirements of § 50.55a until the date that the Commission makes the finding under § 52.103(g) of this chapter:

* * * * *

(g) [Reserved]

(h) [Reserved]

(i) Structures, systems, and components subject to the codes and standards in 10 CFR 50.55a must be designed, fabricated, erected, constructed, tested, and inspected to quality standards commensurate with the importance of the safety function to be performed.

■ 4. Revise § 50.55a to read as follows:

§ 50.55a Codes and standards.

(a) *Documents approved for incorporation by reference.* The standards listed in this paragraph have been approved for incorporation by reference by the Director of the Federal Register pursuant to 5 U.S.C. 552(a) and 1 CFR part 51. The standards are available for inspection at the NRC Technical Library, 11545 Rockville Pike, Rockville, Maryland 20852; telephone: 301–415–6239; or at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, call 202–741–6030 or go to *http://www.archives.gov/federal-register/cfr/ibr-locations.html.*

(1) *American Society of Mechanical Engineers (ASME),* Three Park Avenue, New York, NY 10016; telephone: 1–800–843–2763; *http://www.asme.org/Codes/.*

(i) *ASME Boiler and Pressure Vessel Code, Section III.* The editions and addenda for Section III of the ASME Boiler and Pressure Vessel Code are listed below, but limited to those provisions identified in paragraph (b)(1) of this section.

(A) "Rules for Construction of Nuclear Vessels:"

(*1*) 1963 Edition,
(*2*) Summer 1964 Addenda,
(*3*) Winter 1964 Addenda,
(*4*) 1965 Edition,
(*5*) 1965 Summer Addenda,
(*6*) 1965 Winter Addenda,
(*7*) 1966 Summer Addenda,
(*8*) 1966 Winter Addenda,
(*9*) 1967 Summer Addenda,
(*10*) 1967 Winter Addenda,
(*11*) 1968 Edition,
(*12*) 1968 Summer Addenda,
(*13*)1968 Winter Addenda,
(*14*) 1969 Summer Addenda,
(*15*) 1969 Winter Addenda,
(*16*) 1970 Summer Addenda, and
(*17*) 1970 Winter Addenda.

(B) "Rules for Construction of Nuclear Power Plant Components:"

(*1*) 1971 Edition,
(*2*) 1971 Summer Addenda,
(*3*) 1971 Winter Addenda,
(*4*) 1972 Summer Addenda,
(*5*) 1972 Winter Addenda,
(*6*) 1973 Summer Addenda, and
(*7*) 1973 Winter Addenda.

(C) "Division 1 Rules for Construction of Nuclear Power Plant Components:"

(*1*) 1974 Edition,
(*2*) 1974 Summer Addenda,
(*3*) 1974 Winter Addenda,
(*4*) 1975 Summer Addenda,
(*5*) 1975 Winter Addenda,
(*6*) 1976 Summer Addenda, and
(*7*) 1976 Winter Addenda;

(D) "Rules for Construction of Nuclear Power Plant Components—Division 1":

(*1*) 1977 Edition,
(*2*) 1977 Summer Addenda,
(*3*) 1977 Winter Addenda,
(*4*) 1978 Summer Addenda,
(*5*) 1978 Winter Addenda,
(*6*) 1979 Summer Addenda,
(*7*) 1979 Winter Addenda,
(*8*) 1980 Edition,
(*9*) 1980 Summer Addenda,
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(*22*) 1986 Edition,
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(*25*) 1988 Addenda,
(*26*) 1989 Edition,
(*27*) 1989 Addenda,
(*28*) 1990 Addenda,
(*29*) 1991 Addenda,
(*30*) 1992 Edition,
(*31*) 1992 Addenda,
(*32*) 1993 Addenda,
(*33*) 1994 Addenda,
(*34*) 1995 Edition,
(*35*) 1995 Addenda,
(*36*) 1996 Addenda, and
(*37*) 1997 Addenda.

(E) "Rules for Construction of Nuclear Facility Components—Division 1:"

(*1*) 1998 Edition,
(*2*) 1998 Addenda,
(*3*) 1999 Addenda,
(*4*) 2000 Addenda,
(*5*) 2001 Edition,
(*6*) 2001 Addenda,
(*7*) 2002 Addenda,
(*8*) 2003 Addenda,
(*9*) 2004 Edition,
(*10*) 2005 Addenda,
(*11*) 2006 Addenda,
(*12*) 2007 Edition, and
(*13*) 2008 Addenda.

(ii) *ASME Boiler and Pressure Vessel Code, Section XI.* The editions and addenda for Section XI of the ASME Boiler and Pressure Vessel Code are listed below, but limited to those provisions identified in paragraph (b)(2) of this section.

(A) "Rules for Inservice Inspection of Nuclear Reactor Coolant Systems:"

(*1*) 1970 Edition,
(*2*) 1971 Edition,
(*3*) 1971 Summer Addenda,
(*4*) 1971 Winter Addenda,
(*5*) 1972 Summer Addenda,
(*6*) 1972 Winter Addenda,
(*7*) 1973 Summer Addenda, and
(*8*) 1973 Winter Addenda.

(B) "Rules for Inservice Inspection of Nuclear Power Plant Components:"

(*1*) 1974 Edition,
(*2*) 1974 Summer Addenda,
(*3*) 1974 Winter Addenda, and
(*4*) 1975 Summer Addenda.

(C) "Rules for Inservice Inspection of Nuclear Power Plant Components—Division 1:"

(*1*) 1977 Edition,
(*2*) 1977 Summer Addenda,
(*3*) 1977 Winter Addenda,
(*4*) 1978 Summer Addenda,
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(*41*) 2001 Edition,
(*42*) 2001 Addenda,
(*43*) 2002 Addenda,
(*44*) 2003 Addenda,
(*45*) 2004 Edition,
(*46*) 2005 Addenda,
(*47*) 2006 Addenda,
(*48*) 2007 Edition, and
(*49*) 2008 Addenda.

(iii) *ASME Code Cases: Nuclear Components*—(A) *ASME Code Case N–722–1.* ASME Code Case N–722–1, "Additional Examinations for PWR Pressure Retaining Welds in Class 1 Components Fabricated with Alloy 600/82/182 Materials, Section XI, Division 1" (Approval Date: January 26, 2009), with the conditions in paragraph (g)(6)(ii)(E) of this section.

(B) *ASME Code Case N–729–1.* ASME Code Case N–729–1, "Alternative Examination Requirements for PWR Reactor Vessel Upper Heads With Nozzles Having Pressure-Retaining Partial-Penetration Welds, Section XI, Division 1" (Approval Date: March 28, 2006), with the conditions in paragraph (g)(6)(ii)(D) of this section.

(C) *ASME Code Case N–770–1.* ASME Code Case N–770–1, "Additional Examinations for PWR Pressure Retaining Welds in Class 1 Components Fabricated with Alloy 600/82/182 Materials, Section XI, Division 1" (Approval Date: December 25, 2009), with the conditions in paragraph (g)(6)(ii)(F) of this section.

(iv) *ASME Operation and Maintenance Code.* The editions and addenda for the ASME Code for Operation and Maintenance of Nuclear

Voluntary Consensus Standards and the National Technology Transfer and Advancement Act

What Kind of Material Does the NRC Typically Incorporate by Reference?

The most common material incorporated by reference into NRC regulations are "*industry codes and standards*"

- Officially known as ***voluntary consensus standards***

Examples of voluntary consensus standards

- American Society of Mechanical Engineers (ASME) Boiler and Pressure Vessel Code
- American National Standards Institute (ANSI) S3.6–1969 (R 1973) Specifications for Audiometers

What Is the NRC's Legal Obligation with respect to Voluntary Consensus Standards?

National Technology Transfer and Advancement Act (NTTAA)

Directs agencies to use voluntary consensus standards in lieu of "government-unique" standards except where inconsistent with law or otherwise impractical

What Is the NRC's Legal Obligation with respect to Voluntary Consensus Standards?
(continued)

- NRC must look for applicable voluntary consensus standards when it considers issuing a regulation constituting a "government unique" standard
- If NRC identifies one or more applicable standards, it must use them unless it explains – in the statement of consideration – why use of the standard would be contrary to law or "impractical"
- Existence of a voluntary consensus standard does not force the NRC to issue a regulation using that standard

NRC's Longstanding Practice of Incorporation by Reference of ASME Codes Complies With the NTTAA

- First NRC rulemaking to use and approve ASME was in 1971
  - ➢36 FR 11423 (June 12, 1971)
- The Commission approved the existing ASME Code updating process in an April 4, 2000 SRM on SECY-00-0011 (January 14, 2000)

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ASME Code and Code Case Rulemakings: The Rulemaking Process

Jenny Tobin and Dan Doyle
Rulemaking Project Managers
Division of Policy and Rulemaking
Office of Nuclear Reactor Regulation

Purpose

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- Discuss the rulemaking process for routine updates to 10 CFR 50.55a
- Explain differences from typical rulemaking process
- Status of ongoing rules

Rulemaking Stages

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Identify need for rulemaking

It has been NRC's practice to use ASME codes to establish requirements for nuclear power plants.

Regulatory (Technical) Basis

- Foundation of effective rulemaking

Proposed Rule

- Proposed rule issued for public comment in *Federal Register*
- Public involvement

Final Rule

- Final rule published in *Federal Register*
- Contains responses to public comments

Regulatory Basis

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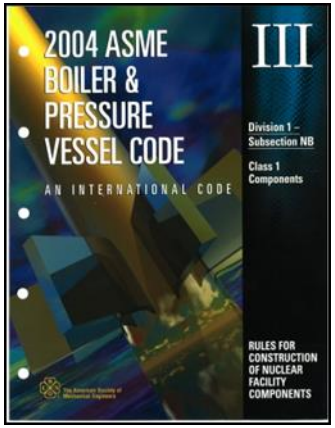
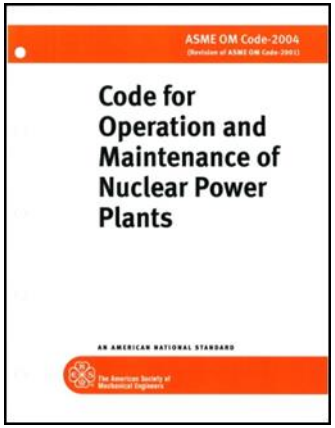
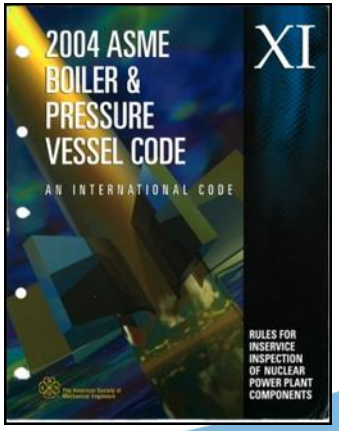
- Less formal due to established process
- ASME/NRC interactions serve as the basis for regulatory action







Rulemaking Documents

U.S.NRC
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- Memorandum to NRR Office Director
- *Federal Register* notice
- Regulatory Analysis
- Notice of Proposed/Final Rule
  to the Commission
- Daily note
- Congressional letters
- OMB Supporting Statement
- Regulatory History

Rulemaking Package Concurrence

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Step 1: Informal working group review

Step 2: Division of Policy and Rulemaking review

Step 3: Interoffice review (RES, NRO, ADM)

Step 4: OGC review

Step 5: NRR Office Director review and approval

ACRS Interactions

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- Opportunity for ACRS to review proposed rule when sent to Federal Register for comment

- Another opportunity for ACRS to review after public comments have been reviewed

Lean Six Sigma Review 50.55a Rulemaking Process

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- Completed in 2008 with 17 recommended solutions
- Identified process improvements:
  - Authority delegated from the EDO to the NRR Office Director
  - Established a steering committee for oversight
  - Scope control procedure for emergent issues
  - Determine initial 50.55a rulemaking scope
  - Enhance the documented schedule to include key milestones
- Established 2-year goal (start to finish)

Summary of Differences from Typical Process

- Regulatory basis input is less formal due to established process
- Information copy to ACRS when published
- Authority delegated from EDO to NRR Office Director
- 20 day review by Office of the Federal Register

Rulemaking Status

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- Incorporate by Reference revisions of RG 1.84, RG 1.147, and RG 1.192
  - Final rule published November 5, 2014 (79 FR 65776)
  - Proposed rule under development
- Incorporate ASME Code 2009-2013 Editions and Addenda
  - Expect to publish proposed rule in December 2014

Path Forward

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- Continue to work with ASME in an open and collaborative manner to improve the process

- Continue to strive to meet the 2-year goal on upcoming rulemakings

The focus of the next presentation…

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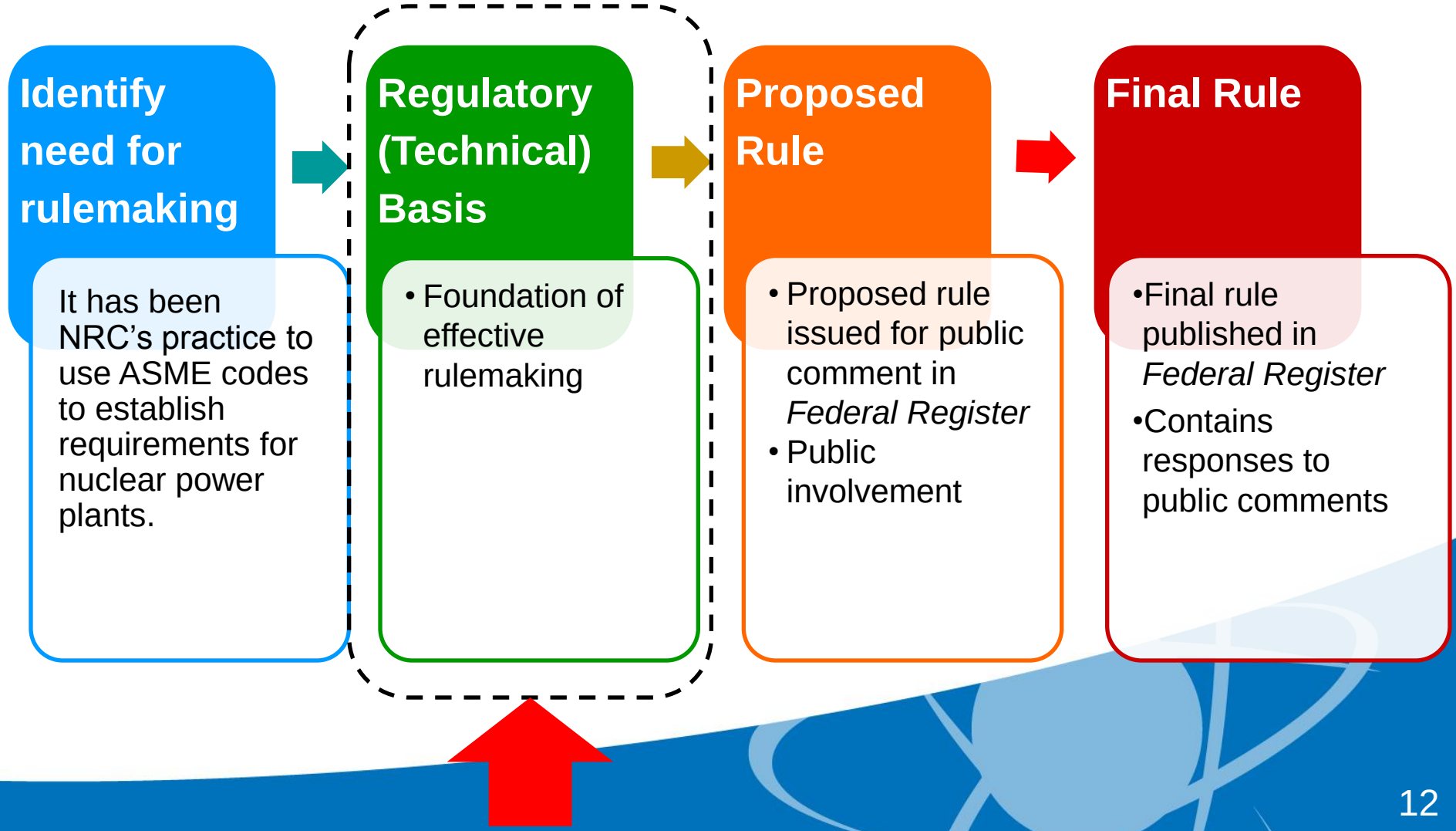

U.S.NRC

UNITED STATES NUCLEAR REGULATORY COMMISSION

Protecting People and the Environment

ACRS Full Committee Meeting
ASME Code Case
Regulatory Guide Process

Wallace Norris, Senior Materials Engineer

Office of Nuclear Regulatory Research

Division of Engineering

December 5, 2014

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UNITED STATES NUCLEAR REGULATORY COMMISSION
Protecting People and the Environment

Overview of RES Role

- RES has lead agency responsibility for coordinating NRC codes and standards activities as these relate to federal law and interaction with standards development organizations

- RES is responsible for the management of Section XI activities
  - RES staff represents NRC on 15 Section XI committees (plus task groups)
  - RES staff also represents NRC on several Section III committees

- RES is responsible for the development of the ASME Code Case regulatory guides

Overview of RES Role (cont'd)

- RES develops the technical analyses of the Code Cases that is part of the rulemaking statement of considerations
  - NRR conducts overall rulemaking
    - NRR responsible for the development, documentation, and implementation of policies, procedures and program management for rulemaking

RES Mission / Codes and Standards / RGs

- OMB Circular A-119 (1998) established the federal agency Standards Executive position
- Part of RES's mission is to manage and coordinate codes and standards activities for the agency
  - Part of mission since early 1980s when RES subsumed Office of Standards Development
  - Accordingly, the NRC Standards Executive position was assigned to RES
    - Specifically, to the Director, Division of Engineering, RES
- RES is also responsible for regulatory guide (RG) development and maintenance
  - Code Cases and their acceptability are addressed in RGs

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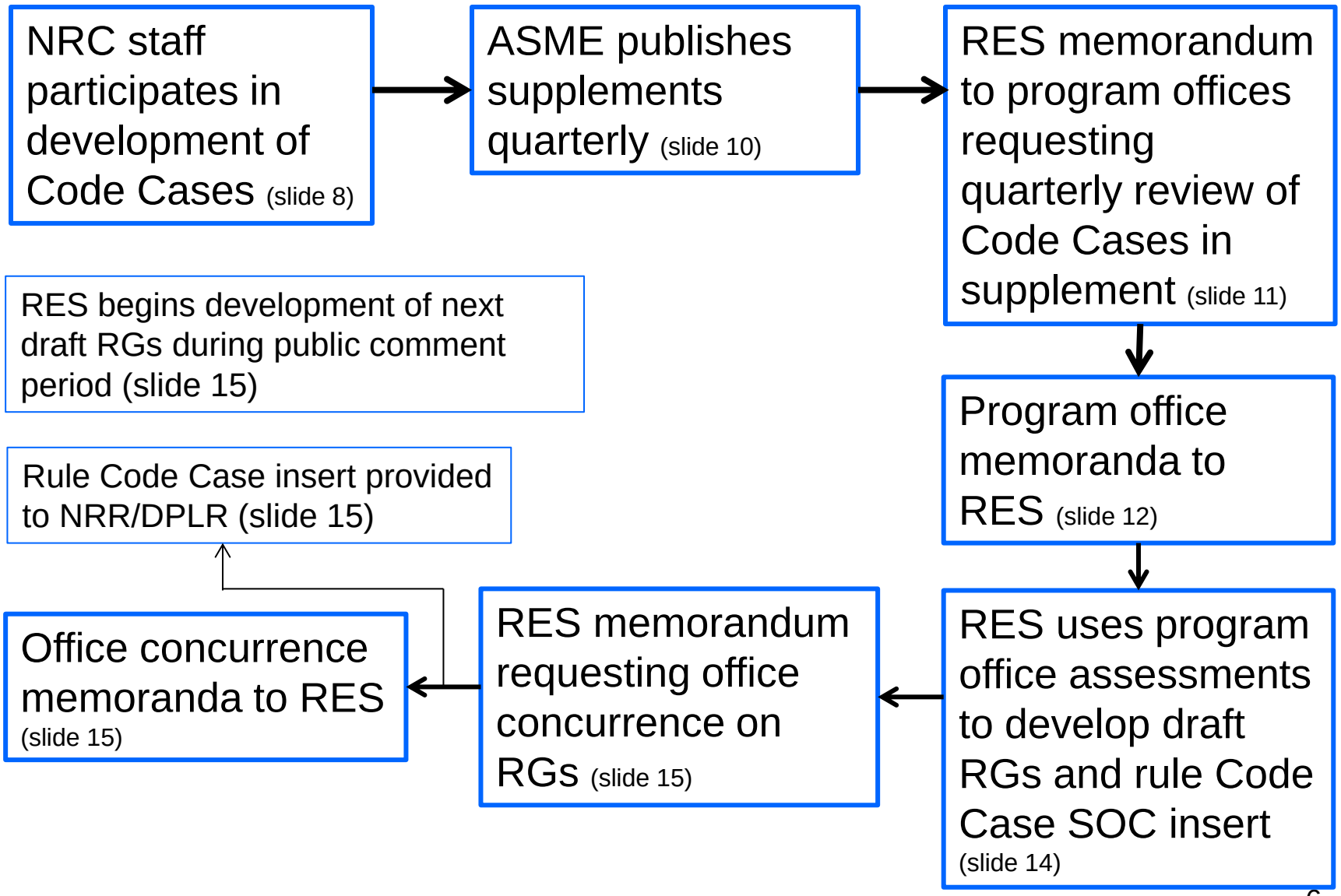
Code Case RGs

- RG 1.84, “Design, Fabrication, and Materials Code Case Acceptability, ASME Section III”
- RG 1.147, “Inservice Inspection Code Case Acceptability, Section XI, Division 1”
- RG 1.192, “Operation and Maintenance Code Case Acceptability, ASME OM Code”
- RG 1.193, “ASME Code Cases Not Approved for Use”
  - This RG is for information only and is not part of the rulemaking

Code Case / RG Flow Chart



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Code Case Development

- Nuclear Code Cases are ASME approved alternatives to specific portions of the following ASME Codes
  - Boiler and Pressure Vessel Code Section III (design and construction) and Section XI (inservice inspection)
  - Operation and Maintenance (OM) Code (inservice testing of pumps, valves, and snubbers)
- Code Cases are developed for several reasons
  - Address an emerging degradation mechanism
  - Incorporate operational examination and testing experience
  - Update material requirements based on research results
  - Provide new or updated analytical evaluation methods
  - To implement methods that reduce licensee burden

Staff Participation in Code Case Development

- NRC staff participates in Code Case development at all ASME committee levels
- Current staff participation in ASME
  - 73 total NRC committee members from RES, NRR, & NRO
  - Section III: 19 individuals, 33 committees (+ task groups)
  - Section XI: 21 individuals, 24 committees (+ task groups)
  - OM: 6 individuals, 14 committees
  - Totals do not include NRC contractor personnel that attend ASME meetings
- Standards Committee ballots are widely circulated to technical staff not on committees
  - Staff intent is to develop a firm “NRC best-effort technical consensus”

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Importance of Timely Approval of Code Cases

- Delays in the issuance of the ASME Code Case rulemaking and RGs can:
  - Delay or preclude enhancements from being implemented by nuclear facilities
  - Increase resources of applicants and NRC staff to process relief requests

Review of Section III and XI Code Cases

- ASME publishes nuclear Code Cases quarterly in supplements to ASME Code editions
- RES's goal is to formally request NRR, NRO, and NMSS review of each supplement within two months of ASME publication
  - Each supplement generally contains 5 to 10 Code Cases
  - Requesting office review of individual supplements minimizes staff burden compared to review of multiple supplements
  - The memorandums from the program offices to RES establish a formal NRC position on each Code Case
  - These positions can be used by the staff with respect to review of relief requests related to Code Cases until the RGs are final

RES Request for Office Review

- The RES memorandum to the program offices on each supplement is developed using information from the:
  - ASME website database of committee actions
  - RES SharePoint database for all Section XI actions
    - The NRC Section XI Standards Committee representative is from RES
    - RES SharePoint database contains all technical staff inputs, including any identified issues, from the task groups to the Standards Committee
  - Applicable technical information from RES research projects

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NRR, NRO, and NMSS Memoranda to RES

- Each office conducts a review of RES's analyses of Code Cases and responds to RES by memorandum
- The program office memoranda provide recommendations whether each Code Case should be approved, conditionally approved, or disapproved
  - Rationales for the recommendations are also provided
  - NRR and NRO coordinate responses on all nuclear Code Cases since the regulatory framework for both operating and new reactors may be affected

OM Code Cases

- New and revised OM Code Cases are not included in the RES memorandum
- Inservice testing is managed by the Component Performance, NDE, and Testing Branch (EPNB), NRR/DE
- OM Code Cases are published yearly
  - Few revised or new OM Code Cases in a given year
- RES advises EPNB of RG 1.192 revision time line
  - NRR provides a memorandum to RES with recommended disposition of Code Cases and bases for any conditions
  - RES revises RG 1.192 and uses information provided by EPNB to develop the technical analyses of the Code Cases for the rulemaking Statement of Considerations

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Development of RGs

- RES analyses and the information provided by the program offices is used by RES to:
  - Update the tables in each regulatory guide listing approved, conditionally approved, annulled, and superseded Code Cases
  - Refine and clarify proposed conditions on Code Cases to ensure consistent implementation and technical adequacy
  - Develop the technical analyses of the Code Cases that will be inserted into the rulemaking Statement of Considerations

Office Review of RGs

- RES transmits a memorandum to NRR, NRO, and NMSS with the draft RGs and Statement of Considerations Code Case technical analyses for review
- This process does a number of things
  - Finalizes the RGs
  - Obtains program office agreement on the technical input to the rulemaking Statement of Considerations
    - i.e., Code Case technical analyses
  - Allows NRR/DPR to focus on legal and administrative aspects of rulemaking
  - Allows RES to work on the subsequent RGs

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Final RGs

- The final RG process essentially repeats the draft RG process
- The one notable difference is that the process begins with responding to public comments
  - RES develops the first draft of staff responses to public comments and circulates it to rulemaking working group for further review
- The working group response to public comments is used by RES to revise the draft RGs accordingly

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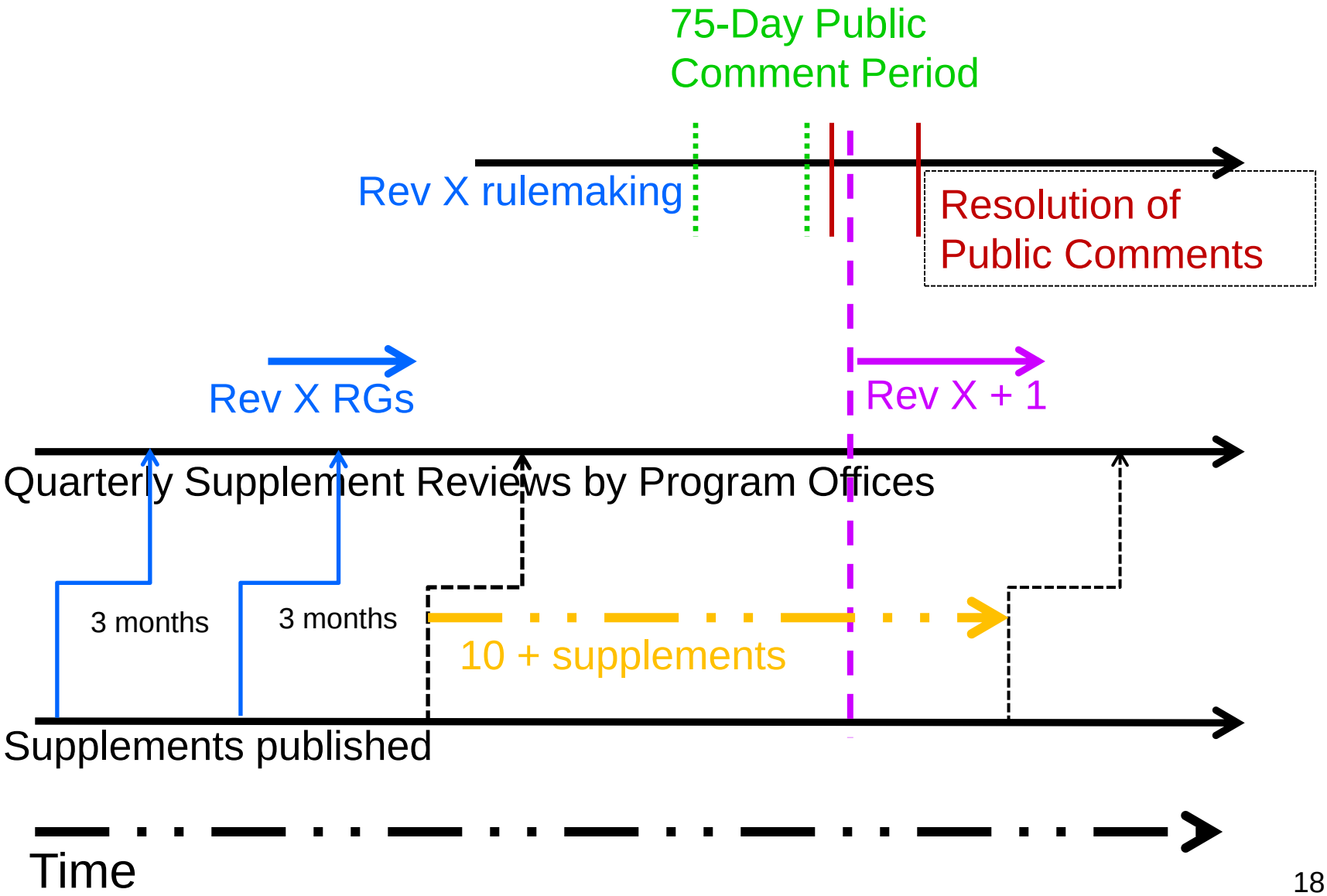
RG Time Lines

- In 2002, RES began developing RGs in parallel in an attempt to avoid Code Case back logs
  - e.g., RG 1.147, Rev. 18 was initiated during public comment period for Rev. 17
- Thus, which supplements are addressed by a particular RG is based on anticipated rulemaking publication date
- Next slide helps to explain timing of development and reviews

Parallel RGs



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RG Type	RG Revisions	RES Memo Office Review	Program Office Memos	Rule / RGs Published
Draft	33, 14	8/03	9/03	8/3/04
Final	33, 14	1/05	3/05	9/29/05
Draft	34, 15	8/04	9/04	10/27/06
Final	34, 15	5/07	6/07	12/19/07
Draft	35, 16	4/08	6/08	6/2/09
Final	35, 16	10/09	12/09	10/5/10
Draft	36, 17, 1	6/09	8/09	6/24/13
Final	36, 17, 1	12/13	1/14	10/14

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Supplements in Revisions 37 and 18

Edition	Supplement Number	ASME Approval
2007	11	November 10, 2009
2010	0	December 25, 2009
2010	1	April 9, 2010
2010	2	June 24, 2010
2010	3	September 20, 2010
2010	4	December 23, 2010
2010	5	March 24, 2011
2010	6	July 15, 2011
2010	7	October 14, 2011
2010	8	December 29, 2011
2010	9	April 4, 2012
2010	10	July 16, 2012

New Supplements

- Supplement 11 to the 2010 Edition through Supplement 6 to the 2013 Edition have been published by ASME
  - The reviews of the Code Cases in Supplements 11 to 1 are complete
  - The reviews of the Code Cases in Supplements 2 to 6 are in process

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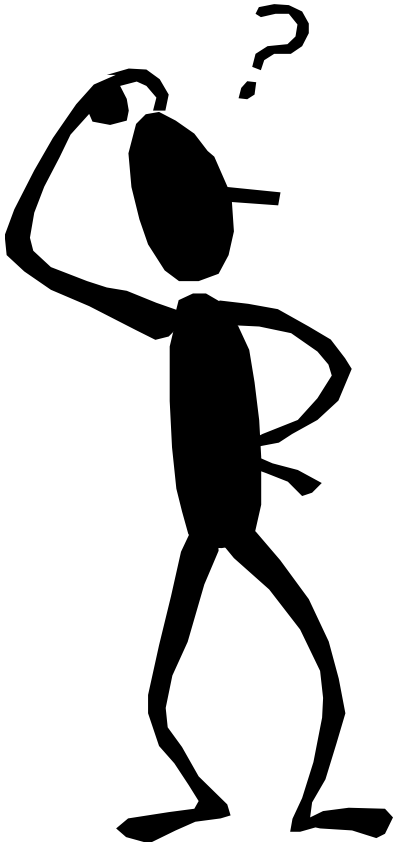
Questions?



620th Meeting of the Advisory Committee on Reactor Safeguards

Importance of ASME Code Actions and Code Cases to the Industry

By
Clayton T Smith, P.E., PMP
Vice-Chair ASME Board of Nuclear Codes and Standards

December 5th, 2014

ASME
SETTING THE STANDARD

Question Asked

"Why does it take so long to get ASME Code Actions and Code Cases accepted for use in 10CFR50.55a and the associated Code Case Regulatory Guides?"

Question We can Answer

"What is the importance of timely NRC endorsement of ASME Code Actions and Code Cases to the Industry"

ASME
SETTING THE STANDARD

Background

- ✓ 10 CFR 50.55a endorses ASME Section III, Division I, and ASME Section XI through the 2008 Addenda.
- ✓ 10 CFR 50.55a endorses the Operations and Maintenance of Nuclear Power Plants (OM Code) through the 2006 Addenda
- ✓ November 5, 2014 final rule published in the Federal Register (79 FR 65776) incorporated by reference the following Regulatory Guides (RG):
  - Supplements 1 through 10 to the 2007 Edition
  - Effective Date of the RGs December 5, 2014
  - ✓ ASME Section III Code Cases
    - RG 1.84, Revision 36
  - ✓ Section XI Code Cases
    - RG 1.147, Revision 17
  - ✓ ASME Operation and Maintenance (O&M)Code Cases
    - RG 1.192, Revision 1
- ✓ The next proposed amendment to 10 CFR 50.55a (late 2014) should include:
  - ✓ Section III & XI 2009 Addenda, 2010 Edition, 2011 Addenda & 2013 Edition
  - ✓ OM Code 2009 Edition, 2011 Addenda and 2012 Edition

Topics

- ✓ ASME Code Cases are utilized to rapidly incorporate industry enhancements and Lessons Learned. Issued 4 times a year.
- ✓ ASME Section III Code Cases and RG 1.84
- ✓ ASME Section XI Code Cases and RG 1.147
- ✓ Additional ASME Code Actions
- ✓ Points to Ponder

ASME Section III Code Cases not in RG 1.84, Revision 36

- ✓ **N-785 "Use of SA-479/SA-479M, UNS S41500 for Class 1, Welded Construction" (Approved 10/12/2009)**
  - Provides additional bar stock material that may be used in the construction of Class 1 components
- ✓ **N-804 "Alternative Preheat Temperature for Austenitic Welds in P-No. 1 Material Without PWHT" (Approved 10/14/2011)**
  - With appropriate controls, allows for certain size welds to be done with lower preheat, improving preparation time
- ✓ **N-815 "Use of SA-358/SA-358M Grades Fabricated as Class 3 or Class 4 Welded Pipe, Class CS Core Support Construction" (Approved 12/6/2011)**
  - Provides additional piping material that may be used in the construction of Class CS components
- ✓ **N-844 "Alternatives to the Requirements of NB-4250(c)" (Approved 2/9/2014)**
  - Provides for an alternative to the counterbore requirements, which was identified as an issue in the current new reactors being built. The relief is needed for certain geometries where the counterbore requirement cannot be met. Additional pre-service inspection requirements are invoked.

ASME Section XI Code Cases not in RG 1.147, Revision 17

- ✓ **N-508-4 "Rotation of Snubbers and Pressure Retaining Items for the Purpose of Testing or Preventive Maintenance" (Approved 01/26/2009)**
  - Expands the scope of the code case to include other items. This code case was actually requested by the NRC as a result of a relief request that Duane Arnold Energy Center submitted. The NRC asked that this request be withdrawn and the action to submitted to the ASME Committee for consideration.

- ✓ **Code Case N-694-2 "Evaluation Procedure and Acceptance Criteria for PWR Reactor Vessel Head Penetration Nozzles" (Approved 01/16/2013)**
  - The code case was changed to provide additional guidance for the evaluation for PWSCC flaws in reactor vessel (RV) head penetrations. The additional guidance is needed to ensure consistent crack growth predictions for RV head penetrations. The changes will ensure more consistent flaw evaluations, augments the guidance for determining the weld residual stress distribution used in the evaluation, the stress intensification factor and crack growth from PWSCC, thus increasing safety.

- ✓ **N-775 "Alternative Requirements for Bolting Affected by Borated Water Leakage" (Approved 6/24/2010)**
  - Eliminates the VT-3 examination if all bolting on the connection is replaced, this reduces exposure for the examination personnel and restores the connection back to the original design.

ASME Section XI Code Cases not in RG 1.147, Revision 17

- ✓ **N-776 "Alternative to IWA-5244 Requirements for Buried Piping" (Approved 4/09/2010)**
  - There have already been several reliefs approved to allow what this code case allows. This action will enhance plant safety by adding requirements to perform VT-2 visual examinations of ground surfaces in the vicinity of buried components during pressure testing. This requirement will help improve the likelihood that potential through-wall leakage in buried components will be detected.

- ✓ **N-780 "Alternative Requirements for Upgrade, Substitution, or Reconfiguration of Examination Equipment When Using Appendix VIII Qualified Ultrasonic Examination Systems" (Approved 4/09/2010)**
  - Allows the independent assessment of equipment of the Ultrasonic System, without going through a full requalification. As an alternative to full requalification, the equivalency evaluation process defined in this code case may be used to justify the acceptability of UT system component replacement or substitution subject to the conditions stated in the code case.

- ✓ **N-786 "Alternative Requirements for Sleeve Reinforcement of Class 2 and 3 Moderate-Energy Carbon Steel Piping" (Approved 3/24/2011)**
  - Provides an option for utilities to perform a repair of leaking piping. Often times these leaks occur while the plant is operating. This code case would reduce the facility downtime and maintains the pressure boundary integrity by installing sleeve reinforcements. A condition is included in the code case if the degradation is not determined then the life of the reinforcing sleeve is until the next RFO.

ASME Section XI Code Cases not in RG 1.147, Revision 17

- ✓ **N-789 "Alternative Requirements for Pad Reinforcement of Class 2 and 3 Moderate-Energy Carbon Steel Piping for Raw Water Service" (Approved 6/25/2011)**
  - **Provides an option for utilities to perform a repair of leaking raw water service piping. Basis is the same as N-786.**
- ✓ **N-795 "Alternative Requirements for BWR Class 1 System Leakage Pressure Following Repair/Replacement Activities" (Approved 9/17/2010)**
  - **There have been relief requests already approved to allow a lower pressure following an R/R activity, it makes sense to approve the code case and eliminate each utility submitting a relief request. Class 1 pressure tests, on BWRs, performed at pressures corresponding to 100% reactor power require abnormal plant conditions/alignments incurring additional risks and delays while providing little added benefit beyond tests which could be performed at slightly reduced pressures under normal plant conditions.**
- ✓ **N-798 "Alternative Pressure Testing Requirements for Class 1 Piping Between the First and Second Vent, Drain, and Test Isolation Devices" (Approved 12/20/2010)**
  - **Eliminates the exposure of plant personnel in opening all of the vent, drain, and test valves on branch connections during the end of the interval Class 1 pressure test.**

Additional ASME Code Actions

- ✓ **ASME Section III, Division 3**
  - **Primary concern is the integrity of containments used in transportation (Subsection WB) and storage (Subsection WC) with associated general requirements (Subsection WA)**
- ✓ **Division 3 history**
  - **Division 3 first published in 1997 with Subsections WA and WB**
  - **ASME Subgroup "NUPACK" involved with improving Division 3 since 1999**
    - **Revised Subsection WA in 2001, published Subsection WC in 2005, and revised Subsection WB in 2008**
    - **Currently working to publish new Subsection WD in 2017 that addresses "baskets" for transportation and storage uses**
- ✓ **ASME requested NRC endorsement of Division 3 after the past major upgrades**
- ✓ **Past licensing hearings brought into doubt the applicability of the ASME BPV Code to address aircraft impact events and the NRC wanted to address the "transfer" of pertinent transportation and storage knowledge to newer NRC employees and believed Division 3 could help**

Additional ASME Code Actions

- ✓ **NRC established three strategic goals as path forward for endorsement**
  - **Ensure relevance of Division 3 as sole criteria for determining structural integrity of storage and transportation containments by developing strain-based acceptance criteria for energy-limited accident events**
  - **Develop document that can be used by industry and NRC staff to judge the quality of computational models used in analysis of containments**
  - **Develop consistent basis for managing the rules for design, fabrication and testing of storage and transportation containments by incorporating such rules into a document through NRC's endorsement of Division 3**

- ✓ **Current status of ASME efforts to support NRC strategic goals**
  - **2013 Edition of Division 3 incorporated strain-based acceptance criteria for energy-limited events**
  - **ASME established a Special Working Group to develop a guidance document and an initial draft is expected by mid 2015**
  - **NRC supplied ASME with review comments of Division 3 rules in August 2014 and ASME Division 3 committees are working to respond to those review comments**

Additional ASME Code Actions

✓ ASME Section III, Division 2 (RG)

- Revisions to Regulatory Guides 1.7, 1.35, 1.35.1, 1.90, 1.107, and 1.136 should be processed concurrently because these regulatory guides each reference ASME Code, Section III, Division 2.

✓ RG	Title
1.7	Control of Combustible Gas Concentrations in Containment Following a Loss-of-Coolant Accident *(1992 Edition)*
1.35	Inservice Inspection of Ungrouted Tendons in Prestressed Concrete Containments (Foot Note 5*; 1982 Winter Addenda)*
1.35.1	Determining Prestressing Forces for Inspection of Prestressed Concrete Containments (*1986 Edition*)
1.90	Inservice Inspection of Prestressed Concrete Containment Structures with Grouted Tendons *(2001 Ed with 2003 Addenda*)
1.107	Qualifications for Cement Grouting for Prestressing Tendons in Containment Structures (*2001 Edition with 2003 Addenda*)
1.136	Materials, Construction, and Testing of Concrete Containments (*2001 Edition with 2003 Addenda*)

Additional ASME Code Actions

- ✓ **Some specific reasons for updating the applicable edition of ASME Section III, Division 2 to the 2013 Edition in the referenced regulatory guides are as follows:**
  - **The 2004 Edition with the 2005 Addenda (and earlier editions and addenda) require certificate holders to have or employ an ACI Nuclear Level III for the qualification and certification of QC personnel. Because ACI no longer offers or maintains this certification, it is not possible to comply fully with all requirements of these earlier editions and addenda of Section III, Division 2. This issue has been resolved in later editions and addenda of Section III, Division 2.**
  - **New materials and testing methodologies have been incorporated into later editions and addenda of Section III, Division 2. Therefore, Division 2 certificate holders face a hardship when using materials and testing practices that are no longer used in the industry. Continued use of some of these older testing practices could produce results that are less conservative than those available through use of later code editions and addenda.**
  - **Later editions and addenda incorporate industry operating experience, and include enhancements based on industry and regulatory input. These later editions and addenda also include revised terminology that is consistent with that currently used in the industry.**


Points to Ponder

Points to Ponder

- ✓ Draft revisions of RG 1.84, 1.147, & 1.193 are in process, expected in 2015 that will incorporate Supplement 11 to the 2007 Edition through Supplement 10 to the 2010 Edition. Additionally, draft revision of RG 1.192 is expected to incorporate 2009 Edition through 2012 Edition
- ✓ NRC has initiated the review of Code Cases published in Supplement 11 to 2010 through Supplement 6 of the 2013.
- ✓ NRC and ASME were able to avert a potential major issue related to the Certification Mark: N-822 "Application of the ASME Certification Mark" (Approved 12/6/2011) (RIS 13-07)
- ✓ Reasons for timely NRC Endorsement of ASME Codes and Standards Actions
  - Reduce undue burden on applicants and improve the timeliness of NRC staff reviews by providing quality standards for computational finite element models submitted to the NRC
  - Improve consistency of rules for design, fabrication, examination, and testing of the components for all applicants
  - Reduce NRC review time via standardized construction rules
  - Minimize costs and risks via standardization
  - Enhance public safety
- ✓ Recommendation: NRC revise their Code Case review process to:
  - Schedule internal review and evaluation of cases following ASME approval and issuance
  - Have a process (RIS 13-07) to notify the public that these have been approved, can be used without a relief request, and will be incorporated in next revision of RG
  - Agree to update the 4 main associated with Code Cases (RG 1.84. 1.147, 1.192, & 1.193) annually

Q & A